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June 14, 2023

New Mexico Oil Conservation Division
Energy, Minerals, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Subject: 2022 Annual Report
Former Giant Bloomfield Refinery
NMOCD Discharge Permit Number: GW-40
Western Refining Southwest LLC
San Juan County, New Mexico

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Western Refining Southwest, LLC (Western, an affiliate of Marathon Petroleum Company LP), has prepared this report detailing activities completed in 2022 at the former Giant Bloomfield Refinery (Site), Discharge Permit number GW-40, located in San Juan County, New Mexico.

SITE BACKGROUND

The Site is a former refinery currently owned by Western. It is located on the northeast corner of United States Highway 64 and County Road 3500, approximately 5 miles west of Bloomfield, New Mexico, in the southwest quarter of the southwest quarter of Section 22 and the northwest quarter of the northwest quarter of Section 27, Township 29 North, Range 12 West in San Juan County, New Mexico (Figure 1). The former refinery, under ownership of Giant Industries (Giant), produced gasoline, diesel, kerosene, and other refined petroleum products from 1974 to 1982 and has been inactive since closure in 1982.

In April 1985, a breach in a lagoon dike on the former Lee Acres Landfill property (located north adjacent to the Site), which had been retaining liquids in the lagoons, released liquid waste into an arroyo west of the Site. The arroyo drains south toward the Lee Acres Subdivision (located south adjacent to the Site), where the New Mexico Oil Conservation Division (NMOCD) and the New Mexico Environment Department (NMED) identified impacted groundwater in domestic water wells in 1986. In response, the NMOCD required Giant to investigate petroleum hydrocarbon impacts to groundwater downgradient of the former refinery. NMED also conducted a separate investigation to identify potential impacts from the landfill. The investigations identified two separate plumes of impacted groundwater that commingled across the Site and flowed downgradient into the Lee Acres Subdivision. Groundwater contaminants detected in the former refinery plume included phase-separated hydrocarbon (PSH) and dissolved-phase petroleum hydrocarbons. Groundwater contaminants associated with the Lee Acres Landfill included total dissolved solids (TDS), chloride, sulfate, metals, and volatile organic compounds (VOCs).

Detailed information regarding Site history, historical remediation efforts, and historical groundwater monitoring results are presented in WSP, Inc.'s (WSPs) *Stage 2 Abatement Plan,* dated May 18, 2021. The WSP *Stage 2 Abatement Plan* has not yet been approved by the

NMOCD. Pursuant to Discharge Permit GW-40, dated January 6, 2021, this report details interim Site activities performed in 2022.

2022 GROUNDWATER MONITORING ACTIVITIES

During 2022, groundwater was not recovered from on-Site wells, treated, and/or discharged into the infiltration gallery; however, Ensolum has continued to conduct groundwater monitoring activities from all viable on-Site wells. Further Site activities will be performed once the NMOCD approves the *Stage 2 Abatement Plan* prepared by WSP.

GROUNDWATER GAUGING

Gauging events were conducted by Ensolum in January, June, and December of 2022 using an oil-water interface probe. The interface probe was decontaminated with Alconox™ detergent and rinsed with distilled water before each measurement. Depth-to-water and depth-to-PSH measurements were used to calculate groundwater elevations at the Site to determine groundwater flow direction. Table 1 presents well construction information for all Site monitoring wells. Measurements and calculated groundwater elevations above mean sea level (AMSL) for each sampling event are presented in Table 2. Groundwater potentiometric surface maps and inferred groundwater flow directions for each event are also shown in Figures 2 through 4. Inferred groundwater flow direction at the Site is to the south.

2022 UPGRADIENT BLM SPLIT SAMPLING AND RESULTS

Ensolum was present and collected split groundwater samples during a Bureau of Land Management (BLM) groundwater sampling event conducted in April and September of 2022. Specifically, as part of their effort to assess residual manganese concentrations related to the Lee Acres Landfill Superfund site, the BLM collected groundwater samples from several Site wells located hydrologically downgradient of the Lee Acres Landfill. Ensolum was present during the sampling event and collected split samples from the following wells: GBR-32, GBR-48, and GBR-50. A sample from well GBR-17 was not collected during the 2022 sampling events due to tree roots penetrating the well screen and obstructing the well. Samples were collected using low flow purging and sampling methods. Specifically, groundwater was purged using a stainless-steel, impellor-driven submersible pump connected to a low-flow controller. Following well purging, groundwater samples were placed directly into laboratory-provided vials and labeled with the date and time of collection, well designation, project name, sample collector's name, and parameters to be analyzed. They were immediately sealed with zero headspace and packed on ice to preserve samples.

Samples were submitted to Hall Environmental Analysis Laboratory for analysis of VOCs following Environmental Protection Agency (EPA) Method 8260B, total and dissolved metals following EPA Method 6010B, anions following EPA Method 300.0, sulfide following Method SM 4500S2-H, dissolved organic carbon following Method SM 5310B, and TDS following Method SM 2540C. Analytical results, including Site historical results, are summarized on Tables 3, 4, and 5, with laboratory reports attached as Appendix A.

Because only upgradient wells GBR-32, GBR-48, and GBR-50 were sampled, iso-concentration maps were not developed for the constituents of concern for these sampling events. Once the *Stage 2 Abatement Plan,* drafted by WSP is approved, iso-concentration maps will be developed for the Site constituents of concern.

Ensolum appreciates the opportunity to provide this report to you. If you have any questions or comments regarding this report, do not hesitate to contact the undersigned.
Sincerely,

Ensolum, LLC

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Attachments:

Figure 1:	Site Location Map
Figure 2:	Groundwater Elevation Contour Map January 2022
Figure 3:	Groundwater Elevation Contour Map June 2022
Figure 4:	Groundwater Elevation Contour Map December 2022
Table 1:	Well Construction Information
Table 2:	Groundwater Elevations and Thickness of Phase-Separated Hydrocarbons
Table 3:	Groundwater Analytical Results – Volatile Organic Compounds
Table 4:	Groundwater Analytical Results – Metals
Table 5:	Groundwater Analytical Results – General Chemistry
Appendix A:	Laboratory Analytical Reports

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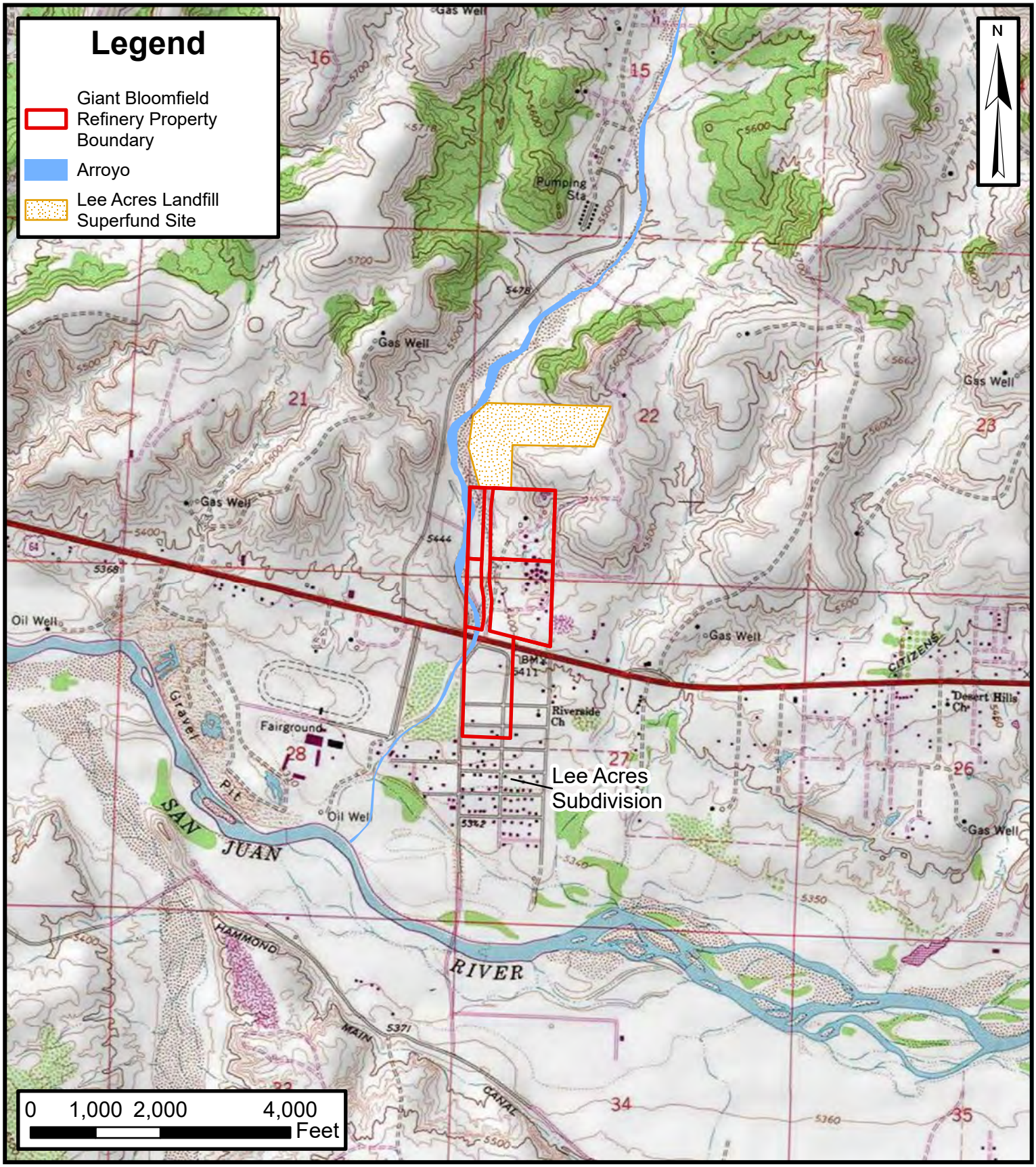
FIGURES



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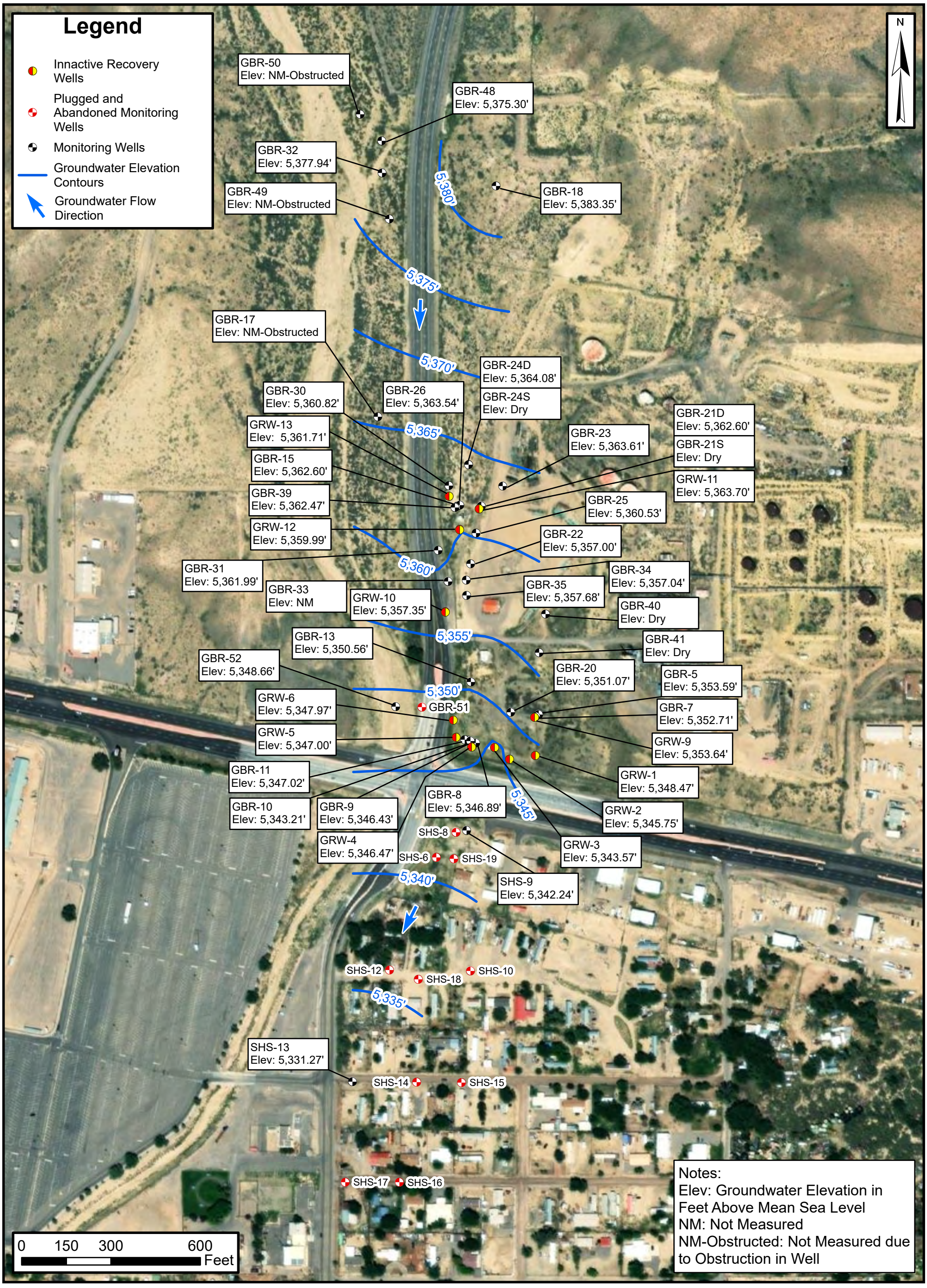
Site Location Map

Former Giant Bloomfield Refinery
Western Refining Southwest LLC

NWNW Sec 27, T29N, R12W, & SWSW Sec 22 T29N, R12W
San Juan County, New Mexico

FIGURE
1

Sources: Environmental Systems Research Institute (ESRI), National Geographic Society, i-cubed



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Groundwater Elevation Contour Map
January 2022

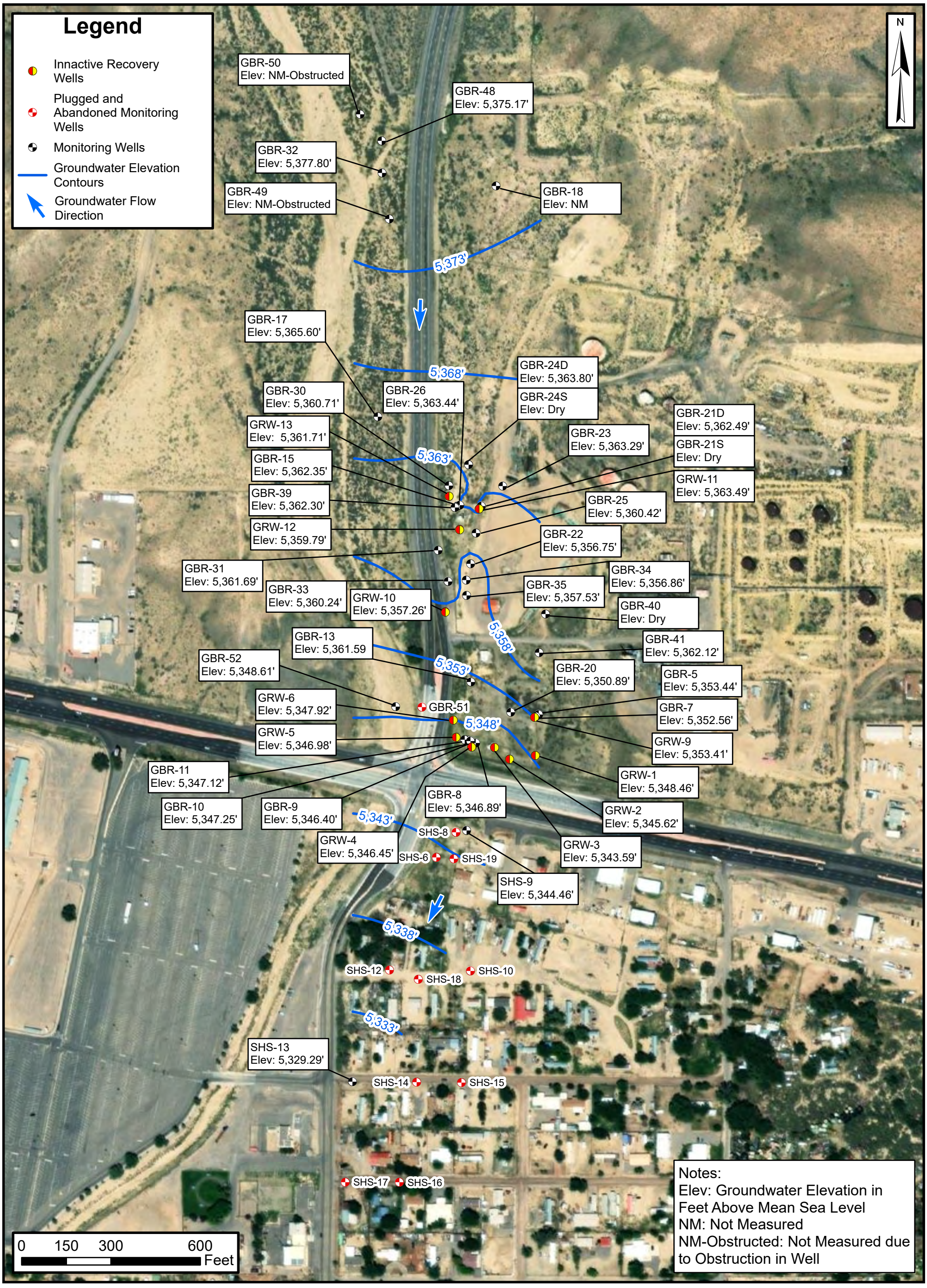
Former Giant Bloomfield Refinery
Western Refining Southwest LLC

NWNW Sec 27, T29N, R12W, & SWSW Sec 22 T29N, R12W
San Juan County, New Mexico

FIGURE

2

Sources: Environmental Systems Research Institute (ESRI), Maxar, Microsoft



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Groundwater Elevation Contour Map
June 2022

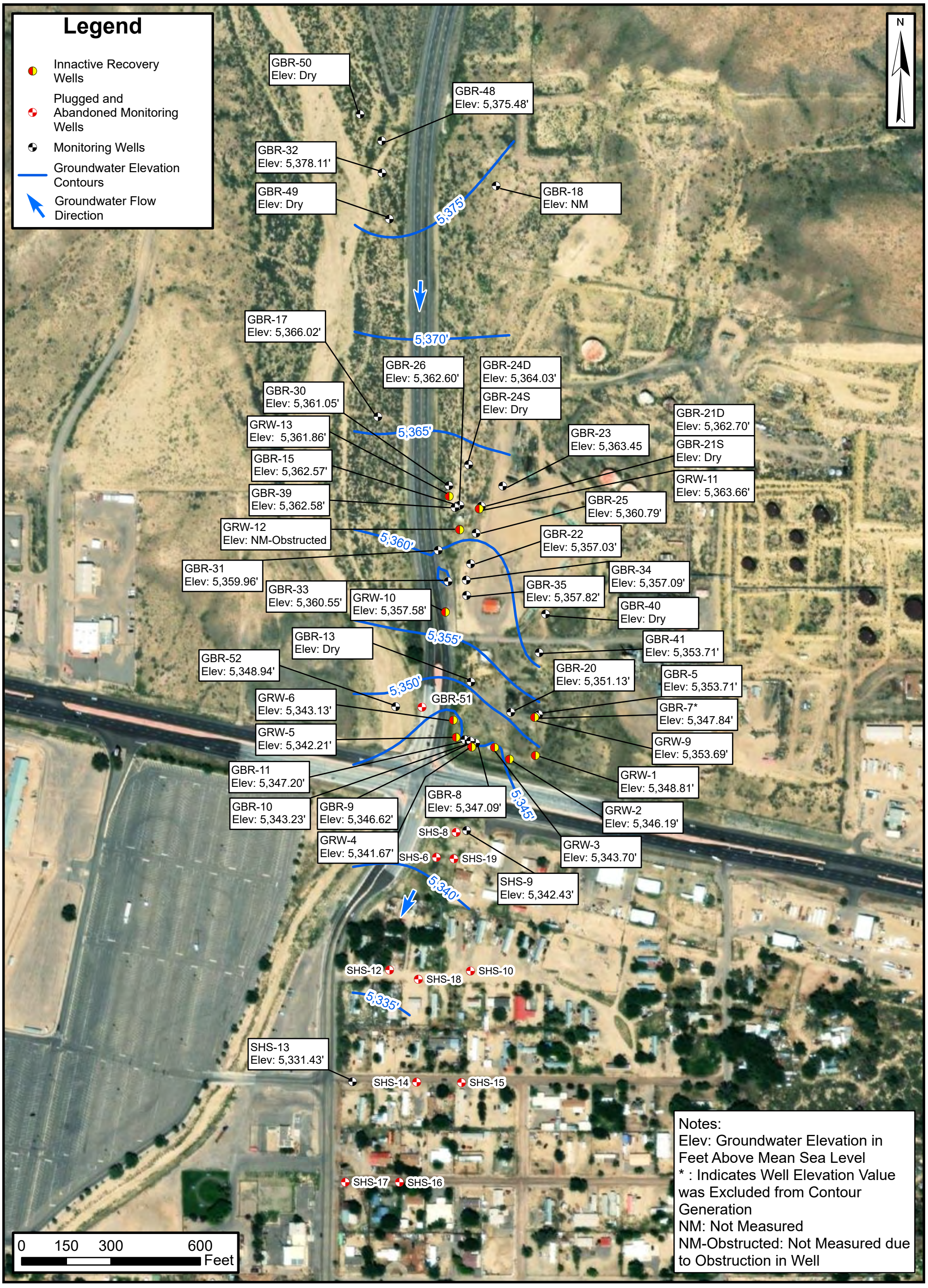
Former Giant Bloomfield Refinery
Western Refining Southwest LLC

NWNW Sec 27, T29N, R12W, & SWSW Sec 22 T29N, R12W
San Juan County, New Mexico

FIGURE

3

Sources: Environmental Systems Research Institute (ESRI), Maxar, Microsoft



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Groundwater Elevation Contour Map December 2022

Former Giant Bloomfield Refinery
Western Refining Southwest LLC

NWNW Sec 27, T29N, R12W, & SWSW Sec 22 T29N, R12W
San Juan County, New Mexico

FIGURE

4

Sources: Environmental Systems Research Institute (ESRI), Maxar, Microsoft

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TABLES

TABLE 1
WELL CONSTRUCTION INFORMATION
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, LLC
SAN JUAN COUNTY, NEW MEXICO

Well Number	Wellhead Elevation (feet)	Total Depth (feet)	Screened Interval (feet BTOC)	Screen Placement (lithology)	Well Diameter (inches)
GRW-1 / GBR-38	5,394.30	72.59	27 - 67	sand/sandstone	6
GRW-2 / GBR-42	5,391.28	66.11	37 - 52	sand	6
GRW-3 / GBR-29	5,388.77	60.90	25 - 65	sand/sandstone	6
GRW-4 / GBR-43	5,390.02	66.30	35 - 50	sand	6
GRW-5 / GBR-37	5,390.56	75.44	26 - 66	sand/sandstone	6
GRW-6 / GBR-44	5,390.81	63.11	33 - 48	sand	6
GRW-9 / GBR-6	5,395.70	54.90	20 - 60	sand/sandstone	6
GRW-10 / GBR-36	5,395.02	66.02	25 - 65	sand/clay/gravel	6
GRW-11 / GBR-27	5,397.85	55.60	22 - 62	sand/shale/sandstone	5
GRW-12 / GBR-28	5,397.24	51.76	24 - 64	sand/clay/sandstone	6
GRW-13 / GBR-14	5,396.90	70.86	20 - 60	sand/gravel	6
GBR-5*	5,395.07	46.88	32 - 52	sandstone	2
GBR-7	5,395.85	50.56	32 - 42	sand	2
GBR-8	5,390.50	49.26	38 - 53	sand	2
GBR-9	5,389.92	67.28	50 - 60	silt/shale	2
GBR-10	5,390.57	47.50	29 - 39	sand	2
GBR-11	5,389.43	51.20	40 - 50	sand	2
GBR-13*	5,393.04	45.40	32 - 42	sandstone	2
GBR-15	5,397.99	58.33	45 - 55	clay	2
GBR-17	5,402.69	50.25	31 - 51	sand	2
GBR-18*	5,421.68	47.87	35 - 45	siltstone/sandstone	2
GBR-20*	5,393.47	44.60	27 - 37	sandstone	2
GBR-21D*	5,400.19	48.64	33 - 38	shale	2
GBR-21S*	5,400.65	34.85	17 - 32	shale	2
GBR-22*	5,395.91	45.85	32 - 42	sandstone	2
GBR-23 (1)*	5,403.72	41.75	24 - 34	sandstone	2
GBR-24D*	5,396.77	51.44	33 - 43	sandstone	2
GBR-24S*	5,396.08	33.50	23 - 33	sandstone	2
GBR-25*	5,397.03	50.27	33 - 43	sandstone	2
GBR-26	5,396.72	42.54	25 - 35	sand	2
GBR-30	5,395.59	41.44	25 - 40	sand/clay	2
GBR-31	5,396.58	43.50	25 - 40	clay/gravel	2
GBR-32*	5,414.86	47.90	25 - 40	sandstone	2
GBR-33	5,396.28	45.77	27 - 43	clay/sand	2
GBR-34	5,394.00	46.70	27 - 43	sand/sandstone	2
GBR-35	5,393.66	41.62	25 - 41	sand/sandstone	2
GBR-39	5,397.55	41.39	25 - 35	sand	2
GBR-40	5,400.76	39.40	26 - 36	sand	2
GBR-41	5,396.35	34.34	22 - 32	sand	2
GBR-48	5,413.90	43.76	28 - 38	sand/gravel	2
GBR-49	(2)	40.26	26 - 36	sand	2
GBR-50	(2)	40.63	27 - 37	sand	2
GBR-52 / GRW-8	5,387.74	54.59	30 - 45	sand	6
SHS-9	5,380.79	46.27	35 - 45	clay	4
SHS-13	5,367.81	47.51	27 - 42	sand	4
Wells Plugged and Abandoned or Damaged					
GBR-19 (3)	5,393.83	46.23	-	-	-
GBR-51 / GRW -7	5,389.68	57.07	-	-	-
SHS-1	5,383.54	50.40	-	-	-
SHS-2	5,381.66	44.56	-	-	-
SHS-3	5,383.33	-	-	-	-
SHS-4	5,383.62	52.16	-	-	-
SHS-5	5,378.36	47.85	-	-	-
SHS-6	5,378.17	52.78	-	-	-
SHS-8	5,380.25	50.92	-	-	-
SHS-10	5,373.80	45.80	-	-	-
SHS-12	5,373.94	52.41	-	-	-
SHS-14	5,367.07	52.71	-	-	-
SHS-15	5,366.21	47.78	-	-	-
SHS-16	5,362.58	42.20	-	-	-
SHS-17	5,364.35	46.21	-	-	-
SHS-18	5,373.64	47.36	-	-	-
SHS-19	5,378.89	52.40	-	-	-

Notes:

(1) Well hit by a vehicle May 2014

(2) Top-of-casing elevation is unknown

(3) Well was paved over in June 2010

** - asterisk indicates that the well is screened withing the bedrock aquifer, no asterisk indicates that a well is screened in the alluvial aquifer*

BTOC - below top of casing

D - designates that the well screen is deep

P&A - plugged and abandoned

S - designates that the well screen is shallow

GBR-1, GBR-2, GBR-3, GBR-4, GBR-12, GBR-16, GBR-45, GBR-46, and GBR-47 not completed as wells

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TABLE 2
GROUNDWATER ELEVATIONS AND THICKNESS OF PHASE-SEPARATED HYDROCARBONS
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST LLC
SAN JUAN COUNTY, NEW MEXICO

Well Number	Wellhead Elevation (feet)	Total Depth (feet)	January 2022				June 2022				December 2022			
			Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet amsl)	Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet amsl)	Depth to Water (feet BTOC)	Depth to Product (feet)	PSH Thickness (feet)	Adjusted GWEL (feet amsl)
GRW-1 / GBR-38	5,394.30	72.59	45.83	-	-	5,348.47	45.84	--	--	5348.46	45.49	--	--	5348.81
GRW-2 / GBR-42	5,391.28	66.11	45.53	-	-	5,345.75	45.66	--	--	5345.62	45.09	--	--	5,346.19
GRW-3 / GBR-29	5,388.77	60.90	45.20	-	-	5,343.57	45.18	--	--	5343.59	45.07	--	--	5,343.70
GRW-4 / GBR-43	5,390.02	66.30	43.55	-	-	5,346.47	43.57	--	--	5346.45	48.35	--	--	5,341.67
GRW-5 / GBR-37	5,390.56	75.44	43.56	-	-	5,347.00	43.58	--	--	5346.98	48.35	--	--	5,342.21
GRW-6 / GBR-44	5,390.81	63.11	42.84	-	-	5,347.97	42.89	--	--	5347.92	47.68	--	--	5,343.13
GRW-9 / GBR-6	5,395.70	54.90	42.06	-	-	5,353.64	42.29	--	--	5353.41	42.01	--	--	5,353.69
GRW-10 / GBR-36	5,395.02	66.02	37.67	-	-	5,357.35	37.76	--	--	5357.26	37.44	--	--	5,357.58
GRW-11 / GBR-27	5,397.85	55.60	34.15	-	-	5,363.70	34.36	--	--	5363.49	34.19	--	--	5,363.66
GRW-12 / GBR-28	5,397.24	51.76	37.25	-	-	5,359.99	37.45	--	--	5359.79	Obstructed			
GRW-13 / GBR-14	5,396.90	70.86	35.19	-	-	5,361.71	35.31	--	--	5361.59	35.04	--	--	5,361.86
GBR-5	5,395.07	46.88	41.48	-	-	5,353.59	41.63	--	--	5353.44	41.36	--	--	5,353.71
GBR-7	5,395.85	50.56	43.14	43.13	0.01	5,352.71	43.29	--	--	5352.56	48.01*	--	--	5,347.84
GBR-8	5,390.50	49.26	43.61			5,346.89	43.61	--	--	5346.89	43.41	--	--	5,347.09
GBR-9	5,389.92	67.28	43.49	-	-	5,346.43	43.52	--	--	5346.40	43.30	--	--	5,346.62
GBR-10	5,390.57	47.50	47.36	-	-	5,343.21	43.32	--	--	5347.25	47.34	--	--	5,343.23
GBR-11	5,389.43	51.20	42.41	-	-	5,347.02	42.31	--	--	5347.12	42.23	--	--	5,347.20
GBR-13	5,393.04	45.40	42.48	-	-	5,350.56	Dry				DRY			
GBR-15	5,397.99	58.33	35.39	-	-	5,362.60	35.64	--	--	5362.35	35.42	--	--	5,362.57
GBR-17	5,402.69	50.25	Obstructed				37.09	--	--	5365.60	36.67	--	--	5,366.02
GBR-18	5,421.68	47.87	38.33	-	-	5,383.35	Not Measured				Not Measured			
GBR-20	5,393.47	44.60	42.40	-	-	5,351.07	42.58	--	--	5350.89	42.34	--	--	5,351.13
GBR-21D	5,400.19	48.64	37.59	-	-	5,362.60	37.70	--	--	5362.49	37.49	--	--	5,362.70
GBR-21S	5,400.65	34.85	Dry				Dry				DRY			
GBR-22	5,395.91	45.85	38.91	-	-	5,357.00	39.16	--	--	5356.75	38.88	--	--	5,357.03
GBR-23	5,403.72	41.75	40.11	-	-	5,363.61	40.43	--	--	5363.29	40.27	--	--	5,363.45
GBR-24D	5,396.77	51.44	32.69	-	-	5,364.08	32.97	--	--	5363.80	32.74	--	--	5,364.03
GBR-24S	5,396.08	33.50	DRY				Dry				DRY			
GBR-25	5,397.03	50.27	36.50	-	-	5,360.53	36.61	--	--	5360.42	36.24	--	--	5,360.79
GBR-26	5,396.72	42.54	33.18	-	-	5,363.54	33.28	--	--	5363.44	34.12	--	--	5,362.60
GBR-30	5,395.59	41.44	34.77	-	-	5,360.82	34.88	--	--	5360.71	34.54	--	--	5,361.05
GBR-31	5,396.58	43.50	34.59	-	-	5,361.99	36.89	--	--	5359.69	36.62	--	--	5,359.96
GBR-32	5,414.86	47.90	36.92	-	-	5,377.94	37.06	--	--	5377.80	36.75	--	--	5,378.11
GBR-33	5,396.28	45.77	Dry				36.04	--	--	5360.24	35.73	--	--	5,360.55
GBR-34	5,394.00	46.70	36.96	-	-	5,357.04	37.14	--	--	5356.86	36.91	--	--	5,357.09
GBR-35	5,393.66	41.62	35.98	-	-	5,357.68	36.13	--	--	5357.53	35.84	--	--	5,357.82
GBR-39	5,397.55	41.39	35.08	-	-	5,362.47	35.25	--	--	5362.30	34.97	--	--	5,362.58
GBR-40	5,400.76	39.40	Dry				Dry				DRY			
GBR-41	5,396.35	34.34	Dry				34.23	--	--	5362.12	34.28	--	--	5,362.07
GBR-48	5,413.90	43.76	38.60	-	-	5,375.30	38.73	--	--	5375.17	38.42	--	--	5,375.48
GBR-49	(1)	40.26	Obstructed				34.71	--	--	--	DRY			
GBR-50	(1)	40.63	34.32	-	-	-	34.45	--	--	--	34.13	--	--	--
GBR-52 / GRW-8	5,387.74	54.59	39.08	-	-	5,348.66	39.13	--	--	5348.61	38.80	--	--	5,348.94
SHS-9	5,380.79	46.27	38.55	-	-	5,342.24	36.33	--	--	5344.46	38.36	--	--	5,342.43
SHS-13	5,367.81	47.51	36.54	-	-	5,331.27	38.52	--	--	5329.29	36.38	--	--	5,331.43

Notes:

(1) Top-of-casing elevation is unknown

AMSL - above mean sea level

BTOC - below top of casing

D - designates that the well screen is deep

GWEL - groundwater elevation

PSH - phase-separated hydrocarbon

S - designates that the well screen is shallow

** - Anomalous value*

TABLE 3
GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, LLC
SAN JUAN COUNTY, NEW MEXICO

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Well ID	Sample Date	benzene	acetone	chlorobenzene	chloroform	cis-1,2-dichloroethene (cis-1,2-DCE)	cis-1,3-dichloropropene	1,1-dichloroethane	1,2-dichloropropane	methylene chloride	tetrachloroethene (PCE)	1,1,1-trichloroethane	trichloroethene (TCE)	trichlorofluoromethane	Other Compounds (1)
Unit		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NMWQCC Standard		5	NE	NE	100	70	NE	25	5	5	5	200	5	NE	NE
EPA Regional Screening Level (2)		4.55	14,100	77.7	2.21	36.1	4.71	27.5	8.25	107	40.6	8,010	2.83	5,160	5,160
Lee Acres Alluvial Aquifer Background Concentration (3)		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Lee Acres Regional Background Concentration (4)		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Lee Acres RI/ROD Remedial Goals (5)		NE	NE	NE	NE	70	NE	NE	NE	NE	5.0	NE	5.0	NE	NE
GBR Background Concentrations (6)		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
GBR-32*	Aug-88	nd	---	nd	3.9	**97**	nd	3.6	nd	nd	**24**	4.5	**16**	0.80	0.80
	Jan-95	0.80	---	nd	1.4	**120**	nd	1.8	nd	nd	**11**	nd	**6.4**	nd	nd
	Dec-00	nd	---	nd	1.6	10	0.30	1.1	nd	nd	2.9	nd	2.1	nd	nd
	Dec-05	nd	---	nd	nd	---	nd	nd	nd	nd	nd	nd	nd	nd	nd
	Jan 2010	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	1.0	<1.0	<1.0	<1.0	<1.0
	Aug-15	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	1.2	<1.0	<1.0	<1.0	<1.0
	Nov-19	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Jan-21	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Oct-21	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	1.0	<1.0	<1.0	<1.0	<1.0
	Apr-22	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Sep-22	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0
GBR-48	Nov-88	nd	---	180	nd	nd	nd	**31**	**25**	nd	nd	nd	nd	nd	nd
	Jan-95	nd	---	nd	1.4	54	nd	0.30	nd	nd	**601**	nd	3.6	nd	nd
	Dec-00	nd	---	nd	3.2	15	nd	0.50	nd	nd	3.3	nd	2.6	0.40	0.40
	Dec-05	nd	---	nd	nd	---	nd	nd	nd	nd	2.3	nd	0.90	nd	nd
	Jan-10	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	1.3	<1.0	<1.0	<1.0	<1.0
	Aug-15	<2.0	<20	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<6.0	<2.0	<2.0	<2.0	<2.0	<2.0
	Nov-19	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Jan-21	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Oct-21	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	1.0	<1.0	<1.0	<1.0	<1.0
	Apr-22	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Sep-22	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	1.2	<1.0	<1.0	<1.0	<1.0
GBR-50	Nov-88	0.80	---	nd	0.20	nd	nd	0.70	nd	0.30	0.70	0.60	0.20	nd	nd
	Jan-95	nd	---	nd	nd	2.3	nd	nd	nd	nd	nd	nd	nd	nd	nd
	Dec-00	nd	---	nd	nd	0.20	nd	nd	nd	nd	nd	nd	nd	nd	nd
	Dec-05	nd	---	nd	nd	---	nd	nd	nd	nd	nd	nd	nd	nd	nd
	Jan-10	<1.0	11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Aug-15	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Nov-19	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Jan-21	<1.0	10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Oct-21	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Apr-22	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Sep-22	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0

Notes:

(1) - Compounds were not detected above laboratory reporting limits. See complete laboratory analytical reports for additional details.
(2) - EPA Regional Screening Level for tap water using hazard quotient of 1.0 (non-carcinogens) and cancer risk of 1 in 100,000 exposed persons (carcinogens)
(3) - "Background" Concentration Proposed in Lee Acres DRAFT Remedial Investigation Report Prepared for the US Bureau of Land Management (dated February 1992)
(4) - Regional Background Concentrations Established in Document Titled Hydrogeology and Water Resources of San Juan Basin, New Mexico, Stone et al., dated 1983
(5) - Contaminant Concentrations Established as the "Remedial Goals" or "Background" Concentrations for the Lee Acres Superfund Site. Based on the Lee Acres DRAFT Remedial Investigation Report and Record of Decision (dated May 2004).
(6) - Background Threshold Value Established for the Former Giant Bloomfield Refinery
** - asterisk indicates that the well is screened withing the bedrock aquifer, no asterisk indicates that a well is screened in the alluvial aquifer*
--- - not tested
µg/L - micrograms per liter
mg/L - milligrams per liter
NE - not established
NMWQCC - New Mexico Water Quality Control Commission
PSH - phase separated hydrocarbons
USEPA - United States Environmental Protection Agency
***BOLD** - bold and highlighted cells indicates concentration exceeds the NMWQCC standard, where NMWQCC are not established, concentrations compared to EPA regional screening levels*

TABLE 4

GROUNDWATER ANALYTICAL RESULTS - METALS

FORMER GIANT BLOOMFIELD REFINERY

WESTERN REFINING SOUTHWEST, LLC

SAN JUAN COUNTY, NEW MEXICO

ENSOLUM

Well ID	Sample Date	Total Metals	arsenic	barium	beryllium	cadmium	chromium	iron	lead	manganese	mercury	nickel	selenium	silver	thallium	Dissolved Metals	arsenic	barium	beryllium	cadmium	chromium	iron	lead	manganese	nickel	selenium	silver	thallium
Unit			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NMWQCC Standard			0.1	2	0.004	0.005	0.05	1	0.015	0.2	0.002	0.2	0.05	0.05	0.002		0.1	2	0.004	0.005	0.05	1	0.015	0.2	0.2	0.05	0.05	0.002
EPA Regional Screening Level (1)			0.000517	3.77	0.0246	0.0092	22.5	14	0.015	0.434	0.000626	0.392	0.0998	0.0941	0.0002		0.000517	3.77	0.0246	0.0092	22.5	14	0.015	0.434	0.392	0.0998	0.0941	0.0002
Lee Acres Alluvial Aquifer Background Concentration (2)			nd	nd	nd	nd	0.0144 - 0.113	nd - 1.48	nd	0.0161 - 0.423	nd	nd	0.008 - 0.0095	0.0273 - 0.0309	NE		nd	nd	nd	nd	0.0144 - 0.113	nd - 1.48	nd	0.0161 - 0.423	nd	0.008 - 0.0095	0.0273 - 0.0309	NE
Lee Acres Regional Background Concentration (3)			NE	0 - 3.4	NE	0.001 - 0.018	0.001 - 0.060	0.010 - 16	0 - 0.055	0 - 2.6	NE	NE	0.002 - 0.04	NE	NE		NE	0 - 3.4	NE	0.001 - 0.018	0.001 - 0.060	0.010 - 16	0 - 0.055	0 - 2.6	NE	0.002 - 0.04	NE	NE
Lee Acres RI/ROD Remedial Goals (4)			0.05	1.0	NE	0.010	0.113	16	0.050	0.346	0.002	0.20	0.010	0.05	NE		0.05	1.0	NE	0.010	0.113	16	0.050	0.346	0.20	0.010	0.05	NE
GBR Background Concentrations (5)			NE	NE	NE	NE	1.29	97.8	NE	5.28	NE	NE	NE	NE	NE		NE	NE	NE	NE	1.29	97.8	NE	5.28	NE	NE	NE	NE
GRW-1/GBR-38	Jun-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Mar-21		0.0020	0.014	<0.0010	<0.00050	<0.0060	0.86	0.0011	2.9	<0.00020	0.012	0.0024	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GRW-2/GBR-42	Sep-89		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		0.023	0.066	<0.0010	<0.00050	0.018	22	<0.00050	3.3	<0.00020	**0.26**	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GRW-3/GBR-29	Jun-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jun-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-00		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-05		---	---	---	---	---	---	---	---	---	**6.8**	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-10		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15		---	---	---	---	---	0.89	---	0.69	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Nov-19		---	---	---	---	---	2.3	---	1.4	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		0.0013	0.21	<0.0010	<0.00050	<0.0060	3.8	<0.00050	1.8	<0.00020	0.0074	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GRW-4/GBR-43	Sep-89		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		0.0028	0.024	<0.0010	<0.00050	0.013	3.3	0.00098	4.4	<0.00020	0.016	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GRW-5/ GBR-37	Jun-88																											
	Feb-21		0.0028	0.048	<0.0010	<0.00050	<0.0060	1.8	0.0015	**5.7**	<0.00020	0.015	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GRW-6/GBR-44	Jun-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-00		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-05		---	---	---	---	---	---	---	---	---	**1.80**	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-10		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15		---	---	---	---	---	15	---	**18**	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Nov-19		---	---	---	---	---	8.0	---	**5.9**	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		<0.0010	0.025	<0.0010	<0.00050	<0.0060	1.6	<0.00050	2.1	<0.00020	0.0058	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GRW-9/GBR-6	Nov-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Dec-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		<0.0010	0.034	<0.0010	<0.00050	<0.0060	1.9	<0.00050	0.53	<0.00020	0.0027	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GRW-10/GBR-36	Jun-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		<0.0010	0.017	<0.0010	<0.00050	<0.0060	1.8	0.0015	1.0	<0.00020	0.00	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GRW-11/GBR-27	Jun-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		<0.0010	0.017	<0.0010	<0.00050	<0.0060	5.9	0.0024	2.4	<0.00020	0.0012	0.0020	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GRW-12/GBR-28	May-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jun-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		0.014	0.087	<0.0010	<0.00050	<0.0060	14	0.0012	0.47	<0.00020	0.0070	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GRW-13/GBR-14	Nov-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Dec-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-95		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-00		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		<0.0010	0.0082	<0.0010	<0.00050	<0.0060	0.32	0.00059	1.1	<0.00020	0.015	0.017	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GBR-5*	Jun-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		0.0043	0.012	<0.0010	<0.00050	0.054	4.5	0.0063	4.4	<0.00020	0.0049	0.0026	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GBR-7	Nov-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-21 (Not Sampled, PSH)		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
GBR-8	Oct-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Dec-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		0.062	0.35	<0.0010	<0.00050	<0.0060	52	**0.038**	3.6	<0.00020	0.018	0.0027	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GBR-9	Nov-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Aug-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		0.0026	0.018	<0.0010	<0.00050	<0.0060	1.6	0.00063	0.43	<0.00020	0.016	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---

TABLE 4

GROUNDWATER ANALYTICAL RESULTS - METALS

FORMER GIANT BLOOMFIELD REFINERY

WESTERN REFINING SOUTHWEST, LLC

SAN JUAN COUNTY, NEW MEXICO

ENSOLUM

Well ID	Sample Date	Total Metals	arsenic	barium	beryllium	cadmium	chromium	iron	lead	manganese	mercury	nickel	selenium	silver	thallium	Dissolved Metals	arsenic	barium	beryllium	cadmium	chromium	iron	lead	manganese	nickel	selenium	silver	thallium
Unit			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NMWQCC Standard			0.1	2	0.004	0.005	0.05	1	0.015	0.2	0.002	0.2	0.05	0.05	0.002		0.1	2	0.004	0.005	0.05	1	0.015	0.2	0.2	0.05	0.05	0.002
EPA Regional Screening Level (1)			0.000517	3.77	0.0246	0.0092	22.5	14	0.015	0.434	0.000626	0.392	0.0998	0.0941	0.0002		0.000517	3.77	0.0246	0.0092	22.5	14	0.015	0.434	0.392	0.0998	0.0941	0.0002
Lee Acres Alluvial Aquifer Background Concentration (2)			nd	nd	nd	nd	0.0144 - 0.113	nd - 1.48	nd	0.0161 - 0.423	nd	nd	0.008 - 0.0095	0.0273 - 0.0309	NE		nd	nd	nd	nd	0.0144 - 0.113	nd - 1.48	nd	0.0161 - 0.423	nd	0.008 - 0.0095	0.0273 - 0.0309	NE
Lee Acres Regional Background Concentration (3)			NE	0 - 3.4	NE	0.001 - 0.018	0.001 - 0.060	0.010 - 16	0 - 0.055	0 - 2.6	NE	NE	0.002 - 0.04	NE	NE		NE	0 - 3.4	NE	0.001 - 0.018	0.001 - 0.060	0.010 - 16	0 - 0.055	0 - 2.6	NE	0.002 - 0.04	NE	NE
Lee Acres RI/ROD Remedial Goals (4)			0.05	1.0	NE	0.010	0.113	16	0.050	0.346	0.002	0.20	0.010	0.05	NE		0.05	1.0	NE	0.010	0.113	16	0.050	0.346	0.20	0.010	0.05	NE
GBR Background Concentrations (5)			NE	NE	NE	NE	1.29	97.8	NE	5.28	NE	NE	NE	NE	NE		NE	NE	NE	NE	1.29	97.8	NE	5.28	NE	NE	NE	NE
GBR-10	Nov-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-21 (Obstructed)		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
GBR-11	Jun-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		0.0015	0.15	<0.0010	<0.00050	<0.0060	44	0.0018	0.93	<0.00020	0.0061	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GBR-13*	Jun-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Dec-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		0.0018	0.042	<0.0010	<0.00050	<0.0060	3.1	0.0048	4.7	<0.00020	0.011	<0.0050	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GBR-15	Oct-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Dec-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-95		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-00		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		<0.0010	0.014	<0.0010	<0.00050	<0.0060	0.59	0.00067	0.48	<0.00020	0.0030	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GBR-17	Jun-86		0.01	nd	nd	nd	nd	nd	nd	nd	nd	0.10	---	nd	---		---	---	---	---	---	---	---	---	---	---	---	---
	Dec-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-95		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Dec-00		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Dec-05		---	---	---	---	---	---	---	---	---	**4.4**	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-10		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15		---	---	---	---	---	3.60	---	<0.0020	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Nov-19		---	---	---	---	---	**120**	---	3.80	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-21		<0.0010	0.014	<0.0010	<0.00050	0.011	0.79	0.00064	0.014	<0.00020	0.0056	0.0030	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
	Apr-21		<0.0010	0.011	<0.0010	<0.00050	0.003	<0.050	<0.00050	0.015	<0.00020	0.0014	0.0038	<0.00050	<0.00025		<0.0010		<0.0010	<0.00050	0.002	<0.020	<0.00050	<0.0020	<0.0010	0.0032	<0.0050	<0.00050
	Oct-21		---	---	---	---	---	0.21	---	---	---	---	---	---	---		<0.020	0.0089 J	<0.0030	<0.0020	<0.0060	<0.020	<0.020	0.005 J	<0.010	<0.050	0.0098	<0.050
	Apr-22 (Obstructed)		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Sep-22 (Obstructed)		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
GBR-18*	Jun-86		---	nd	nd	nd	nd	nd	nd	nd	---	nd	---	nd	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jul-94		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Mar-21		<0.0050	0.040	<0.0050	<0.0025	0.013	68	**0.031**	0.25	<0.00020	0.020	<0.0050	<0.0025	<0.0012		---	---	---	---	---	---	---	---	---	---	---	---
GBR-20*	Jun-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		0.0026	0.23	<0.0010	<0.00050	<0.0060	22	0.0034	0.53	<0.00020	0.0073	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GBR-21S*	Jan-21 (Dry)		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
GBR-21D*	May-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		<0.0010	0.27	<0.0010	<0.00050	<0.0060	0.97	0.0022	0.33	<0.00020	0.014	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---
GBR-22*	May-86		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-21 (Not Sampled, PSH)		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
GBR-23*	Jan-21 (Dry or Obstructed)		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
GBR-24S*	Nov-86		nd	0.10	nd	nd	nd	nd	nd	**43**	---	**0.60**	---	nd	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-21 (Obstructed)		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
GBR-24D*	Nov-86		nd	0.10	nd	nd	nd	nd	nd	**43**	---	**0.60**	---	nd	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jun-88		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-95		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-00		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-05		---	---	---	---	---	---	---	---	---	**9.2**	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Jan-10		---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15		---	---	---	---	---	11	---	1.8	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Nov-19		---	---	---	---	---	8.3	---	1.4	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21		<0.0010	0.016	<0.0010	<0.00050	<0.0060	0.46	0.0010	0.9	<0.00020	0.0037	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---

TABLE 4

GROUNDWATER ANALYTICAL RESULTS - METALS

FORMER GIANT BLOOMFIELD REFINERY

WESTERN REFINING SOUTHWEST, LLC

SAN JUAN COUNTY, NEW MEXICO

ENSOLUM

Well ID	Sample Date	Total Metals: arsenic	barium	beryllium	cadmium	chromium	iron	lead	manganese	mercury	nickel	selenium	silver	thallium	Dissolved Metals: arsenic	barium	beryllium	cadmium	chromium	iron	lead	manganese	nickel	selenium	silver	thallium
Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NMWQCC Standard		0.1	2	0.004	0.005	0.05	1	0.015	0.2	0.002	0.2	0.05	0.05	0.002	0.1	2	0.004	0.005	0.05	1	0.015	0.2	0.2	0.05	0.05	0.002
EPA Regional Screening Level (1)		0.000517	3.77	0.0246	0.0092	22.5	14	0.015	0.434	0.000626	0.392	0.0998	0.0941	0.0002	0.000517	3.77	0.0246	0.0092	22.5	14	0.015	0.434	0.392	0.0998	0.0941	0.0002
Lee Acres Alluvial Aquifer Background Concentration (2)		nd	nd	nd	nd	0.0144 - 0.113	nd - 1.48	nd	0.0161 - 0.423	nd	nd	0.008 - 0.0095	0.0273 - 0.0309	NE	nd	nd	nd	nd	0.0144 - 0.113	nd - 1.48	nd	0.0161 - 0.423	nd	0.008 - 0.0095	0.0273 - 0.0309	NE
Lee Acres Regional Background Concentration (3)		NE	0 - 3.4	NE	0.001 - 0.018	0.001 - 0.060	0.010 - 16	0 - 0.055	0 - 2.6	NE	NE	0.002 - 0.04	NE	NE	NE	0 - 3.4	NE	0.001 - 0.018	0.001 - 0.060	0.010 - 16	0 - 0.055	0 - 2.6	NE	0.002 - 0.04	NE	NE
Lee Acres RI/ROD Remedial Goals (4)		0.05	1.0	NE	0.010	0.113	16	0.050	0.346	0.002	0.20	0.010	0.05	NE	0.05	1.0	NE	0.010	0.113	16	0.050	0.346	0.20	0.010	0.05	NE
GBR Background Concentrations (5)		NE	NE	NE	NE	1.29	97.8	NE	5.28	NE	NE	NE	NE	NE	NE	NE	NE	NE	1.29	97.8	NE	5.28	NE	NE	NE	NE
GBR-25*	May-86	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21	0.014	0.48	<0.0010	<0.00050	<0.0060	26	**0.028**	2.7	<0.00020	0.0075	0.0031	<0.00050	<0.00025	---	---	---	---	---	---	---	---	---	---	---	---
GBR-26	Oct-86	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-21 (No Recovery)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
GBR-30	Dec-86	nd	nd	nd	**0.19**	nd	nd	nd	2.2	---	nd	---	nd	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jun-88	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-95	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15	---	---	---	---	---	7.6	---	0.50	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Nov-19	---	---	---	---	---	43	---	4.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21	0.0051	0.33	0.0010	<0.00050	0.014	23	0.015	0.75	<0.00020	0.027	0.013	<0.00050	<0.00025	---	---	---	---	---	---	---	---	---	---	---	---
GBR-31	Nov-86	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jun-88	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-95	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15	---	---	---	---	---	2.4	---	0.45	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Nov-19	---	---	---	---	---	15	---	2.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-21	<0.0010	0.057	<0.0010	<0.00050	<0.0060	2.1	0.0056	0.23	<0.00020	0.0056	0.0063	<0.00050	<0.00025	---	---	---	---	---	---	---	---	---	---	---	---
GBR-32*	Aug-88	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-95	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Dec-00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Dec-05	---	---	---	---	---	---	---	---	---	**9.00**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan 2010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15	<0.0050	0.011	<0.0020	<0.0020	0.020	0.26	<0.00050	0.56	<0.00020	**0.30**	0.020	<0.0050	<0.00050	---	---	---	---	---	---	---	---	---	---	---	---
	Nov-19	<0.0010	0.034	<0.010	<0.010	0.10	3.6	0.0012	2.10	<0.00020	0.07	0.0029	<0.025	<0.00050	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-21	0.0013	0.028	<0.0010	<0.00050	0.33	8.30	0.0011	1.1	<0.00020	0.061	0.0044	<0.00050	<0.00025	---	---	---	---	---	---	---	---	---	---	---	---
	Apr-21	0.0013	0.054	<0.0010	<0.00050	0.13	6.00	0.0025	2.0	<0.00020	0.059	0.0025	<0.00050	<0.00025	<0.0010	0.012	<0.0010	<0.00050	<0.0010	<0.020	<0.00050	1.4	0.034	0.0014	<0.0050	<0.00050
	Oct-21	---	---	---	---	---	1.30	---	---	---	---	---	---	---	<0.020	0.0085 J	<0.0030	<0.0020	<0.0060	<0.020	<0.020	0.74	0.026	<0.050	0.0110	<0.050
	Apr-22	---	---	---	---	---	0.44	---	---	---	---	---	---	---	<0.0010	0.011	<0.0020	<0.0020	<0.0060	---	<0.0050	1.10	0.039	<0.010	<0.0050	<0.0025
	Sep-22	---	---	---	---	---	1.2	<0.00050	---	---	---	---	---	---	<0.0010	0.0080	<0.0020	<0.0020	---	<0.020	<0.00050	0.81	0.034	0.0033	0.0079	---
GBR-33	Sep-89	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-21 (Dry or Obstructed)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
GBR-34	Aug-15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Feb-21	0.023	1.80	<0.0010	<0.00050	<0.0060	20	0.0064	2.1	<0.00020	0.015	<0.0010	<0.00050	<0.00025	---	---	---	---	---	---	---	---	---	---	---	---
GBR-35	Feb-21	0.012	**2.7**	<0.0010	0.0023	<0.0060	26	**0.032**	1.8	<0.00020	0.015	<0.0010	<0.00050	<0.00025	---	---	---	---	---	---	---	---	---	---	---	---
GBR-39	Feb-21	<0.0010	0.091	<0.0010	<0.00050	0.043	6.9	0.0022	0.19	<0.00020	0.030	<0.0010	<0.00050	0.00045	---	---	---	---	---	---	---	---	---	---	---	---
GBR-40	Jun-88	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-21 (Dry)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
GBR-41	Jun-88	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-21 (Dry)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
GBR-48	Nov-88	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-95	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Dec-00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Dec-05	---	---	---	---	---	---	---	---	---	**10.0**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15	<0.050	0.67	**0.011**	<0.0020	0.95	**170**	**0.11**	**6.40**	0.00046	**0.28**	**0.089**	<0.0050	**0.0023**	---	---	---	---	---	---	---	---	---	---	---	---
	Nov-19	0.0076	0.31	0.0038	<0.0020	0.23	48	**0.031**	1.80	<0.00020	0.10	0.018	<0.0050	0.0005	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-21	0.0050	0.20	0.00200	<0.00050	0.050	29	**0.016**	0.67	<0.00020	0.068	0.02	<0.00050	0.00038	---	---	---	---	---	---	---	---	---	---	---	---
	Apr-21	0.0028	0.12	<0.0010	<0.00050	0.042	17	0.0082	0.38	<0.00020	0.058	0.015	<0.00050	<0.00025	<0.0010	0.012	<0.0010	<0.00050	0.0016	<0.020	<0.00050	<0.0020	0.041	0.012	<0.0050	<0.00050
	Oct-21	---	---	---	---	---	**260**	---	---	---	---	---	---	---	<0.020	0.011 J	<0.0030	<0.0020	<0.0060	0.3400	<0.020	0.005	0.029	<0.050	0.009	<0.050
	Apr-22	---	---	---	---	---	2.0	---	---	---	---	---	---	---	<0.010	0.013	---	<0.0020	<0.0060	---	<0.00050	<0.0020	0.037	0.018	<0.0050	<0.0025
	Sep-22	0.0035	0.17	<0.0020	<0.0020	---	26	0.011	0.51	<0.00020	0.049	0.034	<0.0050	---	<0.0010	0.017	<0.0020	<0.0020	---	<0.020	<0.00050	<0.0020	0.033	0.028	0.0086	---
GBR-49	Nov-88	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-95	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Dec-00	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Dec-05	---	---	---	---	---	---	---	---	---	<20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-10	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Aug-15	0.0057	0.058	<0.0020	<0.0020	0.38	7.1	0.0038	0.54	<0.00020	0.11	0.0069	<0.0050	<0.00050	---	---	---	---	---	---	---	---	---	---	---	---
	Nov-19	<0.0010	0.021	<0.0020	<0.0020	0.10	1.4	0.00083	0.87	<0.00020	0.12	0.0011	0.0063	<0.00050	---	---	---	---	---	---	---	---	---	---	---	---
	Jan-21 (Obstructed)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 4

GROUNDWATER ANALYTICAL RESULTS - METALS

FORMER GIANT BLOOMFIELD REFINERY

WESTERN REFINING SOUTHWEST, LLC

SAN JUAN COUNTY, NEW MEXICO

ENSOLUM

Well ID	Sample Date	Total Metals														Dissolved Metals													
		arsenic	barium	beryllium	cadmium	chromium	iron	lead	manganese	mercury	nickel	selenium	silver	thallium		arsenic	barium	beryllium	cadmium	chromium	iron	lead	manganese	nickel	selenium	silver	thallium	
Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
NMWQCC Standard		0.1	2	0.004	0.005	0.05	1	0.015	0.2	0.002	0.2	0.05	0.05	0.002		0.1	2	0.004	0.005	0.05	1	0.015	0.2	0.2	0.05	0.05	0.002	
EPA Regional Screening Level (1)		0.000517	3.77	0.0246	0.0092	22.5	14	0.015	0.434	0.000626	0.392	0.0998	0.0941	0.0002		0.000517	3.77	0.0246	0.0092	22.5	14	0.015	0.434	0.392	0.0998	0.0941	0.0002	
Lee Acres Alluvial Aquifer Background Concentration (2)		nd	nd	nd	nd	0.0144 - 0.113	nd - 1.48	nd	0.0161 - 0.423	nd	nd	0.008 - 0.0095	0.0273 - 0.0309	NE		nd	nd	nd	nd	0.0144 - 0.113	nd - 1.48	nd	0.0161 - 0.423	nd	0.008 - 0.0095	0.0273 - 0.0309	NE	
Lee Acres Regional Background Concentration (3)		NE	0 - 3.4	NE	0.001 - 0.018	0.001 - 0.060	0.010 - 16	0 - 0.055	0 - 2.6	NE	NE	0.002 - 0.04	NE	NE		NE	0 - 3.4	NE	0.001 - 0.018	0.001 - 0.060	0.010 - 16	0 - 0.055	0 - 2.6	NE	0.002 - 0.04	NE	NE	
Lee Acres RI/ROD Remedial Goals (4)		0.05	1.0	NE	0.010	0.113	16	0.050	0.346	0.002	0.20	0.010	0.05	NE		0.05	1.0	NE	0.010	0.113	16	0.050	0.346	0.20	0.010	0.05	NE	
GBR Background Concentrations (5)		NE	NE	NE	NE	1.29	97.8	NE	5.28	NE	NE	NE	NE	NE		NE	NE	NE	NE	1.29	97.8	NE	5.28	NE	NE	NE	NE	
GBR-50	Nov-88	---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	
	Jan-95	---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	
	Dec-00	---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	
	Dec-05	---	---	---	---	---	---	---	---	---	**10**	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	
	Jan-10	---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	
	Aug-15	<0.0050	0.024	<0.0020	<0.0020	0.073	2.2	0.0013	0.19	<0.00020	0.04	0.0089	<0.0050	<0.00050		---	---	---	---	---	---	---	---	---	---	---	---	
	Nov-19	<0.0010	0.018	<0.0020	<0.0020	0.039	2.2	0.0010	0.14	<0.00020	0.06	0.0083	0.0079	<0.00050		---	---	---	---	---	---	---	---	---	---	---	---	
	Jan-21	<0.0010	0.012	<0.0010	<0.00050	0.035	2.5	0.0068	0.16	<0.00020	0.013	0.010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---	
	Apr-21	<0.0010	0.009	<0.0010	<0.00050	0.002	0.06	<0.00050	0.02	<0.00020	0.001	0.011	<0.00050	<0.00025		<0.0010	0.001	<0.0010	<0.00050	0.001	<0.020	<0.00050	0.0093	<0.0010	0.011	<0.0050	<0.00050	
	Oct-21	---	---	---	---	---	0.59	---	---	---	---	---	---	---		<0.020	0.0088 J	<0.0030	<0.0020	0.009	0.220	<0.020	0.062	0.054	<0.050	0.013	<0.050	
	Apr-22	---	---	---	---	---	0.45	---	---	---	---	---	---	---		<0.0010	0.010	---	<0.0020	<0.0060	---	<0.00050	0.046	0.021	0.011	<0.0050	<0.00025	
	Sep-22	<0.0010	0.018	<0.0020	<0.0020	---	2.3	0.0015	0.099	<0.00020	0.043	0.013	0.0057	---		<0.0010	0.0080	<0.0020	<0.0020	---	<0.020	<0.00050	0.026	<0.010	0.010	0.0091	---	
GBR-52/GRW-8	Nov-88	---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	
	Jan-95	---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	
	Jan-00	---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	
	Jan-05	---	---	---	---	---	---	---	---	---	**2.0**	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	
	Jan-10	---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	
	Aug-15	---	---	---	---	---	8.20	---	0.15	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	
	Nov-19	---	---	---	---	---	1.40	---	0.026	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	
	Jan-21	<0.0010	0.016	<0.0010	<0.00050	<0.0060	0.32	<0.00050	0.0094	<0.00020	<0.0010	0.0052	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---	
SHS-9	Aug-15	---	---	---	---	---	---	---	---	---	---	---	---	---		---	---	---	---	---	---	---	---	---	---	---	---	
	Jan-21	<0.0010	0.62	<0.0010	<0.00050	<0.0060	1.4	0.0032	0.22	<0.00020	0.011	<0.0010	<0.00050	<0.00025		---	---	---	---	---	---	---	---	---	---	---	---	
SHS-13	Jan-21	0.0018	0.083	<0.0010	<0.00050	<0.0060	0.26	<0.00050	3.7	<0.00020	0.010	<0.0010	<0.00050	<0.0025		---	---	---	---	---	---	---	---	---	---	---	---	

Notes:

(1) - EPA Regional Screening Level for tap water using hazard quotient of 1.0 (non-carcinogens) and cancer risk of 1 in 100,000 exposed persons (carcinogens)

(2) - "Background" Concentration Proposed in Lee Acres DRAFT Remedial Investigation Report Prepared for the US Bureau of Land Management (dated February 1992)

(3) - Regional Background Concentrations Established in Document Titled Hydrogeology and Water Resources of San Juan Basin, New Mexico, Stone et al., dated 1983

(4) - Contaminant Concentrations Established as the "Remedial Goals" or "Background" Concentrations for the Lee Acres Superfund Site. Based on the Lee Acres DRAFT Remedial Investigation Report and Record of Decision (dated May 2004).

(5) - Background Threshold Value Established for the Former Giant Bloomfield Refinery

** - asterisk indicates that the well is screened withing the bedrock aquifer, no asterisk indicates that a well is screened in the alluvial aquifer*

--- - not tested

mg/L - milligrams per liter

NE - not established

NMWQCC - New Mexico Water Quality Control Commission

PSH - phase separated hydrocarbons

USEPA - United States Environmental Protection Agency

J - Analyte detected below quantitation limits

***BOLD** - bold and highlighted cells indicates concentration exceeds the greater of GBR background concentrations or NMWQCC standards; where NMWQCC standards are not established, concentrations compared to EPA regional screening levels*

TABLE 5
GROUNDWATER ANALYTICAL RESULTS - GENERAL CHEMISTRY PARAMETERS
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, LLC
SAN JUAN COUNTY, NEW MEXICO

ENSOLUM

Well ID	Sample Date	chloride	fluoride	nitrate + nitrite as N	nitrate (as NO_3)	nitrite (as NO_2)	sodium	sulfate	sulfide	total dissolved solids	dissolved organic carbon
Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NMWQCC Standard		250	1.6	NE	10.0	1.0	NE	600	NE	1,000	NE
EPA Regional Screening Level (1)		NE	0.799	NE	32	2.0	NE	NE	NE	NE	NE
Lee Acres Alluvial Aquifer Background Concentration (2)		6.4 - 404	NE	1.2 - 4.9	NE	NE	NE	420 - 2,120	NE	760 - 3,600	NE
Lee Acres Regional Background Concentration (3)		2 - 34,000	NE	0.10 - 1,640	NE	NE	NE	1.9 - 14,000	NE	NE	NE
Lee Acres RI/ROD Remedial Goals (4)		34,000	NE	10	NE	NE	NE	14,000	NE	10,000	NE
GBR Background Concentrations (5)		560	NE	NE	NE	NE	NE	2,800	NE	4,599	NE
GRW-1/GBR-38	Jun-88	---	---	---	---	---	---	---	---	---	---
	Mar-21	40	0.85	<0.50	---	---	---	2,100	---	3,540	---
GRW-2/GBR-42	Sep-89	---	---	---	---	---	---	---	---	---	---
	Feb-21	100	0.59	<0.50	<0.50	<0.50	---	660	---	1,880	---
GRW-3/GBR-29	Jun-86	---	---	---	---	---	---	---	---	---	---
	Jun-88	---	---	---	---	---	---	---	---	---	---
	Jan-00	148	---	---	---	---	---	145	---	1,540	---
	Jan-05	36	---	---	---	---	---	2,000	---	3,300	---
	Jan-10	---	---	---	---	---	---	---	---	---	---
	Aug-15	38	0.95	<0.10	---	---	---	1,900	---	3,320	---
	Nov-19	100	<0.50	<0.50	---	---	---	450	---	1,990	---
	Feb-21	110	1.0	<0.50	---	---	---	440	---	1,860	---
GRW-4/GBR-43	Sep-89	---	---	---	---	---	---	---	---	---	---
	Feb-21	120	1.10	<0.50	---	---	---	1,300	---	2,790	---
GRW-5/ GBR-37	Jun-88										
	Feb-21	91	1.0	<0.50	---	---	2,790	1,500	2,790	2,790	2,790
GRW-6/GBR-44	Jun-88	---	---	---	---	---	---	---	---	---	---
	Jan-00	162	---	---	---	---	---	395	---	1,680	---
	Jan-05	96	---	---	---	---	---	440	---	1,600	---
	Jan-10	---	---	---	---	---	---	---	---		---
	Aug-15	88	0.55	<1.0	---	---	---	1,400	---	3,220	---
	Nov-19	94	0.60	<0.50	---	---	---	1,200	---	2,470	---
	Feb-21	97	0.93	<0.50	---	---	---	1,500	---	2,570	---
GRW-9/GBR-6	Nov-86	---	---	---	---	---	---	---	---	---	---
	Dec-88	---	---	---	---	---	---	---	---	---	---
	Feb-21	59	<0.50	<0.50	---	---	---	1,900	---	3,260	---
GRW-10/GBR-36	Jun-88	---	---	---	---	---	---	---	---	---	---
	Feb-21	51	1.1	<0.50	---	---	---	2,200	---	3,460	---
GRW-11/GBR-27	Jun-86	---	---	---	---	---	---	---	---	---	---
	Feb-21	29	1.3	<0.50	---	---	---	2,400	---	3,880	---
GRW-12/GBR-28	May-86	---	---	---	---	---	---	---	---	---	---
	Jun-88	---	---	---	---	---	---	---	---	---	---
	Feb-21	230	0.74	<0.50	---	---	---	500	---	1,880	---
GRW-13/GBR-14	Nov-86	---	---	---	---	---	---	---	---	---	---
	Dec-88	---	---	---	---	---	---	---	---	---	---
	Jan-95	---	---	---	---	---	---	---	---	---	---
	Jan-00	264	---	---	---	---	---	1,640	---	510	---
	Feb-21	220	0.85	1.3	---	---	---	1,900	---	3,340	---
GBR-5*	Jun-86	---	---	---	---	---	---	---	---	---	---
	Feb-21	89	<0.50	<0.50	---	---	---	1,700	---	3,290	---
GBR-7	Nov-86	---	---	---	---	---	---	---	---	---	---
	Jan-21 (Not Sampled, PSH)	---	---	---	---	---	---	---	---	---	---
GBR-8	Oct-86	---	---	---	---	---	---	---	---	---	---
	Dec-88	---	---	---	---	---	---	---	---	---	---
	Aug-15	86	---	---	---	---	---	---	---	---	---
	Feb-21	100	0.59	<0.50	---	---	---	1,300	---	2,430	---
GBR-9	Nov-86	---	---	---	---	---	---	---	---	---	---
	Aug-88	---	---	---	---	---	---	---	---	---	---
	Feb-21	110	0.88	<0.50	---	---	---	1,200	---	2,520	---
GBR-10	Nov-86	---	---	---	---	---	---	---	---	---	---
	Jan-21 (Obstructed)	---	---	---	---	---	---	---	---	---	---
GBR-11	Jun-86	---	---	---	---	---	---	---	---	---	---
	Aug-15	95	---	---	---	---	---	---	---	---	---
	Feb-21	110	<0.50	<0.50	---	---	---	960	---	1,890	---
GBR-13*	Jun-86	---	---	---	---	---	---	---	---	---	---
	Dec-88	---	---	---	---	---	---	---	---	---	---
	Feb-21	110	1.1	<0.50	---	---	---	1,200	---	2,380	---
GBR-15	Oct-86	---	---	---	---	---	---	---	---	---	---
	Dec-88	---	---	---	---	---	---	---	---	---	---
	Jan-95	---	---	---	---	---	---	---	---	---	---
	Jan-00	313	---	---	---	---	---	1,210	---	2,910	---
	Feb-21	92	0.94	<0.10	---	---	---	2,000	---	3,460	---

TABLE 5
GROUNDWATER ANALYTICAL RESULTS - GENERAL CHEMISTRY PARAMETERS
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, LLC
SAN JUAN COUNTY, NEW MEXICO

ENSOLUM

Well ID	Sample Date	chloride	fluoride	nitrate + nitrite as N	nitrate (as NO_3)	nitrite (as NO_2)	sodium	sulfate	sulfide	total dissolved solids	dissolved organic carbon
Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NMWQCC Standard		250	1.6	NE	10.0	1.0	NE	600	NE	1,000	NE
EPA Regional Screening Level (1)		NE	0.799	NE	32	2.0	NE	NE	NE	NE	NE
Lee Acres Alluvial Aquifer Background Concentration (2)		6.4 - 404	NE	1.2 - 4.9	NE	NE	NE	420 - 2,120	NE	760 - 3,600	NE
Lee Acres Regional Background Concentration (3)		2 - 34,000	NE	0.10 - 1,640	NE	NE	NE	1.9 - 14,000	NE	NE	NE
Lee Acres RI/ROD Remedial Goals (4)		34,000	NE	10	NE	NE	NE	14,000	NE	10,000	NE
GBR Background Concentrations (5)		560	NE	NE	NE	NE	NE	2,800	NE	4,599	NE
GBR-17	Jun-86	**1,005**	---	---	---	---	---	1,202	---	4,355	---
	Dec-88	370	---	---	---	---	---	2,270	---	3,996	---
	Jan-95	---	---	---	---	---	---	---	---	---	---
	Dec-00	4.0	---	---	---	---	---	1,060	---	1,930	---
	Dec-05	48	---	---	---	---	---	1,000	---	2,200	---
	Jan-10	---	---	---	---	---	---	---	---	---	---
	Aug-15	43	0.68	5.8	---	---	---	1,100	---	1,960	---
	Nov-19	55	<0.50	5.2	---	---	---	1,200	---	2,150	---
	Jan-21	52	0.57	5.5	---	---	---	1,300	---	2,220	---
	Apr-21	59	0.33	7.1	7.1	<0.10	---	1,300	<0.050	2,330	<1.0
	Oct-21	58	0.49	6.6	6.6	<0.10	230	1,600	<0.050	2,300	0.94 J
	Apr-22 (Obstructed)	---	---	---	---	---	---	---	---	---	---
	Sep-22 (Obstructed)	---	---	---	---	---	---	---	---	---	---
GBR-18*	Jun-86	262	---	---	---	---	---	**3,141**	---	**4,935**	---
	Jul-94	---	---	---	---	---	---	---	---	---	---
	Mar-21	43	<0.50	1.8	---	---	---	190	---	**5,100**	---
GBR-20*	Jun-86	---	---	---	---	---	---	---	---	---	---
	Aug-15	96	---	---	---	---	---	---	---	---	---
	Feb-21	89	0.66	<0.50	---	---	---	250	---	1,850	---
GBR-21S*	Jan-21 (Dry)	---	---	---	---	---	---	---	---	---	---
GBR-21D*	May-88										
	Aug-15	330	---	---	---	---	---	---	---	---	---
	Feb-21	310	0.66	<0.50	---	---	---	780	---	2,220	---
GBR-22*	May-86	---	---	---	---	---	---	---	---	---	---
	Aug-15	470	---	---	---	---	---	---	---	---	---
	Jan-21 (Not Sampled, PSH)	---	---	---	---	---	---	---	---	---	---
GBR-23*	Jan-21 (Dry or Obstructed)	---	---	---	---	---	---	---	---	---	---
GBR-24S*	Nov-86	**618**	---	---	---	---	---	943	---	2,826	---
	Jan-21 (Obstructed)	---	---	---	---	---	---	---	---	---	---
GBR-24D*	Nov-86	**618**	---	---	---	---	---	943	---	2,826	---
	Jun-88	**630**	---	---	---	---	---	1,640	---	3,487	---
	Jan-95	---	---	---	---	---	---	---	---	---	---
	Jan-00	**610**	---	---	---	---	---	1,380	---	3,550	---
	Jan-05	310	---	---	---	---	---	1,900	---	3,400	---
	Jan-10	---	---	---	---	---	---	---	---	---	---
	Aug-15	160	0.96	0.23	---	---	---	2,100	---	3,380	---
	Nov-19	170	0.58	<1.0	---	---	---	2,100	---	3,420	---
	Feb-21	200	0.52	<0.10	---	---	---	2,100	---	3,360	---
GBR-25*	May-86	---	---	---	---	---	---	---	---	---	---
	Aug-15	520	---	---	---	---	---	---	---	---	---
	Feb-21	390	0.77	<0.50	---	---	---	660	---	2,480	---
GBR-26	Oct-86	---	---	---	---	---	---	---	---	---	---
	Aug-15	170	---	---	---	---	---	---	---	---	---
	Jan-21 (No Recovery)	---	---	---	---	---	---	---	---	---	---
GBR-30	Dec-86	133	---	---	---	---	---	389	---	1,308	---
	Jun-88	370	---	---	---	---	---	2,270	---	3,996	---
	Jan-95	---	---	---	---	---	---	---	---	---	---
	Jan-00	310	---	---	---	---	---	1,460	---	3,140	---
	Jan-10	---	---	---	---	---	---	---	---	---	---
	Aug-15	310	0.59	5.2	---	---	---	1,600	---	3,020	---
	Nov-19	280	<0.50	1.4	---	---	---	1,700	---	3,040	---
	Feb-21	220	0.42	0.95	---	---	---	1,900	---	3,150	---
GBR-31	Nov-86	---	---	---	---	---	---	---	---	---	---
	Jun-88	---	---	---	---	---	---	---	---	---	---
	Jan-95	---	---	---	---	---	---	---	---	---	---
	Jan-00	181	---	---	---	---	---	1,560	---	3,030	---
	Jan-10	---	---	---	---	---	---	---	---	---	---
	Aug-15	250	0.63	2.6	---	---	---	1,700	---	3,170	---
	Nov-19	290	<0.50	<0.50	---	---	---	1,600	---	3,220	---
	Jan-21	85	0.54	7.1	---	---	---	1,600	---	2,770	---

TABLE 5
GROUNDWATER ANALYTICAL RESULTS - GENERAL CHEMISTRY PARAMETERS
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, LLC
SAN JUAN COUNTY, NEW MEXICO

ENSOLUM

Well ID	Sample Date	chloride	fluoride	nitrate + nitrite as N	nitrate (as NO_3)	nitrite (as NO_2)	sodium	sulfate	sulfide	total dissolved solids	dissolved organic carbon
Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NMWQCC Standard		250	1.6	NE	10.0	1.0	NE	600	NE	1,000	NE
EPA Regional Screening Level (1)		NE	0.799	NE	32	2.0	NE	NE	NE	NE	NE
Lee Acres Alluvial Aquifer Background Concentration (2)		6.4 - 404	NE	1.2 - 4.9	NE	NE	NE	420 - 2,120	NE	760 - 3,600	NE
Lee Acres Regional Background Concentration (3)		2 - 34,000	NE	0.10 - 1,640	NE	NE	NE	1.9 - 14,000	NE	NE	NE
Lee Acres RI/ROD Remedial Goals (4)		34,000	NE	10	NE	NE	NE	14,000	NE	10,000	NE
GBR Background Concentrations (5)		560	NE	NE	NE	NE	NE	2,800	NE	4,599	NE
GBR-32*	Aug-88	**588**	---	---	---	---	---	1,830	---	4,400	---
	Jan-95	**569**	---	---	---	---	---	1,770	---	3,830	---
	Dec-00	**735**	---	---	---	---	---	2,190	---	**4,840**	---
	Dec-05	520	---	---	---	---	---	1,700	---	4,400	---
	Jan 2010	---	---	---	---	---	---	---	---	---	---
	Aug-15	370	0.49	3.1	---	---	---	2,000	---	3,830	---
	Nov-19	190	<0.50	<1.0	---	---	---	1,700	---	3,200	---
	Jan-21	170	0.37	<1.0	---	---	---	1,900	---	3,230	---
	Apr-21	160	<0.50	1.6	1.6	<0.50	---	1,800	<0.050	3,240	2
	Oct-21	170	0.24	3.7	3.7	<0.10	450	2,400	<0.050	3,430	1.0 J
	Apr-22	---	---	<1.0	---	---	---	---	---	3,460	1.8
	Sep-22	190	0.57	1.0	---	---	---	2,100	---	3,360	---
GBR-33	Sep-89	---	---	---	---	---	---	---	---	---	---
	Jan-21 (Dry or Obstructed)	---	---	---	---	---	---	---	---	---	---
GBR-34	Aug-15	280	---	---	---	---	---	---	---	---	---
	Feb-21	270	0.86	<0.50	---	---	---	49	---	1,440	---
GBR-35	Feb-21	250	0.92	<0.50	---	---	---	10	---	1,230	---
GBR-39	Feb-21	160	0.54	<0.50	---	---	---	1,000	---	1,860	---
GBR-40	Jun-88	---	---	---	---	---	---	---	---	---	---
	Jan-21 (Dry)	---	---	---	---	---	---	---	---	---	---
GBR-41	Jun-88	---	---	---	---	---	---	---	---	---	---
	Jan-21 (Dry)	---	---	---	---	---	---	---	---	---	---
GBR-48	Nov-88	**1,300**	**4.7**	8.0	---	---	---	1,900	---	**5,900**	---
	Jan-95	**708**	---	---	---	---	---	1,940	---	**4,740**	---
	Dec-00	**1,200**	---	---	---	---	---	1,990	---	**5,340**	---
	Dec-05	420	---	---	---	---	---	1,300	---	3,400	---
	Jan-10	---	---	---	---	---	---	---	---	---	---
	Aug-15	370	0.45	7.3	---	---	---	2,100	---	3,730	---
	Nov-19	270	<0.50	1.9	---	---	---	2,000	---	3,450	---
	Jan-21	290	0.39	2.1	---	---	---	2,100	---	3,720	---
	Apr-21	290	<0.50	2.8	2.8	<0.50	---	1,700	<0.050	3,410	1.6
	Oct-21	290	0	3.2	3.2	<0.10	600	2,600	<0.050	3,430	2.0
	Apr-22	---	---	3.0	---	---	---	---	---	3,750	2.5
	Sep-22	300	0.59	3.9	---	---	---	1,900	---	3,920	1.9
GBR-49	Nov-88	**790**	**3.6**	5.1	---	---	---	1,800	---	---	---
	Jan-95	225	---	---	---	---	---	1,530	---	3,100	---
	Dec-00	426	---	---	---	---	---	1,910	---	3,800	---
	Dec-05	530	---	---	---	---	---	1,900	---	**4,900**	---
	Jan-10	---	---	---	---	---	---	---	---	---	---
	Aug-15	180	0.62	<0.10	---	---	---	1,500	---	2,840	---
	Nov-19	97	<0.50	<1.0	---	---	---	1,500	---	2,710	---
	Jan-21 (Obstructed)	---	---	---	---	---	---	---	---	---	---
GBR-50	Nov-88	110	**2.3**	1.8	---	---	---	1,300	---	---	---
	Jan-95	39	---	---	---	---	---	1,940	---	2,690	---
	Dec-00	4.0	---	---	---	---	---	1,540	---	2,580	---
	Dec-05	51	---	---	---	---	---	1,300	---	2,700	---
	Jan-10	---	---	---	---	---	---	---	---	---	---
	Aug-15	44	0.83	5.0	---	---	---	1,700	---	2,760	---
	Nov-19	69	<0.50	6.9	---	---	---	1,700	---	2,910	---
	Jan-21	60	0.56	2.4	---	---	---	2,100	---	3,100	---
	Apr-21	68	0.17	8.9	8.9	<0.10	---	1,800	<0.050	3,100	<1.0
	Oct-21	70	0	9.6	9.6	<0.10	370	2,400	<0.050	3,220	3.1
	Apr-22	---	---	9.8	---	---	---	---	---	3,210	1.7
	Sep-22	77	0.67	9.7	---	---	---	2,000	---	3,150	1.6
GBR-52/GRW-8	Nov-88	---	---	---	---	---	---	---	---	---	---
	Jan-95	---	---	---	---	---	---	---	---	---	---
	Jan-00	96	---	---	---	---	---	1,500	---	2,700	---
	Jan-05	67	---	---	---	---	---	1,700	---	2,800	---
	Jan-10	---	---	---	---	---	---	---	---	---	---
	Aug-15	65	0.71	5.7	---	---	---	1,400	---	2,840	---
	Nov-19	60	<0.50	6.9	---	---	---	1,500	---	2,600	---
	Jan-21	56	0.64	7.9	---	---	---	1,600	---	2,590	---

TABLE 5
GROUNDWATER ANALYTICAL RESULTS - GENERAL CHEMISTRY PARAMETERS
FORMER GIANT BLOOMFIELD REFINERY
WESTERN REFINING SOUTHWEST, LLC
SAN JUAN COUNTY, NEW MEXICO

ENSOLUM

Well ID	Sample Date	chloride	fluoride	nitrate + nitrite as N	nitrate (as NO_3)	nitrite (as NO_2)	sodium	sulfate	sulfide	total dissolved solids	dissolved organic carbon
Unit		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NMWQCC Standard		250	1.6	NE	10.0	1.0	NE	600	NE	1,000	NE
EPA Regional Screening Level (1)		NE	0.799	NE	32	2.0	NE	NE	NE	NE	NE
Lee Acres Alluvial Aquifer Background Concentration (2)		6.4 - 404	NE	1.2 - 4.9	NE	NE	NE	420 - 2,120	NE	760 - 3,600	NE
Lee Acres Regional Background Concentration (3)		2 - 34,000	NE	0.10 - 1,640	NE	NE	NE	1.9 - 14,000	NE	NE	NE
Lee Acres RI/ROD Remedial Goals (4)		34,000	NE	10	NE	NE	NE	14,000	NE	10,000	NE
GBR Background Concentrations (5)		560	NE	NE	NE	NE	NE	2,800	NE	4,599	NE
SHS-9	Aug-15	96	---	---	---	---	---	---	---	---	---
	Jan-21	130	0.74	<1.0	---	---	---	26	---	1,540	---
SHS-13	Jan-21	330	0.65	1.6	---	---	---	360	---	1,690	---

Notes:

(1) - EPA Regional Screening Level for tap water using hazard quotient of 1.0 (non-carcinogens) and cancer risk of 1 in 100,000 exposed persons (carcinogens)
(2) - "Background" Concentration Proposed in Lee Acres DRAFT Remedial Investigation Report Prepared for the US Bureau of Land Management (dated February 1992)
(3) - Regional Background Concentrations Established in Document Titled Hydrogeology and Water Resources of San Juan Basin, New Mexico, Stone et al., dated 1983
(4) - Contaminant Concentrations Established as the "Remedial Goals" or "Background" Concentrations for the Lee Acres Superfund Site. Based on the Lee Acres DRAFT Remedial Investigation Report and Record of Decision (dated May 2004).
(5) - Background Threshold Value Established for the Former Giant Bloomfield Refinery
** - asterisk indicates that the well is screened withing the bedrock aquifer, no asterisk indicates that a well is screened in the alluvial aquifer*
--- - not tested
mg/L - milligrams per liter
NE - not established
NMWQCC - New Mexico Water Quality Control Commission
PSH - phase separated hydrocarbons
USEPA - United States Environmental Protection Agency
***BOLD -** bold and highlighted cells indicates concentration exceeds the greater of GBR background concentrations or NMWQCC standards; where NMWQCC standards are not established, concentrations compared to EPA regional screening levels*
J - Analyte detected below quantitation limits

ENSOLUM

APPENDIX A

Laboratory Analytical Reports

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 10, 2022

Devin Hencmann
WSP
848 East 2nd Avenue
Durango, CO 81301
TEL: (970) 946-1093
FAX:

RE: G BR OrderNo.: 2204644

Dear Devin Hencmann:

Hall Environmental Analysis Laboratory received 3 sample(s) on 4/14/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2204644**
Date Reported: **5/10/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP **Client Sample ID:** GBR-48
Project: G BR **Collection Date:** 4/12/2022 9:40:00 AM
Lab ID: 2204644-001 **Matrix:** GROUNDWA **Received Date:** 4/14/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Bromide	1.0	1.0		mg/L	10	4/15/2022 12:48:23 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	4/15/2022 12:48:23 PM
Nitrate+Nitrite as N	3.0	1.0		mg/L	5	4/15/2022 11:31:54 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.013	0.0020		mg/L	1	4/20/2022 9:55:45 AM
Cadmium	ND	0.0020		mg/L	1	4/19/2022 3:18:33 PM
Chromium	ND	0.0060		mg/L	1	4/19/2022 3:18:33 PM
Cobalt	0.0090	0.0060		mg/L	1	4/19/2022 3:18:33 PM
Manganese	ND	0.0020		mg/L	1	4/19/2022 3:18:33 PM
Molybdenum	ND	0.0080		mg/L	1	4/19/2022 3:18:33 PM
Nickel	0.037	0.010		mg/L	1	4/19/2022 3:18:33 PM
Silver	ND	0.0050		mg/L	1	4/19/2022 3:18:33 PM
Zinc	ND	0.010		mg/L	1	4/19/2022 3:18:33 PM
EPA METHOD 200.7: METALS						Analyst: **ELS**
Iron	2.0	0.25	*	mg/L	5	4/19/2022 12:48:42 PM
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**
Antimony	ND	0.010		mg/L	10	4/22/2022 10:51:19 AM
Arsenic	ND	0.010		mg/L	10	4/20/2022 12:30:25 PM
Copper	ND	0.010		mg/L	10	4/20/2022 12:30:25 PM
Lead	ND	0.0050		mg/L	10	4/22/2022 10:51:19 AM
Selenium	0.018	0.010		mg/L	10	4/20/2022 12:30:25 PM
Thallium	ND	0.0025		mg/L	10	4/22/2022 10:51:19 AM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Toluene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Ethylbenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Naphthalene	ND	2.0		µg/L	1	4/19/2022 2:52:51 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2022 2:52:51 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2022 2:52:51 PM
Acetone	ND	10		µg/L	1	4/19/2022 2:52:51 PM
Bromobenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Estimated value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference

Analytical Report
Lab Order **2204644**
Date Reported: **5/10/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP **Client Sample ID:** GBR-48
Project: G BR **Collection Date:** 4/12/2022 9:40:00 AM
Lab ID: 2204644-001 **Matrix:** GROUNDWA **Received Date:** 4/14/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Bromoform	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Bromomethane	ND	3.0		µg/L	1	4/19/2022 2:52:51 PM
2-Butanone	ND	10		µg/L	1	4/19/2022 2:52:51 PM
Carbon disulfide	ND	10		µg/L	1	4/19/2022 2:52:51 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Chlorobenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Chloroethane	ND	2.0		µg/L	1	4/19/2022 2:52:51 PM
Chloroform	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Chloromethane	ND	3.0		µg/L	1	4/19/2022 2:52:51 PM
2-Chlorotoluene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
4-Chlorotoluene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
cis-1,2-DCE	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/19/2022 2:52:51 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Dibromomethane	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/19/2022 2:52:51 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
2-Hexanone	ND	10		µg/L	1	4/19/2022 2:52:51 PM
Isopropylbenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/19/2022 2:52:51 PM
Methylene Chloride	ND	3.0		µg/L	1	4/19/2022 2:52:51 PM
n-Butylbenzene	ND	3.0		µg/L	1	4/19/2022 2:52:51 PM
n-Propylbenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
sec-Butylbenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Styrene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
tert-Butylbenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/19/2022 2:52:51 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2204644**
Date Reported: **5/10/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP **Client Sample ID:** GBR-48
Project: G BR **Collection Date:** 4/12/2022 9:40:00 AM
Lab ID: 2204644-001 **Matrix:** GROUNDWA **Received Date:** 4/14/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/19/2022 2:52:51 PM
Vinyl chloride	ND	1.0		µg/L	1	4/19/2022 2:52:51 PM
Xylenes, Total	ND	1.5		µg/L	1	4/19/2022 2:52:51 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	4/19/2022 2:52:51 PM
Surr: 4-Bromofluorobenzene	97.8	70-130		%Rec	1	4/19/2022 2:52:51 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	1	4/19/2022 2:52:51 PM
Surr: Toluene-d8	93.9	70-130		%Rec	1	4/19/2022 2:52:51 PM
SM 5310B: DOC						Analyst: **AG**
Organic Carbon, Dissolved	2.5	1.0		mg/L	1	4/18/2022 7:04:25 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	3750	200	*D	mg/L	1	4/21/2022 12:14:00 PM

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2204644**
Date Reported: **5/10/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP **Client Sample ID:** GBR-32
Project: G BR **Collection Date:** 4/12/2022 10:45:00 AM
Lab ID: 2204644-002 **Matrix:** GROUNDWA **Received Date:** 4/14/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Bromide	ND	1.0		mg/L	10	4/15/2022 1:14:08 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	4/15/2022 1:14:08 PM
Nitrate+Nitrite as N	ND	1.0		mg/L	5	4/15/2022 11:44:46 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.011	0.0020		mg/L	1	4/20/2022 9:57:26 AM
Cadmium	ND	0.0020		mg/L	1	4/19/2022 3:21:49 PM
Chromium	ND	0.0060		mg/L	1	4/19/2022 3:21:49 PM
Cobalt	0.0080	0.0060		mg/L	1	4/19/2022 3:21:49 PM
Manganese	1.1	0.010	*	mg/L	5	4/19/2022 3:23:27 PM
Molybdenum	ND	0.0080		mg/L	1	4/19/2022 3:21:49 PM
Nickel	0.039	0.010		mg/L	1	4/19/2022 3:21:49 PM
Silver	ND	0.0050		mg/L	1	4/19/2022 3:21:49 PM
Zinc	0.016	0.010		mg/L	1	4/20/2022 9:57:26 AM
EPA METHOD 200.7: METALS						Analyst: **ELS**
Iron	0.44	0.050	*	mg/L	1	4/19/2022 12:37:44 PM
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**
Antimony	ND	0.010		mg/L	10	4/22/2022 10:54:00 AM
Arsenic	ND	0.010		mg/L	10	4/20/2022 12:33:07 PM
Copper	ND	0.010		mg/L	10	4/20/2022 12:33:07 PM
Lead	ND	0.0050		mg/L	10	4/22/2022 10:54:00 AM
Selenium	ND	0.010		mg/L	10	4/20/2022 12:33:07 PM
Thallium	ND	0.0025		mg/L	10	4/22/2022 10:54:00 AM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Toluene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Ethylbenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Naphthalene	ND	2.0		µg/L	1	4/19/2022 3:21:21 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2022 3:21:21 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2022 3:21:21 PM
Acetone	ND	10		µg/L	1	4/19/2022 3:21:21 PM
Bromobenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix
E	Estimated value
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit
P	Sample pH Not In Range
PQL	Practical Quanitative Limit
RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference

Analytical Report
Lab Order **2204644**
Date Reported: **5/10/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP **Client Sample ID:** GBR-32
Project: G BR **Collection Date:** 4/12/2022 10:45:00 AM
Lab ID: 2204644-002 **Matrix:** GROUNDWA **Received Date:** 4/14/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Bromoform	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Bromomethane	ND	3.0		µg/L	1	4/19/2022 3:21:21 PM
2-Butanone	ND	10		µg/L	1	4/19/2022 3:21:21 PM
Carbon disulfide	ND	10		µg/L	1	4/19/2022 3:21:21 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Chlorobenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Chloroethane	ND	2.0		µg/L	1	4/19/2022 3:21:21 PM
Chloroform	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Chloromethane	ND	3.0		µg/L	1	4/19/2022 3:21:21 PM
2-Chlorotoluene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
4-Chlorotoluene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
cis-1,2-DCE	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/19/2022 3:21:21 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Dibromomethane	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/19/2022 3:21:21 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
2-Hexanone	ND	10		µg/L	1	4/19/2022 3:21:21 PM
Isopropylbenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/19/2022 3:21:21 PM
Methylene Chloride	ND	3.0		µg/L	1	4/19/2022 3:21:21 PM
n-Butylbenzene	ND	3.0		µg/L	1	4/19/2022 3:21:21 PM
n-Propylbenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
sec-Butylbenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Styrene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
tert-Butylbenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/19/2022 3:21:21 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2204644**
Date Reported: **5/10/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP **Client Sample ID:** GBR-32
Project: G BR **Collection Date:** 4/12/2022 10:45:00 AM
Lab ID: 2204644-002 **Matrix:** GROUNDWA **Received Date:** 4/14/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/19/2022 3:21:21 PM
Vinyl chloride	ND	1.0		µg/L	1	4/19/2022 3:21:21 PM
Xylenes, Total	ND	1.5		µg/L	1	4/19/2022 3:21:21 PM
Surr: 1,2-Dichloroethane-d4	99.5	70-130		%Rec	1	4/19/2022 3:21:21 PM
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	4/19/2022 3:21:21 PM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	4/19/2022 3:21:21 PM
Surr: Toluene-d8	95.5	70-130		%Rec	1	4/19/2022 3:21:21 PM
SM 5310B: DOC						Analyst: **AG**
Organic Carbon, Dissolved	1.8	1.0		mg/L	1	4/18/2022 7:52:44 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	3460	40.0	*D	mg/L	1	4/21/2022 12:14:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2204644**
Date Reported: **5/10/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP **Client Sample ID:** GBR-50
Project: G BR **Collection Date:** 4/12/2022 11:30:00 AM
Lab ID: 2204644-003 **Matrix:** GROUNDWA **Received Date:** 4/14/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **CAS**
Bromide	ND	1.0		mg/L	10	4/15/2022 1:39:52 PM
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	4/15/2022 1:39:52 PM
Nitrate+Nitrite as N	9.8	1.0		mg/L	5	4/15/2022 11:57:38 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.010	0.0020		mg/L	1	4/19/2022 3:30:04 PM
Cadmium	ND	0.0020		mg/L	1	4/19/2022 3:30:04 PM
Chromium	ND	0.0060		mg/L	1	4/19/2022 3:30:04 PM
Cobalt	ND	0.0060		mg/L	1	4/19/2022 3:30:04 PM
Manganese	0.046	0.0020		mg/L	1	4/19/2022 3:30:04 PM
Molybdenum	ND	0.0080		mg/L	1	4/19/2022 3:30:04 PM
Nickel	0.021	0.010		mg/L	1	4/19/2022 3:30:04 PM
Silver	ND	0.0050		mg/L	1	4/19/2022 3:30:04 PM
Zinc	ND	0.010		mg/L	1	4/19/2022 3:30:04 PM
EPA METHOD 200.7: METALS						Analyst: **ELS**
Iron	0.45	0.050	*	mg/L	1	4/19/2022 12:39:08 PM
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**
Antimony	ND	0.0050		mg/L	5	4/22/2022 10:56:41 AM
Arsenic	ND	0.0010		mg/L	1	4/18/2022 12:57:27 PM
Copper	ND	0.0050		mg/L	5	4/20/2022 12:35:48 PM
Lead	ND	0.00050		mg/L	1	4/18/2022 12:57:27 PM
Selenium	0.011	0.0010		mg/L	1	4/18/2022 12:57:27 PM
Thallium	ND	0.00025		mg/L	1	4/18/2022 12:57:27 PM
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Benzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Toluene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Ethylbenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Naphthalene	ND	2.0		µg/L	1	4/19/2022 3:49:59 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2022 3:49:59 PM
2-Methylnaphthalene	ND	4.0		µg/L	1	4/19/2022 3:49:59 PM
Acetone	ND	10		µg/L	1	4/19/2022 3:49:59 PM
Bromobenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Bromodichloromethane	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2204644**
Date Reported: **5/10/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP **Client Sample ID:** GBR-50
Project: G BR **Collection Date:** 4/12/2022 11:30:00 AM
Lab ID: 2204644-003 **Matrix:** GROUNDWA **Received Date:** 4/14/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Bromoform	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Bromomethane	ND	3.0		µg/L	1	4/19/2022 3:49:59 PM
2-Butanone	ND	10		µg/L	1	4/19/2022 3:49:59 PM
Carbon disulfide	ND	10		µg/L	1	4/19/2022 3:49:59 PM
Carbon Tetrachloride	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Chlorobenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Chloroethane	ND	2.0		µg/L	1	4/19/2022 3:49:59 PM
Chloroform	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Chloromethane	ND	3.0		µg/L	1	4/19/2022 3:49:59 PM
2-Chlorotoluene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
4-Chlorotoluene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
cis-1,2-DCE	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	4/19/2022 3:49:59 PM
Dibromochloromethane	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Dibromomethane	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Dichlorodifluoromethane	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,3-Dichloropropane	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
2,2-Dichloropropane	ND	2.0		µg/L	1	4/19/2022 3:49:59 PM
1,1-Dichloropropene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Hexachlorobutadiene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
2-Hexanone	ND	10		µg/L	1	4/19/2022 3:49:59 PM
Isopropylbenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
4-Isopropyltoluene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	4/19/2022 3:49:59 PM
Methylene Chloride	ND	3.0		µg/L	1	4/19/2022 3:49:59 PM
n-Butylbenzene	ND	3.0		µg/L	1	4/19/2022 3:49:59 PM
n-Propylbenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
sec-Butylbenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Styrene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
tert-Butylbenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	4/19/2022 3:49:59 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2204644**
Date Reported: **5/10/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: WSP **Client Sample ID:** GBR-50
Project: G BR **Collection Date:** 4/12/2022 11:30:00 AM
Lab ID: 2204644-003 **Matrix:** GROUNDWA **Received Date:** 4/14/2022 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **JR**
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
trans-1,2-DCE	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Trichloroethene (TCE)	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	4/19/2022 3:49:59 PM
Vinyl chloride	ND	1.0		µg/L	1	4/19/2022 3:49:59 PM
Xylenes, Total	ND	1.5		µg/L	1	4/19/2022 3:49:59 PM
Surr: 1,2-Dichloroethane-d4	97.1	70-130		%Rec	1	4/19/2022 3:49:59 PM
Surr: 4-Bromofluorobenzene	99.0	70-130		%Rec	1	4/19/2022 3:49:59 PM
Surr: Dibromofluoromethane	109	70-130		%Rec	1	4/19/2022 3:49:59 PM
Surr: Toluene-d8	96.9	70-130		%Rec	1	4/19/2022 3:49:59 PM
SM 5310B: DOC						Analyst: **AG**
Organic Carbon, Dissolved	1.7	1.0		mg/L	1	4/18/2022 8:08:46 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	3210	40.0	*D	mg/L	1	4/21/2022 12:14:00 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

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ANALYTICAL REPORT

April 22, 2022

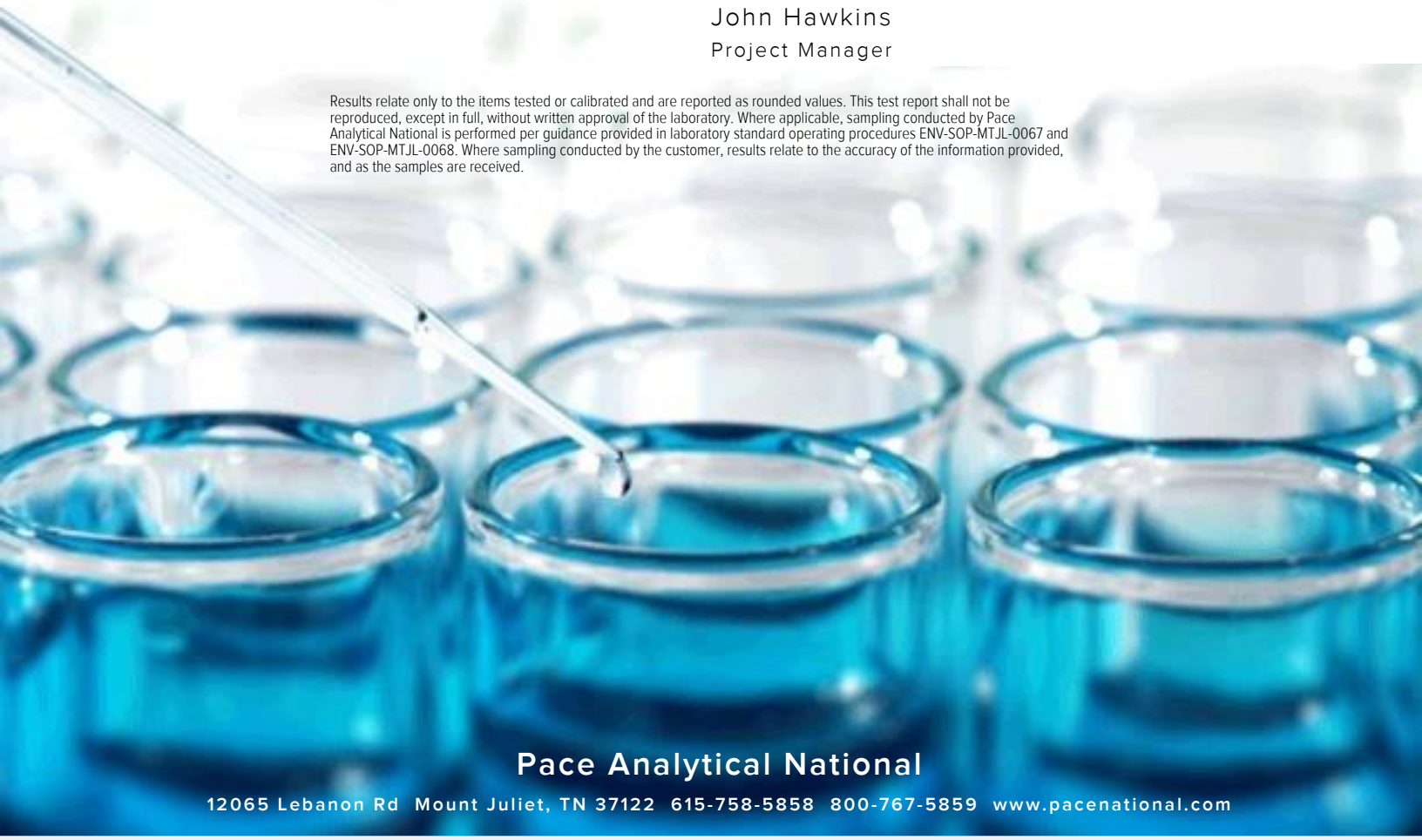
Hall Environmental Analysis Laboratory

Sample Delivery Group:	L1484022
Samples Received:	04/19/2022
Project Number:	
Description:	

Report To: Andy Freeman
4901 Hawkins NE
Albuquerque, NM 87109

Entire Report Reviewed By:

John Hawkins
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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SAMPLE SUMMARY

2204644-001F GBR-48 L1484022-01 WW

			Collected by	Collected date/time	Received date/time	
				04/12/22 09:40	04/19/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500S2 D-2011	WG1851172	1	04/20/22 04:24	04/20/22 04:24	CRB	Mt. Juliet, TN

2204644-002F GBR-32 L1484022-02 WW

			Collected by	Collected date/time	Received date/time	
				04/12/22 10:45	04/19/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500S2 D-2011	WG1851172	1	04/20/22 04:24	04/20/22 04:24	CRB	Mt. Juliet, TN

2204644-003F GBR-50 L1484022-03 WW

			Collected by	Collected date/time	Received date/time	
				04/12/22 11:30	04/19/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 4500S2 D-2011	WG1851172	1	04/20/22 04:24	04/20/22 04:24	CRB	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

John Hawkins
Project Manager

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	ND	T8	0.0500	1	04/20/2022 04:24	WG1851172

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Sulfide	ND	T8	0.0500	1	04/20/2022 04:24	WG1851172

2204644-003F GBR-30

SAMPLE RESULTS - 03

Collected date/time: 04/12/22 11:30

L1484022

Wet Chemistry by Method 4500S2 D-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Sulfide	ND	T8	0.0500	1	04/20/2022 04:24	WG1851172

Method Blank (MB)

(MB) R3782903-1 04/20/22 04:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfide	U		0.0250	0.0500

L1483899-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1483899-10 04/20/22 04:23 • (DUP) R3782903-3 04/20/22 04:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3782903-2 04/20/22 04:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfide	0.500	0.530	106	85.0-115	

L1484022-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1484022-03 04/20/22 04:24 • (MS) R3782903-4 04/20/22 04:25 • (MSD) R3782903-5 04/20/22 04:25

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfide	0.500	ND	0.480	0.479	96.0	95.8	1	80.0-120			0.209	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
T8	Sample(s) received past/too close to holding time expiration.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

G181

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975
FAX: 505-345-4107
Website: www.hallenvironmental.com

SUB CONTRATOR: Pace TN	COMPANY: PACE TN	PHONE: (800) 767-5859	FAX: (615) 758-5859
ADDRESS: 12065 Lebanon Rd		ACCOUNT #:	EMAIL:
CITY, STATE, ZIP: Mt. Juliet, TN 37122			

L1484022

ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2204644-001F	GBR-48 250	500PLNAOH ZNAC	Groundwater	4/12/2022 9:40:00 AM	1	Sulfide -01
2	2204644-002F	GBR-32 250	500PLNAOH ZNAC	Groundwater	4/12/2022 10:45:00 AM	1	Sulfide -02
3	2204644-003F	GBR-50 250	500PLNAOH ZNAC	Groundwater	4/12/2022 11:30:00 AM	1	Sulfide -03

JN 4/18/22

1.7+0=1.7 D2197

Sample Receipt Checklist
COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
RAD Screen <0.5 mR/hr: Y N
If Applicable
VOA Zero Headspace: Y N
Pres.Correct/Check: Y N

5528 5947 9639

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
SEL	4/14/2022	11:05 AM	N. Scott	4/19/22	0900

TAT: Standard ☑ RUSH Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples ______ °C Attempt to Cool ? ______
Comments: ______

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204644**

10-May-22

Client: WSP

Project: G BR

Sample ID: **MB-66916**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW**	Batch ID: **66916**	RunNo: **87332**
Prep Date: **4/18/2022**	Analysis Date: **4/19/2022**	SeqNo: **3088691** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.050								

Sample ID: **LLLCS-66916**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC**	Batch ID: **66916**	RunNo: **87332**
Prep Date: **4/18/2022**	Analysis Date: **4/19/2022**	SeqNo: **3088693** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.050	0.02000	0	99.1	50	150			

Sample ID: **LCS-66916**	SampType: **LCS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW**	Batch ID: **66916**	RunNo: **87332**
Prep Date: **4/18/2022**	Analysis Date: **4/19/2022**	SeqNo: **3088695** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.47	0.050	0.5000	0	94.5	85	115			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW**	Batch ID: **A87367**	RunNo: **87367**
Prep Date:	Analysis Date: **4/20/2022**	SeqNo: **3090747** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0030	0.5000	0	98.3	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW**	Batch ID: **A87367**	RunNo: **87367**
Prep Date:	Analysis Date: **4/20/2022**	SeqNo: **3090766** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0030								
Zinc	ND	0.010								

Sample ID: **LLLCS**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC**	Batch ID: **A87367**	RunNo: **87367**
Prep Date:	Analysis Date: **4/20/2022**	SeqNo: **3090768** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0030	0.002000	0	82.1	50	150			
Zinc	0.010	0.010	0.01000	0	102	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204644**

10-May-22

Client: WSP

Project: G BR

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW**	Batch ID: **B87332**	RunNo: **87332**
Prep Date:	Analysis Date: **4/19/2022**	SeqNo: **3090862** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0030								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: **LLLCS**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC**	Batch ID: **B87332**	RunNo: **87332**
Prep Date:	Analysis Date: **4/19/2022**	SeqNo: **3090863** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0030	0.002000	0	92.3	50	150			
Cadmium	ND	0.0020	0.002000	0	92.6	50	150			
Chromium	ND	0.0060	0.006000	0	94.6	50	150			
Cobalt	0.0060	0.0060	0.006000	0	100	50	150			
Manganese	ND	0.0020	0.002000	0	92.5	50	150			
Molybdenum	ND	0.0080	0.008000	0	96.3	50	150			
Nickel	ND	0.010	0.005000	0	108	50	150			
Silver	ND	0.0050	0.005000	0	95.0	50	150			
Zinc	ND	0.010	0.01000	0	95.4	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW**	Batch ID: **B87332**	RunNo: **87332**
Prep Date:	Analysis Date: **4/19/2022**	SeqNo: **3090864** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0030	0.5000	0	99.2	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.5	85	115			
Chromium	0.50	0.0060	0.5000	0	100	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.7	85	115			
Manganese	0.48	0.0020	0.5000	0	96.6	85	115			
Molybdenum	0.50	0.0080	0.5000	0	99.7	85	115			
Nickel	0.48	0.010	0.5000	0	95.4	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Zinc	0.49	0.010	0.5000	0	97.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204644**

10-May-22

Client: WSP

Project: G BR

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B87332**	RunNo: **87332**
Prep Date:	Analysis Date: **4/19/2022**	SeqNo: **3088748** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: **LLLCS**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B87332**	RunNo: **87332**
Prep Date:	Analysis Date: **4/19/2022**	SeqNo: **3088749** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020	0.002000	0	92.3	50	150			
Cadmium	ND	0.0020	0.002000	0	92.6	50	150			
Chromium	ND	0.0060	0.006000	0	94.6	50	150			
Cobalt	0.0060	0.0060	0.006000	0	100	50	150			
Manganese	ND	0.0020	0.002000	0	92.5	50	150			
Molybdenum	ND	0.0080	0.008000	0	96.3	50	150			
Nickel	ND	0.010	0.005000	0	108	50	150			
Silver	ND	0.0050	0.005000	0	95.0	50	150			
Zinc	ND	0.010	0.01000	0	95.4	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B87332**	RunNo: **87332**
Prep Date:	Analysis Date: **4/19/2022**	SeqNo: **3088750** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	99.2	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.5	85	115			
Chromium	0.50	0.0060	0.5000	0	100	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.7	85	115			
Manganese	0.48	0.0020	0.5000	0	96.6	85	115			
Molybdenum	0.50	0.0080	0.5000	0	99.7	85	115			
Nickel	0.48	0.010	0.5000	0	95.4	85	115			
Silver	0.10	0.0050	0.1000	0	101	85	115			
Zinc	0.49	0.010	0.5000	0	97.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204644**

10-May-22

Client: WSP

Project: G BR

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A87367**	RunNo: **87367**
Prep Date:	Analysis Date: **4/20/2022**	SeqNo: **3090748** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.3	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A87367**	RunNo: **87367**
Prep Date:	Analysis Date: **4/20/2022**	SeqNo: **3090767** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Zinc	ND	0.010								

Sample ID: **LLLCS**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A87367**	RunNo: **87367**
Prep Date:	Analysis Date: **4/20/2022**	SeqNo: **3090769** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020	0.002000	0	82.1	50	150			
Zinc	0.010	0.010	0.01000	0	102	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204644**

10-May-22

Client: WSP

Project: G BR

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B87313**	RunNo: **87313**
Prep Date:	Analysis Date: **4/18/2022**	SeqNo: **3087658** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00025								

Sample ID: **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B87313**	RunNo: **87313**
Prep Date:	Analysis Date: **4/18/2022**	SeqNo: **3087660** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0010	0.0010	0.001000	0	101	50	150			
Lead	0.00055	0.00050	0.0005000	0	110	50	150			
Selenium	0.0011	0.0010	0.001000	0	112	50	150			
Thallium	0.00053	0.00025	0.0005000	0	107	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B87313**	RunNo: **87313**
Prep Date:	Analysis Date: **4/18/2022**	SeqNo: **3087662** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0	102	85	115			
Lead	0.013	0.00050	0.01250	0	104	85	115			
Selenium	0.025	0.0010	0.02500	0	102	85	115			
Thallium	0.013	0.00025	0.01250	0	104	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B87373**	RunNo: **87373**
Prep Date:	Analysis Date: **4/20/2022**	SeqNo: **3090986** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Copper	ND	0.0010								
Selenium	ND	0.0010								

Sample ID: **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B87373**	RunNo: **87373**
Prep Date:	Analysis Date: **4/20/2022**	SeqNo: **3090987** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0011	0.0010	0.001000	0	107	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204644**

10-May-22

Client: WSP

Project: G BR

Sample ID: **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B87373**	RunNo: **87373**
Prep Date:	Analysis Date: **4/20/2022**	SeqNo: **3090987** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0010	0.001000	0	98.7	50	150			
Selenium	0.0011	0.0010	0.001000	0	106	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B87373**	RunNo: **87373**
Prep Date:	Analysis Date: **4/20/2022**	SeqNo: **3090988** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Copper	0.026	0.0010	0.02500	0	103	85	115			
Selenium	0.025	0.0010	0.02500	0	102	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A87452**	RunNo: **87452**
Prep Date:	Analysis Date: **4/22/2022**	SeqNo: **3093977** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Lead	ND	0.00050								
Thallium	ND	0.00025								

Sample ID: **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A87452**	RunNo: **87452**
Prep Date:	Analysis Date: **4/22/2022**	SeqNo: **3093978** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0012	0.0010	0.001000	0	123	50	150			
Lead	0.00054	0.00050	0.0005000	0	109	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A87452**	RunNo: **87452**
Prep Date:	Analysis Date: **4/22/2022**	SeqNo: **3093979** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.013	0.00050	0.01250	0	103	85	115			
Thallium	0.013	0.00025	0.01250	0	103	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204644**

10-May-22

Client: WSP

Project: G BR

Sample ID:	**MSLLLCS-TL-A**	SampType:	**LCSLL**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**A87452**	RunNo:	**87452**					
Prep Date:		Analysis Date:	**4/22/2022**	SeqNo:	**3093991**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	0.00027	0.00025	0.0002500	0	108	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204644**

10-May-22

Client: WSP

Project: G BR

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R87299**	RunNo: **87299**
Prep Date:	Analysis Date: **4/15/2022**	SeqNo: **3087217** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R87299**	RunNo: **87299**
Prep Date:	Analysis Date: **4/15/2022**	SeqNo: **3087218** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	2.5	0.10	2.500	0	100	90	110			
Phosphorus, Orthophosphate (As P)	4.7	0.50	5.000	0	93.9	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	101	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204644**

10-May-22

Client: WSP

Project: G BR

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **R87357**	RunNo: **87357**
Prep Date:	Analysis Date: **4/19/2022**	SeqNo: **3089960** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.6	70	130			
Toluene	18	1.0	20.00	0	91.9	70	130			
Chlorobenzene	19	1.0	20.00	0	95.9	70	130			
1,1-Dichloroethene	18	1.0	20.00	0	89.0	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	92.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.3	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.8	70	130			
Surr: Dibromofluoromethane	10		10.00		105	70	130			
Surr: Toluene-d8	9.6		10.00		95.6	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R87357**	RunNo: **87357**
Prep Date:	Analysis Date: **4/19/2022**	SeqNo: **3089967** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204644**

10-May-22

Client: WSP

Project: G BR

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R87357**	RunNo: **87357**
Prep Date:	Analysis Date: **4/19/2022**	SeqNo: **3089967** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204644**

10-May-22

Client: WSP

Project: G BR

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **R87357**	RunNo: **87357**
Prep Date:	Analysis Date: **4/19/2022**	SeqNo: **3089967** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.7	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		96.6	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.7		10.00		96.6	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204644**

10-May-22

Client: WSP

Project: G BR

Sample ID: **MB-DOC**	SampType: **MBLK**	TestCode: **SM 5310B: DOC**							
Client ID: **PBW**	Batch ID: **A87328**	RunNo: **87328**							
Prep Date:	Analysis Date: **4/18/2022**	SeqNo: **3088580**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	ND	1.0								

Sample ID: **LCS-DOC**	SampType: **LCS**	TestCode: **SM 5310B: DOC**							
Client ID: **LCSW**	Batch ID: **A87328**	RunNo: **87328**							
Prep Date:	Analysis Date: **4/18/2022**	SeqNo: **3088581**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	4.8	1.0	4.850	0	98.5	90	110			

Sample ID: **2204644-001BMS**	SampType: **MS**	TestCode: **SM 5310B: DOC**							
Client ID: **GBR-48**	Batch ID: **A87328**	RunNo: **87328**							
Prep Date:	Analysis Date: **4/18/2022**	SeqNo: **3088583**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	6.6	1.0	4.650	2.486	89.4	85	115			

Sample ID: **2204644-001BMSD**	SampType: **MSD**	TestCode: **SM 5310B: DOC**							
Client ID: **GBR-48**	Batch ID: **A87328**	RunNo: **87328**							
Prep Date:	Analysis Date: **4/18/2022**	SeqNo: **3088584**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	6.8	1.0	4.650	2.486	93.4	85	115	2.75	15	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2204644**

10-May-22

Client: WSP

Project: G BR

Sample ID: **MB-66920**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **66920**	RunNo: **87402**
Prep Date: **4/19/2022**	Analysis Date: **4/21/2022**	SeqNo: **3091885** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-66920**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **66920**	RunNo: **87402**
Prep Date: **4/19/2022**	Analysis Date: **4/21/2022**	SeqNo: **3091886** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1000	20.0	1000	0	100	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WSP | Work Order Number: 2204644 | RcptNo: 1

Received By: Tracy Casarrubias 4/14/2022 8:00:00 AM

Completed By: Sean Livingston 4/14/2022 9:38:16 AM Sean Livingston

Reviewed By: DAD 4/14/22

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☑ NA ☐
5. Sample(s) in proper container(s)? Samples not frozen. Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☐ No ☑
8. Was preservative added to bottles? Yes ☑ No ☐ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☐ No ☐ NA ☑ ZnAc
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: 9 3 (<2 or >12 unless noted)
Adjusted? NaOH
Checked by: SL 4/14/22

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

Poured off ~ 200 mL from sample 001-003C 1 of 2 for 001-003F (Sulfide analysis), preserved with 2mL ZnAc and 6 pellets of NaOH, checked for pH >12 - SL 4/14/22

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good				
2	0.3	Good				

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: WSP

Work Order Number: 2204644

RcptNo: 1

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
3	-0.3	Good				
4	2.1	Good				
5	2.6	Good				

Chain-of-Custody Record

Client: WSP

Mailing Address: 848 E. 2nd Ave
Durango, CO. 81301

Phone #:

email or Fax#: eric.carroll@wsp.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: GBR

Project #: 31404641.000

Project Manager: Devin Hencmann

Sampler: E. Carroll
On Ice: ☒ Yes ☐ No
# of Coolers: 3
Cooler Temp(including CF): See Remarks (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2204644	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	See Attached
4-12	9:40	GW	GBR-48	various	various	001											X
↓	10:45	↓	GBR-32	↓	↓	002											X
	11:30		GBR-50			003											X

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
4-13	10:15	Eric Carroll	[signature]	Courier	4/13/22	1015
4/13/22	1824	Christian Walker	[signature]	Courier	4/14/22	8:00

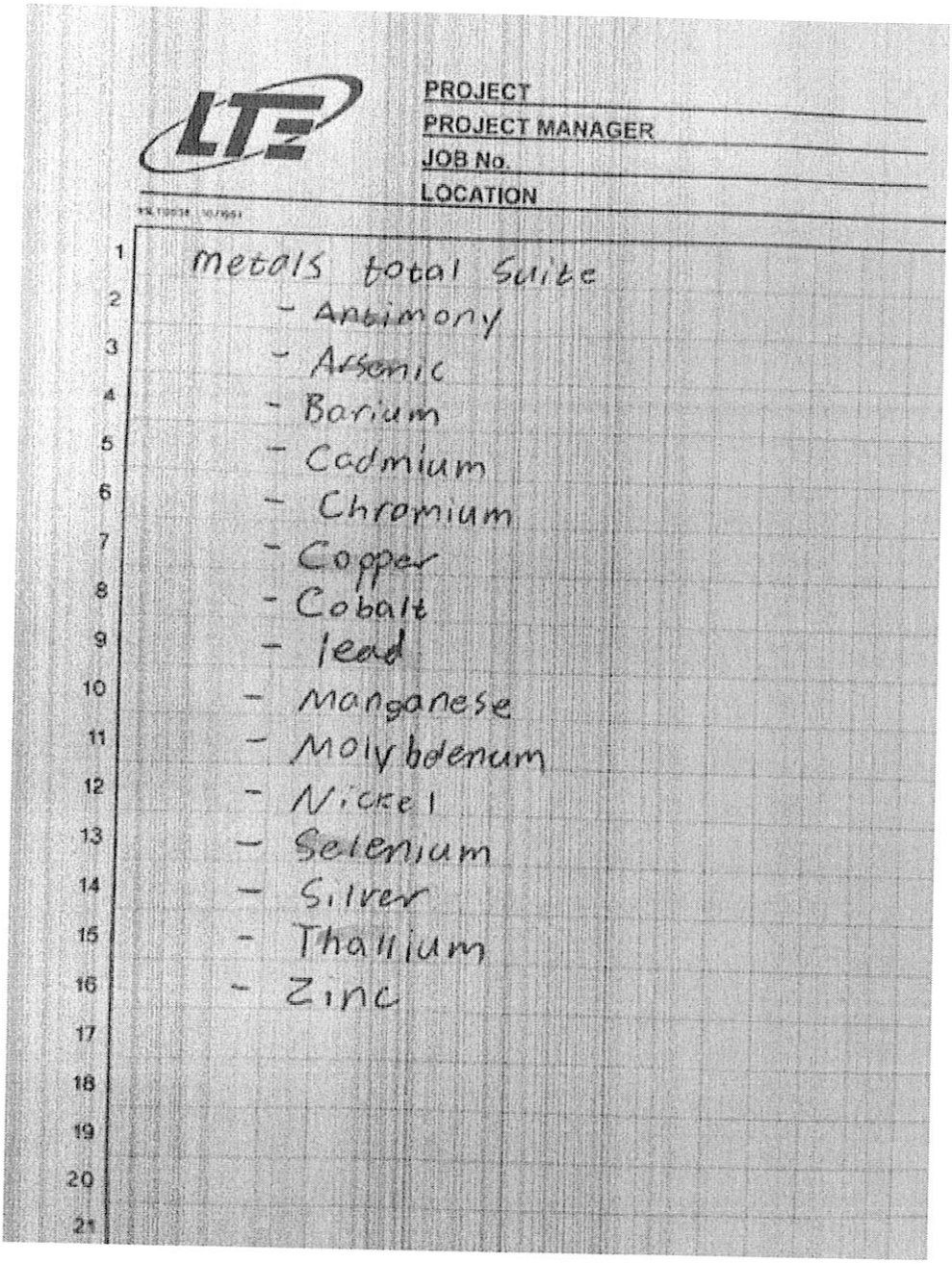
Remarks:
0.6 0.3 -0.3 2.1 2.6 → 0.6 0.3 -0.3 2.1 2.6
Samples not frozen
See 4/14/22

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

METHOD NUMBER	DESCRIPTION OF ITEM
6020/ 200.8	Metals, full suite, by ICP/MS (dissolved - 0.45 um filtration)
6020/ 200.8	Fe (total) by ICP/MS (total iron for ferric iron calculation)
9056/ 300.0	Anions by IC, including bromide, nitrite, and orthophosphate
9034/376.2	Sulfide
2540C	TDS
9060/ 415.1	DOC
8260C	VOC

Sean Livingston

From: Christine Walters
Sent: Thursday, April 14, 2022 10:23 AM
To: Sean Livingston
Subject: WSP Metal list



Christine Walters
HEAL

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 12, 2022

Stuart Hyde
ENSOLUM
606 S. Rio Grande Suite A
Aztec, NM 87410
TEL: (903) 821-5603
FAX:

RE: GBR OrderNo.: 2209B56

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 3 sample(s) on 9/22/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2209B56**
Date Reported: **10/12/2022**

CLIENT: ENSOLUM **Client Sample ID:** GBR-50
Project: GBR **Collection Date:** 9/20/2022 10:00:00 AM
Lab ID: 2209B56-001 **Matrix:** GROUNDWA **Received Date:** 9/22/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Antimony	ND	0.0010		mg/L	1	9/23/2022 11:37:41 AM	A91265
Arsenic	ND	0.0010		mg/L	1	9/23/2022 11:37:41 AM	A91265
Lead	ND	0.00050		mg/L	1	9/23/2022 11:37:41 AM	A91265
Selenium	0.010	0.0010		mg/L	1	9/23/2022 11:37:41 AM	A91265
Thorium	ND	0.0050		mg/L	1	9/23/2022 11:37:41 AM	A91265
EPA 200.8: METALS						Analyst: **bcv**	
Thorium	ND	0.00050		mg/L	1	9/28/2022 12:41:02 PM	70421
Antimony	ND	0.0010		mg/L	1	9/28/2022 12:41:02 PM	70421
Arsenic	ND	0.0010		mg/L	1	9/28/2022 12:41:02 PM	70421
Lead	0.0015	0.00050		mg/L	1	9/28/2022 12:41:02 PM	70421
Selenium	0.013	0.0010		mg/L	1	9/28/2022 12:41:02 PM	70421
SM 5310B: DOC						Analyst: **AG**	
Organic Carbon, Dissolved	1.6	1.0		mg/L	1	9/27/2022 1:54:20 AM	B91324
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Fluoride	0.67	0.50		mg/L	5	9/24/2022 5:37:00 PM	R91296
Chloride	77	2.5		mg/L	5	9/24/2022 5:37:00 PM	R91296
Bromide	ND	0.50		mg/L	5	9/24/2022 5:37:00 PM	R91296
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	9/24/2022 5:37:00 PM	R91296
Sulfate	2000	25	*	mg/L	50	9/27/2022 3:42:35 PM	R91353
Nitrate+Nitrite as N	9.7	1.0		mg/L	5	9/24/2022 8:54:25 PM	R91296
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	3150	40.0	*D	mg/L	1	9/23/2022 7:38:00 PM	70366
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**	
Barium	0.0080	0.0020		mg/L	1	9/28/2022 4:00:23 PM	B91392
Beryllium	ND	0.0020		mg/L	1	9/28/2022 4:00:23 PM	B91392
Cadmium	ND	0.0020		mg/L	1	9/28/2022 4:00:23 PM	B91392
Iron	ND	0.020		mg/L	1	10/6/2022 2:26:22 PM	B91612
Magnesium	42	1.0		mg/L	1	9/28/2022 4:00:23 PM	B91392
Manganese	0.026	0.0020		mg/L	1	9/28/2022 4:00:23 PM	B91392
Nickel	ND	0.010		mg/L	1	9/28/2022 4:00:23 PM	B91392
Silver	0.0091	0.0050		mg/L	1	10/5/2022 10:36:46 AM	A91594
Zinc	ND	0.010		mg/L	1	9/28/2022 4:00:23 PM	B91392
EPA METHOD 200.7: METALS						Analyst: **VP**	
Barium	0.018	0.0030		mg/L	1	9/27/2022 12:33:08 PM	70421
Beryllium	ND	0.0020		mg/L	1	9/27/2022 12:33:08 PM	70421
Cadmium	ND	0.0020		mg/L	1	9/27/2022 12:33:08 PM	70421

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2209B56**
Date Reported: **10/12/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** GBR-50
Project: GBR **Collection Date:** 9/20/2022 10:00:00 AM
Lab ID: 2209B56-001 **Matrix:** GROUNDWA **Received Date:** 9/22/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS						Analyst: **VP**	
Iron	2.3	0.25	*	mg/L	5	9/27/2022 12:34:33 PM	70421
Magnesium	46	1.0		mg/L	1	9/27/2022 12:33:08 PM	70421
Manganese	0.099	0.0020	*	mg/L	1	9/27/2022 12:33:08 PM	70421
Nickel	0.043	0.010		mg/L	1	9/27/2022 12:33:08 PM	70421
Silver	0.0057	0.0050		mg/L	1	9/27/2022 12:33:08 PM	70421
Zinc	ND	0.010		mg/L	1	9/27/2022 12:33:08 PM	70421
EPA METHOD 245.1: MERCURY						Analyst: **VP**	
Mercury	ND	0.00020		mg/L	1	9/29/2022 1:06:43 PM	70474
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Toluene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Ethylbenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Naphthalene	ND	2.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1-Methylnaphthalene	ND	4.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
2-Methylnaphthalene	ND	4.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Acetone	ND	10		µg/L	1	9/28/2022 12:04:00 AM	A91327
Bromobenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Bromodichloromethane	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Bromoform	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Bromomethane	ND	3.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
2-Butanone	ND	10		µg/L	1	9/28/2022 12:04:00 AM	A91327
Carbon disulfide	ND	10		µg/L	1	9/28/2022 12:04:00 AM	A91327
Carbon Tetrachloride	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Chlorobenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Chloroethane	ND	2.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Chloroform	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Chloromethane	ND	3.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
2-Chlorotoluene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
4-Chlorotoluene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
cis-1,2-DCE	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Dibromochloromethane	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2209B56**
Date Reported: **10/12/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** GBR-50
Project: GBR **Collection Date:** 9/20/2022 10:00:00 AM
Lab ID: 2209B56-001 **Matrix:** GROUNDWA **Received Date:** 9/22/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Dibromomethane	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,1-Dichloroethane	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,1-Dichloroethene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,2-Dichloropropane	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,3-Dichloropropane	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
2,2-Dichloropropane	ND	2.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,1-Dichloropropene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Hexachlorobutadiene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
2-Hexanone	ND	10		µg/L	1	9/28/2022 12:04:00 AM	A91327
Isopropylbenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
4-Isopropyltoluene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
4-Methyl-2-pentanone	ND	10		µg/L	1	9/28/2022 12:04:00 AM	A91327
Methylene Chloride	ND	3.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
n-Butylbenzene	ND	3.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
n-Propylbenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
sec-Butylbenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Styrene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
tert-Butylbenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
trans-1,2-DCE	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Trichlorofluoromethane	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Vinyl chloride	ND	1.0		µg/L	1	9/28/2022 12:04:00 AM	A91327
Xylenes, Total	ND	1.5		µg/L	1	9/28/2022 12:04:00 AM	A91327
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	9/28/2022 12:04:00 AM	A91327
Surr: 4-Bromofluorobenzene	86.9	70-130		%Rec	1	9/28/2022 12:04:00 AM	A91327
Surr: Dibromofluoromethane	106	70-130		%Rec	1	9/28/2022 12:04:00 AM	A91327

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2209B56**
Date Reported: **10/12/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** GBR-50
Project: GBR **Collection Date:** 9/20/2022 10:00:00 AM
Lab ID: 2209B56-001 **Matrix:** GROUNDWA **Received Date:** 9/22/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Surr: Toluene-d8	84.4	70-130		%Rec	1	9/28/2022 12:04:00 AM	A91327

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2209B56**
Date Reported: **10/12/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** GBR-48
Project: GBR **Collection Date:** 9/20/2022 9:00:00 AM
Lab ID: 2209B56-002 **Matrix:** GROUNDWA **Received Date:** 9/22/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Antimony	ND	0.0010		mg/L	1	9/23/2022 11:40:22 AM	A91265
Arsenic	ND	0.0010		mg/L	1	9/23/2022 11:40:22 AM	A91265
Lead	ND	0.00050		mg/L	1	9/23/2022 11:40:22 AM	A91265
Selenium	0.028	0.0010		mg/L	1	9/23/2022 11:40:22 AM	A91265
Thorium	ND	0.0050		mg/L	1	9/23/2022 11:40:22 AM	A91265
EPA 200.8: METALS						Analyst: **bcv**	
Thorium	0.010	0.00050		mg/L	1	9/28/2022 12:43:29 PM	70421
Antimony	ND	0.0010		mg/L	1	9/28/2022 12:43:29 PM	70421
Arsenic	0.0035	0.0010		mg/L	1	9/28/2022 12:43:29 PM	70421
Lead	0.011	0.00050		mg/L	1	9/28/2022 12:43:29 PM	70421
Selenium	0.034	0.0010		mg/L	1	9/28/2022 12:43:29 PM	70421
SM 5310B: DOC						Analyst: **AG**	
Organic Carbon, Dissolved	1.9	1.0		mg/L	1	9/27/2022 3:16:03 AM	B91324
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Fluoride	0.59	0.50		mg/L	5	9/24/2022 6:01:40 PM	R91296
Chloride	300	10	*	mg/L	20	9/24/2022 6:14:00 PM	R91296
Bromide	1.1	0.50		mg/L	5	9/24/2022 6:01:40 PM	R91296
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	9/24/2022 6:01:40 PM	R91296
Sulfate	1900	50	*	mg/L	100	9/27/2022 3:54:59 PM	R91353
Nitrate+Nitrite as N	3.9	1.0		mg/L	5	9/24/2022 9:06:46 PM	R91296
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	3920	100	*D	mg/L	1	9/23/2022 7:38:00 PM	70366
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**	
Barium	0.017	0.0020		mg/L	1	9/28/2022 4:04:56 PM	B91392
Beryllium	ND	0.0020		mg/L	1	9/28/2022 4:04:56 PM	B91392
Cadmium	ND	0.0020		mg/L	1	9/28/2022 4:04:56 PM	B91392
Iron	ND	0.020		mg/L	1	10/6/2022 2:28:39 PM	B91612
Magnesium	59	1.0		mg/L	1	9/28/2022 4:04:56 PM	B91392
Manganese	ND	0.0020		mg/L	1	9/28/2022 4:04:56 PM	B91392
Nickel	0.033	0.010		mg/L	1	9/28/2022 4:04:56 PM	B91392
Silver	0.0086	0.0050		mg/L	1	10/5/2022 10:43:22 AM	A91594
Zinc	ND	0.010		mg/L	1	9/28/2022 4:04:56 PM	B91392
EPA METHOD 200.7: METALS						Analyst: **VP**	
Barium	0.17	0.0030		mg/L	1	9/27/2022 12:43:59 PM	70421
Beryllium	ND	0.0020		mg/L	1	9/27/2022 12:43:59 PM	70421
Cadmium	ND	0.0020		mg/L	1	9/27/2022 12:43:59 PM	70421

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2209B56**
Date Reported: **10/12/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** GBR-48
Project: GBR **Collection Date:** 9/20/2022 9:00:00 AM
Lab ID: 2209B56-002 **Matrix:** GROUNDWA **Received Date:** 9/22/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS						Analyst: **VP**	
Iron	26	2.5	*	mg/L	50	9/28/2022 1:00:00 PM	70421
Magnesium	64	1.0		mg/L	1	9/27/2022 12:43:59 PM	70421
Manganese	0.51	0.0020	*	mg/L	1	9/27/2022 12:43:59 PM	70421
Nickel	0.049	0.010		mg/L	1	9/27/2022 12:43:59 PM	70421
Silver	ND	0.0050		mg/L	1	9/27/2022 12:43:59 PM	70421
Zinc	0.036	0.010		mg/L	1	9/27/2022 12:43:59 PM	70421
EPA METHOD 245.1: MERCURY						Analyst: **VP**	
Mercury	ND	0.00020		mg/L	1	9/29/2022 1:08:52 PM	70474
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Toluene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Ethylbenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Naphthalene	ND	2.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1-Methylnaphthalene	ND	4.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
2-Methylnaphthalene	ND	4.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Acetone	ND	10		µg/L	1	9/28/2022 1:13:00 AM	A91327
Bromobenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Bromodichloromethane	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Bromoform	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Bromomethane	ND	3.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
2-Butanone	ND	10		µg/L	1	9/28/2022 1:13:00 AM	A91327
Carbon disulfide	ND	10		µg/L	1	9/28/2022 1:13:00 AM	A91327
Carbon Tetrachloride	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Chlorobenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Chloroethane	ND	2.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Chloroform	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Chloromethane	ND	3.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
2-Chlorotoluene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
4-Chlorotoluene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
cis-1,2-DCE	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Dibromochloromethane	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2209B56**
Date Reported: **10/12/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** GBR-48
Project: GBR **Collection Date:** 9/20/2022 9:00:00 AM
Lab ID: 2209B56-002 **Matrix:** GROUNDWA **Received Date:** 9/22/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Dibromomethane	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,1-Dichloroethane	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,1-Dichloroethene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,2-Dichloropropane	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,3-Dichloropropane	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
2,2-Dichloropropane	ND	2.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,1-Dichloropropene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Hexachlorobutadiene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
2-Hexanone	ND	10		µg/L	1	9/28/2022 1:13:00 AM	A91327
Isopropylbenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
4-Isopropyltoluene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
4-Methyl-2-pentanone	ND	10		µg/L	1	9/28/2022 1:13:00 AM	A91327
Methylene Chloride	ND	3.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
n-Butylbenzene	ND	3.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
n-Propylbenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
sec-Butylbenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Styrene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
tert-Butylbenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Tetrachloroethene (PCE)	1.2	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
trans-1,2-DCE	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Trichlorofluoromethane	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Vinyl chloride	ND	1.0		µg/L	1	9/28/2022 1:13:00 AM	A91327
Xylenes, Total	ND	1.5		µg/L	1	9/28/2022 1:13:00 AM	A91327
Surr: 1,2-Dichloroethane-d4	104	70-130		%Rec	1	9/28/2022 1:13:00 AM	A91327
Surr: 4-Bromofluorobenzene	88.1	70-130		%Rec	1	9/28/2022 1:13:00 AM	A91327
Surr: Dibromofluoromethane	105	70-130		%Rec	1	9/28/2022 1:13:00 AM	A91327

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2209B56**
Date Reported: **10/12/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** GBR-48
Project: GBR **Collection Date:** 9/20/2022 9:00:00 AM
Lab ID: 2209B56-002 **Matrix:** GROUNDWA **Received Date:** 9/22/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Surr: Toluene-d8	84.2	70-130		%Rec	1	9/28/2022 1:13:00 AM	A91327

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2209B56**
Date Reported: **10/12/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** GBR-32
Project: GBR **Collection Date:** 9/20/2022 11:00:00 AM
Lab ID: 2209B56-003 **Matrix:** GROUNDWA **Received Date:** 9/22/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Antimony	ND	0.0010		mg/L	1	9/23/2022 11:48:27 AM	A91265
Arsenic	ND	0.0010		mg/L	1	9/23/2022 11:48:27 AM	A91265
Lead	ND	0.00050		mg/L	1	9/23/2022 11:48:27 AM	A91265
Selenium	0.0033	0.0010		mg/L	1	9/23/2022 11:48:27 AM	A91265
Thorium	ND	0.0050		mg/L	1	9/23/2022 11:48:27 AM	A91265
EPA 200.8: METALS						Analyst: **bcv**	
Thorium	ND	0.00050		mg/L	1	9/28/2022 12:45:55 PM	70421
Antimony	ND	0.0010		mg/L	1	9/28/2022 12:45:55 PM	70421
Arsenic	ND	0.0010		mg/L	1	9/28/2022 12:45:55 PM	70421
Lead	ND	0.00050		mg/L	1	9/28/2022 12:45:55 PM	70421
Selenium	0.0044	0.0010		mg/L	1	9/28/2022 12:45:55 PM	70421
SM 5310B: DOC						Analyst: **AG**	
Organic Carbon, Dissolved	1.6	1.0		mg/L	1	9/27/2022 3:32:11 AM	B91324
EPA METHOD 300.0: ANIONS						Analyst: **JMT**	
Fluoride	0.57	0.50		mg/L	5	9/24/2022 6:26:20 PM	R91296
Chloride	190	10		mg/L	20	9/24/2022 6:38:41 PM	R91296
Bromide	0.72	0.50		mg/L	5	9/24/2022 6:26:20 PM	R91296
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	9/24/2022 6:26:20 PM	R91296
Sulfate	2100	25	*	mg/L	50	9/27/2022 4:32:12 PM	R91353
Nitrate+Nitrite as N	1.0	1.0		mg/L	5	9/24/2022 9:19:07 PM	R91296
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	3360	40.0	*D	mg/L	1	9/23/2022 7:38:00 PM	70366
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**	
Barium	0.0080	0.0020		mg/L	1	9/28/2022 4:23:04 PM	B91392
Beryllium	ND	0.0020		mg/L	1	9/28/2022 4:23:04 PM	B91392
Cadmium	ND	0.0020		mg/L	1	9/28/2022 4:23:04 PM	B91392
Iron	ND	0.020		mg/L	1	10/6/2022 2:30:57 PM	B91612
Magnesium	48	1.0		mg/L	1	10/5/2022 10:45:09 AM	A91594
Manganese	0.81	0.0020	*	mg/L	1	9/28/2022 4:23:04 PM	B91392
Nickel	0.034	0.010		mg/L	1	9/28/2022 4:23:04 PM	B91392
Silver	0.0079	0.0050		mg/L	1	10/5/2022 10:45:09 AM	A91594
Zinc	0.011	0.010		mg/L	1	9/28/2022 4:23:04 PM	B91392
EPA METHOD 200.7: METALS						Analyst: **VP**	
Barium	0.016	0.0030		mg/L	1	9/27/2022 12:48:09 PM	70421
Beryllium	ND	0.0020		mg/L	1	9/27/2022 12:48:09 PM	70421
Cadmium	ND	0.0020		mg/L	1	9/27/2022 12:48:09 PM	70421

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2209B56**
Date Reported: **10/12/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** GBR-32
Project: GBR **Collection Date:** 9/20/2022 11:00:00 AM
Lab ID: 2209B56-003 **Matrix:** GROUNDWA **Received Date:** 9/22/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS						Analyst: **VP**	
Iron	1.2	0.25	*	mg/L	5	9/27/2022 12:49:48 PM	70421
Magnesium	51	1.0		mg/L	1	9/27/2022 12:48:09 PM	70421
Manganese	1.2	0.010	*	mg/L	5	9/27/2022 12:49:48 PM	70421
Nickel	0.036	0.010		mg/L	1	9/27/2022 12:48:09 PM	70421
Silver	0.0052	0.0050		mg/L	1	9/27/2022 12:48:09 PM	70421
Zinc	0.010	0.010		mg/L	1	9/27/2022 12:48:09 PM	70421
EPA METHOD 245.1: MERCURY						Analyst: **VP**	
Mercury	ND	0.00020		mg/L	1	9/29/2022 1:11:01 PM	70474
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Toluene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Ethylbenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Naphthalene	ND	2.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1-Methylnaphthalene	ND	4.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
2-Methylnaphthalene	ND	4.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Acetone	ND	10		µg/L	1	9/28/2022 1:36:00 AM	A91327
Bromobenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Bromodichloromethane	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Bromoform	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Bromomethane	ND	3.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
2-Butanone	ND	10		µg/L	1	9/28/2022 1:36:00 AM	A91327
Carbon disulfide	ND	10		µg/L	1	9/28/2022 1:36:00 AM	A91327
Carbon Tetrachloride	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Chlorobenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Chloroethane	ND	2.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Chloroform	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Chloromethane	ND	3.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
2-Chlorotoluene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
4-Chlorotoluene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
cis-1,2-DCE	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Dibromochloromethane	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2209B56**
Date Reported: **10/12/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** GBR-32
Project: GBR **Collection Date:** 9/20/2022 11:00:00 AM
Lab ID: 2209B56-003 **Matrix:** GROUNDWA **Received Date:** 9/22/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Dibromomethane	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,3-Dichlorobenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,4-Dichlorobenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Dichlorodifluoromethane	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,1-Dichloroethane	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,1-Dichloroethene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,2-Dichloropropane	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,3-Dichloropropane	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
2,2-Dichloropropane	ND	2.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,1-Dichloropropene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Hexachlorobutadiene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
2-Hexanone	ND	10		µg/L	1	9/28/2022 1:36:00 AM	A91327
Isopropylbenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
4-Isopropyltoluene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
4-Methyl-2-pentanone	ND	10		µg/L	1	9/28/2022 1:36:00 AM	A91327
Methylene Chloride	ND	3.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
n-Butylbenzene	ND	3.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
n-Propylbenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
sec-Butylbenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Styrene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
tert-Butylbenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
trans-1,2-DCE	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Trichlorofluoromethane	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Vinyl chloride	ND	1.0		µg/L	1	9/28/2022 1:36:00 AM	A91327
Xylenes, Total	ND	1.5		µg/L	1	9/28/2022 1:36:00 AM	A91327
Surr: 1,2-Dichloroethane-d4	108	70-130		%Rec	1	9/28/2022 1:36:00 AM	A91327
Surr: 4-Bromofluorobenzene	87.4	70-130		%Rec	1	9/28/2022 1:36:00 AM	A91327
Surr: Dibromofluoromethane	108	70-130		%Rec	1	9/28/2022 1:36:00 AM	A91327

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report
Lab Order **2209B56**
Date Reported: **10/12/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** GBR-32
Project: GBR **Collection Date:** 9/20/2022 11:00:00 AM
Lab ID: 2209B56-003 **Matrix:** GROUNDWA **Received Date:** 9/22/2022 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **CCM**	
Surr: Toluene-d8	85.7	70-130		%Rec	1	9/28/2022 1:36:00 AM	A91327

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209B56**

12-Oct-22

Client: ENSOLUM

Project: GBR

Sample ID: **MB-70421** SampType: **MBLK** TestCode: **EPA Method 200.7: Metals**

Client ID: **PBW** Batch ID: **70421** RunNo: **91335**

Prep Date: **9/26/2022** Analysis Date: **9/27/2022** SeqNo: **3269181** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0030								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Iron	ND	0.050								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: **LCSLL-70421** SampType: **LCSLL** TestCode: **EPA Method 200.7: Metals**

Client ID: **BatchQC** Batch ID: **70421** RunNo: **91335**

Prep Date: **9/26/2022** Analysis Date: **9/27/2022** SeqNo: **3269182** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0030	0.002000	0	130	50	150			
Beryllium	0.0021	0.0020	0.002000	0	106	50	150			
Cadmium	0.0023	0.0020	0.002000	0	113	50	150			
Iron	ND	0.050	0.02000	0	137	50	150			
Magnesium	ND	1.0	0.5000	0	109	50	150			
Manganese	0.0020	0.0020	0.002000	0	100	50	150			
Nickel	ND	0.010	0.005000	0	72.2	50	150			
Silver	0.0052	0.0050	0.005000	0	104	50	150			
Zinc	0.013	0.010	0.01000	0	132	50	150			

Sample ID: **LCS-70421** SampType: **LCS** TestCode: **EPA Method 200.7: Metals**

Client ID: **LCSW** Batch ID: **70421** RunNo: **91335**

Prep Date: **9/26/2022** Analysis Date: **9/27/2022** SeqNo: **3269183** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0030	0.5000	0	103	85	115			
Beryllium	0.52	0.0020	0.5000	0	104	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Iron	0.52	0.050	0.5000	0	104	85	115			
Magnesium	54	1.0	50.00	0	107	85	115			
Manganese	0.50	0.0020	0.5000	0	99.7	85	115			
Nickel	0.49	0.010	0.5000	0	98.2	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Zinc	0.51	0.010	0.5000	0	103	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209B56**

12-Oct-22

Client: ENSOLUM

Project: GBR

Sample ID: **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B91392**	RunNo: **91392**
Prep Date:	Analysis Date: **9/28/2022**	SeqNo: **3271802** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Nickel	ND	0.010								
Zinc	ND	0.010								

Sample ID: **LLLCS-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B91392**	RunNo: **91392**
Prep Date:	Analysis Date: **9/28/2022**	SeqNo: **3271803** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0020	0.0020	0.002000	0	101	50	150			
Beryllium	0.0022	0.0020	0.002000	0	111	50	150			
Cadmium	0.0026	0.0020	0.002000	0	128	50	150			
Magnesium	ND	1.0	0.5000	0	108	50	150			
Manganese	0.0021	0.0020	0.002000	0	103	50	150			
Nickel	ND	0.010	0.005000	0	115	50	150			
Zinc	0.010	0.010	0.01000	0	101	50	150			

Sample ID: **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B91392**	RunNo: **91392**
Prep Date:	Analysis Date: **9/28/2022**	SeqNo: **3271810** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.1	85	115			
Beryllium	0.51	0.0020	0.5000	0	101	85	115			
Cadmium	0.50	0.0020	0.5000	0	100	85	115			
Magnesium	53	1.0	50.00	0	107	85	115			
Manganese	0.49	0.0020	0.5000	0	97.6	85	115			
Nickel	0.49	0.010	0.5000	0	97.4	85	115			
Zinc	0.50	0.010	0.5000	0	99.2	85	115			

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A91594**	RunNo: **91594**
Prep Date:	Analysis Date: **10/5/2022**	SeqNo: **3281370** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209B56**

12-Oct-22

Client: ENSOLUM

Project: GBR

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A91594**	RunNo: **91594**
Prep Date:	Analysis Date: **10/5/2022**	SeqNo: **3281370** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	ND	0.0050								

Sample ID: **LLLCS-A**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A91594**	RunNo: **91594**
Prep Date:	Analysis Date: **10/5/2022**	SeqNo: **3281371** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	ND	1.0	0.5000	0	106	50	150			
Silver	ND	0.0050	0.005000	0	97.4	50	150			

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A91594**	RunNo: **91594**
Prep Date:	Analysis Date: **10/5/2022**	SeqNo: **3281372** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Magnesium	51	1.0	50.00	0	102	85	115			
Silver	0.099	0.0050	0.1000	0	99.1	85	115			

Sample ID: **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B91612**	RunNo: **91612**
Prep Date:	Analysis Date: **10/6/2022**	SeqNo: **3282800** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								

Sample ID: **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B91612**	RunNo: **91612**
Prep Date:	Analysis Date: **10/6/2022**	SeqNo: **3282801** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.47	0.020	0.5000	0	94.7	85	115			

Sample ID: **LCSLL-B**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **B91612**	RunNo: **91612**
Prep Date:	Analysis Date: **10/6/2022**	SeqNo: **3282802** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020	0.02000	0	93.5	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209B56**

12-Oct-22

Client: ENSOLUM

Project: GBR

Sample ID: **MB-70421**	SampType: **MBLK**	TestCode: **EPA 200.8: Metals**
Client ID: **PBW**	Batch ID: **70421**	RunNo: **91369**
Prep Date: **9/26/2022**	Analysis Date: **9/28/2022**	SeqNo: **3270799** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								

Sample ID: **MSLCSLL-70421**	SampType: **LCSLL**	TestCode: **EPA 200.8: Metals**
Client ID: **BatchQC**	Batch ID: **70421**	RunNo: **91369**
Prep Date: **9/26/2022**	Analysis Date: **9/28/2022**	SeqNo: **3270802** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0012	0.0010	0.001000	0	121	50	150			
Arsenic	0.0011	0.0010	0.001000	0	112	50	150			
Lead	0.00052	0.00050	0.0005000	0	104	50	150			
Selenium	ND	0.0010	0.001000	0	58.3	50	150			

Sample ID: **MSLCS-70421**	SampType: **LCS**	TestCode: **EPA 200.8: Metals**
Client ID: **LCSW**	Batch ID: **70421**	RunNo: **91369**
Prep Date: **9/26/2022**	Analysis Date: **9/28/2022**	SeqNo: **3270805** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.027	0.0010	0.02500	0	106	85	115			
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.013	0.00050	0.01250	0	103	85	115			
Selenium	0.024	0.0010	0.02500	0	97.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209B56**

12-Oct-22

Client: ENSOLUM

Project: GBR

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A91265**	RunNo: **91265**
Prep Date:	Analysis Date: **9/23/2022**	SeqNo: **3266009** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thorium	ND	0.0050								

Sample ID: **LCSLL**	SampType: **LCSLL**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A91265**	RunNo: **91265**
Prep Date:	Analysis Date: **9/23/2022**	SeqNo: **3266010** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0012	0.0010	0.001000	0	121	50	150			
Arsenic	0.0011	0.0010	0.001000	0	110	50	150			
Lead	0.00053	0.00050	0.0005000	0	107	50	150			
Selenium	0.0014	0.0010	0.001000	0	136	50	150			
Thorium	ND	0.0050	0.0005000	0	77.4	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A91265**	RunNo: **91265**
Prep Date:	Analysis Date: **9/23/2022**	SeqNo: **3266011** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	94.4	85	115			
Arsenic	0.024	0.0010	0.02500	0	97.6	85	115			
Lead	0.012	0.00050	0.01250	0	96.9	85	115			
Selenium	0.025	0.0010	0.02500	0	101	85	115			
Thorium	0.012	0.0050	0.01250	0	96.6	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209B56**

12-Oct-22

Client: ENSOLUM

Project: GBR

Sample ID: **MB-70474**	SampType: **MBLK**	TestCode: **EPA Method 245.1: Mercury**
Client ID: **PBW**	Batch ID: **70474**	RunNo: **91412**
Prep Date: **9/29/2022**	Analysis Date: **9/29/2022**	SeqNo: **3272741** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: **LCSLL-70474**	SampType: **LCSLL**	TestCode: **EPA Method 245.1: Mercury**
Client ID: **BatchQC**	Batch ID: **70474**	RunNo: **91412**
Prep Date: **9/29/2022**	Analysis Date: **9/29/2022**	SeqNo: **3272742** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020	0.0001500	0	91.7	50	150			

Sample ID: **LCS-70474**	SampType: **LCS**	TestCode: **EPA Method 245.1: Mercury**
Client ID: **LCSW**	Batch ID: **70474**	RunNo: **91412**
Prep Date: **9/29/2022**	Analysis Date: **9/29/2022**	SeqNo: **3272743** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0053	0.00020	0.005000	0	106	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209B56**

12-Oct-22

Client: ENSOLUM

Project: GBR

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R91296**	RunNo: **91296**
Prep Date:	Analysis Date: **9/24/2022**	SeqNo: **3267221** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R91296**	RunNo: **91296**
Prep Date:	Analysis Date: **9/24/2022**	SeqNo: **3267222** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.53	0.10	0.5000	0	105	90	110			
Chloride	4.7	0.50	5.000	0	94.3	90	110			
Bromide	2.5	0.10	2.500	0	98.1	90	110			
Phosphorus, Orthophosphate (As P)	4.7	0.50	5.000	0	93.4	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	100	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R91353**	RunNo: **91353**
Prep Date:	Analysis Date: **9/27/2022**	SeqNo: **3270337** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	ND	0.50								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R91353**	RunNo: **91353**
Prep Date:	Analysis Date: **9/27/2022**	SeqNo: **3270338** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	9.5	0.50	10.00	0	94.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209B56**

12-Oct-22

Client: ENSOLUM

Project: GBR

Sample ID: **2209B56-001ams**	SampType: **MS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **GBR-50**	Batch ID: **A91327**	RunNo: **91327**
Prep Date:	Analysis Date: **9/28/2022**	SeqNo: **3270202** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	113	70	130			
Toluene	20	1.0	20.00	0	97.6	70	130			
Chlorobenzene	20	1.0	20.00	0	98.7	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	103	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.3	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	8.5		10.00		85.3	70	130			

Sample ID: **2209B56-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **GBR-50**	Batch ID: **A91327**	RunNo: **91327**
Prep Date:	Analysis Date: **9/28/2022**	SeqNo: **3270203** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130	3.26	20	
Toluene	19	1.0	20.00	0	96.4	70	130	1.32	20	
Chlorobenzene	20	1.0	20.00	0	98.2	70	130	0.457	20	
1,1-Dichloroethene	20	1.0	20.00	0	98.9	70	130	3.92	20	
Trichloroethene (TCE)	20	1.0	20.00	0	100	70	130	4.74	20	
Surr: 1,2-Dichloroethane-d4	10		10.00		105	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.2		10.00		91.9	70	130	0	0	
Surr: Dibromofluoromethane	10		10.00		104	70	130	0	0	
Surr: Toluene-d8	8.7		10.00		87.4	70	130	0	0	

Sample ID: **100ng lcs 2**	SampType: **LCS**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW**	Batch ID: **A91327**	RunNo: **91327**
Prep Date:	Analysis Date: **9/27/2022**	SeqNo: **3270223** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	70	130			
Toluene	19	1.0	20.00	0	96.4	70	130			
Chlorobenzene	20	1.0	20.00	0	98.0	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	103	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	104	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		102	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		89.5	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	8.5		10.00		85.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209B56**

12-Oct-22

Client: ENSOLUM

Project: GBR

Sample ID: **mb 2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A91327**	RunNo: **91327**
Prep Date:	Analysis Date: **9/27/2022**	SeqNo: **3270224** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209B56**

12-Oct-22

Client: ENSOLUM

Project: GBR

Sample ID: **mb 2**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW**	Batch ID: **A91327**	RunNo: **91327**
Prep Date:	Analysis Date: **9/27/2022**	SeqNo: **3270224** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.0		10.00		90.4	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	8.5		10.00		84.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209B56**

12-Oct-22

Client: ENSOLUM

Project: GBR

Sample ID: **MB-doc**	SampType: **MBLK**	TestCode: **SM 5310B: DOC**							
Client ID: **PBW**	Batch ID: **B91324**	RunNo: **91324**							
Prep Date:	Analysis Date: **9/27/2022**	SeqNo: **3268930**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	ND	1.0								

Sample ID: **LCS-doc**	SampType: **LCS**	TestCode: **SM 5310B: DOC**							
Client ID: **LCSW**	Batch ID: **B91324**	RunNo: **91324**							
Prep Date:	Analysis Date: **9/27/2022**	SeqNo: **3268931**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	5.0	1.0	4.850	0	104	90	110			

Sample ID: **2209b56-001bms**	SampType: **ms**	TestCode: **SM 5310B: DOC**							
Client ID: **GBR-50**	Batch ID: **B91324**	RunNo: **91324**							
Prep Date:	Analysis Date: **9/27/2022**	SeqNo: **3268935**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	6.4	1.0	4.650	1.626	102	85	115			

Sample ID: **2209b56-001bmsd**	SampType: **msd**	TestCode: **SM 5310B: DOC**							
Client ID: **GBR-50**	Batch ID: **B91324**	RunNo: **91324**							
Prep Date:	Analysis Date: **9/27/2022**	SeqNo: **3268936**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved	6.5	1.0	4.650	1.626	105	85	115	1.99	15	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2209B56**

12-Oct-22

Client: ENSOLUM

Project: GBR

Sample ID: **MB-70366**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **70366**	RunNo: **91272**
Prep Date: **9/22/2022**	Analysis Date: **9/23/2022**	SeqNo: **3266152** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-70366**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **70366**	RunNo: **91272**
Prep Date: **9/22/2022**	Analysis Date: **9/23/2022**	SeqNo: **3266153** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	20.0	1000	0	103	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: ENSOLUM Work Order Number: 2209B56 RcptNo: 1

Received By: Juan Rojas 9/22/2022 7:10:00 AM

Completed By: Sean Livingston 9/22/2022 8:37:11 AM

Reviewed By: KPG 9.22.22

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preserved added to bottles? Yes ☐ No ☑ NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes ☑ No ☐ NA ☐
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: 9 (<2 or >12 unless noted)

Adjusted? NO

Checked by: JRG 9/22/22

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.4	Good				

Chain-of-Custody Record

Client: Ensolum LLC
Stuart Hyde
Mailing Address:
Phone #:
email or Fax#: shyde@ensolum.com
QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: GBR
Project #:
Project Manager: Stuart Hyde
Sampler: E Carroll
On Ice: ☐ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 0.3+0.1=0.4 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2209B56	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	See Attached
9-20	1000	Gw	GBR-50	Various	Various	001											x
↓	0900	↓	GBR-48	↓	↓	002											x
↓	1100	↓	GBR-32	↓	↓	003											x

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9-21	1341				9/21/22	1341
9/21/22	1754			courier	9/22/22	710

Remarks:
Sb, As, Pb, Se, Th (total + dissolved)
Ba, Be, Cd, Fe, Mg, Mn, Ni, Ag, Zn (total + dissolved)
Hg (total) per Christine W. Sec 9/22/22

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Christine Walters

From: Eric Carroll <ecarroll@ensolum.com>
Sent: Friday, September 9, 2022 9:05 AM
To: Christine Walters
Subject: GBR Groundwater Sampling

Christine,

Can I get 5 bottle sets for the parameters below. We are sampling on September 20th, so I can pick up the bottles next week from you or if its easier you can have them sent to our office.

METHOD NUMBER	DESCRIPTION OF ITEM
6020/ 200.8	Metals, full suite, by ICP/MS (dissolved - 0.45 um filtration)
6020/ 200.8	Metals, full suite, by ICP/MS (total, unfiltered metals)
9056/ 300.0	Anions by IC, including bromide, nitrite, and orthophosphate
2540C	TDS
9060/ 415.1	DOC
8260C	VOC

Thank you,

Eric Carroll
Project Geologist
303-842-9578
Ensolum, LLC

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 228042

CONDITIONS

Operator: Western Refining Southwest LLC 539 South Main Street Findlay, OH 45840	OGRID: 267595
	Action Number: 228042
	Action Type: [UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By	Condition	Condition Date
lbarr	None	10/3/2023