NV

2021 ANNUAL GROUNDWATER REPORT

Fogelson 4-1
Incident Number: nAUTOfAB000192
Meter Code: 73220
T29N, R11W, Sec 4, Unit P

SITE DETAILS

Site Location: Latitude: 36.750660 N, Longitude: -107.991560 W
Land Type: Federal
Former Operator: Burlington Resources (well P&A'd)

SITE BACKGROUND

Environmental Remediation activities at Fogelson 4-1 (Site) are being managed pursuant to the procedures set forth in the document entitled, "*Remediation Plan for Groundwater Encountered During Pit Closure Activities*" (El Paso Natural Gas Company / El Paso Field Services Company, 1995). This Remediation Plan was conditionally approved by the New Mexico Oil Conservation Division (NMOCD) in correspondence dated November 30, 1995; and the NMOCD approval conditions were adopted into El Paso CGP Company (EPCGP's) program methods. The Site was operated by Burlington Resources Oil & Gas Company LP (BR) until January 2014, and the final reclamation was completed by BR in 2016.

The Site is located on Federal land. An initial site assessment was completed in March 1994, and an excavation of 65 cubic yards (cy), to a depth of approximately 11 feet below ground surface (bgs), was completed in April 1994. Monitoring wells were installed in 1995 (MW-1, MW-2, and MW-3), 2017 (MW-4, MW-5, MW-6, and MW-7), and 2018 (MW-1R [replaced MW-1], MW-8, and MW-9). The location of the Site is depicted on Figure 1. A Site Plan map depicting the locations of monitoring wells and current and historical site features is provided as Figure 2.

In August 2001 a nutrient injection of an Oxygen Release Compound was completed. Historically, light non-aqueous phase liquid (LNAPL) has periodically been encountered and recovered from MW-1 and MW-5. Mobile dual-phase extraction (MDPE) events to enhance LNAPL recovery were conducted in 2018 and 2021. Quarterly LNAPL recovery began in the second quarter of 2020 and has continued through 2021. Groundwater sampling is being conducted on a semi-annual basis.

GROUNDWATER SAMPLING ACTIVITIES

Pursuant to the Remediation Plan, Stantec provided field work notifications via electronic mail (email) to the NMOCD on May 12, 2021 and November 3, 2021, prior to initiating groundwater sampling activities at the Site. Copies of the 2020 NMOCD notifications are provided in Appendix A. On May 22 and November 14, 2021, water levels were gauged at each monitoring well. During both events, groundwater samples were collected from MW-1R, MW-4, and MW-6 through MW-9. During each sampling event, groundwater samples were collected using HydraSleeve™ (HydraSleeve) no-purge groundwater sampling devices. The HydraSleeves were set during the previous sampling event. The HydraSleeves were positioned to collect a sample from the screened interval by setting the bottom of the sleeve approximately 0.5 foot above the bottom of the screened interval.

The groundwater samples were placed into laboratory-supplied sample containers, packed on ice, and shipped under standard chain-of-custody protocols to Eurofins-TestAmerica Laboratories, Inc. (Eurofins) in Pensacola, Florida where they were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX). One laboratory-provided trip blank and one blind field duplicate were also collected during each groundwater sampling event. The groundwater samples, field duplicate, and trip blank were analyzed using United States Environmental Protection Agency (EPA) Method 8260.

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The unused sample water was combined in a waste container and transported to Basin Disposal, Inc. in Bloomfield, New Mexico (Basin) for disposal. Waste disposal documentation is included as Appendix B.

LNAPL RECOVERY

As documented in EPCGP's letter dated January 5, 2021, EPCGP initiated quarterly LNAPL recovery activities in the second calendar quarter of 2020. Documentation of NMOCD notification of site activities is provided in Appendix A.

The LNAPL recovery data is summarized on Table 1. During the groundwater sampling site visits in May and November, the recovered LNAPL was disposed of with wastewater generated during the monitoring well sampling activities. Recovered LNAPL from the March and August site visits was also transported for disposal at Basin (Appendix B).

Pursuant to the August 19, 2021 *LNAPL Recovery Work Plan*, an MDPE event was completed in August 2021 by AcuVac Remediation, LLC, of Houston, Texas (AcuVac). The purpose of the MDPE event was to enhance free product recovery from monitoring well MW-5. MDPE is a process combining soil vapor extraction (SVE) with groundwater depression to enhance the removal of liquid and vapor phase hydrocarbons. A submersible pump is used to simultaneously remove the groundwater, inducing a hydraulic gradient toward the extraction well, and creating groundwater depression to expose the hydrocarbon smear zone to SVE. Recovered liquids were transferred to a portable storage tank for off-site disposal. Recovered vapors were used as fuel and burned in the MDPE internal combustion engine (ICE), resulting in little to no emissions. Power generated by the ICE is used to create the induced vacuum for SVE.

On August 27, 2021 an MDPE event was completed using MW-5 as extraction well. Based on field data collected by AcuVac, approximately 0.5 gallon of LNAPL was recovered from MW-5 over the course of the event. AcuVac's report summarizing the MDPE events at the Site is presented as Appendix C. Recovered fluids from the MDPE events were transported to Basin Disposal Inc. for disposal. Waste documentation is included in Appendix B.

SUMMARY TABLES

Historic analytical and water level data are summarized in Table 2 and Table 3, respectively. LNAPL recovery data is summarized on Table 1.

SITE MAPS

Groundwater analytical maps (Figures 3 and 5) and groundwater elevation contour maps (Figures 4 and 6) summarize results of the 2021 groundwater sampling and gauging events.

ANALYTICAL LAB REPORTS

The groundwater analytical lab reports are included as Appendix D.

GROUNDWATER RESULTS

- The groundwater elevations indicate the flow direction at the Site was generally to the northwest during 2021 (see Figures 4 and 6).

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- LNAPL was observed in MW-5 during the May and November 2021 sampling events; therefore, no groundwater sample was collected from this location.

- Concentrations of benzene were either below the New Mexico Water Quality Control Commission (NMWQCC) standard (10 micrograms per liter [µg/L]) or were not detected in the Site monitoring wells sampled in 2021.

- Concentrations of toluene were either below the NMWQCC standard (750 µg/L) or not detected in the Site monitoring wells sampled in 2021.

- Concentrations of ethylbenzene were either below the NMWQCC standard (750 µg/L) or not detected in the Site monitoring wells sampled in 2021.

- Concentrations of total xylenes were either below the NMWQCC standard (620 µg/L) or not detected in the Site monitoring wells sampled in 2021.

- A field duplicate sample was collected from monitoring well MW-7 in May 2021 and from monitoring well MW-1R in November 2021. There were no significant differences between concentrations in the primary and duplicate samples.

- Detectable concentrations of BTEX constituents were not reported in the trip blanks collected and analyzed as part of the 2021 groundwater monitoring events.

PLANNED FUTURE ACTIVITIES

Monitoring well installation activities are planned for Spring 2022 to confirm the extent of LNAPL in the vicinity of MW-5. A work plan to conduct the monitoring well installation activities will be submitted under separate cover.

Groundwater monitoring events will continue to be conducted on a semi-annual basis. As site closure is not being recommended at this time, groundwater samples will be collected from key monitoring wells not containing LNAPL on a semi-annual basis and analyzed for BTEX constituents using EPA Method 8260. A field duplicate and trip blank will also be collected during each groundwater sampling event. Sampling of all site monitoring wells is conducted on a biennial basis, with the next site-wide sampling event to be conducted in the second calendar quarter of 2023.

Quarterly site visits will continue at the Site in 2022 to facilitate removal of measurable LNAPL where it is present.

The activities conducted in 2022, and their results, will be summarized in the 2022 Annual Report, to be submitted by April 1, 2023.

TABLES

TABLE 1
LIGHT NON-AQUEOUS PHASE LIQUID RECOVERY SUMMARY

Fogelson 4-1 Com #14						
Well ID - MW-1	**Depth to LNAPL (Feet)**	**Depth to Water (Feet)**	**Measured Thickness (Feet)**	**LNAPL Recovered (gal)**	**Water Recovered (gal)**	**Recovery Type**
Date						
4/16/2016	45.00	45.05	0.05	<0.01	0.01	manual
10/14/2016	45.12	45.12	<0.01	<0.01	0.01	manual
6/10/2017	45.25	45.30	0.05	<0.01	0.01	manual
11/13/2017	45.42	45.43	0.01	<0.01	0.01	manual
5/17/2018	45.48	45.48	<0.01	<0.01	0.01	manual
MW-1 replaced with MW-1R on 9/28/2018						
			Total:	<0.01	0.05	
Well ID - MW-1R						
8/18/2020	47.69	47.69	<0.01	<0.01	0.12	manual
			Total:	0	0.12	
Well ID - MW-5						
11/10/2019	44.87	44.99	0.12	0.08	0.10	manual
5/11/2020	44.84	45.01	0.17	0.46	0.33	manual
8/18/2020	46.03	46.08	0.05	0.05	0.26	manual
11/14/2020	45.06	45.10	0.04	<0.01	0.03	manual
3/17/2021	44.87	45.05	0.18	0.08	0.54	manual
5/22/2021	45.10	45.26	0.16	0.01	0.06	manual
8/27/2021	45.11	45.35	0.24	0.50	20.5	Mobile DPE*
11/14/2021	45.03	45.72	0.69	0.21	0.21	manual
			Total:	1.18	21.82	

Notes:
gal = gallons.
DPE = dual phase extraction
* = Mobile Dual Phase Extraction (DPE) includes calculated recovered hydrocarbon vapors.
"LNAPL" = light non-aqueous phase liquid
LNAPL recovery data for 2015 and previous years documented in previously-submitted reports.

TABLE 2 - GROUNDWATER ANALYTICAL RESULTS

Fogelson 4-1					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-1	11/06/95	1520	1050	907	9180
MW-1	12/06/96	1110	388	713	7730
MW-1	03/10/97	1240	318	850	9050
MW-1	06/06/97	1080	268	747	7700
MW-1	03/30/98	1070	522	789	8430
MW-1	06/04/98	1090	627	837	8880
MW-1	06/15/99	1000	550	770	7800
MW-1	06/19/00	790	280	1100	9300
MW-1	10/02/00	580	600	950	8000
MW-1	12/05/00	420	610	770	6000
MW-1	05/30/01	340	470	710	4800
MW-1	11/26/01	420	330	760	3400
MW-1	05/15/02	430	230	900	6000
MW-1	06/10/02	NS	NS	NS	NS
MW-1	11/04/02	625	370	862	5210
MW-1	05/21/03	339	296	723	4730
MW-1	11/15/03	401	308	755	4700
MW-1	11/16/04	185	59.9	550	2800
MW-1	11/08/05	174	34.3	675	2440
MW-1	11/08/06	206	41.6	694	2460
MW-1	11/29/07	NS	NS	NS	NS
MW-1	01/25/08	NS	NS	NS	NS
MW-1	08/12/08	NS	NS	NS	NS
MW-1	11/07/08	NS	NS	NS	NS
MW-1	02/06/09	NS	NS	NS	NS
MW-1	05/04/09	NS	NS	NS	NS
MW-1	08/26/09	NS	NS	NS	NS
MW-1	11/03/09	230	24.2 J	901	3290
MW-1	02/11/10	NS	NS	NS	NS
MW-1	05/25/10	NS	NS	NS	NS
MW-1	09/24/10	NS	NS	NS	NS
MW-1	11/09/10	198	23.5	840	3170
MW-1	02/01/11	NS	NS	NS	NS
MW-1	05/03/11	NS	NS	NS	NS
MW-1	09/27/11	NS	NS	NS	NS
MW-1	11/16/11	171	3.8 J	818	2770
MW-1	02/16/12	NS	NS	NS	NS
MW-1	05/07/12	NS	NS	NS	NS
MW-1	06/04/13	20	9.3 J	650	2400
MW-1	09/09/13	160	20	760	3200
MW-1	12/13/13	150	41	630	2700
MW-1	04/05/14	4.3	<0.38	20	76

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Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-1	10/21/14	200	11	770	3600
MW-1	05/30/15	160	38	810	3700
MW-1	11/18/15	NS	NS	NS	NS
MW-1	04/16/16	NS	NS	NS	NS
MW-1	10/14/16	NS	NS	NS	NS
MW-1	06/10/17	NS	NS	NS	NS
MW-1	11/13/17	NS	NS	NS	NS
MW-1	05/17/18	NS	NS	NS	<0.01
MW-1 replaced with MW-1R on 9/28/2018					
MW-1R	10/28/18	1.6	<1.0	<1.0	180
MW-1R	05/23/19	2.5	<1.0	<1.0	<10
MW-1R	11/13/19	<1.0	<1.0	<1.0	<10
MW-1R	05/15/20	<1.0	<1.0	<1.0	<10
DUP-1(MW-1R)*	05/15/20	<1.0	<1.0	<1.0	<10
MW-1R	08/18/20	NS	NS	NS	NS
MW-1R	11/14/20	<1.0	<1.0	<1.0	<10
MW-1R	03/17/21	NS	NS	NS	NS
MW-1R	05/22/21	<1.0	<1.0	<1.0	<10
MW-1R	08/27/21	NS	NS	NS	NS
MW-1R	11/14/21	<1.0	<1.0	<1.0	<10
DUP-1(MW-1R)*	11/14/21	<1.0	<1.0	<1.0	<10
MW-2	07/27/00	<0.5	<0.5	8.8	<0.5
MW-2	05/30/01	<0.5	<0.5	7.5	1
MW-2	05/15/02	<0.5	<0.5	2	<1
MW-2	11/04/02	NS	NS	NS	NS
MW-2	05/21/03	NS	NS	NS	NS
MW-2	11/15/03	NS	NS	NS	NS
MW-2	11/16/04	NS	NS	NS	NS
MW-2	11/08/05	NS	NS	NS	NS
MW-2	11/08/06	NS	NS	NS	NS
MW-2	11/29/07	NS	NS	NS	NS
MW-2	08/12/08	NS	NS	NS	NS
MW-2	11/07/08	NS	NS	NS	NS
MW-2	02/06/09	NS	NS	NS	NS
MW-2	05/04/09	NS	NS	NS	NS
MW-2	08/26/09	NS	NS	NS	NS
MW-2	11/03/09	NS	NS	NS	NS
MW-2	02/11/10	NS	NS	NS	NS
MW-2	05/25/10	NS	NS	NS	NS
MW-2	09/24/10	NS	NS	NS	NS
MW-2	11/09/10	<2	<2	<2	<6

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Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-2	02/01/11	NS	NS	NS	NS
MW-2	05/03/11	NS	NS	NS	NS
MW-2	09/27/11	NS	NS	NS	NS
MW-2	11/16/11	<1	<1	<1	<3
MW-2	02/16/12	NS	NS	NS	NS
MW-2	05/07/12	NS	NS	NS	NS
MW-2	06/04/13	<0.14	<0.30	<0.20	<0.23
MW-2	09/09/13	<0.14	<0.30	<0.20	<0.23
MW-2	12/13/13	<0.20	0.52 J	0.38 J	0.85 J
MW-2	04/05/14	<0.20	<0.38	<0.20	<0.65
MW-2	10/21/14	<0.38	<0.70	<0.50	<1.6
MW-2	05/30/15	<1.0	<5.0	<1.0	<5.0
MW-2	11/18/15	<1.0	<1.0	<1.0	<3.0
MW-2	04/16/16	<1.0	<5.0	<1.0	<5.0
MW-2	10/14/16	<1.0	<5.0	<1.0	<5.0
MW-2	06/10/17	<1.0	<5.0	<1.0	<5.0
MW-2	11/13/17	<1.0	<1.0	<1.0	<10
MW-2	05/17/18	<1.0	<1.0	<1.0	<10
MW-2	10/28/18	<1.0	<1.0	<1.0	<10
MW-2	05/23/19	<1.0	<1.0	<1.0	<10
MW-2	11/13/19	NS	NS	NS	NS
MW-2	05/15/20	NS	NS	NS	NS
MW-2	11/14/20	NS	NS	NS	NS
MW-2	05/22/21	<1.0	<1.0	<1.0	<10
MW-2	08/27/21	NS	NS	NS	NS
MW-2	11/14/21	NS	NS	NS	NS
MW-3	07/27/00	27	35	170	520
MW-3	05/30/01	1.3	<0.5	40	2.8
MW-3	05/15/02	0.64	<0.5	17	1.2
MW-3	11/04/02	NS	NS	NS	NS
MW-3	05/21/03	<1	<1	18.2	<3
MW-3	11/15/03	NS	NS	NS	NS
MW-3	11/16/04	NS	NS	NS	NS
MW-3	11/08/05	NS	NS	NS	NS
MW-3	11/08/06	NS	NS	NS	NS
MW-3	11/29/07	NS	NS	NS	NS
MW-3	08/12/08	NS	NS	NS	NS
MW-3	11/07/08	NS	NS	NS	NS
MW-3	02/06/09	NS	NS	NS	NS
MW-3	05/04/09	NS	NS	NS	NS
MW-3	08/26/09	NS	NS	NS	NS

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Fogelson 4-1					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-3	11/03/09	NS	NS	NS	NS
MW-3	02/11/10	NS	NS	NS	NS
MW-3	05/25/10	NS	NS	NS	NS
MW-3	09/24/10	NS	NS	NS	NS
MW-3	11/09/10	<2	<2	1.9 J	<6
MW-3	02/01/11	NS	NS	NS	NS
MW-3	05/03/11	NS	NS	NS	NS
MW-3	09/27/11	NS	NS	NS	NS
MW-3	11/16/11	<1	<1	0.77 J	<3
MW-3	02/16/12	NS	NS	NS	NS
MW-3	05/07/12	NS	NS	NS	NS
MW-3	06/04/13	<0.14	<0.30	<0.20	<0.23
MW-3	09/09/13	<0.14	<0.30	<0.20	<0.23
MW-3	12/13/13	<0.20	0.56 J	<0.20	<0.65
MW-3	04/05/14	<0.20	<0.38	<0.20	<0.65
MW-3	10/21/14	<0.38	<0.70	0.96 J	<1.6
MW-3	05/30/15	<1.0	<5.0	<1.0	<5.0
MW-3	11/18/15	<1.0	<1.0	<1.0	<3.0
MW-3	04/16/16	<1.0	<5.0	<1.0	<5.0
MW-3	10/14/16	<1.0	<5.0	<1.0	<5.0
MW-3	06/10/17	<1.0	<5.0	<1.0	<5.0
MW-3	11/13/17	<1.0	<1.0	<1.0	<10
MW-3	05/17/18	<1.0	<1.0	<1.0	<10
MW-3	10/28/18	<1.0	<1.0	<1.0	<10
MW-3	05/23/19	<1.0	<1.0	<1.0	<10
MW-3	11/13/19	NS	NS	NS	NS
MW-3	05/15/20	NS	NS	NS	NS
MW-3	11/14/20	NS	NS	NS	NS
MW-3	05/22/21	<1.0	<1.0	<1.0	<10
MW-3	08/27/21	NS	NS	NS	NS
MW-3	11/14/21	NS	NS	NS	NS
MW-4	06/10/17	2.8	<5.0	76	<5.0
MW-4	11/13/17	2.6	<1.0	60	<10
MW-4	05/17/18	1.3	<1.0	35	<10
MW-4	10/28/18	1.5	<1.0	31	<10
MW-4	05/23/19	<1.0	<1.0	2.1	<10
DUP-1(MW-4)*	05/23/19	<1.0	<1.0	1.3	<10
MW-4	11/13/19	<1.0	<1.0	2.7	<10
DUP-1(MW-4)*	11/13/19	<1.0	<1.0	2.7	<10
MW-4	05/15/20	<1.0	<1.0	<1.0	<10
MW-4	11/14/20	<1.0	<1.0	<1.0	<10

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Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-4	05/22/21	<1.0	<1.0	<1.0	<10
MW-4	08/27/21	NS	NS	NS	NS
MW-4	11/14/21	<1.0	<1.0	<1.0	<10
MW-5	06/10/17	24	<10	2.4	120
MW-5	11/13/17	24	<2.0	210	<20
MW-5	05/17/18	25	<2.0	280	<20
MW-5	10/28/18	25	<1.0	290	<10
DUP-01(MW-5)*	10/28/18	24	<1.0	260	<10
MW-5	05/23/19	24	<2.0	310	<20
MW-5	11/13/19	NS	NS	NS	NS
MW-5	05/15/20	NS	NS	NS	NS
MW-5	08/18/20	NS	NS	NS	NS
MW-5	11/14/20	NS	NS	NS	NS
MW-5	03/17/21	NS	NS	NS	NS
MW-5	05/22/21	NS	NS	NS	NS
MW-5	08/27/21	NS	NS	NS	NS
MW-5	11/14/21	NS	NS	NS	NS
MW-6	06/10/17	<1.0	<5.0	<1.0	<5.0
MW-6	11/13/17	<1.0	<1.0	<1.0	<10
MW-6	05/17/18	1.7	<1.0	<1.0	<10
MW-6	10/28/18	<1.0	<1.0	<1.0	<10
MW-6	05/23/19	<1.0	<1.0	<1.0	<10
MW-6	11/13/19	<1.0	<1.0	<1.0	<10
MW-6	05/15/20	<1.0	<1.0	<1.0	<10
MW-6	11/14/20	<1.0	1.2	<1.0	<10
MW-6	05/22/21	<1.0	<1.0	<1.0	<10
MW-6	08/27/21	NS	NS	NS	NS
MW-6	11/14/21	<1.0	<1.0	<1.0	<10
MW-7	06/10/17	130	<10	150	580
MW-7	11/13/17	83	<1.0	110	96
MW-7	05/17/18	61	<1.0	89	21
DP-01(MW-7)*	05/17/18	63	<1.0	97	23
MW-7	10/28/18	50	<1.0	58	<10
MW-7	05/23/19	53	<1.0	62	<10
MW-7	11/13/19	18	<1.0	24	<10
MW-7	05/15/20	12	<1.0	16	<10
MW-7	11/14/20	12	<1.0	17	<10
DP-01(MW-7)*	11/14/20	14	<1.0	23	<10
MW-7	05/22/21	9.0	<1.0	9.0	<10
DP-01(MW-7)*	05/22/21	9.1	<1.0	9.0	<10

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Fogelson 4-1					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-7	08/27/21	NS	NS	NS	NS
MW-7	11/14/21	8.7	<1.0	6.4	<10
MW-8	10/28/18	1.7	<1.0	1.2	<10
MW-8	05/23/19	2.7	<1.0	1.1	<10
MW-8	11/13/19	1.8	<1.0	<1.0	<10
MW-8	05/15/20	<1.0	<1.0	<1.0	<10
MW-8	11/14/20	1.1	<1.0	<1.0	<10
MW-8	05/22/21	1.4	<1.0	3.0	<10
MW-8	08/27/21	NS	NS	NS	NS
MW-8	11/14/21	1.4	<1.0	<1.0	<10
MW-9	10/28/18	<1.0	<1.0	<1.0	<10
MW-9	05/23/19	<1.0	<1.0	<1.0	<10
MW-9	11/13/19	<1.0	<1.0	<1.0	<10
MW-9	05/15/20	<1.0	<1.0	<1.0	<10
MW-9	11/14/20	<1.0	<1.0	<1.0	<10
MW-9	05/22/21	<1.0	<1.0	<1.0	<10
MW-9	08/27/21	NS	NS	NS	NS
MW-9	11/14/21	<1.0	<1.0	<1.0	<10

Notes:
The groundwater monitoring dates for each monitoring well where no groundwater samples were collected and analyzed have been omitted.
µg/L = micrograms per liter
Results highlighted yellow exceed their respective New Mexico Water Quality Control Commission (NMWQCC) standards.
"J" = Result is less than the reporting limit but greater than or equal to the method detection limit and the result in an approximate value.
"<" = analyte was not detected at the indicated reporting limit (some historic data were reported at the detection limit).
*Field Duplicate results presented immediately below primary sample result

TABLE 3 - GROUNDWATER ELEVATION RESULTS

Fogelson 4-1						
Location	Date	TOC	Depth to LNAPL (ft.)	Depth to Water (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-1	11/06/95	5784.77	NR	39.99		5744.78
MW-1	12/06/96	5784.77	NR	40.74		5744.03
MW-1	03/10/97	5784.77	NR	41.23		5743.54
MW-1	06/06/97	5784.77	NR	41.44		5743.33
MW-1	03/30/98	5784.77	NR	41.08		5743.69
MW-1	06/04/98	5784.77	NR	41.02		5743.75
MW-1	06/15/99	5784.77	NR	41.88		5742.89
MW-1	06/19/00	5784.77	NR	40.17		5744.60
MW-1	10/02/00	5784.77	NR	40.22		5744.55
MW-1	12/05/00	5784.77	NR	40.09		5744.68
MW-1	05/30/01	5784.77	NR	40.54		5744.23
MW-1	11/26/01	5784.77	NR	41.00		5743.77
MW-1	05/15/02	5784.77	NR	41.37		5743.40
MW-1	06/10/02	5784.77	NR	41.54		5743.23
MW-1	11/04/02	5784.77	NR	41.90		5742.88
MW-1	05/21/03	5784.77	ND	41.57		5743.20
MW-1	11/15/03	5784.77	ND	41.00		5743.77
MW-1	11/16/04	5784.77	ND	40.10		5744.67
MW-1	11/08/05	5784.77	ND	40.68		5744.09
MW-1	11/08/06	5784.77	ND	42.16		5742.61
MW-1	11/29/07	5784.77	ND	42.16		5742.61
MW-1	01/25/08	5784.77	43.00	43.10	0.10	5741.75
MW-1	08/12/08	5784.77	ND	43.14		5741.63
MW-1	11/07/08	5784.77	43.24	43.32	0.08	5741.51
MW-1	02/06/09	5784.77	ND	43.12		5741.65
MW-1	05/04/09	5784.77	ND	43.22		5741.55
MW-1	08/26/09	5784.77	43.46	43.53	0.07	5741.29
MW-1	11/03/09	5784.77	ND	43.52		5741.25
MW-1	02/11/10	5784.77	ND	43.64		5741.13
MW-1	05/25/10	5784.77	ND	43.75		5741.02
MW-1	09/24/10	5784.77	ND	43.95		5740.82
MW-1	11/09/10	5784.77	43.88	43.89	0.01	5740.89
MW-1	02/01/11	5784.77	ND	44.03		5740.74
MW-1	05/03/11	5784.77	ND	44.14		5740.63
MW-1	09/27/11	5784.77	ND	44.30		5740.47
MW-1	11/16/11	5784.77	ND	44.33		5740.44
MW-1	02/16/12	5784.77	ND	44.43		5740.34
MW-1	05/07/12	5784.77	ND	44.50		5740.27
MW-1	06/04/13	5784.77	ND	44.75		5740.02
MW-1	09/09/13	5784.77	ND	44.87		5739.90

TABLE 3 - GROUNDWATER ELEVATION RESULTS

Fogelson 4-1						
Location	Date	TOC	Depth to LNAPL (ft.)	Depth to Water (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-1	12/13/13	5784.77	ND	44.85		5739.92
MW-1	04/05/14	5784.77	ND	44.75		5740.02
MW-1	10/21/14	5784.77	ND	44.86		5739.91
MW-1	05/30/15	5784.77	ND	44.81		5739.96
MW-1	11/18/15	5784.77	44.91	44.91	<0.01	5739.86
MW-1	04/16/16	5784.77	45.00	45.05	0.05	5739.76
MW-1	10/14/16	5784.77	45.12	45.12	<0.01	5739.65
MW-1	06/10/17	5784.77	45.25	45.30	0.05	5739.51
MW-1	11/13/17	5784.77	45.42	45.43	0.01	5739.35
MW-1	05/05/18	5784.77	ND	45.49		5739.28
MW-1	05/17/18	5784.77	45.48	45.48	<0.01	5739.29
MW-1 replaced with MW-1R on 9/28/2018						
MW-1R	10/28/18	5784.02	ND	48.27		5735.75
MW-1R	05/23/19	5784.02	ND	47.00		5737.02
MW-1R	11/13/19	5784.02	ND	47.32		5736.70
MW-1R	05/15/20	5784.02	ND	47.32		5736.70
MW-1R	08/18/20	5784.02	47.69	47.69		5736.33
MW-1R	11/14/20	5784.02	ND	47.45		5736.57
MW-1R	03/17/21	5784.02	ND	47.46		5736.56
MW-1R	05/22/21	5784.02	ND	47.56		5736.46
MW-1R	08/27/21	5784.02	ND	47.70		5736.32
MW-1R	11/14/21	5784.02	ND	47.84		5736.18
MW-2	07/27/00	5780.03	NR	38.25		5741.78
MW-2	05/30/01	5780.03	NR	38.17		5741.86
MW-2	05/15/02	5780.03	NR	38.56		5741.47
MW-2	11/04/02	5780.03	NR	38.99		5741.05
MW-2	05/21/03	5780.03	ND	39.24		5740.79
MW-2	11/15/03	5780.03	ND	38.70		5741.34
MW-2	11/16/04	5780.03	ND	37.40		5742.63
MW-2	11/08/05	5780.03	ND	37.76		5742.27
MW-2	11/08/06	5780.03	ND	38.65		5741.38
MW-2	11/29/07	5780.03	ND	39.67		5740.36
MW-2	08/12/08	5780.03	ND	39.75		5740.28
MW-2	11/07/08	5780.03	ND	39.97		5740.06
MW-2	02/06/09	5780.03	ND	39.73		5740.30
MW-2	05/04/09	5780.03	ND	39.83		5740.20
MW-2	08/26/09	5780.03	ND	40.19		5739.84
MW-2	11/03/09	5780.03	ND	40.32		5739.71
MW-2	02/11/10	5780.03	ND	40.17		5739.86

TABLE 3 - GROUNDWATER ELEVATION RESULTS

Fogelson 4-1						
Location	Date	TOC	Depth to LNAPL (ft.)	Depth to Water (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-2	05/25/10	5780.03	ND	40.40		5739.63
MW-2	09/24/10	5780.03	ND	40.74		5739.29
MW-2	11/09/10	5780.03	ND	40.35		5739.68
MW-2	02/01/11	5780.03	ND	40.39		5739.64
MW-2	05/03/11	5780.03	ND	40.96		5739.07
MW-2	09/27/11	5780.03	ND	41.05		5738.98
MW-2	11/16/11	5780.03	ND	41.07		5738.96
MW-2	02/16/12	5780.03	ND	41.15		5738.88
MW-2	05/07/12	5780.03	ND	41.15		5738.88
MW-2	06/04/13	5780.03	ND	41.54		5738.49
MW-2	09/09/13	5780.03	ND	41.64		5738.39
MW-2	12/13/13	5780.03	ND	41.66		5738.37
MW-2	04/05/14	5780.03	ND	41.64		5738.39
MW-2	10/21/14	5780.03	ND	41.93		5738.10
MW-2	05/30/15	5780.03	ND	42.10		5737.93
MW-2	11/18/15	5780.03	ND	42.03		5738.00
MW-2	04/16/16	5780.03	ND	42.01		5738.02
MW-2	10/14/16	5780.03	ND	42.38		5737.65
MW-2	06/10/17	5780.03	ND	42.08		5737.95
MW-2	11/13/17	5780.03	ND	42.24		5737.79
MW-2	05/17/18	5780.03	ND	42.12		5737.91
MW-2	10/28/18	5780.03	ND	42.51		5737.52
MW-2	05/23/19	5780.03	ND	42.31		5737.72
MW-2	11/13/19	5780.03	ND	42.58		5737.45
MW-2	05/15/20	5780.03	ND	42.64		5737.39
MW-2	11/14/20	5780.03	ND	42.78		5737.25
MW-2	05/22/21	5780.03	ND	42.90		5737.13
MW-2	08/27/21	5780.03	ND	42.99		5737.04
MW-2	11/14/21	5780.03	ND	43.11		5736.92
MW-3	07/27/00	5780.83	NR	41.21		5739.62
MW-3	05/30/01	5780.83	NR	40.77		5740.06
MW-3	05/15/02	5780.83	NR	41.14		5739.69
MW-3	11/04/02	5780.83	NR	41.48		5739.35
MW-3	05/21/03	5780.83	ND	41.71		5739.12
MW-3	11/15/03	5780.83	ND	41.30		5739.53
MW-3	11/16/04	5780.83	ND	40.10		5740.73
MW-3	11/08/05	5780.83	ND	40.71		5740.12
MW-3	11/08/06	5780.83	ND	41.47		5739.36
MW-3	11/29/07	5780.83	43.01	43.10	0.09	5737.80

TABLE 3 - GROUNDWATER ELEVATION RESULTS

Fogelson 4-1						
Location	Date	TOC	Depth to LNAPL (ft.)	Depth to Water (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-3	08/12/08	5780.83	ND	42.47		5738.36
MW-3	11/07/08	5780.83	ND	42.69		5738.14
MW-3	02/06/09	5780.83	ND	42.47		5738.36
MW-3	05/04/09	5780.83	ND	42.50		5738.33
MW-3	08/26/09	5780.83	ND	42.90		5737.93
MW-3	11/03/09	5780.83	ND	43.03		5737.80
MW-3	02/11/10	5780.83	ND	42.79		5738.04
MW-3	05/25/10	5780.83	ND	42.97		5737.86
MW-3	09/24/10	5780.83	ND	43.25		5737.58
MW-3	11/09/10	5780.83	ND	42.97		5737.86
MW-3	02/01/11	5780.83	ND	42.82		5738.01
MW-3	05/03/11	5780.83	ND	43.41		5737.42
MW-3	09/27/11	5780.83	ND	43.40		5737.43
MW-3	11/16/11	5780.83	ND	43.36		5737.47
MW-3	02/16/12	5780.83	ND	43.41		5737.42
MW-3	05/07/12	5780.83	ND	43.46		5737.37
MW-3	06/04/13	5780.83	ND	43.82		5737.01
MW-3	09/09/13	5780.83	ND	43.93		5736.90
MW-3	12/13/13	5780.83	ND	43.93		5736.90
MW-3	04/05/14	5780.83	ND	43.88		5736.95
MW-3	10/21/14	5780.83	ND	44.16		5736.67
MW-3	05/30/15	5780.83	ND	44.31		5736.52
MW-3	11/18/15	5780.83	ND	44.18		5736.65
MW-3	04/16/16	5780.83	ND	44.10		5736.73
MW-3	10/14/16	5780.83	ND	44.58		5736.25
MW-3	06/10/17	5780.83	ND	44.25		5736.58
MW-3	11/13/17	5780.83	ND	44.44		5736.39
MW-3	05/17/18	5780.83	ND	44.32		5736.51
MW-3	10/28/18	5780.83	ND	44.67		5736.16
MW-3	05/23/19	5780.83	ND	44.37		5736.46
MW-3	11/13/19	5780.83	ND	44.70		5736.13
MW-3	05/15/20	5780.83	ND	44.72		5736.11
MW-3	11/14/20	5780.83	ND	44.85		5735.98
MW-3	05/22/21	5780.83	ND	45.09		5735.74
MW-3	08/27/21	5780.83	ND	45.22		5735.61
MW-3	11/14/21	5780.83	ND	45.30		5735.53
MW-4	06/10/17	5782.14	ND	46.36		5735.78
MW-4	11/13/17	5782.14	ND	46.49		5735.65
MW-4	05/17/18	5782.14	ND	46.49		5735.65

TABLE 3 - GROUNDWATER ELEVATION RESULTS

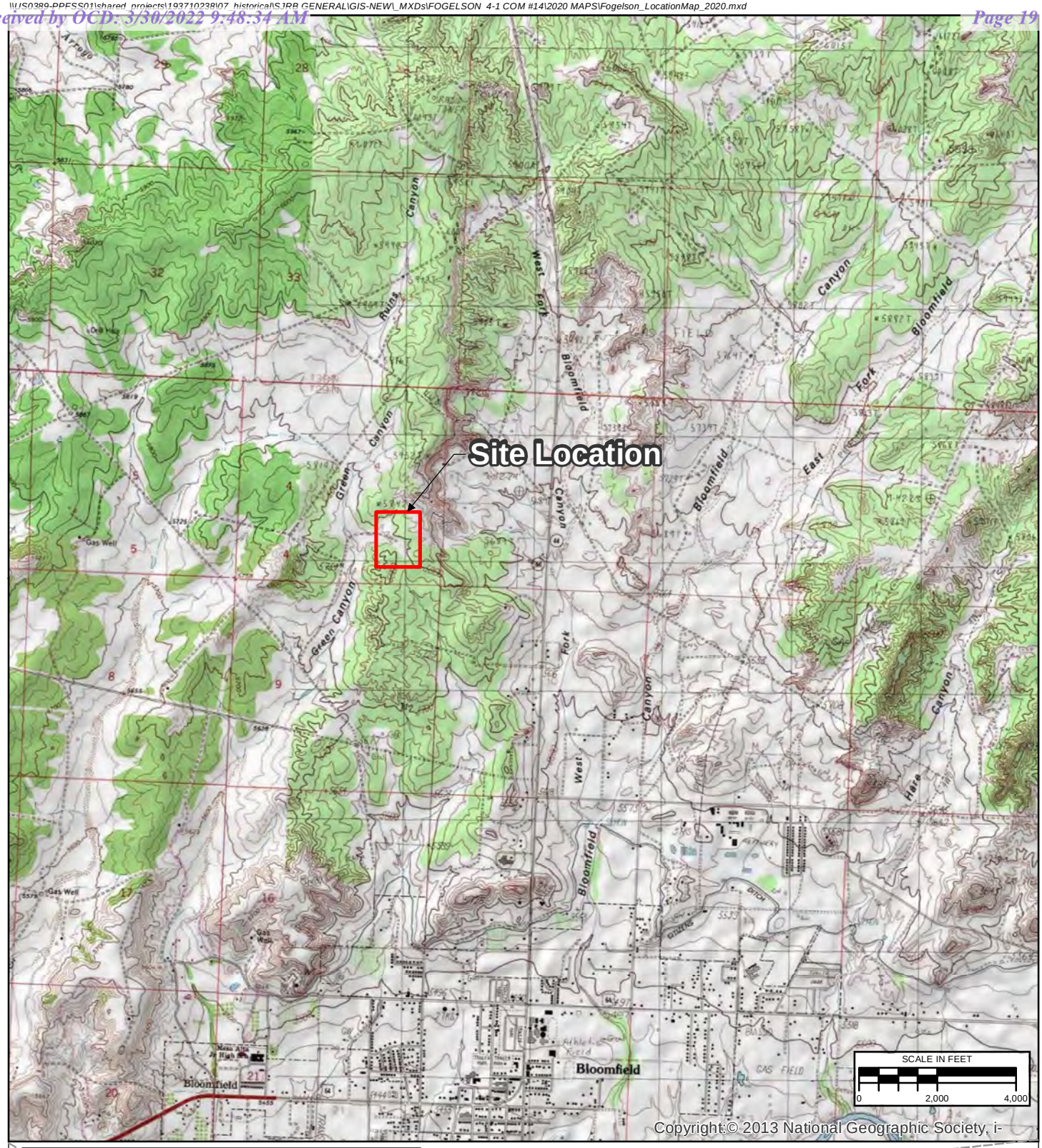
Fogelson 4-1						
Location	Date	TOC	Depth to LNAPL (ft.)	Depth to Water (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-4	10/28/18	5782.14	ND	46.74		5735.40
MW-4	05/23/19	5782.14	ND	46.67		5735.47
MW-4	11/13/19	5782.14	ND	46.75		5735.39
MW-4	05/15/20	5782.14	ND	46.83		5735.31
MW-4	11/14/20	5782.14	ND	46.95		5735.19
MW-4	05/22/21	5782.14	ND	47.03		5735.11
MW-4	08/27/21	5782.14	ND	47.05		5735.09
MW-4	11/14/21	5782.14	ND	47.07		5735.07
MW-5	06/10/17	5780.92	ND	44.21		5736.71
MW-5	11/13/17	5780.92	ND	44.49		5736.43
MW-5	05/17/18	5780.92	ND	44.56		5736.36
MW-5	10/28/18	5780.92	ND	44.74		5736.18
MW-5	05/23/19	5780.92	ND	44.73		5736.19
MW-5	11/13/19	5780.92	44.87	44.99	0.12	5736.02
MW-5	05/15/20	5780.92	44.84	45.01	0.17	5736.04
MW-5	08/18/20	5780.92	46.03	46.08	0.05	5734.88
MW-5	11/14/20	5780.92	45.06	45.10	0.04	5735.85
MW-5	03/17/21	5780.92	44.87	45.05	0.18	5736.01
MW-5	05/22/21	5780.92	45.10	45.26	0.16	5735.78
MW-5	08/27/21	5780.92	45.11	45.35	0.24	5735.75
MW-5	11/14/21	5780.92	45.03	45.72	0.69	5735.72
MW-6	06/10/17	5783.82	ND	47.78		5736.04
MW-6	11/13/17	5783.82	ND	48.03		5735.79
MW-6	05/17/18	5783.82	ND	47.85		5735.97
MW-6	10/28/18	5783.82	ND	48.11		5735.71
MW-6	05/23/19	5783.82	ND	47.48		5736.34
MW-6	11/13/19	5783.82	ND	47.92		5735.90
MW-6	05/15/20	5783.82	ND	47.85		5735.97
MW-6	11/14/20	5783.82	ND	47.94		5735.88
MW-6	05/22/21	5783.82	ND	48.06		5735.76
MW-6	08/27/21	5783.82	ND	48.20		5735.62
MW-6	11/14/21	5783.82	ND	48.37		5735.45
MW-7	06/10/17	5783.95	ND	43.89		5740.06
MW-7	11/13/17	5783.95	ND	44.09		5739.86
MW-7	05/17/18	5783.95	ND	44.12		5739.83
MW-7	10/28/18	5783.95	ND	44.30		5739.65
MW-7	05/23/19	5783.95	ND	44.33		5739.62
MW-7	11/13/19	5783.95	ND	44.51		5739.44

TABLE 3 - GROUNDWATER ELEVATION RESULTS

Fogelson 4-1						
Location	Date	TOC	Depth to LNAPL (ft.)	Depth to Water (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-7	05/15/20	5783.95	ND	44.60		5739.35
MW-7	11/14/20	5783.95	ND	44.76		5739.19
MW-7	05/22/21	5783.95	ND	44.84		5739.11
MW-7	08/27/21	5783.95	ND	44.90		5739.05
MW-7	11/14/21	5783.95	ND	44.96		5738.99
MW-8	10/28/18	5784.44	ND	43.30		5741.14
MW-8	05/23/19	5784.44	ND	42.65		5741.79
MW-8	11/13/19	5784.44	ND	42.65		5741.79
MW-8	05/15/20	5784.44	ND	42.54		5741.90
MW-8	11/14/20	5784.44	ND	42.88		5741.56
MW-8	05/22/21	5784.44	ND	44.05		5740.39
MW-8	08/27/21	5784.44	ND	44.22		5740.22
MW-8	11/14/21	5784.44	ND	44.51		5739.93
MW-9	10/28/18	5784.19	ND	49.66		5734.53
MW-9	05/23/19	5784.19	ND	49.41		5734.78
MW-9	11/13/19	5784.19	ND	49.48		5734.71
MW-9	05/15/20	5784.19	ND	49.52		5734.67
MW-9	11/14/20	5784.19	ND	49.61		5734.58
MW-9	05/22/21	5784.19	ND	49.85		5734.34
MW-9	08/27/21	5784.19	ND	49.67		5734.52
MW-9	11/14/21	5784.19	ND	49.71		5734.48

Notes:
"ft" = feet
"TOC" = Top of casing
"LNAPL" = light non-aqueous phase liquid
"ND" = LNAPL not detected
"NR" = LNAPL not recorded
Groundwater elevation = Top of Casing elevation (TOC, ft) - Depth to Water [ft] + (LPH thickness [ft] x 0.75). A specific gravity of 0.75 is within the range of gas condensate (https://www.sciencedirect.com/topics/earth-and-planetary-sciences/gas-condensate)

FIGURES



N

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2/16/2021	SAH	SAH	SRV

TITLE
SITE LOCATION

Stantec

PROJECT
FOGELSON 4-1
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

FIGURE
1

\\Us0389-ppfss01\shared_projects\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXDs\FOGELSON 4-1 COM #141\2020 MAPS\Fogelson_SITEMAP_2020.mxd

LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT OR EXCAVATION
- GAS — GAS LINE
- UNDERGROUND CABLE
- RIGHT OF WAY BOUNDARY
- MONITORING WELL
- FORMER WELLHEAD
- SMA BENCHMARK
- FORMER MONITORING WELL (NOT EPCGP-OWNED)

N

SCALE IN FEET

0 40 80

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2/2/2021	SAH	SAH	SRV

TITLE:

SITE PLAN

PROJECT:

FOGELSON 4-1
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.:

2

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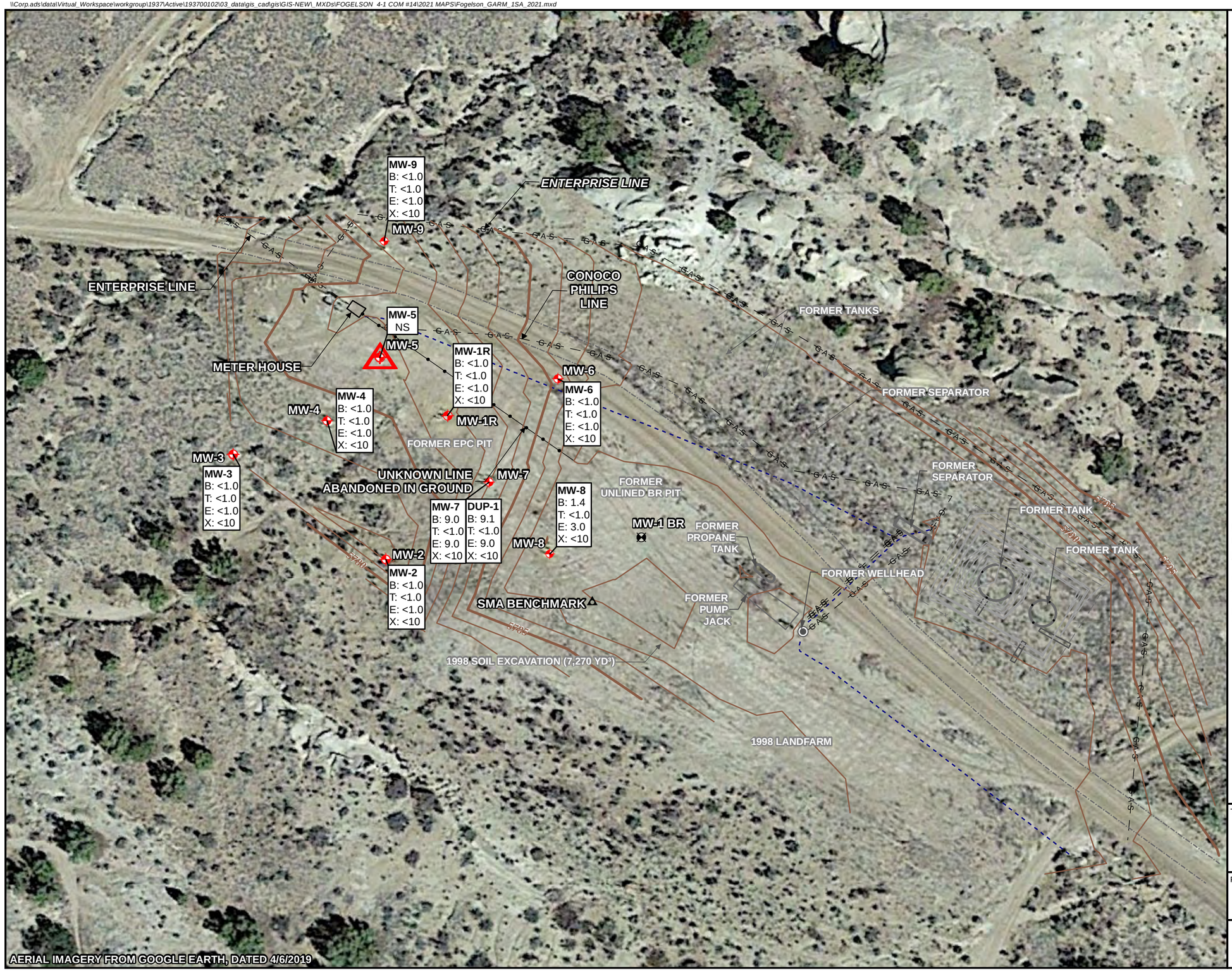


LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT OR EXCAVATION
- GAS — GAS LINE
- UNDERGROUND CABLE
- MONITORING WELL
- MONITORING WELL WITH MEASURABLE FREE PRODUCT
- FORMER WELLHEAD
- SMA BENCHMARK
- FORMER MONITORING WELL (NOT EPCGP-OWNED)

NOTES:

DUP = FIELD DUPLICATE SAMPLE

EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:

RESULTS IN **BOLDFACE/RED** TYPE INDICATE CONCENTRATION IN EXCESS OF THE STANDARD FOR THAT ANALYTE.
NS = NOT SAMPLED
µg/L = MICROGRAMS PER LITER
<1 = BELOW REPORTING LIMIT

ANALYTE	NMWQCC STANDARDS
B = Benzene	10 µg/L
T = Toluene	750 µg/L
E = Ethylbenzene	750 µg/L
X = Total Xylenes	620 µg/L

N

SCALE IN FEET

0 40 80

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2022-01-24	SAH	SAH	SRV

TITLE:

GROUNDWATER ANALYTICAL RESULTS
MAY 22, 2021

PROJECT:

FOGELSON 4-1
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: **3**

\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193700102\03_data\gis_cad\gis\GIS-NEW_MXDs\FOGELSON 4-1 COM #14\2021 MAPS\Fogelson_GECM_1SA_2021.mxd

ENTERPRISE LINE

ENTERPRISE LINE

MW-9
MW-9
5734.34

CONOCO PHILIPS LINE

MW-5
5735.78
MW-5

MW-6
5735.76
MW-6

5735

METER HOUSE

MW-4
5735.11
MW-4

MW-1R
5736.46
MW-1R

MW-3
5735.74
MW-3

FORMER EPC PIT

UNKNOWN LINE
ABANDONED IN GROUND

MW-7
MW-7
5739.11

FORMER UNLINED BR PIT

5736

MW-1 BR

FORMER PROPANE TANK

MW-2
MW-2
5737.13

MW-8
MW-8
5740.39

SMA BENCHMARK

FORMER PUMP JACK

1998 SOIL EXCAVATION (7,270 YD³)

1998 LANDFARM

FORMER TANKS

FORMER SEPARATOR

FORMER SEPARATOR

FORMER TANK

FORMER TANK

FORMER WELLHEAD

AERIAL IMAGERY FROM GOOGLE EARTH, DATED 4/6/2019

LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT OR EXCAVATION
- G A S — GAS LINE
- UNDERGROUND CABLE
- MONITORING WELL
- MONITORING WELL WITH MEASURABLE FREE PRODUCT
- FORMER WELLHEAD
- SMA BENCHMARK
- FORMER MONITORING WELL (NOT EPCGP-OWNED)

NOTES:

5734.34 GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL

5740 CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL)

DIRECTION OF APPARENT GROUNDWATER FLOW

N

SCALE IN FEET

0 40 80

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2022-01-24	SAH	SAH	SRV

TITLE:

GROUNDWATER ELEVATION MAP
MAY 22, 2021

PROJECT:

FOGELSON 4-1
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: 4

\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193700102\03_data\gis_cad\gis\GIS-NEW_MXDs\FOGELSON 4-1 COM #14\2021 MAPS\Fogelson_GARM_2SA_2021.mxd

LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT OR EXCAVATION
- GAS — GAS LINE
- UNDERGROUND CABLE
- MONITORING WELL
- MONITORING WELL WITH MEASURABLE FREE PRODUCT
- FORMER WELLHEAD
- SMA BENCHMARK
- FORMER MONITORING WELL (NOT EPCGP-OWNED)

NOTES:

DUP = FIELD DUPLICATE SAMPLE

EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:

RESULTS IN **BOLDFACE/RED** TYPE INDICATE CONCENTRATION IN EXCESS OF THE STANDARD FOR THAT ANALYTE.
NS = NOT SAMPLED
µg/L = MICROGRAMS PER LITER
<1 = BELOW REPORTING LIMIT

ANALYTE	NMWQCC STANDARDS
B = Benzene	10 µg/L
T = Toluene	750 µg/L
E = Ethylbenzene	750 µg/L
X = Total Xylenes	620 µg/L

N

SCALE IN FEET
0 40 80

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2022-01-24	SAH	SAH	SRV

TITLE:

GROUNDWATER ANALYTICAL RESULTS
NOVEMBER 14, 2021

PROJECT:

FOGELSON 4-1
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: 5

\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193700102\03_data\gis_cad\gis\GIS-NEW_MXDs\FOGELSON 4-1 COM #14\2021 MAPS\Fogelson_GECM_2SA_2021.mxd

ENTERPRISE LINE

ENTERPRISE LINE

MW-9
MW-9
5734.48

CONOCO PHILIPS LINE

METER HOUSE

MW-5
5735.72
MW-5

MW-6
5735.45
MW-6

MW-4
5735.07
MW-4

MW-1R
5736.18
MW-1R

MW-3
5735.53
MW-3

FORMER EPC PIT

UNKNOWN LINE ABANDONED IN GROUND

MW-7
MW-7
5738.99

FORMER UNLINED BR PIT

MW-1 BR

FORMER PROPANE TANK

MW-2
5736.92
MW-2

MW-8
MW-8
5739.93

SMA BENCHMARK

FORMER PUMP JACK

1998 SOIL EXCAVATION (7,270 YD³)

1998 LANDFARM

FORMER TANKS

FORMER SEPARATOR

FORMER SEPARATOR

FORMER TANK

FORMER TANK

FORMER WELLHEAD

5735

5736

5737

5738

5739

5740

5745

AERIAL IMAGERY FROM GOOGLE EARTH, DATED 4/6/2019

LEGEND:

- 5795 — APPROX. GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT OR EXCAVATION
- GAS — GAS LINE
- UNDERGROUND CABLE
- MONITORING WELL
- MONITORING WELL WITH MEASURABLE FREE PRODUCT
- FORMER WELLHEAD
- SMA BENCHMARK
- FORMER MONITORING WELL (NOT EPCGP-OWNED)

NOTES:

5734.34 GROUNDWATER ELEVATION CORRECTED FOR PRODUCT THICKNESS. FEET ABOVE MEAN SEA LEVEL

5740 CORRECTED WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL)

DIRECTION OF APPARENT GROUNDWATER FLOW

N

SCALE IN FEET

0 40 80

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2022-03-15	SAH	SAH	SRV

TITLE:

GROUNDWATER ELEVATION MAP
NOVEMBER 14, 2021

PROJECT:

FOGELSON 4-1
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.:

6

APPENDICES

APPENDIX A

From: Varsa, Steve
To: Smith, Cory, EMNRD
Cc: Griswold, Jim, EMNRD; Wiley, Joe
Subject: El Paso CGP Company - Notice of upcoming product recovery activities
Date: Thursday, March 11, 2021 10:49:41 AM

Hi Cory -

This correspondence is to provide notice to the NMOCD of upcoming product recovery activities at the following El Paso CGP Company (EPCGP) project sites:

Site Name	Incident Number	Case Number	Date
Canada Mesa #2	Unknown	3RP-155-0	03/18/2021
Fields A#7A	Unknown	3RP-170-0	03/17/2021
Fogelson 4-1	Unknown	3RP-068-0	03/17/2021
Gallegos Canyon Unit #124E	NAUTOFAB000205	3RP-407-0	03/17/2021
James F. Bell #1E	Unknown	3RP-196-0	03/17/2021
Johnston Fed #4	Unknown	3RP-201-0	03/18/2021
Johnston Fed #6A	Unknown	3RP-202-0	03/18/2021
K27 LDO72	Unknown	3RP-204-0	03/18/2021
Knight #1	Unknown	3RP-207-0	03/17/2021
Lateral L 40 Line Drip	Unknown	3RP-212-0	03/18/2021
State Gas Com N #1	Unknown	3RP-239-0	03/17/2021

Please feel free to contact Joe Wiley, Project Manager at EPCGP, or me, if you need further information.

Thank you,
Steve

Stephen Varsa, P.G.
Senior Hydrogeologist
Stantec Environmental Services
11153 Aurora Avenue
Des Moines, Iowa 50322
Direct: (515) 251-1020
Cell: (515) 710-7523
Office: (515) 253-0830
steve.varsa@stantec.com

From: Varsa, Steve
To: Smith, Cory, EMNRD
Cc: Griswold, Jim, EMNRD; Wiley, Joe
Subject: El Paso CGP Company - Notice of upcoming groundwater sampling activities
Date: Wednesday, May 12, 2021 2:45:52 PM

Hi Cory -

This correspondence is to provide notice to the NMOCD of upcoming semi-annual groundwater sampling and monitoring activities at the following EPCGP project sites:

Site Name	Incident Number	Sample Date
Canada Mesa #2	nAUTOfAB000065	05/19/2021
Fields A#7A	nAUTOfAB000176	05/22/2021
Fogelson 4-1	nAUTOfAB000192	05/22/2021
Gallegos Canyon Unit #124E	nAUTOfAB000205	05/21/2021
GCU Com A #142E	nAUTOfAB000219	05/21/2021
James F. Bell #1E	nAUTOfAB000291	05/23/2021
Johnston Fed #4	nAUTOfAB000305	05/18/2021
Johnston Fed #6A	nAUTOfAB000309	05/18/2021
K27 LDO72	nAUTOfAB000316	05/19/2021
Knight #1	nAUTOfAB000324	05/21/2021
Lateral L 40 Line Drip	nAUTOfAB000335	05/23/2021
Miles Fed #1A	nAUTOfAB000391	05/19/2021
Sandoval GC A #1A	nAUTOfAB000635	05/18/2021
Standard Oil Com #1	nAUTOfAB000666	05/19/2021
State Gas Com N #1	nAUTOfAB000668	05/22/2021

Please feel free to contact Joe Wiley, Project Manager at EPCGP, or me, if you need further information.

Thank you,
Steve

Stephen Varsa, P.G.
Senior Hydrogeologist
Stantec Environmental Services
11153 Aurora Avenue
Des Moines, Iowa 50322
Direct: (515) 251-1020
Cell: (515) 710-7523
Office: (515) 253-0830
steve.varsa@stantec.com

From:	Varsa, Steve
To:	Smith, Cory, EMNRD
Cc:	Griswold, Jim, EMNRD; Wiley, Joe
Bcc:	Varsa, Steve
Subject:	Fogelson #4-1 site (nAUTOfAB000192) - notice of upcoming activities
Date:	Friday, August 20, 2021 10:15:00 AM

Hi Cory – on behalf of El Paso CGP Company, Stantec is planning to complete free product recovery activities using mobile dual-phase extraction methods at the subject site on August 27, 2021. A work plan will additional details regarding these activities has been submitted in the e-permitting portal.

Please feel free to contact Joe Wiley, Project Manager at EPCGP, or me, if you need further information.

Thank you,
Steve

Stephen Varsa, P.G.
Senior Hydrogeologist
Stantec Environmental Services
Note – we have moved!
11311 Aurora Avenue
Des Moines, Iowa 50322
Direct: (515) 251-1020
Cell: (515) 710-7523
Office: (515) 253-0830
steve.varsa@stantec.com

From: Varsa, Steve
To: Smith, Cory, EMNRD
Cc: Griswold, Jim, EMNRD; Wiley, Joe
Subject: El Paso CGP Company - Notice of upcoming groundwater sampling activities
Date: Wednesday, November 03, 2021 10:14:55 AM

Hi Cory -

This correspondence is to provide notice to the NMOCD of upcoming semi-annual groundwater sampling and monitoring activities at the following EPCGP project sites:

Site Name	Incident Number	Sample Date
Canada Mesa #2	nAUTOfAB000065	11/11/2021
Fields A#7A	nAUTOfAB000176	11/14/2021
Fogelson 4-1	nAUTOfAB000192	11/14/2021
Gallegos Canyon Unit #124E	nAUTOfAB000205	11/12/2021
GCU Com A #142E	nAUTOfAB000219	11/12/2021
James F. Bell #1E	nAUTOfAB000291	11/13/2021
Johnston Fed #4	nAUTOfAB000305	11/15/2021
Johnston Fed #6A	nAUTOfAB000309	11/15/2021
K27 LDO72	nAUTOfAB000316	11/11/2021
Knight #1	nAUTOfAB000324	11/12/2021
Lateral L 40 Line Drip	nAUTOfAB000335	11/13/2021
Miles Fed #1A	nAUTOfAB000391	11/11/2021
Sandoval GC A #1A	nAUTOfAB000635	11/15/2021
Standard Oil Com #1	nAUTOfAB000666	11/11/2021
State Gas Com N #1	nAUTOfAB000668	11/14/2021

Please feel free to contact Joe Wiley, Project Manager at EPCGP, or me, if you need further information.

Thank you,
Steve

Stephen Varsa, P.G.
Senior Hydrogeologist
Stantec Environmental Services
11153 Aurora Avenue
Des Moines, Iowa 50322
Direct: (515) 251-1020
Cell: (515) 710-7523
Office: (515) 253-0830
steve.varsa@stantec.com

APPENDIX B

BASIN DISPOSAL

30 Years of Environmental Health and Safety Excellence

200 Montana, Bloomfield, NM 87413
505-632-8936 or 505-334-3013
OPEN 24 Hours per Day

NO. 806693
NMOCD PERMIT: NM -001-0005
Oil Field Waste Document, Form C138
INVOICE:

DATE 03-17-21
GENERATOR: Santec
HAULING CO. Energy Minerals and Natural Res
ORDERED BY: Steven Berry

DEL. TKT#.
BILL TO: Santec
DRIVER: Tyrone
(Print Full Name)
CODES:

WASTE DESCRIPTION: ☒ Exempt Oilfield Waste ☐ Produced Water ☐ Drilling/Completion Fluids

STATE: ☒ NM ☐ CO ☐ AZ ☐ UT

TREATMENT/DISPOSAL METHODS: ☒ EVAPORATION ☒ INJECTION ☒ TREATING PLANT

NO.	TRUCK	LOCATION(S)	VOLUME	COST	H2S	COST	TOTAL	TIME
1		Blanco Gas Plant	1	70			70	
2		San Juan River Gas Plant						'21 MAR 17 6:20PM
3		7 locations, GCU Mesa						
4		James F. Bell, Knight #1, State Gas Com N#1 Fields A#7A, Rycisa #4-1						
5								

I, [illegible] representative or authorized agent for [illegible] do hereby

DATE 5.23.21 DEL. TKT#.

GENERATOR: El Paso CGP Company L.L.C BILL TO:

HAULING CO. Oil Conservation Division DRIVER:

ORDERED BY: (Print Full Name) CODES:

WASTE DESCRIPTION: ☒ Exempt Oilfield Waste ☐ Produced Water ☐ Drilling/Completion Fluids

STATE: ☐ NM ☐ CO ☐ AZ ☐ UT TREATMENT/DISPOSAL METHODS: ☒ EVAPORATION ☒ INJECTION ☒ TREATING PLANT

NO.	TRUCK	LOCATION(S)	VOLUME	COST	H2S	COST	TOTAL	TIME
1	4	Fidlis #7A						
2		State Gas Com N #1						
3		Fogelson 4-1						
4		Lat L 40						
5		James F. Bell #1E	1	.70			'21 MAY 23 4:31 #0.70	

I, Jim H Cleary, representative or authorized agent for _____ do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non -exempt waste.

☐ Approved ☐ Denied ATTENDANT SIGNATURE

SAN JUAN PRINTING 2020 1973-1

BASIN DISPOSAL

30 Years of Environmental Health and Safety Excellence

200 Montana, Bloomfield, NM 87413
505-632-8936 or 505-334-3013
OPEN 24 Hours per Day

NO 813924
NMOCD PERMIT: NM -001-0005
Oil Field Waste Document, Form C138
INVOICE:

DATE 8.27.21
DEL. TKT#.
GENERATOR: Stan Tech
BILL TO: Stan Tech
HAULING CO. Stan Tech
DRIVER: Jeremy (Print Full Name)
ORDERED BY: Steve V.
CODES:

WASTE DESCRIPTION: ☒ Exempt Oilfield Waste ☑ Produced Water ☐ Drilling/Completion Fluids

STATE: ☑ NM ☐ CO ☐ AZ ☐ UT TREATMENT/DISPOSAL METHODS: ☒ EVAPORATION ☒ INJECTION ☒ TREATING PLANT

NO.	TRUCK	LOCATION(S)	VOLUME	COST	H2S	COST	TOTAL	TIME
1		Fajelson #4-1	1	.70			21 AUG 27 .704	
2								
3								
4								
5								

I, _____, representative or authorized agent for _____ do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non -exempt waste.

☑ Approved ☐ Denied ATTENDANT SIGNATURE _____

SAN JUAN PRINTING 2020 1973-1

BASIN DISPOSAL

30 Years of Environmental Health and Safety Excellence

200 Montana, Bloomfield, NM 87413

505-632-8936 or 505-334-3013

OPEN 24 Hours per Day

NO. 817612

NMOCD PERMIT: NM -001-0005

Oil Field Waste Document, Form C138

INVOICE:

DATE 11-15-21

GENERATOR: El paso CGP

HAULING CO. Stanteck

ORDERED BY: Joe wiley

DEL. TKT#.

BILL TO: El paso CGP

DRIVER: Sean C.
(Print Full Name)

CODES:

WASTE DESCRIPTION: ☒ Exempt Oilfield Waste ☐ Produced Water ☐ Drilling/Completion Fluids

STATE: ☑ NM ☐ CO ☐ AZ ☐ UT

TREATMENT/DISPOSAL METHODS: ☒ EVAPORATION ☒ INJECTION ☒ TREATING PLANT

NO.	TRUCK	LOCATION(S)	VOLUME	COST	H2S	COST	TOTAL	TIME
1		State gas com N #1.	1	70			70 NOV 15 3:47 PM	
2		Ticks A #7A, Fogelson #4						
3		Johnston Fed #4, Johnston Fed #4A						
4		Sandoval GC A #1A						
5								

I, Sean T Clay, representative or authorized agent for _____ do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non -exempt waste.

☑ Approved ☐ Denied ATTENDANT SIGNATURE _____

SAN JUAN PRINTING 2020 1973-1

APPENDIX C

AcuVac Remediation

September 20, 2021

Mr. Stephen Varsa, P.G.
Senior Hydrogeologist
Stantec Environnemental Services
13111 Aurora Avenue
Des Moines, IA 50322

Dear Steve:

Re: Fogelson 1-4, Bloomfield, San Juan County, NM (Site Event #2)

At your request, AcuVac Remediation, LLC (AcuVac) performed one 8.0-hour Mobile Dual Phase Extraction (MDPE) event at the above referenced site (Site) on well MW-5 on August 27, 2021. The following is the Report and a copy of the Operating Data collected during Site Event #2. Additionally, the attached Table #1A contains the Summary Well Data for well MW-5. Table #1B contains the Summary Recovery Data for well MW-5.

The purpose of the MDPE event was to enhance recovery of petroleum hydrocarbons impacts present at the Site through the removal of both Phase Separated Hydrocarbons (PSH) and vapor phase petroleum hydrocarbons. PSH is referred to as Light Non-Aqueous Phase Liquids (LNAPL). The source of the petroleum hydrocarbon impacts is a historical release of natural gas condensate.

OBJECTIVES

The objectives of the MDPE events were to:

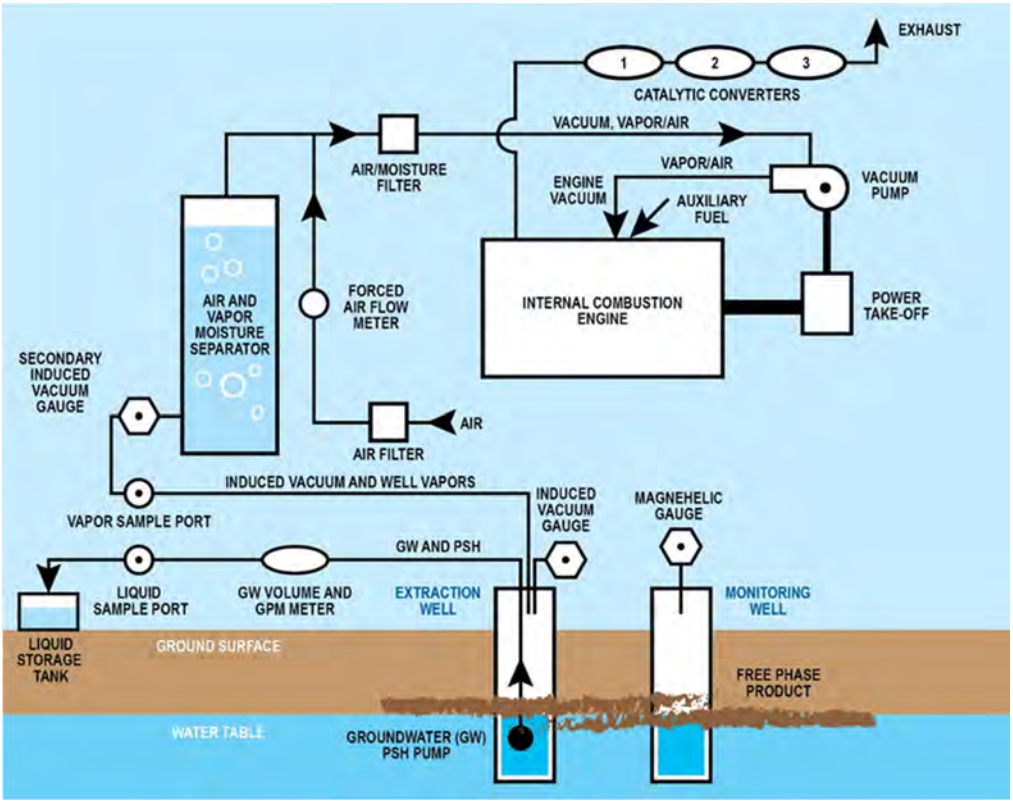
- Maximize the removal of liquid and vapor phase petroleum hydrocarbons from the groundwater and soils in the subsurface formations within the influence of the extraction well.
- Expose the capillary fringe area to an induced vacuum.
- Increase the liquid and vapor phase petroleum hydrocarbon specific yields with high induced vacuums.
- Create and monitor an induced hydraulic gradient to gain hydraulic control of the area surrounding the extraction well during the event periods.
- Select and monitor the groundwater depression and pump rates to accomplish the above objectives.

METHODS AND EQUIPMENT

AcuVac owns and maintains an inventory of equipment to perform MDPE events. No third-party equipment was utilized. The events at the Site were conducted using the AcuVac I-6 System (System) with a Roots RAI-33 blower used as a vacuum pump and a Roots RAI-22 positive displacement blower. The following table lists equipment and instrumentation employed during Site Event #2, and the data element captured by each.

Equipment and Instrumentation Employed by AcuVac	
Measurement Equipment	**Data Element**
Extraction Well Induced Vacuum and Flow	
Dwyer Magnehelic Gauges	Extraction Well Vacuum
Dwyer Averaging Pitot Tubes / Magnehelic Gauges	Extraction Well Vapor Flow
Observation Wells	
Dwyer Digital Manometer	Vacuum / Pressure Influence
Extraction Well Vapor Monitoring	
V-1 Vacuum Box	Extraction Well Non-Diluted Vapor Sample Collection
HORIBA® Analyzer	Extraction Well Vapor TPH Concentration
RKI 1200 O_2, H_2S Monitor	Extraction Well Vapor Oxygen Content
LNAPL Thickness (if present)	
Solinst Interface Probes Model 122	Depth to LNAPL and Depth to Groundwater
Liquid Recovery	
Totalizer Flow Meter	Liquid Flow and Total Volume
Grundfos Redi-Flo 2 Total Fluids Pump	In-Well Pumping
Grundfos Variable Frequency Drive	Pump Speed and Other Diagnostics
Groundwater Depression / Upwelling	
In-Situ Level Troll 700 Data Logger	Liquid Column in Extraction and Observation Wells
In-Situ Vented Cable with Chamber	Equalize Well Vacuum/Pressure
In-Situ Rugged Reader Data Logger Interface	Capture Readings from Data Logger Trolls
Atmospheric Conditions	
Testo Model 511	Relative and Absolute Barometric Pressure

THE ACUVAC MOBILE DUAL PHASE EXTRACTION SYSTEM



The vacuum extraction portion of the System consists of a vacuum pump driven by an internal combustion (IC) engine. The vacuum pump was connected to the extraction well, and the vacuum created on the extraction well caused light hydrocarbons in the soil and on the groundwater to volatilize and flow through a moisture knockout tank to the vacuum pump and the IC Engine where they were burned as part of the normal combustion process. Propane was used as auxiliary fuel to help power the engine if the well vapors did not provide the required energy.

The IC engine provided the power necessary to achieve and maintain high induced vacuums and/or high well vapor flows required to maximize the vacuum radius of influence for pilot tests and short-term event remediation.

Emissions from the engine were passed through three catalytic converters to maximize destruction of removed hydrocarbon vapors. The engine's fuel-to-air ratio was adjusted to maintain efficient combustion. Because the engine is the power source for the equipment, the System stops when the engine stops. This prevents an uncontrolled release of hydrocarbons. Since the System is held entirely under vacuum, any leaks in the seals or connections are leaked into the System and not emitted into the atmosphere. The engine is automatically shut down by vacuum loss, low oil pressure, over speed, or overheating.

Groundwater extraction was provided by an in-well, Redi-Flo 2 total fluids pump that discharged through a total flow meter. The discharge line from the volume meter was then connected to the stand-by tank. A data logger (pressure transducer) was used to monitor the groundwater level relative to the in-well pump inlet. This enabled the AcuVac team to upwell the groundwater and then pump the well to achieve a targeted drawdown to maximize any LNAPL and vapor-phase hydrocarbons recovery from the smear zone. The electrical power for the groundwater pump was supplied from a 120v Honda generator. The groundwater flow rate was adjusted to maintain a target level. An interface meter was used to collect depth to groundwater and depth to LNAPL measurements. Groundwater samples were taken periodically in a graduated cylinder to determine the average LNAPL percentage being recovered.

The design of the AcuVac System enabled independent control of both the induced well vacuum and the groundwater pumping functions such that the AcuVac team controlled the induced hydraulic gradient to increase exposure of the formation to soil vapor extraction (SVE). The ability to separate the vapor and liquid flows within the extraction well improved the hydrocarbon recovery rates and enabled the AcuVac team to record data specific to each media.

SUMMARY OF WELL MW-5 (SITE EVENT #2)

- The total event time for Site Event #2 was 8.0 hours and was conducted on August 27, 2021. The data is compared with Site Event #1A which was conducted on May 5, 2018, with a duration of 4.0 hours. Site Event #1B which was conducted on May 8, 2018, with a duration of 8.0 hours.

- The volume of liquid and vapor hydrocarbons recovered during Site Event #2 is compared with Site Event #1 in the following table.

Petroleum Hydrocarbon Recovery Summary				
Site Event Number		**Event #2**	**Event #1A**	**Event #1B**
Well Number		**MW-5**	**MW-1**	**MW-1**
Event Date		**08/27/2021**	**05/05/2018**	**05/08/2018**
Event Hours		**8.0**	**4.0**	**8.0**
Recovery				
Groundwater Recovery	gals	21.00	0	1.50
Petroleum Hydrocarbon Recovery				
Liquid	gals	0	0	0
Vapor	gals	0.5	0.30	0.31
Total	gals	0.5	0.30	0.31
Gallons/Hour	gals	**0.07**	**0.08**	**0.04**

- Total vapor hydrocarbons burned as IC engine fuel in the Petroleum Hydrocarbon Recovery Summary Table above are based on the HORIBA® data recorded. In the Influent Vapor Data Table below, the HORIBA® analytical data from the influent vapor samples are compared with previous events.

Influent Vapor Data Well MW-5 and MW-1				
Site Event Number		**Event #2**	**Event #1A**	**Event #1B**
Well Number		**MW-5**	**MW-1**	**MW-1**
Event Date		**08/27/2021**	**05/05/2018**	**05/08/2018**
Event Hours		**8.0**	**4.0**	**8.0**
Data Element				
TPH- Maximum	ppmv	1,980	2,040	1,910
TPH- Average	ppmv	1,557	1,823	1,582
TPH- Minimum	ppmv	1,122	1,710	1,330
TPH- Initial	ppmv	1,122	1,752	1,910
TPH- Ending	ppmv	1,622	1,756	1,330
CO_2	%	3.56	1.12	1.25
O_2	%	16.14	14.8	14.7
H_2S	ppm	100	100	90

- The Site Event #2 extraction well induced vacuum and well vapor flow is compared with Site Event #1 in the following table.

Well Vacuum and Well Vapor Flow Well MW-5 and MW-1				
Site Event Number		**Event #2**	**Event #1A**	**Event #1B**
Well Number		**MW-5**	**MW-1**	**MW-1**
Event Date		**08/27/2021**	**05/05/2018**	**05/08/2018**
Event Hours		**8.0**	**4.0**	**8.0**
Data Element				
Well Vacuum- Maximum	InH_2O	160.00	32.00	41.00
Well Vacuum- Average	InH_2O	138.24	27.00	35.59
Well Vacuum- Minimum	InH_2O	50.00	15.00	23.00
Well Vapor Flow- Maximum	scfm	24.38	19.57	11.99
Well Vapor Flow- Average	scfm	19.47	19.07	11.36
Well Vapor Flow- Minimum	scfm	4.55	18.89	9.64

- For site Event #2 the groundwater pump inlet was set at approximately 1.50 ft above the well bottom. After initially experiencing upwelling within the water column, the liquid pump rate was reduced, and the well vacuum was subsequently increased to stabilize the liquid levels. The in-well pump was cycled on/off during the event.

- Depth to groundwater, depth to LNAPL and LNAPL thickness at the start and end of each event are presented in the table below.

LNAPL Thickness MW-1 and MW-5				
Site Event Number		**Event #2**	**Event #1A**	**Event #1B**
Well Number		**MW-5**	**MW-1**	**MW-1**
Event Date		**08/27/2021**	**05/05/2018**	**05/08/2018**
Event Hours		**8.0**	**4.0**	**8.0**
Data Element				
Start of Event				
Depth to LNAPL	ft BTOC	45.11	-	45.50
Depth to Groundwater	ft BTOC	45.35	45.49	45.56
LNAPL Thickness	ft	0.24	-	0.06
End of Event				
Depth to LNAPL	ft BTOC	-	-	-
Depth to Groundwater	ft BTOC	51.48	44.87	45.51
LNAPL Thickness	ft	-	-	-

- Outer wells MW-4 (34.3 ft), MW-1R (37.1 ft) and MW-9 (49.1 ft) were monitored for vacuum influence from the extraction well MW-5.

Outer Well Vacuum Influence Well MW-1		
Site Event Number		**Event #2**
Event Date		**08/27/2021**
Event Hours		**8.0**
Extraction Well		
Average Extraction Well Vacuum	InH_2O	138.24
Average Vacuum Influence- Outer Wells		
MW- 4 (34.3 ft)	InH_2O	0.04
MW-1R (37.1 ft)	InH_2O	0.05
MW-3 (49.1 ft)	InH_2O	0.00

- All wells were gauged prior to and after the conclusion of Site Event #2 to determine the hydraulic influence of the extraction well groundwater pumping on the outer wells. The gauging data contained in the following Gauging Data tables.

Gauging Data Event #4A Outer Observation Wells				
Well Number		**MW-4**	**MW-1R**	**MW-9**
Event Date		**08/27/2021**	**08/27/2021**	**08/271/2021**
Distance from Extraction Well	ft	**34.3**	**37.1**	**49.1**
Event Start				
Depth to LNAPL	Ft BTOC	-	-	-
Depth to Groundwater	Ft BTOC	47.05	47.70	49.67
LNAPL Thickness	ft	-	-	-
Hydro Equivalent	Ft BTOC	47.05	47.70	49.67
Event Conclusion				
Depth to LNAPL	Ft BTOC	-	-	-
Depth to Groundwater	Ft BTOC	47.06	47.65	49.57
LNAPL Thickness	ft	-	-	-
Hydro Equivalent	Ft BTOC	47.06	47.65	49.57

METHOD OF CALIBRATION AND CALCULATIONS

The HORIBA® Analytical instrument is calibrated with hexane, carbon monoxide and carbon dioxide. The formula used to calculate the emission rate is:

$$ER = TPH\ (ppmv) \times MW\ (hexane) \times Flow\ Rate\ (scfm) \times 1.58E^{-7} \frac{(min)(lb\ mole)}{(hr)(ppmv)(ft^3)} = lbs/hr$$

INFORMATION INCLUDED WITH REPORT

- Table #1A Summary Data Well MW-5
- Table #1B Summary Recovery Data Well MW-5
- Recorded Data

After you have reviewed the report and if you have any questions, please contact me. We appreciate you selecting AcuVac to provide this service.

Sincerely,
ACUVAC REMEDIATION, LLC

Paul D. Faucher
President

Summary Well Data
Table #1A

Site Event		2
WELL NO.		**MW-5**
Event Date		08/27/2021
Current Event Hours		8.0
Total Event Hours		8.0
Total Depth	ft BGS	55.0
Well Screen	ft BGS	30.0 – 55.0
Well Size	in	2.0
Well Data		
Depth To Groundwater - Static - Start Event	ft BTOC	45.11
Depth To LNAPL - Static - Start Event	ft BTOC	45.35
LNAPL Thickness	ft	0.24
Hydro-Equivalent- Beginning	ft BTOC	45.17
Depth To Groundwater - End Event	ft BTOC	51.48
Depth To LNAPL - End Event	ft BTOC	-
LNAPL Thickness	ft	-
Hydro-Equivalent- Ending	ft BTOC	51.48
Extraction Data		
Maximum Extraction Well Vacuum	"H_2O	160.00
Average Extraction Well Vacuum	"H_2O	138.24
Minimum Extraction Well Vacuum	"H_2O	50.00
Maximum Extraction Well Vapor Flow	scfm	24.38
Average Extraction Well Vapor Flow	scfm	19.47
Minimum Extraction Well Vapor Flow	scfm	4.55
Maximum GW / LNAPL Pump Rate	gpm	0.20
Average GW / LNAPL Pump Rate	gpm	0.04
Influent Data		
Maximum TPH	ppmv	1,980
Average TPH	ppmv	1,557
Minimum TPH	ppmv	1,122
Initial TPH	ppmv	1,122
Final TPH	ppmv	1,622
Average CO_2	%	3.56
Average O_2	%	16.14
Average H_2S	ppm	100

Summary Recovery Data
Table #1B

Site Event		2
WELL NO.		**MW-5**
Recovery Data- Current Event		
Total Liquid Volume Recovered	gals	21.00
Total Liquid LNAPL Recovered	gals	0
Total Liquid LNAPL Recovered / Total Liquid	%	-
Total Liquid LNAPL Recovered / Total LNAPL	%	-
Total Vapor LNAPL Recovered	gals	0.50
Total Vapor LNAPL Recovered / Total LNAPL	%	100.00
Total Vapor and Liquid LNAPL Recovered	gals	0.50
Average LNAPL Recovery	gals/hr	0.07
Total LNAPL Recovered	lbs	4
Total Volume of Well Vapors	cu. ft	9,346
Recovery Data- Cumulative		
Total Liquid Volume Recovered	gals	21.00
Total Liquid LNAPL Recovered	gals	-
Total Vapor LNAPL Recovered	gals	0.50
Total Vapor and Liquid LNAPL Recovered	gals	0.50
Average LNAPL Recovery	gals/hr	0.07
Total LNAPL Recovered	lbs	4
Total Volume of Well Vapors	cu. ft	9,346

AcuVac Remediation

OPERATING DATA – EVENT # 2 PAGE # 1 ACUVAC MDP SYSTEM

Location: Fogelson 1-4, San Juan County, NM **Project Managers:** Faucher \ Crump \ George

Well # MW-5		Date	8/27/21					
		Time	0700	0730	0800	0830	0900	0930
		Hr Meter	9741.5					
ENGINE / BLOWER	Engine Speed	RPM	1900	1900	1900	1900	1900	1900
	Oil Pressure	psi	55	55	55	55	55	55
	Water Temp	°F	135	135	135	135	135	140
	Alternator	Volts	13	13	13	13	13	13
	Intake Vacuum	"Hg	18	18	18	18	18	18
	Gas Flow Fuel/Propane	cfh	125	120	120	140	140	140
ATMOSPHERE VACUUM / AIR	Extraction Well Vac.	"H_2O	50	50	100	130	130	130
	Extraction Well Flow	scfm	4.55	4.55	10.87	14.31	16.05	16.72
	Influent Vapor Temp.	°F	66	66	68	70	70	72
	Air Temp	°F	66	66	68	68	70	73
	Barometric Pressure	"Hg	30.50	30.50	30.51	30.51	30.56	30.51
	Absolute Pressure	"Hg	24.43	30.50	24.44	24.44	24.44	24.44
VAPOR / INFLUENT	TPH	ppmv	—	.1122	1248	1462	1980	1666
	CO_2	%	—	4.26	4.70	4.14	4.16	4.14
	O_2	%	—	14.0	14.1	15.3	15.1	15.6
	H_2S	ppm	—	100	100	100	100	100

NOTES

ARRIVED ON SITE AT 0630 MOBILIZED THE ACUVAC EQUIPMENT GAUGED WELL MW-5 DTLNAPL 45.11 DTGW 45.35 LNAPL 0.24 POSITIONED IN-WELL PUMP INLET 1.5 FT ABOVE WELL BOTTOM (APPROX). INITIAL WELL VAC 45 IN H_2O. APPLIED WELL VAC FRAGMENTED THE WATER COLUMN AS DL READING DECREASED. AFTER THE 0730 READING APPLIED VAC ↑ 100 IN H_2O TO DRAW LIQUID INTO THE WELL. 0830 HRS WELL VAC ↑ 130 IN H_2O

RECOVERY	Totalizer	gals	45988	45989	45989	45989	45989	45989
	Pump Rate	gals/min	.03	—	—	—	—	.20
	Total Volume	gals	—	1	1	1	1	1
	NAPL	% Vol	SHEEN	SHEEN	SHEEN	SHEEN	SHEEN	SHEEN
	NAPL	Gals	—	—	—	—	—	—
EW	Data Logger Head 3.63	ft	2.21	(0.56)	.82	(1.60)	(0.03)	0.89
	GW (Depression) UPWELLING	ft	(1.42)	4.19	(2.91)	5.23	3.66	(3.04)
	Extraction Well	DTNAPL						
	Extraction Well	DTGW						

AcuVac Remediation

OPERATING DATA – EVENT # 2 **PAGE # 2** **ACUVAC MDP SYSTEM**

Location: Fogelson 1-4, San Juan County, NM **Project Managers:** Faucher \ Crump \ George

Well # MW-5

	Date		8/27/21					
	Time		1000	1030	1100	1130	1200	1230
	Hr Meter							
ENGINE / BLOWER	Engine Speed	RPM	1900	1900	1900	1900	1900	1900
	Oil Pressure	psi	55	55	55	55	55	55
	Water Temp	°F	160	160	160	160	160	160
	Alternator	Volts	13	13	13	13	13	13
	Intake Vacuum	"Hg	18	18	18	18	18	18
	Gas Flow Fuel/Propane	cfh	130	130	130	130	130	130
ATMOSPHERE VACUUM / AIR	Extraction Well Vac.	"H_2O	160	160	160	160	160	160
	Extraction Well Flow	scfm	20.53	24.38	24.38	24.34	24.34	24.34
	Influent Vapor Temp.	°F	74	74	74	76	76	76
	Air Temp	°F	75	79	79	81	82	82
	Barometric Pressure	"Hg	30.51	30.50	30.50	30.49	30.48	30.47
	Absolute Pressure	"Hg	24.44	24.44	24.43	24.43	24.42	24.41
VAPOR / INFLUENT	TPH	ppmv	1684	1536	1504	1498	1520	1614
	CO_2	%	3.04	3.16	3.10	3.14	2.98	3.14
	O_2	%	17.1	16.8	17.1	16.9	16.8	16.8
	H_2S	ppm	100	100	100	100	100	100

NOTES

AT 0930 HRS IT WAS DECIDED TO MAXIMIZE THE APPLIED VACUUM TO DRAW GROUNDWATER INTO THE WELL AND THEN PUMP IT DOWN ON THE HALF HOUR. AT 1000 HRS GW RECOVERY 7 GAL.

RECOVERY	Totalizer	gals	45995	45998	45998	45999	46002	46002
	Pump Rate	gals/min	.10	0	.03	.10	0	.10
	Total Volume	gals	7.00	10	10	11	14	14
	NAPL	% Vol	SHEEN	SHEEN	SHEEN	SHEEN	SHEEN	SHEEN
	NAPL	Gals	-	-	-	-	-	-
EW	Data Logger Head	ft	(6.91)	(6.01)	(6.76)	(7.68)	(.08)	(6.77)
	GW (Depression) > UPWELLING	ft	10.54	(3.62)	10.39	11.31	3.71	10.40
	Extraction Well	DTNAPL						
	Extraction Well	DTGW						

AcuVac Remediation

OPERATING DATA – EVENT # 2 PAGE # 3 ACUVAC MDP SYSTEM

Location: Fogelson 1-4, San Juan County, NM **Project Managers:** Faucher \ Crump \ George

TD 55.0 BGS
Well # MW-5
SCREEN 30.0-55.0

		Date	9/27/24					
		Time	1300	1330	1400	1430	1500	
		Hr Meter						
ENGINE / BLOWER	Engine Speed	RPM	1900	1908	1900	1900	1900	
	Oil Pressure	psi	55	55	55	55	55	
	Water Temp	°F	160	160	160	160	160	
	Alternator	Volts	13	13	13	13	13	
	Intake Vacuum	"Hg	18	18	18	18	18	
	Gas Flow Fuel/Propane	cfh	130	130	130	130	130	
ATMOSPHERE VACUUM / AIR	Extraction Well Vac.	"H_2O	160	160	160	160	160	
	Extraction Well Flow	scfm	24.34	24.34	24.34	24.34	24.35	
	Influent Vapor Temp.	°F	76	76	76	76	76	
	Air Temp	°F	84	86	88	88	88	
	Barometric Pressure	"Hg	30.45	30.45	30.42	30.41	30.40	
	Absolute Pressure	"Hg	24.40	24.39	24.37	24.36	24.35	
VAPOR / INFLUENT	TPH	ppmv	1602	1692	1686	1622	-	
	CO_2	%	3.0	3.24	3.22	3.58	-	
	O_2	%	16.9	16.6	16.6	16.4	-	
	H_2S	ppm	100	100	100	100	-	
NOTES								
RECOVERY	Totalizer	gals	46005	46005	46007	46007	46009	
	Pump Rate	gals/min	0	.07	0	.07	-	
	Total Volume	gals	17	17	19	19	21	
	NAPL	% Vol	SHEEN	SHEEN	SHEEN	SHEEN	SHEEN	
	NAPL	Gals	-	-	-	-	-	
EW	Data Logger Head	ft	.04	(9.02)	.35	(7.37)	-	
	GW Depression > UPWELLING	ft	(3.59)	12.65	(3.28)	11.00	-	
	Extraction Well	DTNAPL						
	Extraction Well	DTGW						

APPENDIX D

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-203824-1
Client Project/Site: Fogelson 4-1
Revision: 1

For:
Stantec Consulting Services Inc
11153 Aurora Avenue
Des Moines, Iowa 50322-7904

Attn: Steve Varsa

Authorized for release by:
6/1/2021 3:01:05 PM
Isabel Enfinger, Project Mgmt. Assistant
(850)471-6237
isabel.enfinger@Eurofinset.com

Designee for

Marty Edwards, Client Service Manager
(850)471-6227
Marty.Edwards@Eurofinset.com

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Laboratory Job ID: 400-203824-1

Table of Contents

Definitions/Glossary

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Glossary

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

Case Narrative

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Job ID: 400-203824-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-203824-1

Comments
No additional comments.

Receipt
The samples were received on 5/25/2021 9:35 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.0º C.

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

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

Detection Summary

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Client Sample ID: TB-01 Lab Sample ID: 400-203824-1

No Detections.

Client Sample ID: DUP-01 Lab Sample ID: 400-203824-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	9.1		1.0		ug/L	1		8260C	Total/NA
Ethylbenzene	9.0		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-1R Lab Sample ID: 400-203824-3

No Detections.

Client Sample ID: MW-2 Lab Sample ID: 400-203824-4

No Detections.

Client Sample ID: MW-3 Lab Sample ID: 400-203824-5

No Detections.

Client Sample ID: MW-4 Lab Sample ID: 400-203824-6

No Detections.

Client Sample ID: MW-6 Lab Sample ID: 400-203824-7

No Detections.

Client Sample ID: MW-8 Lab Sample ID: 400-203824-8

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	1.4		1.0		ug/L	1		8260C	Total/NA
Ethylbenzene	3.0		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-7 Lab Sample ID: 400-203824-9

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	9.0		1.0		ug/L	1		8260C	Total/NA
Ethylbenzene	9.0		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-9 Lab Sample ID: 400-203824-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Sample Summary

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-203824-1	TB-01	Water	05/22/21 10:00	05/25/21 09:35	
400-203824-2	DUP-01	Water	05/22/21 12:16	05/25/21 09:35	
400-203824-3	MW-1R	Water	05/22/21 11:26	05/25/21 09:35	
400-203824-4	MW-2	Water	05/22/21 11:33	05/25/21 09:35	
400-203824-5	MW-3	Water	05/22/21 11:38	05/25/21 09:35	
400-203824-6	MW-4	Water	05/22/21 11:45	05/25/21 09:35	
400-203824-7	MW-6	Water	05/22/21 11:51	05/25/21 09:35	
400-203824-8	MW-8	Water	05/22/21 12:00	05/25/21 09:35	
400-203824-9	MW-7	Water	05/22/21 11:16	05/25/21 09:35	
400-203824-10	MW-9	Water	05/22/21 12:05	05/25/21 09:35	

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Client Sample ID: TB-01
Date Collected: 05/22/21 10:00
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			05/26/21 22:49	1
Toluene	<1.0		1.0		ug/L			05/26/21 22:49	1
Ethylbenzene	<1.0		1.0		ug/L			05/26/21 22:49	1
Xylenes, Total	<10		10		ug/L			05/26/21 22:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*78 - 118*		*05/26/21 22:49*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*05/26/21 22:49*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/26/21 22:49*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Client Sample ID: DUP-01
Date Collected: 05/22/21 12:16
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**9.1**		1.0		ug/L			05/26/21 23:14	1
Toluene	<1.0		1.0		ug/L			05/26/21 23:14	1
Ethylbenzene	**9.0**		1.0		ug/L			05/26/21 23:14	1
Xylenes, Total	<10		10		ug/L			05/26/21 23:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*05/26/21 23:14*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*05/26/21 23:14*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/26/21 23:14*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Client Sample ID: MW-1R
Date Collected: 05/22/21 11:26
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			05/26/21 23:38	1
Toluene	<1.0		1.0		ug/L			05/26/21 23:38	1
Ethylbenzene	<1.0		1.0		ug/L			05/26/21 23:38	1
Xylenes, Total	<10		10		ug/L			05/26/21 23:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*05/26/21 23:38*	*1*
Dibromofluoromethane	*91*		*81 - 121*		*05/26/21 23:38*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/26/21 23:38*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Client Sample ID: MW-2

Date Collected: 05/22/21 11:33
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			05/27/21 00:02	1
Toluene	<1.0		1.0		ug/L			05/27/21 00:02	1
Ethylbenzene	<1.0		1.0		ug/L			05/27/21 00:02	1
Xylenes, Total	<10		10		ug/L			05/27/21 00:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*78 - 118*		*05/27/21 00:02*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*05/27/21 00:02*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/27/21 00:02*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Client Sample ID: MW-3
Date Collected: 05/22/21 11:38
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-5
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			05/27/21 00:26	1
Toluene	<1.0		1.0		ug/L			05/27/21 00:26	1
Ethylbenzene	<1.0		1.0		ug/L			05/27/21 00:26	1
Xylenes, Total	<10		10		ug/L			05/27/21 00:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*78 - 118*		*05/27/21 00:26*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*05/27/21 00:26*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*05/27/21 00:26*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Client Sample ID: MW-4

Date Collected: 05/22/21 11:45
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			05/27/21 00:51	1
Toluene	<1.0		1.0		ug/L			05/27/21 00:51	1
Ethylbenzene	<1.0		1.0		ug/L			05/27/21 00:51	1
Xylenes, Total	<10		10		ug/L			05/27/21 00:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*05/27/21 00:51*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*05/27/21 00:51*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/27/21 00:51*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Client Sample ID: MW-6

Date Collected: 05/22/21 11:51
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-7

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			05/27/21 01:15	1
Toluene	<1.0		1.0		ug/L			05/27/21 01:15	1
Ethylbenzene	<1.0		1.0		ug/L			05/27/21 01:15	1
Xylenes, Total	<10		10		ug/L			05/27/21 01:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*78 - 118*		*05/27/21 01:15*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*05/27/21 01:15*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/27/21 01:15*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Client Sample ID: MW-8
Date Collected: 05/22/21 12:00
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.4**		1.0		ug/L			05/27/21 01:39	1
Toluene	<1.0		1.0		ug/L			05/27/21 01:39	1
Ethylbenzene	**3.0**		1.0		ug/L			05/27/21 01:39	1
Xylenes, Total	<10		10		ug/L			05/27/21 01:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*05/27/21 01:39*	*1*
Dibromofluoromethane	*97*		*81 - 121*		*05/27/21 01:39*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*05/27/21 01:39*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Client Sample ID: MW-7
Date Collected: 05/22/21 11:16
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-9
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**9.0**		1.0		ug/L			05/27/21 02:04	1
Toluene	<1.0		1.0		ug/L			05/27/21 02:04	1
Ethylbenzene	**9.0**		1.0		ug/L			05/27/21 02:04	1
Xylenes, Total	<10		10		ug/L			05/27/21 02:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*78 - 118*		*05/27/21 02:04*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*05/27/21 02:04*	*1*
Toluene-d8 (Surr)	*107*		*80 - 120*		*05/27/21 02:04*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Client Sample ID: MW-9

Date Collected: 05/22/21 12:05
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-10

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			05/27/21 02:28	1
Toluene	<1.0		1.0		ug/L			05/27/21 02:28	1
Ethylbenzene	<1.0		1.0		ug/L			05/27/21 02:28	1
Xylenes, Total	<10		10		ug/L			05/27/21 02:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*05/27/21 02:28*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*05/27/21 02:28*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*05/27/21 02:28*	*1*

QC Association Summary

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

GC/MS VOA

Analysis Batch: 533402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-203824-1	TB-01	Total/NA	Water	8260C	
400-203824-2	DUP-01	Total/NA	Water	8260C	
400-203824-3	MW-1R	Total/NA	Water	8260C	
400-203824-4	MW-2	Total/NA	Water	8260C	
400-203824-5	MW-3	Total/NA	Water	8260C	
400-203824-6	MW-4	Total/NA	Water	8260C	
400-203824-7	MW-6	Total/NA	Water	8260C	
400-203824-8	MW-8	Total/NA	Water	8260C	
400-203824-9	MW-7	Total/NA	Water	8260C	
400-203824-10	MW-9	Total/NA	Water	8260C	
MB 400-533402/4	Method Blank	Total/NA	Water	8260C	
LCS 400-533402/1002	Lab Control Sample	Total/NA	Water	8260C	
400-203795-A-2 MS	Matrix Spike	Total/NA	Water	8260C	
400-203795-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-533402/4
Matrix: Water
Analysis Batch: 533402

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			05/26/21 18:20	1
Toluene	<1.0		1.0		ug/L			05/26/21 18:20	1
Ethylbenzene	<1.0		1.0		ug/L			05/26/21 18:20	1
Xylenes, Total	<10		10		ug/L			05/26/21 18:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*78 - 118*		*05/26/21 18:20*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*05/26/21 18:20*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/26/21 18:20*	*1*

Lab Sample ID: LCS 400-533402/1002
Matrix: Water
Analysis Batch: 533402

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	55.8		ug/L		112	70 - 130		
Toluene			50.0	54.6		ug/L		109	70 - 130		
Ethylbenzene			50.0	56.0		ug/L		112	70 - 130		
Xylenes, Total			100	111		ug/L		111	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*107*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: 400-203795-A-2 MS
Matrix: Water
Analysis Batch: 533402

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<1.0		50.0	49.2		ug/L		98	56 - 142		
Toluene	<1.0		50.0	48.2		ug/L		96	65 - 130		
Ethylbenzene	<1.0		50.0	46.5		ug/L		93	58 - 131		
Xylenes, Total	<10		100	90.9		ug/L		91	59 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
Toluene-d8 (Surr)	*104*		*80 - 120*

Lab Sample ID: 400-203795-A-2 MSD
Matrix: Water
Analysis Batch: 533402

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<1.0		50.0	51.1		ug/L		102	56 - 142	4	30
Toluene	<1.0		50.0	46.8		ug/L		94	65 - 130	3	30
Ethylbenzene	<1.0		50.0	46.0		ug/L		92	58 - 131	1	30

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

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

Lab Sample ID: 400-203795-A-2 MSD
Matrix: Water
Analysis Batch: 533402

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Xylenes, Total	<10		100	89.5		ug/L		89	59 - 130	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*78 - 118*
Dibromofluoromethane	*94*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Client Sample ID: TB-01
Date Collected: 05/22/21 10:00
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	533402	05/26/21 22:49	CAR	TAL PEN
	Instrument ID: Argo									

Client Sample ID: DUP-01
Date Collected: 05/22/21 12:16
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	533402	05/26/21 23:14	CAR	TAL PEN
	Instrument ID: Argo									

Client Sample ID: MW-1R
Date Collected: 05/22/21 11:26
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	533402	05/26/21 23:38	CAR	TAL PEN
	Instrument ID: Argo									

Client Sample ID: MW-2
Date Collected: 05/22/21 11:33
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	533402	05/27/21 00:02	CAR	TAL PEN
	Instrument ID: Argo									

Client Sample ID: MW-3
Date Collected: 05/22/21 11:38
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	533402	05/27/21 00:26	CAR	TAL PEN
	Instrument ID: Argo									

Client Sample ID: MW-4
Date Collected: 05/22/21 11:45
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	533402	05/27/21 00:51	CAR	TAL PEN
	Instrument ID: Argo									

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Client Sample ID: MW-6
Date Collected: 05/22/21 11:51
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	533402	05/27/21 01:15	CAR	TAL PEN
	Instrument ID: Argo									

Client Sample ID: MW-8
Date Collected: 05/22/21 12:00
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	533402	05/27/21 01:39	CAR	TAL PEN
	Instrument ID: Argo									

Client Sample ID: MW-7
Date Collected: 05/22/21 11:16
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	533402	05/27/21 02:04	CAR	TAL PEN
	Instrument ID: Argo									

Client Sample ID: MW-9
Date Collected: 05/22/21 12:05
Date Received: 05/25/21 09:35

Lab Sample ID: 400-203824-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	533402	05/27/21 02:28	CAR	TAL PEN
	Instrument ID: Argo									

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Stantec Consulting Services Inc
Job ID: 400-203824-1
Project/Site: Fogelson 4-1

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-21
ANAB	ISO/IEC 17025	L2471	02-23-23
Arizona	State	AZ0710	01-12-22
Arkansas DEQ	State	88-0689	09-02-21
California	State	2510	06-30-21
Florida	NELAP	E81010	06-30-21
Georgia	State	E81010(FL)	06-30-21
Illinois	NELAP	200041	10-09-21
Iowa	State	367	08-01-22
Kansas	NELAP	E-10253	10-31-21
Kentucky (UST)	State	53	06-30-21
Kentucky (WW)	State	KY98030	12-31-21
Louisiana	NELAP	30976	06-30-21
Louisiana (DW)	State	LA017	12-31-21
Maryland	State	233	09-30-21
Massachusetts	State	M-FL094	06-30-21
Michigan	State	9912	06-30-21
New Jersey	NELAP	FL006	06-30-21
North Carolina (WW/SW)	State	314	12-31-21
Oklahoma	State	9810	08-31-21
Pennsylvania	NELAP	68-00467	01-31-22
Rhode Island	State	LAO00307	12-30-21
South Carolina	State	96026	06-30-21
Tennessee	State	TN02907	06-30-21
Texas	NELAP	T104704286	09-30-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-21-00056	05-17-24
Virginia	NELAP	460166	06-14-21
Washington	State	C915	05-15-22
West Virginia DEP	State	136	06-30-21

Method Summary

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1

Job ID: 400-203824-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5030C	Purge and Trap	SW846	TAL PEN

Protocol References:

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

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001 Fax: 850-478-2671

Chain of Custody Record

400-203824 COC

eurofins | Environment Testing America

Client Information	Sampler: SRC - MW	Lab PM: Edwards, Marty P	Carrier Tracking No(s):	COC No: 400-102800-36535.1
Client Contact: Steve Varsa	Phone: 913-980-0281	E-Mail: Marty.Edwards@Eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: Stantec Consulting Services Inc	PWSID:			Job #:
Address: 11153 Aurora Avenue	Due Date Requested:			
City: Des Moines	TAT Requested (days): STD			
State, Zip: IA, 50322-7904	Compliance Project: Δ Yes Δ No			
Phone: 303-291-2239(Tel)	PO #: See Project Notes			
Email: steve.varsa@stantec.com	WO #:			
Project Name: Fogelson 4-1 Com #14.00	Project #: 40005479			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

W-ERG-STN-05-06-21
SRC-03

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	8260C - (MOD) BTEX 8260	8260C - (MOD) BTEX 8260 (unpreserved)	Total Number of containers	Special Instructions/Note:
			Preservation Code:			A	N		
TB-01	5/22/2021	1000	G	Water		2		2	Trip Blank
DUP-01	5/22/2021	1216	G	Water			3		Duplicate
MW-12	5/22/2021	1126	G	Water			3	3	
MW-2	5/22/2021	1133	G	Water		3		3	
MW-3	5/22/2021	1138	G	Water			3	3	
MW-4	5/22/2021 SRC	~~5/20/2021~~	1145	G	Water		3	3	
MW-6	5/22/2021	1151	G	Water		3		3	
MW-8	5/22/2021	1200	G	Water			3	3	
MW-7	5/22/2021	1116	G	Water			3	3	
MW-9	5/22/2021	1205	G	Water		3		3	
SRC				Water					

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by: Sean R Clay	Date/Time: 5/24/2021 0800	Company STN	Received by: Fedex	Date/Time: 5/24/2021 0800	Company FedEx		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 5/25/21 935	Company STANTEC		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.0°C IR7

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc Job Number: 400-203824-1

Login Number: 203824 **List Source: Eurofins TestAmerica, Pensacola**
List Number: 1
Creator: Perez, Trina M

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

Laboratory Job ID: 400-211296-1
Client Project/Site: Fogelson 4-1 Com #14

For:
Stantec Consulting Services Inc
11311 Aurora Avenue
Des Moines, Iowa 50322-7904

Attn: Steve Varsa

Authorized for release by:
11/29/2021 9:00:26 PM

Cheyenne Whitmire, Project Manager II
(850)471-6222
Cheyenne.Whitmire@Eurofinset.com

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Laboratory Job ID: 400-211296-1

Table of Contents

Definitions/Glossary

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Glossary

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

Detection Summary

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Client Sample ID: TB-01 Lab Sample ID: 400-211296-1

No Detections.

Client Sample ID: DUP-01 Lab Sample ID: 400-211296-2

No Detections.

Client Sample ID: MW-1R Lab Sample ID: 400-211296-3

No Detections.

Client Sample ID: MW-4 Lab Sample ID: 400-211296-4

No Detections.

Client Sample ID: MW-6 Lab Sample ID: 400-211296-5

No Detections.

Client Sample ID: MW-7 Lab Sample ID: 400-211296-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	8.7		1.0		ug/L	1		8260C	Total/NA
Ethylbenzene	6.4		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-8 Lab Sample ID: 400-211296-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	1.4		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-9 Lab Sample ID: 400-211296-8

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Sample Summary

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-211296-1	TB-01	Water	11/14/21 14:00	11/16/21 09:10
400-211296-2	DUP-01	Water	11/14/21 15:20	11/16/21 09:10
400-211296-3	MW-1R	Water	11/14/21 14:20	11/16/21 09:10
400-211296-4	MW-4	Water	11/14/21 14:32	11/16/21 09:10
400-211296-5	MW-6	Water	11/14/21 14:43	11/16/21 09:10
400-211296-6	MW-7	Water	11/14/21 14:50	11/16/21 09:10
400-211296-7	MW-8	Water	11/14/21 14:56	11/16/21 09:10
400-211296-8	MW-9	Water	11/14/21 15:01	11/16/21 09:10

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Client Sample ID: TB-01

Date Collected: 11/14/21 14:00
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			11/19/21 13:01	1
Toluene	<1.0		1.0		ug/L			11/19/21 13:01	1
Ethylbenzene	<1.0		1.0		ug/L			11/19/21 13:01	1
Xylenes, Total	<10		10		ug/L			11/19/21 13:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*72 - 119*		*11/19/21 13:01*	*1*
Dibromofluoromethane	*106*		*75 - 126*		*11/19/21 13:01*	*1*
Toluene-d8 (Surr)	*94*		*64 - 132*		*11/19/21 13:01*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Client Sample ID: DUP-01

Date Collected: 11/14/21 15:20
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			11/19/21 10:56	1
Toluene	<1.0		1.0		ug/L			11/19/21 10:56	1
Ethylbenzene	<1.0		1.0		ug/L			11/19/21 10:56	1
Xylenes, Total	<10		10		ug/L			11/19/21 10:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*72 - 119*		*11/19/21 10:56*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*11/19/21 10:56*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*11/19/21 10:56*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Client Sample ID: MW-1R
Date Collected: 11/14/21 14:20
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			11/19/21 14:41	1
Toluene	<1.0		1.0		ug/L			11/19/21 14:41	1
Ethylbenzene	<1.0		1.0		ug/L			11/19/21 14:41	1
Xylenes, Total	<10		10		ug/L			11/19/21 14:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*72 - 119*		*11/19/21 14:41*	*1*
Dibromofluoromethane	*105*		*75 - 126*		*11/19/21 14:41*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*11/19/21 14:41*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Client Sample ID: MW-4

Date Collected: 11/14/21 14:32
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			11/19/21 15:06	1
Toluene	<1.0		1.0		ug/L			11/19/21 15:06	1
Ethylbenzene	<1.0		1.0		ug/L			11/19/21 15:06	1
Xylenes, Total	<10		10		ug/L			11/19/21 15:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*113*		*72 - 119*		*11/19/21 15:06*	*1*
Dibromofluoromethane	*106*		*75 - 126*		*11/19/21 15:06*	*1*
Toluene-d8 (Surr)	*94*		*64 - 132*		*11/19/21 15:06*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Client Sample ID: MW-6

Date Collected: 11/14/21 14:43
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			11/19/21 10:31	1
Toluene	<1.0		1.0		ug/L			11/19/21 10:31	1
Ethylbenzene	<1.0		1.0		ug/L			11/19/21 10:31	1
Xylenes, Total	<10		10		ug/L			11/19/21 10:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 119*		*11/19/21 10:31*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*11/19/21 10:31*	*1*
Toluene-d8 (Surr)	*94*		*64 - 132*		*11/19/21 10:31*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Client Sample ID: MW-7

Date Collected: 11/14/21 14:50
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**8.7**		1.0		ug/L			11/19/21 15:31	1
Toluene	<1.0		1.0		ug/L			11/19/21 15:31	1
Ethylbenzene	**6.4**		1.0		ug/L			11/19/21 15:31	1
Xylenes, Total	<10		10		ug/L			11/19/21 15:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*72 - 119*		*11/19/21 15:31*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*11/19/21 15:31*	*1*
Toluene-d8 (Surr)	*94*		*64 - 132*		*11/19/21 15:31*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Client Sample ID: MW-8

Date Collected: 11/14/21 14:56
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-7

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.4**		1.0		ug/L			11/19/21 15:56	1
Toluene	<1.0		1.0		ug/L			11/19/21 15:56	1
Ethylbenzene	<1.0		1.0		ug/L			11/19/21 15:56	1
Xylenes, Total	<10		10		ug/L			11/19/21 15:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*72 - 119*		*11/19/21 15:56*	*1*
Dibromofluoromethane	*105*		*75 - 126*		*11/19/21 15:56*	*1*
Toluene-d8 (Surr)	*93*		*64 - 132*		*11/19/21 15:56*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Client Sample ID: MW-9

Date Collected: 11/14/21 15:01
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-8

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			11/19/21 16:21	1
Toluene	<1.0		1.0		ug/L			11/19/21 16:21	1
Ethylbenzene	<1.0		1.0		ug/L			11/19/21 16:21	1
Xylenes, Total	<10		10		ug/L			11/19/21 16:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*72 - 119*		*11/19/21 16:21*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*11/19/21 16:21*	*1*
Toluene-d8 (Surr)	*96*		*64 - 132*		*11/19/21 16:21*	*1*

QC Association Summary

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

GC/MS VOA

Analysis Batch: 556565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-211296-1	TB-01	Total/NA	Water	8260C	
400-211296-2	DUP-01	Total/NA	Water	8260C	
400-211296-3	MW-1R	Total/NA	Water	8260C	
400-211296-4	MW-4	Total/NA	Water	8260C	
400-211296-5	MW-6	Total/NA	Water	8260C	
400-211296-6	MW-7	Total/NA	Water	8260C	
400-211296-7	MW-8	Total/NA	Water	8260C	
400-211296-8	MW-9	Total/NA	Water	8260C	
MB 400-556565/5	Method Blank	Total/NA	Water	8260C	
LCS 400-556565/1002	Lab Control Sample	Total/NA	Water	8260C	
400-211296-5 MS	MW-6	Total/NA	Water	8260C	
400-211296-5 MSD	MW-6	Total/NA	Water	8260C	

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-556565/5
Matrix: Water
Analysis Batch: 556565

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			11/19/21 10:03	1
Toluene	<1.0		1.0		ug/L			11/19/21 10:03	1
Ethylbenzene	<1.0		1.0		ug/L			11/19/21 10:03	1
Xylenes, Total	<10		10		ug/L			11/19/21 10:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*109*		*72 - 119*		*11/19/21 10:03*	*1*
Dibromofluoromethane	*106*		*75 - 126*		*11/19/21 10:03*	*1*
Toluene-d8 (Surr)	*95*		*64 - 132*		*11/19/21 10:03*	*1*

Lab Sample ID: LCS 400-556565/1002
Matrix: Water
Analysis Batch: 556565

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			50.0	47.3		ug/L		95	70 - 130		
Toluene			50.0	44.7		ug/L		89	70 - 130		
Ethylbenzene			50.0	45.7		ug/L		91	70 - 130		
Xylenes, Total			100	89.4		ug/L		89	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*82*		*72 - 119*
Dibromofluoromethane	*102*		*75 - 126*
Toluene-d8 (Surr)	*92*		*64 - 132*

Lab Sample ID: 400-211296-5 MS
Matrix: Water
Analysis Batch: 556565

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<1.0		50.0	41.3		ug/L		83	56 - 142		
Toluene	<1.0		50.0	36.8		ug/L		74	65 - 130		
Ethylbenzene	<1.0		50.0	34.8		ug/L		70	58 - 131		
Xylenes, Total	<10		100	68.7		ug/L		69	59 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*86*		*72 - 119*
Dibromofluoromethane	*100*		*75 - 126*
Toluene-d8 (Surr)	*93*		*64 - 132*

Lab Sample ID: 400-211296-5 MSD
Matrix: Water
Analysis Batch: 556565

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<1.0		50.0	44.1		ug/L		88	56 - 142	7	30
Toluene	<1.0		50.0	39.2		ug/L		78	65 - 130	6	30
Ethylbenzene	<1.0		50.0	37.3		ug/L		75	58 - 131	7	30

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

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

Lab Sample ID: 400-211296-5 MSD
Matrix: Water
Analysis Batch: 556565

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Xylenes, Total	<10		100	72.9		ug/L		73	59 - 130	6	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*89*		*72 - 119*
Dibromofluoromethane	*103*		*75 - 126*
Toluene-d8 (Surr)	*94*		*64 - 132*

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Client Sample ID: TB-01
Date Collected: 11/14/21 14:00
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	556565	11/19/21 13:01	EEH	TAL PEN
	Instrument ID: CH_LARS									

Client Sample ID: DUP-01
Date Collected: 11/14/21 15:20
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	556565	11/19/21 10:56	EEH	TAL PEN
	Instrument ID: CH_LARS									

Client Sample ID: MW-1R
Date Collected: 11/14/21 14:20
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	556565	11/19/21 14:41	EEH	TAL PEN
	Instrument ID: CH_LARS									

Client Sample ID: MW-4
Date Collected: 11/14/21 14:32
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	556565	11/19/21 15:06	EEH	TAL PEN
	Instrument ID: CH_LARS									

Client Sample ID: MW-6
Date Collected: 11/14/21 14:43
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	556565	11/19/21 10:31	EEH	TAL PEN
	Instrument ID: CH_LARS									

Client Sample ID: MW-7
Date Collected: 11/14/21 14:50
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	556565	11/19/21 15:31	EEH	TAL PEN
	Instrument ID: CH_LARS									

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Client Sample ID: MW-8
Date Collected: 11/14/21 14:56
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	556565	11/19/21 15:56	EEH	TAL PEN
	Instrument ID: CH_LARS									

Client Sample ID: MW-9
Date Collected: 11/14/21 15:01
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211296-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	556565	11/19/21 16:21	EEH	TAL PEN
	Instrument ID: CH_LARS									

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Accreditation/Certification Summary

Client: Stantec Consulting Services Inc
Job ID: 400-211296-1
Project/Site: Fogelson 4-1 Com #14

Laboratory: Eurofins TestAmerica, Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-22
ANAB	ISO/IEC 17025	L2471	02-23-23
Arizona	State	AZ0710	01-12-22
Arkansas DEQ	State	88-0689	09-01-22
California	State	2510	06-30-22
Florida	NELAP	E81010	06-30-22
Georgia	State	E81010(FL)	06-30-22
Illinois	NELAP	200041	10-09-22
Iowa	State	367	08-01-22
Kansas	NELAP	E-10253	11-30-21
Kentucky (UST)	State	53	06-30-22
Kentucky (WW)	State	KY98030	12-31-21
Louisiana	NELAP	30976	06-30-22
Louisiana (DW)	State	LA017	12-31-21
Maryland	State	233	09-30-22
Massachusetts	State	M-FL094	06-30-22
Michigan	State	9912	06-30-22
New Jersey	NELAP	FL006	06-30-22
North Carolina (WW/SW)	State	314	12-31-21
Oklahoma	State	9810	08-31-22
Pennsylvania	NELAP	68-00467	01-31-22
Rhode Island	State	LAO00307	12-30-21
South Carolina	State	96026	06-30-22
Tennessee	State	TN02907	06-30-22
Texas	NELAP	T104704286	09-30-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-21-00056	05-17-24
Virginia	NELAP	460166	06-14-22
Washington	State	C915	05-15-22
West Virginia DEP	State	136	12-31-21

Method Summary

Client: Stantec Consulting Services Inc
Project/Site: Fogelson 4-1 Com #14

Job ID: 400-211296-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
5030C	Purge and Trap	SW846	TAL PEN

Protocol References:

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

Laboratory References:

TAL PEN = Eurofins TestAmerica, Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Eurofins TestAmerica, Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Phone: 850-474-1001 Fax: 850-478-2671

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: SRC	Lab PM: Edwards, Marty P	Carrier Tracking No(s):	COC No: 400-105796-37671.1
Client Contact: Steve Varsa	Phone: 913 980 0281	E-Mail: Marty.Edwards@Eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: Stantec Consulting Services Inc	PWSID:			Job #:
Address: 11311 Aurora Avenue	Due Date Requested:			
City: Des Moines	TAT Requested (days):			
State, Zip: IA, 50322-7904	Compliance Project: Δ Yes Δ No			
Phone: 303-291-2239(Tel)	PO #: WD801944			
Email: steve.varsa@stantec.com	WO #:			
Project Name: Fogelson 4-1 Com #14.00	Project #: 40005479			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

400-211296 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD	8260C - (MOD) BTEX 8260	8260C - (MOD) BTEX 8260 (unpreserved)	Total Number of containers	Special Instructions/Note:
SAH-03				Preservation Code:						
TB-01	11/14/21	1400	G	Water			2			Trip Blank
DUP-01	11/14/21	1520	G	Water			3			Blind Dup
MW-1R	11/14/21	1420	G	Water			3		3	
MW-4	11/14/21	1432	G	Water			3		3	
MW-6	11/14/21	1443	G	Water			3		3	
MW-7	11/14/21	1450	G	Water			3		3	
MW-8	11/14/21	1456	G	Water			3		3	
MW-9	11/14/21	1501	G	Water			3		3	
				Water						
				Water						
				Water						

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by:	Date/Time: 11/15/21 0600	Company STN	Received by:
Relinquished by:	Date/Time:	Company	Received by:
Relinquished by:	Date/Time:	Company	Received by:

Date/Time:	Company
11-16-21 910	EDA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 0.0°C IR9

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc Job Number: 400-211296-1

Login Number: 211296 **List Source: Eurofins TestAmerica, Pensacola**
List Number: 1
Creator: Whitley, Adrian

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C IR9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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 94253

CONDITIONS

Operator:	OGRID:
El Paso Natural Gas Company, L.L.C 1001 Louisiana Street Houston, TX 77002	7046
	Action Number: 94253
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Accepted for the record. See app ID 146946 for most updated status.	11/22/2022