Project No. 151297

VIA E-MAIL AND ENVIROSTOR UPLOAD

February 15, 2023

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

RE: Data Submittal for Groundwater Monitoring and Groundwater Extraction and Treatment System Pilot Testing, Fourth 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 fourth 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 fourth 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 fourth quarter 2022 groundwater monitoring and pilot GETS operation from September through November 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 November 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

Quarterly groundwater levels were measured in all wells on November 14, 2022 (Figures 2 and 3; Table 2; Appendix A).

Groundwater samples were collected November 15 through November 16, 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.

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

QA/QC samples collected in November 2022 consisted of trip blanks, field duplicates, 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 monitoring wells MW-33 and MW-41 in November 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 split groundwater samples collected from MW-33 was outside of acceptable limits, therefore the data was qualified as estimated. All other results for groundwater samples collected from MW-33 and MW-41 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 11/15/2022	1,1-DCE	4.4 H6	4.7 H6	7	6.7 H6	41	E
	TCE	0.7	0.73 H6	4	0.96	31	
	1,4-dioxane	<0.20	<0.20	NA	<0.50	NA	
MW-41 11/16/2022	1,1-DCE	0.29 J	0.41 J	NA	0.47J	NA	
	TCE	<0.50	<0.50	NA	<0.50	NA	
	1,4-dioxane	<0.20	<0.20	NA	<0.50	NA	

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, as provided in the Quality Assurance Project Plan (QAPP) (H+A, 2003, Appendix B).

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

There were no detections of 1,4-dioxane in the equipment rinsate blank or method blanks analyzed with groundwater samples collected during the November 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 November 2022 groundwater sampling event.

The data quality assessment also included review of laboratory QA/QC results in accordance with the QAPP. The laboratory analysis of VOCs from the groundwater samples collected from monitor wells MW-30B, MW-33, MW-34B, MW-35C, MW-36, and MW-39 on November 15, 2022 were performed beyond the analysis method holding time and were qualifier by the laboratory with "H6" qualifier. The cause of the holding time exceedance was related to laboratory instrumentation issues at ATL that were occurring during the groundwater sampling event. In addition, MW-21 had a holding time exceedance for reanalysis performed on 1,4-Dioxane and 1,1-Dichloroethelyne and RB-111522 and MW-26C had holding time exceedances for reanalysis performed on VOCs. Each result was qualified by the laboratory with "H3" qualifier. All results with lab qualifiers of H3 or H6 were assigned a project qualifier of "E". 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 September through November 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), with 30 gpm extraction from EW-02 and 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 fourth quarter of 2022, the pilot GETS was operational approximately 97 percent of the available runtime and approximately 4.6 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 September to November 2022 was approximately 35.4 gpm. Since

startup of the pilot GETS, approximately 243 million gallons of groundwater has been treated at an average operational flowrate of 39.9 gpm through the end of November 2022 (Table 4).

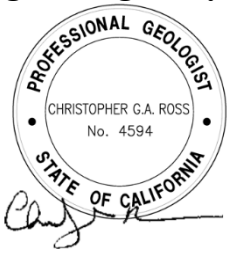
Current monthly and quarterly pilot GETS monitoring activities include collecting groundwater samples from extraction wells EW-02 and MW-29 in addition to collecting samples at treatment system sampling ports: Influent, Post-Particulate-Filter, Post-UV-Ox, Carbon-Breakthrough, and Carbon-Effluent (Tables 5 and 6). Samples collected during these activities were transported 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).

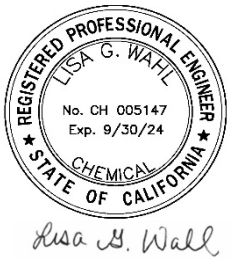
The UV Ox advanced oxidation treatment unit is designed to remove 1,4-dioxane and most VOCs in groundwater. The carbon adsorption units provide a polish following the UV Ox treatment and remove possible low-level VOCs remaining in groundwater post UV Ox (principally low-level ethanes). The UV Ox advanced oxidation and carbon adsorption treatment units effectively removed VOCs and 1,4-dioxane from extracted groundwater in the fourth 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 detected values for 1,4-dioxane and 1,1-DCE in the Post-UV-Ox sample in September, however Carbon Breakthough and Carbon-Effluent samples during the same period were non-detect. Low UV intensity was noted and maintenance was performed (Table 6; Appendix B).

The pilot GETS continues to remove VOCs and 1,4-dioxane from extracted groundwater. During the fourth quarter of 2022, the pilot GETS removed approximately 1.8 pounds of VOCs and 0.9 pounds of 1,4-dioxane from extracted groundwater. Since startup of the pilot GETS in July 2008, approximately 200 pounds of VOCs and 57 pounds of 1,4-dioxane have been removed from groundwater through November 2022. 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 858-221-0264.

Respectfully Submitted,
Engineering Analytics, Inc.





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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.

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TABLES

Table 1. Groundwater Monitoring Program

Well Identifier	Hydrogeologic Zone	Sampled November	SAMPLING FREQUENCY			
			Quarterly February, May, August, November	Semiannual February, August	Annual February	Biennial February (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	X	VOCs; 1,4-Dioxane			
EW-02*	B	X	VOCs; 1,4-Dioxane			
MW-16	B			VOCs; 1,4-Dioxane		
MW-26C	B	X	VOCs; 1,4-Dioxane			
MW-27	B				VOCs; 1,4-Dioxane	
MW-28	B	X	VOCs; 1,4-Dioxane			
MW-29*	B	X	VOCs; 1,4-Dioxane			
MW-30A	B	X	VOCs; 1,4-Dioxane			
MW-31	B	X	VOCs; 1,4-Dioxane			
MW-32B	B	X	VOCs; 1,4-Dioxane			
MW-33	B	X	VOCs; 1,4-Dioxane			
MW-34B	B	X	VOCs; 1,4-Dioxane			
MW-35C	B	X	VOCs; 1,4-Dioxane			
MW-36	B	X	VOCs; 1,4-Dioxane			
MW-39	B	X	VOCs; 1,4-Dioxane			
MW-40	B	X	VOCs; 1,4-Dioxane			
MW-41	B	X	VOCs; 1,4-Dioxane			
MW-42	B	X	VOCs; 1,4-Dioxane			
MW-43	B	X	VOCs; 1,4-Dioxane			
MW-21	BC	X	VOCs; 1,4-Dioxane			
MW-08	BC	X	VOCs; 1,4-Dioxane			
MW-30B	BC	X	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		Piezometer - 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 Fourth 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
Regional Groundwater System Monitor and Extraction Wells					
MW-06	11/14/22	184.70	159.46	25.24	
MW-08	11/14/22	155.91	135.27	20.64	
MW-09	11/14/22	180.10	157.99	22.11	
MW-13	11/14/22	141.84	129.84	12.00	
MW-15	11/14/22	144.95	133.17	11.78	
MW-16	11/14/22	142.40	130.51	11.89	
MW-17	11/14/22	142.70	128.69	14.01	
MW-18	11/14/22	142.32	129.23	13.09	
MW-19	11/14/22	142.06	128.97	13.09	
MW-20	11/14/22	184.19	154.52	29.67	
MW-21	11/14/22	141.18	121.02	20.16	
MW-22	11/14/22	138.65	125.16	13.49	
MW-23	11/14/22	137.33	124.80	12.53	
MW-24	11/14/22	142.83	120.56	22.27	
MW-25	11/14/22	142.64	121.74	20.90	
MW-26A	11/14/22	137.04	125.30	11.74	
MW-26B	11/14/22	137.05	124.91	12.14	
MW-26C	11/14/22	137.22	125.32	11.90	
MW-27	11/14/22	137.16	124.66	12.50	
MW-28	11/14/22	140.77	129.71	11.06	
MW-29	09/01/22	139.81	183.02	-43.21	Pilot GETS
MW-29	10/06/22	139.81	188.36	-48.55	Pilot GETS
MW-29	11/03/22	139.81	189.03	-49.22	Pilot GETS
MW-29	11/14/22	139.81	187.91	-48.10	Pilot GETS
MW-30A	11/14/22	129.44	118.12	11.32	
MW-30B	11/14/22	129.39	114.22	15.17	
MW-31	11/14/22	119.60	105.55	14.05	
MW-32A	11/14/22	92.88	80.31	12.57	
MW-32B	11/14/22	92.89	79.97	12.92	
MW-32C	11/14/22	92.88	73.86	19.02	
MW-33	11/14/22	83.19	71.43	11.76	
MW-34A	11/14/22	153.25	144.70	8.55	
MW-34B	11/14/22	153.11	143.16	9.95	
MW-34C	11/14/22	153.29	140.06	13.23	
MW-35A	11/14/22	93.57	75.90	17.67	
MW-35B	11/14/22	93.56	80.75	12.81	
MW-35C	11/14/22	93.55	80.17	13.38	
MW-36	11/14/22	86.65	76.26	10.39	
MW-37	11/14/22	155.60	138.62	16.98	
MW-38	11/14/22	154.90	152.07	2.83	
MW-39	11/14/22	84.25	73.65	10.60	
MW-40	11/14/22	123.40	107.83	15.57	
MW-41	11/14/22	155.60	145.57	10.03	
MW-42	11/14/22	82.80	71.95	10.85	
MW-43	11/14/22	76.64	66.35	10.29	
EW-01	11/14/22	141.07	129.00	12.07	

Table 2. Groundwater Levels Fourth 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
EW-02	09/01/22	132.97	126.81	6.16	Pilot GETS
EW-02	10/06/22	132.97	129.02	3.95	Pilot GETS
EW-02	11/03/22	132.97	128.17	4.80	Pilot GETS
EW-02	11/14/22	132.97	126.51	6.46	Pilot GETS
Perched Zone Water Levels					
P-07	11/14/22	142.31	114.12	28.19	
P-09	11/14/22	183.86	121.00	62.86	

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 Fourth Quarter 2022

Well Identifier/ Sample Identifier	Date Sampled	Result Type	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**)
MW-08	11/15/2022	ORG	< 0.50	< 0.50	**0.21 J**	< 0.50	< 0.50	**22**	**2.4**	< 0.50	< 0.50	< 0.50	**43**	< 0.50	< 0.50	0.09 J
MW-08 Historical Ranges			< 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	11/16/2022	ORG	< 0.50	**0.29 J**	**1.3**	**15**	**3.7**	**920 H3, E**	**1.2**	**3.3**	< 0.50	**11**	**13**	**0.42 J**	< 0.50	**590 H3, E**
MW-21 Historical Ranges			< 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	11/15/2022	ORG	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.20
MW-26C Historical Ranges			< 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	11/15/2022	ORG	< 0.50	< 0.50	**0.15 J**	< 0.50	< 0.50	**0.44 J**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20
MW-28 Historical Ranges			< 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	9/1/2022	ORG	< 0.50	< 0.50	< 0.50	**1.4**	< 0.50	**130**	< 0.50	< 0.50	< 0.50	< 0.50	**1.4**	< 0.50	< 0.50	**120**
MW-29	10/6/2022	ORG	< 0.50	< 0.50	< 0.50	**1.4**	< 0.50	**170**	< 0.50	< 0.50	< 0.50	**0.53**	**1.8**	**0.64**	< 0.50	**95**
MW-29	11/3/2022	ORG	< 0.50	< 0.50	< 0.50	**1.4**	< 0.50	**130**	< 0.50	< 0.50	< 0.50	**0.56**	**2**	**0.8**	< 0.50	**61**
MW-29 Historical Ranges			< 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	11/15/2022	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 Ranges			< 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	11/15/2022	ORG	< 0.50 H6, E	< 0.50 H6, E	**0.36 H6, E, J**	< 0.50 H6, E	< 0.50 H6, E	**16 H6, E**	**3.4 H6, E**	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	**62 H6, E**	< 0.50 H6, E	< 0.50 H6, E	< 0.20
MW-30B Historical Ranges			< 0.50	< 0.50	< 0.50 - 0.77	< 0.50 - 0.15 J	< 0.50 - 0.21 J	< 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	11/16/2022	ORG	< 0.50	< 0.50	< 0.50	**0.63**	< 0.50	**99**	**0.51**	< 0.50	< 0.50	< 0.50	**8**	< 0.50	< 0.50	**0.41**
MW-31 Historical Ranges			< 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	11/16/2022	ORG	< 0.50	< 0.50	< 0.50	**0.23 J**	< 0.50	**28**	**1.3**	< 0.50	< 0.50	< 0.50	**11**	< 0.50	< 0.50	**0.07 J**
MW-32B Historical Ranges			< 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	11/15/2022	ORG	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	**4.4 H6, E**	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	**0.7 H6, E**	< 0.50 H6, E	< 0.50 H6, E	< 0.20
MW-33	11/15/2022	SPT	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	**6.7 E**	< 0.50	< 0.51	< 0.52	< 0.53	**0.96**	< 0.50	< 0.50	< 0.50
MW-3300	11/15/2022	DUP	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	**4.7 H6, E**	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	**0.73 H6, E**	< 0.50 H6, E	< 0.50 H6, E	< 0.20
MW-33 Historical Ranges			< 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	11/15/2022	ORG	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	0.37 H6, E, J	< 0.50 H6, E	**42 H6, E**	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	**18**
MW-34B Historical Ranges			< 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
MW-35C	11/15/2022	ORG	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.20
MW-35C Historical Ranges			< 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	11/15/2022	ORG	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	**0.51 H6, E**	< 0.50 H6, E	**64 H6, E**	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	**0.54**
MW-36 Historical Ranges			< 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	11/15/2022	ORG	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.50 H6, E	< 0.20
MW-39 Historical Ranges			< 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	11/16/2022	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 Ranges			< 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	11/16/2022	ORG	< 0.50	< 0.50	**0.42 J**	< 0.50	< 0.50	**0.29 J**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20
MW-41	11/16/2022	SPT	< 0.5	< 0.5	**0.61**	< 0.50	< 0.50	**0.47 J**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
MW-4100	11/16/2022	DUP	< 0.50	< 0.50	**0.44 J**	< 0.50	< 0.50	**0.41 J**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.20
MW-4 Historical Ranges			< 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	11/16/2022	ORG	< 0.50	< 0.50	< 0.50	0.46 J	< 0.50	35	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.09 J
MW-42 Historical Ranges			< 0.50	< 0.50	< 0.50	< 0.50 - 0.76	< 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	11/16/2022	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 Ranges			< 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	11/16/2022	ORG	< 0.50	< 0.50	< 0.50	**0.56**	< 0.50	**53**	< 0.50	**0.16 J**	< 0.50	**0.35 J**	< 0.50	< 0.50	< 0.50	**30**
EW-01 Historical Ranges			< 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	9/1/2022	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
EW-02	10/6/2022	ORG	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	**14**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	**7.2**
EW-02	11/3/2022	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
EW-02 Historical Ranges			< 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
RB-111522	11/15/2022	RB	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.50 H3, E	< 0.20
TB-090122	9/1/2022	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-100622	10/6/2022	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

Well Identifier/ Sample Identifier	Date Sampled	Result Type	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**)
TB-110322	11/3/2022	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-111522A	11/15/2022	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-111522B	11/15/2022	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

Footnotes:

All concentrations are in micrograms per liter

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

H3, E = Initial analysis within holding time. Reanalysis past holding time.
H6, E = Sample analyzed past hold time due to unexpected instrument failure.
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
Historic low

MCL = Maximum Contaminant Level
QA = Quality Assurance
SPT = Split sample
NA = Not analyzed for constituent
ORG = Original sample
TB = Trip blank sample
RB = Rinsate blank sample

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Table 4. Pilot Groundwater Extraction and Treatment System Operational Summary

OPERATIONAL PERIOD	WELLFIELD PRODUCTION[1] (gallons)	AVERAGE DISCHARGE RATE[2] (gpm)	AVERAGE OPERATIONAL DISCHARGE RATE[3] (gpm)	OPERATIONAL HOURS DURING OPERATIONAL PERIOD	HOURS IN OPERATIONAL PERIOD	% OPERATIONAL
September 2022	1,704,052	33.8	36.6	776	841	92%
October 2022	1,441,933	35.8	36.2	663	672	99%
November 2022	1,488,372	36.9	36.9	672	672	100%
Total Q4 2022	**4,634,357**	**35.4**	**36.6**	**2,111**	**2,184**	**97%**
Total Since Startup[4]	**243,268,373**	**32.1**	**39.9**	**101,689**	**126,336**	**80%**

Notes and Abbreviations:

[1] 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.

[2] Total volume of water treated during the operational period divided by the total number of minutes in that operational period.

[3] Total volume of water treated during the operational period divided by the minutes of operation in that operational period.

[4] Pilot groundwater extraction and treatment system began operation in July 2008

% = Percent

CEFF = Carbon effluent

gpm = gallons per minute

Q4 = Quarter 4

Table 5. Pilot Groundwater Extraction and Treatment System Sampling Schedule

				SAMPLE FREQUENCY AND LOCATION																			
				Daily Samples[1]: Days 1-5					Weekly Samples[1]: Weeks 1-4					Monthly Samples: Week 5+						Quarterly Samples: Week 1+			
Compounds/Constituent	Analytical Method	Sample Container	Reporting Detection Limits (milligrams per liter)	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 NPDS 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	1 L Poly	10																	X	X	X	X
Selected Metals																							
Dissolved Metals (Iron, Manganese, Calcium, Sodium, Magnesium)	EPA 6010B	250 mL poly	QAPP[4]	(a)																X	X		
Selenium	EPA 6010B	250 mL poly	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	125 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, H2SO4	3.0	(a)												X	X			X	X		
Anions (Chloride, Sulfate, Nitrate, Nitrite, and Phosphate)	EPA 300.0	1 L 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/ 8 oz Jar	N/A		(a)											X				X	X	X	

Compounds/Constituent	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)
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	X					X				
Residual Hydrogen Peroxide	N/A	N/A	N/A			(a)	(a)	(a)			X	X	X				X	X	X				

FOOTNOTES:

[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 carbo

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

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

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
H_2SO_4 = 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

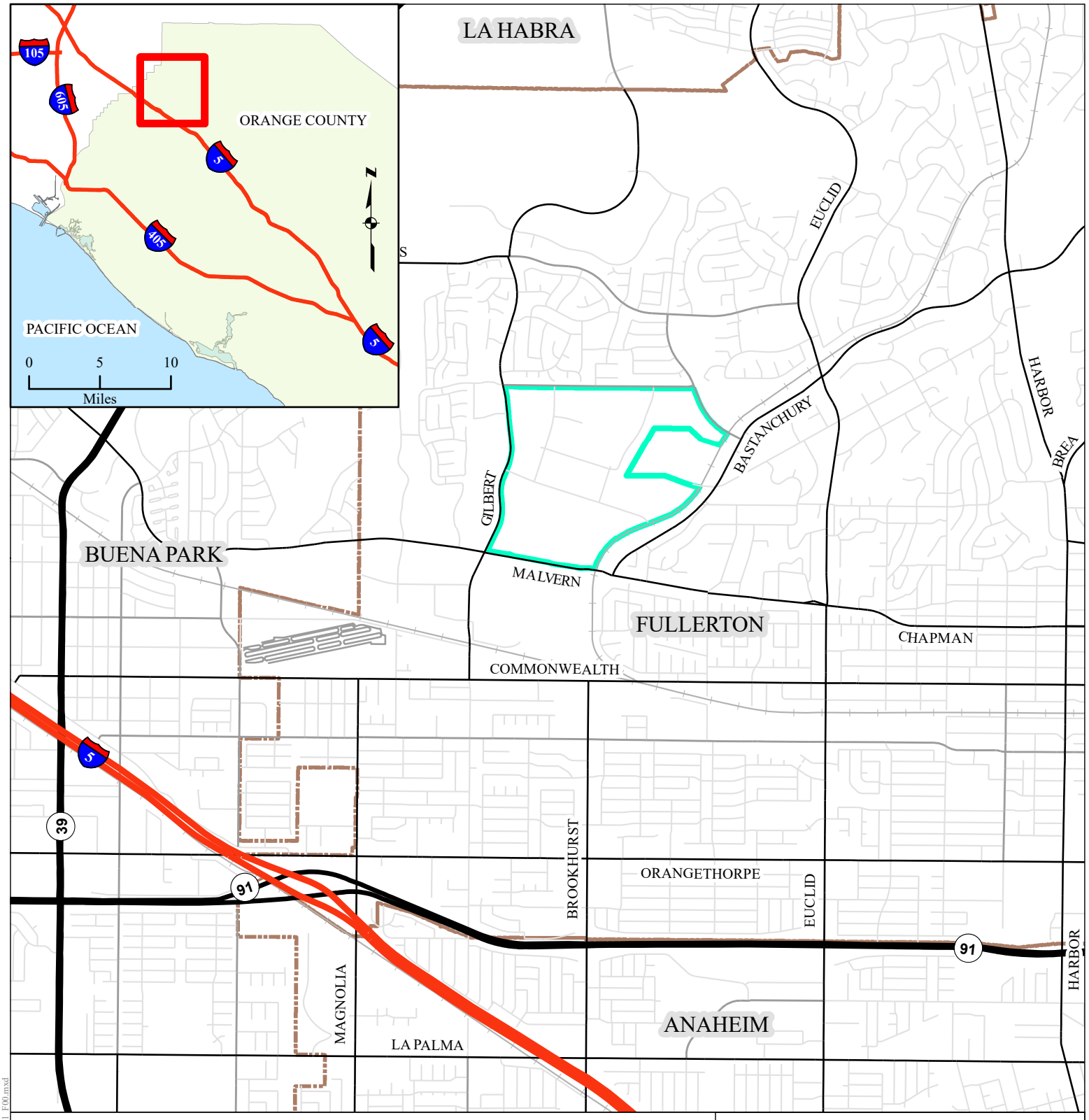
Table 6. Select Compounds Monitored in Pilot Groundwater Extraction and Treatment System Samples

Compound	Date	Units	MW-29	EW-02	INF	PF	POX	CBT	CEFF
1,1,2-Trichloroethane	09/01/22	ug/L	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50
(5 ug/L MCL)	10/06/22	ug/L	**0.53**	<0.50	<0.50	--	<0.50	<0.50	<0.50
	11/03/22	ug/L	**0.56**	<0.50	<0.50	--	<0.50	<0.50	<0.50
	11/16/22	ug/L	--	--	--	--	--	--	--
1,1-Dichloroethane	09/01/22	ug/L	**1.4**	<0.50	<0.50	--	<0.50	<0.50	<0.50
(5 ug/L MCL)	10/06/22	ug/L	**1.4**	<0.50	<0.50	--	<0.50	<0.50	<0.50
	11/03/22	ug/L	**1.4**	<0.50	<0.50	--	<0.50	<0.50	<0.50
	11/16/22	ug/L	--	--	--	--	--	--	--
1,1-Dichloroethene	09/01/22	ug/L	**130**	**11**	**47**	--	**2.8**	<0.50	<0.50
(6 ug/L MCL)	10/06/22	ug/L	**170**	**14**	**54**	--	<0.50	<0.50	<0.50
	11/03/22	ug/L	**130**	**11**	**46**	--	<0.50	<0.50	<0.50
	11/16/22	ug/L	--	--	--	--	--	--	--
1,2-Dichloroethane	09/01/22	ug/L	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50
(0.5 ug/L MCL)	10/06/22	ug/L	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50
	11/03/22	ug/L	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50
	11/16/22	ug/L	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	09/01/22	ug/L	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50
(6 ug/L MCL)	10/06/22	ug/L	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50
	11/03/22	ug/L	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50
	11/16/22	ug/L	--	--	--	--	--	--	--
Tetrachloroethene	09/01/22	ug/L	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50
(5 ug/L MCL)	10/06/22	ug/L	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50
	11/03/22	ug/L	<0.50	<0.50	<0.50	--	<0.50	<0.50	<0.50
	11/16/22	ug/L	--	--	--	--	--	--	--
Trichloroethene	09/01/22	ug/L	**1.4**	<0.50	<0.50	--	<0.50	<0.50	<0.50
(5 ug/L MCL)	10/06/22	ug/L	**1.8**	<0.50	**0.61**	--	<0.50	<0.50	<0.50
	11/03/22	ug/L	**2.0**	<0.50	**0.64**	--	<0.50	<0.50	<0.50
	11/16/22	ug/L	--	--	--	--	--	--	--
1,4-Dioxane	09/01/22	ug/L	**120**	<2.0	**29**	--	**5.7**	<0.20 E	<0.20 E
(1 ug/L California Notificati	10/06/22	ug/L	**95**	**7.2**	**29**	--	<0.20	<0.20	<0.20
	11/03/22	ug/L	**61**	<2.0	**16**	--	<0.20	<0.20	<0.20
	11/16/22	ug/L	--	--	--	--	--	--	--
Bromide	09/01/22	mg/L	**0.46**	**0.25**	**0.30**	--	**0.25**	--	--
	10/06/22	mg/L	**0.42**	**0.23**	**0.29**	--	--	--	--
	11/03/22	mg/L	**0.42**	**0.21**	**0.26**	--	--	--	--
Bromate	09/01/22	ug/L	--	--	<25.0	--	<25.0	--	--
(10 ug/L MCL)	10/06/22	ug/L	--	--	<25.0	--	<25.0	--	--
	11/03/22	ug/L	--	--	<25.0	--	<25.0	--	--
Total Suspended Solids	09/01/22	mg/L	--	--	--	<1.0	--	--	--
	10/06/22	mg/L	--	--	--	<1.0	--	--	--
	11/03/22	mg/L	--	--	--	<1.0	--	--	--
Total Dissolved Solids (500 mg/L MCL)	09/01/22	mg/L	**900**	**730**	**800**	--	**750**	--	**810**

FOOTNOTES:

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.

FIGURES



EXPLANATION

City Boundaries

Former Hughes Aircraft Facility

GETS = Groundwater Extraction and Treatment System
GWM = Groundwater Monitoring
Q4 = Quarter 4

0 2,500 5,000
FEET

FIGURE 1: SITE LOCATION

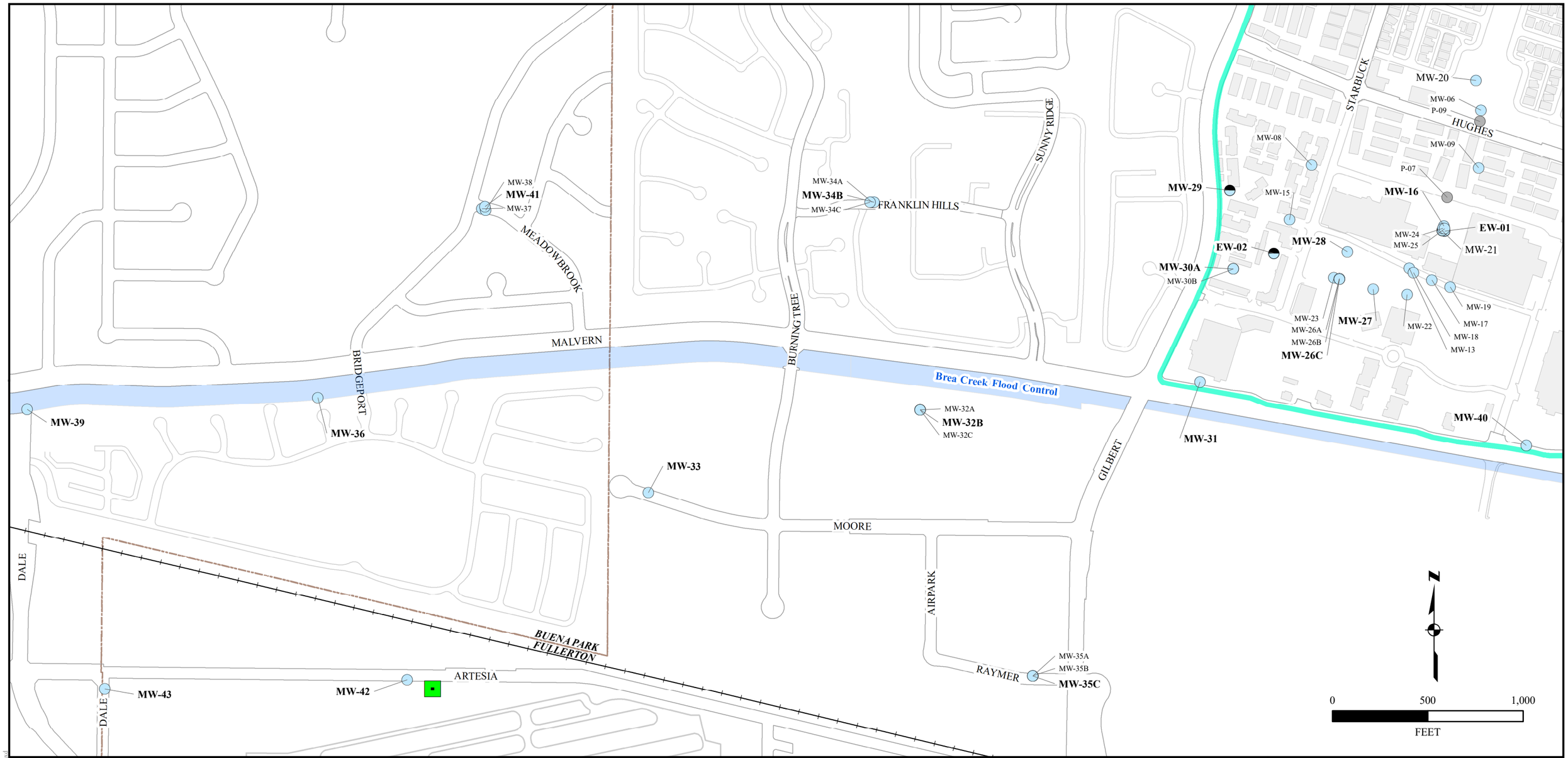
DATA SUBMITTAL FOR GWM AND
GETS PILOT TESTING Q4 2022

FORMER HUGHES AIRCRAFT COMPANY
1901 WEST MALVERN AVE, FULLERTON, CA

Engineering Analytics, Inc.

Document Path: G:\151297\2301_Q4Data\Sub\MXD\RFM_SiteLocation_FIG01_F00.mxd

Date Saved: 1/31/2023 2:31:05 PM - Project No.: 151297



- Groundwater Monitor Well
- Groundwater Extraction Well
- Perched Piezometer
- Fullerton Airport Well 9
- Flood Control Channel Parcels
- On Property Current Buildings
- City Boundaries
- Former Hughes Aircraft Company Property
- Airport
- Railroads

NOTES:

Light colored streets are private.
Bold well IDs completed in Unit B
Small well IDs completed in units other than B

GETS = Groundwater Extraction and Treatment System
GWM = Groundwater Monitoring
Q4 = Quarter 4

FIGURE 2: WELL AND PIEZOMETER LOCATIONS

DATA SUBMITTAL FOR GWM AND GETS PILOT TESTING Q4 2022

FORMER HUGHES AIRCRAFT COMPANY
1901 WEST MALVERN AVE, FULLERTON, CA

Engineering Analytics, Inc.

Document Path: G:\151297\2301_O4\DataSub\MXD\RFM_BaseMap_Fig02_D01.mxd
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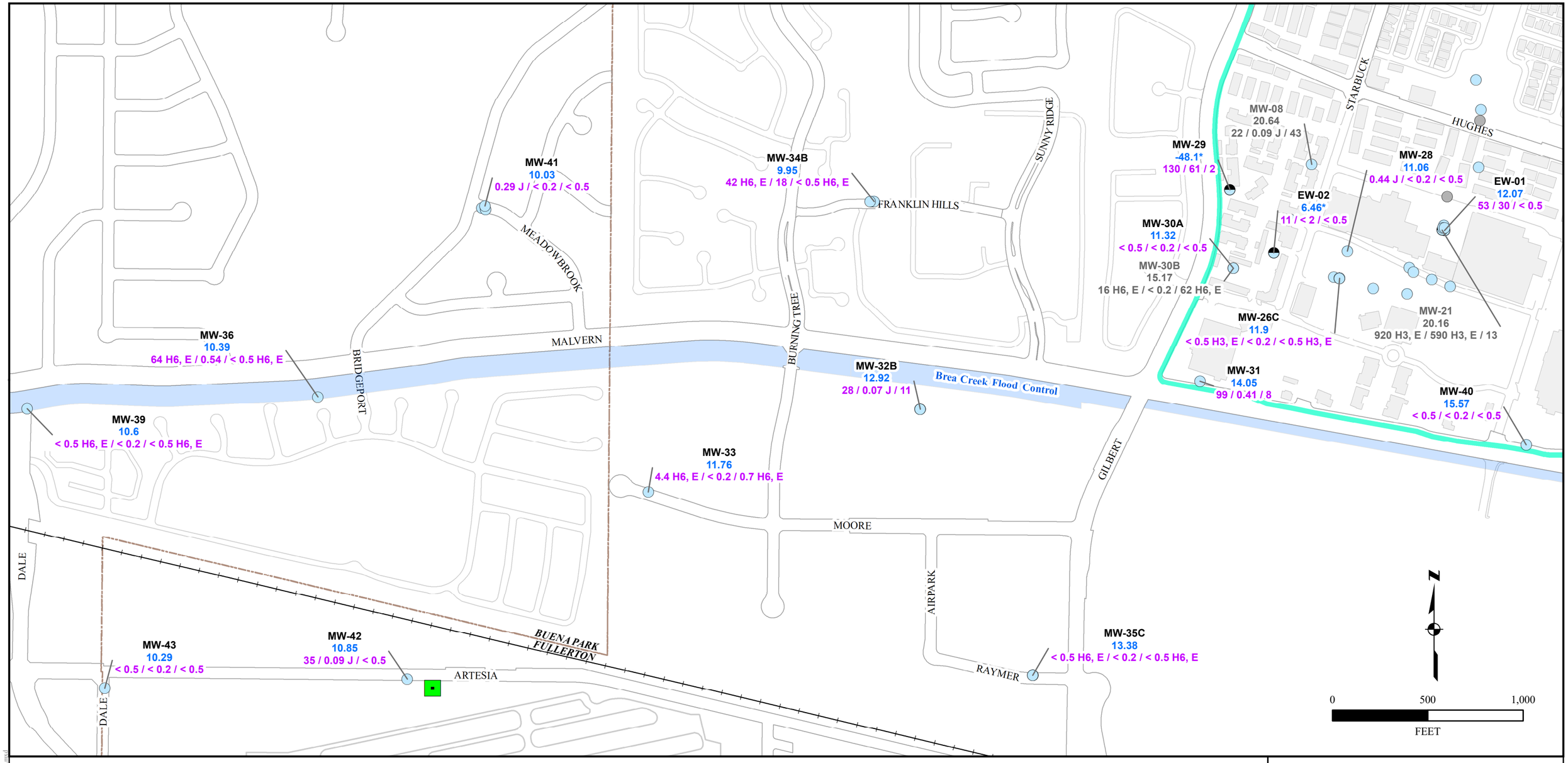

Well ID
Water Level Elevation
11DCE / 14-D / TCE

- Groundwater Monitor Well
- Groundwater Extraction Well
- Perched Piezometer
- Fullerton Airport Well 9

- Flood Control Channel Parcels
- On Property Current Buildings
- City Boundaries
- Former Hughes Aircraft Company Property
- Airport
- Railroads

NOTES:

Greyed-out well IDs completed in Unit BC
Water level measurements are in mean sea level
Concentrations are in micrograms per liter

* = Pumping water level
< = Less than; the value is the Limit of Detection for that compound
E = Data qualified as estimated in accordance with quality control criteria
GETS = Groundwater Extraction and Treatment System
GWM = Groundwater Monitoring
H3 = Initial analysis within holding time. Reanalysis past holding time.
H6 = Sample analyzed past hold time due to unexpected instrument failure.
J = Estimated value, analyte detected at less than Reporting Limit and greater than or equal to Method Detection Limit
Q4 = Quarter 4

FIGURE 3: WATER LEVEL AND WATER QUALITY UNIT B, NOVEMBER 2022

DATA SUBMITTAL FOR GWM AND GETS PILOT TESTING Q4 2022

FORMER HUGHES AIRCRAFT COMPANY
1901 WEST MALVERN AVE, FULLERTON, CA

Engineering Analytics, Inc.

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APPENDIX A
GROUNDWATER SAMPLING FIELD FORMS
(PROVIDED ON CD IN HARD COPY)

NOVEMBER 2022

QUARTERLY GROUNDWATER MONITORING
FIELD NOTEBOOK
LARGE VOLUME MONITOR WELLS

RAYTHEON COMPANY

532.30

1901 MALVERN AVE.
FULLERTON, CALIFORNIA

HARGIS + ASSOCIATES, INC.
HYDROGEOLOGY • ENGINEERING

HARGIS + ASSOCIATES, INC.

WATER LEVEL INDICATOR
CALIBRATION DOCUMENTATION FORM

PROJECT NUMBER:**532.30**

DATE	TIME	WATER LEVEL INDICATOR TYPE	WATER LEVEL INDICATOR NUMBER	MW-32C DTW CALIBRATION METHOD	CALIBRATED BY (INITIALS)	REMARKS
11/14/22	0753	Solinst flat tape ~~7096~~ (AMW)	~~73.86~~ 7096 (AMW)	73.86	AMD	
↓	0754	↓ ~~7094~~	~~73.85~~ 7094	73.86	↓	

HARGIS + ASSOCIATES, INC.

STATIC WATER LEVEL DATA SHEET

MONTH/YEAR: Nov 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)	August 2022 PREVIOUS DEPTH TO WATER (ft)	CHANGE IN WATER LEVEL (± ft)	COMMENTS	INITIALS
P-07	11/ /22				142.31		112.38			
P-09	11/ /22				183.86		120.90			
MW-06	11/ /22				184.70		156.30			
MW-08	11/ 14 /22	1209	TOC	135.27	155.91	20.64	133.64	-1.63		DJS/ANW
MW-09	11/ /22				180.10		154.76			
MW-13	11/ /22				141.84		126.56			
MW-15	11/ 14 /22	1245	TOC	133.17	144.95	11.78	130.68	-2.49		DJS/ANW
MW-16	11/ /22				142.40		127.47			
MW-17	11/ /22				142.70		129.56			
MW-18	11/ /22				142.32		130.07			
MW-19	11/ /22				142.06		129.6/8			
MW-20	11/ /22				184.19		150.79			
MW-21	11/ /22				141.18		118.43		Totalizer: Pumping?	
MW-22	11/ /22				138.65		126.31			
MW-23	11/ /22				137.33		126.50			
MW-24	11/ /22				142.83		117.86			
MW-25	11/ /22				142.64		117.98			
MW-26A	11/ /22				137.04		121.65			
MW-26B	11/ /22				137.05		122.43			
MW-26C	11/ /22				137.22		123.59			

msl = Mean sea level
ft = feet

HARGIS + ASSOCIATES, INC.

STATIC WATER LEVEL DATA SHEET

MONTH/YEAR: Nov 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)	August 2022 PREVIOUS DEPTH TO WATER (ft)	CHANGE IN WATER LEVEL (± ft)	COMMENTS	INITIALS
MW-27	11/ /22				137.16		123.12			
MW-28	11/ /22				140.77		127.24			
MW-29	11/14/22	1218	TOST	187.91	139.81	-48.10	173.61	-14.30	Totalizer 7715714 (PUMPING) Q= 9.95 GPM	DJS/ANW
MW-30A	11/14/22	1250	TOST	118.12	129.44	11.32	116.91	-1.21		
MW-30B	11/14/22	1247	TOST	114.22	129.39	15.17	114.20	-0.02		
MW-31	11/14/22	1105	TOST	105.55	119.60	14.05	106.35	+0.80		DJS/ANW
MW-32A	11/14/22	0753	TOST	80.31	92.88	12.57	81.89	+1.58		AMD/AMK
MW-32B	11/14/22	0753	TOST	79.97	92.89	12.92	80.88	+0.91		↓
MW-32C	11/14/22	0753	TOST	73.86	92.88	19.02	71.41	-2.45		↓
MW-33	11/14/22	1017	TOST	71.43	83.19	11.76	73.18	+1.75		DJS/ANW
MW-34A	11/ /22				153.25		147.69			
MW-34B	11/ /22				153.11		141.02			
MW-34C	11/ /22				153.29		140.34			
MW-35A	11/14/22	0947	TOST	75.90	93.57	17.67	91.28	+15.38		DJS/ANW
MW-35B	11/14/22	0949	TOST	80.75	93.56	12.81	86.81	+6.06		↓
* MW-35C	11/14/22	0953	TOST	80.17	93.55	13.38	82.58	+1.80		↓
MW-36	11/ /22				86.65		77.19			
MW-37	11/ /22				155.60		135.95			
MW-38	11/ /22				154.90		151.58			
MW-39	11/ /22				84.25		75.22			

msl = Mean sea level
ft = feet

HARGIS + ASSOCIATES, INC.

STATIC WATER LEVEL DATA SHEET

MONTH/YEAR: Nov 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)	August 2022 PREVIOUS DEPTH TO WATER (ft)	CHANGE IN WATER LEVEL (± ft)	COMMENTS	INITIALS
MW-40	11/ 14 /22	1039	TOST	107.83	123.40	15.57	108.52	+0.69		DJS/ANW
MW-41	11/ /22				155.60		143.80			
MW-42	11/ 14 /22	0925	TOST	71.95	82.80	10.85	74.06	+2.11		DJS/ANW
MW-43	11/ 14 /22	0908	TOST	66.35	76.64	10.29	68.33	+1.98		DJS/ANW
EW-01	11/ /22				141.07		125.91		SOUNDING TUBE TO 172.65 Totalizer Pumping?	
EW-02	11/ 14 /22	1312	TOST	126.51	132.97	6.46	123.74	-2.77	Totalizer 2817602 (Pumping) Q= 29.83 GPM	DJS/ANW

msl = Mean sea level
ft = feet

HARGIS + ASSOCIATES, INC.

NOVEMBER 2022 GROUNDWATER SAMPLE PLAN
TEAM 1

QA/QC	Total VOC's µg/L	1,4-Dixoane µg/L	APROX. GALLONS	ESTIMATED TIME (minutes)	WELL IDENTIFIER	HYDROGEOLOGIC ZONE	NOVEMBER 2022 SAMPLING SCHEDULE	SAMPLE METHOD
	ND	ND	892	42	MW-43	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	0.23	ND	871	68	MW-39	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	ND	ND	887	54	MW-35C	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
DUP/SP1.4	6.8	ND	891	49	MW-33	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	53	2.1	900	44	MW-42	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	100	6.2	984	86	MW-36	Deep; D	VOCs; 1,4-Dioxane	Ded.240V
MS/MSD	79	1.8	69	23	MW-32B	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	288	16	251	28	MW-31	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.

NOVEMBER 2022 GROUNDWATER SAMPLE PLAN
TEAM 2

QA/QC	Total VOC's µg/L	1,4-Dixoane µg/L	APROX. GALLONS	ESTIMATED TIME (minutes)	WELL IDENTIFIER	HYDROGEOLOGIC ZONE	NOVEMBER 2020 SAMPLING SCHEDULE	SAMPLE METHOD
	57	33	150	15	EW-01	Deep; B	VOCs; 1,4-Dioxane (8270 MOD)	Dedicated
	1975	590	308	14	MW-21	Water Table; BC	VOCs; 1,4-Dioxane (8270 MOD)	Dedicated
	ND	ND	216	27	MW-40	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	1	ND	100	16	MW-28	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
MS/MSD	ND	ND	60	12	MW-30A	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
DUP/SPLIT	0.7	ND	134	15	MW-41	Deep; B	VOCs; 1,4-Dioxane (8270 MOD)	Ded.240V
	72	7.1	179	10	MW-34B	Deep; B	VOCs; 1,4-Dioxane (8270 MOD)	Ded 240V
	128	1	119	37	MW-30B	Deep; BC	VOCs; 1,4-Dioxane	Ded.240V
FB	0.13	ND	152	87	MW-26C	Deep; B	VOCs; 1,4-Dioxane	Geosub2
	66	1.3	16.9	19	MW-08	Water Table; BC	VOCs; 1,4-Dioxane	Geosub2

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

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/ 15 /2022 **TASK:** 532.30 **WELL ID:** MW-35C

Time 0830 Static DTW (ft below reference point)	80.79	Casing Volume (CV) (gallons) 296 3 CV (gallons) 887	Weather Conditions
Casing Total Depth (ft below reference point)	1040	Purging Device ded. pump Sampling Device pipe stand	Time 0830 Temp. 60
Water Column (feet) (Pump set Depth to screen)	480	Pump: Depth (ft brp) 560 Type grundfos Voltage 240 HP	Skies clear
Casing Capacity (Diameter 4") (gallons per foot)	0.66	Monitor Well Recharge Rate: Slow Fast ✓	Wind (mph) / From /

Initials: RA/DTS

Begin Purge 0842 End Purge 0928

Gallons Purged 927 CVs Purged 3.1

DTW (ft brp) 88.31 Time 0928

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
0842	80.79	0	0	~		Begin	Purge	~			
0850	88.03	0.5	148	20.6	10.53	0.927	-47.0	0.12	7.7	–	Q≈ 20 gpm
0859	88.25	1.0	296	20.2	12.30	0.953	-69.1	3.16	9.93	–	
0905	88.29	1.5	444	20.6	12.25	0.961	-62.7	2.40	10.38	–	
0914	88.31	2.0	592	21.0	13.22	0.965	-58.1	0.23	30.00	–	
0921	88.32	2.5	740	20.1	12.09	0.920	-58.9	0.24	70.29	–	
0928	88.35	3.0	887	20.7	12.09	0.922	-54.7	0.91	8.57	–	Collect Sample
0930	NM	3.1	927	~		End	Purge	~			

SAMPLE COLLECTION SAMPLE TIME 0930

ANALYSIS	QUANTITY	TYPE	
8260B VOCs	3	40 ml VOA	x
8270 SIM 1,4 dioxane	1	1 L Amber	x
8270 MOD 1,4 dioxane		1 L Amber	

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. 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.)

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/15/2022 **TASK:** 532.30 **WELL ID:** MW-33

Time 1025 Static DTW (ft below reference point)	71.71	Casing Volume (CV) (gallons) 276	3 CV (gallons) 828	Weather Conditions	Initials: DJS, RA
Casing Total Depth (ft below reference point)	1020	Purging Device ded. pump	Sampling Device pipe stand	Time 1025 Temp. 70	Begin Purge 1034 End Purge 1130
Water Column (feet) Pump set Depth to screen	460	Pump: Depth (ft brp) 500 Type grundfos Voltage 240 HP —		Skies Clear	Gallons Purged 852 CVs Purged 3.1
Casing Capacity (Diameter 4 ") (gallons per foot)	0.60	Monitor Well Recharge Rate: Slow ____ Fast ✓		Wind (mph) — From —	DTW (ft brp) 73.81 Time 1126

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (mS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
1034	71.71	0	0	~~73.65~~			Beg'n	Purge	~		
1042	73.65	138	0.5	20.9	~~4.22~~ 4.03	1031 ~~1031~~ 0.857	102.4	0.92	0.26	—	Q≈2.8 GPM
1050	73.70	276	1.0	20.9	~~4.71~~ 4.03	0.857	85.4	-1.29	0.33	—	
1058	73.73	414	1.5	21.2	~~5.10~~ 4.03	0.857	78.2	-0.32	0.59	—	
1106	73.77	552	2.0	21.6	~~5.55~~ 4.03	0.871	72.4	2.1	0.10	—	* Pump switched off/Generator issue
1118	73.80	690	2.5	21.4	~~6.32~~ 4.03	0.871	75.1	-0.88	0.37	—	* Generator issues/Pump back on line
1126	73.81	828	3.0	21.3	~~4.97~~ 4.03	0.870	74.7	-1.45	0.22	—	-collect sample
1130	NM	852	~~3.1~~ 3.1	End	purge					—	

SAMPLE COLLECTION SAMPLE TIME 1130

ANALYSIS	QUANTITY	TYPE	
8260B VOCs	9	40 ml VOA	X
8270 SIM 1,4 dioxane	3	1 L Amber	X
8270 MOD 1,4 dioxane		1 L Amber	

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. (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.)

YSI: T3 believed to be defective - DJS

Dup + Split collected Dup: 1200 Split: 1130

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/15/2022 **TASK:** 532.30 **WELL ID:** MW-39

Time 1311 Static DTW (ft below reference point)	73.69	Casing Volume (CV) (gallons) 271	3 CV (gallons) 814	Weather Conditions	Initials: DJS, RA
Casing Total Depth (ft below reference point)	1012	Purging Device ded. Pump	Sampling Device NDPS	Time 1311 Temp. 72	Begin Purge 1340 End Purge 1400
Pump to screen / Water Column (feet)	452	Pump: Depth (ft brp) 560 Type Grundfos Voltage 240 HP —		Skies clear	Gallons Purged 862 CVs Purged 3.2
Casing Capacity (Diameter 4 ") (gallons per foot)	0.60	Monitor Well Recharge Rate: Slow ____ Fast ✓		Wind (mph) 10 From N	DTW (ft brp) 88.98 Time 1405

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	...FIELD PARAMETERS... Temp. (°C)	pH	EC (mS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
1319	73.69	0	0	~	~	Begin Purge			~		Q ≈ 18 GPM
1326	88.55	135.5	0.5	22.2	8.50	0.591	-162.5	-1.23	0.45	—	
1332	88.73	271	1.0	22.1	7.58	0.557	-109.5	-0.35	0.45	—	
1339	88.82	406	1.5	22.4	7.17	0.561	-66.1	0.21	0.07	—	
1346	88.92	542	2.0	22.4	6.43	0.562	-39.9	2.54	0.31	—	
1354	88.95	677.5	2.5	22.5	6.30	0.562	-37.9	1.76	0.49	—	
1400	88.98	814	3.0	22.4	6.37	0.562	-36.1	1.54	0.37	—	Collect Sample
1405	NM	868	3.2	~		End Purge		~			

SAMPLE COLLECTION SAMPLE TIME 1400

ANALYSIS	QUANTITY	TYPE	
8260B VOCs	3	40 ml VOA	X
8270 SIM 1,4 dioxane	1	1 L Amber	X
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.)

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/15/2022 **TASK:** 532.30 **WELL ID:** MW-36

Time ~~1425~~ 1425 Static DTW (ft below reference point)	76.23	Casing Volume (CV) (gallons) 320	3 CV (gallons) 961	Weather Conditions	Initials: DJS, RA
Casing Total Depth (ft below reference point)	984	Purging Device ded. Pump	Sampling Device ic-1coPs	Time 1426 Temp. 72 Clear	Begin Purge 1431 End Purge 1556
Pump to screen Water Column (feet)	834	Pump: Depth (ft brp) 460 Type grundfos	Voltage 240 HP —	Skies	Gallons Purged 982 CVs Purged 31
Casing Capacity (Diameter 4") (gallons per foot)	0.60	Monitor Well Recharge Rate: Slow	Fast ✓	Wind (mph) 7 From 7	DTW (ft brp) 80.05 Time 1556

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (mS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
1431	76.23	0	0	~	~	Begin Purge			~	—	@ ~2.12 Gpm
~~1434~~ 1434	~~79.79~~ 79.79	160	0.5	21.5	6.13	1.330	55.7	-3.22	0.43	—	
1538	79.90	320	1.0	21.1	4.28	1.163	98.8	-2.87	3.01	✓	
1509	79.98	480	1.5	21.1	3.58	1.208	92.6	-2.67	1.89	—	
1522	80.05	640	2.0	21.1	3.45	1.273	99.0	-1.72	0.80	✓	
1534	80.05	800	2.5	21.2	3.06	1.318	95.6	-1.95	1.47	✓	
1547	~~80~~ 05	961	3.0	21.2	3.02	1.318	95.7	-1.92	1.21	✓	Collect Sample
1550	80.05	992	3.1	~	~	End	Purge	~	~		

SAMPLE COLLECTION SAMPLE TIME 1550

ANALYSIS	QUANTITY	TYPE	
8260B VOCs	3	40 ml VOA	X
8270 SIM 1,4 dioxane	1	1 L Amber	X
8270 MOD 1,4 dioxane		1 L Amber	

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. 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.)

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/16/2022 **TASK:** 532.30 **WELL ID:** MW-43

Time 0824 Static DTW (ft below reference point)	66.49	Casing Volume (CV) (gallons) 291.6	3 CV (gallons) 874.8	Weather Conditions	Initials: DTS, RA
Casing Total Depth (ft below reference point)	1046	Purging Device ded pump	Sampling Device pipe stand	Time 0825 Temp. 65 °F	Begin Purge 0826 End Purge 0912
Pump to screen Water Column (feet)	480	Pump: Depth (ft brp) 560 Type grundfos	Voltage 24v HP	Skies partly clear	Gallons Purged 915 CVs Purged 3.1
Casing Capacity (Diameter 4 ") (gallons per foot)	0.60	Monitor Well Recharge Rate: Slow	Fast X	Wind (mph) 10 From W	DTW (ft brp) 73.97 Time 0912

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (mS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
0826	66.49	0	0	~		Begin	Purge		~		
0835	73.45	146	0.5	20.14	6.58	0.512	-87	13.91	21.2	—	20~gpm
0841	73.60	291	1.0	20.71	6.63	0.496	-96	10.86	35.7	—	
0850	73.81	437	1.5	20.43	6.63	0.486	-62	10.43	7.5	—	
0855	73.92	583	2.0	20.92	6.63	0.485	-23	10.35	2.5	—	
0901	73.95	728	2.5	20.36	6.56	0.482	-9	10.43	1.0	—	
0910	73.97	875	3.0	20.72	6.66	0.481	-2	10.26	2.1	—	Collect sample
0912	NM	915	3.1	~	End	purge		~			

SAMPLE COLLECTION SAMPLE TIME 0910

ANALYSIS	QUANTITY	TYPE	
8260B VOCs	3	40 ml VOA	X
8270 SIM 1,4 dioxane	1	1 L Amber	X
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.)

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/16/2022 **TASK:** 532.30 **WELL ID:** MW-42

Time 1350 Static DTW (ft below reference point)	72.42	Casing Volume (CV) (gallons) 295	3 CV (gallons) 885	Weather Conditions	Initials: DJS, RA
Casing Total Depth (ft below reference point)	1052	Purging Device Peri. pump	Sampling Device Lo-Flow PS	Time 1350 Temp. 75	Begin Purge 1350 End Purge 1432
pump to screen Water Column (feet)	497	Pump: Depth (ft brp) 560 Type grundfos	Voltage 240 HP —	Skies Clear	Gallons Purged 925 CVs Purged 3.1
Casing Capacity (Diameter 4") (gallons per foot)	0.60	Monitor Well Recharge Rate: Slow	Fast ✓	Wind (mph) — From —	DTW (ft brp) ~~81.30~~ RA 81.42 Time 1430

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
1350	72.42	0	0	~	Begin	Purge			~		
1355	81.03	147.5	0.5	21.75	6.44	0.642	-23	10.83	8.6	—	Q = 20 gpm
1402	81.24	295	1.0	22.01	6.37	0.639	-59	10.71	19.7	—	
1411	81.25	442.5	1.5	21.45	6.37	0.640	-38	10.04	15.8	—	
1418	81.33	590	2.0	21.40	6.36	0.640	-44	9.96	12.0	—	
1425	81.39	737.5	2.5	21.16	6.33	0.638	-39	11.04	7.2	—	
1430	81.42	885	3.0	21.29	6.35	0.637	-42	9.92	4.55	—	Collect Sample
1432	NM	925	3.1	~	End Purge			~		—	

SAMPLE COLLECTION SAMPLE TIME 1432

ANALYSIS	QUANTITY	TYPE	
8260B VOCs	3	40 ml VOA	x
8270 SIM 1,4 dioxane	1	1 L Amber	x
8270 MOD 1,4 dioxane		1 L Amber	

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. 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.)

NOVEMBER 2022

QUARTERLY GROUNDWATER MONITORING

FIELD NOTEBOOK

LOW VOLUME MONITOR WELLS

RAYTHEON COMPANY

532.30

1901 MALVERN AVE.
FULLERTON, CALIFORNIA

HARGIS + ASSOCIATES, INC.
HYDROGEOLOGY • ENGINEERING

HARGIS + ASSOCIATES, INC.

DAILY FIELD SAFETY BRIEFING ATTENDANCE SHEET

Date: 11/14/22

Location: FULLERTON, CA

Presented by: Andrew Donnelly

A. GENERAL INTRODUCTION

1. Location of site Health and Safety Plan (HSP) and ensure everyone has read the site HSP.
2. Primary hazards and controls (chemical, physical, and biological).
3. Sanitation and decontamination (potable water, nonpotable water, toilet, sink, shower).
4. General Site Rules.
5. Emergency Response Plan (location where emergency telephone numbers and hospital route posted, shower, first aid kit, fire extinguisher, alarm system, evacuation, meeting place, contingencies, upwind).
6. Establish buddy system.

B. SPECIFIC PRECAUTIONS FOR DAY'S ACTIVITIES Go over the hospital route daily; wear traffic vests, use safety cones, and be aware of traffic whenever in or near the roadways; wear sunscreen and hydrate well; wear gloves and take appropriate precautions when handling contaminated groundwater; watch for black widow spiders in vaults. Notify your supervisor and field partner of any issues.

C. ON-SITE ORGANIZATION AND COORDINATION

D. OTHER TOPICS:

ATTENDEE LIST

PRINT NAME	SIGNATURE	COMPANY	DATE
Andrew Donnelly		HARGIS + ASSOC., INC	11/14/22
Amber Warden		H+A	11/14/22
DJ Sealee		H+A	11/14/22
Alec Kulso		H+A	11/14/22

HARGIS + ASSOCIATES, INC.

DAILY FIELD SAFETY BRIEFING ATTENDANCE SHEET

Date: 11/15/22

Location: FULLERTON, CA

Presented by: A. DONNELLY

A. GENERAL INTRODUCTION

1. Location of site Health and Safety Plan (HSP) and ensure everyone has read the site HSP.
2. Primary hazards and controls (chemical, physical, and biological).
3. Sanitation and decontamination (potable water, nonpotable water, toilet, sink, shower).
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C. ON-SITE ORGANIZATION AND COORDINATION

D. OTHER TOPICS:

ATTENDEE LIST

PRINT NAME	SIGNATURE	COMPANY	DATE
Andrew Donnelly		HARGIS + ASSOC., INC	11/15/22
Amber Warden		H+A	11/15/22
DJ Searce		H+A	11/15/22
Ryne Adams		H+A	11/15/22

HARGIS + ASSOCIATES, INC.

DAILY FIELD SAFETY BRIEFING ATTENDANCE SHEET

Date: 11/16/22

Location: FULLERTON, CA

Presented by: A DONNELLY

A. GENERAL INTRODUCTION

1. Location of site Health and Safety Plan (HSP) and ensure everyone has read the site HSP.
2. Primary hazards and controls (chemical, physical, and biological).
3. Sanitation and decontamination (potable water, nonpotable water, toilet, sink, shower).
4. General Site Rules.
5. Emergency Response Plan (location where emergency telephone numbers and hospital route posted, shower, first aid kit, fire extinguisher, alarm system, evacuation, meeting place, contingencies, upwind).
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B. SPECIFIC PRECAUTIONS FOR DAY'S ACTIVITIES Go over the hospital route daily; wear traffic vests, use safety cones, and be aware of traffic whenever in or near the roadways; wear sunscreen and hydrate well; wear gloves and take appropriate precautions when handling contaminated groundwater; watch for black widow spiders in vaults. Notify your supervisor and field partner of any issues.

C. ON-SITE ORGANIZATION AND COORDINATION

D. OTHER TOPICS:

ATTENDEE LIST

PRINT NAME	SIGNATURE	COMPANY	DATE
Andrew Donnelly	A D	HARGIS + ASSOC., INC	11/16/22
Amber Warden		H+A	11/16/22
Ryne Adams		H+A	11/16/22

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

DATE	TIME	pH BUFFER	pH READING	TEMP of Soln (C)	METER TYPE	EC STANDARD (mS/cm)	EC READ-ING (mS/cm)	DO READ-ING (mg/l)	ORP READ-ING (mV)	COMMENTS/ TEMP OR ALTITUDE CORRECTION FACTOR	INITIALS
11/16/22	0745	4.0	4.0	17.7	YSI ProPlus				352.8		ANW
↓	0750	7.0	7.0	17.9							↓
	0755	10.0	10.0	17.5							
	0758			17.6		7	7		374.9		
↓	0805			15.4				9427.	402.5		

HARGIS + ASSOCIATES, INC.

STATIC WATER LEVEL DATA SHEET

MONTH/YEAR: Nov 2022

METHOD OF MEASUREMENT/SOUNDER IDENTIFIER: FLAT TAPE ELECTRIC SOUNDER # 7096

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)	August 2022 PREVIOUS DEPTH TO WATER (ft)	CHANGE IN WATER LEVEL (± ft)	COMMENTS	INITIALS
P-07	11/14/22	1402	TOC	114.12	142.31	28.19	112.38	-1.74		AMD/AMK
P-09	11/14/22	1008	TOC	121.00	183.86	62.86	120.90	-0.10		↓
MW-06	11/14/22	1013	TOC	159.46	184.70	25.24	156.30	-3.16		↓
MW-08	11/ /22				155.91		133.64			
MW-09	11/14/22	0959	TOC	157.99	180.10	22.11	154.76	-3.23		AMD/AMK
MW-13	11/14/22	0921	TOC	129.84	141.84	12.00	126.56	~~129.84~~ (AMD) -3.28		↓
MW-15	11/ /22				144.95		130.68			
MW-16	11/14/22	1342	TOST	130.51	142.40	11.89	127.47	-3.04		AMD/AMK
MW-17	11/14/22	0928	TOC	128.69	142.70	14.01	129.56	+0.87		↓
MW-18	11/14/22	0914	TOC	129.23	142.32	13.09	130.07	+0.84		↓
MW-19	11/14/22	0936	TOST	128.97	142.06	13.09	129.6/8	+0.71		↓
MW-20	11/14/22	1016	TOC	154.52	184.19	29.67	150.79	-3.73		↓
MW-21	11/14/22	1345	TOST	121.02	141.18	20.16	118.43	-2.59	Totalizer: Pumping?	↓
MW-22	11/14/22	0823	TOST	125.16	138.65	13.49	126.31	+1.15		↓
MW-23	11/14/22	0845	TOST	124.80	137.33	12.53	126.50	+1.70		↓
MW-24	11/14/22	1340	TOST	120.56	142.83	22.27	117.86	-2.70		↓
MW-25	11/14/22	1338	TOC	121.74	142.64	20.90	117.98	-3.76		↓
MW-26A	11/14/22	0836	TOC	125.30	137.04	11.74	121.65	-3.65		↓
MW-26B	11/14/22	0837	TOC	124.91	137.05	12.14	122.43	-2.48		↓
MW-26C	11/14/22	0848	TOC	125.32	137.22	11.90	123.59	-1.73		↓

msl = Mean sea level
ft = feet

HARGIS + ASSOCIATES, INC.

STATIC WATER LEVEL DATA SHEET

MONTH/YEAR: Nov 2022

METHOD OF MEASUREMENT/SOUNDER IDENTIFIER: **FLAT TAPE ELECTRIC SOUNDER #** 7096

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)	August 2022 PREVIOUS DEPTH TO WATER (ft)	CHANGE IN WATER LEVEL (± ft)	COMMENTS	INITIALS
MW-27	11/14/22	0945	TOST	124.66	137.16	12.50	123.12	-1.54		AMD/AMK
MW-28	11/14/22	0900	TOST	129.71	140.77	11.06	127.24	-2.47		↓
MW-29	11/ /22				139.81		173.61		Totalizer: Q=	
MW-30A	11/ /22				129.44		116.91			
MW-30B	11/ /22				129.39		114.20			
MW-31	11/ /22				119.60		106.35			
MW-32A	11/14/22	0753	~~TOC~~ (AMK) TOST	80.31	92.88	12.57	81.89	+1.58		AMD/AMK
MW-32B	11/14/22	0753	~~TOC~~ (AMK) TOST	79.97	92.89	12.92	80.88	+0.91		↓
MW-32C	11/14/22	0753	~~TOC~~ (AMK) TOST	73.86	92.88	19.02	71.41	-2.45		↓
MW-33	11/ /22				83.19		73.18			
MW-34A	11/14/22	1212	TOST	144.70	153.25	8.55	147.69	+2.95		AMD/AMK
MW-34B	11/14/22	1219	TOST	143.16	153.11	9.95	141.02	-2.14		↓
MW-34C	11/14/22	1215	TOST	140.06	153.29	13.23	140.34	+0.28		↓
MW-35A	11/ /22				93.57		91.28			
MW-35B	11/ /22				93.56		86.81			
MW-35C	11/ /22				93.55		82.58			
MW-36	11/14/22	1034	TOST	76.26	86.65	10.39	77.19	+0.93		AMD/AMK
MW-37	11/14/22	1254	TOST	138.62	155.60	~~14.9~~ 16.98 (AMK)	135.95	-2.67		↓
MW-38	11/14/22	1254	TOST	152.07	154.90	2.83	151.58	-0.49		↓
MW-39	11/14/22	1051	TOST	73.65	84.25	10.60	75.22	+1.57		↓

msl = Mean sea level
ft = feet

HARGIS + ASSOCIATES, INC.

STATIC WATER LEVEL DATA SHEET

MONTH/YEAR: Nov 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)	August 2022 PREVIOUS DEPTH TO WATER (ft)	CHANGE IN WATER LEVEL (± ft)	COMMENTS	INITIALS
MW-40	11/ /22				123.40		108.52			
MW-41	11/14/22	1243	TOST	145.57	155.60	10.03	143.80	-1.77		AMD/AMK
MW-42	11/ /22				82.80		74.06			
MW-43	11/ /22				76.64		68.33			
EW-01	11/14/22	1332	TOST	129.00	141.07	12.07	125.91	-3.09	SOUNDING TUBE TO 172.65 Totalizer: Pumping?	AMD/AMK
EW-02	11/ /22				132.97		123.74		Totalizer: Q=	

msl = Mean sea level
ft = feet

HARGIS + ASSOCIATES, INC.

NOVEMBER 2022 GROUNDWATER SAMPLE PLAN
TEAM 2

QA/QC	Total VOC's µg/L	1,4-Dixoane µg/L	APROX. GALLONS	ESTIMATED TIME (minutes)	WELL IDENTIFIER	HYDROGEOLOGIC ZONE	NOVEMBER 2022 SAMPLING SCHEDULE	SAMPLE METHOD
	57	33	150	15	~~EW-01~~	Deep; B	VOCs; 1,4-Dioxane (8270 MOD)	Dedicated
	1975	590	308	14	~~MW-21~~	Water Table; BC	VOCs; 1,4-Dioxane (8270 MOD)	Dedicated
	ND	ND	216	27	~~MW-40~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	1	ND	100	16	~~MW-28~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
~~MS/MSD~~	ND	ND	60	12	~~MW-30A~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
Dup/Spl4	0.7	ND	134	15	~~MW-41~~	Deep; B	VOCs; 1,4-Dioxane (8270 MOD)	Ded.240V
	72	7.1	179	10	~~MW-34B~~	Deep; B	VOCs; 1,4-Dioxane (8270 MOD)	Ded 240V
	128	1	119	37	~~MW-30B~~	Deep; BC	VOCs; 1,4-Dioxane	Ded.240V
RB	0.13	ND	152	87	~~MW-26C~~	Deep; B	VOCs; 1,4-Dioxane	Geosub2
	66	1.3	16.9	19	~~MW-08~~	Water Table; BC	VOCs; 1,4-Dioxane	Geosub2

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

HARGIS + ASSOCIATES, INC.

NOVEMBER 2022 GROUNDWATER SAMPLE PLAN
TEAM 1

QA/QC	Total VOC's µg/L	1,4-Dixoane µg/L	APROX. GALLONS	ESTIMATED TIME (minutes)	WELL IDENTIFIER	HYDROGEOLOGIC ZONE	NOVEMBER 2022 SAMPLING SCHEDULE	SAMPLE METHOD
	ND	ND	892	42	~~MW-43~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	0.23	ND Chloromethane	871	68	~~MW-39~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	ND	ND	887	54	~~MW-35C~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
Dup/Split	6.8	ND	891	49	~~MW-38~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	53	2.1	900	44	~~MW-42~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	100	6.2	984	88	~~MW-36~~	Deep; D	VOCs; 1,4-Dioxane	Ded.240V
MS/MSD	79	1.8	69	23	~~MW-32B~~	Deep; B	VOCs; 1,4-Dioxane	Ded.240V
	288	16	251	28	~~MW-31~~	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.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/ 15 /2022 TASK: 532.30 WELL ID: MW-28

Time 0825 Static DTW (ft below reference point)	129.68	Screen SV Casing ~~Volume (CV)~~ (gallons) ~~117.2~~ 27 3 CV (gallons) 81	Weather Conditions
Casing Total Depth (ft below reference point)	375	Purging Device ded. pump Sampling Device 0-10 pipestand	Time 0822 Temp. 53°F
pump set depth to screen 45 Water Column ~~(feet)~~ (feet)	~~245.3~~ NW	Pump: Depth (ft brp) 330 Type grundfos Voltage 240 HP —	Skies clear
Casing Capacity (Diameter 4 ") (gallons per foot)	0.60	Monitor Well Recharge Rate: Slow ____ Fast X	Wind (mph) — From —

Initials: AMD/ANW
Begin Purge 0833 End Purge 0848
Gallons Purged 88.7 CVs Purged 3.3
DTW (ft brp) 136.99 Time 0846

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
0833	129.68	0	0			BEGIN PURGE					
0837	136.79	13.5	0.5	20.2	7.40	1.240	311.4	5.39	7.4	—	Q=6.4 GPM
0839	136.83	27	1.0	20.7	7.49	1.159	286.4	3.91	7.6	—	
0840	136.84	40.5	1.5	21.1	7.57	1.164	285.3	4.05	7.8	—	
0843	136.94	54	2.0	21.0	7.63	1.161	281.0	4.38	7.5	—	
0845	136.95	67.5	2.5	21.0	7.63	1.162	277.0	3.63	7.6	—	
0846	136.99	81	3.0	21.3	7.52	1.172	271.8	3.29	7.8	—	COLLECT SAMPLE
0848	NM	88.7	3.3			END PURGE				—	

SAMPLE COLLECTION SAMPLE TIME 0847

ANALYSIS	QUANTITY	TYPE
8260B VOCs	3	40 ml VOA
8270 SIM 1,4 dioxane	1	1 L Amber
8270 MOD 1,4 dioxane		1 L Amber

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. 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.)

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/15/2022 **TASK:** 532.30 **WELL ID:** MW-26C

Time 0923 Static DTW (ft below reference point)	125.35	Casing Volume (CV) (gallons) 49	3 CV (gallons) 147	Weather Conditions
Casing Total Depth (ft below reference point)	499	Purging Device Sub. pump	Sampling Device ded. 3/8" LDPE tubing	Time 0923 Temp. 60°F
pump set depth to screen Water Column (feet)	299	Pump: Depth (ft brp) 200 Type grosub2	Voltage 115 HP 0.5	Skies clear
Casing Capacity (Diameter 2 ") (gallons per foot)	0.163	Monitor Well Recharge Rate: Slow ____	Fast X	Wind (mph) — From —

Initials: AMD/ANW
Begin Purge 0926 End Purge 1052
Gallons Purged 150.5 CVs Purged 3.1
DTW (ft brp) 125.91 Time 1050

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump ~~Frequency~~ ~~Hz~~ setting (unitless)	COMMENTS
0926	125.35	0	0	BEGIN PURGE							
0939	125.90	24.5	0.5	22.0	9.42	429.4	124.3	0.29	47.3	255	Q ≈ 1.75 GPM
0954	125.91	49.0	1.0	22.1	9.37	438.1	-19.7	0.12	52.1	255	
1008	125.91	73.5	1.5	22.2	7.83	799	11.6	0.66	38.2	255	
1022	125.91	98.0	2.0	22.2	7.73	840	46.7	0.36	27.3	255	
1036	125.91	122.5	2.5	22.2	7.73	851	44.9	0.35	26.4	255	
1050	125.91	147.0	3.0	22.2	7.72	856	39.7	0.34	26.8	255	COLLECT SAMPLE
1052	NM	150.5	3.1	END PURGE							

SAMPLE COLLECTION SAMPLE TIME 1050

ANALYSIS	QUANTITY	TYPE	
8260B VOCs	3+3	40 ml VOA	X
8270 SIM 1,4 dioxane	1+1	1 L Amber	X
8270 MOD 1,4 dioxane		1 L Amber	

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. (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.)

Collected rinsate blank RB-111522 @ 1110

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/15/2022 **TASK:** 532.30 **WELL ID:** MW-08

Time 1225 Static DTW (ft below reference point)	135.20	Casing Volume (CV) (gallons) 5.0 3 CV (gallons) 15	Weather Conditions
Casing Total Depth (ft below reference point)	166.1	Purging Device sub. pump Sampling Device ded. tubing	Time 1215 Temp. 73°F
Water Column (feet)	30.9	Pump: Depth (ft brp) ~163 Type geosub2 Voltage 115 HP 0.5	Skies clear
Casing Capacity (Diameter 2 ") (gallons per foot)	0.163	Monitor Well Recharge Rate: Slow ____ Fast X	Wind (mph) 4 From E

Initials: AMD/ANW
Begin Purge 1230 End Purge 1247
Gallons Purged 17 CVs Purged 3.4
DTW (ft brp) 143.38 Time 1245

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
1230	135.20	0	0	BEGIN PURGE							
1233	140.20	2.5	0.5	22.6	7.46	1729	100.7	1.56	25.0	220	Q≃1 GPM
1235	140.50	5	1.0	22.6	7.42	1726	81.2	0.94	26.3	220	
1238	141.58	7.5	1.5	22.7	7.39	1743	56.5	0.83	28.1	220	
1240	142.40	10	2.0	22.7	7.38	1739	40.2	0.81	24.7	220	
1242	143.08	12.5	2.5	22.6	7.34	1801	43.7	0.86	23.9	220	
1245	143.38	15	3.0	22.7	7.29	1880	68.6	0.99	25.3	220	COLLECT SAMPLE
1247	NM	17	3.4	END PURGE							

SAMPLE COLLECTION SAMPLE TIME 1245

ANALYSIS	QUANTITY	TYPE
8260B VOCs	3	40 ml VOA X
8270 SIM 1,4 dioxane	1	1 L Amber X
8270 MOD 1,4 dioxane		1 L Amber

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. 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.)

66/1.3

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/15/2022 **TASK:** 532.30 **WELL ID:** MW-30A

Time 1319 Static DTW (ft below reference point)	118.22	Casing Volume (CV) (gallons) 17.2 3 CV (gallons) 51.5	Weather Conditions	Initials: AMD/ANW
Casing Total Depth (ft below reference point)	564	Purging Device ded. pump Sampling Device ND pipe stand	Time 1319 Temp. 74°F	Begin Purge 1325 End Purge 1338
pump set depth to screen Water Column (feet)	44	Pump: Depth (ft brp) 520 Type grundfos Voltage 240 HP –	Skies clear	Gallons Purged 57.3 CVs Purged 3.3
Casing Capacity (Diameter 3 ") (gallons per foot)	0.39	Monitor Well Recharge Rate: Slow ____ Fast X	Wind (mph) – From –	DTW (ft brp) 119.98 Time 1337

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
1325	118.22	0	0	BEGIN PURGE							
1328	120.06	8.5	0.5	21.3	7.59	811	159.5	1.29	2.1	–	Q≈4.5 GPM
1329	120.04	17.0	1.0	21.4	7.60	814	112.6	0.99	2.5	–	
1330	119.99	25.5	1.5	21.5	7.60	813	40.0	0.77	2.3	–	
1332	119.99	34.0	2.0	21.5	7.59	816	4.8	0.71	2.2	–	
1335	119.98	42.5	2.5	21.6	7.59	814	-20.8	0.65	2.3	–	
1337	119.98	51.5	3.0	21.6	7.59	814	-31.2	0.63	2.2	–	COLLECT SAMPLE
1338	NM	57.3	3.3	END PURGE							

SAMPLE COLLECTION SAMPLE TIME 1338

ANALYSIS	QUANTITY	TYPE	
8260B VOCs	3	40 ml VOA	X
8270 SIM 1,4 dioxane	1	1 L Amber	X
8270 MOD 1,4 dioxane		1 L Amber	

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. 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.)

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/15/2022 TASK: 532.30 WELL ID: MW-30B

Time 1340 Static DTW (ft below reference point)	114.50	Casing Volume (CV) (gallons) 37.4 3 CV (gallons) 112.3	Weather Conditions
Casing Total Depth (ft below reference point)	616	Purging Device ded. pump Sampling Device 7100 pipestand	Time 1348 Temp. 75°F
pump set depth to screen Water Column (feet)	96	Pump: Depth (ft brp) 520 Type grundfos Voltage 240 HP ~~x~~	Skies clear
Casing Capacity (Diameter 3 ") (gallons per foot)	0.39	Monitor Well Recharge Rate: Slow ____ Fast X	Wind (mph) — From —

Initials: AMD/ANW
Begin Purge 1344 End Purge 1416
Gallons Purged 116.2 CVs Purged 3.1
DTW (ft brp) 142.43 Time 1415

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
1344	114.50	0	0	BEGIN PURGE							
1349	137.79	18.7	0.5	21.2	7.35	1418	-6.2	0.75	41.2	—	Q≈ 3.4 GPM
1356	141.75	37.4	1.0	21.5	7.21	1815	83.7	2.34	37.5	—	
1402	142.88	56.1	1.5	21.5	7.36	1363	18.8	1.96	32.4	—	
1407	142.41	74.8	2.0	22.2	7.36	1374	20.0	1.93	30.5	—	
1410	142.43	93.3	2.5	21.8	7.36	1379	29.1	1.93	29.3	—	
1415	142.43	112.3	3.0	21.8	7.35	1378	29.2	1.93	27.1	—	COLLECT SAMPLE
1416	NM	116.2	3.1	END PURGE							

SAMPLE COLLECTION SAMPLE TIME 1415

ANALYSIS	QUANTITY	TYPE
8260B VOCs	3	40 ml VOA X
8270 SIM 1,4 dioxane	1	1 L Amber X
8270 MOD 1,4 dioxane		1 L Amber

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. 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.)

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/15/2022 TASK: 532.30 WELL ID: ~~99~~ MW-34B

Time 1531 Static DTW (ft below reference point)	143.10	Casing Volume (CV) (gallons) 46 3 CV (gallons) 138	Weather Conditions	Initials: AMD/ANW
Casing Total Depth (ft below reference point) pump set depth to screen	536	Purging Device bld. pump Sampling Device 10-100 pipestand	Time 1533 Temp. 74°F	Begin Purge 1534 End Purge 1554
Water Column (feet)	76	Pump: Depth (ft brp) 460 Type grundfos Voltage 240 HP *	Skies clear	Gallons Purged 153.1 CVs Purged 3.3
Casing Capacity (Diameter 4 ") (gallons per foot)	0.60	Monitor Well Recharge Rate: Slow ____ Fast X	Wind (mph) — From —	DTW (ft brp) 144.52 Time 1552

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
1534	143.10	0	0	BEGIN PURGE							
1538	144.32	23	0.5	21.5	7.51	941	33.9	1.53	12.3	—	Q≈8 GPM
1541	144.45	46	1.0	21.8	7.55	954	26.3	1.05	14.5	—	
1544	144.50	69	1.5	21.9	7.55	958	42.0	1.02	15.3	—	
1546	144.50	92	2.0	21.9	7.54	956	49.2	1.01	14.7	—	
1549	144.52	115	2.5	21.9	7.54	952	61.9	1.00	14.3	—	
1552	144.52	138	3.0	21.9	7.53	950	70.3	0.99	13.9	—	COLLECT SAMPLE
1554	NM	153.1	3.3	END PURGE							

SAMPLE COLLECTION SAMPLE TIME 1552

ANALYSIS	QUANTITY	TYPE	
8260B VOCs	3	40 ml VOA	x
8270 SIM 1,4 dioxane		1 L Amber	
8270 MOD 1,4 dioxane	1	1 L Amber	x

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.)

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/16/2022 TASK: 532.30 WELL ID: MW-40

Time 1240 Static DTW (ft below reference point)	108.52	~~Casing~~ Screen Volume (1V) (gallons) 67.1	3 CV (gallons) 202.5
Casing Total Depth (ft below reference point) pump set depth to screen Water Column (feet)	970	Purging Device ded/pump	Sampling Device ND pipestand
	50	Pump: Depth (ft brp) 920	Type grundfos Voltage 240 HP —
Casing Capacity (Diameter 6") (gallons per foot)	1.35	Monitor Well Recharge Rate: Slow	Fast X

Weather Conditions: Time ~~0830~~ 1247 Temp. 74°F; Skies clear; Wind (mph) — From —

Initials: AMD/ANW; Begin Purge 1248 End Purge 1318; Gallons Purged 214.9 CVs Purged 3.2; DTW (ft brp) 109.40 Time 1315

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°)	pH	EC (S/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
1248	108.52	0	0	—	BEGIN PURGE					—	
1252	109.40	33.75	0.5	21.2	7.61	858	67.8	1.94	5.7	—	Q ≅ 8 GPM
1258	109.35	67.50	1.0	21.4	7.40	819	-97.5	0.58	6.8	—	
1301	109.40	101.25	1.5	21.4	7.56	858	-123.9	0.52	5.3	—	
1307	109.40	135.00	2.0	22.1	7.57	865	-130.2	0.49	6.8	—	
1312	109.40	168.75	2.5	21.8	7.55	866	-135.1	0.50	5.4	—	
1315	109.40	202.50	3.0	21.9	7.55	871	-140.0	0.50	5.7	—	COLLECT SAMPLE
1318	NM	214.9	3.2	—	END	PURGE	—	—	—	—	

SAMPLE COLLECTION SAMPLE TIME 1315

ANALYSIS	QUANTITY	TYPE
8260B VOCs	3	40 ml VOA
8270 SIM 1,4 dioxane	1	1 L Amber
8270 MOD 1,4 dioxane		1 L Amber

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. 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.)

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/16/2022 **TASK:** 532.30 **WELL ID:** MW-31

Time 0843 Static DTW (ft below reference point)	106.18	Casing Volume (CV) (gallons) 81	3 CV (gallons) 243	Weather Conditions	Initials: AMD/ANW
Casing Total Depth (ft below reference point) pump set depth, to screen	996	Purging Device did. pump	Sampling Device >100 pipestand	Time 0838 Temp. 60°F	Begin Purge 0844 End Purge 0920
Water Column (feet)	54	Pump: Depth (ft brp) 942 Type grundfos Voltage 240 HP —		Skies clear	Gallons Purged 262 CVs Purged 3.2
Casing Capacity (Diameter 6 ") (gallons per foot)	1.5	Monitor Well Recharge Rate: Slow ____ Fast X		Wind (mph) 7 From SW	DTW (ft brp) 110.15 Time 0917

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
0844	106.18	0	0	BEGIN PURGE							
0850	110.11	40.5	0.5	20.9	7.48	1116	275.2	0.53	19.5	—	Q = 7 GPM
0865	110.11	81	1.0	21.3	7.54	1577	180.3	0.46	23.8	—	
0901	110.11	121.5	1.5	21.4	7.50	1388	136.2	0.38	24.2	—	
0907	110.12	162	2.0	21.4	7.51	1296	109.6	0.42	32.5	—	
0912	110.11	202.5	2.5	21.4	7.49	1252	98.8	0.48	23.4	—	
0917	110.15	243	3.0	21.3	7.49	1225	92.8	0.49	21.0	—	COLLECT SAMPLE
0920	NM	262	3.2	END PURGE							

SAMPLE COLLECTION SAMPLE TIME 0917

ANALYSIS	QUANTITY	TYPE	
8260B VOCs	9	40 ml VOA	X
8270 SIM 1,4 dioxane	3	1 L Amber	X
8270 MOD 1,4 dioxane		1 L Amber	

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. 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.)

MS/MSD collected

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/16/2022 **TASK:** 532.30 **WELL ID:** MW-32B

Time 0948 Static DTW (ft below reference point)	80.41	~~Casing~~ Screen SV Volume (CV) (gallons) 19.2 SV 3 CV (gallons) 57.6	Weather Conditions: Time 0938 Temp. 67°F
Casing Total Depth (ft below reference point)	999	Purging Device ded. grundfos redi-flow Sampling Device ded. tubing	Skies clear
pump set depth to screen Water Column (feet)	32	Pump: Depth (ft brp) 967 Type redi flo 2 Voltage 115 HP 0.5	Wind (mph) 6 From NE
Casing Capacity (Diameter 4 ") (gallons per foot)	0.60	Monitor Well Recharge Rate: Slow ____ Fast X	Initials: AMD/ANW; Begin Purge 0949 End Purge 1015; Gallons Purged 67.9 CVs Purged 3.5; DTW (ft brp) 82.13 Time 1012

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
0949	80.41	0	0	BEGIN PURGE							
0953	82.19	11.0	~~2.5~~ 0.6 (AMD/ANW)	21.5	7.52	896	172.2	1.02	0	300	Q ≈ 2.75
0955	82.10	16.5	~~1.0~~ 0.9	21.7	7.51	897	133.2	0.47	0	300	
0959	82.10	24.6	~~1.5~~ 1.3	21.7	7.52	904	51.3	0.36	0	300	
1003	82.10	35.6	~~2.0~~ 1.8	21.7	7.54	903	-20.0	0.27	0	300	
1007	82.13	46.2	~~2.5~~ 2.4	21.6	7.55	894	-62.6	0.22	0	300	
1012	82.13	59.6	~~3.0~~ 3.1	21.6	7.56	891	-78.4	0.20	0	300	COLLECT SAMPLE
1015	NM	67.9	3.5	END PURGE							

SAMPLE COLLECTION SAMPLE TIME 1012

ANALYSIS	QUANTITY	TYPE	
8260B VOCs	9	40 ml VOA	Y
8270 SIM 1,4 dioxane	3	1 L Amber	X
8270 MOD 1,4 dioxane		1 L Amber	

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. 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.)

MS/MSD collected

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/ 16/2022 TASK: 532.30 WELL ID: MW-21

Time 1045 Static DTW (ft below reference point)	121.13	Casing Volume (CV) (gallons) 73.2 3 CV (gallons) 219.6	Weather Conditions
Casing Total Depth (ft below reference point)	232.1	Purging Device ded. pump Sampling Device ded. sample pump	Time 1047 Temp. 72°F
Water Column (feet)	110.97	Pump: Depth (ft brp) ~ Type — Voltage — HP —	Skies clear
Casing Capacity (Diameter 4 ") (gallons per foot)	0.60	Monitor Well Recharge Rate: Slow ____ Fast X	Wind (mph) 5 From NE

Initials: AMD/ANW

Begin Purge 1110 End Purge 1125

Gallons Purged 264 CVs Purged 3.6

DTW (ft brp) 142.17 Time 1124

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°)	pH	EC (S/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
1110	121.13	0	0	—		BEGIN PURGE				—	
1112	139.90	44	0.6	23.1	7.27	2111	30.0	1.44	52.0	—	Q≈22 GPM
1114	140.73	66	0.9	22.4	7.22	2175	-46.5	1.25	12.2	—	
1116	141.08	88	1.2	22.3	7.19	2223	-23.6	1.89	12.1	—	
1118	141.28	110	1.5	22.4	7.16	2243	44.8	2.58	11.8	—	
1121	141.65	176	2.4	22.4	7.14	2247	84.5	2.99	11.3	—	
1124 AMD	142.17	242	3.3	22.5	7.13	2253	124.5	3.35	10.1	—	COLLECT SAMPLE
1125	NM	264	3.6	—	END	PURGE	—				

SAMPLE COLLECTION SAMPLE TIME 1124

ANALYSIS	QUANTITY	TYPE
8260B VOCs	3	40 ml VOA x
8270 SIM 1,4 dioxane		1 L Amber
8270 MOD 1,4 dioxane	1	1 L Amber x

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. 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.)

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/16/2022 TASK: 532.30 WELL ID: EW-01

Time 1050 Static DTW (ft below reference point)	128.79	Casing Volume (CV) (gallons) 31.3	3 CV (gallons) 93.9	Weather Conditions	Initials: AMD/ANW
Casing Total Depth (ft below reference point)	181.00	Purging Device ded. pump	Sampling Device ded. Sample port	Time 1050 Temp. 72°F	Begin Purge 1051 End Purge 1102
Water Column (feet)	52.21	Pump: Depth (ft brp) — Type — Voltage — HP —		Skies clear	Gallons Purged 110 CVs Purged 3.5
Casing Capacity (Diameter 4 ") (gallons per foot)	0.60	Monitor Well Recharge Rate: Slow ____ Fast X		Wind (mph) — From —	DTW (ft brp) 129.41 Time 1101

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
1051	128.79	0	0	—	—	BEGIN PURGE	—	—	—	—	
1053	129.40	20	0.6	22.4	7.13	1698	238.0	3.98	6.5	—	Q≈10GPM
1055	129.40	40	1.3	22.5	7.11	1695	232.8	3.84	6.8	—	
1057	129.41	60	1.9	22.7	7.11	1687	225.3	3.76	5.9	—	
1059	129.41	80	2.5	22.9	7.11	1675	212.0	3.70	5.7	—	
1100	129.41	90	2.9	22.4	7.11	1665	208.7	3.92	5.5	—	
1101	129.41	100	3.2	22.3	7.11	1656	199.3	3.77	5.3	—	COLLECT SAMPLE
1102	NM	110	3.5	—	—	END PURGE	—	—	—	—	

SAMPLE COLLECTION SAMPLE TIME 1101

ANALYSIS	QUANTITY	TYPE	
8260B VOCs	3	40 ml VOA	X
8270 SIM 1,4 dioxane		1 L Amber	
8270 MOD 1,4 dioxane	1	1 L Amber	X

DUPLICATES / SPLITS / BLANKS? If yes, complete appropriate forms. 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.)

HARGIS + ASSOCIATES, INC.

GROUNDWATER SAMPLING INFORMATION

DATE: 11/16/2022 **TASK:** 532.30 **WELL ID:** MW-41

Time 1350 Static DTW (ft below reference point)	145.28	Casing Volume (CV) (gallons) 39 3 CV (gallons) 117	Weather Conditions
Casing Total Depth (ft below reference point)	425	Purging Device ded. pump Sampling Device 0-10 pipestand	Time 1350 Temp. 75°F
Water Column (feet)	65	Pump: Depth (ft brp) 360 Type grundfos Voltage 240 HP —	Skies clear
Casing Capacity (Diameter 4") (gallons per foot)	0.60	Monitor Well Recharge Rate: Slow ____ Fast X	Wind (mph) — From —

Initials: AMD/ANW
Begin Purge 1358 End Purge 1417
Gallons Purged 142.7 CVs Purged 3.7
DTW (ft brp) 152.44 Time 1413

Time	Depth to Water	Volume Purged (Gallons)	Casing Volumes Purged	....FIELD PARAMETERS.... Temp. (°C)	pH	EC (µS/cm)	O.R.P. (mV)	D.O. (mg/L)	Turbidity (NTU)	Pump Frequency Hz	COMMENTS
~~1358~~ ~~1355~~ (AMD)	145.28	0	0			BEGIN PURGE					
1400	152.25	19.5	0.5	23.6	6.90	2201	194.0	2.23	10.5	—	Q ≈ 7.5 GPM
1403	152.25	39	1.0	24.4	6.91	2202	181.5	2.23	31.8	—	
1406	152.30	58.5	1.5	22.2	6.90	2198	203.2	3.15	42.0	—	
1409	152.35	78	2.0	22.2	6.91	2079	207.2	3.22	32.8	—	
1411	152.41	97.5	2.5	22.1	6.91	2197	208.8	3.24	26.5	—	
1413	152.44	117	3.0	22.2	6.91	2080	204.1	3.29	31.2	—	COLLECT SAMPLE
1417	NM	142.7	3.7			END PURGE					

SAMPLE COLLECTION SAMPLE TIME 1413

ANALYSIS	QUANTITY	TYPE
8260B VOCs	3+6	40 ml VOA
8270 SIM 1,4 dioxane	1+2	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.)

Collected duplicate sample ~~MW~~-4100 @ 1430
Collected split sample MW-41 @ 1420

APPENDIX B
LABORATORY ANALYTICAL REPORTS
(PROVIDED ON CD IN HARD COPY)

ADVANCED TECHNOLOGY LABORATORIES

September 26, 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 : 2202291
Client Reference : Raytheon Main Gets Monthly Sample / 532.15

Enclosed are the results for sample(s) received on September 01, 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,

Lena Davidkov, Client Services

Authorized to Release on 09/26/22 16:10 on Behalf of

Amy Leung
Laboratory Director

Certificate of Analysis

Hargis & Associates, Inc.		Project Number :	Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355		Report To :	Steve Netto
San Diego , CA 92108		Reported :	09/26/2022

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-090122	2202291-01	Water	9/01/22 8:00	9/01/22 13:41
CEFF	2202291-02	Groundwater	9/01/22 8:45	9/01/22 13:41
CBT	2202291-03	Groundwater	9/01/22 8:55	9/01/22 13:41
POX	2202291-04	Groundwater	9/01/22 9:00	9/01/22 13:41
PF	2202291-05	Groundwater	9/01/22 9:05	9/01/22 13:41
INF	2202291-06	Groundwater	9/01/22 9:10	9/01/22 13:41
EW-02	2202291-07	Groundwater	9/01/22 9:50	9/01/22 13:41
MW-29	2202291-08	Groundwater	9/01/22 10:10	9/01/22 13:41

Certificate of Analysis

Hargis & Associates, Inc.		Project Number :	Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355		Report To :	Steve Netto
San Diego , CA 92108		Reported :	09/26/2022

Notes and Definitions

S12	Surrogate recovery outside in-house established limit but within method default 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.
H3	Initial analysis within holding time. Reanalysis was past holding time.
H2	Holding time for preparation or analysis exceeded.
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.		Project Number :	Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355		Report To :	Steve Netto
San Diego , CA 92108		Reported :	09/26/2022

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
2202291-05	PF	**ND**	mg/L	1.0	1	B2I0782	09/16/2022	09/17/22 14:00	H2

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: TB-090122

Lab ID: 2202291-01

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,1,1-Trichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,1,2-Trichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,1-Dichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,1-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,1-Dichloropropene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,2,3-Trichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,2,3-Trichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,2,4-Trichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,2,4-Trimethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,2-Dibromoethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,2-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,2-Dichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,2-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,3,5-Trimethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,3-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,3-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
1,4-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
2,2-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
2-Chlorotoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
4-Chlorotoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
4-Isopropyltoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Benzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Bromobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Bromodichloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Bromoform	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Bromomethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Carbon tetrachloride	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Chlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Chloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Chloroform	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Chloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
cis-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
cis-1,3-Dichloropropene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Dibromochloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Dibromomethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Dichlorodifluoromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Ethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: TB-090122

Lab ID: 2202291-01

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Isopropylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
m,p-Xylene	ND	1.0	1	B2I0689	09/06/2022	09/06/22 16:35	
Methylene chloride	ND	1.0	1	B2I0689	09/06/2022	09/06/22 16:35	
n-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
n-Propylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Naphthalene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
o-Xylene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
sec-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Styrene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
tert-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Tetrachloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Toluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
trans-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Trichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Trichlorofluoromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Vinyl chloride	ND	0.50	1	B2I0689	09/06/2022	09/06/22 16:35	
Surrogate: 1,2-Dichloroethane-d4	*93.0 %*	*64 - 155*		B2I0689	09/06/2022	*09/06/22 16:35*	
Surrogate: 4-Bromofluorobenzene	*84.4 %*	*73 - 124*		B2I0689	09/06/2022	*09/06/22 16:35*	
Surrogate: Dibromofluoromethane	*81.8 %*	*78 - 129*		B2I0689	09/06/2022	*09/06/22 16:35*	
Surrogate: Toluene-d8	*87.9 %*	*84 - 117*		B2I0689	09/06/2022	*09/06/22 16:35*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: CEFF

Lab ID: 2202291-02

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,1,1-Trichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,1,2-Trichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,1-Dichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,1-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,1-Dichloropropene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,2,3-Trichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,2,3-Trichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,2,4-Trichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,2,4-Trimethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,2-Dibromoethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,2-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,2-Dichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,2-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,3,5-Trimethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,3-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,3-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
1,4-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
2,2-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
2-Chlorotoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
4-Chlorotoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
4-Isopropyltoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Benzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Bromobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Bromodichloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Bromoform	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Bromomethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Carbon tetrachloride	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Chlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Chloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Chloroform	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Chloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
cis-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
cis-1,3-Dichloropropene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Dibromochloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Dibromomethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Dichlorodifluoromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Ethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: CEFF

Lab ID: 2202291-02

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Isopropylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
m,p-Xylene	ND	1.0	1	B2I0689	09/06/2022	09/06/22 17:01	
Methylene chloride	ND	1.0	1	B2I0689	09/06/2022	09/06/22 17:01	
n-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
n-Propylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Naphthalene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
o-Xylene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
sec-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Styrene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
tert-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Tetrachloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Toluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
trans-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Trichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Trichlorofluoromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Vinyl chloride	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:01	
Surrogate: 1,2-Dichloroethane-d4	*92.7 %*	*64 - 155*		B2I0689	09/06/2022	*09/06/22 17:01*	
Surrogate: 4-Bromofluorobenzene	*84.6 %*	*73 - 124*		B2I0689	09/06/2022	*09/06/22 17:01*	
Surrogate: Dibromofluoromethane	*84.2 %*	*78 - 129*		B2I0689	09/06/2022	*09/06/22 17:01*	
Surrogate: Toluene-d8	*86.8 %*	*84 - 117*		B2I0689	09/06/2022	*09/06/22 17:01*	

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	B2I0805	09/12/2022	09/13/22 06:50	H3
Surrogate: 1,2-Dichlorobenzene-d4	*104 %*	*13 - 99*		B2I0805	09/12/2022	*09/13/22 06:50*	H3, S12
Surrogate: 2-Fluorobiphenyl	*100 %*	*8 - 111*		B2I0805	09/12/2022	*09/13/22 06:50*	H3
Surrogate: 4-Terphenyl-d14	*116 %*	*12 - 113*		B2I0805	09/12/2022	*09/13/22 06:50*	H3, S12
Surrogate: Nitrobenzene-d5	*82.5 %*	*15 - 121*		B2I0805	09/12/2022	*09/13/22 06:50*	H3

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: CBT

Lab ID: 2202291-03

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,1,1-Trichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,1,2-Trichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,1-Dichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,1-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,1-Dichloropropene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,2,3-Trichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,2,3-Trichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,2,4-Trichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,2,4-Trimethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,2-Dibromoethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,2-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,2-Dichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,2-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,3,5-Trimethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,3-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,3-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
1,4-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
2,2-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
2-Chlorotoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
4-Chlorotoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
4-Isopropyltoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Benzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Bromobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Bromodichloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Bromoform	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Bromomethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Carbon tetrachloride	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Chlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Chloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Chloroform	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Chloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
cis-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
cis-1,3-Dichloropropene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Dibromochloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Dibromomethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Dichlorodifluoromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Ethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: CBT
Lab ID: 2202291-03

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Isopropylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
m,p-Xylene	ND	1.0	1	B2I0689	09/06/2022	09/06/22 17:27	
Methylene chloride	ND	1.0	1	B2I0689	09/06/2022	09/06/22 17:27	
n-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
n-Propylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Naphthalene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
o-Xylene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
sec-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Styrene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
tert-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Tetrachloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Toluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
trans-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Trichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Trichlorofluoromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Vinyl chloride	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:27	
Surrogate: 1,2-Dichloroethane-d4	*95.3 %*	*64 - 155*		B2I0689	09/06/2022	*09/06/22 17:27*	
Surrogate: 4-Bromofluorobenzene	*83.8 %*	*73 - 124*		B2I0689	09/06/2022	*09/06/22 17:27*	
Surrogate: Dibromofluoromethane	*84.6 %*	*78 - 129*		B2I0689	09/06/2022	*09/06/22 17:27*	
Surrogate: Toluene-d8	*87.3 %*	*84 - 117*		B2I0689	09/06/2022	*09/06/22 17:27*	

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	B2I0805	09/12/2022	09/13/22 07:15	H3
Surrogate: 1,2-Dichlorobenzene-d4	*108 %*	*13 - 99*		B2I0805	09/12/2022	*09/13/22 07:15*	H3, S12
Surrogate: 2-Fluorobiphenyl	*97.6 %*	*8 - 111*		B2I0805	09/12/2022	*09/13/22 07:15*	H3
Surrogate: 4-Terphenyl-d14	*117 %*	*12 - 113*		B2I0805	09/12/2022	*09/13/22 07:15*	H3, S12
Surrogate: Nitrobenzene-d5	*91.7 %*	*15 - 121*		B2I0805	09/12/2022	*09/13/22 07:15*	H3

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: POX

Lab ID: 2202291-04

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,1,1-Trichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,1,2-Trichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,1-Dichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,1-Dichloroethene	**2.8**	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,1-Dichloropropene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,2,3-Trichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,2,3-Trichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,2,4-Trichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,2,4-Trimethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,2-Dibromoethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,2-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,2-Dichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,2-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,3,5-Trimethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,3-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,3-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
1,4-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
2,2-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
2-Chlorotoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
4-Chlorotoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
4-Isopropyltoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Benzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Bromobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Bromodichloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Bromoform	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Bromomethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Carbon tetrachloride	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Chlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Chloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Chloroform	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Chloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
cis-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
cis-1,3-Dichloropropene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Dibromochloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Dibromomethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Dichlorodifluoromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Ethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: POX
Lab ID: 2202291-04

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Isopropylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
m,p-Xylene	ND	1.0	1	B2I0689	09/06/2022	09/06/22 17:53	
Methylene chloride	ND	1.0	1	B2I0689	09/06/2022	09/06/22 17:53	
n-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
n-Propylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Naphthalene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
o-Xylene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
sec-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Styrene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
tert-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Tetrachloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Toluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
trans-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Trichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Trichlorofluoromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Vinyl chloride	ND	0.50	1	B2I0689	09/06/2022	09/06/22 17:53	
Surrogate: 1,2-Dichloroethane-d4	*93.6 %*	*64 - 155*		B2I0689	09/06/2022	*09/06/22 17:53*	
Surrogate: 4-Bromofluorobenzene	*84.2 %*	*73 - 124*		B2I0689	09/06/2022	*09/06/22 17:53*	
Surrogate: Dibromofluoromethane	*83.0 %*	*78 - 129*		B2I0689	09/06/2022	*09/06/22 17:53*	
Surrogate: Toluene-d8	*85.9 %*	*84 - 117*		B2I0689	09/06/2022	*09/06/22 17:53*	

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	**5.7**	0.20	1	B2I0805	09/12/2022	09/13/22 07:41	H3
Surrogate: 1,2-Dichlorobenzene-d4	*109 %*	*13 - 99*		B2I0805	09/12/2022	*09/13/22 07:41*	H3, S12
Surrogate: 2-Fluorobiphenyl	*98.4 %*	*8 - 111*		B2I0805	09/12/2022	*09/13/22 07:41*	H3
Surrogate: 4-Terphenyl-d14	*113 %*	*12 - 113*		B2I0805	09/12/2022	*09/13/22 07:41*	H3
Surrogate: Nitrobenzene-d5	*92.7 %*	*15 - 121*		B2I0805	09/12/2022	*09/13/22 07:41*	H3

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: INF

Lab ID: 2202291-06

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,1,1-Trichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,1,2-Trichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,1-Dichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,1-Dichloroethene	**47**	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,1-Dichloropropene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,2,3-Trichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,2,3-Trichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,2,4-Trichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,2,4-Trimethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,2-Dibromoethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,2-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,2-Dichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,2-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,3,5-Trimethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,3-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,3-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
1,4-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
2,2-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
2-Chlorotoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
4-Chlorotoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
4-Isopropyltoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Benzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Bromobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Bromodichloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Bromoform	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Bromomethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Carbon tetrachloride	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Chlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Chloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Chloroform	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Chloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
cis-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
cis-1,3-Dichloropropene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Dibromochloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Dibromomethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Dichlorodifluoromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Ethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: INF
Lab ID: 2202291-06

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Isopropylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
m,p-Xylene	ND	1.0	1	B2I0689	09/06/2022	09/06/22 23:29	
Methylene chloride	ND	1.0	1	B2I0689	09/06/2022	09/06/22 23:29	
n-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
n-Propylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Naphthalene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
o-Xylene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
sec-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Styrene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
tert-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Tetrachloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Toluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
trans-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Trichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Trichlorofluoromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Vinyl chloride	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:29	
Surrogate: 1,2-Dichloroethane-d4	*95.4 %*	*64 - 155*		B2I0689	09/06/2022	*09/06/22 23:29*	
Surrogate: 4-Bromofluorobenzene	*80.7 %*	*73 - 124*		B2I0689	09/06/2022	*09/06/22 23:29*	
Surrogate: Dibromofluoromethane	*84.1 %*	*78 - 129*		B2I0689	09/06/2022	*09/06/22 23:29*	
Surrogate: Toluene-d8	*87.1 %*	*84 - 117*		B2I0689	09/06/2022	*09/06/22 23:29*	

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	**29**	2.0	1	B2I0729	09/06/2022	09/07/22 13:14	
Surrogate: 1,2-Dichlorobenzene-d4	*93.0 %*	*17 - 119*		B2I0729	09/06/2022	*09/07/22 13:14*	
Surrogate: 2-Fluorobiphenyl	*91.2 %*	*10 - 133*		B2I0729	09/06/2022	*09/07/22 13:14*	
Surrogate: 4-Terphenyl-d14	*85.1 %*	*5 - 139*		B2I0729	09/06/2022	*09/07/22 13:14*	
Surrogate: Nitrobenzene-d5	*87.5 %*	*13 - 150*		B2I0729	09/06/2022	*09/07/22 13:14*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: EW-02

Lab ID: 2202291-07

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,1,1-Trichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,1,2-Trichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,1-Dichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,1-Dichloroethene	**11**	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,1-Dichloropropene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,2,3-Trichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,2,3-Trichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,2,4-Trichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,2,4-Trimethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,2-Dibromoethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,2-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,2-Dichloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,2-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,3,5-Trimethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,3-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,3-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
1,4-Dichlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
2,2-Dichloropropane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
2-Chlorotoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
4-Chlorotoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
4-Isopropyltoluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Benzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Bromobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Bromodichloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Bromoform	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Bromomethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Carbon tetrachloride	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Chlorobenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Chloroethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Chloroform	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Chloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
cis-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
cis-1,3-Dichloropropene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Dibromochloromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Dibromomethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Dichlorodifluoromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Ethylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: EW-02
Lab ID: 2202291-07

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Isopropylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
m,p-Xylene	ND	1.0	1	B2I0689	09/06/2022	09/06/22 23:04	
Methylene chloride	ND	1.0	1	B2I0689	09/06/2022	09/06/22 23:04	
n-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
n-Propylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Naphthalene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
o-Xylene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
sec-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Styrene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
tert-Butylbenzene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Tetrachloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Toluene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
trans-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Trichloroethene	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Trichlorofluoromethane	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Vinyl chloride	ND	0.50	1	B2I0689	09/06/2022	09/06/22 23:04	
Surrogate: 1,2-Dichloroethane-d4	*95.2 %*	*64 - 155*		B2I0689	09/06/2022	*09/06/22 23:04*	
Surrogate: 4-Bromofluorobenzene	*84.3 %*	*73 - 124*		B2I0689	09/06/2022	*09/06/22 23:04*	
Surrogate: Dibromofluoromethane	*84.2 %*	*78 - 129*		B2I0689	09/06/2022	*09/06/22 23:04*	
Surrogate: Toluene-d8	*88.6 %*	*84 - 117*		B2I0689	09/06/2022	*09/06/22 23:04*	

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	B2I0729	09/06/2022	09/07/22 13:42	
Surrogate: 1,2-Dichlorobenzene-d4	*95.1 %*	*17 - 119*		B2I0729	09/06/2022	*09/07/22 13:42*	
Surrogate: 2-Fluorobiphenyl	*90.5 %*	*10 - 133*		B2I0729	09/06/2022	*09/07/22 13:42*	
Surrogate: 4-Terphenyl-d14	*88.3 %*	*5 - 139*		B2I0729	09/06/2022	*09/07/22 13:42*	
Surrogate: Nitrobenzene-d5	*87.5 %*	*13 - 150*		B2I0729	09/06/2022	*09/07/22 13:42*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: MW-29
Lab ID: 2202291-08

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,1,1-Trichloroethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,1,2-Trichloroethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,1-Dichloroethane	**1.4**	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,1-Dichloroethene	**130**	2.5	5	B2I0689	09/07/2022	09/07/22 00:47	
1,1-Dichloropropene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,2,3-Trichloropropane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,2,3-Trichlorobenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,2,4-Trichlorobenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,2,4-Trimethylbenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,2-Dibromoethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,2-Dichlorobenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,2-Dichloroethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,2-Dichloropropane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,3,5-Trimethylbenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,3-Dichlorobenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,3-Dichloropropane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
1,4-Dichlorobenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
2,2-Dichloropropane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
2-Chlorotoluene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
4-Chlorotoluene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
4-Isopropyltoluene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Benzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Bromobenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Bromodichloromethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Bromoform	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Bromomethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Carbon tetrachloride	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Chlorobenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Chloroethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Chloroform	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Chloromethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
cis-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
cis-1,3-Dichloropropene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Dibromochloromethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Dibromomethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Dichlorodifluoromethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Ethylbenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

Client Sample ID: MW-29
Lab ID: 2202291-08

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Isopropylbenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
m,p-Xylene	ND	1.0	1	B2I0689	09/07/2022	09/07/22 00:21	
Methylene chloride	ND	1.0	1	B2I0689	09/07/2022	09/07/22 00:21	
n-Butylbenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
n-Propylbenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Naphthalene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
o-Xylene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
sec-Butylbenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Styrene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
tert-Butylbenzene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Tetrachloroethene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Toluene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
trans-1,2-Dichloroethene	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Trichloroethene	**1.4**	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Trichlorofluoromethane	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Vinyl chloride	ND	0.50	1	B2I0689	09/07/2022	09/07/22 00:21	
Surrogate: 1,2-Dichloroethane-d4	*95.4 %*	*64 - 155*		B2I0689	09/07/2022	*09/07/22 00:21*	
Surrogate: 1,2-Dichloroethane-d4	*96.4 %*	*64 - 155*		B2I0689	09/07/2022	*09/07/22 00:47*	
Surrogate: 4-Bromofluorobenzene	*84.7 %*	*73 - 124*		B2I0689	09/07/2022	*09/07/22 00:21*	
Surrogate: 4-Bromofluorobenzene	*83.2 %*	*73 - 124*		B2I0689	09/07/2022	*09/07/22 00:47*	
Surrogate: Dibromofluoromethane	*85.0 %*	*78 - 129*		B2I0689	09/07/2022	*09/07/22 00:21*	
Surrogate: Dibromofluoromethane	*84.4 %*	*78 - 129*		B2I0689	09/07/2022	*09/07/22 00:47*	
Surrogate: Toluene-d8	*89.8 %*	*84 - 117*		B2I0689	09/07/2022	*09/07/22 00:21*	
Surrogate: Toluene-d8	*88.4 %*	*84 - 117*		B2I0689	09/07/2022	*09/07/22 00:47*	

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	**120**	2.0	1	B2I0729	09/06/2022	09/07/22 14:11	
Surrogate: 1,2-Dichlorobenzene-d4	*110 %*	*17 - 119*		B2I0729	09/06/2022	*09/07/22 14:11*	
Surrogate: 2-Fluorobiphenyl	*111 %*	*10 - 133*		B2I0729	09/06/2022	*09/07/22 14:11*	
Surrogate: 4-Terphenyl-d14	*105 %*	*5 - 139*		B2I0729	09/06/2022	*09/07/22 14:11*	
Surrogate: Nitrobenzene-d5	*108 %*	*13 - 150*		B2I0729	09/06/2022	*09/07/22 14:11*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

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 B2I0782 - No_Prep_WC1_W										
Blank (B2I0782-BLK1)						Prepared: 9/16/2022 Analyzed: 9/17/2022				
Residue, Suspended	ND	1.0	1.0							
LCS (B2I0782-BS1)						Prepared: 9/16/2022 Analyzed: 9/17/2022				
Residue, Suspended	968.000	10	10	1000.00		96.8	80 - 120			
Duplicate (B2I0782-DUP1)			**Source: 2202287-01**			Prepared: 9/16/2022 Analyzed: 9/17/2022				
Residue, Suspended	1300.00	40	40		1280.00			1.55	10	

Certificate of Analysis

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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 B2I0689 - MSVOA_LL_W										
Blank (B2I0689-BLK1)							Prepared: 9/6/2022 Analyzed: 9/6/2022			
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 B2I0689 - MSVOA_LL_W (continued)										
Blank (B2I0689-BLK1) - Continued						Prepared: 9/6/2022 Analyzed: 9/6/2022				
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	*23.05*			*25.0000*		*92.2*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*21.40*			*25.0000*		*85.6*	*73 - 124*			
Surrogate: Dibromofluoromethane	*21.13*			*25.0000*		*84.5*	*78 - 129*			
Surrogate: Toluene-d8	*22.03*			*25.0000*		*88.1*	*84 - 117*			
LCS (B2I0689-BS1)						Prepared: 9/6/2022 Analyzed: 9/6/2022				
1,1,1,2-Tetrachloroethane	20.6700	0.50	0.11	20.0000		103	79 - 116			
1,1,1-Trichloroethane	19.2500	0.50	0.21	20.0000		96.2	73 - 130			
1,1,2,2-Tetrachloroethane	20.6000	0.50	0.36	20.0000		103	71 - 122			
1,1,2-Trichloroethane	20.2500	0.50	0.25	20.0000		101	70 - 124			
1,1-Dichloroethane	19.8500	0.50	0.09	20.0000		99.2	69 - 128			
1,1-Dichloroethene	19.0000	0.50	0.13	20.0000		95.0	65 - 137			
1,1-Dichloropropene	20.1900	0.50	0.13	20.0000		101	74 - 129			
1,2,3-Trichloropropane	20.6000	0.50	0.39	20.0000		103	74 - 123			
1,2,3-Trichlorobenzene	20.6800	0.50	0.18	20.0000		103	59 - 130			
1,2,4-Trichlorobenzene	20.6000	0.50	0.16	20.0000		103	65 - 125			
1,2,4-Trimethylbenzene	20.8500	0.50	0.14	20.0000		104	88 - 124			
1,2-Dibromo-3-chloropropane	19.7900	0.50	0.41	20.0000		99.0	61 - 127			
1,2-Dibromoethane	20.8900	0.50	0.24	20.0000		104	72 - 125			
1,2-Dichlorobenzene	20.2300	0.50	0.20	20.0000		101	84 - 113			
1,2-Dichloroethane	20.6200	0.50	0.20	20.0000		103	68 - 130			
1,2-Dichloropropane	20.7200	0.50	0.15	20.0000		104	77 - 121			
1,3,5-Trimethylbenzene	20.8100	0.50	0.13	20.0000		104	83 - 124			
1,3-Dichlorobenzene	20.4800	0.50	0.16	20.0000		102	83 - 112			
1,3-Dichloropropane	20.8600	0.50	0.21	20.0000		104	77 - 119			
1,4-Dichlorobenzene	20.4100	0.50	0.17	20.0000		102	79 - 115			
2,2-Dichloropropane	21.7100	0.50	0.38	20.0000		109	67 - 149			
2-Chlorotoluene	20.4500	0.50	0.11	20.0000		102	81 - 119			
4-Chlorotoluene	20.6100	0.50	0.12	20.0000		103	86 - 117			
4-Isopropyltoluene	20.3500	0.50	0.11	20.0000		102	82 - 131			
Benzene	20.3700	0.50	0.13	20.0000		102	75 - 124			
Bromobenzene	20.4400	0.50	0.21	20.0000		102	82 - 108			
Bromodichloromethane	19.9600	0.50	0.14	20.0000		99.8	80 - 120			

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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 B2I0689 - MSVOA_LL_W (continued)										
LCS (B2I0689-BS1) - Continued						Prepared: 9/6/2022 Analyzed: 9/6/2022				
Bromoform	21.2800	0.50	0.20	20.0000		106	70 - 123			
Bromomethane	22.8400	0.50	0.40	20.0000		114	44 - 151			
Carbon tetrachloride	20.1400	0.50	0.09	20.0000		101	62 - 140			
Chlorobenzene	20.4400	0.50	0.13	20.0000		102	80 - 112			
Chloroethane	22.0200	0.50	0.15	20.0000		110	42 - 167			
Chloroform	19.8700	0.50	0.11	20.0000		99.4	77 - 122			
Chloromethane	22.0000	0.50	0.12	20.0000		110	33 - 153			
cis-1,2-Dichloroethene	19.4900	0.50	0.14	20.0000		97.4	75 - 121			
cis-1,3-Dichloropropene	19.9000	0.50	0.13	20.0000		99.5	73 - 127			
Dibromochloromethane	20.2600	0.50	0.16	20.0000		101	77 - 122			
Dibromomethane	20.6500	0.50	0.19	20.0000		103	75 - 121			
Dichlorodifluoromethane	21.5800	0.50	0.18	20.0000		108	0 - 171			
Ethylbenzene	20.7000	0.50	0.13	20.0000		104	82 - 119			
Hexachlorobutadiene	20.6800	0.50	0.15	20.0000		103	71 - 131			
Isopropylbenzene	20.3900	0.50	0.10	20.0000		102	75 - 126			
m,p-Xylene	41.4600	1.0	0.19	40.0000		104	86 - 119			
Methylene chloride	19.5800	1.0	0.71	20.0000		97.9	76 - 125			
n-Butylbenzene	20.5400	0.50	0.11	20.0000		103	81 - 125			
n-Propylbenzene	20.6900	0.50	0.10	20.0000		103	78 - 130			
Naphthalene	20.6100	0.50	0.41	20.0000		103	47 - 128			
o-Xylene	21.0800	0.50	0.13	20.0000		105	85 - 119			
sec-Butylbenzene	20.5000	0.50	0.09	20.0000		102	78 - 130			
Styrene	20.6300	0.50	0.13	20.0000		103	62 - 148			
tert-Butylbenzene	20.2400	0.50	0.09	20.0000		101	77 - 125			
Tetrachloroethene	20.4200	0.50	0.10	20.0000		102	73 - 120			
Toluene	20.1400	0.50	0.12	20.0000		101	79 - 119			
trans-1,2-Dichloroethene	18.8900	0.50	0.09	20.0000		94.4	70 - 129			
Trichloroethene	19.5100	0.50	0.10	20.0000		97.6	73 - 117			
Trichlorofluoromethane	19.4700	0.50	0.23	20.0000		97.4	59 - 135			
Vinyl chloride	21.5200	0.50	0.13	20.0000		108	58 - 132			
Surrogate: 1,2-Dichloroethane-d4	*21.41*			*25.0000*		*85.6*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*21.69*			*25.0000*		*86.8*	*73 - 124*			
Surrogate: Dibromofluoromethane	*20.31*			*25.0000*		*81.2*	*78 - 129*			
Surrogate: Toluene-d8	*21.82*			*25.0000*		*87.3*	*84 - 117*			
LCS Dup (B2I0689-BSD1)						Prepared: 9/6/2022 Analyzed: 9/6/2022				
1,1,1,2-Tetrachloroethane	20.6200	0.50	0.11	20.0000		103	79 - 116	0.242	20	
1,1,1-Trichloroethane	19.7200	0.50	0.21	20.0000		98.6	73 - 130	2.41	20	
1,1,2,2-Tetrachloroethane	21.5100	0.50	0.36	20.0000		108	71 - 122	4.32	20	
1,1,2-Trichloroethane	20.9500	0.50	0.25	20.0000		105	70 - 124	3.40	20	
1,1-Dichloroethane	20.3500	0.50	0.09	20.0000		102	69 - 128	2.49	20	
1,1-Dichloroethene	18.8500	0.50	0.13	20.0000		94.2	65 - 137	0.793	20	
1,1-Dichloropropene	20.1800	0.50	0.13	20.0000		101	74 - 129	0.0495	20	
1,2,3-Trichloropropane	20.9700	0.50	0.39	20.0000		105	74 - 123	1.78	20	
1,2,3-Trichlorobenzene	21.2200	0.50	0.18	20.0000		106	59 - 130	2.58	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 B2I0689 - MSVOA_LL_W (continued)										
LCS Dup (B2I0689-BSD1) - Continued						Prepared: 9/6/2022 Analyzed: 9/6/2022				
1,2,4-Trichlorobenzene	20.7900	0.50	0.16	20.0000		104	65 - 125	0.918	20	
1,2,4-Trimethylbenzene	20.9600	0.50	0.14	20.0000		105	88 - 124	0.526	20	
1,2-Dibromo-3-chloropropane	20.7000	0.50	0.41	20.0000		104	61 - 127	4.49	20	
1,2-Dibromoethane	21.5100	0.50	0.24	20.0000		108	72 - 125	2.92	20	
1,2-Dichlorobenzene	20.4700	0.50	0.20	20.0000		102	84 - 113	1.18	20	
1,2-Dichloroethane	20.9200	0.50	0.20	20.0000		105	68 - 130	1.44	20	
1,2-Dichloropropane	20.7100	0.50	0.15	20.0000		104	77 - 121	0.0483	20	
1,3,5-Trimethylbenzene	20.9800	0.50	0.13	20.0000		105	83 - 124	0.814	20	
1,3-Dichlorobenzene	20.5500	0.50	0.16	20.0000		103	83 - 112	0.341	20	
1,3-Dichloropropane	21.5900	0.50	0.21	20.0000		108	77 - 119	3.44	20	
1,4-Dichlorobenzene	20.4500	0.50	0.17	20.0000		102	79 - 115	0.196	20	
2,2-Dichloropropane	22.1000	0.50	0.38	20.0000		110	67 - 149	1.78	20	
2-Chlorotoluene	20.6300	0.50	0.11	20.0000		103	81 - 119	0.876	20	
4-Chlorotoluene	20.5600	0.50	0.12	20.0000		103	86 - 117	0.243	20	
4-Isopropyltoluene	20.5800	0.50	0.11	20.0000		103	82 - 131	1.12	20	
Benzene	20.4600	0.50	0.13	20.0000		102	75 - 124	0.441	20	
Bromobenzene	20.7100	0.50	0.21	20.0000		104	82 - 108	1.31	20	
Bromodichloromethane	20.3600	0.50	0.14	20.0000		102	80 - 120	1.98	20	
Bromoform	21.4900	0.50	0.20	20.0000		107	70 - 123	0.982	20	
Bromomethane	22.1400	0.50	0.40	20.0000		111	44 - 151	3.11	20	
Carbon tetrachloride	20.2400	0.50	0.09	20.0000		101	62 - 140	0.495	20	
Chlorobenzene	20.8800	0.50	0.13	20.0000		104	80 - 112	2.13	20	
Chloroethane	21.9400	0.50	0.15	20.0000		110	42 - 167	0.364	20	
Chloroform	20.1900	0.50	0.11	20.0000		101	77 - 122	1.60	20	
Chloromethane	21.8200	0.50	0.12	20.0000		109	33 - 153	0.822	20	
cis-1,2-Dichloroethene	19.8100	0.50	0.14	20.0000		99.0	75 - 121	1.63	20	
cis-1,3-Dichloropropene	20.6000	0.50	0.13	20.0000		103	73 - 127	3.46	20	
Dibromochloromethane	21.0700	0.50	0.16	20.0000		105	77 - 122	3.92	20	
Dibromomethane	21.2600	0.50	0.19	20.0000		106	75 - 121	2.91	20	
Dichlorodifluoromethane	21.4700	0.50	0.18	20.0000		107	0 - 171	0.511	20	
Ethylbenzene	20.8600	0.50	0.13	20.0000		104	82 - 119	0.770	20	
Hexachlorobutadiene	20.5000	0.50	0.15	20.0000		102	71 - 131	0.874	20	
Isopropylbenzene	20.5200	0.50	0.10	20.0000		103	75 - 126	0.636	20	
m,p-Xylene	41.8100	1.0	0.19	40.0000		105	86 - 119	0.841	20	
Methylene chloride	19.7300	1.0	0.71	20.0000		98.6	76 - 125	0.763	20	
n-Butylbenzene	20.6200	0.50	0.11	20.0000		103	81 - 125	0.389	20	
n-Propylbenzene	20.6800	0.50	0.10	20.0000		103	78 - 130	0.0483	20	
Naphthalene	21.4100	0.50	0.41	20.0000		107	47 - 128	3.81	20	
o-Xylene	21.6400	0.50	0.13	20.0000		108	85 - 119	2.62	20	
sec-Butylbenzene	20.6800	0.50	0.09	20.0000		103	78 - 130	0.874	20	
Styrene	21.0700	0.50	0.13	20.0000		105	62 - 148	2.11	20	
tert-Butylbenzene	20.2200	0.50	0.09	20.0000		101	77 - 125	0.0989	20	
Tetrachloroethene	20.8200	0.50	0.10	20.0000		104	73 - 120	1.94	20	
Toluene	20.3100	0.50	0.12	20.0000		102	79 - 119	0.841	20	
trans-1,2-Dichloroethene	19.1600	0.50	0.09	20.0000		95.8	70 - 129	1.42	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	% Rec Limits	RPD	RPD Limit	Notes
Batch B2I0689 - MSVOA_LL_W (continued)										
LCS Dup (B2I0689-BSD1) - Continued						Prepared: 9/6/2022 Analyzed: 9/6/2022				
Trichloroethene	19.6700	0.50	0.10	20.0000		98.4	73 - 117	0.817	20	
Trichlorofluoromethane	19.5700	0.50	0.23	20.0000		97.8	59 - 135	0.512	20	
Vinyl chloride	21.6400	0.50	0.13	20.0000		108	58 - 132	0.556	20	
Surrogate: 1,2-Dichloroethane-d4	*22.07*			*25.0000*		*88.3*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*22.34*			*25.0000*		*89.4*	*73 - 124*			
Surrogate: Dibromofluoromethane	*20.31*			*25.0000*		*81.2*	*78 - 129*			
Surrogate: Toluene-d8	*21.56*			*25.0000*		*86.2*	*84 - 117*			

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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 B2I0729 - MSSEMI_W										
Blank (B2I0729-BLK1)						Prepared: 9/6/2022 Analyzed: 9/7/2022				
1,4-Dioxane	ND	2.0	0.84							
Surrogate: 1,2-Dichlorobenzene-d4	*96.13*			*100.000*		*96.1*	*17 - 119*			
Surrogate: 2-Fluorobiphenyl	*94.96*			*100.000*		*95.0*	*10 - 133*			
Surrogate: 4-Terphenyl-d14	*93.43*			*100.000*		*93.4*	*5 - 139*			
Surrogate: Nitrobenzene-d5	*93.98*			*100.000*		*94.0*	*13 - 150*			
LCS (B2I0729-BS1)						Prepared: 9/6/2022 Analyzed: 9/7/2022				
1,4-Dioxane	100.440	2.0	0.84	100.000		100	75 - 155			
Surrogate: 1,2-Dichlorobenzene-d4	*91.59*			*100.000*		*91.6*	*17 - 119*			
Surrogate: 2-Fluorobiphenyl	*89.41*			*100.000*		*89.4*	*10 - 133*			
Surrogate: 4-Terphenyl-d14	*90.37*			*100.000*		*90.4*	*5 - 139*			
Surrogate: Nitrobenzene-d5	*99.47*			*100.000*		*99.5*	*13 - 150*			
LCS Dup (B2I0729-BSD1)						Prepared: 9/6/2022 Analyzed: 9/7/2022				
1,4-Dioxane	100.620	2.0	0.84	100.000		101	75 - 155	0.179	20	
Surrogate: 1,2-Dichlorobenzene-d4	*94.46*			*100.000*		*94.5*	*17 - 119*			
Surrogate: 2-Fluorobiphenyl	*90.52*			*100.000*		*90.5*	*10 - 133*			
Surrogate: 4-Terphenyl-d14	*90.38*			*100.000*		*90.4*	*5 - 139*			
Surrogate: Nitrobenzene-d5	*97.36*			*100.000*		*97.4*	*13 - 150*			

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 09/26/2022

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 B2I0805 - MSSEMI_W										
Blank (B2I0805-BLK1)						Prepared: 9/12/2022 Analyzed: 9/13/2022				
1,4-Dioxane	ND	0.20	0.05							
Surrogate: 1,2-Dichlorobenzene-d4	*1.066*			*1.00000*		*107*	*13 - 99*			S12
Surrogate: 2-Fluorobiphenyl	*0.9808*			*1.00000*		*98.1*	*8 - 111*			
Surrogate: 4-Terphenyl-d14	*1.042*			*1.00000*		*104*	*12 - 113*			
Surrogate: Nitrobenzene-d5	*0.8670*			*1.00000*		*86.7*	*15 - 121*			
LCS (B2I0805-BS1)						Prepared: 9/12/2022 Analyzed: 9/13/2022				
1,4-Dioxane	0.777170	0.20	0.05	1.00000		77.7	75 - 155			
Surrogate: 1,2-Dichlorobenzene-d4	*1.106*			*1.00000*		*111*	*13 - 99*			S12
Surrogate: 2-Fluorobiphenyl	*0.9771*			*1.00000*		*97.7*	*8 - 111*			
Surrogate: 4-Terphenyl-d14	*1.087*			*1.00000*		*109*	*12 - 113*			
Surrogate: Nitrobenzene-d5	*0.9123*			*1.00000*		*91.2*	*15 - 121*			
LCS Dup (B2I0805-BSD1)						Prepared: 9/12/2022 Analyzed: 9/13/2022				
1,4-Dioxane	0.668530	0.20	0.05	1.00000		66.9	75 - 155	15.0	20	L2
Surrogate: 1,2-Dichlorobenzene-d4	*1.045*			*1.00000*		*105*	*13 - 99*			S12
Surrogate: 2-Fluorobiphenyl	*1.037*			*1.00000*		*104*	*8 - 111*			
Surrogate: 4-Terphenyl-d14	*1.046*			*1.00000*		*105*	*12 - 113*			
Surrogate: Nitrobenzene-d5	*0.8752*			*1.00000*		*87.5*	*15 - 121*			

HARGIS + ASSOCIATES, INC.
HYDROGEOLOGY • ENGINEERING

2202291

Date: 9/1/2022
Page 1 of 1

5.0 °C

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 S

LAB ID	SAMPLE ID	SAMPLE COLLECTION Date	Time	MATRIX: Groundwater	MATRIX: Lab prepared water	PRESERVATION: Hydrochloric Acid (HCl)	PRESERVATION: Nitric Acid (HNO_3)	PRESERVATION:	PRESERVATION: Sulfuric Acid (H_2SO_4)	PRESERVATION: Ice	CONTAINERS: 40-ml VOA	CONTAINERS: 125 mL Poly	CONTAINERS: 60 mL Poly	CONTAINERS: 125 mL Amber	CONTAINERS: 1 L Poly	CONTAINERS: 1L Amber	ANALYSIS REQUESTED: 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	Expected Concentration Range (ppb) for VOAs: 0 - 10	10 - 100	100 - 1,000	>1,000	SPECIAL HANDLING: 24 hr TAT	48 Hour TAT	5 Day TAT	Level IV Data Validation Requested	MS/MSD Requested	REMARKS
1	TB-090122	9/1/2022	8:00		X	X				X	2						X									X						X			
2	CEFF	9/1/2022	08:45	X		X				X	3					1	X								X	X						X			
3	CBT	9/1/2022	08:55	X		X				X	3					1	X								X	X						X			
4	POX	9/1/2022	09:00	X		X			X	X	5	1			1	1	X	X		X	X				X	X						X			
5	PF	9/1/2022	09:05	X					X	X	2			1	1					X	X	X	X									X			
6	INF	9/1/2022	09:10	X		X				X	3	2				1	X	X	X					X				X				X			
7	EW-02	9/1/2022	09:50	X		X				X	3	1				1	X		X					X			X					X			
8	MW-29	9/1/2022	10:10	X		X				X	3	1				1	X		X					X				X				X			
Total number of containers per analysis:											24	5		1	2	6																		Total No. of Containers: 38	

Relinquished By: / Company:	Date / Time	Received By: / Company	Date / Time
HEA	9-1-22 1120	HEA	9-1-22 11:30
HEA	9-1-2022 1341		9/1/22 13:41

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

_____ Temperature on receipt

Laboratory
Advanced Technology Laboratories
3275 Walnut Ave
Signal Hill, CA 90755
(562) 989-4045

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
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 x
4. Note applicable preservatives, special instructions, and deviations from typical environmental samples.
5. Consult project QA documents for specific instructions.

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Jerald Ancheta
SAMPLE I.D.: 2202291-04 / POX
MATRIX: Groundwater

REPORTING DATE: 09/20/2022
SAMPLE RECEIVED: 09/07/2022
LABORATORY NO.: 22-2193-1
DATE SAMPLED : 09/01/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Alkalinity, Total (as CaCO3)	225	mg/L	5.00	1	SM 2320 B	09/15/22
Bicarbonate (as CaCO3)	225	mg/L	5.00	1	SM 2320 B	09/15/22
Carbonate (as CaCO3)	ND	mg/L	5.00	1	SM 2320 B	09/15/22
Hydroxide (as CaCO3)	ND	mg/L	5.00	1	SM 2320 B	09/15/22
Total Organic Carbon	ND	mg/L	0.50	1	SM 5310 D	09/10/22
Bromate	ND	ug/L	25.0	5	EPA 300.1	09/12/22
Surrogate Recovery	Rec (%)			Control Limits		
Dichloroacetate (Surr)	92			90-115		

*ND: Parameter not detected at the indicated reporting limit.
Analyses were performed by partnership lab, CA State I.D. No. 2944 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Jerald Ancheta
SAMPLE I.D.: 2202291-05 / PF
MATRIX: Groundwater

REPORTING DATE: 09/20/2022
SAMPLE RECEIVED: 09/07/2022
LABORATORY NO.: 22-2193-2
DATE SAMPLED : 09/01/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW
PAGE: 1 OF 1

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Alkalinity, Total (as CaCO3)	212	mg/L	5.00	1	SM 2320 B	09/15/22
Bicarbonate (as CaCO3)	212	mg/L	5.00	1	SM 2320 B	09/15/22
Carbonate (as CaCO3)	ND	mg/L	5.00	1	SM 2320 B	09/15/22
Hydroxide (as CaCO3)	ND	mg/L	5.00	1	SM 2320 B	09/15/22
Total Organic Carbon	ND	mg/L	0.50	1	SM 5310 D	09/10/22

*ND: Parameter not detected at the indicated reporting limit.
Analyses were performed by partnership lab, CA State I.D. No. 2944 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Jerald Ancheta
SAMPLE I.D.: 2202291-06 / INF
MATRIX: Groundwater

REPORTING DATE: 09/20/2022
SAMPLE RECEIVED: 09/07/2022
LABORATORY NO.: 22-2193-3
DATE SAMPLED : 09/01/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW
PAGE: 1 OF 1

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Bromide	0.30	mg/L	0.10	1	EPA 300.0	09/14/22
Bromate	ND	ug/L	25.0	5	EPA 300.1	09/12/22
Surrogate Recovery	Rec (%)			Control Limits		
Dichloroacetate (Surr)	94			90-115		

*ND: Parameter not detected at the indicated reporting limit.
Analyses were performed by partnership lab, CA State I.D. No. 2944 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Jerald Ancheta
SAMPLE I.D.: 2202291-07 / EW-02
MATRIX: Groundwater

REPORTING DATE: 09/20/2022
SAMPLE RECEIVED: 09/07/2022
LABORATORY NO.: 22-2193-4
DATE SAMPLED : 09/01/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Bromide	0.25	mg/L	0.10	1	EPA 300.0	09/14/22

* EPA 300.0 was performed by partnership lab, CA State I.D. No. 2944 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

JK BioScience Environmental Laboratories

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Jerald Ancheta
SAMPLE I.D.: 2202291-08 / MW-29
MATRIX: Groundwater

REPORTING DATE: 09/20/2022
SAMPLE RECEIVED: 09/07/2022
LABORATORY NO.: 22-2193-5
DATE SAMPLED : 09/01/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW
PAGE: 1 OF 1

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Bromide	0.46	mg/L	0.10	1	EPA 300.0	09/14/22

* EPA 300.0 was performed by partnership lab, CA State I.D. No. 2944 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

ADVANCED TECHNOLOGY LABORATORIES

22-2193T (5)

SUBCONTRACT ORDER

Work Order: 2202291

SENDING LABORATORY:

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Phone: 562.989.4045
Fax: 562.989.6348
Contact emails: subcontract@atlglobal.com
Project.Management@atlglobal.com
Sampler: Ruben Sanchez

RECEIVING LABORATORY:

JK Bioscience, Inc.
1926 E. Gladwick Street
Rancho Dominguez, CA 90220
Phone :(213) 292-6474
Fax:
PO#: SC16250

IMPORTANT : Please 'J-Flag' results to MDL. Please include Work Order # and PO # in your invoice.

QC Requirements:
- [x] Routine
- [ ] MS/MSD
- [ ] Caltrans
- [ ] Level IV*
- [ ] DUP
- [ ] Other: _____

TAT Requirements:
- [x] Standard
- [ ] Rush _____ Days
- [ ] Fastest Possible

EDD Requirements:
- [x] Standard Excel
- [ ] Geotracker EDF
- [ ] EQuis
- [ ] Other: _____

* All Level IV sample containers (including empty ones) must be returned to ATL 30 days after receipt.

Analysis	Expires	Sampled	Comments
ATL Lab#: 2202291-04 / POX	**Groundwater**	**09/01/22 09:00**	22-2193-1
Bromate_ICMS/MS_SUB [Bromate by IC-MS/MS]	09/29/22 09:00	Poly Unpres - 125mL	
Speciated Alkalinity_2320B_SUB [Alkalinity, Speciated]	09/15/22 09:00	Poly Unpres - 125mL	
TOC_SUB [Total Organic Carbon]	09/29/22 09:00	Voa Vial - H2S04	

Prepared by: _____ 9/6/22
Sample Control Technician — Date

Inspected by: _____ 9/6/22
PM Lead / SC Lead — Date

Approved by: _____ 9-7-22
Dedicated ATL Project Manager — Date

_____	9/7/22	9:50	_____		
Released By ATL Sample Control	Date	Time	Received By Courier	Date	Time
_____			_____	9/7/22	8:50
Released By Courier	Date	Time	Received By Subcontract Laboratory	Date	Time
_____			_____		
Released By	Date	Time	Received By	Date	Time

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ADVANCED TECHNOLOGY LABORATORIES

SUBCONTRACT ORDER

Work Order: 2202291

Analysis	Expires	Sampled	Comments
ATL Lab#: 2202291-05 / PF	**Groundwater**	**09/01/22 09:05**	22-2193-2
Speciated Alkalinity_2320B_SUB [Alkalinity, Speciated]	09/15/22 09:05	Poly Unpres - 125mL	
TOC_SUB [Total Organic Carbon]	09/29/22 09:05	Voa Vial - H2S04	
ATL Lab#: 2202291-06 / INF	**Groundwater**	**09/01/22 09:10**	22-2193-3
300_Bromide_SUB [Bromide by Ion Chromatography]	09/29/22 09:10	Poly Unpres - 125mL	
Bromate_ICMS/MS_SUB [Bromate by IC-MS/MS]	09/29/22 09:10	Poly Unpres - 125mL	
ATL Lab#: 2202291-07 / EW-02	**Groundwater**	**09/01/22 09:50**	22-2193-4
300_Bromide_SUB [Bromide by Ion Chromatography]	09/29/22 09:50	Poly Unpres - 125mL	
ATL Lab#: 2202291-08 / MW-29	**Groundwater**	**09/01/22 10:10**	22-2193-5
300_Bromide_SUB [Bromide by Ion Chromatography]	09/29/22 10:10	Poly Unpres - 125mL	

Prepared by: _____ 9/6/22
Sample Control Technician — Date

Inspected by: _____ 9/6/22
PM Lead / SC Lead — Date

Approved by:

_____
Dedicated ATL Project Manager — Date

_____	9/7/22	9:50	_____		
Released By ATL Sample Control	Date	Time	Received By Courier	Date	Time
			_____	9/7/22	8:50
Released By Courier	Date	Time	Received By Subcontract Laboratory	Date	Time
Released By	Date	Time	Received By	Date	Time

C:\Program Files (x86)\Promium\Element\Print\sco_ATL.rpt

October 10, 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 : 2202293

Client Reference : Raytheon Main GETS Quarterly Sample Task NO. 532.15

Enclosed are the results for sample(s) received on September 01, 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,

Lena Davidkov, Client Services

Authorized to Release on 10/10/22 13:28 on Behalf of

Amy Leung
Laboratory Director

Certificate of Analysis

Hargis & Associates, Inc.		Project Number :	Raytheon Main GETS Quarterly Sample Task NO. 532.15
3131 Camino De Rio North Suite 355		Report To :	Steve Netto
San Diego , CA 92108		Reported :	10/10/2022

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
CEFF	2202293-01	Groundwater	9/01/22 8:45	9/01/22 13:41
POX	2202293-02	Groundwater	9/01/22 9:00	9/01/22 13:41
INF	2202293-03	Groundwater	9/01/22 9:10	9/01/22 13:41
EW-02	2202293-04	Groundwater	9/01/22 9:50	9/01/22 13:41
MW-29	2202293-05	Groundwater	9/01/22 10:10	9/01/22 13:41

Certificate of Analysis

Hargis & Associates, Inc.		Project Number :	Raytheon Main GETS Quarterly Sample Task NO. 532.15
3131 Camino De Rio North Suite 355		Report To :	Steve Netto
San Diego , CA 92108		Reported :	10/10/2022

Notes and Definitions

M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
H2	Holding time for preparation or analysis exceeded.
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.	Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 10/10/2022

Total Dissolved Solids (Residue, Filterable) by SM 2540C

Analyte: Residue, Dissolved **Analyst: KL**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2202293-01	CEFF	**810**	mg/L	10	1	B2I0781	09/12/2022	09/12/22 00:00	H2
2202293-02	POX	**750**	mg/L	10	1	B2I0781	09/12/2022	09/12/22 00:00	H2
2202293-03	INF	**800**	mg/L	10	1	B2I0781	09/12/2022	09/12/22 00:00	H2
2202293-04	EW-02	**730**	mg/L	10	1	B2I0781	09/12/2022	09/12/22 00:00	H2
2202293-05	MW-29	**900**	mg/L	10	1	B2I0781	09/12/2022	09/12/22 00:00	H2

Total Metals by ICP-AES EPA 6010B

Analyte: Selenium **Analyst: ICP**

Laboratory ID	Client Sample ID	Result	Units	PQL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
2202293-03	INF	**ND**	mg/L	0.010	1	B2I0748	09/12/2022	09/14/22 12:34	
2202293-04	EW-02	**ND**	mg/L	0.010	1	B2I0748	09/12/2022	09/14/22 12:36	
2202293-05	MW-29	**ND**	mg/L	0.010	1	B2I0748	09/12/2022	09/14/22 12:42	

Client Sample ID: INF
Lab ID: 2202293-03

Dissolved Metals by ICP-AES EPA 6010B **Analyst: ICP**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Calcium	**93**	0.50	1	B2I0747	09/12/2022	09/14/22 12:18	
Iron	ND	0.50	1	B2I0747	09/12/2022	09/14/22 12:18	
Magnesium	**29**	0.10	1	B2I0747	09/12/2022	09/14/22 12:18	
Manganese	ND	0.50	1	B2I0747	09/12/2022	09/14/22 12:18	
Selenium	ND	0.010	1	B2I0747	09/12/2022	09/14/22 12:18	
Sodium	**71**	1.0	1	B2I0747	09/12/2022	09/14/22 12:18	

Certificate of Analysis

Hargis & Associates, Inc.		Project Number :	Raytheon Main GETS Quarterly Sample Task NO. 532.15
3131 Camino De Rio North Suite 355		Report To :	Steve Netto
San Diego , CA 92108		Reported :	10/10/2022

Client Sample ID: EW-02
Lab ID: 2202293-04

Dissolved Metals by ICP-AES EPA 6010B — **Analyst: ICP**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Calcium	**87**	0.50	1	B2I0747	09/12/2022	09/14/22 11:24	
Iron	ND	0.50	1	B2I0747	09/12/2022	09/14/22 11:24	
Magnesium	**27**	0.10	1	B2I0747	09/12/2022	09/14/22 11:24	
Manganese	ND	0.50	1	B2I0747	09/12/2022	09/14/22 11:24	
Selenium	ND	0.010	1	B2I0747	09/12/2022	09/14/22 11:24	
Sodium	**69**	1.0	1	B2I0747	09/12/2022	09/14/22 11:24	

Client Sample ID: MW-29
Lab ID: 2202293-05

Dissolved Metals by ICP-AES EPA 6010B — **Analyst: ICP**

Analyte	Result (mg/L)	PQL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Calcium	ND	0.50	1	B2I0747	09/12/2022	09/14/22 11:26	
Iron	ND	0.50	1	B2I0747	09/12/2022	09/14/22 11:26	
Magnesium	**0.12**	0.10	1	B2I0747	09/12/2022	09/14/22 11:26	
Manganese	ND	0.50	1	B2I0747	09/12/2022	09/14/22 11:26	
Selenium	ND	0.010	1	B2I0747	09/12/2022	09/14/22 11:26	
Sodium	ND	1.0	1	B2I0747	09/12/2022	09/14/22 11:26	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 10/10/2022

QUALITY CONTROL SECTION

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	% Rec Limits	RPD	RPD Limit	Notes
Batch B2I0781 - No_Prep_WC1_W										
Blank (B2I0781-BLK1)						Prepared: 9/12/2022 Analyzed: 9/12/2022				
Residue, Dissolved	ND	10	10							H2
LCS (B2I0781-BS1)						Prepared: 9/12/2022 Analyzed: 9/12/2022				
Residue, Dissolved	967.000	10	10	1000.00		96.7	80 - 120			H2
Duplicate (B2I0781-DUP1)			**Source: 2202293-02**			Prepared: 9/12/2022 Analyzed: 9/12/2022				
Residue, Dissolved	749.000	10	10		750.000			0.133	10	H2

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 10/10/2022

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 B2I0748 - EPA 3010A_W										
Blank (B2I0748-BLK1)						Prepared: 9/8/2022 Analyzed: 9/14/2022				
Selenium	ND	0.010	0.0093							
LCS (B2I0748-BS1)						Prepared: 9/8/2022 Analyzed: 9/14/2022				
Selenium	0.529238	0.010	0.0093	0.500000		106	80 - 120			
Matrix Spike (B2I0748-MS1)			**Source: 2202282-01**			Prepared: 9/8/2022 Analyzed: 9/14/2022				
Selenium	0.549493	0.010	0.0093	0.500000	ND	110	57 - 146			
Matrix Spike Dup (B2I0748-MSD1)			**Source: 2202282-01**			Prepared: 9/8/2022 Analyzed: 9/14/2022				
Selenium	0.531881	0.010	0.0093	0.500000	ND	106	57 - 146	3.26	20	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main GETS Quarterly Sample Task NO. 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 10/10/2022

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 B2I0747 - EPA 3010A_W										
Blank (B2I0747-BLK1)						Prepared: 9/8/2022 Analyzed: 9/14/2022				
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 (B2I0747-BS1)						Prepared: 9/8/2022 Analyzed: 9/14/2022				
Calcium	5.00752	0.50	0.12	5.00000		100	80 - 120			
Iron	4.85495	0.50	0.011	5.00000		97.1	80 - 120			
Magnesium	5.13758	0.10	0.021	5.00000		103	80 - 120			
Manganese	0.526167	0.50	0.0046	0.500000		105	80 - 120			
Selenium	0.510633	0.010	0.0093	0.500000		102	80 - 120			
Sodium	5.13430	1.0	0.12	5.00000		103	80 - 120			
Matrix Spike (B2I0747-MS1)			**Source: 2202293-03**			Prepared: 9/8/2022 Analyzed: 9/14/2022				
Calcium	ND	0.50	0.12	5.00000	92.6552	-1850	0 - 218			M2
Iron	ND	0.50	0.011	5.00000	ND	NR	46 - 158			M2
Magnesium	ND	0.10	0.021	5.00000	28.6212	-572	22 - 181			M2
Manganese	ND	0.50	0.0046	0.500000	ND	NR	51 - 152			M2
Selenium	0.013973	0.010	0.0093	0.500000	ND	2.79	57 - 146			M2
Sodium	ND	1.0	0.12	5.00000	71.3655	-1430	0 - 194			M2
Matrix Spike Dup (B2I0747-MSD1)			**Source: 2202293-03**			Prepared: 9/8/2022 Analyzed: 9/14/2022				
Calcium	112.620	0.50	0.12	5.00000	92.6552	399	0 - 218	NR	20	M2
Iron	4.90124	0.50	0.011	5.00000	ND	98.0	46 - 158	NR	20	
Magnesium	38.0692	0.10	0.021	5.00000	28.6212	189	22 - 181	NR	20	M2
Manganese	0.542681	0.50	0.0046	0.500000	ND	109	51 - 152	NR	20	
Selenium	0.533386	0.010	0.0093	0.500000	ND	107	57 - 146	190	20	M2
Sodium	86.2409	1.0	0.12	5.00000	71.3655	298	0 - 194	NR	20	M2

HARGIS + ASSOCIATES, INC.
HYDROGEOLOGY • ENGINEERING

2202293

Date: 9/1/2022
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

5°C

Sampled By: Ruben S.

LAB ID	SAMPLE ID	SAMPLE COLLECTION Date	Time	MATRIX: Groundwater	Lab prepared water	PRESERVATION: Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Ice	CONTAINERS: 40-ml VOA	1 L Poly	125 mL amber	250 mL Poly	8 oz jar	250 mL Glass	ANALYSIS REQUESTED: 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	Expected Concentration Range (ppb) for VOAs: 0 - 10	10 - 100	100 - 1,000	>1,000	SPECIAL HANDLING: 24 hr TAT	48 Hour TAT	5 Day TAT	Level IV Data Validation Requested	MS/MSD Requested	REMARKS
1	CEFF	9/1/2022	08:45	X					X		1									X										X			
2	POX	9/1/2022	09:00	X				X	X		1	1		1			X	X		X			X							X			Lab to filter dissolved
3	INF	9/1/2022	09:10	X				X	X	2	1	1	1	1		X	X	X	X	X	X	X	X							X			metals, and anions
4	EW-02	9/1/2022	09:50	X				X	X	1	1	1	1	1		X	X	X	X	X	X	X	X							X			
5	MW-29	9/1/2022	10:10	X				X	X	2	1	1	1	1		X	X	X	X	X	X	X	X							X			
																																	Note: EW-02 - 1 broken 40-mL H_2SO_4 VOA - revised COC - SM 5310B
Total number of containers per analysis:										10	5	4	3	4																			Total No. of Containers: 21

Relinquished By: / Company	Date / Time	Received By: / Company	Date / Time
HEA	9-1-22 1130	HEA	9-1-2022 11:30
Relinquished By: / Company	Date / Time	Received By: / Company	Date / Time
HEA	9-1-2022 1341		9/1/22 13:41

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

RES

_____ Temperature on receipt

Laboratory

Advanced Technology Laboratories

3275 Walnut Ave
Signal Hill, CA 90755
(562) 989-4045

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

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.

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· Analytical Laboratories

CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Jerald Ancheta
SAMPLE I.D.: 2202293-02 / POX
MATRIX: Groundwater

REPORTING DATE: 09/15/2022
SAMPLE RECEIVED: 09/07/2022
LABORATORY NO.: 22-2194-1
DATE SAMPLED : 09/01/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW
PAGE: 1 OF 1

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Bromide	0.25	mg/L	0.10	1	EPA 300.0	09/09/22
Nitrate (as N)	4.7	mg/L	0.10	1	EPA 300.0	09/09/22
Nitrite (as N)	ND	mg/L	0.10	1	EPA 300.0	09/09/22
Fluoride	0.36	mg/L	0.10	1	EPA 300.0	09/09/22
Orthophosphate as P	ND	mg/L	0.10	1	EPA 300.0	09/09/22
Chloride	100	mg/L	10.0	10	EPA 300.0	09/09/22
Sulfate	140	mg/L	10.0	10	EPA 300.0	09/09/22
Chemical Oxygen Demand	17.0	mg/L	5.00	1	SM5220 D	09/12/22

*ND: Parameter not detected at the indicated reporting limit.

**EPA 300.0 was performed by partnership lab, CA State I.D. No. 2944 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

JK BioScience Environmental Laboratories

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Jerald Ancheta
SAMPLE I.D.: 2202293-03 / INF
MATRIX: Groundwater

REPORTING DATE: 09/15/2022
SAMPLE RECEIVED: 09/07/2022
LABORATORY NO.: 22-2194-2
DATE SAMPLED : 09/01/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW
PAGE: 1 OF 1

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Bromide	0.26	mg/L	0.10	1	EPA 300.0	09/09/22
Nitrate (as N)	4.9	mg/L	0.10	1	EPA 300.0	09/09/22
Nitrite (as N)	ND	mg/L	0.10	1	EPA 300.0	09/09/22
Fluoride	0.33	mg/L	0.10	1	EPA 300.0	09/09/22
Orthophosphate as P	ND	mg/L	0.10	1	EPA 300.0	09/09/22
Chloride	100	mg/L	10.0	10	EPA 300.0	09/09/22
Sulfate	140	mg/L	10.0	10	EPA 300.0	09/09/22
Chemical Oxygen Demand	11.0	mg/L	5.00	1	SM5220 D	09/12/22
Total Organic Carbon	ND	mg/L	0.50	1	SM5310 D	09/13/22

*ND: Parameter not detected at the indicated reporting limit.

**EPA 300.0 and SM5310 D were performed by partnership lab, CA State I.D. No. 2944 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

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· Analytical Laboratories

CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Jerald Ancheta
SAMPLE I.D.: 2202293-04 / EW-02
MATRIX: Groundwater

REPORTING DATE: 09/15/2022
SAMPLE RECEIVED: 09/07/2022
LABORATORY NO.: 22-2194-3
DATE SAMPLED : 09/01/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW
PAGE: 1 OF 1

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Bromide	0.21	mg/L	0.10	1	EPA 300.0	09/09/22
Nitrate (as N)	4.0	mg/L	0.10	1	EPA 300.0	09/09/22
Nitrite (as N)	ND	mg/L	0.10	1	EPA 300.0	09/09/22
Fluoride	0.38	mg/L	0.10	1	EPA 300.0	09/09/22
Orthophosphate as P	ND	mg/L	0.10	1	EPA 300.0	09/09/22
Chloride	81	mg/L	10.0	10	EPA 300.0	09/09/22
Sulfate	140	mg/L	10.0	10	EPA 300.0	09/09/22
Chemical Oxygen Demand	10.0	mg/L	5.00	1	SM5220 D	09/12/22
Total Organic Carbon	ND	mg/L	0.50	1	SM5310 D	09/13/22

*ND: Parameter not detected at the indicated reporting limit.

**EPA 300.0 and SM5310 D were performed by partnership lab, CA State I.D. No. 2944 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

JK BioScience Environmental Laboratories

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Jerald Ancheta
SAMPLE I.D.: 2202293-05 / MW-29
MATRIX: Groundwater

REPORTING DATE: 09/15/2022
SAMPLE RECEIVED: 09/07/2022
LABORATORY NO.: 22-2194-4
DATE SAMPLED : 09/01/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW
PAGE: 1 OF 1

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Bromide	0.38	mg/L	0.10	1	EPA 300.0	09/09/22
Nitrate (as N)	7.1	mg/L	0.10	1	EPA 300.0	09/09/22
Nitrite (as N)	ND	mg/L	0.10	1	EPA 300.0	09/09/22
Fluoride	0.30	mg/L	0.10	1	EPA 300.0	09/09/22
Orthophosphate as P	ND	mg/L	0.10	1	EPA 300.0	09/09/22
Chloride	160	mg/L	10.0	10	EPA 300.0	09/09/22
Sulfate	130	mg/L	10.0	10	EPA 300.0	09/09/22
Chemical Oxygen Demand	20.0	mg/L	5.00	1	SM5220 D	09/12/22
Total Organic Carbon	ND	mg/L	0.50	1	SM5310 D	09/13/22

*ND: Parameter not detected at the indicated reporting limit.

**EPA 300.0 and SM5310 D were performed by partnership lab, CA State I.D. No. 2944 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

ADVANCED TECHNOLOGY LABORATORIES

SUBCONTRACT ORDER

Work Order: 2202293

SENDING LABORATORY:

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Phone: 562.989.4045
Fax: 562.989.6348
Contact emails: subcontract@atlglobal.com
Project.Management@atlglobal.com
Sampler: Ruben Sanchez

RECEIVING LABORATORY:

JK Bioscience, Inc.
1926 E. Gladwick Street
Rancho Dominguez, CA 90220
Phone :(213) 292-6474
Fax:
PO#: SC16249

IMPORTANT : Please 'J-Flag' results to MDL. Please include Work Order # and PO # in your invoice.

QC Requirements:
- [X] Routine
- [ ] MS/MSD
- [ ] Caltrans
- [ ] Level IV*
- [ ] DUP
- [ ] Other: _____

TAT Requirements:
- [X] Standard
- [ ] Rush _____ Days
- [ ] Fastest Possible

EDD Requirements:
- [X] Standard Excel
- [ ] Geotracker EDF
- [ ] EQuis
- [ ] Other: _____

* All Level IV sample containers (including empty ones) must be returned to ATL 30 days after receipt.

Analysis	Expires	Sampled	Comments
ATL Lab#: 2202293-02 / POX	**Groundwater**	**09/01/22 09:00**	22-2194-1
* 300_Anion_Scan (Add)	09/03/22 09:00	Poly Unpres - 250mL	
[Anions by Ion Chromatography]			
COD_SUB	09/29/22 09:00	Amber H2SO4 - 125mL	
[Chemical Oxygen Demand]			

Prepared by: _____ 9/6/22
Sample Control Technician — Date

Inspected by: _____ 9/6/22
PM Lead / SC Lead — Date

Approved by: _____ 9-7-22
Dedicated ATL Project Manager — Date

_____	9/7/22	12:15	_____	9/7/22	12:20
Released By ATL Sample Control	Date	Time	Received By Courier	Date	Time
_____			_____	9/7/22	1:00 PM
Released By Courier	Date	Time	Received By Subcontract Laboratory	Date	Time
_____			_____		
Released By	Date	Time	Received By	Date	Time

C:\Program Files (x86)\Promium\Element\Print\sco_ATL.rpt

ADVANCED TECHNOLOGY LABORATORIES

SUBCONTRACT ORDER

Work Order: 2202293

Analysis	Expires	Sampled	Comments
ATL Lab#: 2202293-03 / INF	**Groundwater**	**09/01/22 09:10**	
300_Anion_Scan [Anions by Ion Chromatography]	09/03/22 09:10	Poly Unpres - 1000mL	22-2194-2
COD_SUB [Chemical Oxygen Demand]	09/29/22 09:10	Amber Unpres -125mL	
TOC_SUB [Total Organic Carbon]	09/29/22 09:10	Voa Vial - H2S04	
ATL Lab#: 2202293-04 / EW-02	**Groundwater**	**09/01/22 09:50**	22-2194-3
300_Anion_Scan [Anions by Ion Chromatography]	09/03/22 09:50	Poly Unpres - 1000mL	
COD_SUB [Chemical Oxygen Demand]	09/29/22 09:50	Amber Unpres -125mL	
TOC_SUB [Total Organic Carbon]	09/29/22 09:50	Voa Vial - H2S04	
ATL Lab#: 2202293-05 / MW-29	**Groundwater**	**09/01/22 10:10**	22-2194-4
300_Anion_Scan [Anions by Ion Chromatography]	09/03/22 10:10	Poly Unpres - 1000mL	
COD_SUB [Chemical Oxygen Demand]	09/29/22 10:10	Amber Unpres -125mL	
TOC_SUB [Total Organic Carbon]	09/29/22 10:10	Voa Vial - H2S04	

Prepared by: _____ 9/6/22
Sample Control Technician — Date

Inspected by: _____ 9/6/22
PM Lead / SC Lead — Date

Approved by: _____ 9-7-22
Dedicated ATL Project Manager — Date

_____ 9/7/22	9:50		_____		
Released By ATL Sample Control	Date	Time	Received By Courier	Date	Time
			_____ 9/7/22	8:50 AM	
Released By Courier	Date	Time	Received By Subcontract Laboratory	Date	Time
Released By	Date	Time	Received By	Date	Time

C:\Program Files (x86)\Promium\Element\Print\sco_ATL.rpt

November 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 : 2202553
Client Reference : Raytheon Main Gets Monthly Sample / 532.15

Enclosed are the results for sample(s) received on October 06, 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,

Lena Davidkov, Client Services

Authorized to Release on 11/01/22 17:24 on Behalf of

Amy Leung
Laboratory Director

Certificate of Analysis

Hargis & Associates, Inc.		Project Number :	Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355		Report To :	Steve Netto
San Diego , CA 92108		Reported :	11/01/2022

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-100622	2202553-01	Water	10/06/22 8:00	10/06/22 15:12
CEFF	2202553-02	Groundwater	10/06/22 9:10	10/06/22 15:12
CBT	2202553-03	Groundwater	10/06/22 9:15	10/06/22 15:12
POX	2202553-04	Groundwater	10/06/22 9:20	10/06/22 15:12
PF	2202553-05	Groundwater	10/06/22 9:25	10/06/22 15:12
INF	2202553-06	Groundwater	10/06/22 9:30	10/06/22 15:12
EW-02	2202553-07	Groundwater	10/06/22 9:50	10/06/22 15:12
MW-29	2202553-08	Groundwater	10/06/22 10:00	10/06/22 15:12

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Notes and Definitions

S12	Surrogate recovery outside in-house established limit but within method default criteria.
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.
H2	Holding time for preparation or analysis exceeded.
B4	Non-target analyte above PQL in the associated method blank. Therefore, reanalysis is not necessary.
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.		Project Number :	Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355		Report To :	Steve Netto
San Diego , CA 92108		Reported :	11/01/2022

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
2202553-05	PF	**ND**	mg/L	1.0	1	B2J1030	10/14/2022	10/14/22 16:32	H2

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: TB-100622

Lab ID: 2202553-01

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,1,1-Trichloroethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,1,2-Trichloroethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,1-Dichloroethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,1-Dichloroethene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,1-Dichloropropene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,2,3-Trichloropropane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,2,3-Trichlorobenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,2,4-Trichlorobenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,2,4-Trimethylbenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,2-Dibromoethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,2-Dichlorobenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,2-Dichloroethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,2-Dichloropropane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,3,5-Trimethylbenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,3-Dichlorobenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,3-Dichloropropane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
1,4-Dichlorobenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
2,2-Dichloropropane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
2-Chlorotoluene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
4-Chlorotoluene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
4-Isopropyltoluene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Benzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Bromobenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Bromodichloromethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Bromoform	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Bromomethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Carbon tetrachloride	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Chlorobenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Chloroethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Chloroform	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Chloromethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
cis-1,2-Dichloroethene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
cis-1,3-Dichloropropene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Dibromochloromethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Dibromomethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Dichlorodifluoromethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Ethylbenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: TB-100622

Lab ID: 2202553-01

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Isopropylbenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
m,p-Xylene	ND	1.0	1	B2J0999	10/12/2022	10/12/22 13:56	
Methylene chloride	ND	1.0	1	B2J0999	10/12/2022	10/12/22 13:56	
n-Butylbenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
n-Propylbenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Naphthalene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
o-Xylene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
sec-Butylbenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Styrene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
tert-Butylbenzene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Tetrachloroethene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Toluene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
trans-1,2-Dichloroethene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Trichloroethene	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Trichlorofluoromethane	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Vinyl chloride	ND	0.50	1	B2J0999	10/12/2022	10/12/22 13:56	
Surrogate: 1,2-Dichloroethane-d4	*105 %*	*64 - 155*		B2J0999	10/12/2022	*10/12/22 13:56*	
Surrogate: 4-Bromofluorobenzene	*93.4 %*	*73 - 124*		B2J0999	10/12/2022	*10/12/22 13:56*	
Surrogate: Dibromofluoromethane	*110 %*	*78 - 129*		B2J0999	10/12/2022	*10/12/22 13:56*	
Surrogate: Toluene-d8	*96.5 %*	*84 - 117*		B2J0999	10/12/2022	*10/12/22 13:56*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: CEFF

Lab ID: 2202553-02

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,1,1-Trichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,1,2-Trichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,1-Dichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,1-Dichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,1-Dichloropropene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,2,3-Trichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,2,3-Trichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,2,4-Trichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,2,4-Trimethylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,2-Dibromoethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,2-Dichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,2-Dichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,2-Dichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,3,5-Trimethylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,3-Dichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,3-Dichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
1,4-Dichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
2,2-Dichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
2-Chlorotoluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
4-Chlorotoluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
4-Isopropyltoluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Benzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Bromobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Bromodichloromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Bromoform	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Bromomethane	**0.97**	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Carbon tetrachloride	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Chlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Chloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Chloroform	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Chloromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
cis-1,2-Dichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
cis-1,3-Dichloropropene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Dibromochloromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Dibromomethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Dichlorodifluoromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Ethylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: CEFF
Lab ID: 2202553-02

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Isopropylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
m,p-Xylene	ND	1.0	1	B2J0965	10/07/2022	10/07/22 22:27	
Methylene chloride	ND	1.0	1	B2J0965	10/07/2022	10/07/22 22:27	
n-Butylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
n-Propylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Naphthalene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
o-Xylene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
sec-Butylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Styrene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
tert-Butylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Tetrachloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Toluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
trans-1,2-Dichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Trichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Trichlorofluoromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Vinyl chloride	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:27	
Surrogate: 1,2-Dichloroethane-d4	*111 %*	*64 - 155*		B2J0965	10/07/2022	*10/07/22 22:27*	
Surrogate: 4-Bromofluorobenzene	*92.2 %*	*73 - 124*		B2J0965	10/07/2022	*10/07/22 22:27*	
Surrogate: Dibromofluoromethane	*110 %*	*78 - 129*		B2J0965	10/07/2022	*10/07/22 22:27*	
Surrogate: Toluene-d8	*99.5 %*	*84 - 117*		B2J0965	10/07/2022	*10/07/22 22:27*	

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	B2J0976	10/07/2022	10/10/22 19:23	
Surrogate: 1,2-Dichlorobenzene-d4	*111 %*	*13 - 99*		B2J0976	10/07/2022	*10/10/22 19:23*	S12
Surrogate: 2-Fluorobiphenyl	*96.7 %*	*8 - 111*		B2J0976	10/07/2022	*10/10/22 19:23*	
Surrogate: 4-Terphenyl-d14	*113 %*	*12 - 113*		B2J0976	10/07/2022	*10/10/22 19:23*	S12
Surrogate: Nitrobenzene-d5	*120 %*	*15 - 121*		B2J0976	10/07/2022	*10/10/22 19:23*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: CBT

Lab ID: 2202553-03

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,1,1-Trichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,1,2-Trichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,1-Dichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,1-Dichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,1-Dichloropropene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,2,3-Trichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,2,3-Trichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,2,4-Trichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,2,4-Trimethylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,2-Dibromoethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,2-Dichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,2-Dichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,2-Dichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,3,5-Trimethylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,3-Dichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,3-Dichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
1,4-Dichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
2,2-Dichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
2-Chlorotoluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
4-Chlorotoluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
4-Isopropyltoluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Benzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Bromobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Bromodichloromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Bromoform	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Bromomethane	**1.0**	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Carbon tetrachloride	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Chlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Chloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Chloroform	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Chloromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
cis-1,2-Dichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
cis-1,3-Dichloropropene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Dibromochloromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Dibromomethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Dichlorodifluoromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Ethylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: CBT
Lab ID: 2202553-03

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Isopropylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
m,p-Xylene	ND	1.0	1	B2J0965	10/07/2022	10/07/22 22:51	
Methylene chloride	ND	1.0	1	B2J0965	10/07/2022	10/07/22 22:51	
n-Butylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
n-Propylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Naphthalene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
o-Xylene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
sec-Butylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Styrene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
tert-Butylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Tetrachloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Toluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
trans-1,2-Dichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Trichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Trichlorofluoromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Vinyl chloride	ND	0.50	1	B2J0965	10/07/2022	10/07/22 22:51	
Surrogate: 1,2-Dichloroethane-d4	*111 %*	*64 - 155*		B2J0965	10/07/2022	*10/07/22 22:51*	
Surrogate: 4-Bromofluorobenzene	*95.4 %*	*73 - 124*		B2J0965	10/07/2022	*10/07/22 22:51*	
Surrogate: Dibromofluoromethane	*111 %*	*78 - 129*		B2J0965	10/07/2022	*10/07/22 22:51*	
Surrogate: Toluene-d8	*99.7 %*	*84 - 117*		B2J0965	10/07/2022	*10/07/22 22:51*	

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	B2J0976	10/07/2022	10/10/22 19:49	
Surrogate: 1,2-Dichlorobenzene-d4	*110 %*	*13 - 99*		B2J0976	10/07/2022	*10/10/22 19:49*	S12
Surrogate: 2-Fluorobiphenyl	*90.3 %*	*8 - 111*		B2J0976	10/07/2022	*10/10/22 19:49*	
Surrogate: 4-Terphenyl-d14	*105 %*	*12 - 113*		B2J0976	10/07/2022	*10/10/22 19:49*	
Surrogate: Nitrobenzene-d5	*112 %*	*15 - 121*		B2J0976	10/07/2022	*10/10/22 19:49*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: POX
Lab ID: 2202553-04

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,1,1-Trichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,1,2-Trichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,1-Dichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,1-Dichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,1-Dichloropropene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,2,3-Trichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,2,3-Trichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,2,4-Trichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,2,4-Trimethylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,2-Dibromoethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,2-Dichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,2-Dichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,2-Dichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,3,5-Trimethylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,3-Dichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,3-Dichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
1,4-Dichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
2,2-Dichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
2-Chlorotoluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
4-Chlorotoluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
4-Isopropyltoluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Benzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Bromobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Bromodichloromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Bromoform	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Bromomethane	**0.63**	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Carbon tetrachloride	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Chlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Chloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Chloroform	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Chloromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
cis-1,2-Dichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
cis-1,3-Dichloropropene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Dibromochloromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Dibromomethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Dichlorodifluoromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Ethylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: POX
Lab ID: 2202553-04

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Isopropylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
m,p-Xylene	ND	1.0	1	B2J0965	10/07/2022	10/07/22 23:16	
Methylene chloride	ND	1.0	1	B2J0965	10/07/2022	10/07/22 23:16	
n-Butylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
n-Propylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Naphthalene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
o-Xylene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
sec-Butylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Styrene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
tert-Butylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Tetrachloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Toluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
trans-1,2-Dichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Trichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Trichlorofluoromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Vinyl chloride	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:16	
Surrogate: 1,2-Dichloroethane-d4	*112 %*	*64 - 155*		B2J0965	10/07/2022	*10/07/22 23:16*	
Surrogate: 4-Bromofluorobenzene	*94.7 %*	*73 - 124*		B2J0965	10/07/2022	*10/07/22 23:16*	
Surrogate: Dibromofluoromethane	*109 %*	*78 - 129*		B2J0965	10/07/2022	*10/07/22 23:16*	
Surrogate: Toluene-d8	*100 %*	*84 - 117*		B2J0965	10/07/2022	*10/07/22 23:16*	

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	B2J0976	10/07/2022	10/10/22 20:15	
Surrogate: 1,2-Dichlorobenzene-d4	*108 %*	*13 - 99*		B2J0976	10/07/2022	*10/10/22 20:15*	S12
Surrogate: 2-Fluorobiphenyl	*92.3 %*	*8 - 111*		B2J0976	10/07/2022	*10/10/22 20:15*	
Surrogate: 4-Terphenyl-d14	*104 %*	*12 - 113*		B2J0976	10/07/2022	*10/10/22 20:15*	
Surrogate: Nitrobenzene-d5	*113 %*	*15 - 121*		B2J0976	10/07/2022	*10/10/22 20:15*	

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Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: INF

Lab ID: 2202553-06

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,1,1-Trichloroethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,1,2-Trichloroethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,1-Dichloroethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,1-Dichloroethene	**54**	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,1-Dichloropropene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,2,3-Trichloropropane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,2,3-Trichlorobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,2,4-Trichlorobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,2,4-Trimethylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,2-Dibromoethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,2-Dichlorobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,2-Dichloroethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,2-Dichloropropane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,3,5-Trimethylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,3-Dichlorobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,3-Dichloropropane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
1,4-Dichlorobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
2,2-Dichloropropane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
2-Chlorotoluene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
4-Chlorotoluene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
4-Isopropyltoluene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Benzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Bromobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Bromodichloromethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Bromoform	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Bromomethane	**0.74**	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Carbon tetrachloride	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Chlorobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Chloroethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Chloroform	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Chloromethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
cis-1,2-Dichloroethene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
cis-1,3-Dichloropropene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Dibromochloromethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Dibromomethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Dichlorodifluoromethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Ethylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: INF
Lab ID: 2202553-06

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Isopropylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
m,p-Xylene	ND	1.0	1	B2J0965	10/08/2022	10/08/22 00:06	
Methylene chloride	ND	1.0	1	B2J0965	10/08/2022	10/08/22 00:06	
n-Butylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
n-Propylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Naphthalene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
o-Xylene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
sec-Butylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Styrene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
tert-Butylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Tetrachloroethene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Toluene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
trans-1,2-Dichloroethene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Trichloroethene	**0.61**	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Trichlorofluoromethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Vinyl chloride	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:06	
Surrogate: 1,2-Dichloroethane-d4	*111 %*	*64 - 155*		B2J0965	10/08/2022	*10/08/22 00:06*	
Surrogate: 4-Bromofluorobenzene	*93.0 %*	*73 - 124*		B2J0965	10/08/2022	*10/08/22 00:06*	
Surrogate: Dibromofluoromethane	*107 %*	*78 - 129*		B2J0965	10/08/2022	*10/08/22 00:06*	
Surrogate: Toluene-d8	*101 %*	*84 - 117*		B2J0965	10/08/2022	*10/08/22 00:06*	

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	**29**	2.0	1	B2J0956	10/06/2022	10/07/22 20:55	
Surrogate: 1,2-Dichlorobenzene-d4	*102 %*	*17 - 119*		B2J0956	10/06/2022	*10/07/22 20:55*	
Surrogate: 2-Fluorobiphenyl	*96.6 %*	*10 - 133*		B2J0956	10/06/2022	*10/07/22 20:55*	
Surrogate: 4-Terphenyl-d14	*103 %*	*5 - 139*		B2J0956	10/06/2022	*10/07/22 20:55*	
Surrogate: Nitrobenzene-d5	*95.8 %*	*13 - 150*		B2J0956	10/06/2022	*10/07/22 20:55*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: EW-02

Lab ID: 2202553-07

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,1,1-Trichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,1,2-Trichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,1-Dichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,1-Dichloroethene	**14**	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,1-Dichloropropene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,2,3-Trichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,2,3-Trichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,2,4-Trichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,2,4-Trimethylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,2-Dibromoethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,2-Dichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,2-Dichloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,2-Dichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,3,5-Trimethylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,3-Dichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,3-Dichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
1,4-Dichlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
2,2-Dichloropropane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
2-Chlorotoluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
4-Chlorotoluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
4-Isopropyltoluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Benzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Bromobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Bromodichloromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Bromoform	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Bromomethane	**0.76**	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Carbon tetrachloride	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Chlorobenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Chloroethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Chloroform	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Chloromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
cis-1,2-Dichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
cis-1,3-Dichloropropene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Dibromochloromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Dibromomethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Dichlorodifluoromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Ethylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: EW-02

Lab ID: 2202553-07

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Isopropylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
m,p-Xylene	ND	1.0	1	B2J0965	10/07/2022	10/07/22 23:41	
Methylene chloride	ND	1.0	1	B2J0965	10/07/2022	10/07/22 23:41	
n-Butylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
n-Propylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Naphthalene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
o-Xylene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
sec-Butylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Styrene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
tert-Butylbenzene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Tetrachloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Toluene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
trans-1,2-Dichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Trichloroethene	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Trichlorofluoromethane	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Vinyl chloride	ND	0.50	1	B2J0965	10/07/2022	10/07/22 23:41	
Surrogate: 1,2-Dichloroethane-d4	*109 %*	*64 - 155*		B2J0965	10/07/2022	*10/07/22 23:41*	
Surrogate: 4-Bromofluorobenzene	*93.5 %*	*73 - 124*		B2J0965	10/07/2022	*10/07/22 23:41*	
Surrogate: Dibromofluoromethane	*109 %*	*78 - 129*		B2J0965	10/07/2022	*10/07/22 23:41*	
Surrogate: Toluene-d8	*99.0 %*	*84 - 117*		B2J0965	10/07/2022	*10/07/22 23:41*	

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	**7.2**	2.0	1	B2J0956	10/06/2022	10/07/22 21:21	
Surrogate: 1,2-Dichlorobenzene-d4	*109 %*	*17 - 119*		B2J0956	10/06/2022	*10/07/22 21:21*	
Surrogate: 2-Fluorobiphenyl	*103 %*	*10 - 133*		B2J0956	10/06/2022	*10/07/22 21:21*	
Surrogate: 4-Terphenyl-d14	*104 %*	*5 - 139*		B2J0956	10/06/2022	*10/07/22 21:21*	
Surrogate: Nitrobenzene-d5	*99.2 %*	*13 - 150*		B2J0956	10/06/2022	*10/07/22 21:21*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: MW-29
Lab ID: 2202553-08

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,1,1-Trichloroethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,1,2-Trichloroethane	**0.53**	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,1-Dichloroethane	**1.4**	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,1-Dichloroethene	**170**	2.5	5	B2J0965	10/08/2022	10/08/22 00:55	
1,1-Dichloropropene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,2,3-Trichloropropane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,2,3-Trichlorobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,2,4-Trichlorobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,2,4-Trimethylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,2-Dibromoethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,2-Dichlorobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,2-Dichloroethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,2-Dichloropropane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,3,5-Trimethylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,3-Dichlorobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,3-Dichloropropane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
1,4-Dichlorobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
2,2-Dichloropropane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
2-Chlorotoluene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
4-Chlorotoluene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
4-Isopropyltoluene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Benzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Bromobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Bromodichloromethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Bromoform	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Bromomethane	**0.76**	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Carbon tetrachloride	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Chlorobenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Chloroethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Chloroform	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Chloromethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
cis-1,2-Dichloroethene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
cis-1,3-Dichloropropene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Dibromochloromethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Dibromomethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Dichlorodifluoromethane	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Ethylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Client Sample ID: MW-29
Lab ID: 2202553-08

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Isopropylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
m,p-Xylene	ND	1.0	1	B2J0965	10/08/2022	10/08/22 00:30	
Methylene chloride	ND	1.0	1	B2J0965	10/08/2022	10/08/22 00:30	
n-Butylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
n-Propylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Naphthalene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
o-Xylene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
sec-Butylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Styrene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
tert-Butylbenzene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Tetrachloroethene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Toluene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
trans-1,2-Dichloroethene	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Trichloroethene	**1.8**	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Trichlorofluoromethane	**0.64**	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Vinyl chloride	ND	0.50	1	B2J0965	10/08/2022	10/08/22 00:30	
Surrogate: 1,2-Dichloroethane-d4	*110 %*	*64 - 155*		B2J0965	10/08/2022	*10/08/22 00:30*	
Surrogate: 1,2-Dichloroethane-d4	*112 %*	*64 - 155*		B2J0965	10/08/2022	*10/08/22 00:55*	
Surrogate: 4-Bromofluorobenzene	*93.2 %*	*73 - 124*		B2J0965	10/08/2022	*10/08/22 00:30*	
Surrogate: 4-Bromofluorobenzene	*93.0 %*	*73 - 124*		B2J0965	10/08/2022	*10/08/22 00:55*	
Surrogate: Dibromofluoromethane	*109 %*	*78 - 129*		B2J0965	10/08/2022	*10/08/22 00:30*	
Surrogate: Dibromofluoromethane	*112 %*	*78 - 129*		B2J0965	10/08/2022	*10/08/22 00:55*	
Surrogate: Toluene-d8	*100 %*	*84 - 117*		B2J0965	10/08/2022	*10/08/22 00:30*	
Surrogate: Toluene-d8	*99.8 %*	*84 - 117*		B2J0965	10/08/2022	*10/08/22 00:55*	

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	**95**	2.0	1	B2J0956	10/06/2022	10/07/22 21:48	
Surrogate: 1,2-Dichlorobenzene-d4	*106 %*	*17 - 119*		B2J0956	10/06/2022	*10/07/22 21:48*	
Surrogate: 2-Fluorobiphenyl	*100 %*	*10 - 133*		B2J0956	10/06/2022	*10/07/22 21:48*	
Surrogate: 4-Terphenyl-d14	*100 %*	*5 - 139*		B2J0956	10/06/2022	*10/07/22 21:48*	
Surrogate: Nitrobenzene-d5	*91.8 %*	*13 - 150*		B2J0956	10/06/2022	*10/07/22 21:48*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

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 B2J1030 - No_Prep_WC1_W										
Blank (B2J1030-BLK1)						Prepared: 10/14/2022 Analyzed: 10/14/2022				
Residue, Suspended	ND	1.0	1.0							
LCS (B2J1030-BS1)						Prepared: 10/14/2022 Analyzed: 10/14/2022				
Residue, Suspended	95.0000	10	10	100.000		95.0	80 - 120			
Duplicate (B2J1030-DUP1)			**Source: 2202549-01**			Prepared: 10/14/2022 Analyzed: 10/14/2022				
Residue, Suspended	586.000	20	20		578.000			1.37	10	

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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 B2J0965 - MSVOA_LL_W										
Blank (B2J0965-BLK1)						Prepared: 10/8/2022 Analyzed: 10/8/2022				
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							B4
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							

Hargis & Associates, Inc.
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San Diego , CA 92108

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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 B2J0965 - MSVOA_LL_W (continued)										
Blank (B2J0965-BLK1) - Continued						Prepared: 10/8/2022 Analyzed: 10/8/2022				
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	*26.92*			*25.0000*		*108*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*23.40*			*25.0000*		*93.6*	*73 - 124*			
Surrogate: Dibromofluoromethane	*26.25*			*25.0000*		*105*	*78 - 129*			
Surrogate: Toluene-d8	*25.03*			*25.0000*		*100*	*84 - 117*			
LCS (B2J0965-BS1)						Prepared: 10/7/2022 Analyzed: 10/7/2022				
1,1,1,2-Tetrachloroethane	18.2000	0.50	0.11	20.0000		91.0	79 - 116			
1,1,1-Trichloroethane	19.1300	0.50	0.21	20.0000		95.6	73 - 130			
1,1,2,2-Tetrachloroethane	20.6100	0.50	0.36	20.0000		103	71 - 122			
1,1,2-Trichloroethane	18.9300	0.50	0.25	20.0000		94.6	70 - 124			
1,1-Dichloroethane	19.2800	0.50	0.09	20.0000		96.4	69 - 128			
1,1-Dichloroethene	19.7700	0.50	0.13	20.0000		98.8	65 - 137			
1,1-Dichloropropene	17.8600	0.50	0.13	20.0000		89.3	74 - 129			
1,2,3-Trichloropropane	19.1800	0.50	0.39	20.0000		95.9	74 - 123			
1,2,3-Trichlorobenzene	18.8400	0.50	0.18	20.0000		94.2	59 - 130			
1,2,4-Trichlorobenzene	18.1600	0.50	0.16	20.0000		90.8	65 - 125			
1,2,4-Trimethylbenzene	18.9100	0.50	0.14	20.0000		94.6	88 - 124			
1,2-Dibromo-3-chloropropane	18.7600	0.50	0.41	20.0000		93.8	61 - 127			
1,2-Dibromoethane	18.7000	0.50	0.24	20.0000		93.5	72 - 125			
1,2-Dichlorobenzene	19.0500	0.50	0.20	20.0000		95.2	84 - 113			
1,2-Dichloroethane	19.1300	0.50	0.20	20.0000		95.6	68 - 130			
1,2-Dichloropropane	18.6200	0.50	0.15	20.0000		93.1	77 - 121			
1,3,5-Trimethylbenzene	18.8200	0.50	0.13	20.0000		94.1	83 - 124			
1,3-Dichlorobenzene	18.8400	0.50	0.16	20.0000		94.2	83 - 112			
1,3-Dichloropropane	18.7100	0.50	0.21	20.0000		93.6	77 - 119			
1,4-Dichlorobenzene	18.4000	0.50	0.17	20.0000		92.0	79 - 115			
2,2-Dichloropropane	20.8300	0.50	0.38	20.0000		104	67 - 149			
2-Chlorotoluene	18.2700	0.50	0.11	20.0000		91.4	81 - 119			
4-Chlorotoluene	18.6100	0.50	0.12	20.0000		93.0	86 - 117			
4-Isopropyltoluene	19.0200	0.50	0.11	20.0000		95.1	82 - 131			
Benzene	18.1100	0.50	0.13	20.0000		90.6	75 - 124			
Bromobenzene	18.2900	0.50	0.21	20.0000		91.4	82 - 108			
Bromodichloromethane	19.2000	0.50	0.14	20.0000		96.0	80 - 120			

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 : 11/01/2022

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 B2J0965 - MSVOA_LL_W (continued)										
LCS (B2J0965-BS1) - Continued						Prepared: 10/7/2022 Analyzed: 10/7/2022				
Bromoform	17.6000	0.50	0.20	20.0000		88.0	70 - 123			
Bromomethane	18.2200	0.50	0.40	20.0000		91.1	44 - 151			
Carbon tetrachloride	18.4500	0.50	0.09	20.0000		92.2	62 - 140			
Chlorobenzene	17.9300	0.50	0.13	20.0000		89.6	80 - 112			
Chloroethane	18.2500	0.50	0.15	20.0000		91.2	42 - 167			
Chloroform	20.1900	0.50	0.11	20.0000		101	77 - 122			
Chloromethane	17.6500	0.50	0.12	20.0000		88.2	33 - 153			
cis-1,2-Dichloroethene	19.7200	0.50	0.14	20.0000		98.6	75 - 121			
cis-1,3-Dichloropropene	18.4300	0.50	0.13	20.0000		92.2	73 - 127			
Dibromochloromethane	19.5200	0.50	0.16	20.0000		97.6	77 - 122			
Dibromomethane	19.1200	0.50	0.19	20.0000		95.6	75 - 121			
Dichlorodifluoromethane	20.0400	0.50	0.18	20.0000		100	0 - 171			
Ethylbenzene	17.7800	0.50	0.13	20.0000		88.9	82 - 119			
Hexachlorobutadiene	18.5800	0.50	0.15	20.0000		92.9	71 - 131			
Isopropylbenzene	18.5800	0.50	0.10	20.0000		92.9	75 - 126			
m,p-Xylene	35.7300	1.0	0.19	40.0000		89.3	86 - 119			
Methylene chloride	18.1200	1.0	0.71	20.0000		90.6	76 - 125			
n-Butylbenzene	17.5400	0.50	0.11	20.0000		87.7	81 - 125			
n-Propylbenzene	18.6500	0.50	0.10	20.0000		93.2	78 - 130			
Naphthalene	17.2600	0.50	0.41	20.0000		86.3	47 - 128			
o-Xylene	17.5800	0.50	0.13	20.0000		87.9	85 - 119			
sec-Butylbenzene	18.6200	0.50	0.09	20.0000		93.1	78 - 130			
Styrene	17.8300	0.50	0.13	20.0000		89.2	62 - 148			
tert-Butylbenzene	18.1200	0.50	0.09	20.0000		90.6	77 - 125			
Tetrachloroethene	17.7500	0.50	0.10	20.0000		88.8	73 - 120			
Toluene	17.6100	0.50	0.12	20.0000		88.0	79 - 119			
trans-1,2-Dichloroethene	19.6800	0.50	0.09	20.0000		98.4	70 - 129			
Trichloroethene	17.5900	0.50	0.10	20.0000		88.0	73 - 117			
Trichlorofluoromethane	19.0800	0.50	0.23	20.0000		95.4	59 - 135			
Vinyl chloride	17.9400	0.50	0.13	20.0000		89.7	58 - 132			
Surrogate: 1,2-Dichloroethane-d4	*28.07*			*25.0000*		*112*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*23.93*			*25.0000*		*95.7*	*73 - 124*			
Surrogate: Dibromofluoromethane	*27.37*			*25.0000*		*109*	*78 - 129*			
Surrogate: Toluene-d8	*24.54*			*25.0000*		*98.2*	*84 - 117*			
LCS Dup (B2J0965-BSD1)						Prepared: 10/7/2022 Analyzed: 10/7/2022				
1,1,1,2-Tetrachloroethane	17.5300	0.50	0.11	20.0000		87.6	79 - 116	3.75	20	
1,1,1-Trichloroethane	18.2200	0.50	0.21	20.0000		91.1	73 - 130	4.87	20	
1,1,2,2-Tetrachloroethane	19.4200	0.50	0.36	20.0000		97.1	71 - 122	5.95	20	
1,1,2-Trichloroethane	18.2600	0.50	0.25	20.0000		91.3	70 - 124	3.60	20	
1,1-Dichloroethane	18.7100	0.50	0.09	20.0000		93.6	69 - 128	3.00	20	
1,1-Dichloroethene	18.9100	0.50	0.13	20.0000		94.6	65 - 137	4.45	20	
1,1-Dichloropropene	16.6600	0.50	0.13	20.0000		83.3	74 - 129	6.95	20	
1,2,3-Trichloropropane	18.5500	0.50	0.39	20.0000		92.8	74 - 123	3.34	20	
1,2,3-Trichlorobenzene	18.6200	0.50	0.18	20.0000		93.1	59 - 130	1.17	20	

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
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San Diego , CA 92108	Reported : 11/01/2022

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 B2J0965 - MSVOA_LL_W (continued)										
LCS Dup (B2J0965-BSD1) - Continued						Prepared: 10/7/2022 Analyzed: 10/7/2022				
1,2,4-Trichlorobenzene	18.0100	0.50	0.16	20.0000		90.0	65 - 125	0.829	20	
1,2,4-Trimethylbenzene	18.1100	0.50	0.14	20.0000		90.6	88 - 124	4.32	20	
1,2-Dibromo-3-chloropropane	19.3000	0.50	0.41	20.0000		96.5	61 - 127	2.84	20	
1,2-Dibromoethane	18.1600	0.50	0.24	20.0000		90.8	72 - 125	2.93	20	
1,2-Dichlorobenzene	18.4300	0.50	0.20	20.0000		92.2	84 - 113	3.31	20	
1,2-Dichloroethane	18.5200	0.50	0.20	20.0000		92.6	68 - 130	3.24	20	
1,2-Dichloropropane	17.7200	0.50	0.15	20.0000		88.6	77 - 121	4.95	20	
1,3,5-Trimethylbenzene	18.2100	0.50	0.13	20.0000		91.0	83 - 124	3.29	20	
1,3-Dichlorobenzene	17.9200	0.50	0.16	20.0000		89.6	83 - 112	5.01	20	
1,3-Dichloropropane	18.4200	0.50	0.21	20.0000		92.1	77 - 119	1.56	20	
1,4-Dichlorobenzene	18.0400	0.50	0.17	20.0000		90.2	79 - 115	1.98	20	
2,2-Dichloropropane	19.9800	0.50	0.38	20.0000		99.9	67 - 149	4.17	20	
2-Chlorotoluene	17.6300	0.50	0.11	20.0000		88.2	81 - 119	3.57	20	
4-Chlorotoluene	17.8700	0.50	0.12	20.0000		89.4	86 - 117	4.06	20	
4-Isopropyltoluene	18.0000	0.50	0.11	20.0000		90.0	82 - 131	5.51	20	
Benzene	17.3800	0.50	0.13	20.0000		86.9	75 - 124	4.11	20	
Bromobenzene	18.0700	0.50	0.21	20.0000		90.4	82 - 108	1.21	20	
Bromodichloromethane	18.4700	0.50	0.14	20.0000		92.4	80 - 120	3.88	20	
Bromoform	16.9800	0.50	0.20	20.0000		84.9	70 - 123	3.59	20	
Bromomethane	18.5300	0.50	0.40	20.0000		92.6	44 - 151	1.69	20	
Carbon tetrachloride	17.6000	0.50	0.09	20.0000		88.0	62 - 140	4.72	20	
Chlorobenzene	17.3400	0.50	0.13	20.0000		86.7	80 - 112	3.35	20	
Chloroethane	17.9600	0.50	0.15	20.0000		89.8	42 - 167	1.60	20	
Chloroform	19.7000	0.50	0.11	20.0000		98.5	77 - 122	2.46	20	
Chloromethane	17.3400	0.50	0.12	20.0000		86.7	33 - 153	1.77	20	
cis-1,2-Dichloroethene	19.4200	0.50	0.14	20.0000		97.1	75 - 121	1.53	20	
cis-1,3-Dichloropropene	18.3700	0.50	0.13	20.0000		91.8	73 - 127	0.326	20	
Dibromochloromethane	19.2600	0.50	0.16	20.0000		96.3	77 - 122	1.34	20	
Dibromomethane	18.5300	0.50	0.19	20.0000		92.6	75 - 121	3.13	20	
Dichlorodifluoromethane	19.1600	0.50	0.18	20.0000		95.8	0 - 171	4.49	20	
Ethylbenzene	17.3100	0.50	0.13	20.0000		86.6	82 - 119	2.68	20	
Hexachlorobutadiene	17.7300	0.50	0.15	20.0000		88.6	71 - 131	4.68	20	
Isopropylbenzene	17.5200	0.50	0.10	20.0000		87.6	75 - 126	5.87	20	
m,p-Xylene	34.4600	1.0	0.19	40.0000		86.2	86 - 119	3.62	20	
Methylene chloride	18.2400	1.0	0.71	20.0000		91.2	76 - 125	0.660	20	
n-Butylbenzene	16.5300	0.50	0.11	20.0000		82.6	81 - 125	5.93	20	
n-Propylbenzene	17.6300	0.50	0.10	20.0000		88.2	78 - 130	5.62	20	
Naphthalene	17.3400	0.50	0.41	20.0000		86.7	47 - 128	0.462	20	
o-Xylene	17.3100	0.50	0.13	20.0000		86.6	85 - 119	1.55	20	
sec-Butylbenzene	17.6400	0.50	0.09	20.0000		88.2	78 - 130	5.41	20	
Styrene	17.8200	0.50	0.13	20.0000		89.1	62 - 148	0.0561	20	
tert-Butylbenzene	17.3000	0.50	0.09	20.0000		86.5	77 - 125	4.63	20	
Tetrachloroethene	16.7800	0.50	0.10	20.0000		83.9	73 - 120	5.62	20	
Toluene	16.8400	0.50	0.12	20.0000		84.2	79 - 119	4.47	20	
trans-1,2-Dichloroethene	18.9500	0.50	0.09	20.0000		94.8	70 - 129	3.78	20	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
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San Diego , CA 92108	Reported : 11/01/2022

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 B2J0965 - MSVOA_LL_W (continued)										
LCS Dup (B2J0965-BSD1) - Continued						Prepared: 10/7/2022 Analyzed: 10/7/2022				
Trichloroethene	16.7400	0.50	0.10	20.0000		83.7	73 - 117	4.95	20	
Trichlorofluoromethane	17.8000	0.50	0.23	20.0000		89.0	59 - 135	6.94	20	
Vinyl chloride	17.1600	0.50	0.13	20.0000		85.8	58 - 132	4.44	20	
Surrogate: 1,2-Dichloroethane-d4	*28.55*			*25.0000*		*114*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*24.46*			*25.0000*		*97.8*	*73 - 124*			
Surrogate: Dibromofluoromethane	*27.63*			*25.0000*		*111*	*78 - 129*			
Surrogate: Toluene-d8	*24.68*			*25.0000*		*98.7*	*84 - 117*			

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

Volatile Organic Compounds by EPA 8260B - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2J0999 - MSVOA_LL_W										
Blank (B2J0999-BLK1)							Prepared: 10/12/2022 Analyzed: 10/12/2022			
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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Project Number : Raytheon Main Gets Monthly Sample / 532.15
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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 B2J0999 - MSVOA_LL_W (continued)										
Blank (B2J0999-BLK1) - Continued						Prepared: 10/12/2022 Analyzed: 10/12/2022				
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	*26.65*			*25.0000*		*107*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*22.40*			*25.0000*		*89.6*	*73 - 124*			
Surrogate: Dibromofluoromethane	*27.31*			*25.0000*		*109*	*78 - 129*			
Surrogate: Toluene-d8	*24.91*			*25.0000*		*99.6*	*84 - 117*			
LCS (B2J0999-BS1)						Prepared: 10/12/2022 Analyzed: 10/12/2022				
1,1,1,2-Tetrachloroethane	20.8400	0.50	0.11	20.0000		104	79 - 116			
1,1,1-Trichloroethane	23.6600	0.50	0.21	20.0000		118	73 - 130			
1,1,2,2-Tetrachloroethane	20.5300	0.50	0.36	20.0000		103	71 - 122			
1,1,2-Trichloroethane	20.1200	0.50	0.25	20.0000		101	70 - 124			
1,1-Dichloroethane	23.2700	0.50	0.09	20.0000		116	69 - 128			
1,1-Dichloroethene	25.3500	0.50	0.13	20.0000		127	65 - 137			
1,1-Dichloropropene	21.6100	0.50	0.13	20.0000		108	74 - 129			
1,2,3-Trichloropropane	20.0800	0.50	0.39	20.0000		100	74 - 123			
1,2,3-Trichlorobenzene	11.0400	0.50	0.18	20.0000		55.2	59 - 130			L4
1,2,4-Trichlorobenzene	13.5100	0.50	0.16	20.0000		67.6	65 - 125			
1,2,4-Trimethylbenzene	22.5800	0.50	0.14	20.0000		113	88 - 124			
1,2-Dibromo-3-chloropropane	19.1800	0.50	0.41	20.0000		95.9	61 - 127			
1,2-Dibromoethane	20.8000	0.50	0.24	20.0000		104	72 - 125			
1,2-Dichlorobenzene	20.3600	0.50	0.20	20.0000		102	84 - 113			
1,2-Dichloroethane	21.4100	0.50	0.20	20.0000		107	68 - 130			
1,2-Dichloropropane	21.0200	0.50	0.15	20.0000		105	77 - 121			
1,3,5-Trimethylbenzene	22.5500	0.50	0.13	20.0000		113	83 - 124			
1,3-Dichlorobenzene	21.5400	0.50	0.16	20.0000		108	83 - 112			
1,3-Dichloropropane	20.9300	0.50	0.21	20.0000		105	77 - 119			
1,4-Dichlorobenzene	20.8600	0.50	0.17	20.0000		104	79 - 115			
2,2-Dichloropropane	29.8000	0.50	0.38	20.0000		149	67 - 149			
2-Chlorotoluene	22.0600	0.50	0.11	20.0000		110	81 - 119			
4-Chlorotoluene	22.2000	0.50	0.12	20.0000		111	86 - 117			
4-Isopropyltoluene	22.5300	0.50	0.11	20.0000		113	82 - 131			
Benzene	21.0000	0.50	0.13	20.0000		105	75 - 124			
Bromobenzene	21.8100	0.50	0.21	20.0000		109	82 - 108			L3
Bromodichloromethane	21.0800	0.50	0.14	20.0000		105	80 - 120			

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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 B2J0999 - MSVOA_LL_W (continued)										
LCS (B2J0999-BS1) - Continued						Prepared: 10/12/2022 Analyzed: 10/12/2022				
Bromoform	19.0400	0.50	0.20	20.0000		95.2	70 - 123			
Bromomethane	8.98000	0.50	0.40	20.0000		44.9	44 - 151			
Carbon tetrachloride	23.1500	0.50	0.09	20.0000		116	62 - 140			
Chlorobenzene	20.4600	0.50	0.13	20.0000		102	80 - 112			
Chloroethane	21.8400	0.50	0.15	20.0000		109	42 - 167			
Chloroform	23.1600	0.50	0.11	20.0000		116	77 - 122			
Chloromethane	31.9400	0.50	0.12	20.0000		160	33 - 153			L5
cis-1,2-Dichloroethene	23.4200	0.50	0.14	20.0000		117	75 - 121			
cis-1,3-Dichloropropene	23.0900	0.50	0.13	20.0000		115	73 - 127			
Dibromochloromethane	21.1800	0.50	0.16	20.0000		106	77 - 122			
Dibromomethane	21.0800	0.50	0.19	20.0000		105	75 - 121			
Dichlorodifluoromethane	26.3800	0.50	0.18	20.0000		132	0 - 171			
Ethylbenzene	20.9000	0.50	0.13	20.0000		104	82 - 119			
Hexachlorobutadiene	18.3900	0.50	0.15	20.0000		92.0	71 - 131			
Isopropylbenzene	22.3300	0.50	0.10	20.0000		112	75 - 126			
m,p-Xylene	42.0500	1.0	0.19	40.0000		105	86 - 119			
Methylene chloride	20.1600	1.0	0.71	20.0000		101	76 - 125			
n-Butylbenzene	20.5000	0.50	0.11	20.0000		102	81 - 125			
n-Propylbenzene	22.1600	0.50	0.10	20.0000		111	78 - 130			
Naphthalene	13.7000	0.50	0.41	20.0000		68.5	47 - 128			
o-Xylene	20.8200	0.50	0.13	20.0000		104	85 - 119			
sec-Butylbenzene	22.1200	0.50	0.09	20.0000		111	78 - 130			
Styrene	20.4900	0.50	0.13	20.0000		102	62 - 148			
tert-Butylbenzene	21.8800	0.50	0.09	20.0000		109	77 - 125			
Tetrachloroethene	21.9100	0.50	0.10	20.0000		110	73 - 120			
Toluene	20.3500	0.50	0.12	20.0000		102	79 - 119			
trans-1,2-Dichloroethene	24.1500	0.50	0.09	20.0000		121	70 - 129			
Trichloroethene	20.7700	0.50	0.10	20.0000		104	73 - 117			
Trichlorofluoromethane	24.5300	0.50	0.23	20.0000		123	59 - 135			
Vinyl chloride	20.2500	0.50	0.13	20.0000		101	58 - 132			
Surrogate: 1,2-Dichloroethane-d4	*27.46*			*25.0000*		*110*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*25.07*			*25.0000*		*100*	*73 - 124*			
Surrogate: Dibromofluoromethane	*27.25*			*25.0000*		*109*	*78 - 129*			
Surrogate: Toluene-d8	*24.39*			*25.0000*		*97.6*	*84 - 117*			
LCS Dup (B2J0999-BSD1)						Prepared: 10/12/2022 Analyzed: 10/12/2022				
1,1,1,2-Tetrachloroethane	20.8300	0.50	0.11	20.0000		104	79 - 116	0.0480	20	
1,1,1-Trichloroethane	23.4500	0.50	0.21	20.0000		117	73 - 130	0.892	20	
1,1,2,2-Tetrachloroethane	20.7800	0.50	0.36	20.0000		104	71 - 122	1.21	20	
1,1,2-Trichloroethane	20.5100	0.50	0.25	20.0000		103	70 - 124	1.92	20	
1,1-Dichloroethane	22.6300	0.50	0.09	20.0000		113	69 - 128	2.79	20	
1,1-Dichloroethene	24.6900	0.50	0.13	20.0000		123	65 - 137	2.64	20	
1,1-Dichloropropene	21.8700	0.50	0.13	20.0000		109	74 - 129	1.20	20	
1,2,3-Trichloropropane	20.3300	0.50	0.39	20.0000		102	74 - 123	1.24	20	
1,2,3-Trichlorobenzene	11.0700	0.50	0.18	20.0000		55.4	59 - 130	0.271	20	L4

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 : 11/01/2022

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 B2J0999 - MSVOA_LL_W (continued)										
LCS Dup (B2J0999-BSD1) - Continued						Prepared: 10/12/2022 Analyzed: 10/12/2022				
1,2,4-Trichlorobenzene	13.3700	0.50	0.16	20.0000		66.8	65 - 125	1.04	20	
1,2,4-Trimethylbenzene	22.0700	0.50	0.14	20.0000		110	88 - 124	2.28	20	
1,2-Dibromo-3-chloropropane	19.8500	0.50	0.41	20.0000		99.2	61 - 127	3.43	20	
1,2-Dibromoethane	21.8600	0.50	0.24	20.0000		109	72 - 125	4.97	20	
1,2-Dichlorobenzene	20.2600	0.50	0.20	20.0000		101	84 - 113	0.492	20	
1,2-Dichloroethane	21.6900	0.50	0.20	20.0000		108	68 - 130	1.30	20	
1,2-Dichloropropane	21.0400	0.50	0.15	20.0000		105	77 - 121	0.0951	20	
1,3,5-Trimethylbenzene	22.2000	0.50	0.13	20.0000		111	83 - 124	1.56	20	
1,3-Dichlorobenzene	20.7400	0.50	0.16	20.0000		104	83 - 112	3.78	20	
1,3-Dichloropropane	20.5000	0.50	0.21	20.0000		102	77 - 119	2.08	20	
1,4-Dichlorobenzene	20.7700	0.50	0.17	20.0000		104	79 - 115	0.432	20	
2,2-Dichloropropane	29.3300	0.50	0.38	20.0000		147	67 - 149	1.59	20	
2-Chlorotoluene	21.4400	0.50	0.11	20.0000		107	81 - 119	2.85	20	
4-Chlorotoluene	21.3300	0.50	0.12	20.0000		107	86 - 117	4.00	20	
4-Isopropyltoluene	22.1000	0.50	0.11	20.0000		110	82 - 131	1.93	20	
Benzene	21.2400	0.50	0.13	20.0000		106	75 - 124	1.14	20	
Bromobenzene	21.8500	0.50	0.21	20.0000		109	82 - 108	0.183	20	L3
Bromodichloromethane	21.3500	0.50	0.14	20.0000		107	80 - 120	1.27	20	
Bromoform	20.1400	0.50	0.20	20.0000		101	70 - 123	5.62	20	
Bromomethane	9.31000	0.50	0.40	20.0000		46.6	44 - 151	3.61	20	
Carbon tetrachloride	23.1700	0.50	0.09	20.0000		116	62 - 140	0.0864	20	
Chlorobenzene	20.5000	0.50	0.13	20.0000		102	80 - 112	0.195	20	
Chloroethane	22.0300	0.50	0.15	20.0000		110	42 - 167	0.866	20	
Chloroform	23.2000	0.50	0.11	20.0000		116	77 - 122	0.173	20	
Chloromethane	32.3200	0.50	0.12	20.0000		162	33 - 153	1.18	20	L5
cis-1,2-Dichloroethene	23.2000	0.50	0.14	20.0000		116	75 - 121	0.944	20	
cis-1,3-Dichloropropene	23.2200	0.50	0.13	20.0000		116	73 - 127	0.561	20	
Dibromochloromethane	21.1900	0.50	0.16	20.0000		106	77 - 122	0.0472	20	
Dibromomethane	21.6400	0.50	0.19	20.0000		108	75 - 121	2.62	20	
Dichlorodifluoromethane	26.4200	0.50	0.18	20.0000		132	0 - 171	0.152	20	
Ethylbenzene	20.7500	0.50	0.13	20.0000		104	82 - 119	0.720	20	
Hexachlorobutadiene	18.4000	0.50	0.15	20.0000		92.0	71 - 131	0.0544	20	
Isopropylbenzene	21.7000	0.50	0.10	20.0000		108	75 - 126	2.86	20	
m,p-Xylene	41.9900	1.0	0.19	40.0000		105	86 - 119	0.143	20	
Methylene chloride	19.6500	1.0	0.71	20.0000		98.2	76 - 125	2.56	20	
n-Butylbenzene	19.4800	0.50	0.11	20.0000		97.4	81 - 125	5.10	20	
n-Propylbenzene	21.6700	0.50	0.10	20.0000		108	78 - 130	2.24	20	
Naphthalene	13.3800	0.50	0.41	20.0000		66.9	47 - 128	2.36	20	
o-Xylene	21.2000	0.50	0.13	20.0000		106	85 - 119	1.81	20	
sec-Butylbenzene	21.7700	0.50	0.09	20.0000		109	78 - 130	1.59	20	
Styrene	20.7800	0.50	0.13	20.0000		104	62 - 148	1.41	20	
tert-Butylbenzene	21.5500	0.50	0.09	20.0000		108	77 - 125	1.52	20	
Tetrachloroethene	21.1100	0.50	0.10	20.0000		106	73 - 120	3.72	20	
Toluene	20.8600	0.50	0.12	20.0000		104	79 - 119	2.48	20	
trans-1,2-Dichloroethene	23.4600	0.50	0.09	20.0000		117	70 - 129	2.90	20	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

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 B2J0999 - MSVOA_LL_W (continued)										
LCS Dup (B2J0999-BSD1) - Continued						Prepared: 10/12/2022 Analyzed: 10/12/2022				
Trichloroethene	21.0700	0.50	0.10	20.0000		105	73 - 117	1.43	20	
Trichlorofluoromethane	24.1400	0.50	0.23	20.0000		121	59 - 135	1.60	20	
Vinyl chloride	20.3900	0.50	0.13	20.0000		102	58 - 132	0.689	20	
Surrogate: 1,2-Dichloroethane-d4	*27.23*			*25.0000*		*109*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*25.46*			*25.0000*		*102*	*73 - 124*			
Surrogate: Dibromofluoromethane	*27.41*			*25.0000*		*110*	*78 - 129*			
Surrogate: Toluene-d8	*24.86*			*25.0000*		*99.4*	*84 - 117*			

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

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	% Rec Limits	RPD	RPD Limit	Notes
Batch B2J0956 - MSSEMI_W										
Blank (B2J0956-BLK1)						Prepared: 10/6/2022 Analyzed: 10/7/2022				
1,4-Dioxane	ND	2.0	0.84							
Surrogate: 1,2-Dichlorobenzene-d4	*105.1*			*100.000*		*105*	*17 - 119*			
Surrogate: 2-Fluorobiphenyl	*97.79*			*100.000*		*97.8*	*10 - 133*			
Surrogate: 4-Terphenyl-d14	*100.2*			*100.000*		*100*	*5 - 139*			
Surrogate: Nitrobenzene-d5	*95.00*			*100.000*		*95.0*	*13 - 150*			
LCS (B2J0956-BS1)						Prepared: 10/6/2022 Analyzed: 10/7/2022				
1,4-Dioxane	100.720	2.0	0.84	100.000		101	75 - 155			
Surrogate: 1,2-Dichlorobenzene-d4	*101.6*			*100.000*		*102*	*17 - 119*			
Surrogate: 2-Fluorobiphenyl	*98.45*			*100.000*		*98.4*	*10 - 133*			
Surrogate: 4-Terphenyl-d14	*97.69*			*100.000*		*97.7*	*5 - 139*			
Surrogate: Nitrobenzene-d5	*102.1*			*100.000*		*102*	*13 - 150*			
LCS Dup (B2J0956-BSD1)						Prepared: 10/6/2022 Analyzed: 10/7/2022				
1,4-Dioxane	100.330	2.0	0.84	100.000		100	75 - 155	0.388	20	
Surrogate: 1,2-Dichlorobenzene-d4	*100.6*			*100.000*		*101*	*17 - 119*			
Surrogate: 2-Fluorobiphenyl	*98.04*			*100.000*		*98.0*	*10 - 133*			
Surrogate: 4-Terphenyl-d14	*95.38*			*100.000*		*95.4*	*5 - 139*			
Surrogate: Nitrobenzene-d5	*102.1*			*100.000*		*102*	*13 - 150*			

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/01/2022

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	% Rec Limits	RPD	RPD Limit	Notes
Batch B2J0976 - MSSEMI_W										
Blank (B2J0976-BLK1)						Prepared: 10/7/2022 Analyzed: 10/10/2022				
1,4-Dioxane	ND	0.20	0.05							
Surrogate: 1,2-Dichlorobenzene-d4	*1.075*			*1.00000*		*107*	*13 - 99*			S12
Surrogate: 2-Fluorobiphenyl	*0.9247*			*1.00000*		*92.5*	*8 - 111*			
Surrogate: 4-Terphenyl-d14	*1.025*			*1.00000*		*103*	*12 - 113*			
Surrogate: Nitrobenzene-d5	*1.161*			*1.00000*		*116*	*15 - 121*			
LCS (B2J0976-BS1)						Prepared: 10/7/2022 Analyzed: 10/10/2022				
1,4-Dioxane	0.730880	0.20	0.05	1.00000		73.1	75 - 155			L3
Surrogate: 1,2-Dichlorobenzene-d4	*1.099*			*1.00000*		*110*	*13 - 99*			S12
Surrogate: 2-Fluorobiphenyl	*0.9280*			*1.00000*		*92.8*	*8 - 111*			
Surrogate: 4-Terphenyl-d14	*1.034*			*1.00000*		*103*	*12 - 113*			
Surrogate: Nitrobenzene-d5	*1.134*			*1.00000*		*113*	*15 - 121*			
LCS Dup (B2J0976-BSD1)						Prepared: 10/7/2022 Analyzed: 10/10/2022				
1,4-Dioxane	0.730880	0.20	0.05	1.00000		73.1	75 - 155	0.00	20	L3
Surrogate: 1,2-Dichlorobenzene-d4	*1.097*			*1.00000*		*110*	*13 - 99*			S12
Surrogate: 2-Fluorobiphenyl	*0.9218*			*1.00000*		*92.2*	*8 - 111*			
Surrogate: 4-Terphenyl-d14	*1.029*			*1.00000*		*103*	*12 - 113*			
Surrogate: Nitrobenzene-d5	*1.219*			*1.00000*		*122*	*15 - 121*			S12

3.1 °C

HARGIS + ASSOCIATES, INC.
HYDROGEOLOGY • ENGINEERING

220253

Date: 10/6/2022
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: Marty Pierson

SAMPLE COLLECTION

LAB ID	SAMPLE ID	Date	Time	Groundwater	Lab prepared water	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)		Sulfuric Acid (H_2SO_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	REMARKS
1	TB-100622	10/6/2022	8:00		X	X				X	2						X									X							X			
2	CEFF	10/6/2022	09:10	X		X				X	3					1	X								X	X							X			
3	CBT	10/6/2022	09:15	X		X				X	3					1	X								X	X							X			
4	POX	10/6/2022	09:20	X		X			X	X	5	1			1	1	X	X		X	X				X	X							X			
5	PF	10/6/2022	09:25	X					X	X	2			1	1					X	X	X	X										X			
6	INF	10/6/2022	09:30	X		X				X	3	2				1	X	X	X					X				X					X			
7	EW-02	10/6/2022	09:50	X		X				X	3	1				1	X		X					X			X						X			
8	MW-29	10/6/2022	10:00	X		X				X	3	1				1	X		X					X				X					X			
Total number of containers per analysis:											24	5		1	2	6																			Total No. of Containers: 38

Relinquished By: / Company:	Date / Time	Received By: / Company	Date / Time
HGA	10-06-22 15:12	Dannyle ATL	10/6/22 5:12
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

_____ Temperature on receipt

Laboratory
Advanced Technology Laboratories
3275 Walnut Ave
Signal Hill, CA 90755
(562) 989-4045

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
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.

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Christine Caballero
SAMPLE I.D.: 2202553-04 / POX
MATRIX: Groundwater

REPORTING DATE: 10/19/2022
SAMPLE RECEIVED: 10/07/2022
LABORATORY NO.: 22-2474
DATE SAMPLED : 10/06/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Alkalinity, Total (as CaCO3)	214	mg/L	5.00	1	SM 2320 B	10/12/22
Bicarbonate (as CaCO3)	214	mg/L	5.00	1	SM 2320 B	10/12/22
Carbonate (as CaCO3)	ND	mg/L	5.00	1	SM 2320 B	10/12/22
Hydroxide (as CaCO3)	ND	mg/L	5.00	1	SM 2320 B	10/12/22
Total Organic Carbon	ND	mg/L	0.50	1	SM 5310 D	10/12/22
Bromate	ND	ug/L	25.0	5	EPA 300.1	10/14/22
Surrogate Recovery	Rec (%)			Control Limits		
Dichloroacetate (Surr)	107			90-115		

*ND: Parameter not detected at the indicated reporting limit.
Analyses were performed by partnership lab, CA State I.D. No. 3082 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Christine Caballero
SAMPLE I.D.: 2202553-05 / PF
MATRIX: Groundwater

REPORTING DATE: 10/19/2022
SAMPLE RECEIVED: 10/07/2022
LABORATORY NO.: 22-2475
DATE SAMPLED : 10/06/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Alkalinity, Total (as CaCO3)	215	mg/L	5.00	1	SM 2320 B	10/12/22
Bicarbonate (as CaCO3)	215	mg/L	5.00	1	SM 2320 B	10/12/22
Carbonate (as CaCO3)	ND	mg/L	5.00	1	SM 2320 B	10/12/22
Hydroxide (as CaCO3)	ND	mg/L	5.00	1	SM 2320 B	10/12/22
Total Organic Carbon	0.51	mg/L	0.50	1	SM 5310 D	10/12/22

*ND: Parameter not detected at the indicated reporting limit.
Analyses were performed by partnership lab, CA State I.D. No. 3082 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
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Signal Hill, CA 90755

PROJECT CONT. PERSON: Christine Caballero
SAMPLE I.D.: 2202553-06 / INF
MATRIX: Groundwater

REPORTING DATE: 10/19/2022
SAMPLE RECEIVED: 10/07/2022
LABORATORY NO.: 22-2476
DATE SAMPLED : 10/06/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW
PAGE: 1 OF 1

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Bromide	0.29	mg/L	0.10	1	EPA 300.0	10/17/22
Bromate	ND	ug/L	25.0	5	EPA 300.1	10/14/22
Surrogate Recovery	Rec (%)			Control Limits		
Dichloroacetate (Surr)	107			90-115		

*ND: Parameter not detected at the indicated reporting limit.

Analyses were performed by partnership lab, CA State I.D. No. 3082 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Christine Caballero
SAMPLE I.D.: 2202553-07 / EW-02
MATRIX: Groundwater

REPORTING DATE: 10/19/2022
SAMPLE RECEIVED: 10/07/2022
LABORATORY NO.: 22-2477
DATE SAMPLED : 10/06/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Bromide	0.23	mg/L	0.10	1	EPA 300.0	10/17/22

* EPA 300.0 was performed by partnership lab, CA State I.D. No. 3082 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Christine Caballero
SAMPLE I.D.: 2202553-08 / MW-29
MATRIX: Groundwater

REPORTING DATE: 10/19/2022
SAMPLE RECEIVED: 10/07/2022
LABORATORY NO.: 22-2478
DATE SAMPLED : 10/06/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Bromide	0.42	mg/L	0.10	1	EPA 300.0	10/17/22

* EPA 300.0 was performed by partnership lab, CA State I.D. No. 3082 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: _____

ADVANCED TECHNOLOGY LABORATORIES

22-2474T.

SUBCONTRACT ORDER

Work Order: 2202553

SENDING LABORATORY:

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Phone: 562.989.4045
Fax: 562.989.6348
Contact emails: subcontract@atlglobal.com
Project.Management@atlglobal.com
Sampler: Ruben Sanchez

RECEIVING LABORATORY:

JK Bioscience, Inc.
1926 E. Gladwick Street
Rancho Dominguez, CA 90220
Phone :(213) 292-6474
Fax:

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
☐ EQuis
☐ Other: _____

* All Level IV sample containers (including empty ones) must be returned to ATL 30 days after receipt.

Analysis	Expires	Sampled	Comments
ATL Lab#: 2202553-04 / POX	**Groundwater**	10/06/22 09:20	
5310B_SUB [Total Organic Carbon]	11/03/22 09:20		22-2474
Bromate_ICMS/MS_SUB [Bromate by IC-MS/MS]	11/03/22 09:20		
Speciated Alkalinity_2320B_SUB [Alkalinity, Speciated]	10/20/22 09:20		

Containers Supplied:
Voa Vial - H2S04 (D) Voa Vial - H2S04 (E) Poly Unpres - 125mL (H) Poly Unpres - 125mL (I)

Prepared by: _____ 10/6/22
Sample Control Technician — Date

Inspected by: _____ 10/6/22
PM Lead / SC Lead — Date

Approved by: LD 10/6/22
Dedicated ATL Project Manager — Date

Released By ATL Sample Control	10/7/22	8:40	Received By Courier	10/7/22	8:40
Released By Courier	10/7/22	9:57	Received By Subcontract Laboratory	10/7/22	10:13
Released By	Date	Time	Received By	Date	Time

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ADVANCED TECHNOLOGY LABORATORIES

SUBCONTRACT ORDER

Work Order: 2202553

Analysis	Expires	Sampled	Comments
ATL Lab#: 2202553-05 / PF	**Groundwater**	10/06/22 09:25	
5310B_SUB	11/03/22 09:25		
[Total Organic Carbon]			22-2475
Speciated Alkalinity_2320B_SUB	10/20/22 09:25		
[Alkalinity, Speciated]			
Containers Supplied:			
Voa Vial - H2S04 (A) Voa Vial - H2S04 (B) Poly Unpres - 125mL (E)			
ATL Lab#: 2202553-06 / INF	**Groundwater**	10/06/22 09:30	
300_Bromide_SUB	11/03/22 09:30		
[Bromide by Ion Chromatography]			22-2476
Bromate_ICMS/MS_SUB	11/03/22 09:30		
[Bromate by IC-MS/MS]			
Containers Supplied:			
Poly Unpres - 125mL (E) Poly Unpres - 125mL (F)			
ATL Lab#: 2202553-07 / EW-02	**Groundwater**	10/06/22 09:50	
300_Bromide_SUB	11/03/22 09:50		22-2477
[Bromide by Ion Chromatography]			
Containers Supplied:			
Poly Unpres - 125mL (E)			
ATL Lab#: 2202553-08 / MW-29	**Groundwater**	10/06/22 10:00	
300_Bromide_SUB	11/03/22 10:00		22-2478
[Bromide by Ion Chromatography]			
Containers Supplied:			
Poly Unpres - 125mL (E)			

Prepared by: _____ 10/6/22
Sample Control Technician — Date

Inspected by: _____ 10/6/22
PM Lead / SC Lead — Date

Approved by: _____ 10/6/22
Dedicated ATL Project Manager — Date

	10/7/22	8:40		10/7/22	8:40
Released By ATL Sample Control	Date	Time	Received By Courier	Date	Time
	10/7/22	9:57		10/7/22	10:13
Released By Courier	Date	Time	Received By Subcontract Laboratory	Date	Time
Released By	Date	Time	Received By	Date	Time

November 23, 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 : 2202784
Client Reference : Raytheon Main Gets Monthly Sample / 532.15

Enclosed are the results for sample(s) received on November 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,

Lena Davidkov, Client Services
lena.davidkov@atlglobal.com
Authorized to Release on 11/23/22 16:18 on Behalf of

Amy Leung
Laboratory Director

Certificate of Analysis

Hargis & Associates, Inc.		Project Number :	Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355		Report To :	Steve Netto
San Diego , CA 92108		Reported :	11/23/2022

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TB-110322	2202784-01	Water	11/03/22 8:00	11/03/22 15:11
CEFF	2202784-02	Groundwater	11/03/22 8:50	11/03/22 15:11
CBT	2202784-03	Groundwater	11/03/22 8:55	11/03/22 15:11
POX	2202784-04	Groundwater	11/03/22 9:00	11/03/22 15:11
PF	2202784-05	Groundwater	11/03/22 9:10	11/03/22 15:11
INF	2202784-06	Groundwater	11/03/22 9:15	11/03/22 15:11
EW-02	2202784-07	Groundwater	11/03/22 9:30	11/03/22 15:11
MW-29	2202784-08	Groundwater	11/03/22 9:55	11/03/22 15:11

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Notes and Definitions

S12	Surrogate recovery outside in-house established limit but within method default criteria.
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.
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.
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.		Project Number :	Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355		Report To :	Steve Netto
San Diego , CA 92108		Reported :	11/23/2022

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
2202784-05	PF	**ND**	mg/L	1.0	1	B2K0878	11/04/2022	11/04/22 16:30	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: TB-110322

Lab ID: 2202784-01

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,1,1-Trichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,1,2-Trichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,1-Dichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,1-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,1-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,2,3-Trichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,2,3-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,2,4-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,2,4-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,2-Dibromoethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,2-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,2-Dichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,3,5-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,3-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,3-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
1,4-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
2,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
2-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
4-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
4-Isopropyltoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Benzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Bromobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Bromodichloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Bromoform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Bromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Carbon tetrachloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Chlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Chloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Chloroform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Chloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
cis-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
cis-1,3-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Dibromochloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Dibromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Dichlorodifluoromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Ethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: TB-110322

Lab ID: 2202784-01

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Isopropylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
m,p-Xylene	ND	1.0	1	B2K0907	11/07/2022	11/07/22 16:41	
Methylene chloride	ND	1.0	1	B2K0907	11/07/2022	11/07/22 16:41	
n-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
n-Propylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Naphthalene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
o-Xylene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
sec-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Styrene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
tert-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Tetrachloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Toluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
trans-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Trichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Trichlorofluoromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Vinyl chloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 16:41	
Surrogate: 1,2-Dichloroethane-d4	*92.0 %*	*64 - 155*		B2K0907	11/07/2022	*11/07/22 16:41*	
Surrogate: 4-Bromofluorobenzene	*94.7 %*	*73 - 124*		B2K0907	11/07/2022	*11/07/22 16:41*	
Surrogate: Dibromofluoromethane	*92.6 %*	*78 - 129*		B2K0907	11/07/2022	*11/07/22 16:41*	
Surrogate: Toluene-d8	*102 %*	*84 - 117*		B2K0907	11/07/2022	*11/07/22 16:41*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: CEFF

Lab ID: 2202784-02

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,1,1-Trichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,1,2-Trichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,1-Dichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,1-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,1-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,2,3-Trichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,2,3-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,2,4-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,2,4-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,2-Dibromoethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,2-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,2-Dichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,3,5-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,3-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,3-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
1,4-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
2,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
2-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
4-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
4-Isopropyltoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Benzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Bromobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Bromodichloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Bromoform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Bromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Carbon tetrachloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Chlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Chloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Chloroform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Chloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
cis-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
cis-1,3-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Dibromochloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Dibromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Dichlorodifluoromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Ethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: CEFF
Lab ID: 2202784-02

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Isopropylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
m,p-Xylene	ND	1.0	1	B2K0907	11/07/2022	11/07/22 19:43	
Methylene chloride	ND	1.0	1	B2K0907	11/07/2022	11/07/22 19:43	
n-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
n-Propylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Naphthalene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
o-Xylene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
sec-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Styrene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
tert-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Tetrachloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Toluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
trans-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Trichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Trichlorofluoromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Vinyl chloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 19:43	
Surrogate: 1,2-Dichloroethane-d4	*92.8 %*	*64 - 155*		B2K0907	11/07/2022	*11/07/22 19:43*	
Surrogate: 4-Bromofluorobenzene	*96.2 %*	*73 - 124*		B2K0907	11/07/2022	*11/07/22 19:43*	
Surrogate: Dibromofluoromethane	*94.9 %*	*78 - 129*		B2K0907	11/07/2022	*11/07/22 19:43*	
Surrogate: Toluene-d8	*100 %*	*84 - 117*		B2K0907	11/07/2022	*11/07/22 19:43*	

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	B2K1012	11/09/2022	11/09/22 17:19	
Surrogate: 1,2-Dichlorobenzene-d4	*107 %*	*13 - 99*		B2K1012	11/09/2022	*11/09/22 17:19*	S12
Surrogate: 2-Fluorobiphenyl	*111 %*	*8 - 111*		B2K1012	11/09/2022	*11/09/22 17:19*	S12
Surrogate: 4-Terphenyl-d14	*115 %*	*12 - 113*		B2K1012	11/09/2022	*11/09/22 17:19*	S12
Surrogate: Nitrobenzene-d5	*106 %*	*15 - 121*		B2K1012	11/09/2022	*11/09/22 17:19*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: CBT

Lab ID: 2202784-03

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,1,1-Trichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,1,2-Trichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,1-Dichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,1-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,1-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,2,3-Trichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,2,3-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,2,4-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,2,4-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,2-Dibromoethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,2-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,2-Dichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,3,5-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,3-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,3-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
1,4-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
2,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
2-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
4-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
4-Isopropyltoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Benzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Bromobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Bromodichloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Bromoform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Bromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Carbon tetrachloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Chlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Chloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Chloroform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Chloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
cis-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
cis-1,3-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Dibromochloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Dibromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Dichlorodifluoromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Ethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: CBT
Lab ID: 2202784-03

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Isopropylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
m,p-Xylene	ND	1.0	1	B2K0907	11/07/2022	11/07/22 20:09	
Methylene chloride	ND	1.0	1	B2K0907	11/07/2022	11/07/22 20:09	
n-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
n-Propylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Naphthalene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
o-Xylene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
sec-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Styrene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
tert-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Tetrachloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Toluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
trans-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Trichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Trichlorofluoromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Vinyl chloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:09	
Surrogate: 1,2-Dichloroethane-d4	*95.1 %*	*64 - 155*		B2K0907	11/07/2022	*11/07/22 20:09*	
Surrogate: 4-Bromofluorobenzene	*97.4 %*	*73 - 124*		B2K0907	11/07/2022	*11/07/22 20:09*	
Surrogate: Dibromofluoromethane	*95.0 %*	*78 - 129*		B2K0907	11/07/2022	*11/07/22 20:09*	
Surrogate: Toluene-d8	*102 %*	*84 - 117*		B2K0907	11/07/2022	*11/07/22 20:09*	

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	B2K1012	11/09/2022	11/09/22 17:44	
Surrogate: 1,2-Dichlorobenzene-d4	*117 %*	*13 - 99*		B2K1012	11/09/2022	*11/09/22 17:44*	S12
Surrogate: 2-Fluorobiphenyl	*122 %*	*8 - 111*		B2K1012	11/09/2022	*11/09/22 17:44*	S12
Surrogate: 4-Terphenyl-d14	*134 %*	*12 - 113*		B2K1012	11/09/2022	*11/09/22 17:44*	S1
Surrogate: Nitrobenzene-d5	*69.8 %*	*15 - 121*		B2K1012	11/09/2022	*11/09/22 17:44*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: POX

Lab ID: 2202784-04

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,1,1-Trichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,1,2-Trichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,1-Dichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,1-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,1-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,2,3-Trichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,2,3-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,2,4-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,2,4-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,2-Dibromoethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,2-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,2-Dichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,3,5-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,3-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,3-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
1,4-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
2,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
2-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
4-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
4-Isopropyltoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Benzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Bromobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Bromodichloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Bromoform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Bromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Carbon tetrachloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Chlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Chloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Chloroform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Chloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
cis-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
cis-1,3-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Dibromochloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Dibromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Dichlorodifluoromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Ethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: POX
Lab ID: 2202784-04

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Isopropylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
m,p-Xylene	ND	1.0	1	B2K0907	11/07/2022	11/07/22 20:35	
Methylene chloride	ND	1.0	1	B2K0907	11/07/2022	11/07/22 20:35	
n-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
n-Propylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Naphthalene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
o-Xylene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
sec-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Styrene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
tert-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Tetrachloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Toluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
trans-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Trichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Trichlorofluoromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Vinyl chloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 20:35	
Surrogate: 1,2-Dichloroethane-d4	*97.2 %*	*64 - 155*		B2K0907	11/07/2022	*11/07/22 20:35*	
Surrogate: 4-Bromofluorobenzene	*97.5 %*	*73 - 124*		B2K0907	11/07/2022	*11/07/22 20:35*	
Surrogate: Dibromofluoromethane	*95.0 %*	*78 - 129*		B2K0907	11/07/2022	*11/07/22 20:35*	
Surrogate: Toluene-d8	*100 %*	*84 - 117*		B2K0907	11/07/2022	*11/07/22 20:35*	

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	B2K1012	11/09/2022	11/09/22 18:09	
Surrogate: 1,2-Dichlorobenzene-d4	*107 %*	*13 - 99*		B2K1012	11/09/2022	*11/09/22 18:09*	S12
Surrogate: 2-Fluorobiphenyl	*110 %*	*8 - 111*		B2K1012	11/09/2022	*11/09/22 18:09*	
Surrogate: 4-Terphenyl-d14	*118 %*	*12 - 113*		B2K1012	11/09/2022	*11/09/22 18:09*	S12
Surrogate: Nitrobenzene-d5	*103 %*	*15 - 121*		B2K1012	11/09/2022	*11/09/22 18:09*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: INF

Lab ID: 2202784-06

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,1,1-Trichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,1,2-Trichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,1-Dichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,1-Dichloroethene	**46**	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,1-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,2,3-Trichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,2,3-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,2,4-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,2,4-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,2-Dibromoethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,2-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,2-Dichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,3,5-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,3-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,3-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
1,4-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
2,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
2-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
4-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
4-Isopropyltoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Benzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Bromobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Bromodichloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Bromoform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Bromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Carbon tetrachloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Chlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Chloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Chloroform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Chloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
cis-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
cis-1,3-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Dibromochloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Dibromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Dichlorodifluoromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Ethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: INF
Lab ID: 2202784-06

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Isopropylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
m,p-Xylene	ND	1.0	1	B2K0907	11/07/2022	11/07/22 21:01	
Methylene chloride	ND	1.0	1	B2K0907	11/07/2022	11/07/22 21:01	
n-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
n-Propylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Naphthalene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
o-Xylene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
sec-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Styrene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
tert-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Tetrachloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Toluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
trans-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Trichloroethene	**0.64**	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Trichlorofluoromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Vinyl chloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:01	
Surrogate: 1,2-Dichloroethane-d4	*98.9 %*	*64 - 155*		B2K0907	11/07/2022	*11/07/22 21:01*	
Surrogate: 4-Bromofluorobenzene	*96.4 %*	*73 - 124*		B2K0907	11/07/2022	*11/07/22 21:01*	
Surrogate: Dibromofluoromethane	*98.1 %*	*78 - 129*		B2K0907	11/07/2022	*11/07/22 21:01*	
Surrogate: Toluene-d8	*99.1 %*	*84 - 117*		B2K0907	11/07/2022	*11/07/22 21:01*	

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	**16**	2.0	1	B2K0893	11/04/2022	11/07/22 12:57	
Surrogate: 1,2-Dichlorobenzene-d4	*95.9 %*	*17 - 119*		B2K0893	11/04/2022	*11/07/22 12:57*	
Surrogate: 2-Fluorobiphenyl	*91.4 %*	*10 - 133*		B2K0893	11/04/2022	*11/07/22 12:57*	
Surrogate: 4-Terphenyl-d14	*101 %*	*5 - 139*		B2K0893	11/04/2022	*11/07/22 12:57*	
Surrogate: Nitrobenzene-d5	*76.5 %*	*13 - 150*		B2K0893	11/04/2022	*11/07/22 12:57*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: EW-02

Lab ID: 2202784-07

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,1,1-Trichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,1,2-Trichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,1-Dichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,1-Dichloroethene	**11**	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,1-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,2,3-Trichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,2,3-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,2,4-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,2,4-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,2-Dibromoethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,2-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,2-Dichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,3,5-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,3-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,3-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
1,4-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
2,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
2-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
4-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
4-Isopropyltoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Benzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Bromobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Bromodichloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Bromoform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Bromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Carbon tetrachloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Chlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Chloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Chloroform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Chloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
cis-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
cis-1,3-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Dibromochloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Dibromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Dichlorodifluoromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Ethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: EW-02
Lab ID: 2202784-07

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Isopropylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
m,p-Xylene	ND	1.0	1	B2K0907	11/07/2022	11/07/22 21:27	
Methylene chloride	ND	1.0	1	B2K0907	11/07/2022	11/07/22 21:27	
n-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
n-Propylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Naphthalene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
o-Xylene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
sec-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Styrene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
tert-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Tetrachloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Toluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
trans-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Trichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Trichlorofluoromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Vinyl chloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:27	
Surrogate: 1,2-Dichloroethane-d4	*100 %*	*64 - 155*		B2K0907	11/07/2022	*11/07/22 21:27*	
Surrogate: 4-Bromofluorobenzene	*97.7 %*	*73 - 124*		B2K0907	11/07/2022	*11/07/22 21:27*	
Surrogate: Dibromofluoromethane	*97.8 %*	*78 - 129*		B2K0907	11/07/2022	*11/07/22 21:27*	
Surrogate: Toluene-d8	*100 %*	*84 - 117*		B2K0907	11/07/2022	*11/07/22 21:27*	

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	B2K0893	11/04/2022	11/07/22 13:24	
Surrogate: 1,2-Dichlorobenzene-d4	*100 %*	*17 - 119*		B2K0893	11/04/2022	*11/07/22 13:24*	
Surrogate: 2-Fluorobiphenyl	*99.7 %*	*10 - 133*		B2K0893	11/04/2022	*11/07/22 13:24*	
Surrogate: 4-Terphenyl-d14	*109 %*	*5 - 139*		B2K0893	11/04/2022	*11/07/22 13:24*	
Surrogate: Nitrobenzene-d5	*71.2 %*	*13 - 150*		B2K0893	11/04/2022	*11/07/22 13:24*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: MW-29
Lab ID: 2202784-08

Volatile Organic Compounds by EPA 8260B **Analyst: HH**

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1,1,1,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,1,1-Trichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,1,2,2-Tetrachloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,1,2-Trichloroethane	**0.56**	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,1-Dichloroethane	**1.4**	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,1-Dichloroethene	**130**	5.0	10	B2K0907	11/07/2022	11/07/22 22:20	
1,1-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,2,3-Trichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,2,3-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,2,4-Trichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,2,4-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,2-Dibromo-3-chloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,2-Dibromoethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,2-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,2-Dichloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,3,5-Trimethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,3-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,3-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
1,4-Dichlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
2,2-Dichloropropane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
2-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
4-Chlorotoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
4-Isopropyltoluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Benzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Bromobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Bromodichloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Bromoform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Bromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Carbon tetrachloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Chlorobenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Chloroethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Chloroform	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Chloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
cis-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
cis-1,3-Dichloropropene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Dibromochloromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Dibromomethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Dichlorodifluoromethane	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Ethylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

Client Sample ID: MW-29
Lab ID: 2202784-08

Volatile Organic Compounds by EPA 8260B

Analyst: HH

Analyte	Result (ug/L)	PQL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Hexachlorobutadiene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Isopropylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
m,p-Xylene	ND	1.0	1	B2K0907	11/07/2022	11/07/22 21:53	
Methylene chloride	ND	1.0	1	B2K0907	11/07/2022	11/07/22 21:53	
n-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
n-Propylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Naphthalene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
o-Xylene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
sec-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Styrene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
tert-Butylbenzene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Tetrachloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Toluene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
trans-1,2-Dichloroethene	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Trichloroethene	**2.0**	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Trichlorofluoromethane	**0.80**	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Vinyl chloride	ND	0.50	1	B2K0907	11/07/2022	11/07/22 21:53	
Surrogate: 1,2-Dichloroethane-d4	*98.9 %*	*64 - 155*		B2K0907	11/07/2022	*11/07/22 21:53*	
Surrogate: 1,2-Dichloroethane-d4	*96.5 %*	*64 - 155*		B2K0907	11/07/2022	*11/07/22 22:20*	
Surrogate: 4-Bromofluorobenzene	*93.7 %*	*73 - 124*		B2K0907	11/07/2022	*11/07/22 21:53*	
Surrogate: 4-Bromofluorobenzene	*94.0 %*	*73 - 124*		B2K0907	11/07/2022	*11/07/22 22:20*	
Surrogate: Dibromofluoromethane	*97.6 %*	*78 - 129*		B2K0907	11/07/2022	*11/07/22 21:53*	
Surrogate: Dibromofluoromethane	*96.2 %*	*78 - 129*		B2K0907	11/07/2022	*11/07/22 22:20*	
Surrogate: Toluene-d8	*101 %*	*84 - 117*		B2K0907	11/07/2022	*11/07/22 21:53*	
Surrogate: Toluene-d8	*101 %*	*84 - 117*		B2K0907	11/07/2022	*11/07/22 22:20*	

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	**61**	2.0	1	B2K0893	11/04/2022	11/07/22 13:51	
Surrogate: 1,2-Dichlorobenzene-d4	*99.6 %*	*17 - 119*		B2K0893	11/04/2022	*11/07/22 13:51*	
Surrogate: 2-Fluorobiphenyl	*90.3 %*	*10 - 133*		B2K0893	11/04/2022	*11/07/22 13:51*	
Surrogate: 4-Terphenyl-d14	*105 %*	*5 - 139*		B2K0893	11/04/2022	*11/07/22 13:51*	
Surrogate: Nitrobenzene-d5	*73.5 %*	*13 - 150*		B2K0893	11/04/2022	*11/07/22 13:51*	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

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 B2K0878 - No_Prep_WC1_W										
Blank (B2K0878-BLK1)						Prepared: 11/4/2022 Analyzed: 11/4/2022				
Residue, Suspended	ND	1.0	1.0							
LCS (B2K0878-BS1)						Prepared: 11/4/2022 Analyzed: 11/4/2022				
Residue, Suspended	101.000	10	10	100.000		101	80 - 120			
Duplicate (B2K0878-DUP1)			**Source: 2202729-01**			Prepared: 11/4/2022 Analyzed: 11/4/2022				
Residue, Suspended	178.000	20	20		170.000			4.60	10	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

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 B2K0907 - MSVOA_LL_W										
Blank (B2K0907-BLK1)							Prepared: 11/7/2022 Analyzed: 11/7/2022			
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	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

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 B2K0907 - MSVOA_LL_W (continued)										
Blank (B2K0907-BLK1) - Continued						Prepared: 11/7/2022 Analyzed: 11/7/2022				
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	*23.18*			*25.0000*		*92.7*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*24.10*			*25.0000*		*96.4*	*73 - 124*			
Surrogate: Dibromofluoromethane	*23.55*			*25.0000*		*94.2*	*78 - 129*			
Surrogate: Toluene-d8	*25.22*			*25.0000*		*101*	*84 - 117*			
LCS (B2K0907-BS1)						Prepared: 11/7/2022 Analyzed: 11/7/2022				
1,1,1,2-Tetrachloroethane	20.0100	0.50	0.11	20.0000		100	79 - 116			
1,1,1-Trichloroethane	17.0600	0.50	0.21	20.0000		85.3	73 - 130			
1,1,2,2-Tetrachloroethane	21.6800	0.50	0.36	20.0000		108	71 - 122			
1,1,2-Trichloroethane	19.6000	0.50	0.25	20.0000		98.0	70 - 124			
1,1-Dichloroethane	17.4700	0.50	0.09	20.0000		87.4	69 - 128			
1,1-Dichloroethene	17.2500	0.50	0.13	20.0000		86.2	65 - 137			
1,1-Dichloropropene	18.2000	0.50	0.13	20.0000		91.0	74 - 129			
1,2,3-Trichloropropane	21.1300	0.50	0.39	20.0000		106	74 - 123			
1,2,3-Trichlorobenzene	25.1300	0.50	0.18	20.0000		126	59 - 130			
1,2,4-Trichlorobenzene	21.9300	0.50	0.16	20.0000		110	65 - 125			
1,2,4-Trimethylbenzene	19.0900	0.50	0.14	20.0000		95.4	88 - 124			
1,2-Dibromo-3-chloropropane	21.9000	0.50	0.41	20.0000		110	61 - 127			
1,2-Dibromoethane	19.1500	0.50	0.24	20.0000		95.8	72 - 125			
1,2-Dichlorobenzene	19.6600	0.50	0.20	20.0000		98.3	84 - 113			
1,2-Dichloroethane	18.9100	0.50	0.20	20.0000		94.6	68 - 130			
1,2-Dichloropropane	19.3900	0.50	0.15	20.0000		97.0	77 - 121			
1,3,5-Trimethylbenzene	18.6300	0.50	0.13	20.0000		93.2	83 - 124			
1,3-Dichlorobenzene	19.3400	0.50	0.16	20.0000		96.7	83 - 112			
1,3-Dichloropropane	19.2700	0.50	0.21	20.0000		96.4	77 - 119			
1,4-Dichlorobenzene	19.1000	0.50	0.17	20.0000		95.5	79 - 115			
2,2-Dichloropropane	18.2700	0.50	0.38	20.0000		91.4	67 - 149			
2-Chlorotoluene	18.3500	0.50	0.11	20.0000		91.8	81 - 119			
4-Chlorotoluene	18.3900	0.50	0.12	20.0000		92.0	86 - 117			
4-Isopropyltoluene	19.0800	0.50	0.11	20.0000		95.4	82 - 131			
Benzene	18.1200	0.50	0.13	20.0000		90.6	75 - 124			
Bromobenzene	18.3600	0.50	0.21	20.0000		91.8	82 - 108			
Bromodichloromethane	19.3800	0.50	0.14	20.0000		96.9	80 - 120			

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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 B2K0907 - MSVOA_LL_W (continued)										
LCS (B2K0907-BS1) - Continued						Prepared: 11/7/2022 Analyzed: 11/7/2022				
Bromoform	19.8500	0.50	0.20	20.0000		99.2	70 - 123			
Bromomethane	15.9100	0.50	0.40	20.0000		79.6	44 - 151			
Carbon tetrachloride	17.9500	0.50	0.09	20.0000		89.8	62 - 140			
Chlorobenzene	19.3600	0.50	0.13	20.0000		96.8	80 - 112			
Chloroethane	17.7100	0.50	0.15	20.0000		88.6	42 - 167			
Chloroform	17.9500	0.50	0.11	20.0000		89.8	77 - 122			
Chloromethane	14.3200	0.50	0.12	20.0000		71.6	33 - 153			
cis-1,2-Dichloroethene	17.1800	0.50	0.14	20.0000		85.9	75 - 121			
cis-1,3-Dichloropropene	18.9700	0.50	0.13	20.0000		94.8	73 - 127			
Dibromochloromethane	19.4900	0.50	0.16	20.0000		97.4	77 - 122			
Dibromomethane	19.1700	0.50	0.19	20.0000		95.8	75 - 121			
Dichlorodifluoromethane	10.7200	0.50	0.18	20.0000		53.6	0 - 171			
Ethylbenzene	19.0100	0.50	0.13	20.0000		95.0	82 - 119			
Hexachlorobutadiene	19.3400	0.50	0.15	20.0000		96.7	71 - 131			
Isopropylbenzene	18.5500	0.50	0.10	20.0000		92.8	75 - 126			
m,p-Xylene	38.6300	1.0	0.19	40.0000		96.6	86 - 119			
Methylene chloride	17.6300	1.0	0.71	20.0000		88.2	76 - 125			
n-Butylbenzene	19.2700	0.50	0.11	20.0000		96.4	81 - 125			
n-Propylbenzene	18.5600	0.50	0.10	20.0000		92.8	78 - 130			
Naphthalene	26.3900	0.50	0.41	20.0000		132	47 - 128			L4
o-Xylene	19.1000	0.50	0.13	20.0000		95.5	85 - 119			
sec-Butylbenzene	18.7200	0.50	0.09	20.0000		93.6	78 - 130			
Styrene	19.8100	0.50	0.13	20.0000		99.0	62 - 148			
tert-Butylbenzene	18.3100	0.50	0.09	20.0000		91.6	77 - 125			
Tetrachloroethene	18.8500	0.50	0.10	20.0000		94.2	73 - 120			
Toluene	18.8700	0.50	0.12	20.0000		94.4	79 - 119			
trans-1,2-Dichloroethene	16.9100	0.50	0.09	20.0000		84.6	70 - 129			
Trichloroethene	18.1000	0.50	0.10	20.0000		90.5	73 - 117			
Trichlorofluoromethane	16.7500	0.50	0.23	20.0000		83.8	59 - 135			
Vinyl chloride	14.9300	0.50	0.13	20.0000		74.6	58 - 132			
Surrogate: 1,2-Dichloroethane-d4	*23.24*			*25.0000*		*93.0*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*24.33*			*25.0000*		*97.3*	*73 - 124*			
Surrogate: Dibromofluoromethane	*23.30*			*25.0000*		*93.2*	*78 - 129*			
Surrogate: Toluene-d8	*24.80*			*25.0000*		*99.2*	*84 - 117*			
LCS Dup (B2K0907-BSD1)						Prepared: 11/7/2022 Analyzed: 11/7/2022				
1,1,1,2-Tetrachloroethane	18.6800	0.50	0.11	20.0000		93.4	79 - 116	6.88	20	
1,1,1-Trichloroethane	16.0200	0.50	0.21	20.0000		80.1	73 - 130	6.29	20	
1,1,2,2-Tetrachloroethane	22.0600	0.50	0.36	20.0000		110	71 - 122	1.74	20	
1,1,2-Trichloroethane	19.5400	0.50	0.25	20.0000		97.7	70 - 124	0.307	20	
1,1-Dichloroethane	16.4800	0.50	0.09	20.0000		82.4	69 - 128	5.83	20	
1,1-Dichloroethene	15.8300	0.50	0.13	20.0000		79.2	65 - 137	8.59	20	
1,1-Dichloropropene	16.9100	0.50	0.13	20.0000		84.6	74 - 129	7.35	20	
1,2,3-Trichloropropane	21.2600	0.50	0.39	20.0000		106	74 - 123	0.613	20	
1,2,3-Trichlorobenzene	24.2600	0.50	0.18	20.0000		121	59 - 130	3.52	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	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0907 - MSVOA_LL_W (continued)										
LCS Dup (B2K0907-BSD1) - Continued						Prepared: 11/7/2022 Analyzed: 11/7/2022				
1,2,4-Trichlorobenzene	20.7400	0.50	0.16	20.0000		104	65 - 125	5.58	20	
1,2,4-Trimethylbenzene	18.1400	0.50	0.14	20.0000		90.7	88 - 124	5.10	20	
1,2-Dibromo-3-chloropropane	22.4000	0.50	0.41	20.0000		112	61 - 127	2.26	20	
1,2-Dibromoethane	19.0200	0.50	0.24	20.0000		95.1	72 - 125	0.681	20	
1,2-Dichlorobenzene	18.8300	0.50	0.20	20.0000		94.2	84 - 113	4.31	20	
1,2-Dichloroethane	18.6200	0.50	0.20	20.0000		93.1	68 - 130	1.55	20	
1,2-Dichloropropane	18.2000	0.50	0.15	20.0000		91.0	77 - 121	6.33	20	
1,3,5-Trimethylbenzene	17.8500	0.50	0.13	20.0000		89.2	83 - 124	4.28	20	
1,3-Dichlorobenzene	18.2200	0.50	0.16	20.0000		91.1	83 - 112	5.96	20	
1,3-Dichloropropane	18.9200	0.50	0.21	20.0000		94.6	77 - 119	1.83	20	
1,4-Dichlorobenzene	18.4200	0.50	0.17	20.0000		92.1	79 - 115	3.62	20	
2,2-Dichloropropane	16.7500	0.50	0.38	20.0000		83.8	67 - 149	8.68	20	
2-Chlorotoluene	17.5800	0.50	0.11	20.0000		87.9	81 - 119	4.29	20	
4-Chlorotoluene	17.5000	0.50	0.12	20.0000		87.5	86 - 117	4.96	20	
4-Isopropyltoluene	18.1200	0.50	0.11	20.0000		90.6	82 - 131	5.16	20	
Benzene	17.0100	0.50	0.13	20.0000		85.0	75 - 124	6.32	20	
Bromobenzene	18.1700	0.50	0.21	20.0000		90.8	82 - 108	1.04	20	
Bromodichloromethane	18.5900	0.50	0.14	20.0000		93.0	80 - 120	4.16	20	
Bromoform	19.9900	0.50	0.20	20.0000		100	70 - 123	0.703	20	
Bromomethane	15.2100	0.50	0.40	20.0000		76.0	44 - 151	4.50	20	
Carbon tetrachloride	16.3900	0.50	0.09	20.0000		82.0	62 - 140	9.09	20	
Chlorobenzene	18.1100	0.50	0.13	20.0000		90.6	80 - 112	6.67	20	
Chloroethane	16.6900	0.50	0.15	20.0000		83.4	42 - 167	5.93	20	
Chloroform	17.0900	0.50	0.11	20.0000		85.4	77 - 122	4.91	20	
Chloromethane	13.1800	0.50	0.12	20.0000		65.9	33 - 153	8.29	20	
cis-1,2-Dichloroethene	16.0300	0.50	0.14	20.0000		80.2	75 - 121	6.93	20	
cis-1,3-Dichloropropene	18.5600	0.50	0.13	20.0000		92.8	73 - 127	2.18	20	
Dibromochloromethane	19.1200	0.50	0.16	20.0000		95.6	77 - 122	1.92	20	
Dibromomethane	18.4300	0.50	0.19	20.0000		92.2	75 - 121	3.94	20	
Dichlorodifluoromethane	10.0900	0.50	0.18	20.0000		50.4	0 - 171	6.05	20	
Ethylbenzene	17.9900	0.50	0.13	20.0000		90.0	82 - 119	5.51	20	
Hexachlorobutadiene	17.4400	0.50	0.15	20.0000		87.2	71 - 131	10.3	20	
Isopropylbenzene	17.5800	0.50	0.10	20.0000		87.9	75 - 126	5.37	20	
m,p-Xylene	36.3400	1.0	0.19	40.0000		90.8	86 - 119	6.11	20	
Methylene chloride	16.8100	1.0	0.71	20.0000		84.0	76 - 125	4.76	20	
n-Butylbenzene	17.9700	0.50	0.11	20.0000		89.8	81 - 125	6.98	20	
n-Propylbenzene	17.6000	0.50	0.10	20.0000		88.0	78 - 130	5.31	20	
Naphthalene	25.7400	0.50	0.41	20.0000		129	47 - 128	2.49	20	L3
o-Xylene	18.2700	0.50	0.13	20.0000		91.4	85 - 119	4.44	20	
sec-Butylbenzene	17.6000	0.50	0.09	20.0000		88.0	78 - 130	6.17	20	
Styrene	18.5800	0.50	0.13	20.0000		92.9	62 - 148	6.41	20	
tert-Butylbenzene	17.4000	0.50	0.09	20.0000		87.0	77 - 125	5.10	20	
Tetrachloroethene	17.3800	0.50	0.10	20.0000		86.9	73 - 120	8.11	20	
Toluene	17.7000	0.50	0.12	20.0000		88.5	79 - 119	6.40	20	
trans-1,2-Dichloroethene	15.8000	0.50	0.09	20.0000		79.0	70 - 129	6.79	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	% Rec Limits	RPD	RPD Limit	Notes
Batch B2K0907 - MSVOA_LL_W (continued)										
LCS Dup (B2K0907-BSD1) - Continued						Prepared: 11/7/2022 Analyzed: 11/7/2022				
Trichloroethene	16.8300	0.50	0.10	20.0000		84.2	73 - 117	7.27	20	
Trichlorofluoromethane	15.4400	0.50	0.23	20.0000		77.2	59 - 135	8.14	20	
Vinyl chloride	13.9700	0.50	0.13	20.0000		69.8	58 - 132	6.64	20	
Surrogate: 1,2-Dichloroethane-d4	*23.69*			*25.0000*		*94.8*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*24.94*			*25.0000*		*99.8*	*73 - 124*			
Surrogate: Dibromofluoromethane	*23.77*			*25.0000*		*95.1*	*78 - 129*			
Surrogate: Toluene-d8	*24.93*			*25.0000*		*99.7*	*84 - 117*			
Matrix Spike (B2K0907-MS1)			**Source: 2202785-02**			Prepared: 11/7/2022 Analyzed: 11/7/2022				
1,1,1,2-Tetrachloroethane	20.7700	0.50	0.11	20.0000	ND	104	81 - 133			
1,1,1-Trichloroethane	19.7600	0.50	0.21	20.0000	ND	98.8	93 - 149			
1,1,2,2-Tetrachloroethane	20.9100	0.50	0.36	20.0000	ND	105	69 - 151			
1,1,2-Trichloroethane	20.1200	0.50	0.25	20.0000	ND	101	78 - 130			
1,1-Dichloroethane	19.9800	0.50	0.09	20.0000	ND	99.9	68 - 135			
1,1-Dichloroethene	20.0600	0.50	0.13	20.0000	ND	100	77 - 134			
1,1-Dichloropropene	21.7000	0.50	0.13	20.0000	ND	108	91 - 138			
1,2,3-Trichloropropane	20.1300	0.50	0.39	20.0000	ND	101	77 - 136			
1,2,3-Trichlorobenzene	26.0300	0.50	0.18	20.0000	ND	130	72 - 129			M2
1,2,4-Trichlorobenzene	22.4700	0.50	0.16	20.0000	ND	112	64 - 135			
1,2,4-Trimethylbenzene	21.2600	0.50	0.14	20.0000	ND	106	10 - 179			
1,2-Dibromo-3-chloropropane	19.7000	0.50	0.41	20.0000	ND	98.5	62 - 153			
1,2-Dibromoethane	18.8700	0.50	0.24	20.0000	ND	94.4	80 - 132			
1,2-Dichlorobenzene	20.6000	0.50	0.20	20.0000	ND	103	81 - 131			
1,2-Dichloroethane	20.5400	0.50	0.20	20.0000	ND	103	68 - 146			
1,2-Dichloropropane	20.9500	0.50	0.15	20.0000	ND	105	74 - 136			
1,3,5-Trimethylbenzene	20.7500	0.50	0.13	20.0000	ND	104	66 - 149			
1,3-Dichlorobenzene	21.1200	0.50	0.16	20.0000	ND	106	79 - 128			
1,3-Dichloropropane	19.6300	0.50	0.21	20.0000	ND	98.2	80 - 129			
1,4-Dichlorobenzene	20.5200	0.50	0.17	20.0000	ND	103	84 - 121			
2,2-Dichloropropane	20.9200	0.50	0.38	20.0000	ND	105	63 - 179			
2-Chlorotoluene	20.5000	0.50	0.11	20.0000	ND	102	76 - 142			
4-Chlorotoluene	20.3200	0.50	0.12	20.0000	ND	102	72 - 152			
4-Isopropyltoluene	21.6700	0.50	0.11	20.0000	ND	108	84 - 141			
Benzene	20.4800	0.50	0.13	20.0000	ND	102	79 - 131			
Bromobenzene	19.9900	0.50	0.21	20.0000	ND	100	82 - 121			
Bromodichloromethane	20.4100	0.50	0.14	20.0000	ND	102	86 - 138			
Bromoform	19.8100	0.50	0.20	20.0000	ND	99.0	80 - 136			
Bromomethane	21.7900	0.50	0.40	20.0000	ND	109	35 - 194			
Carbon tetrachloride	20.8800	0.50	0.09	20.0000	ND	104	73 - 176			
Chlorobenzene	21.0500	0.50	0.13	20.0000	ND	105	81 - 124			
Chloroethane	21.6700	0.50	0.15	20.0000	ND	108	0 - 257			
Chloroform	19.9000	0.50	0.11	20.0000	ND	99.5	76 - 139			
Chloromethane	18.9000	0.50	0.12	20.0000	ND	94.5	27 - 144			
cis-1,2-Dichloroethene	19.1900	0.50	0.14	20.0000	ND	96.0	69 - 139			
cis-1,3-Dichloropropene	20.6100	0.50	0.13	20.0000	ND	103	67 - 149			

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 : 11/23/2022

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 B2K0907 - MSVOA_LL_W (continued)										
Matrix Spike (B2K0907-MS1) - Continued			**Source: 2202785-02**			Prepared: 11/7/2022 Analyzed: 11/7/2022				
Dibromochloromethane	19.2800	0.50	0.16	20.0000	ND	96.4	91 - 131			
Dibromomethane	19.2900	0.50	0.19	20.0000	ND	96.4	70 - 134			
Dichlorodifluoromethane	17.8000	0.50	0.18	20.0000	ND	89.0	0 - 161			
Ethylbenzene	21.2800	0.50	0.13	20.0000	ND	106	89 - 134			
Hexachlorobutadiene	21.9700	0.50	0.15	20.0000	ND	110	73 - 137			
Isopropylbenzene	20.6000	0.50	0.10	20.0000	ND	103	72 - 152			
m,p-Xylene	42.8400	1.0	0.19	40.0000	ND	107	82 - 141			
Methylene chloride	18.2500	1.0	0.71	20.0000	ND	91.2	74 - 133			
n-Butylbenzene	22.4800	0.50	0.11	20.0000	ND	112	65 - 164			
n-Propylbenzene	21.2600	0.50	0.10	20.0000	ND	106	73 - 161			
Naphthalene	25.0900	0.50	0.41	20.0000	ND	125	59 - 105			M2
o-Xylene	20.8500	0.50	0.13	20.0000	ND	104	90 - 134			
sec-Butylbenzene	21.4600	0.50	0.09	20.0000	ND	107	80 - 157			
Styrene	21.2200	0.50	0.13	20.0000	ND	106	0 - 222			
tert-Butylbenzene	20.7400	0.50	0.09	20.0000	ND	104	88 - 141			
Tetrachloroethene	21.3000	0.50	0.10	20.0000	ND	106	75 - 136			
Toluene	20.8500	0.50	0.12	20.0000	ND	104	82 - 132			
trans-1,2-Dichloroethene	19.6900	0.50	0.09	20.0000	ND	98.4	65 - 135			
Trichloroethene	20.2800	0.50	0.10	20.0000	ND	101	75 - 128			
Trichlorofluoromethane	20.7700	0.50	0.23	20.0000	ND	104	89 - 143			
Vinyl chloride	19.8000	0.50	0.13	20.0000	ND	99.0	50 - 148			
Surrogate: 1,2-Dichloroethane-d4	*23.57*			*25.0000*		*94.3*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*25.16*			*25.0000*		*101*	*73 - 124*			
Surrogate: Dibromofluoromethane	*23.56*			*25.0000*		*94.2*	*78 - 129*			
Surrogate: Toluene-d8	*25.15*			*25.0000*		*101*	*84 - 117*			
Matrix Spike Dup (B2K0907-MSD1)			**Source: 2202785-02**			Prepared: 11/7/2022 Analyzed: 11/7/2022				
1,1,1,2-Tetrachloroethane	23.2400	0.50	0.11	20.0000	ND	116	81 - 133	11.2	20	
1,1,1-Trichloroethane	21.1300	0.50	0.21	20.0000	ND	106	93 - 149	6.70	20	
1,1,2,2-Tetrachloroethane	25.2300	0.50	0.36	20.0000	ND	126	69 - 151	18.7	20	
1,1,2-Trichloroethane	22.5600	0.50	0.25	20.0000	ND	113	78 - 130	11.4	20	
1,1-Dichloroethane	21.1900	0.50	0.09	20.0000	ND	106	68 - 135	5.88	20	
1,1-Dichloroethene	21.3400	0.50	0.13	20.0000	ND	107	77 - 134	6.18	20	
1,1-Dichloropropene	21.3800	0.50	0.13	20.0000	ND	107	91 - 138	1.49	20	
1,2,3-Trichloropropane	23.7900	0.50	0.39	20.0000	ND	119	77 - 136	16.7	20	
1,2,3-Trichlorobenzene	28.9700	0.50	0.18	20.0000	ND	145	72 - 129	10.7	20	M2
1,2,4-Trichlorobenzene	24.3800	0.50	0.16	20.0000	ND	122	64 - 135	8.15	20	
1,2,4-Trimethylbenzene	22.7500	0.50	0.14	20.0000	ND	114	10 - 179	6.77	20	
1,2-Dibromo-3-chloropropane	23.9500	0.50	0.41	20.0000	ND	120	62 - 153	19.5	20	
1,2-Dibromoethane	21.5400	0.50	0.24	20.0000	ND	108	80 - 132	13.2	20	
1,2-Dichlorobenzene	23.0600	0.50	0.20	20.0000	ND	115	81 - 131	11.3	20	
1,2-Dichloroethane	21.6100	0.50	0.20	20.0000	ND	108	68 - 146	5.08	20	
1,2-Dichloropropane	22.5600	0.50	0.15	20.0000	ND	113	74 - 136	7.40	20	
1,3,5-Trimethylbenzene	22.5700	0.50	0.13	20.0000	ND	113	66 - 149	8.40	20	
1,3-Dichlorobenzene	22.9000	0.50	0.16	20.0000	ND	114	79 - 128	8.09	20	

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

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 B2K0907 - MSVOA_LL_W (continued)										
Matrix Spike Dup (B2K0907-MSD1) - Continued			**Source: 2202785-02**			Prepared: 11/7/2022 Analyzed: 11/7/2022				
1,3-Dichloropropane	22.0600	0.50	0.21	20.0000	ND	110	80 - 129	11.7	20	
1,4-Dichlorobenzene	22.2300	0.50	0.17	20.0000	ND	111	84 - 121	8.00	20	
2,2-Dichloropropane	22.2800	0.50	0.38	20.0000	ND	111	63 - 179	6.30	20	
2-Chlorotoluene	22.2000	0.50	0.11	20.0000	ND	111	76 - 142	7.96	20	
4-Chlorotoluene	22.2000	0.50	0.12	20.0000	ND	111	72 - 152	8.84	20	
4-Isopropyltoluene	23.3900	0.50	0.11	20.0000	ND	117	84 - 141	7.63	20	
Benzene	21.4600	0.50	0.13	20.0000	ND	107	79 - 131	4.67	20	
Bromobenzene	22.1800	0.50	0.21	20.0000	ND	111	82 - 121	10.4	20	
Bromodichloromethane	21.6400	0.50	0.14	20.0000	ND	108	86 - 138	5.85	20	
Bromoform	22.0900	0.50	0.20	20.0000	ND	110	80 - 136	10.9	20	
Bromomethane	22.7100	0.50	0.40	20.0000	ND	114	35 - 194	4.13	20	
Carbon tetrachloride	21.9100	0.50	0.09	20.0000	ND	110	73 - 176	4.81	20	
Chlorobenzene	22.6700	0.50	0.13	20.0000	ND	113	81 - 124	7.41	20	
Chloroethane	22.5100	0.50	0.15	20.0000	ND	113	0 - 257	3.80	20	
Chloroform	21.2200	0.50	0.11	20.0000	ND	106	76 - 139	6.42	20	
Chloromethane	20.1200	0.50	0.12	20.0000	ND	101	27 - 144	6.25	20	
cis-1,2-Dichloroethene	20.7800	0.50	0.14	20.0000	ND	104	69 - 139	7.96	20	
cis-1,3-Dichloropropene	21.6000	0.50	0.13	20.0000	ND	108	67 - 149	4.69	20	
Dibromochloromethane	22.4700	0.50	0.16	20.0000	ND	112	91 - 131	15.3	20	
Dibromomethane	21.7200	0.50	0.19	20.0000	ND	109	70 - 134	11.9	20	
Dichlorodifluoromethane	18.0000	0.50	0.18	20.0000	ND	90.0	0 - 161	1.12	20	
Ethylbenzene	22.6700	0.50	0.13	20.0000	ND	113	89 - 134	6.33	20	
Hexachlorobutadiene	23.1200	0.50	0.15	20.0000	ND	116	73 - 137	5.10	20	
Isopropylbenzene	22.6700	0.50	0.10	20.0000	ND	113	72 - 152	9.57	20	
m,p-Xylene	45.7800	1.0	0.19	40.0000	ND	114	82 - 141	6.64	20	
Methylene chloride	19.6200	1.0	0.71	20.0000	ND	98.1	74 - 133	7.24	20	
n-Butylbenzene	23.7500	0.50	0.11	20.0000	ND	119	65 - 164	5.49	20	
n-Propylbenzene	22.7800	0.50	0.10	20.0000	ND	114	73 - 161	6.90	20	
Naphthalene	29.9000	0.50	0.41	20.0000	ND	150	59 - 105	17.5	20	M2
o-Xylene	22.3700	0.50	0.13	20.0000	ND	112	90 - 134	7.03	20	
sec-Butylbenzene	22.5200	0.50	0.09	20.0000	ND	113	80 - 157	4.82	20	
Styrene	23.0300	0.50	0.13	20.0000	ND	115	0 - 222	8.18	20	
tert-Butylbenzene	22.4800	0.50	0.09	20.0000	ND	112	88 - 141	8.05	20	
Tetrachloroethene	22.5700	0.50	0.10	20.0000	ND	113	75 - 136	5.79	20	
Toluene	22.0300	0.50	0.12	20.0000	ND	110	82 - 132	5.50	20	
trans-1,2-Dichloroethene	21.1000	0.50	0.09	20.0000	ND	106	65 - 135	6.91	20	
Trichloroethene	21.2100	0.50	0.10	20.0000	ND	106	75 - 128	4.48	20	
Trichlorofluoromethane	21.2800	0.50	0.23	20.0000	ND	106	89 - 143	2.43	20	
Vinyl chloride	20.6300	0.50	0.13	20.0000	ND	103	50 - 148	4.11	20	
Surrogate: 1,2-Dichloroethane-d4	*24.06*			*25.0000*		*96.2*	*64 - 155*			
Surrogate: 4-Bromofluorobenzene	*24.86*			*25.0000*		*99.4*	*73 - 124*			
Surrogate: Dibromofluoromethane	*23.81*			*25.0000*		*95.2*	*78 - 129*			
Surrogate: Toluene-d8	*24.41*			*25.0000*		*97.6*	*84 - 117*			

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

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 B2K0893 - MSSEMI_W										
Blank (B2K0893-BLK1)						Prepared: 11/4/2022 Analyzed: 11/7/2022				
1,4-Dioxane	ND	2.0	0.84							
Surrogate: 1,2-Dichlorobenzene-d4	*94.80*			*100.000*		*94.8*	*17 - 119*			
Surrogate: 2-Fluorobiphenyl	*97.22*			*100.000*		*97.2*	*10 - 133*			
Surrogate: 4-Terphenyl-d14	*110.5*			*100.000*		*111*	*5 - 139*			
Surrogate: Nitrobenzene-d5	*72.76*			*100.000*		*72.8*	*13 - 150*			
LCS (B2K0893-BS1)						Prepared: 11/4/2022 Analyzed: 11/7/2022				
1,4-Dioxane	67.1900	2.0	0.84	100.000		67.2	75 - 155			L2
Surrogate: 1,2-Dichlorobenzene-d4	*93.73*			*100.000*		*93.7*	*17 - 119*			
Surrogate: 2-Fluorobiphenyl	*98.33*			*100.000*		*98.3*	*10 - 133*			
Surrogate: 4-Terphenyl-d14	*103.2*			*100.000*		*103*	*5 - 139*			
Surrogate: Nitrobenzene-d5	*101.9*			*100.000*		*102*	*13 - 150*			
LCS Dup (B2K0893-BSD1)						Prepared: 11/4/2022 Analyzed: 11/7/2022				
1,4-Dioxane	72.8200	2.0	0.84	100.000		72.8	75 - 155	8.04	20	L3
Surrogate: 1,2-Dichlorobenzene-d4	*101.0*			*100.000*		*101*	*17 - 119*			
Surrogate: 2-Fluorobiphenyl	*97.76*			*100.000*		*97.8*	*10 - 133*			
Surrogate: 4-Terphenyl-d14	*105.5*			*100.000*		*106*	*5 - 139*			
Surrogate: Nitrobenzene-d5	*90.69*			*100.000*		*90.7*	*13 - 150*			

Certificate of Analysis

Hargis & Associates, Inc.	Project Number : Raytheon Main Gets Monthly Sample / 532.15
3131 Camino De Rio North Suite 355	Report To : Steve Netto
San Diego , CA 92108	Reported : 11/23/2022

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 B2K1012 - MSSEMI_W										
Blank (B2K1012-BLK1)						Prepared: 11/9/2022 Analyzed: 11/9/2022				
1,4-Dioxane	ND	0.20	0.05							
Surrogate: 1,2-Dichlorobenzene-d4	*1.068*			*1.00000*		*107*	*13 - 99*			S12
Surrogate: 2-Fluorobiphenyl	*1.130*			*1.00000*		*113*	*8 - 111*			S12
Surrogate: 4-Terphenyl-d14	*1.139*			*1.00000*		*114*	*12 - 113*			S12
Surrogate: Nitrobenzene-d5	*1.142*			*1.00000*		*114*	*15 - 121*			
LCS (B2K1012-BS1)						Prepared: 11/9/2022 Analyzed: 11/9/2022				
1,4-Dioxane	0.849350	0.20	0.05	1.00000		84.9	75 - 155			
Surrogate: 1,2-Dichlorobenzene-d4	*1.079*			*1.00000*		*108*	*13 - 99*			S12
Surrogate: 2-Fluorobiphenyl	*1.097*			*1.00000*		*110*	*8 - 111*			
Surrogate: 4-Terphenyl-d14	*1.132*			*1.00000*		*113*	*12 - 113*			S12
Surrogate: Nitrobenzene-d5	*1.125*			*1.00000*		*113*	*15 - 121*			
LCS Dup (B2K1012-BSD1)						Prepared: 11/9/2022 Analyzed: 11/9/2022				
1,4-Dioxane	1.04069	0.20	0.05	1.00000		104	75 - 155	20.2	20	R
Surrogate: 1,2-Dichlorobenzene-d4	*1.075*			*1.00000*		*107*	*13 - 99*			S12
Surrogate: 2-Fluorobiphenyl	*1.104*			*1.00000*		*110*	*8 - 111*			
Surrogate: 4-Terphenyl-d14	*1.160*			*1.00000*		*116*	*12 - 113*			S12
Surrogate: Nitrobenzene-d5	*1.179*			*1.00000*		*118*	*15 - 121*			

HARGIS+ASSOCIATES, INC.
HYDROGEOLOGY • ENGINEERING

2202784

Date: 11/3/2022
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: Danielle Gallaher

LAB ID	SAMPLE ID	SAMPLE COLLECTION Date	Time	MATRIX: Groundwater	Lab prepared water	PRESERVATION: Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)		Sulfuric Acid (H_2SO_4)	Ice	CONTAINERS: 40-ml VOA	125 mL Poly	60 mL Poly	125 mL Amber	1 L Poly	1L Amber	ANALYSIS REQUESTED: 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	Expected Concentration Range (ppb) for VOAs: 0 - 10	10 - 100	100 - 1,000	>1,000		SPECIAL HANDLING: 24 hr TAT	48 Hour TAT	5 Day TAT	Level IV Data Validation Requested	MS/MSD Requested	REMARKS
1	TB-110322	11/3/2022	8:00		X	X				X	2						X								X								X			
2	CEFF	11/3/2022	08:50	X		X				X	3					1	X								X	X							X			
3	CBT	11/3/2022	08:55	X		X				X	3					1	X								X	X							X			
4	POX	11/3/2022	09:00	X		X			X	X	5	1			1	1	X	X		X	X				X	X							X			
5	PF	11/3/2022	09:10	X					X	X	2			1	1					X	X	X	X										X			
6	INF	11/3/2022	09:15	X		X				X	3	2				1	X	X	X					X				X					X			
7	EW-02	11/3/2022	9:30	X		X				X	3	1				1	X		X					X			X						X			
8	MW-29	11/3/2022	9:55	X		X				X	3	1				1	X		X					X				X					X			
Total number of containers per analysis:											24	5		1	2	6																			Total No. of Containers: 38

Relinquished By: / Company:	Date / Time	Received By: / Company	Date / Time
H+A	11-3-22 @ 11:23	H+A	11-3-22 11:23
Relinquished By: / Company:	Date / Time	Received By: / Company	Date / Time
H+A	11-3-22 15:11	ATL	11/3/22 15:11

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

2.6 Temperature on receipt

Laboratory
Advanced Technology Laboratories
3275 Walnut Ave
Signal Hill, CA 90755
(562) 989-4045

REMARKS

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
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.

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Christine Caballero
SAMPLE I.D.: 2202784-04 / POX
MATRIX: Groundwater

REPORTING DATE: 11/21/2022
SAMPLE RECEIVED: 11/04/2022
LABORATORY NO.: 22-2680-1
DATE SAMPLED : 11/03/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW
PAGE: 1 OF 1

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Alkalinity, Total (as CaCO3)	213	mg/L	5.00	1	SM 2320 B	11/16/22
Bicarbonate (as CaCO3)	213	mg/L	5.00	1	SM 2320 B	11/16/22
Carbonate (as CaCO3)	ND	mg/L	5.00	1	SM 2320 B	11/16/22
Hydroxide (as CaCO3)	ND	mg/L	5.00	1	SM 2320 B	11/16/22
Total Organic Carbon	ND	mg/L	0.50	1	SM 5310 D	11/19/22
Bromate	ND	ug/L	25.0	5	EPA 300.1	11/11/22
Surrogate Recovery	Rec (%)			Control Limits		
Dichloroacetate (Surr)	114			90-115		

*ND: Parameter not detected at the indicated reporting limit.
SM 2320 B, SM 5310 D and EPA 300.1 were performed by partnership lab, CA State I.D. No. 3082 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

JK BioScience Environmental Laboratories

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Lena Davidkov
SAMPLE I.D.: 2202784-05 / PF
MATRIX: Groundwater

REPORTING DATE: 11/21/2022
SAMPLE RECEIVED: 11/04/2022
LABORATORY NO.: 22-2680-2
DATE SAMPLED : 11/03/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Alkalinity, Total (as CaCO3)	213	mg/L	5.00	1	SM 2320 B	11/16/22
Bicarbonate (as CaCO3)	213	mg/L	5.00	1	SM 2320 B	11/16/22
Carbonate (as CaCO3)	ND	mg/L	5.00	1	SM 2320 B	11/16/22
Hydroxide (as CaCO3)	ND	mg/L	5.00	1	SM 2320 B	11/16/22
Total Organic Carbon	ND	mg/L	0.50	1	SM 5310 D	11/19/22

*ND: Parameter not detected at the indicated reporting limit.
SM 2320 B and SM 5310 D were performed by partnership lab, CA State I.D. No. 3082 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Lena Davidkov
SAMPLE I.D.: 2202784-06 / INF
MATRIX: Groundwater

REPORTING DATE: 11/21/2022
SAMPLE RECEIVED: 11/04/2022
LABORATORY NO.: 22-2680-3
DATE SAMPLED : 11/03/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW
PAGE: 1 OF 1

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Bromide	0.26	mg/L	0.10	1	EPA 300.0	11/11/22
Bromate	ND	ug/L	25.0	5	EPA 300.1	11/11/22
Surrogate Recovery	Rec (%)			Control Limits		
Dichloroacetate (Surr)	105			90-115		

*ND: Parameter not detected at the indicated reporting limit.

EPA 300.0 and EPA 300.1 were performed by partnership lab, CA State I.D. No. 3082 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Lena Davidkov
SAMPLE I.D.: 2202784-07 / EW-02
MATRIX: Groundwater

REPORTING DATE: 11/21/2022
SAMPLE RECEIVED: 11/04/2022
LABORATORY NO.: 22-2680-4
DATE SAMPLED : 11/03/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW
PAGE: 1 OF 1

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Bromide	0.21	mg/L	0.10	1	EPA 300.0	11/11/22

* EPA 300.0 was performed by partnership lab, CA State I.D. No. 3082 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

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CERTIFICATE OF ANALYSIS

CLIENT: **Advanced Technology Laboratories**
3275 Walnut Avenue
Signal Hill, CA 90755

PROJECT CONT. PERSON: Lena Davidkov
SAMPLE I.D.: 2202784-08 / MW-29
MATRIX: Groundwater

REPORTING DATE: 11/21/2022
SAMPLE RECEIVED: 11/04/2022
LABORATORY NO.: 22-2680-5
DATE SAMPLED : 11/03/2022
CA STATE ELAP NO.: 2968
LACSD LAB I.D. NO.: 9249178
INVESTIGATION: SEE BELOW
PAGE: 1 OF 1

Parameter	Result	Units	Reporting Limit	Dil. Fac.	Method	Analyzed
Bromide	0.42	mg/L	0.10	1	EPA 300.0	11/11/22

* EPA 300.0 was performed by partnership lab, CA State I.D. No. 3082 & LACSD LAB I.D. No. 10109

Note: All results contained in the above report relate only to the items tested.
All samples received in satisfactory condition unless noted otherwise.
For Questions or Comments Contact: Jina R. Kim, 213-292-6474 or jkim@jkbioscience.com

Approval By: Jina R. Kim, Laboratory Director

Signature: 

ADVANCED TECHNOLOGY LABORATORIES

SUBCONTRACT ORDER

Work Order: 2202784

22-2680-1 thru 5

SENDING LABORATORY:

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Phone: 562.989.4045
Fax: 562.989.6348
Contact emails: subcontract@atlglobal.com
Project.Management@atlglobal.com
Sampler: Ruben Sanchez

RECEIVING LABORATORY:

JK Bioscience, Inc.
1926 E. Gladwick Street
Rancho Dominguez, CA 90220
Phone :(213) 292-6474
Fax:

IMPORTANT : Please 'J-Flag' results to MDL. Please include Work Order # and PO # in your invoice.

QC Requirements:
- [x] Routine
- [ ] MS/MSD
- [ ] Caltrans
- [ ] Level IV*
- [ ] DUP
- [ ] Other: _____

TAT Requirements:
- [x] Standard
- [ ] Rush _____ Days
- [ ] Fastest Possible

EDD Requirements:
- [ ] Standard Excel
- [ ] Geotracker EDF
- [ ] EQuis
- [ ] Other: _____

* All Level IV sample containers (including empty ones) must be returned to ATL 30 days after receipt.

Analysis	Expires	Sampled	Comments
ATL Lab#: 2202784-04 / POX	**Groundwater**	11/03/22 09:00	
5310B_SUB 22-2680-1 [Total Organic Carbon]	12/01/22 09:00		
Bromate_ICMS/MS_SUB [Bromate by IC-MS/MS]	12/01/22 09:00		
Speciated Alkalinity_2320B_SUB [Alkalinity, Speciated]	11/17/22 09:00		

Containers Supplied:
Voa Vial - H2S04 (D) | Voa Vial - H2S04 (E) | Poly Unpres - 125mL (H) | Poly Unpres - 125mL (I)

Prepared by: _____ 11/4/22
Sample Control Technician — Date

Inspected by: _____ 11/4/22
PM Lead / SC Lead — Date

Approved by: Lena D. 11/4/22
Dedicated ATL Project Manager — Date

_____	11/4/22	15:13			
Released By ATL Sample Control	Date	Time	Received By Courier	Date	Time
			_____	11/4/22	15:15
Released By Courier	Date	Time	Received By Subcontract Laboratory	Date	Time
Released By	Date	Time	Received By	Date	Time

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ADVANCED TECHNOLOGY LABORATORIES

SUBCONTRACT ORDER

Work Order: 2202784

Analysis	Expires	Sampled	Comments
ATL Lab#: 2202784-05 / PF	**Groundwater**	11/03/22 09:10	
5310B_SUB [Total Organic Carbon] 22-2680-2	12/01/22 09:10		
Speciated Alkalinity_2320B_SUB [Alkalinity, Speciated]	11/17/22 09:10		
Containers Supplied: Voa Vial - H2S04 (A); Voa Vial - H2S04 (B); Poly Unpres - 125mL (E)			
ATL Lab#: 2202784-06 / INF	**Groundwater**	11/03/22 09:15	
300_Bromide_SUB [Bromide by Ion Chromatography] 22-2680-3	12/01/22 09:15		
Bromate_ICMS/MS_SUB [Bromate by IC-MS/MS]	12/01/22 09:15		
Containers Supplied: Poly Unpres - 125mL (E); Poly Unpres - 125mL (F)			
ATL Lab#: 2202784-07 / EW-02	**Groundwater**	11/03/22 09:30	
300_Bromide_SUB [Bromide by Ion Chromatography] 22-2680-4	12/01/22 09:30		
Containers Supplied: Poly Unpres - 125mL (E)			
ATL Lab#: 2202784-08 / MW-29 22-2680-5	**Groundwater**	11/03/22 09:55	
300_Bromide_SUB [Bromide by Ion Chromatography]	12/01/22 09:55		
Containers Supplied: Poly Unpres - 125mL (E)			

Prepared by: _____ 11/4/22
Sample Control Technician — Date

Inspected by: _____ 11/4/22
PM Lead / SC Lead — Date

Approved by: _____ 11/4/22
Dedicated ATL Project Manager — Date

_____	11/4/22	15:13		
Released By ATL Sample Control	Date	Time	Received By Courier	Date / Time
			_____ 11/4/22 15:15	
Released By Courier	Date	Time	Received By Subcontract Laboratory	Date / Time
Released By	Date	Time	Received By	Date / Time