2021 ANNUAL GROUNDWATER REPORT

Sandoval GC A#1A
Incident Number: nAUTOfAB000635
Meter Code: 89620
T30N, R9W, Sec 35, Unit C

SITE DETAILS

Site Location: Latitude: 36.772101, Longitude: -107.753601
Land Type: Federal
Operator: Simcoe LLC

SITE BACKGROUND

Environmental Remediation activities at the Sandoval GC A#1A (Site) are managed pursuant to the procedures set forth in the document entitled, "*Remediation Plan for Groundwater Encountered During Pit Closure Activities*" (Remediation Plan, 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 (EPCPG) program methods. Currently, the Site is operated by Simcoe LLC (Simcoe), and is active. According to NMOCD records, Simcoe assumed operation of the Site from BP America Production Company (BP), on February 28, 2020.

The Site is located on Federal land. An initial site assessment was completed in May 1994. Two excavations were completed at the Site, the first in September 1994, removing approximately 50 cubic yards (cy), and the second in July 1997, removing 504 cy. The total excavated depth is approximately 28 feet below ground surface (bgs). A monitoring well was installed in 1994 (MW-1). Additional borings were advanced around the former pit in1995 and south of the pit in 1997 (PH-2). In October 2001, an oxygen release compound (ORC) nutrient injection was conducted. Soil boring SB-1 and monitoring wells MW-2 through MW-5 were installed in 2015. 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. Currently, groundwater sampling is conducted on a semi-annual basis.

NMOCD records indicate that BP had a release at the Site as early as 2003. BP documented a release at a compressor discharge pit, subsequently excavated 50 cy of soil, land-farmed the excavated soil on site, and advanced confirmation soil boring BPBH-1. BP also excavated approximately 12 cy of discolored soil during closure of a 95 barrel below ground tank in October 2017. The NMOCD established Case number 3RP-1057 for the BP release(s) in 2018. Four monitoring wells (BPMW-1 through BPMW-4) were installed by BP from August to December 2011. Monitoring well BPMW-2 was documented as having 2.7 feet of light non-aqueous phase liquid (LNAPL) on November 8, 2017, although no groundwater sampling data from the BP wells are in NMOCD files. On April 13, 2018, the NMOCD approved a BP plan to install a soil vapor extraction (SVE) system. In October 2018, Stantec noted a skid-mounted SVE blower had been placed on the western portion of the Site and connected to BPMW-2. Information on the operation or performance of the SVE system has not been found in NMOCD files.

GROUNDWATER SAMPLING ACTIVITIES

Pursuant to the Remediation Plan, Stantec provided field work notifications via email to the NMOCD on May 12, 2021, and November 3, 2021, prior to initiating groundwater sampling activities at the Site. Copies of the 2021 NMOCD notifications are provided in Appendix A. On May 18 and November 15, 2021, water levels were gauged at MW-1 through MW-5. No LNAPL was detected in EPCGP site monitoring wells during water level gauging in 2021. The water

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column observed in MW-3 during the November 15, 2021 sampling event was insufficient for sampling (less than 40 mL of water in the well). Groundwater samples were collected using HydraSleeve™ (HydraSleeve) no-purge groundwater sampling devices. The HydraSleeves were set during the previous sampling event approximately 0.5 foot above the bottom of the monitoring well screen using a suspension tether and stainless-steel weights to collect a sample from the screened interval.

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) using United States Environmental Protection Agency (EPA) Method 8260. One laboratory supplied trip blank and one blind field duplicate were also collected during each groundwater sampling event. The unused sample water was combined in a waste container and taken to Basin Disposal, Inc. (Basin) in Bloomfield, New Mexico for disposal. Waste disposal documentation is included as Appendix B.

SUMMARY TABLES

Historic groundwater analytical results and well gauging data are summarized in Tables 1 and 2, respectively.

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 C.

GROUNDWATER RESULTS

- Groundwater elevations indicate the groundwater flow direction at the Site was generally to the east during 2021 (see Figure 4 and 6).
- Groundwater samples collected in May 2021 from MW-2 and MW-4 exceeded the New Mexico Water Quality Control Commission (NMWQCC) standard (10 micrograms per liter [µg/L]) for benzene in groundwater. The groundwater sample collected in November 2021 from MW-2 exceeded the NMWQCC standard for benzene in groundwater. Benzene was either below the NMWQCC standard or was not detected in the samples collected from remaining site monitoring wells during 2021.
- Groundwater samples collected in 2021 from MW-2 exceeded the NMWQCC standard (750 µg/L) for toluene in groundwater. Toluene was either below the NMWQCC standard or was not detected in the remaining samples collected from site monitoring wells during 2021.
- Ethylbenzene was either below the NMWQCC standard (750 µg/L) or was not detected in the groundwater samples collected from site monitoring wells during 2021.
- Groundwater samples collected in 2021 from MW-2 exceeded the NMWQCC standard

(620 µg/L) for total xylenes in groundwater. Total xylenes were either below the NMWQCC standard or was not detected in the remaining samples collected from site monitoring wells during 2021.

- A field duplicate was collected from monitoring well MW-4 and MW-1 during the May 2021 and November 2021 sampling events, respectively. There were no significant differences in BTEX constituent concentrations between the primary and duplicate samples.

NO FURTHER ACTION REQUEST

EPCGP respectfully requests a response from NMOCD to the April 2019 Site Conceptual Model and No Further Action request (2019 SCM and NFA Request) submittal.

In addition to the information contained in the April 2019 SCM and NFA request, a decrease in groundwater BTEX concentrations has been noted in monitoring wells MW-2 and MW-5, and LNAPL is no longer present in monitoring well MW-2 since the BP-installed SVE system was installed at the BP well in 2018. Monitoring wells MW-1 and MW-3 have also remained below application NMWQCC requirements since November 2017. The absence of LNAPL in MW-2 and reduction of groundwater BTEX concentrations in MW-2 and MW-5 in conjunction with the BP's SVE remediation efforts are further indications of the impacts the BP release had on hydrocarbon impacts in the EPCGP monitoring wells.

TABLES

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Sandoval GC A #1A					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-1	05/30/95	5500	3980	579	4780
MW-1	04/12/96	10400	8960	925	10100
MW-1	07/26/96	8980	7980	1000	9430
MW-1	10/18/96	11050	9960	900	10700
MW-1	01/21/97	7700	7210	787	8430
MW-1	04/16/97	8900	8680	996	9250
MW-1	07/11/97	8240	7850	709	8230
MW-1	09/04/97	4420	2370	850	9660
MW-1	10/22/97	3460	39.6	714	7690
MW-1	01/06/98	3850	194	795	8570
MW-1	04/23/98	4330	406	783	7220
MW-1	04/19/99	4300	1260	629	7440
MW-1	04/13/00	2300	1500	590	5900
MW-1	05/30/01	2800	710	560	5200
MW-1	10/08/01	NS	NS	NS	NS
MW-1	05/16/02	3000	1500	440	5300
MW-1	05/21/03	3850	601	443	6360
MW-1	11/16/04	2490	30.9	346	2860
MW-1	11/08/05	338	8.5	80.1	757
MW-1	11/08/06	198	3.4	14.9	83.6
MW-1	11/29/07	441	3.8	52.2	72.2
MW-1	11/18/08	120	<2	17.9	8.3
MW-1	11/04/09	88.4	<1	14.8	4.3
MW-1	06/03/10	NS	NS	NS	NS
MW-1	11/09/10	54	<2	8.7	12.7
MW-1	11/16/11	31.3	<1	14.2	8.9
MW-1	06/08/13	0.27 J	<0.30	<0.20	<0.23
MW-1	09/09/13	0.36 J	<0.30	<0.20	<0.23
MW-1	12/12/13	0.31 J	<0.38	<0.20	<0.65
MW-1	04/02/14	1.1 J	1.7 J	<0.20	1.4 J
MW-1	10/23/14	3.3	<0.70	3.8	<1.6
MW-1	05/30/15	5.7	<5.0	5.3	6
MW-1	11/20/15	8.3	<5.0	5.2	14
MW-1	04/19/16	<2.0	<10	<2.0	<10
MW-1	10/16/16	3.2	<5.0	2	<5.0
MW-1	06/08/17	5.2	<5.0	2.4	7.9
MW-1	11/11/17	10	<1.0	<1.0	<10
MW-1	05/16/18	9.3	1.4	1.3	<10
MW-1	10/28/18	1.9	<1.0	3	<10
MW-1	05/22/19	<1.0	<1.0	<1.0	<10
MW-1	11/12/19	<1.0	<1.0	<1.0	<10

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Sandoval GC A #1A					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-1	05/15/20	<1.0	<1.0	<1.0	<10
MW-1	11/13/20	<1.0	<1.0	<1.0	<10
MW-1	05/18/21	<1.0	<1.0	<1.0	<10
MW-1	11/15/21	<1.0	<1.0	<1.0	<10
DP-01(MW-1)*	11/15/21	<1.0	<1.0	<1.0	<10
MW-2	11/20/15	2400	3700	530	7400
MW-2[1]	04/19/16[1]	6600	8200	1200	16000
MW-2	10/16/16	NS	NS	NS	NS
MW-2	06/08/17	NS	NS	NS	NS
MW-2	11/11/17	3500	4300	940	12000
MW-2	05/16/18	4000	3700	820	12000
DP-01(MW-2)*	05/16/18	3700	3400	690	11000
MW-2	10/28/18	4600	4800	910	16000
DUP-01(MW-2)*	10/28/18	4700	4600	930	14000
MW-2	05/22/19	4700	3300	780	9600
MW-2	11/12/19	9500	5400	1000	13000
MW-2	05/15/20	7500	5200	1000	12000
MW-2	11/13/20	8800	4700	<100	11000
MW-2	05/18/21	4700	2500	300	6100
MW-2	11/15/21	3800	2100	510	6100
MW-3	11/20/15	55	62	16	140
MW-3	04/19/16	1.6	<5.0	1.8	40
MW-3	10/16/16	<1.0	<5.0	<1.0	<5.0
MW-3	06/08/17	<1.0	<5.0	<1.0	<5.0
MW-3	11/11/17	23	27	2	18
MW-3	05/16/18	<1.0	<1.0	<1.0	<10
MW-3	10/28/18	<1.0	<1.0	<1.0	<10
MW-3	05/22/19	<1.0	<1.0	<1.0	<10
MW-3	11/12/19	<1.0	<1.0	<1.0	<10
MW-3	05/15/20	2.5	1.4	<1.0	<10
MW-3	11/13/20	NS	NS	NS	NS
MW-3	05/18/21	<1.0	<1.0	<1.0	<10
MW-3	11/15/21	NS	NS	NS	NS
MW-4	11/23/15	490	<10	4	140
MW-4[1]	04/19/16[1]	3.2	<5.0	<1.0	10
MW-4	10/16/16	22	<5.0	<1.0	9.6
MW-4	06/08/17	33	<5.0	<1.0	<5.0

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Sandoval GC A #1A					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-4	11/11/17	7	<1.0	<1.0	<10
MW-4	05/16/18	1.1	<1.0	<1.0	<10
MW-4	10/28/18	14	<1.0	<1.0	<10
MW-4	05/22/19	34	<1.0	<1.0	<10
DUP-1(MW-4)*	05/22/19	47	<1.0	<1.0	<10
MW-4	11/12/19	17	<1.0	<1.0	<10
DUP-1(MW-4)*	11/12/19	16	<1.0	<1.0	<10
MW-4	05/15/20	41	<1.0	<1.0	<10
MW-4	11/13/20	4.1	<1.0	<1.0	<10
DUP-1(MW-4)*	11/13/20	3.6	<1.0	<1.0	<10
MW-4	05/18/21	14	<1.0	<1.0	<10
DUP-1(MW-4)*	05/18/21	13	<1.0	<1.0	<10
MW-4	11/15/21	2.7	<1.0	<1.0	<10
MW-5	11/23/15	7500	17000	590	7100
MW-5	04/19/16	5800	1600	680	6100
MW-5	10/16/16	4700	6700	1000	10000
MW-5	06/08/17	4800	6000	1600	16000
MW-5	11/11/17	3800	4300	1100	11000
MW-5	05/16/18	4100	2800	850	9100
MW-5	10/28/18	2800	1700	590	6900
MW-5	05/22/19	470	<10	<10	880
MW-5	11/12/19	58	<1.0	<1.0	<10
MW-5	05/15/20	110	<1.0	<1.0	<10
DUP-01(MW-5)*	05/15/20	130	1.3	<1.0	<10
MW-5	05/18/21	5.5	<1.0	<1.0	<10
MW-5	11/15/21	3.3	<1.0	<1.0	<10

Notes:
"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).
"NS" = Monitoring well not sampled
[1] = The groundwater sample analytical results for MW-2 and MW-4 were switched for this sampling event, as discussed in the 2016 Annual Groundwater Report for this Site.
*Field Duplicate results presented immediately below primary sample result.

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Sandoval GC A #1A						
Location	Date	TOC	Depth to LNAPL (ft.)	Depth to Water (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-1	05/30/95	5716.63	NR	34.49		5682.14
MW-1	04/12/96	5716.63	NR	35.39		5681.24
MW-1	07/26/96	5716.63	NR	35.61		5681.02
MW-1	10/18/96	5716.63	NR	35.79		5680.84
MW-1	01/21/97	5716.63	NR	35.80		5680.83
MW-1	04/16/97	5716.63	NR	35.99		5680.64
MW-1	07/11/97	5716.63	NR	36.05		5680.58
MW-1	09/04/97	5716.63	NR	35.18		5681.45
MW-1	10/22/97	5716.63	NR	35.14		5681.49
MW-1	01/06/98	5716.63	NR	35.10		5681.53
MW-1	04/23/98	5716.63	NR	35.15		5681.48
MW-1	04/19/99	5716.63	NR	35.10		5681.53
MW-1	04/13/00	5716.63	NR	34.70		5681.93
MW-1	05/30/01	5716.63	NR	34.97		5681.66
MW-1	10/08/01	5716.63	NR	35.19		5681.44
MW-1	05/16/02	5716.63	NR	35.11		5681.52
MW-1	05/21/03	5716.63	ND	35.26		5681.37
MW-1	11/16/04	5716.63	ND	34.84		5681.79
MW-1	11/08/05	5716.63	ND	33.87		5682.76
MW-1	11/08/06	5716.63	ND	34.02		5682.61
MW-1	11/29/07	5716.63	ND	33.29		5683.34
MW-1	11/18/08	5716.63	ND	33.41		5683.22
MW-1	11/04/09	5716.63	ND	33.64		5682.99
MW-1	06/03/10	5716.63	ND	33.46		5683.17
MW-1	11/09/10	5716.63	ND	32.94		5683.69
MW-1	11/16/11	5716.63	ND	33.28		5683.35
MW-1	06/08/13	5716.63	ND	33.67		5682.96
MW-1	09/09/13	5716.63	ND	33.78		5682.85
MW-1	12/12/13	5716.63	ND	33.80		5682.83
MW-1	04/02/14	5716.63	ND	33.85		5682.78
MW-1	10/23/14	5716.63	ND	34.04		5682.59
MW-1	05/30/15	5716.63	ND	34.19		5682.44
MW-1	11/20/15	5716.63	ND	34.33		5682.30
MW-1	04/19/16	5716.63	ND	34.52		5682.11
MW-1	10/16/16	5716.63	ND	34.17		5682.46
MW-1	06/08/17	5716.63	ND	34.71		5681.92
MW-1	11/11/17	5716.63	ND	34.27		5682.36
MW-1	05/16/18	5716.63	ND	34.21		5682.42
MW-1	10/28/18	5716.63	ND	34.44		5682.19

TABLE 2 - GROUNDWATER ELEVATION RESULTS

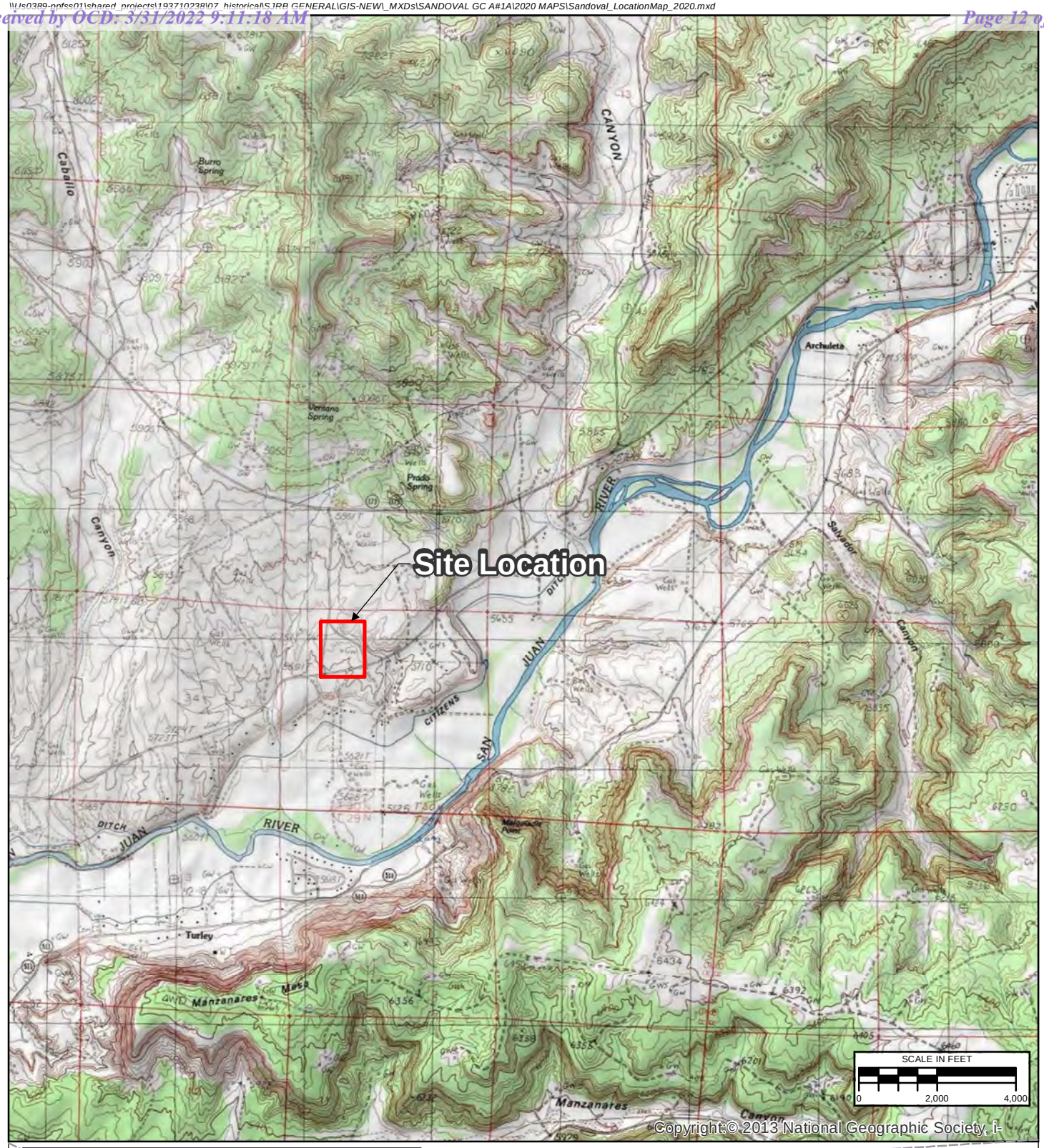
Sandoval GC A #1A						
Location	Date	TOC	Depth to LNAPL (ft.)	Depth to Water (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-1	05/22/19	5716.63	ND	34.65		5681.98
MW-1	11/12/19	5716.63	ND	34.75		5681.88
MW-1	05/15/20	5716.63	ND	34.92		5681.71
MW-1	11/13/20	5716.63	ND	35.11		5681.52
MW-1	05/18/21	5716.63	ND	35.25		5681.38
MW-1	11/15/21	5716.63	ND	35.39		5681.24
MW-2	11/20/15	5717.56	ND	35.29		5682.27
MW-2	04/19/16	5717.56	ND	35.49		5682.07
MW-2	10/16/16	5717.56	35.60	36.03	0.43	5681.85
MW-2	06/08/17	5717.56	35.50	36.25	0.75	5681.87
MW-2	11/11/17	5717.56	ND	35.19		5682.37
MW-2	05/16/18	5717.56	ND	35.14		5682.42
MW-2	10/28/18	5717.56	ND	35.35		5682.21
MW-2	05/22/19	5717.56	ND	35.59		5681.97
MW-2	11/12/19	5717.56	ND	35.72		5681.84
MW-2	05/15/20	5717.56	ND	35.88		5681.68
MW-2	11/13/20	5717.56	ND	36.05		5681.51
MW-2	05/18/21	5717.56	ND	36.18		5681.38
MW-2	11/15/21	5717.56	ND	36.30		5681.26
MW-3	11/20/15	5718.73	ND	37.16		5681.57
MW-3	04/19/16	5718.73	ND	42.25		5676.48
MW-3	10/16/16	5718.73	ND	44.19		5674.54
MW-3	06/08/17	5718.73	ND	44.87		5673.86
MW-3	11/11/17	5718.73	ND	43.82		5674.91
MW-3	05/16/18	5718.73	ND	44.50		5674.23
MW-3	10/28/18	5718.73	ND	45.47		5673.26
MW-3	05/22/19	5718.73	ND	44.62		5674.11
MW-3	11/12/19	5718.73	ND	46.55		5672.18
MW-3	05/15/20	5718.73	ND	46.12		5672.61
MW-3	11/13/20	5718.73	ND	46.31		5672.42
MW-3	05/18/21	5718.73	ND	46.12		5672.61
MW-3	11/15/21	5718.73	ND	46.59		5672.14
MW-4	11/20/15	NR	NR	NR		NR
MW-4	11/23/15	5718.15	ND	44.93		5673.22
MW-4	04/19/16	5718.15	ND	44.84		5673.31
MW-4	10/16/16	5718.15	ND	45.02		5673.13

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Sandoval GC A #1A						
Location	Date	TOC	Depth to LNAPL (ft.)	Depth to Water (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-4	06/08/17	5718.15	ND	45.18		5672.97
MW-4	11/11/17	5718.15	ND	45.18		5672.97
MW-4	05/16/18	5718.15	ND	45.16		5672.99
MW-4	10/28/18	5718.15	ND	45.48		5672.67
MW-4	05/22/19	5718.15	ND	45.07		5673.08
MW-4	11/12/19	5718.15	ND	45.64		5672.51
MW-4	05/15/20	5718.15	ND	45.46		5672.69
MW-4	11/13/20	5718.15	ND	45.67		5672.48
MW-4	05/18/21	5718.15	ND	45.63		5672.52
MW-4	11/15/21	5718.15	ND	46.16		5671.99
MW-5	11/20/15	5714.35	ND	Dry		Dry
MW-5	11/23/15	5714.35	ND	41.16		5673.19
MW-5	04/19/16	5714.35	ND	41.15		5673.20
MW-5	10/16/16	5714.35	ND	42.25		5672.10
MW-5	06/08/17	5714.35	ND	41.38		5672.97
MW-5	11/11/17	5714.35	ND	41.36		5672.99
MW-5	05/16/18	5714.35	ND	41.35		5673.00
MW-5	10/28/18	5714.35	ND	41.68		5672.67
MW-5	05/22/19	5714.35	ND	41.27		5673.08
MW-5	11/12/19	5714.35	ND	41.79		5672.56
MW-5	05/15/20	5714.35	ND	41.64		5672.71
MW-5	05/18/21	5714.35	ND	41.81		5672.54
MW-5	11/15/21	5714.35	ND	42.28		5672.07

Notes:
"ft" = feet
"TOC" = Top of casing
"LNAPL" = Light non-aqueous phase liquid
"Dry" = Water not detected "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
	2/18/2021	SAH	SAH	SRV

TITLE
SITE LOCATION

Stantec

PROJECT
SANDOVAL GC A#1A
SAN JUAN RIVER BASIN
RIO ARRIBA COUNTY, NEW MEXICO

FIGURE
1

\\Us0389-ppfss01\shared_projects\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXDs\SANDOVAL GC A#1A\2020 MAPS\Sandoval_SITEMAP_2020.mxd

FORMER BP SOIL LANDFARM (2003-2005)

BPMW-1

FORMER SEPARATOR TANK CLOSED 10/2003

MW-3

FORMER BERM

FORMER EPC PIT - EXCAVATED APPROXIMATELY 28 FEET DEEP

MW-2

SB-1

MW-1

MW-4

BPBH-1

BPMW-2

BERM

BP/SIMCO REMEDIATION SYSTEM

SEPARATOR

FORMER COMPRESSOR PIT CLOSED 10/2003

MW-5

FORMER 95 BBL BELOW-GRADE TANK REMOVED 10/2012

METER HOUSE

TANK

COMPRESSOR

BPMW-4

FIBERGLASS LINE

SOIL EXCAVATION (10/2017)

TANK

BPMW-3

ELECTRIC BOXES

FORMER PRODUCTION TANK (CLOSED 10/2003)

PH-2 (DRY - REFUSAL AT 38' BGS)

WELLHEAD

SMA BENCHMARK
ELEV. 5716.38'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST

100' FORMER BP BLOW PIT (CLOSED 10/2003)

AERIAL IMAGERY FROM GOOGLE EARTH, DATED 10/5/2016

LEGEND:

- 6508 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- GAS — NATURAL GAS LINE
- OVHD — OVERHEAD ELECTRIC LINE
- MONITORING WELL
- SOIL BORING
- BP/SIMCO MONITORING WELL
- OTHER SOIL BORING
- SMA BENCHMARK
- RIG ANCHOR

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2/23/2021	SLG	SLG	SRV

TITLE:

SITE PLAN

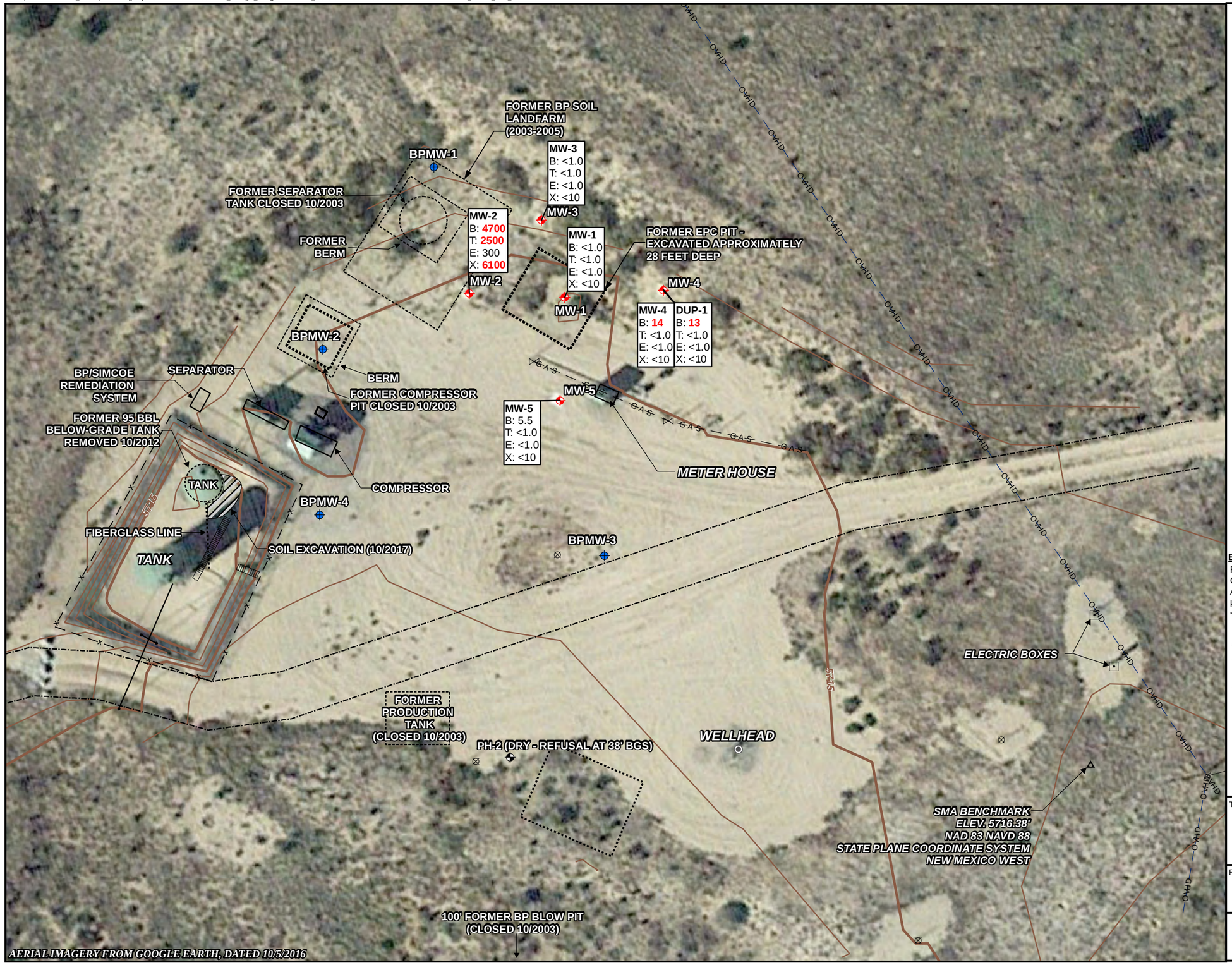
PROJECT:

SANDOVAL GC A#1A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: 2

\\Corp.ads\data\Virtual_Workspace\workgroup\1937\Active\193700102\03_data\gis_cad\gis\GIS-NEW_MXDs\SANDOVAL GC A#1A\2021 MAPS\Sandoval_GARM_1SA_2021.mxd



LEGEND:

- 6508 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- GAS — NATURAL GAS LINE
- OVHD — OVERHEAD ELECTRIC LINE
- MONITORING WELL
- BP/SIMCOE MONITORING WELL
- SMA BENCHMARK
- RIG ANCHOR
- NS — NOT SAMPLED (INSUFFICIENT AMOUNT OF WATER)

EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS

RESULTS IN **BOLDFACE/RED** TYPE INDICATE CONCENTRATION IN EXCESS OF THE STANDARD FOR THAT ANALYTE.
µg/L = MICROGRAMS PER LITER
<10 = 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 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2022-01-26	SAH	SAH	SRV

TITLE:

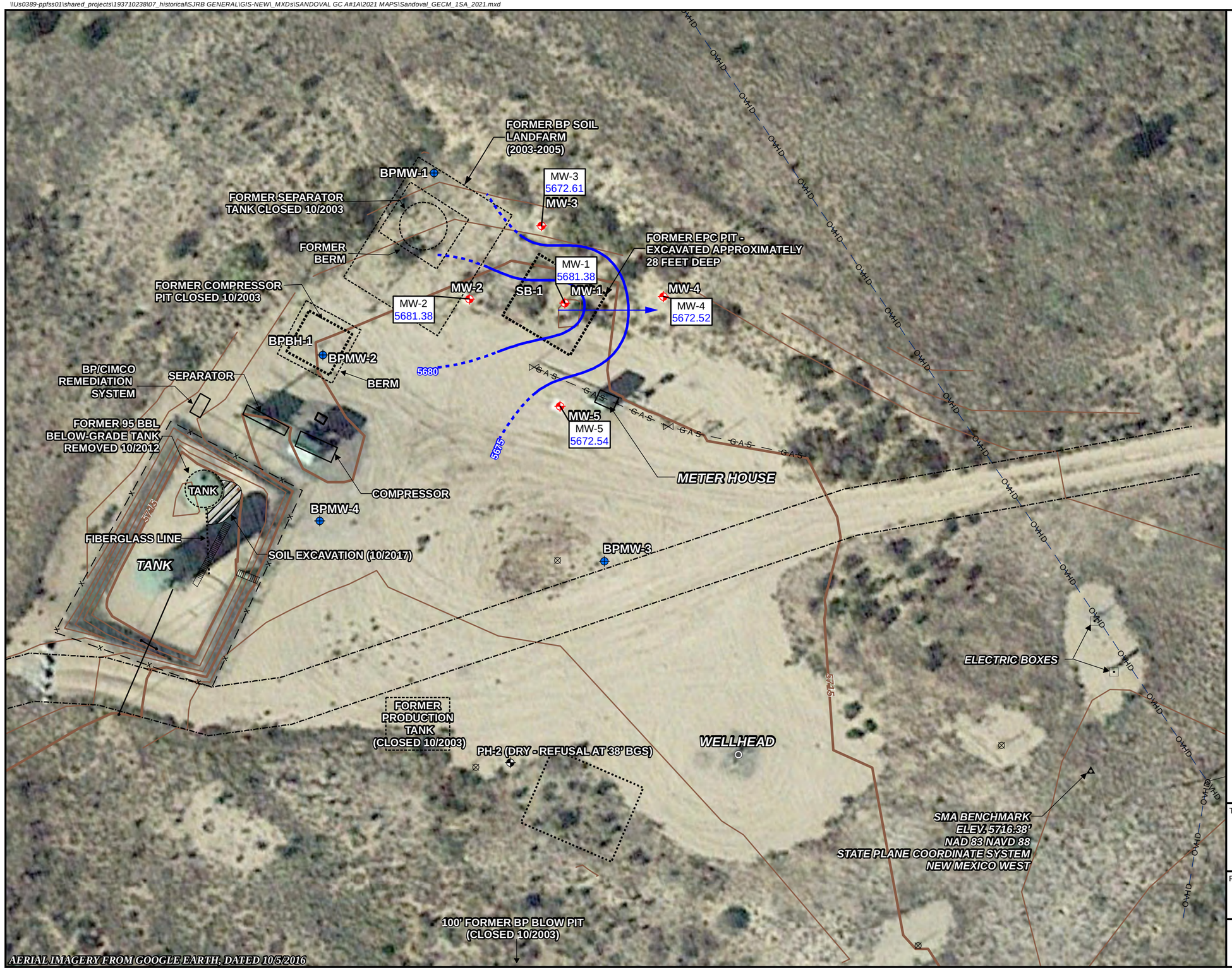
GROUNDWATER ANALYTICAL RESULTS
MAY 18, 2021

PROJECT:
SANDOVAL GC A#1A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: 3

\\Us0389-ppfss01\shared_projects\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXDs\SANDOVAL GC A#1A\2021 MAPS\Sandoval_GECM_1SA_2021.mxd



LEGEND:

- 6508 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- GAS — NATURAL GAS LINE
- OVHD — OVERHEAD ELECTRIC LINE
- MONITORING WELL
- BP/CIMCO MONITORING WELL
- SMA BENCHMARK
- RIG ANCHOR

NOTES:

5672.54 — GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL

5675 — WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL).

DIRECTION OF APPARENT GROUNDWATER FLOW

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	5/25/2021	SAH	SAH	SRV

TITLE:

GROUNDWATER ELEVATION MAP
MAY 18, 2021

PROJECT:

SANDOVAL GC A#1A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: 4

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LEGEND:

- 6508 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- GAS — NATURAL GAS LINE
- OVHD — OVERHEAD ELECTRIC LINE
- MONITORING WELL
- BP/SIMCOE MONITORING WELL
- SMA BENCHMARK
- RIG ANCHOR
- NS — NOT SAMPLED (INSUFFICIENT AMOUNT OF WATER)

EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS

RESULTS IN **BOLDFACE/RED** TYPE INDICATE CONCENTRATION IN EXCESS OF THE STANDARD FOR THAT ANALYTE.
µg/L = MICROGRAMS PER LITER
<10 = 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 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2022-03-21	SAH	SAH	SRV

TITLE:

GROUNDWATER ANALYTICAL RESULTS
NOVEMBER 15, 2021

PROJECT: **SANDOVAL GC A#1A**
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: **5**

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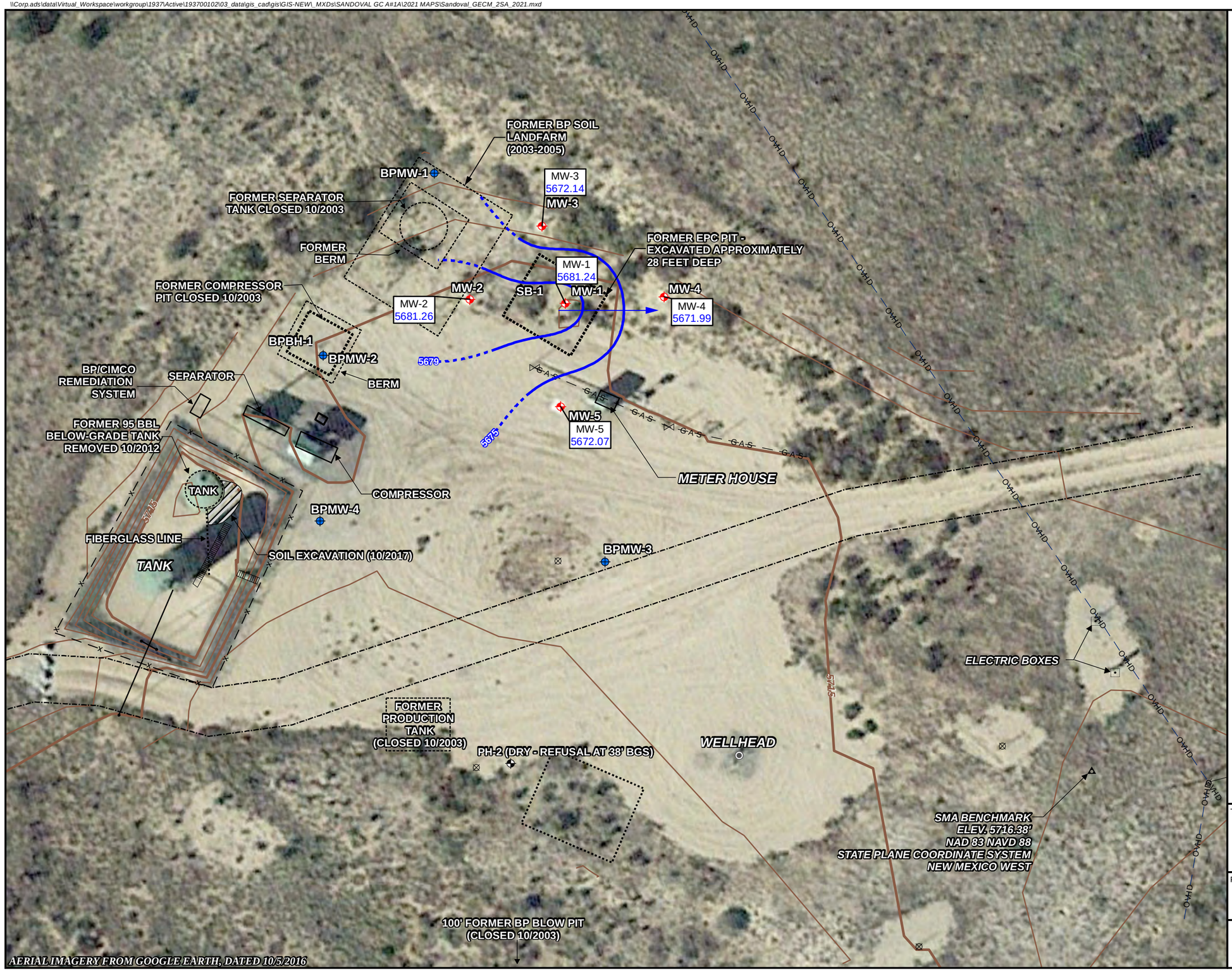

LEGEND:

- 6508 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- GAS — NATURAL GAS LINE
- OVHD — OVERHEAD ELECTRIC LINE
- MONITORING WELL
- BP/CIMCO MONITORING WELL
- SMA BENCHMARK
- RIG ANCHOR

NOTES:

5672.54 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL

5675 WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL).

DIRECTION OF APPARENT GROUNDWATER FLOW

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2022-01-26	SAH	SAH	SRV

TITLE:

GROUNDWATER ELEVATION MAP
NOVEMBER 15, 2021

PROJECT:

SANDOVAL GC A#1A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: 6

APPENDICES

APPENDIX A – NMOCD NOTIFICATION OF SITE ACTIVITIES

APPENDIX B – WASTEWATER DISPOSAL DOCUMENTATION

APPENDIX C – GROUNDWATER SAMPLING ANALYTICAL REPORTS

APPENDIX A

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
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

DATE 05-21-21 DEL. TKT#.

GENERATOR: EL PASO BILL TO: EL PASO

HAULING CO. Stanlac DRIVER: Sean Clary
(Print Full Name)

ORDERED BY: Joe Wiley 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		Standard Oil Com #1 / Knight #1 / GCU #124E		120				
2		GCU Com A #142E					'21 MAY 21 3:23 PM	
3		Johnston Fed #4 / #6A						
4		Sundoval GC A #1A /						
5		CANADA MESA #2 K-27-20S-32E, Hilley Fed #1A						

I, Joe Wiley, 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 11-15-24

GENERATOR: El paso CGP

HAULING CO. Stantech

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		Ficks 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

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 400-203721-1
Client Project/Site: ElPaso CGP Company - Sandoval GCA #1

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

Attn: Steve Varsa

Marty Edwards

Authorized for release by:
5/25/2021 8:32:05 AM

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

Table of Contents

Definitions/Glossary

Client: Stantec Consulting Services Inc Job ID: 400-203721-1
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

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: ElPaso CGP Company - Sandoval GCA #1

Job ID: 400-203721-1

Job ID: 400-203721-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-203721-1

Comments
No additional comments.

Receipt
The samples were received on 5/21/2021 9:07 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 4.6º C.

GC/MS VOA
Method 8260C: Surrogate recovery for the following samples were outside the upper control limit: TB-01 (400-203721-1) and MW-1 (400-203721-3). This sample did not contain any target analytes; therefore, re-analysis was not performed.

Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-2 (400-203721-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or 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
Job ID: 400-203721-1
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Client Sample ID: TB-01 — Lab Sample ID: 400-203721-1

No Detections.

Client Sample ID: DUP-01 — Lab Sample ID: 400-203721-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	13		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-1 — Lab Sample ID: 400-203721-3

No Detections.

Client Sample ID: MW-2 — Lab Sample ID: 400-203721-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	4700		50		ug/L	50		8260C	Total/NA
Toluene	2500		50		ug/L	50		8260C	Total/NA
Ethylbenzene	300		50		ug/L	50		8260C	Total/NA
Xylenes, Total	6100		500		ug/L	50		8260C	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 400-203721-5

No Detections.

Client Sample ID: MW-4 — Lab Sample ID: 400-203721-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	14		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 400-203721-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	5.5		1.0		ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Pensacola

Sample Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Job ID: 400-203721-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
400-203721-1	TB-01	Water	05/18/21 15:00	05/21/21 09:07	
400-203721-2	DUP-01	Water	05/18/21 17:02	05/21/21 09:07	
400-203721-3	MW-1	Water	05/18/21 16:12	05/21/21 09:07	
400-203721-4	MW-2	Water	05/18/21 16:20	05/21/21 09:07	
400-203721-5	MW-3	Water	05/18/21 16:30	05/21/21 09:07	
400-203721-6	MW-4	Water	05/18/21 16:02	05/21/21 09:07	
400-203721-7	MW-5	Water	05/18/21 16:34	05/21/21 09:07	

Client Sample Results

Client: Stantec Consulting Services Inc Job ID: 400-203721-1
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Client Sample ID: TB-01 **Lab Sample ID: 400-203721-1**
Date Collected: 05/18/21 15:00 **Matrix: Water**
Date Received: 05/21/21 09:07

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			05/23/21 13:54	1
Toluene	<1.0		1.0		ug/L			05/23/21 13:54	1
Ethylbenzene	<1.0		1.0		ug/L			05/23/21 13:54	1
Xylenes, Total	<10		10		ug/L			05/23/21 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*120*	*S1+*	*78 - 118*		*05/23/21 13:54*	*1*
Dibromofluoromethane	*104*		*81 - 121*		*05/23/21 13:54*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/23/21 13:54*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Job ID: 400-203721-1
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Client Sample ID: DUP-01
Lab Sample ID: 400-203721-2
Date Collected: 05/18/21 17:02
Matrix: Water
Date Received: 05/21/21 09:07

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**13**		1.0		ug/L			05/23/21 14:21	1
Toluene	<1.0		1.0		ug/L			05/23/21 14:21	1
Ethylbenzene	<1.0		1.0		ug/L			05/23/21 14:21	1
Xylenes, Total	<10		10		ug/L			05/23/21 14:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*78 - 118*		*05/23/21 14:21*	*1*
Dibromofluoromethane	*112*		*81 - 121*		*05/23/21 14:21*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/23/21 14:21*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Job ID: 400-203721-1
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Client Sample ID: MW-1
Lab Sample ID: 400-203721-3
Date Collected: 05/18/21 16:12
Matrix: Water
Date Received: 05/21/21 09:07

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			05/23/21 14:47	1
Toluene	<1.0		1.0		ug/L			05/23/21 14:47	1
Ethylbenzene	<1.0		1.0		ug/L			05/23/21 14:47	1
Xylenes, Total	<10		10		ug/L			05/23/21 14:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*120*	*S1+*	*78 - 118*		*05/23/21 14:47*	*1*
Dibromofluoromethane	*108*		*81 - 121*		*05/23/21 14:47*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/23/21 14:47*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Job ID: 400-203721-1
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Client Sample ID: MW-2
Lab Sample ID: 400-203721-4
Date Collected: 05/18/21 16:20
Matrix: Water
Date Received: 05/21/21 09:07

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4700		50		ug/L			05/23/21 18:49	50
Toluene	2500		50		ug/L			05/23/21 18:49	50
Ethylbenzene	300		50		ug/L			05/23/21 18:49	50
Xylenes, Total	6100		500		ug/L			05/23/21 18:49	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*78 - 118*		*05/23/21 18:49*	*50*
Dibromofluoromethane	*105*		*81 - 121*		*05/23/21 18:49*	*50*
Toluene-d8 (Surr)	*100*		*80 - 120*		*05/23/21 18:49*	*50*

Client Sample Results

Client: Stantec Consulting Services Inc
Job ID: 400-203721-1
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Client Sample ID: MW-3
Lab Sample ID: 400-203721-5
Date Collected: 05/18/21 16:30
Matrix: Water
Date Received: 05/21/21 09:07

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			05/23/21 15:14	1
Toluene	<1.0		1.0		ug/L			05/23/21 15:14	1
Ethylbenzene	<1.0		1.0		ug/L			05/23/21 15:14	1
Xylenes, Total	<10		10		ug/L			05/23/21 15:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*05/23/21 15:14*	*1*
Dibromofluoromethane	*103*		*81 - 121*		*05/23/21 15:14*	*1*
Toluene-d8 (Surr)	*113*		*80 - 120*		*05/23/21 15:14*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Job ID: 400-203721-1
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Client Sample ID: MW-4
Lab Sample ID: 400-203721-6
Date Collected: 05/18/21 16:02
Matrix: Water
Date Received: 05/21/21 09:07

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**14**		1.0		ug/L			05/23/21 15:41	1
Toluene	<1.0		1.0		ug/L			05/23/21 15:41	1
Ethylbenzene	<1.0		1.0		ug/L			05/23/21 15:41	1
Xylenes, Total	<10		10		ug/L			05/23/21 15:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*05/23/21 15:41*	*1*
Dibromofluoromethane	*110*		*81 - 121*		*05/23/21 15:41*	*1*
Toluene-d8 (Surr)	*94*		*80 - 120*		*05/23/21 15:41*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Job ID: 400-203721-1
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Client Sample ID: MW-5
Lab Sample ID: 400-203721-7
Date Collected: 05/18/21 16:34
Matrix: Water
Date Received: 05/21/21 09:07

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**5.5**		1.0		ug/L			05/23/21 16:08	1
Toluene	<1.0		1.0		ug/L			05/23/21 16:08	1
Ethylbenzene	<1.0		1.0		ug/L			05/23/21 16:08	1
Xylenes, Total	<10		10		ug/L			05/23/21 16:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*103*		*78 - 118*		*05/23/21 16:08*	*1*
Dibromofluoromethane	*110*		*81 - 121*		*05/23/21 16:08*	*1*
Toluene-d8 (Surr)	*98*		*80 - 120*		*05/23/21 16:08*	*1*

QC Association Summary

Client: Stantec Consulting Services Inc
Job ID: 400-203721-1
Project/Site: ElPaso CGP Company - Sandoval GCA #1

GC/MS VOA

Analysis Batch: 532915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-203721-1	TB-01	Total/NA	Water	8260C	
400-203721-2	DUP-01	Total/NA	Water	8260C	
400-203721-3	MW-1	Total/NA	Water	8260C	
400-203721-4	MW-2	Total/NA	Water	8260C	
400-203721-5	MW-3	Total/NA	Water	8260C	
400-203721-6	MW-4	Total/NA	Water	8260C	
400-203721-7	MW-5	Total/NA	Water	8260C	
MB 400-532915/4	Method Blank	Total/NA	Water	8260C	
LCS 400-532915/1002	Lab Control Sample	Total/NA	Water	8260C	
400-203417-A-1 MS	Matrix Spike	Total/NA	Water	8260C	
400-203417-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Job ID: 400-203721-1

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

Lab Sample ID: MB 400-532915/4
Matrix: Water
Analysis Batch: 532915

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			05/23/21 08:59	1
Toluene	<1.0		1.0		ug/L			05/23/21 08:59	1
Ethylbenzene	<1.0		1.0		ug/L			05/23/21 08:59	1
Xylenes, Total	<10		10		ug/L			05/23/21 08:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*05/23/21 08:59*	*1*
Dibromofluoromethane	*102*		*81 - 121*		*05/23/21 08:59*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*05/23/21 08:59*	*1*

Lab Sample ID: LCS 400-532915/1002
Matrix: Water
Analysis Batch: 532915

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	45.7		ug/L		91	70 - 130		
Toluene			50.0	47.3		ug/L		95	70 - 130		
Ethylbenzene			50.0	47.8		ug/L		96	70 - 130		
Xylenes, Total			100	96.1		ug/L		96	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*108*		*78 - 118*
Dibromofluoromethane	*93*		*81 - 121*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: 400-203417-A-1 MS
Matrix: Water
Analysis Batch: 532915

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	43.2		ug/L		86	56 - 142		
Toluene	<1.0		50.0	52.6		ug/L		105	65 - 130		
Ethylbenzene	<1.0		50.0	44.5		ug/L		89	58 - 131		
Xylenes, Total	<10		100	91.0		ug/L		91	59 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*95*		*78 - 118*
Dibromofluoromethane	*107*		*81 - 121*
Toluene-d8 (Surr)	*113*		*80 - 120*

Lab Sample ID: 400-203417-A-1 MSD
Matrix: Water
Analysis Batch: 532915

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	38.2		ug/L		76	56 - 142	12	30
Toluene	<1.0		50.0	42.4		ug/L		85	65 - 130	22	30
Ethylbenzene	<1.0		50.0	37.3		ug/L		75	58 - 131	18	30

QC Sample Results

Client: Stantec Consulting Services Inc
Job ID: 400-203721-1
Project/Site: ElPaso CGP Company - Sandoval GCA #1

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

Lab Sample ID: 400-203417-A-1 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 532915

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Xylenes, Total	<10		100	71.5		ug/L		71	59 - 130	24	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*78 - 118*
Dibromofluoromethane	*105*		*81 - 121*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Job ID: 400-203721-1

Client Sample ID: TB-01
Lab Sample ID: 400-203721-1
Date Collected: 05/18/21 15:00
Matrix: Water
Date Received: 05/21/21 09:07

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	532915	05/23/21 13:54	EEH	TAL PEN
	Instrument ID: Darwin									

Client Sample ID: DUP-01
Lab Sample ID: 400-203721-2
Date Collected: 05/18/21 17:02
Matrix: Water
Date Received: 05/21/21 09:07

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	532915	05/23/21 14:21	EEH	TAL PEN
	Instrument ID: Darwin									

Client Sample ID: MW-1
Lab Sample ID: 400-203721-3
Date Collected: 05/18/21 16:12
Matrix: Water
Date Received: 05/21/21 09:07

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	532915	05/23/21 14:47	EEH	TAL PEN
	Instrument ID: Darwin									

Client Sample ID: MW-2
Lab Sample ID: 400-203721-4
Date Collected: 05/18/21 16:20
Matrix: Water
Date Received: 05/21/21 09:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		50	5 mL	5 mL	532915	05/23/21 18:49	EEH	TAL PEN
	Instrument ID: Darwin									

Client Sample ID: MW-3
Lab Sample ID: 400-203721-5
Date Collected: 05/18/21 16:30
Matrix: Water
Date Received: 05/21/21 09:07

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	532915	05/23/21 15:14	EEH	TAL PEN
	Instrument ID: Darwin									

Client Sample ID: MW-4
Lab Sample ID: 400-203721-6
Date Collected: 05/18/21 16:02
Matrix: Water
Date Received: 05/21/21 09:07

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	532915	05/23/21 15:41	EEH	TAL PEN
	Instrument ID: Darwin									

Lab Chronicle

Client: Stantec Consulting Services Inc
Job ID: 400-203721-1
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Client Sample ID: MW-5
Lab Sample ID: 400-203721-7
Date Collected: 05/18/21 16:34
Matrix: Water
Date Received: 05/21/21 09:07

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	532915	05/23/21 16:08	EEH	TAL PEN
	Instrument ID: Darwin									

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: 400-203721-1
Project/Site: ElPaso CGP Company - Sandoval GCA #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	96026002	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
West Virginia DEP	State	136	06-30-21

Method Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company - Sandoval GCA #1

Job ID: 400-203721-1

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

400-203721 COC

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Client Information	Sampler: SRL, MW	Lab PM: Edwards, Marty P	Carrier Tracking No(s):	COC No: 400-102795-36531.1
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: Sandoval GC A#1A.00 Semi-annua	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:

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)	MS	8260C - BTEX 8260	8260C - BTEX 8260 (unpreserved)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A			
TB-01	5/18/2021	1500	G	Water			2		2	Trip Blank
DUP-01	5/18/2021	1702	G	Water			2		2	Duplicate
MW-1	5/18/2021	1612	G	Water				3	3	
MW-2	5/18/2021	1620	G	Water				3	3	
MW-3	5/18/2021	1630	G	Water				1	1	
MW-4	5/18/2021	1602	G	Water			3		3	
MW-5	5/18/2021	1634	G	Water				3	3	
				Water						

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature] CLR/STN	5/19/2021 0800	STN	FedEx	5/19/2021 0800	FedEx
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 5/21/21 907	Company
3	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: 4.6°C IR8

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc Job Number: 400-203721-1

Login Number: 203721 **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	4.6°C IR-8
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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 400-211295-1
Client Project/Site: Sandoval GC A#1A

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

Attn: Steve Varsa

Cheyenne Whitmire

Authorized for release by:
11/29/2021 9:01:21 PM

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

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

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

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

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Laboratory Job ID: 400-211295-1

Table of Contents

Definitions/Glossary

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

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: Sandoval GC A#1A

Job ID: 400-211295-1

Job ID: 400-211295-1

Laboratory: Eurofins TestAmerica, Pensacola

Narrative

Job Narrative
400-211295-1

Comments
No additional comments.

Receipt
The samples were received on 11/16/2021 9:10 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 0.0º C.

GC/MS VOA
Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-2 (400-211295-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or 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: Sandoval GC A#1A

Job ID: 400-211295-1

Client Sample ID: TB-01 Lab Sample ID: 400-211295-1

No Detections.

Client Sample ID: DUP-01 Lab Sample ID: 400-211295-2

No Detections.

Client Sample ID: MW-1 Lab Sample ID: 400-211295-3

No Detections.

Client Sample ID: MW-2 Lab Sample ID: 400-211295-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	3800		20		ug/L	20		8260C	Total/NA
Toluene	2100		20		ug/L	20		8260C	Total/NA
Ethylbenzene	510		20		ug/L	20		8260C	Total/NA
Xylenes, Total	6100		200		ug/L	20		8260C	Total/NA

Client Sample ID: MW-4 Lab Sample ID: 400-211295-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	2.7		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-5 Lab Sample ID: 400-211295-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	3.3		1.0		ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-211295-1	TB-01	Water	11/15/21 13:00	11/16/21 09:10
400-211295-2	DUP-01	Water	11/15/21 14:18	11/16/21 09:10
400-211295-3	MW-1	Water	11/15/21 13:18	11/16/21 09:10
400-211295-4	MW-2	Water	11/15/21 13:25	11/16/21 09:10
400-211295-5	MW-4	Water	11/15/21 13:33	11/16/21 09:10
400-211295-6	MW-5	Water	11/15/21 13:40	11/16/21 09:10

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

Client Sample ID: TB-01

Date Collected: 11/15/21 13:00
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211295-1

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 15:01	1
Toluene	<1.0		1.0		ug/L			11/19/21 15:01	1
Ethylbenzene	<1.0		1.0		ug/L			11/19/21 15:01	1
Xylenes, Total	<10		10		ug/L			11/19/21 15:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*88*		*72 - 119*		*11/19/21 15:01*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*11/19/21 15:01*	*1*
Toluene-d8 (Surr)	*87*		*64 - 132*		*11/19/21 15:01*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

Client Sample ID: DUP-01

Date Collected: 11/15/21 14:18
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211295-2

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 15:30	1
Toluene	<1.0		1.0		ug/L			11/19/21 15:30	1
Ethylbenzene	<1.0		1.0		ug/L			11/19/21 15:30	1
Xylenes, Total	<10		10		ug/L			11/19/21 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*88*		*72 - 119*		*11/19/21 15:30*	*1*
Dibromofluoromethane	*102*		*75 - 126*		*11/19/21 15:30*	*1*
Toluene-d8 (Surr)	*86*		*64 - 132*		*11/19/21 15:30*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

Client Sample ID: MW-1

Date Collected: 11/15/21 13:18
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211295-3

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			11/21/21 19:45	1
Toluene	<1.0		1.0		ug/L			11/21/21 19:45	1
Ethylbenzene	<1.0		1.0		ug/L			11/21/21 19:45	1
Xylenes, Total	<10		10		ug/L			11/21/21 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*91*		*72 - 119*		*11/21/21 19:45*	*1*
Dibromofluoromethane	*106*		*75 - 126*		*11/21/21 19:45*	*1*
Toluene-d8 (Surr)	*91*		*64 - 132*		*11/21/21 19:45*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

Client Sample ID: MW-2

Date Collected: 11/15/21 13:25
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211295-4

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3800		20		ug/L			11/20/21 12:41	20
Toluene	2100		20		ug/L			11/20/21 12:41	20
Ethylbenzene	510		20		ug/L			11/20/21 12:41	20
Xylenes, Total	6100		200		ug/L			11/20/21 12:41	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*72 - 119*		*11/20/21 12:41*	*20*
Dibromofluoromethane	*103*		*75 - 126*		*11/20/21 12:41*	*20*
Toluene-d8 (Surr)	*94*		*64 - 132*		*11/20/21 12:41*	*20*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

Client Sample ID: MW-4

Date Collected: 11/15/21 13:33
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211295-5

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2.7**		1.0		ug/L			11/20/21 18:23	1
Toluene	<1.0		1.0		ug/L			11/20/21 18:23	1
Ethylbenzene	<1.0		1.0		ug/L			11/20/21 18:23	1
Xylenes, Total	<10		10		ug/L			11/20/21 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*72 - 119*		*11/20/21 18:23*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*11/20/21 18:23*	*1*
Toluene-d8 (Surr)	*86*		*64 - 132*		*11/20/21 18:23*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

Client Sample ID: MW-5

Date Collected: 11/15/21 13:40
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211295-6

Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**3.3**		1.0		ug/L			11/20/21 17:55	1
Toluene	<1.0		1.0		ug/L			11/20/21 17:55	1
Ethylbenzene	<1.0		1.0		ug/L			11/20/21 17:55	1
Xylenes, Total	<10		10		ug/L			11/20/21 17:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*72 - 119*		*11/20/21 17:55*	*1*
Dibromofluoromethane	*107*		*75 - 126*		*11/20/21 17:55*	*1*
Toluene-d8 (Surr)	*94*		*64 - 132*		*11/20/21 17:55*	*1*

QC Association Summary

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

GC/MS VOA

Analysis Batch: 556576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-211295-1	TB-01	Total/NA	Water	8260C	
400-211295-2	DUP-01	Total/NA	Water	8260C	
MB 400-556576/5	Method Blank	Total/NA	Water	8260C	
LCS 400-556576/1002	Lab Control Sample	Total/NA	Water	8260C	
400-211265-B-3 MS	Matrix Spike	Total/NA	Water	8260C	
400-211265-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

Analysis Batch: 556766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-211295-4	MW-2	Total/NA	Water	8260C	
400-211295-5	MW-4	Total/NA	Water	8260C	
400-211295-6	MW-5	Total/NA	Water	8260C	
MB 400-556766/5	Method Blank	Total/NA	Water	8260C	
LCS 400-556766/1002	Lab Control Sample	Total/NA	Water	8260C	
400-211460-A-1 MS	Matrix Spike	Total/NA	Water	8260C	
400-211460-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

Analysis Batch: 556824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-211295-3	MW-1	Total/NA	Water	8260C	
MB 400-556824/4	Method Blank	Total/NA	Water	8260C	
LCS 400-556824/1002	Lab Control Sample	Total/NA	Water	8260C	
400-211182-A-5 MS	Matrix Spike	Total/NA	Water	8260C	
400-211182-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

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

Lab Sample ID: MB 400-556576/5
Matrix: Water
Analysis Batch: 556576

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 12:09	1
Toluene	<1.0		1.0		ug/L			11/19/21 12:09	1
Ethylbenzene	<1.0		1.0		ug/L			11/19/21 12:09	1
Xylenes, Total	<10		10		ug/L			11/19/21 12:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*72 - 119*		*11/19/21 12:09*	*1*
Dibromofluoromethane	*106*		*75 - 126*		*11/19/21 12:09*	*1*
Toluene-d8 (Surr)	*91*		*64 - 132*		*11/19/21 12:09*	*1*

Lab Sample ID: LCS 400-556576/1002
Matrix: Water
Analysis Batch: 556576

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	40.3		ug/L		81	70 - 130		
Toluene			50.0	44.0		ug/L		88	70 - 130		
Ethylbenzene			50.0	40.2		ug/L		80	70 - 130		
Xylenes, Total			100	82.7		ug/L		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*101*		*72 - 119*
Dibromofluoromethane	*103*		*75 - 126*
Toluene-d8 (Surr)	*103*		*64 - 132*

Lab Sample ID: 400-211265-B-3 MS
Matrix: Water
Analysis Batch: 556576

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	7.6		50.0	43.5		ug/L		72	56 - 142		
Toluene	<1.0		50.0	39.5		ug/L		79	65 - 130		
Ethylbenzene	<1.0		50.0	35.4		ug/L		71	58 - 131		
Xylenes, Total	<10		100	74.1		ug/L		72	59 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*72 - 119*
Dibromofluoromethane	*107*		*75 - 126*
Toluene-d8 (Surr)	*105*		*64 - 132*

Lab Sample ID: 400-211265-B-3 MSD
Matrix: Water
Analysis Batch: 556576

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	7.6		50.0	38.6		ug/L		62	56 - 142	12	30
Toluene	<1.0		50.0	33.1		ug/L		66	65 - 130	18	30
Ethylbenzene	<1.0		50.0	32.7		ug/L		65	58 - 131	8	30

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

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

Lab Sample ID: 400-211265-B-3 MSD
Matrix: Water
Analysis Batch: 556576

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	67.9		ug/L		66	59 - 130	9	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*72 - 119*
Dibromofluoromethane	*105*		*75 - 126*
Toluene-d8 (Surr)	*94*		*64 - 132*

Lab Sample ID: MB 400-556766/5
Matrix: Water
Analysis Batch: 556766

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			11/20/21 11:44	1
Toluene	<1.0		1.0		ug/L			11/20/21 11:44	1
Ethylbenzene	<1.0		1.0		ug/L			11/20/21 11:44	1
Xylenes, Total	<10		10		ug/L			11/20/21 11:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*72 - 119*		*11/20/21 11:44*	*1*
Dibromofluoromethane	*105*		*75 - 126*		*11/20/21 11:44*	*1*
Toluene-d8 (Surr)	*95*		*64 - 132*		*11/20/21 11:44*	*1*

Lab Sample ID: LCS 400-556766/1002
Matrix: Water
Analysis Batch: 556766

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	46.6		ug/L		93	70 - 130		
Toluene			50.0	46.9		ug/L		94	70 - 130		
Ethylbenzene			50.0	43.3		ug/L		87	70 - 130		
Xylenes, Total			100	88.9		ug/L		89	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*72 - 119*
Dibromofluoromethane	*98*		*75 - 126*
Toluene-d8 (Surr)	*96*		*64 - 132*

Lab Sample ID: 400-211460-A-1 MS
Matrix: Water
Analysis Batch: 556766

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	36.5		ug/L		73	56 - 142		
Toluene	<1.0		50.0	33.3		ug/L		67	65 - 130		
Ethylbenzene	<1.0		50.0	30.8		ug/L		62	58 - 131		
Xylenes, Total	<10		100	64.0		ug/L		64	59 - 130		

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

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

Lab Sample ID: 400-211460-A-1 MS
Matrix: Water
Analysis Batch: 556766

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

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	98		72 - 119
Dibromofluoromethane	104		75 - 126
Toluene-d8 (Surr)	94		64 - 132

Lab Sample ID: 400-211460-A-1 MSD
Matrix: Water
Analysis Batch: 556766

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	45.2		ug/L		90	56 - 142	21	30
Toluene	<1.0		50.0	45.0		ug/L		90	65 - 130	30	30
Ethylbenzene	<1.0		50.0	38.1		ug/L		76	58 - 131	21	30
Xylenes, Total	<10		100	78.5		ug/L		79	59 - 130	20	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	100		72 - 119
Dibromofluoromethane	103		75 - 126
Toluene-d8 (Surr)	101		64 - 132

Lab Sample ID: MB 400-556824/4
Matrix: Water
Analysis Batch: 556824

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			11/21/21 12:34	1
Toluene	<1.0		1.0		ug/L			11/21/21 12:34	1
Ethylbenzene	<1.0		1.0		ug/L			11/21/21 12:34	1
Xylenes, Total	<10		10		ug/L			11/21/21 12:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		72 - 119		11/21/21 12:34	1
Dibromofluoromethane	106		75 - 126		11/21/21 12:34	1
Toluene-d8 (Surr)	94		64 - 132		11/21/21 12:34	1

Lab Sample ID: LCS 400-556824/1002
Matrix: Water
Analysis Batch: 556824

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	45.3		ug/L		91	70 - 130		
Toluene			50.0	48.5		ug/L		97	70 - 130		
Ethylbenzene			50.0	44.3		ug/L		89	70 - 130		
Xylenes, Total			100	90.8		ug/L		91	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	100		72 - 119
Dibromofluoromethane	103		75 - 126

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

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

Lab Sample ID: LCS 400-556824/1002
Matrix: Water
Analysis Batch: 556824

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	103		64 - 132

Lab Sample ID: 400-211182-A-5 MS
Matrix: Water
Analysis Batch: 556824

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	44.3		ug/L		89	56 - 142
Toluene	<1.0		50.0	44.8		ug/L		90	65 - 130
Ethylbenzene	<1.0		50.0	39.0		ug/L		78	58 - 131
Xylenes, Total	<10		100	81.1		ug/L		81	59 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	98		72 - 119
Dibromofluoromethane	104		75 - 126
Toluene-d8 (Surr)	104		64 - 132

Lab Sample ID: 400-211182-A-5 MSD
Matrix: Water
Analysis Batch: 556824

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	47.0		ug/L		94	56 - 142	6	30
Toluene	<1.0		50.0	50.1		ug/L		100	65 - 130	11	30
Ethylbenzene	<1.0		50.0	45.6		ug/L		91	58 - 131	16	30
Xylenes, Total	<10		100	94.2		ug/L		94	59 - 130	15	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	101		72 - 119
Dibromofluoromethane	107		75 - 126
Toluene-d8 (Surr)	105		64 - 132

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: Sandoval GC A#1A

Job ID: 400-211295-1

Client Sample ID: TB-01
Date Collected: 11/15/21 13:00
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211295-1
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	556576	11/19/21 15:01	WPD	TAL PEN
	Instrument ID: Einstein									

Client Sample ID: DUP-01
Date Collected: 11/15/21 14:18
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211295-2
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	556576	11/19/21 15:30	WPD	TAL PEN
	Instrument ID: Einstein									

Client Sample ID: MW-1
Date Collected: 11/15/21 13:18
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211295-3
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	556824	11/21/21 19:45	BPO	TAL PEN
	Instrument ID: Einstein									

Client Sample ID: MW-2
Date Collected: 11/15/21 13:25
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211295-4
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		20	5 mL	5 mL	556766	11/20/21 12:41	BPO	TAL PEN
	Instrument ID: Einstein									

Client Sample ID: MW-4
Date Collected: 11/15/21 13:33
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211295-5
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	556766	11/20/21 18:23	BPO	TAL PEN
	Instrument ID: Einstein									

Client Sample ID: MW-5
Date Collected: 11/15/21 13:40
Date Received: 11/16/21 09:10

Lab Sample ID: 400-211295-6
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	556766	11/20/21 17:55	BPO	TAL PEN
	Instrument ID: Einstein									

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: 400-211295-1
Project/Site: Sandoval GC A#1A

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: Sandoval GC A#1A

Job ID: 400-211295-1

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: 400-105806-37681.1
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 #: WD801929			
Email: steve.varsa@stantec.com	WO #:			
Project Name: Sandoval GC A#1A.00 Semi-annua	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:

SAH-13

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 (Yes or No)	8260C - BTEX 8260	8260C - BTEX 8260 (unpreserved)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	N		
TB-01	11/15/21	1300	G	Water			2		2	Trip Blank
DUP-01	11/15/21	1418	G	Water				3	3	Blind Dup
MW-1	11/15/21	1318	G	Water				3	3	/
MW-2	11/15/21	1325	G	Water				3	3	/
MW-4	11/15/21	1333	G	Water			2		2	Lim. Volume
MW-5	11/15/21	1340	G	Water				3	3	/
				Water						
				Water						

400-211295 COC

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 Clary	Date/Time: 11/15/21 1600	Company ST NJ	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: AA	Date/Time: 11.16.21 0910	Company

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: 400-211295-1

Login Number: 211295 **List Source: Eurofins TestAmerica, Pensacola**
List Number: 1
Creator: Roberts, Alexis J

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	

Stantec Consulting Services Inc.
11153 Aurora Avenue
Des Moines, Iowa 50322
Phone: (515) 253-0830
Fax: (515) 253-9592

VIA ELECTRONIC SUBMITTAL

April 12, 2019

Mr. Cory Smith
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: 2018 Annual Report, Site Conceptual Model, and Request for Site Closure
Sandoval GC A #1A Site
NMOCD Case No. 3RP-235-0 Incident No. nAUTOfAB000635
METER CODE: 89260
T30N, R09W, Sec35, Unit C
Latitude: 36.772101 Longitude: -107.753601
BLM Right-of-Way Grant NMNM133851

Dear Ms. Fields:

Stantec Consulting Services Inc. (Stantec), on behalf of El Paso CGP Company, LLC (EPCGP), presents this report of 2018 groundwater sampling activities and request for regulatory closure of the Sandoval GC A #1A site, New Mexico Oil Conservation Division (NMOCD) Case number 3RP-235-0 (Site). In support of the regulatory closure request, this report presents an overview of previously completed activities and a Site Conceptual Model (SCM) for the Site. Based on this information, EPCGP is requesting closure of the Site recognizing ongoing impacts from a separate release by the current operator. This separate release is hampering the achievement of Site closure criteria outlined in the Remediation Plan approved by the NMOCD on November 30, 1995.

2018 Groundwater Sampling Activities

Pursuant to the 1995 remediation plan, Stantec provided notification of upcoming field activities via email to NMOCD on May 9, 2018, and October 23, 2018. Copies of the notifications are provided in Attachment A. On May 16 and October 28, 2018, water levels were gauged at MW-1 through MW-5. Groundwater samples were collected from each well that did not contain free product, using HydraSleeve™ (HydraSleeve) no-purge groundwater sampling devices. The HydraSleeves were set during the previous sampling event approximately 0.5 foot above termination depth of the monitoring wells using a suspension tether and stainless-steel weights to collect a sample from the screened interval.

Groundwater samples were placed into laboratory-supplied sample containers, packed on ice, and shipped under standard chain-of-custody protocols to TestAmerica Laboratories, Inc. in Pensacola, Florida. As requested by the NMOCD on March 20, 2018, EPCGP began collecting blind field duplicates of groundwater samples, as clarified in a March 21, 2018 electronic mail message to NMOCD. One trip blank was also collected

Reference: 2018 Activities, Site Conceptual Model and Request for Site Closure

during each sampling event. Each groundwater sample, field blank, and trip blank were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) using United States Environmental Protection Agency (EPA) Method 8260. The unused sample water was combined in a waste container and taken to Basin Disposal, Inc. for disposal. Waste disposal documentation is included as Attachment B.

A summary and discussion of the 2018 groundwater gauging data is presented in the Site Characterization section below. A summary and presentation of the 2018 groundwater analytical data is presented in the Groundwater Analytical Results and Trends section below.

Site History

The Site is located on federal land controlled by the United State Bureau of Land Management (BLM). Currently, the Site property has an active gas production well and associated infrastructure owned and operated by BP America Production Company (BP) (American Petroleum Institute [API] well number 30-045-22294). Amoco Production Company (Amoco, now BP) spud the current production well on February 20, 1977. El Paso Natural Gas Company (EPNG) was approved to begin transporting natural gas from the production well on March 24, 1997. EPNG closed the dehydrator pit in September 1994. The pipeline assets were transferred to Enterprise Products Company (Enterprise) on April 4, 2002. Following an initial assessment, 50 cubic yards of soil were excavated by EPNG from the former pit. In October 1996, an additional 771 cubic yards of soil, including 267 cubic yards of overburden, were excavated by EPNG to a depth of up to 28 feet below ground surface (bgs) and removed.

NMOCD Case number 3RP-235-0 was established for a release from this pit. EPCGP has since installed five monitoring wells and one piezometer, and advanced one soil boring to assess the nature and extent of hydrocarbons at the Site. Groundwater treatment using socks contained oxygen release compound (ORC) has also been conducted in monitoring well MW-1 from 1998 through 2014. A summary of the activities completed at Sandoval GC A #1A are presented as Attachment C. A site plan depicting the location of the former EPNG pit, existing monitoring wells, and other pertinent site features is included in Attachment D. A photographic log with photographs of historical and current Site features is presented as Attachment E.

NMOCD records indicate that BP had a release at the site as early as 2003. According to reports obtained on the NMOCD website, BP documented a release at a compressor discharge pit, subsequently excavated 50 cubic yards of soil, and land-farmed the excavated soil on site. A confirmation soil boring (BH-1, identified on Stantec figures as BPBH-1) was advanced to a depth of 17 feet within the formerly excavated pit documented soil concentrations exceeding applicable NMOCD Soil Closure Criteria for benzene, total BTEX, and total petroleum hydrocarbons (TPH). BP also excavated approximately 12 cubic yards of discolored soil during closure of a 95 barrel below ground tank in October 2017. The NMOCD established Case number 3RP-1057 for the BP release(s) in 2018. However, available pit and tank closure information, release

Reference: 2018 Activities, Site Conceptual Model and Request for Site Closure

information, and associated environmental data were found in the API# 30-045-22294 file for the production well.

In BP correspondence received by NMOCD on January 31, 2018, documentation was provided of four monitoring wells (MW-1 through MW-4, identified in EPCGP figures as BPMW1 through BPMW-4) being installed by BP from August to December 2011. In the log for monitoring well BPMW-2, installed in the former compressor discharge pit (closed by BP in 2003), 2.7 feet of product was reported to be present on November 8, 2017. No groundwater analytical data has been reported by BP from their monitoring wells.

On April 4, 2018, BP provided a plan to NMOCD to install a soil vapor extraction (SVE) system, which was subsequently approved on April 13, 2018. During the October 28, 2018 groundwater sampling event, Stantec noted a skid-mounted SVE blower had been placed on the western portion of the Site and connected to BPMW-2, but was not operating. Additional information regarding the BP releases, including NMOCD-required quarterly update reports pursuant to their April 13, 2018 approval letter, have not been found in NMOCD files.

Site Characterization

As summarized in Attachment D, five monitoring wells (MW-1 through MW-5), one piezometer (PH-1), and one soil boring (SB-1) have been advanced by EPCGP at the Site, and groundwater data has been collected at least annually since 1995. Five soil borings, four of which were completed as monitoring wells (BPMW-1 through BP-MW-4), have also been advanced by BP. Two of BP's wells, BPMW-3 and BPMW-4, were completed above the water table. To date, it appears from the NMOCD files that no groundwater analytical laboratory data has been provided by BP.

Site Topography

As noted in Attachment D, the natural gas well pad generally slopes in a southern direction, with a surface elevation of approximately 5,715 feet above sea level (ASL). Earthen berms are present around the tanks on the western edge of the natural gas well pad. Away from the well pad, the terrain slopes to the south towards the San Juan River valley.

Local Geology and Hydrology

A summary of local geology and hydrology can be found as part of the BP's June 14, 2010 Closure Plan, included under the production well's file (API 30-045-22294), and is included as Attachment F. Soils in the area are derived from weathered bedrock, transported mostly by eolian processes, and to a lesser extent, fluvial processes. Based on the site's position above the San Juan River valley, the Site is situated on the Nacimiento Formation, and underlain by terrace deposits. Depth to groundwater was estimated by BP to be between 50 and 100 feet bgs, although groundwater has been encountered at the Site in EPCGP monitoring wells at depths between approximately 34

Reference: 2018 Activities, Site Conceptual Model and Request for Site Closure

to 43 feet bgs. From the location of the Site, there are no continuously flowing waterways within 300 feet, no other waterways, surface water bodies, sinkholes, or playas within 200 feet, and no wetlands within 500 feet. From a topographic map provided in Attachment F, the nearest surface water body is Citizen's Ditch, located approximately one-half mile south of the Site.

Site Geology

The monitoring wells and soil boring were advanced by EPCGP to depths of up to 45 feet bgs and have been included in previously-submitted documents to the NMOCD. For reference, these logs are included as Attachment G. A log for piezometer PH-1 is unavailable. Copies of reported BP logs are included in Attachment H. Cross-sections prepared to depict the generalized geology based on the boring logs advanced at the Site are shown on Attachment I.

As shown in the cross section contained in Attachment I, silty-sand fill materials are present at the SB-1/MW-1 location to a depth of at least 20 feet bgs. Clean fill materials were also logged by BP in BPBH-1 and BPMW-2, advanced in the excavation backfill at their compressor discharge pit. With the exception of BPMW-4, silty sand, underlain by sand, was encountered to depths of approximately 17 to 20 feet bgs. Dry to moist silty sand was logged at BPMW-4 to a depth of 10 feet bgs. The silty sand and sands were underlain by silty and sandy gravel and cobbles to depths ranging from 26 to 36 feet bgs. With the exception of EPCGP well MW-4, siltstone and sandstone were encountered beneath the cobbles to the maximum advanced depth of 45 feet bgs. During advancement of MW-4, shale was logged underlying the cobbles from a depth of 35 to 45 feet bgs. EPCGP boring PH-1 reportedly encountered probe refusal at a depth of 26 feet bgs, presumably at the top of the gravel unit.

Site Hydrogeology

For reference, monitoring well logs completed by EPCGP and BP are included in Attachments G and H, respectively. Gauging data collected from EPCGP monitoring wells, including data collected during the May 17 and October 28, 2018 gauging events, are presented in Attachment J. Available gauging data from the BP wells is provided on their respective monitoring well logs.

Historically, measured groundwater elevations in the EPCGP monitoring wells have ranged from a high elevation of 5683.69 feet ASL in MW-1 on November 9, 2010, to a low elevation of 5672.10 feet ASL in MW-5 on October 10, 2016. Groundwater elevations in monitoring well MW-1, gauged by EPCGP 39 times over the life of the project, have fluctuated only 2.79 feet. The 2.79-foot fluctuation range is a relatively narrow range and expected for highly transmissive units such as the saturated sandy and gravelly units logged at the Site.

Groundwater elevations of 5684.37 feet ASL, and 5686.15 feet ASL were reported by BP for BPMW-1 and BPMW-2, respectively, on August 25, 2011. Groundwater elevations

Reference: 2018 Activities, Site Conceptual Model and Request for Site Closure

recorded in EPCGP monitoring well MW-1 on November 16, 2011, the closest gauging event for this well to the August 25, 2011 gauging event, was 5683.35, clearly indicating the BP release is upgradient of the EPCGP release. *Groundwater was reportedly not encountered in the BP wells BPMW-1 and BPMW-2 during their 2017 gauging event, and has never been observed in their wells MW-3 and MW-4. This information reported by BP indicates their monitoring wells were installed to insufficient depth to properly evaluate the impacts caused by their compressor pit*

Groundwater elevation maps generated from EPCGP's well gauging data, collected during the May 16 and October 28, 2018, gauging events are included as Attachment K. Beginning with the November 20, 2015 monitoring event and for the six subsequent monitoring events, EPCGP was able to determine a groundwater flow direction at the Site. The groundwater flow direction during each of the seven gauging events gauging events was documented to be to the east, indicating the former BP pits and tanks are located hydraulically up-gradient or side-gradient to the former EPNG pit.

Constituents of Concern

The constituents of concern for the Site are as follows:

Constituent of Concern	Media	
	Soil	Groundwater
Benzene	X	X
Toluene	N/A	X
Ethylbenzene	N/A	X
Xylenes	N/A	X
Total benzene, toluene, ethylbenzene, and xylenes (BTEX)	X	N/A
Total Petroleum Hydrocarbons (TPH)	X	N/A
Chloride	X	N/A
Free Product	N/A	X

Migration of Petroleum Constituents to the Saturated Zone and Soil Analytical Results

Evidence of petroleum constituents (i.e., logged petroleum odors or staining, or elevated photo-ionization detection [PID] readings) were not noted in the field-apparent vadose zone in any of the five EPCGP monitoring wells or soil boring SB-1 (Attachment G). Confirmation vadose-zone soil samples collected during advancement of the five EPNG monitoring wells and soil boring SB-1 advanced in or around the former EPNG pit also did not reveal detectable concentrations of BTEX or TPH constituents in soil (Attachment L). Based on these results, the excavation activities undertaken by EPNG appears to have effectively removed vadose-zone hydrocarbons associated with the former EPNG pit.

Evidence of petroleum constituents (hydrocarbon odors) was documented by BP in soil cuttings retrieved at the monitoring well BPMW-2 location, located at BP's former

Reference: 2018 Activities, Site Conceptual Model and Request for Site Closure

compressor pit, beginning at a depth of 14 feet bgs and extending into the saturated zone. Evidence of petroleum constituents (hydrocarbon odors) were present in soil boring BPBH-1, also advanced in the former compressor pit in 2006, beginning at a depth of 7 feet bgs. Two soil samples were also collected from soil boring BPBH-1, both having concentrations of total BTEX and TPH that exceeded applicable NMOCD Soil Closure Criteria, as summarized in Attachment M. Evidently, no soil sampling or field screening was completed during advancement of monitoring well BPMW-1, although notes indicate the absence of hydrocarbon odors.

Hydrocarbon impacts, in the form of elevated PID readings and hydrocarbon odors, were noted in soil samples retrieved at or below the field-apparent water table during advancement of EPCGP monitoring wells MW-2 and MW-3. Monitoring well MW-2 and MW-3 are located between BP monitoring wells BPMW-1 and BPMW-2 and the former EPNG pit. The evidence of field-observed hydrocarbon impacts in the saturated zone at these locations indicate hydrocarbon impacts from one or more upgradient sources.

Free Product

Free product has not been reported in EPCGP monitoring well MW-1 in the 39 separate gauging events. Furthermore, the logs advanced in the former EPNG pit do not indicate the presence of hydrocarbons (as hydrocarbon odors, staining, or elevated PIDs) that may be the source of potential free product at this location.

Measurable free product was present in monitoring well MW-2 on October 16, 2016 and June 8, 2017, at thicknesses of 0.43 feet and 0.75 feet, respectively, as summarized in Attachment J. Monitoring well MW-2 is located hydraulically upgradient of the former EPNG pit. At least 2.7 feet of product was present in BP monitoring well BPMW-2 on November 8, 2017, installed in the BP's former compressor discharge pit, located west of the former EPNG pit. According to BP's reporting, prior to November 8, 2017, well BPMW-2 was last gauged on August 25, 2011.

A hydrograph depicting groundwater elevations in comparison with the presence and thickness of free product in monitoring well MW-2 is presented in Attachment N. As previously noted, monitoring well MW-1 has not contained free product since being gauged beginning in 1995. As depicted in Attachment N, free product was encountered in monitoring well MW-2 during a period of relatively low groundwater elevations, indicating a free product source (product-saturated smear-zone or vadose-zone soils) is not present during the 23 years monitoring well MW-1 has been gauged.

Reference: 2018 Activities, Site Conceptual Model and Request for Site Closure

Groundwater Analytical Results and Trends

A summary of groundwater analytical results obtained from 39 separate groundwater sampling events at the Site is depicted on Attachment O. Figures showing the results from the May 17, and October 28, 2018 groundwater sampling events are presented in Attachment P. The laboratory analytical reports for the 2018 groundwater sampling events are presented in Attachment Q. Laboratory analytical reports for 2017 and earlier were presented in previously-submitted reports. No groundwater concentration data has been reported from the BP monitoring wells.

As noted in Attachment O, the groundwater concentrations in MW-1 have decreased approximately 4 orders of magnitude to be at or below applicable New Mexico Water Quality Control Commission (NMWQCC) standards since 2013. The reduction in groundwater concentrations in these areas appears to be attributed to EPCGP's past remediation efforts at this location. Groundwater benzene concentrations in monitoring well MW-4, which is located hydraulically downgradient of the former EPNG pit, have decreased nearly two orders of magnitude since the initial sampling event, and are hovering around the applicable NMWQCC standard.

Product-impacted monitoring well MW-2, and monitoring well MW-5, located east (generally down-gradient) of monitoring well MW-2, continue to be several orders of magnitude above applicable NMWQCC standards in the sampling events completed from 2015 to present. Groundwater concentrations in samples collected from well MW-3, located hydraulically side-gradient to the former EPNG pit, have met applicable NMWQCC standards in at least five of the seven sampling events completed, and have been below detection limits on four occasions.

Groundwater hydrographs depicting historical groundwater elevation data and benzene concentrations (the most limiting analytical constituent) for the Site monitoring wells are presented in Attachment R. As noted in the MW-1 hydrograph, groundwater benzene concentrations in MW-1 generally declined and remained at or below the applicable NMWQCC standard since 2012. In general, a decline in groundwater benzene concentrations are exhibited in the remaining EPCGP monitoring wells, with the exception of monitoring well MW-2. In monitoring well MW-2, groundwater benzene concentrations generally exhibit a direct relationship in comparison to groundwater elevations following the presence of product in May 2017, indicating the product may have created or refreshed an ongoing local source of benzene at this location.

Summary

Based on the available data collected at the Site, the following is offered regarding the Sandoval GC A #1A site:

- Amoco (now BP) spud the Sandoval GC A #1A well in February of 1977, and they continue to operate in the over 42 years since. BPs operations include at least five tanks, three of which has been closed, and at least two pits. EPNG

Reference: 2018 Activities, Site Conceptual Model and Request for Site Closure

operated a natural gas distribution pipeline, including a dehydrator pit, for approximately 18 years. EPNG closed the pit in September 1994. EPCGC sold their pipeline assets in 2004 and has no remaining Site operations.

- Following an initial assessment of the closed dehydrator pit, EPNG excavated and removed 50 cubic yards of soil. In October 1996, EPNG excavated an additional 771 cubic yards of soil to a depth of up to 28 feet bgs. The excavated soil was removed from the site for treatment and disposal.
- Five monitoring wells, one piezometer, and one soil boring have been advanced by EPCGP to assess for the presence of hydrocarbons in and near the former EPNG pit. Detectable concentrations of hydrocarbons were not reported in the six soil samples collected as part of these activities. Evidence of hydrocarbons (elevated PIDs, odors, or staining) were not present in vadose-zone soils logged at these locations.
- To treat any remaining hydrocarbons in groundwater from the EPNG pit, EPCG utilized ORC socks in MW-1 to enhance biodegradation of groundwater from 1998 until 2014.
- Groundwater monitoring at the Site has been ongoing since 1995, with hydrocarbon concentrations in monitoring well MW-1, located in the former EPNG pit, at or below applicable NMWQCC standards since 2013. Groundwater flow as determined in the EPCGP monitoring wells has been to the east. The saturated course sand and gravel unit present, and narrow range of groundwater elevation fluctuations indicate this unit is highly transmissive. EPCGP monitoring wells MW-3, MW-4, and MW-5, located north, east, and south respectively from MW-1, have also exhibited declining hydrocarbon concentrations during their monitoring period.
- BP closed their compressor discharge pit in 2003 and excavated 50 cubic yards of soil and landfarmed it in the vicinity of a former BP compressor tank in the northwest corner of the site that was also closed in 2003. Soil samples collected from soil boring BH-1 advanced in the former compressor discharge pit exhibited hydrocarbon odors and had total BTEX and TPH concentrations in the collected soil samples that exceeded applicable NMOCD Soil Closure Criteria.
- BP installed monitoring wells BPMW-1, BPMW-2, BPMW-3, and BPMW-4 in 2011. No groundwater analytical data has been reported from these monitoring wells, and no gauging data was reported between 2011 and 2017. During the second reporting gauging event, at least 2.7 feet of free product was present in monitoring well BPMW-2. Monitoring wells BPMW-1 and BPMW-2 are located west of the former EPNG pit. Available groundwater elevation data indicates BP wells BPMW-1 and BPMW-2 are generally upgradient of the former EPCGP pit.
- It appears BP monitoring wells BPMW-3 and BPMW-4 were screened above the groundwater, and therefore have yielded no groundwater elevation or water quality information useful to assess groundwater quality in those areas.

Reference: 2018 Activities, Site Conceptual Model and Request for Site Closure

- Monitoring MW-2, installed west of the former EPNG pit in 2015, had measurable free product present approximately one year following installation.
- Groundwater benzene concentrations in samples collected from EPCGP monitoring well MW-2 have been approximately 4 orders of magnitude above applicable NMWQCC standards since it was first sampled in 2015. Groundwater samples from EPCGP monitoring well MW-5, located southeast of MW-2, has also contained hydrocarbon concentrations routinely above NMWQCC standards. These wells are generally down-gradient from BP's former compressor pit, and free product and/or elevated groundwater concentrations at these locations are believed to be associated with former BP operations located to the west.
- Benzene concentrations in groundwater collected from EPCGP monitoring wells MW-3 and MW-4 have also on occasion exceeded the applicable NMQWCC standard. Based on the magnitude of hydrocarbon impacts noted further west, release(s) from former BP operations may also have contributed to the hydrocarbon impacts remaining at these two locations. In particular, the elevation data and concentration data at the MW-3 location do not indicate the former EPNG pit is a hydrocarbon source.
- As of October 28, 2018, BP had apparently begun to take steps to begin remediation at the BPMW-2 location using soil vapor extraction methods. Additional information on the progress of these activities was not found in NMOCD files.

Request for No Further Action

A review of the data gathered by EPCGP since 1995 indicates the former EPNG pit no longer is a source of hydrocarbon impacts of consequence at this Site. Additionally, the weight of scientific evidence compiled by EPCGP shows that the BP release is responsible for the hydrocarbon impact located west or south of the former EPNG pit. BP has documented multiple releases associated with their production infrastructure, although groundwater analytical data from their monitoring wells, and progress to remediating the former compressor discharge pit release, has not been reported.

Based on the information presented in this document, EPCGP respectfully requests the NMOCD grant site closure for NMOCD case number 3RP-235.

Reference: 2018 Activities, Site Conceptual Model and Request for Site Closure

If you have any comments or questions concerning this correspondence, please contact me or Joseph Wiley with EPCGP at (713) 420-3475.

Sincerely,

Stantec Consulting Services Inc.

Stephen Varsa, P.G.
Project Manager
Phone: (515) 251-1020
steve.varsa@stantec.com

/rsm:srv:lmd:leh

cc: Joseph Wiley, EPCGP
Vanessa Fields, NMOCD District 3
Jim Griswold, NMOCD Santa Fe
Katie Whitebull, BLM

Attachments:

Attachment A – NMOCD Notifications
Attachment B – Waste Disposal Documentation
Attachment C – Site History Table
Attachment D – Site Plan
Attachment E – Photographic Log
Attachment F – Local Hydro-Geo Summary
Attachment G – EPCGP Soil Boring Logs and Well Construction Diagrams
Attachment H – BP Soil Boring Logs and Well Construction Diagrams
Attachment I – Cross-Sections
Attachment J – Groundwater Gauging Data
Attachment K – 2018 Groundwater Elevation Figures
Attachment L – Soil Analytical Data Table
Attachment M – Soil Analytical Results Figure
Attachment N – Product Hydrograph
Attachment O – Groundwater Analytical Data
Attachment P – 2018 Groundwater Analytical Figures
Attachment Q – Analytical Lab Reports
Attachment R - Groundwater Hydrographs

ATTACHMENT A - NMOCD Notifications

From: Varsa, Steve
To: Fields, Vanessa, EMNRD; Smith, Cory, EMNRD
Cc: "Bayliss, Randolph, EMNRD"; Griswold, Jim, EMNRD; "Wiley, Joe"
Bcc: Sarah Gardner (sarah.gardner@stantec.com); Varsa, Steve
Subject: El Paso CGP Company - Notice of upcoming groundwater sampling activities
Date: Wednesday, May 09, 2018 9:23:00 AM

Vanessa and Cory -

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

Site Name	NMOCD Case #	Sample Date
Canada Mesa #2	3RP-155-0	5/15/2018
Fields A#7A	3RP-170-0	5/17/2018
Fogelson 4-1	3RP-068-0	5/17/2018
Gallegos Canyon Unit #124E	3RP-407-0	5/17/2018
GCU Com A #142E	3RP-179-0	5/17/2018
James F. Bell #1E	3RP-196-0	5/19/2019
Johnston Fed #4	3RP-201-0	5/16/2018
Johnston Fed #6A	3RP-202-0	5/16/2018
K27 LDO72	3RP-204-0	5/15/2018
Knight #1	3RP-207-0	5/19/2019
Lateral L 40 Line Drip	3RP-212-0	5/18/2018
Lat O-21 Line Drip	3RP-213-0	5/16/2018
Miles Fed #1A	3RP-223-0	5/15/2018
Sandoval GC A #1A	3RP-235-0	5/16/2018
Standard Oil Com #1	3RP-238-0	5/15/2018
State Gas Com N #1	3RP-239-0	5/18/2018

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: Fields, Vanessa, EMNRD; Smith, Cory, EMNRD
Cc: "Bayliss, Randolph, EMNRD"; Griswold, Jim, EMNRD; "Wiley, Joe"
Bcc: Varsa, Steve
Subject: El Paso CGP Company - Notice of upcoming groundwater sampling activities
Date: Tuesday, October 23, 2018 1:22:00 PM

Vanessa and Cory -

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

Site Name	NMOCD Case #	Sample Date
Canada Mesa #2	3RP-155-0	10/27/2018
Fields A#7A	3RP-170-0	10/26/2018
Fogelson 4-1	3RP-068-0	10/28/2018
Gallegos Canyon Unit #124E	3RP-407-0	10/28/2018
GCU Com A #142E	3RP-179-0	10/28/2018
James F. Bell #1E	3RP-196-0	10/29/2018
Johnston Fed #4	3RP-201-0	10/26/2018
Johnston Fed #6A	3RP-202-0	10/26/2018
K27 LDO72	3RP-204-0	10/27/2018
Knight #1	3RP-207-0	10/29/2018
Lateral L 40 Line Drip	3RP-212-0	10/31/2018
Miles Fed #1A	3RP-223-0	10/27/2018
Sandoval GC A #1A	3RP-235-0	10/28/2018
Standard Oil Com #1	3RP-238-0	10/27/2018
State Gas Com N #1	3RP-239-0	10/26/2018

Additionally, we will be at the State Gas Com N#1 site on October 30, 2018, to complete the proposed aquifer testing activities. We will be completing aquifer testing using slug-out methods, and collecting recovery measurements manually over several days.

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

ATTACHMENT B - Waste Disposal Documentation

Stantec

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**
El Paso CGP Company L.L.C., 1001 Louisiana Street, Houston, TX 77002

2. **Originating Site(s):**
Canada Mesa #2, Johnston Federal #4, Johnston Federal #6A, K-27 LD072, Lat O-21 Line Drip, Miles Federal #1A, Sandoval GC A#1A, and Standard Oil Com #1.

3. **Location of Material (Street Address, City, State or ULSTR):**
Unit I, Sec. 24, T24N, R06W; Unit N, Sec. 27, T31N, R09W; Unit F, Sec. 35, T31N, R09W; Unit E, Sec. 4, T25N, R06W; Unit O, Sec. 12, R30N, R09W; Unit F, Sec 5, T26N, R09W; Unit C, Sec. 35, T30N, R09W; and Unit N, Sec. 36, T29N, R09W, respectively.

4. **Source and Description of Waste:**
Historic releases occurred on the above-referenced properties. As part of environmental remediation activities, monitoring wells will be sampled and purged groundwater will be removed from the Site.

Estimated Volume 1 yd^3 / (bbls) Known Volume (to be entered by the operator at the end of the haul) _____ yd^3 / bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, Joseph Wiley, representative or authorized agent for El Paso CGP Company L.L.C. 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: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. *Operator Use Only: Waste Acceptance Frequency* ☐ *Monthly* ☐ *Weekly* ☒ *Per Load*

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Sarah Gardner, representative for El Paso CGP Company L.L.C. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. **Transporter: Stantec Consulting Services**

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Basin Disposal, Inc., Permit # NM1-005
Address of Facility: 906 S. Main Avenue, Aztec, NM 87410-2285
Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☐ **APPROVED** ☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: Ben Tallmantee III TITLE: Employee DATE: 5-16-13

SIGNATURE: _____ TELEPHONE NO.: 505 632-3936

Surface Waste Management Facility Authorized Agent

30 Years of Environmental Health and Safety Excellence

BASIN DISPOSAL

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

NO. 14035
NMOCD PERMIT: NM -001-0005
Oil Field Waste Document, Form C138
INVOICE:

DATE 3-16-22
DEL. TKT#.
GENERATOR: El Paso
BILL TO: El Paso
HAULING CO. Shantel
DRIVER: Sarah Gardner
(Print Full Name)
ORDERED BY: Joseph Lilley
CODES:

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

STATE: ☒ NM ☐ CO ☐ AZ ☐ UT

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

NO.	TRUCK	LOCATION(S)	VOLUME	COST	H2S	COST	TOTAL	TIME
1		Canada # 2	5.25 bbl	704			704 MAR 16	4:50PM
2		Johnston Fed. #4	5.25 bbl					
3		Johnston Fed. #6A	5.25 bbl					
4		K 27 L D22	5.25 bbl					
5		Lat 0 21 Line Drip	5.25 bbl					

I, Sarah Gardner representitive or authorized agent for the above generator and hauler hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination that the above described waste is RCRA Exempt Oil field wastes.

☒ Approved ☐ Denied ATTENDANT SIGNATURE

san juan reproduction 168-6

30 Years of Environmental Health and Safety Excellence

BASIN DISPOSAL

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

NO. 14036
NMOCD PERMIT: NM -001-0005
Oil Field Waste Document, Form C138
INVOICE:

DATE 05/16/18
DEL. TKT#.
GENERATOR: El Paso
BILL TO: El Paso
HAULING CO. Stuntz
DRIVER: Sarah Gardner
(Print Full Name)
ORDERED BY: Justin Lilley
CODES:

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

STATE: ☐ NM ☐ CO ☐ AZ ☐ UT

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

NO.	TRUCK	LOCATION(S)	VOLUME	COST	H2S	COST	TOTAL	TIME
1		Miles Fed #1A	325 bbl	Jd			18 MAY 16	4:50PM
2		Standard Gas #1A	325 bbl					
3		Standard Oil Com #1	325 bbl					
4								
5								

I, Sarah Gardner representitive or authorized agent for the above generator and hauler hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination that the above described waste is RCRA Exempt Oil field wastes.

☐ Approved ☐ Denied ATTENDANT SIGNATURE

san juan reproduction 168-6

French Dr., Hobbs, NM 88240
District II
S. First St., Artesia, NM 88210
District III
000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised August 1, 2011

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**
El Paso CGP Company L.L.C., 1001 Louisiana Street, Houston, TX 77002

2. **Originating Site(s):**
Fogelson 4-1, Gallegos Canyon Unit #124E, GCU Com A #142E, Sandoval GC A#1A, James F. Bell #1E, Knight #1, Lat L 40, and State Gas Com N #1.

3. **Location of Material (Street Address, City, State or ULSTR):**
Unit P, Sec. 4, T29N, R11W; Unit N, Sec. 35, T28N, R12W; Unit G, Sec. 25, R29N, R12W; Unit H, Sec. 13, T28N, R04W; Unit P, Sec. 10, T30N, R13W; Unit A, Sec. 5, T30N, R13W; Unit H, Sec. 13, T28N, R04W; Unit H, Sec. 16, T31N, R12W, respectively.

4. **Source and Description of Waste:**
Historic releases occurred on the above-referenced properties. As part of environmental remediation activities, monitoring wells will be sampled and purged groundwater will be removed from the Site. Wastewater generated from aquifer testing of existing monitoring wells at the State Gas Com N#1 site is also being removed from the subject site.

Estimated Volume 1 yd^3 / (bbls) Known Volume (to be entered by the operator at the end of the haul) [redacted] yd^3 / bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, Joseph Wiley, representative or authorized agent for El Paso CGP Company L.L.C. 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: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. *Operator Use Only: Waste Acceptance Frequency* ☐ *Monthly* ☐ *Weekly* ☒ *Per Load*

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, [illegible] representative for El Paso CGP Company L.L.C. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. **Transporter: Stantec Consulting Services**

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Basin Disposal, Inc., Permit # NM1-005
Address of Facility: 906 S. Main Avenue, Aztec, NM 87410-2285
Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ **APPROVED** ☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: Damian Hernandez TITLE: [redacted] DATE: _____

SIGNATURE: _____ TELEPHONE NO.: [redacted]

Surface Waste Management Facility Authorized Agent

30 Years of Environmental Health and Safety Excellence

BASIN DISPOSAL

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

NO. 727466
NMOCD PERMIT: NM -001-0005
Oil Field Waste Document, Form C138
INVOICE:

DATE 11-1-18
GENERATOR: El Paso CGP Co.
HAULING CO. Stantec Consulting
ORDERED BY: Joe W.

DEL. TKT#.
BILL TO: El Paso CGP
DRIVER: Jacob G.
(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		Foster 41		70			70	
2		Gallegos Canyon Unit #121E					'18NOV 1	
3		GCU Com A #111E						
4		Jaudenal GCA #1A						
5		Jones Bell #1E						

I, _____ representitive or authorized agent for the above generator and hauler hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination that the above described waste is RCRA Exempt Oil field wastes.

☒ Approved ☐ Denied ATTENDANT SIGNATURE _____

SAN JUAN PRINTING 0818018B

representative samples of the oil field waste have been subjected to the paint filter test and [illegible] have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. **Transporter: Stantec Consulting Services**

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Basin Disposal, Inc., Permit # NM1-005
Address of Facility: 906 S. Main Avenue, Aztec, NM 87410-2285
Method of Treatment and/or Disposal:

☐ Evaporation ☒ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status: ☒ **APPROVED** ☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: Damian Hernandez TITLE: [redacted] DATE: _____

SIGNATURE: _____ TELEPHONE NO.: [redacted]

Surface Waste Management Facility Authorized Agent

ATTACHMENT C - Site History Table

Sandoval GC A #1
Project History
San Juan River Basin, New Mexico

Date	Source (Regulatory File #)	Event/Action	Description /Comments
2/20/1977	API# 30-045-22294	Amoco Production Company (Amoco) Sandoval Gas Com (GC) A #1 (Site) well spudded	Completed March 9, 1997.
3/24/1977	30-045-22294	El Paso Natural Gas Company (EPNGC) approved to transport gas from Sandoval GC A #1	Plateau, Inc. approved as transporter of oil; Permian Corp approved as oil transporter on January 25, 1985; Meridian Oil approved as condensate transporter on July 5, 1990.
9/1/1994	ACI# 3RP-235-0	El Paso Field Services (EPFS) - pit closure and excavation	50 cubic yards of soil removed.
5/1/1995	3RP-235-0	EPFS Monitoring Well MW-1 installed	Quarterly groundwater sampling initiated on 4/12/1996. No log of MW-1, completed as a 2-inch well, in file. EPFS attempted to install down-gradient wells in December 1995, but experienced rig refusal at 38 feet bgs, with no groundwater encountered. Direct push groundwater sampling was attempted in early 1997, but rig refusal was encountered at 26 feet bgs on all 4 sides of the former EPNG pit. Dry piezometer (PH-1) also installed on southern edge of site.
7/17/1997	3RP-235-0	EPFS Soil Excavation	An additional 504 cubic yards of soil was excavated and removed from the site to Envirotech for landfarming. The excavation was 22 feet by 24 feet by 28 feet deep. Five soil samples collected from the sidewallks and floor of excavation. The north and south wall samples exhibited TPH exceedences (433 and 1450 ppm, respectively). BTEX and TPH results for the bottom, east and west walls of the excavation were non-detect.
8/27/1997	3RP-235-0	EPFS - MW-1 replacement well installation	No soil samples retained during advancement of BH-2 (completed as MW-1 [also identified as R-1], a 4-inch well). Well gauged and sampled on 9/4/1997. MW-1 exceeds NMWQCC standards for benzene, toluene, and total xylenes. Quarterly sampling begins in October 1997.
2/27/1998	3RP-235-0	EPFS 1997 Annual Report	Documents 1997 site activities. Recommends operator address releases from their pits, and quarterly monitoring and installation of oxygen release compound sock in MW-1.
7/8/1998	3RP-235-0	New Mexico Oil Conservation Division (NMOCD) Notification	NMOCD approves EPFS's proposed activities. NMOCD sends notice to Amoco to investigate and remediate groundwater on July 9, 1998.

Sandoval GC A #1
Project History
San Juan River Basin, New Mexico

3/31/1999	3RP-235-0	EPFS 1998 Annual Report	1998 quarterly groundwater sampling results from MW-1 through second quarter 1998 presented. ORC sock installed in MW-1 following second quarter 2018 event. Annual sampling at the site is proposed following 12 months of ORC sock deployment.
3/24/2000	3RP-235-0	EPFS 1999 Annual Report	1999 annual sampling results from MW-1 presented. Annual sampling at the site proposed until groundwater standards are met, then initiate quarterly groundwater sampling.
2/26/2001	3RP-235-0	EPFS 2000 Annual Report	2000 annual sampling results from MW-1 presented. Nutrient injections, and continued annual sampling at the site proposed until BTEX concentrations have decreased. Quarterly sampling proposed when groundwater standards are met.
7/18/2001	3RP-235-0	NMOCD Notification to EPFS	NMOCD acknowledges potential contamination related to operator activities. OCD requests EPFS to work with operator.
12/31/2001	30-045-26125	Well operator changed to BP America Production Company	EPNGC pipeline assets transferred to Enterprise Products Company on April 2, 2002.
2/28/2002	3RP-235-0	EPFS 2001 Annual Report	2001 annual sampling results from MW-1, and deployemnt of three ORC socks in MW-1 on October 8, 2001. Proposed to continue sampling MW-1 annually and oxygenation of source area.
2/28/2003	3RP-235-0	EPFS 2002 Annual Report	2002 annual sampling results from MW-1 presented. Continued annual sampling of MW-1 and inspection and replacement of ORC socks proposed.
10/28/2003	30-045-22294	BP Closure of Blow Pit	Form C-144. Soil sample collected at 1' bgs fails for BTEX (56.4 ppm) and TPH (920 ppm). Engineering report scores site assuming depth to groundwater is 50-100 feet. No excavation conducted. Pit measures 51 feet x 43 feet. NMOCD recieves report 2/20/2007.
10/28/2003	30-045-22294	BP Closure of Production Tank	Form C-144. Tank removed. Soil sample collected at 9' bgs passes for TPH (<5 ppm). No excavation conducted. Tank Pit measures 16 feet x 17 feet. NMOCD Receives report 2/20/2007.
11/4/2003	30-045-22294	BP Closure of Separator Tank	Form C-144. Tank Removed. Soil sample collected from 7' bgs passes for TPH (<5 ppm). No excavation conducted. Pit measures 23 feet x 24 feet. NMOCD recieves report 2/20/2007.

Sandoval GC A #1
Project History
San Juan River Basin, New Mexico

2/26/2004	3RP-235-0	EPFS 2003 Annual Report	2003 annual sampling results from MW-1 presented. ORC socks were removed in May 2003 and replaced in November 2003. Continued annual sampling of MW-1 and inspection and replacement of ORC socks proposed.
2/21/2005	3RP-235-0	EPFS 2004 Annual Report	2004 annual sampling results from MW-1 presented. ORC socks were replaced in November 2004. Continued annual sampling of MW-1 and inspection and replacement of ORC socks proposed.
3/1/2006	3RP-235-0	MWH 2005 Annual Report (for El Paso Tennessee Pipeline Company [EPTPC])	2005 annual sampling results from MW-1 presented. ORC socks were replaced in November 2005. Continued annual sampling of MW-1 and inspection and replacement of ORC socks proposed.
11/11/2006	30-045-22294 and 3RP-1057	BP Compressor Pit Closure and Soil Excavation	Form C-144. Compressor Pit closed on 11/7/2003. Pit was 14 feet x 15 feet x 7 feet deep. Apprxoimately 50 cubic yards of soil were excavated to a depth of approximately 10 feet bgs on 11/8/2003 and landfarmed on-site. Confirmation soil sample at 10 feet exceeded for BTEX (83 ppm) and TPH (3,040 ppm). Confirmation soil boring BH-1 advanced by Blagg for BP on 9/20/2006 to 17 feet bgs (refusal-gravel), with soil sample at 15-17 feet bgs exceeding for benzene (19 ppm), BTEX (1,183 ppm) and TPH (16,800 ppm). 11/8/2003 excavation soil was landfarmed in a 1/2-foot lift within a 34 feet x 42 feet bermed area northwest of the former EPNP pit. On July 5, 2005, a composite soil sample of the landfarmed soil was non-detect (<0.2 ppm) for TPH.
2/12/2007	NA (missing from 3RP-235-0)	MWH 2006 Annual Report (for EPTPC)	2006 annual sampling results from MW-1 presented. ORC socks were replaced in November 2006. Continued annual sampling of MW-1 and inspection and replacement of ORC socks proposed.
4/2/2008	3RP-235-0	MWH 2007 Annual Report (for EPTPC)	2007 annual sampling results from MW-1 presented. ORC socks were replaced in November 2007. Continued annual sampling of MW-1 and inspection and replacement of ORC socks proposed.
2/28/2009	3RP-235-0	MWH 2008 Annual Report (for EPTPC)	2008 annual sampling results from MW-1 presented. ORC socks were replaced in November 2008. Continued annual sampling of MW-1 and inspection and replacement of ORC socks proposed.

Sandoval GC A #1
Project History
San Juan River Basin, New Mexico

4/16/2010	3RP-235-0	MWH 2009 Annual Report (for EPTPC)	2009 annual sampling results from MW-1 presented. ORC socks were replaced in November 2009. Continued annual sampling of MW-1 and inspection and replacement of ORC socks proposed.
3/2/2011	3RP-235-0	MWH 2010 Annual Report (for EPTPC)	2010 annual sampling results from MW-1 presented. ORC socks were replaced in November 2010. Continued annual sampling of MW-1 and inspection and replacement of ORC socks proposed.
8/16/2012	3RP-235-0	MWH 2011 Annual Report (for El Paso CGP Company [EPCGP])	2011 annual sampling results from MW-1 presented. ORC socks were replaced in November 2011. Continued annual sampling of MW-1 and inspection and replacement of ORC socks proposed.
4/3/2014	3RP-235-0	MWH 2013 Annual Report (for EPCGP)	Documents a re-survey of the site and three quarterly gauging and sampling event, in which MW-1 was sampled. ORC socks were removed. Installation of additional monitoring wells and semi-annual groundwater sampling is recommended.
5/28/2014	3RP-235-0	MWH 2014 Monitoring Well Installation Work Plan (for EPCGP)	Outlines procedures to install monitoring wells MW-2 through MW-5 to better delineate hydrocarbons in groundwater. No written response to the work plan from NMOCD was received. The work plan was not implemented.
2/3/2015	3RP-235-0	MWH 2014 Annual Report (for EPCGP)	2014 semi-annual sampling results from MW-1 presented. Continued semiannual sampling of MW-1 and installation of additional monitoing wells is recommended.
10/5/2015	3RP-235-0	MWH 2014 Monitoring Well Installation Work Plan (for EPCGP)	Outlines procedures to install monitoring wells MW-2 through MW-5 to better delineate hydrocarbons in groundwater. No written response to the work plan from NMOCD was received.
10/20-25/2015	3RP-235-0	Monitoring wells MW-2 through MW-5 installed, and soil boring SB-1 advanced.	Six soil samples collected for laboratory analysis.
2/12/2016	3RP-235-0	MWH 2015 Annual Report (for EPCGP)	Results from soil boring advancement, monioring well installation, and semi-annual sampling presented. Continued semiannual sampling recommended.
3/28/2017	3RP-235-0	Stantec 2016 Annual Report (for EPCGP)	Results from semi-annual sampling presented. Product (0.43 feet) present in MW-2. Continued semiannual sampling recommended as EPCGP awaits additional action from BP.
6/2/2017	3RP-235-0	NMOCD Comment Letter to EPCGP	Comments to 2016 Annual Report, and request to complete additional delineation around MW-2 and MW-7, and complete product recovery activities.

Sandoval GC A #1
Project History
San Juan River Basin, New Mexico

7/19/2017	3RP-235-0	EPCGP Response Letter to NMOCD	EPCGP requests NMOCD obtain additional information from BP on the nature and extent of their release before determining what, if any, additional activities are required of EPCGP.
9/18/2017	3RP-235-0	Stantec Groundwater Monitoring Work Plan (for EPCGP)	As requested by NMOCD during an August 15, 1997 meeting with EPCGP, work plan requests semi-annual sampling until additional information is obtained about the BP release to determine what, if any, additional information is required of EPCGP.
10/5/2017	30-045-22294	BP Closure of 95 bbl Below Ground Tank (BGT)	Form C-144. Tank removed. Discolored soils and hydrocarbon staining noted near abandoned fiberglass line found in ESE quadrant beneath removed tank. Composite soil sample collected at 5' bgs beneath tank passed for chlorides (<30 ppm), TPH (<4 ppm) and BTEX (<0.18 ppm). New tank installed.
10/6/2017	30-045-22294	BP Soil Excavation at former 95 bbl BGT.	Form C141. Approximately 12 cubic yards of soil excavated to a depth of up to 12 feet bgs and removed on east side of former BGT. Post-excavation composite soil samples on excavation botton and sidewalls were ND for chloride, BTEX and TPH. Grab sample collected beneath fiberglass line outside excavation also ND.
11/14/2017	3RP-235-0	NMOCD Notification to EPCGP	Approval of 9/18/2017 work plan. NMOCD established ACI# 3RP-1057 to place monitoring data for the historical BP release at the Site.
1/30/2018	3RP-1057	BP Monitoring Well Installation Documentation	Form C-141. Includes site plan and well logs for four monitoring wells (BPMW-1 through BPMW-4) installed in August 2011 (BH-2/MW-2) and December 2011 (MW-1, MW-3 and MW-4). MW-2 Log notes 2.7 feet of LNAPL measured on 11/8/2017. MW-1 and MW-3 were gauged dry on 11/9/2017, and DTW in MW-4 was gauged to be 38.25 feet below TOC on 11/9/2017.
3/5/2018	30-045-22294 and 3RP-1057	BP Release Notification	Form C-141. Provides history of 2003 Compressor Pit release, documentation of 2006 excavation of 50 cubic yards of soil and soil boring installation, and indicates 4 monitoring wells (1 with LNAPL, 3 dry) were later installed.
3/29/2018	3RP-235-0	Stantec 2017 Annual Report (for EPCGP)	Results from semi-annual sampling presented. Product (0.75 feet) present in MW-2. Continued semiannual sampling recommended as EPCGP awaits additional action from BP.

Sandoval GC A #1
Project History
San Juan River Basin, New Mexico

4/4/2018	30-045-22294	BP Electroinc Mail Message to NMOCD	BP correspondence providing site background and plan to conduct SVE activites to remediate soils by former compressor pit.
4/13/2018	30-045-22294	NMOCD Correspondence to BP	NMOCD correspondence to BP approving 4/4/18 BP SVE Plan for SVE work plan. Requires off-gas sampling and quarterly reporting of activities and results.
4/10/2019	3RP-235-0	Stantec 2018 Annual Report, Site Conceptual Model, and Case Closure Request (for EPCGP)	Results of 2018 groundwater sampling presented. Includes historical aerial photographs and photographic log of the site. SVE skid system connected to BPMW-2 noted to be on-site during 10/28/2018 site visit.

ATTACHMENT D - Site Plan

\\Us0389-ppfss01\shared_projects\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXDs\SANDOVAL GC A#1A\2018 MAPS\Sandoval_SITE_2018.mxd

LEGEND:

- 6508 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- GAS — NATURAL GAS LINE
- OVHD — OVERHEAD ELECTRIC LINE
- MONITORING WELL
- SOIL BORING
- OTHER MONITORING WELL
- OTHER SOIL BORING
- SMA BENCHMARK
- RIG ANCHOR

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	4/5/2019	SLG	SLG	SRV

TITLE:

SITE MAP

PROJECT:

SANDOVAL GC A#1A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: 1

ATTACHMENT E - Photographic Log

Stantec

Photographic Log

Client:	**El Paso CGP Company**	**Project:**	**193710238**
Site Name:	**Sandoval GC A #1A**	**Site Location:**	**San Juan River Basin, New Mexico**

Photograph ID: 1

Photo Location:
Sandoval GC A #1A

Direction:
West

Survey Date:
4/9/2013

Comments:
View of the Site operations. Wells BPMW-1 (far right) and BPMW-2 (center) visible in background

Photograph ID: 2

Photo Location:
Sandoval GC A #1A

Direction:
North

Survey Date:
4/9/2013

Comments:
Monitoring well MW-1

Stantec

Photographic Log

Client:	**El Paso CGP Company**	**Project:**	**193710238**
Site Name:	**Sandoval GC A #1A**	**Site Location:**	**San Juan River Basin, New Mexico**

Photograph ID: 3

Photo Location:
Sandoval GC A #1A

Direction:
Northeast

Survey Date:
5/30/2015

Comments:
View of Site operations

Photograph ID: 4

Photo Location:
Sandoval GC A #1A

Direction:
West

Survey Date:
11/3/2015

Comments:
Advancement of monitoring well MW-5

Stantec

Photographic Log

Client:	**El Paso CGP Company**	**Project:**	**193710238**
Site Name:	**Sandoval GC A #1A**	**Site Location:**	**San Juan River Basin, New Mexico**

Photograph ID: 5

Photo Location:
Sandoval GC A #1A

Direction:
South

Survey Date:
6/8/2017

Comments:
View from monitoring well BPMW-1 (foreground), with former soil landfarm (center), monitoring well MW-2 (far left) and BPMW-2 (upper right)

Photograph ID: 6

Photo Location:
Sandoval GC A #1A

Direction:
Southwest

Survey Date:
10/28/2018

Comments:
BP SVE system and connection to well BPMW-2

ATTACHMENT F - Local Hydro-Geo Summary

Stantec

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-144
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- [x] Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
- [ ] Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
- [ ] Modification to an existing permit
- [ ] Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: BP AMERICA PRODUCTION COMPANY OGRID #: 778
Address: 200 Energy Court, Farmington, NM 87401
Facility or well name: SANDOVAL GAS COM A 001A
API Number: 3004522294 OCD Permit Number:
U/L or Qtr/Qtr C Section 35.0 Township 30.0N Range 09W County: San Juan County
Center of Proposed Design: Latitude 36.77222 Longitude -107.75408 NAD: [ ] 1927 [x] 1983
Surface Owner: [x] Federal [ ] State [ ] Private [ ] Tribal Trust or Indian Allotment

2.
[ ] **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: [ ] Drilling [ ] Workover
[ ] Permanent [ ] Emergency [ ] Cavitation [ ] P&A
[ ] Lined [ ] Unlined Liner type: Thickness _____mil [ ] LLDPE [ ] HDPE [ ] PVC [ ] Other _____
[ ] String-Reinforced
Liner Seams: [ ] Welded [ ] Factory [ ] Other _____ Volume: _____bbl Dimensions: L_____ x W_____ x D_____

3.
[ ] **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: [ ] P&A [ ] Drilling a new well [ ] Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
[ ] Drying Pad [ ] Above Ground Steel Tanks [ ] Haul-off Bins [ ] Other _____
[ ] Lined [ ] Unlined Liner type: Thickness _____mil [ ] LLDPE [ ] HDPE [ ] PVC [ ] Other _____
Liner Seams: [ ] Welded [ ] Factory [ ] Other _____

4.
[x] **Below-grade tank:** Subsection I of 19.15.17.11 NMAC **Tank ID:** A
Volume: 95.0 bbl Type of fluid: Produced Water
Tank Construction material: Steel
[ ] Secondary containment with leak detection [ ] Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
[ ] Visible sidewalls and liner [ ] Visible sidewalls only [x] Other SINGLE WALLED DOUBLE BOTTOMED SIDE WALLS NOT VISIBLE
Liner type: Thickness _____mil [ ] HDPE [ ] PVC [ ] Other _____

5.
[ ] **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

6.
Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*

☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*

☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☒ Alternate. Please specify 4' Hogwire with single barbed wire

7.
Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☐ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

8.
Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☒ Signed in compliance with 19.15.16.8 NMAC

9.
Administrative Approvals and Exceptions:
Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☒ Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

10.
Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. **Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.**

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to temporary, emergency, or cavitation pits and below-grade tanks)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to permanent pits)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☒ NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☒ No

11.
Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- [x] Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- [ ] Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- [x] Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- [x] Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- [x] Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- [x] Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- [ ] Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- [ ] Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
- [ ] Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- [ ] Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____

☐ Previously Approved Operating and Maintenance Plan API Number: _____ *(Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)*

13.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- [ ] Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- [ ] Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- [ ] Climatological Factors Assessment
- [ ] Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Quality Control/Quality Assurance Construction and Installation Plan
- [ ] Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- [ ] Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- [ ] Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- [ ] Emergency Response Plan
- [ ] Oil Field Waste Stream Characterization
- [ ] Monitoring and Inspection Plan
- [ ] Erosion Control Plan
- [ ] Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14.
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☒ Below-grade Tank ☐ Closed-loop System ☐ Alternative

Proposed Closure Method:
- [x] Waste Excavation and Removal
- [ ] Waste Removal (Closed-loop systems only)
- [ ] On-site Closure Method (Only for temporary pits and closed-loop systems)
  - [ ] In-place Burial [ ] On-site Trench Burial
- [ ] Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- [x] Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- [x] Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- [x] Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- [x] Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- [x] Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- [x] Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.
Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)
Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations:
☐ Soil Backfill and Cover Design Specifications - - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC
Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

18.
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.
Operator Application Certification:
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Jeffrey Peace Title: Field Environmental Advisor

Signature: Jeffrey H. Peace Date: 06\14\2010

e-mail address: Peace.Jeffrey@bp.com Telephone: 505-326-9479

20.
OCD Approval: ☐ Permit Application (including closure plan) ☑ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: [signature] **Approval Date:** 07 FEB 17

Title: HYDROLOGIST DIII **OCD Permit Number:** NA

21.
Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC
Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:**

22.
Closure Method:
☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

23.
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:
Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: Disposal Facility Permit Number:

Disposal Facility Name: Disposal Facility Permit Number:

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:
☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24.
Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***
☐ Proof of Closure Notice (surface owner and division)
☐ Proof of Deed Notice (required for on-site closure)
☐ Plot Plan (for on-site closures and temporary pits)
☐ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (required for on-site closure)
☐ Disposal Facility Name and Permit Number
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique
☐ Site Reclamation (Photo Documentation)
On-site Closure Location: Latitude Longitude NAD: ☐1927 ☐ 1983

25.
Operator Closure Certification:
I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): Title:

Signature: Date:

e-mail address: Telephone:

SITING AND HYDRO-GEOLOGICAL REPORT FOR SANDOVAL GAS COM A 001A

SITING CRITERIA 19.15.17.10 NMAC

Groundwater is estimated to be between 50 and 100 feet below ground surface (bgs) at this site. This estimation is based on data from Stone and others (1983), and depth to groundwater data obtained from water wells permitted by the New Mexico State Engineer's Office (OSE, Figure 1). Local topography and proximity to adjacent water features are also considered. A topographic map of the site is provided as Figure 2 and demonstrates that the below grade tank (BGT) is not within 300 feet of any continuously flowing watercourse or within 200 feet of any other significant watercourse, lakebed, sinkhole or playa lake as measured from the ordinary high water mark. Figure 3 demonstrates that the BGT is not within 300 feet of a permanent residence, school, hospital, institution or church. Figure 4 demonstrates, based on a search of the OSE database and USGS topographic maps, that there are no freshwater wells or springs within 1000 feet of the BGT. Figure 5 demonstrates that the BGT is not within a municipal boundary or a defined municipal freshwater well field. Figure 6 demonstrates that the BGT is not within 500 feet of a wetland. Figure 7 demonstrates that the BGT is not in an area overlying a subsurface mine. The BGT is not located in an unstable area. Figure 8 demonstrates that the BGT is not within the mapped FEMA 100-year floodplain.

Local Geology and Hydrology

This particular site is located on a slope at the mouth of a canyon, roughly 5000 feet to the west of the San Juan River on the Nacimiento Formation. From the aerial photographs and topographical maps the site is greater than 1,000 feet from a wetland, and greater than 4,000 feet from the 100 year flood plain of the San Juan River. Topography is dominated by the main channel of the river, its floodplain and terrace deposits. Moving away from the San Juan River, eroded surfaces of the Nacimiento Formation form slopes that are capped by the resistant sandstones of the San Jose Formation.

Groundwater is estimated to be between 50 and 100 feet below ground surface (bgs) at this site. This is based on the elevation difference between the site (5712 feet) and the San Juan River (5625 feet). The San Juan River is located approximately 3000 feet to the south of the site.

Regional Geology and Hydrology

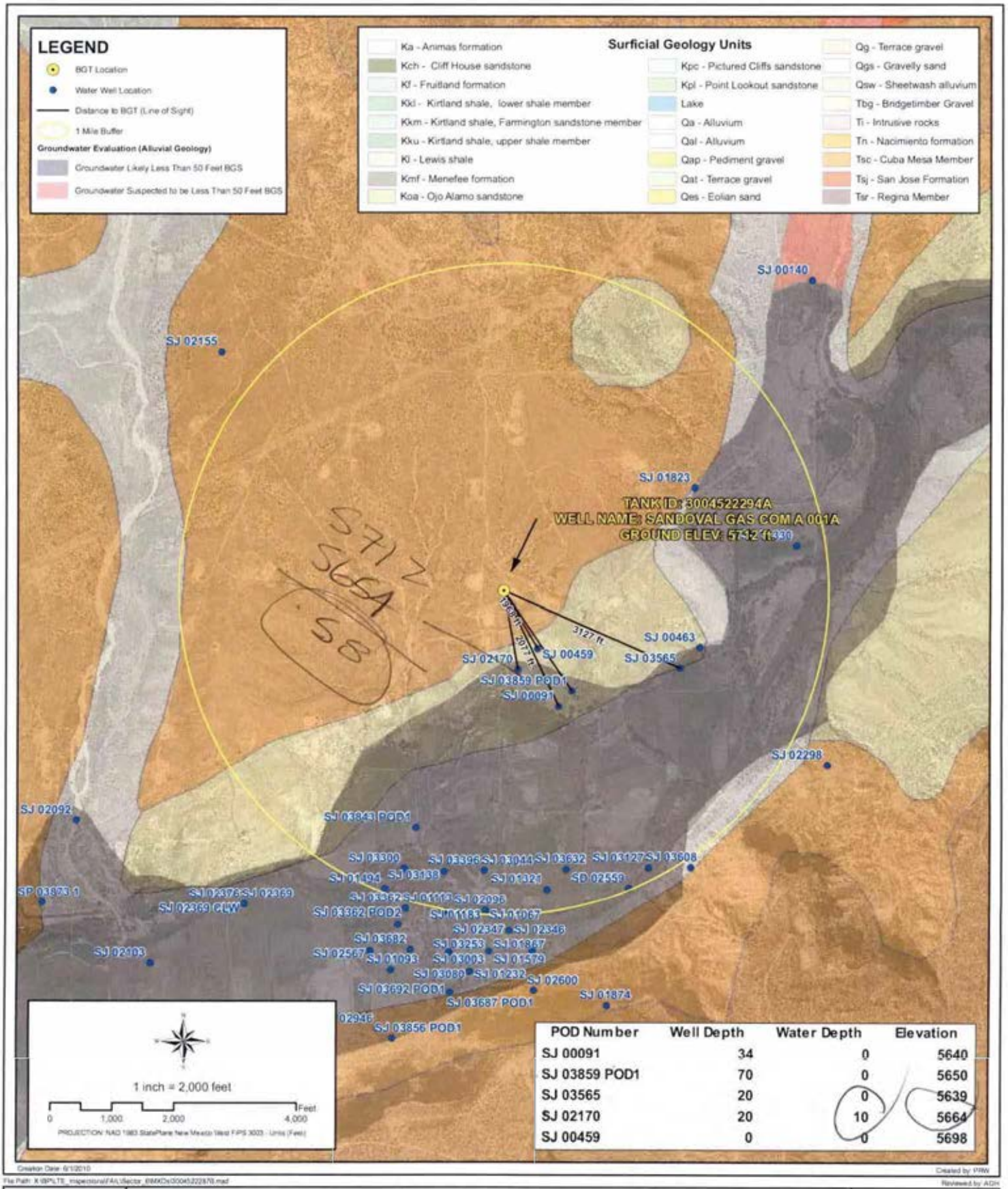
The San Juan Basin is situated in the Navajo section of the Colorado Plateau and is characterized by broad open valleys, mesas, buttes and hogbacks. Away from major valleys and canyons topographic relief is generally low. Native vegetation is sparse and shrubby. Drainage is mainly by the San Juan River, the only permanent stream in the Navajo Section of the Colorado Plateau. The San Juan River is a tributary of the Colorado River. Major tributaries include the Animas, Chaco and La Plata Rivers. Flow of the San Juan River across the basin is regulated by the Navajo Dam, located about 30 miles northeast of Farmington, New Mexico. The climate is arid to semiarid with an average annual precipitation of 8 to 10 inches. Soils within the basin consist of weathered parent rock derived from predominantly physical means mostly from eolian depositional system with fluvial having a lesser impact.

Cretaceous and Tertiary sandstones, as well as Quaternary Alluvial deposits, serve as the primary aquifers in the San Juan Basin (Stone et al., 1983). The Nacimiento Formation of Paleocene age occurs at the surface in a broad belt at the western and southern edges of the central San Juan Basin and dips beneath the San Jose Formation in the center. The lower part of the Nacimiento Formation is composed of interbedded black, carbonaceous mudstones and white coarse-grained sandstones. The upper part is comprised of mudstone and sandstone. It is generally slope-forming, even within the sandstone units. Thickness of the Nacimiento ranges from 418 to 2232 feet. Aquifers within the coarser and continuous sandstone bodies of the Nacimiento Formation are between 0 and 1000 feet deep in this section of the basin. Wells within these bodies flow from 16 to 100 gallons per minute (gpm), and transmissivities are expected to be 100 ft^2/d (Stone et al, 1983). Groundwater within these aquifers flows toward the San Juan River.

References

Circular 154—Guidebook to coal geology of northwest New Mexico By E. C. Beaumont, J. W. Shomaker, W. J. Stone, and others, 1976

Stone, et al., 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico, Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p



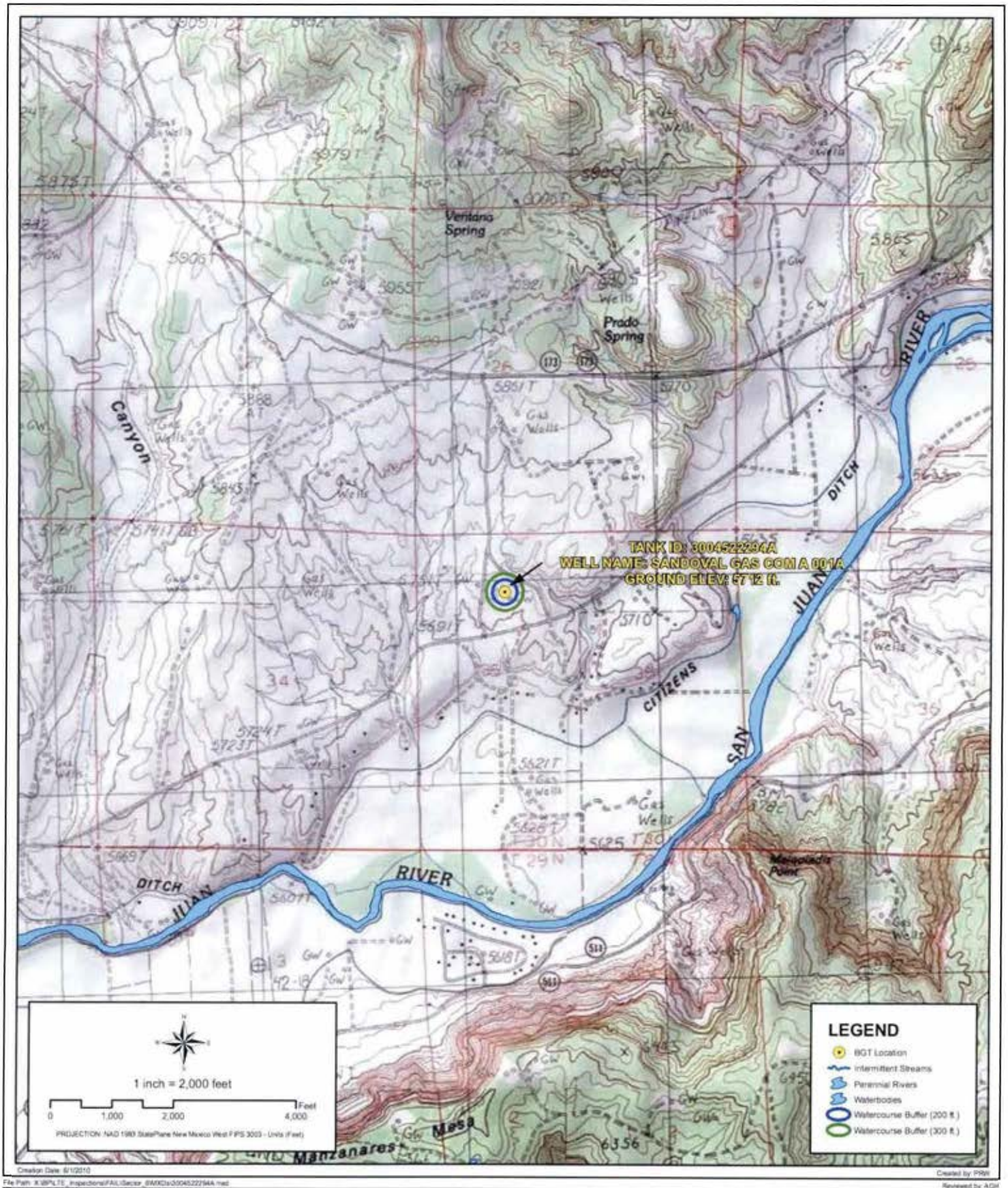
GROUNDWATER LESS THAN 50 FT.

WELL NAME: SANDOVAL GAS COM A 001A

API NUMBER: 3004522294 TANK ID: 3004522294A

SECTION 35, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 1



bp

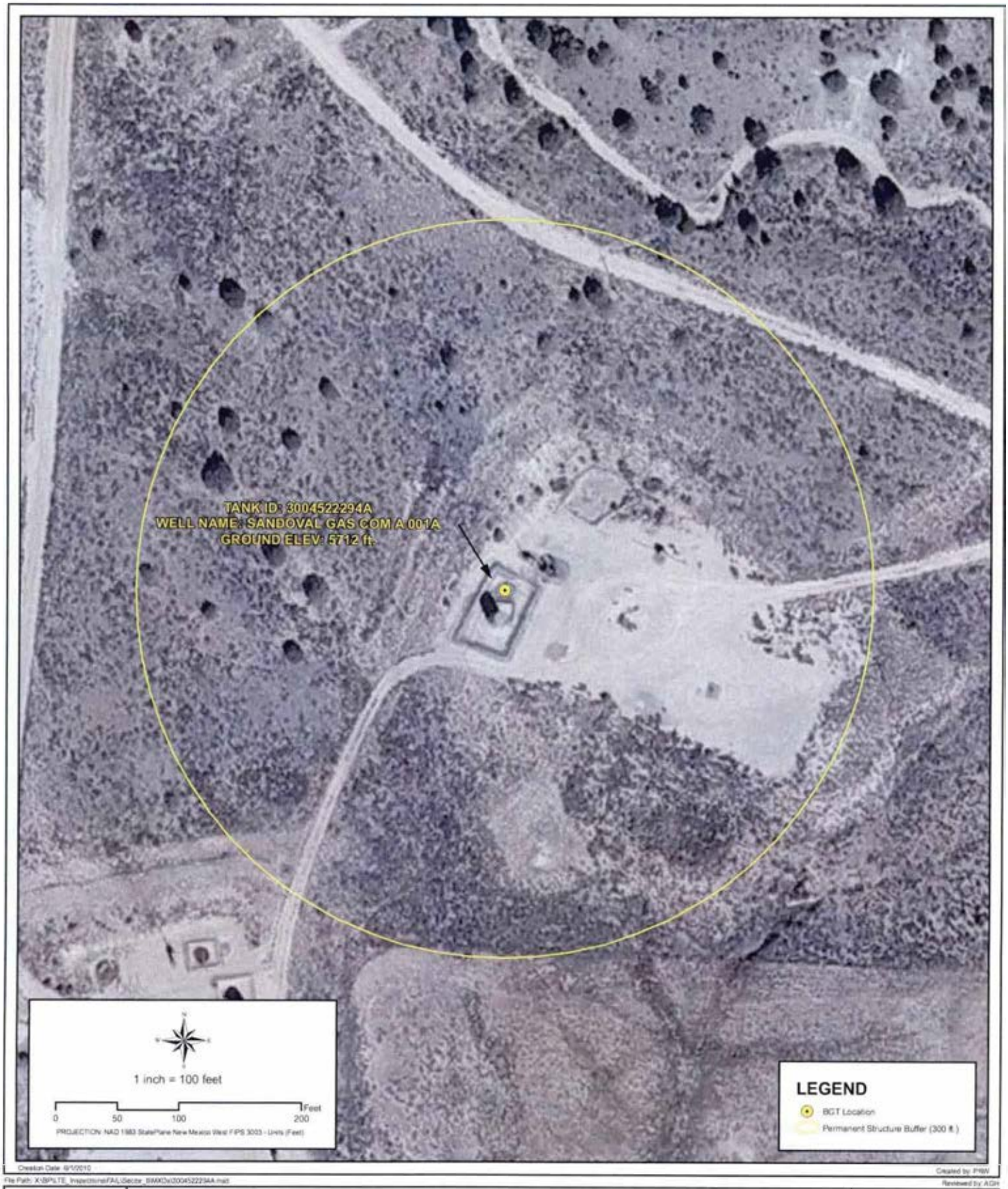
PROXIMITY TO WATERCOURSES

WELL NAME: SANDOVAL GAS COM A 001A

API NUMBER: 3004522294 TANK ID: 3004522294A

SECTION 35, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 2



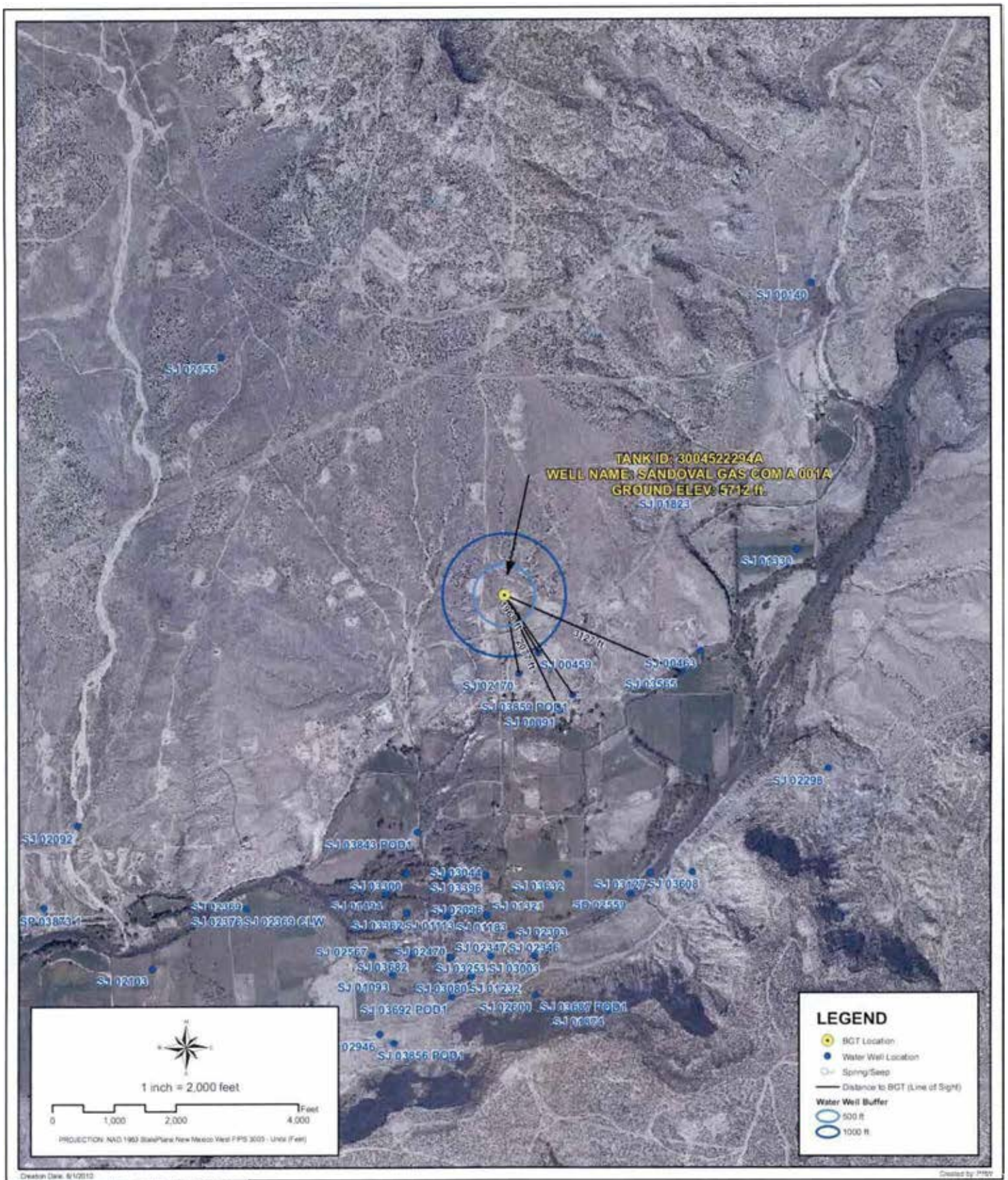
PROXIMITY TO PERMANENT STRUCTURE

WELL NAME: SANDOVAL GAS COM A 001A

API NUMBER: 3004522294 TANK ID: 3004522294A

SECTION 35, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 3



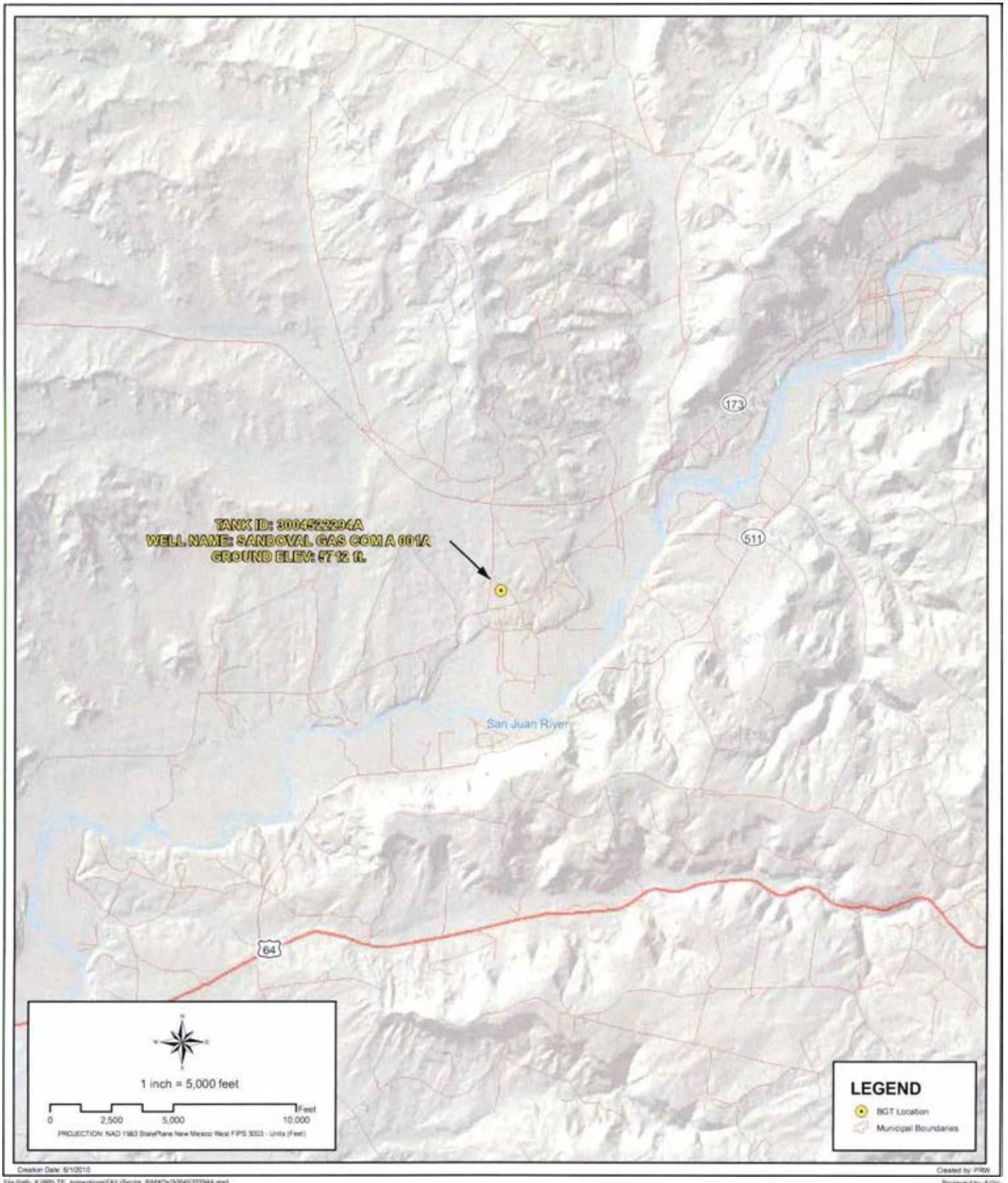
PROXIMITY TO WATER WELLS

WELL NAME: SANDOVAL GAS COM A 001A

API NUMBER: 3004522294 TANK ID: 3004522294A

SECTION 35, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 4



bp

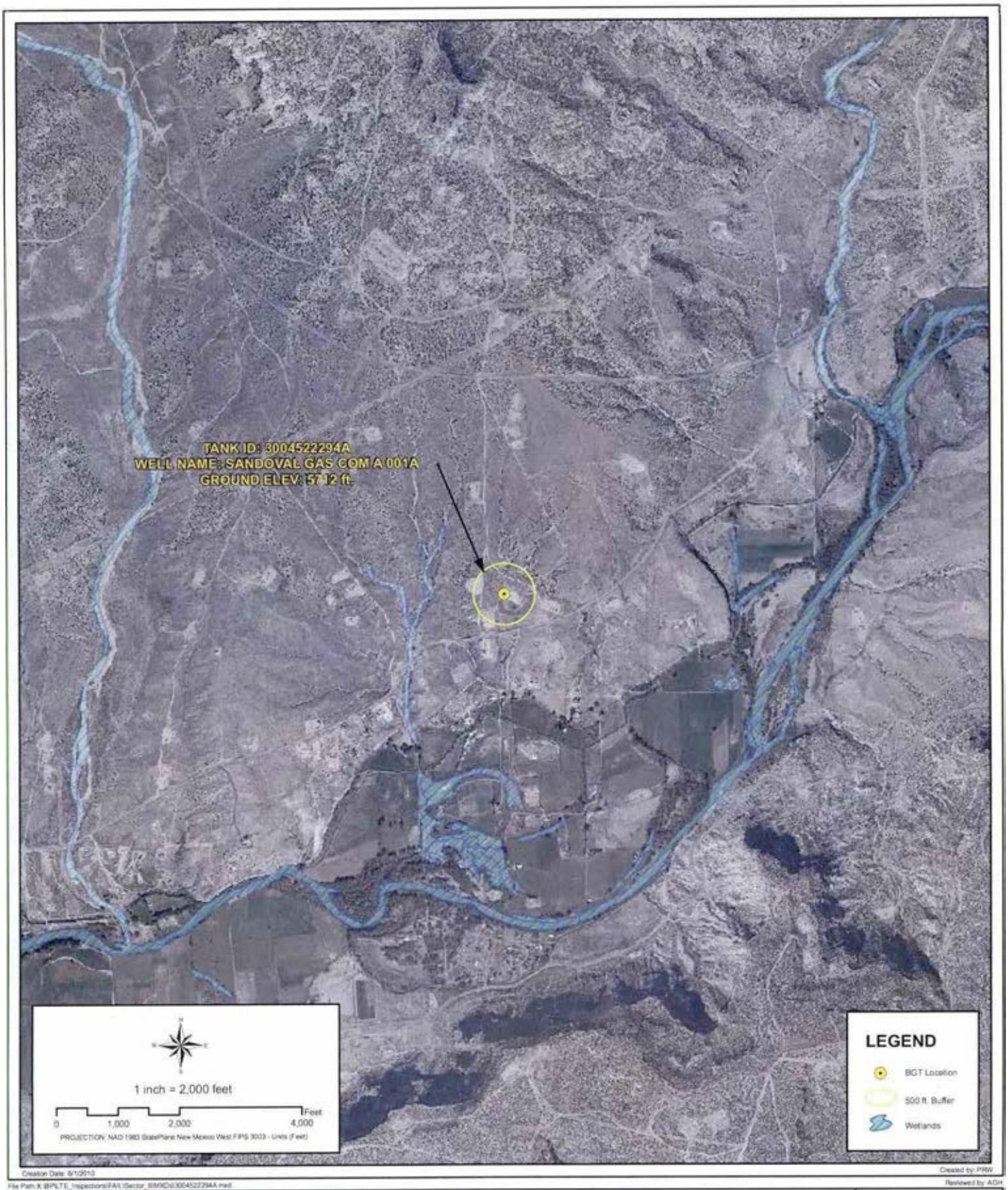
PROXIMITY TO MUNICIPAL BOUNDARY

WELL NAME: SANDOVAL GAS COM A 001A

API NUMBER: 3004522294 TANK ID: 3004522294A

SECTION 35, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 5



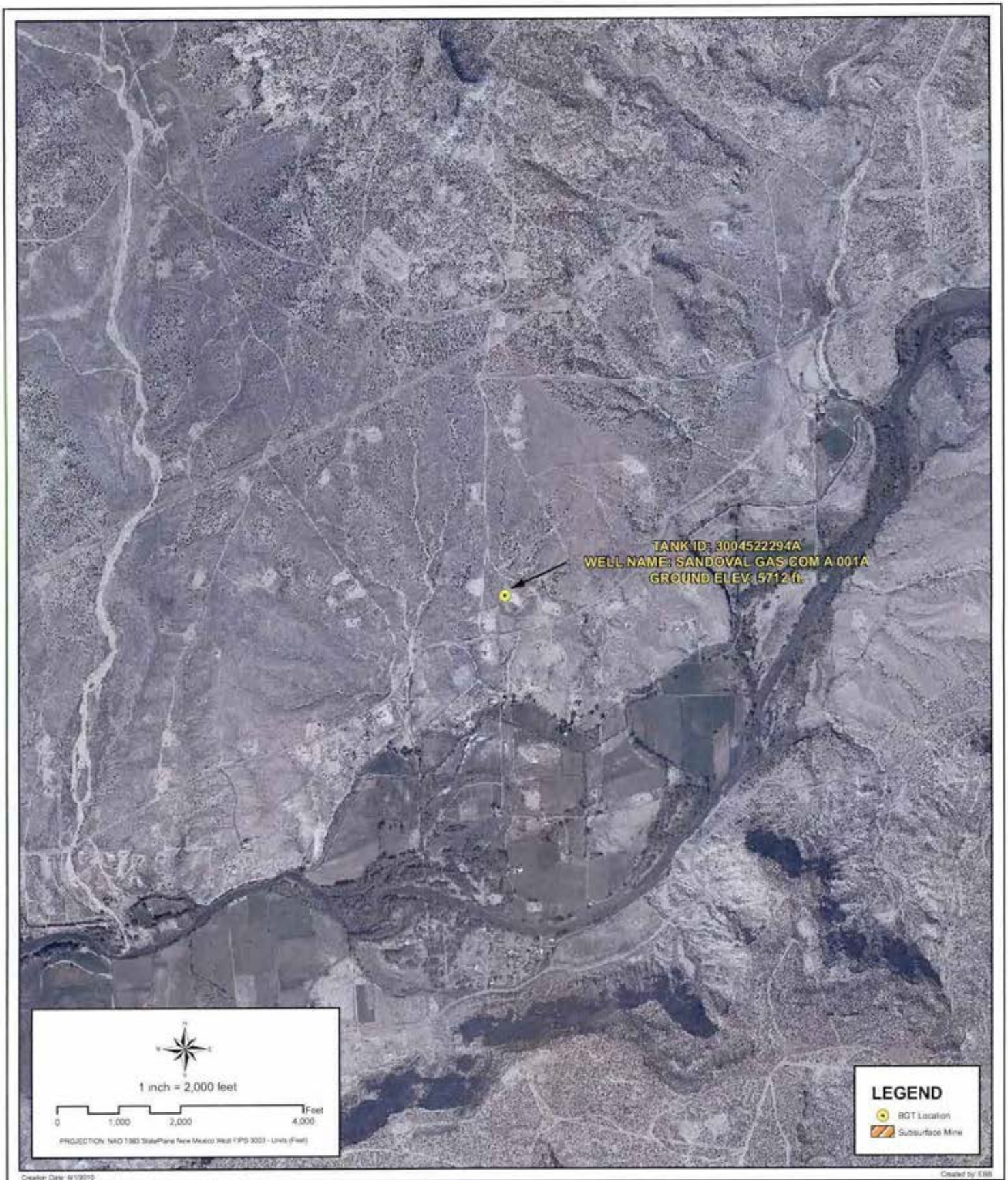
PROXIMITY TO WETLANDS

WELL NAME: SANDOVAL GAS COM A 001A

API NUMBER: 3004522294 TANK ID: 3004522294A

SECTION 35, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 6



bp

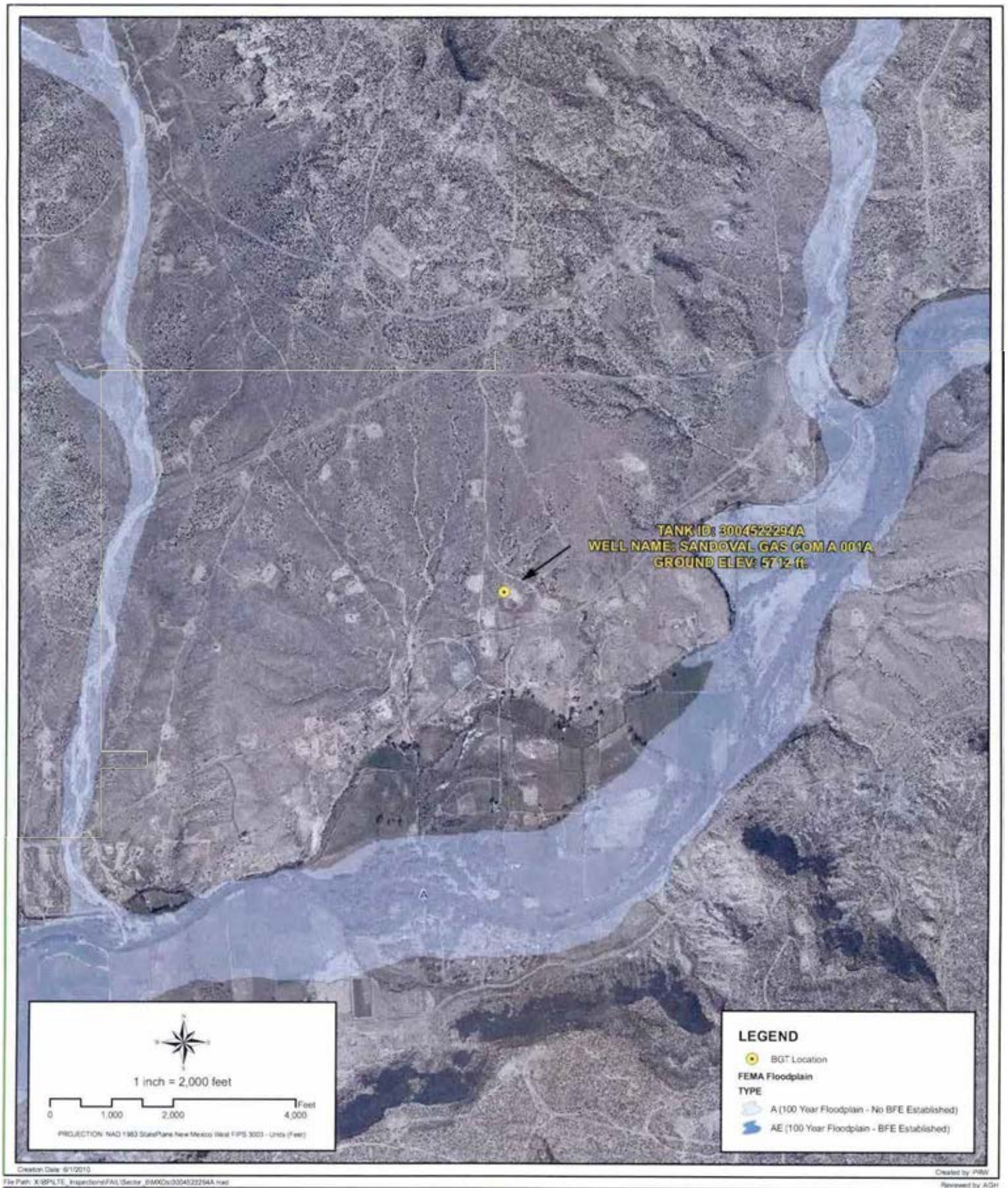
PROXIMITY TO SUBSURFACE MINES

WELL NAME: SANDOVAL GAS COM A 001A

API NUMBER: 3004522294 TANK ID: 3004522294A

SECTION 35, TOWNSHIP 30.0N, RANGE 09W, P.M.NM23

FIGURE 7



bp

PROXIMITY TO FLOODPLAIN

WELL NAME: SANDOVAL GAS COM A 001A

API NUMBER: 3004522294 TANK ID: 3004522294A

SECTION 35, TOWNSHIP 30.0N, RANGE 09W, P.M. NM23

FIGURE 8

SOUTHERN SAN JUAN BASIN (SSJB)

Figure Citation List

March 2010

Figure 1: Groundwater Less Than 50 ft.

Layers:

Water Wells: **iWaters Database: NMOSE/ISC (Dec. 2009)**

New Mexico Office of the State Engineer (OSE) /ISC iWaters database. (Data updated: 12/2009. Data received: 03/09/2010). Data available from: http://www.ose.state.nm.us/waters_db_index.html.

Cathodic Wells: **Tierra Corrosion Control, Inc. (Aug. 2008)**

Tierra Corrosion Control, Inc. 1700 Schofield Ln. Farmington, NM 87401. Driller's Data Log. (Data collected: All data are associated with cathodic protection wells installed at BP facilities between 2008-2009. Data received: 05/06/2010).

Hydrogeological Evaluation: **Wright Water Engineers, Inc. (2008)**

Evaluation completed by Wright Water Engineers, Inc. Durango Office. Data created using digital statewide geology at 1:500,000 from USGS in combination with 10m Digital Elevation Model (DEM) from NRCS. (Data compiled: 2008.)

Results: Spatial Polygons representing "Groundwater likely to be less than 50 ft." and "Groundwater suspected to be less than 50 ft.".

Surficial Geology: **USGS (1963/1987)**

Data digitized and rectified by Geospatial Consultants. (Data digitized: 03/23/ 2010). Original hard copy maps sourced from United States Geological Survey (USGS). Data available from: http://pubs.er.usgs.gov/.

Geology, Structure and Uranium Deposits of the Shiprock Quadrangle, New Mexico and Arizonia. 1:250,000. I - 345. Compiled by Robert B. O'Sullivan and Helen M. Beikman. 1963.

Geologic Map of the Aztec 1 x 2 Quadrangle, Northwestern New Mexico and Southern Colorado. 1:250,000. I - 1730. Compiled by Kim Manley, Glenn R. Scott, and Reinhard A. Wobus. 1987.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name: NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 2: Proximity to Watercourses

Layers:

Perennial Streams: **NHD, USGS (2010)**

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital Representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

Intermittent Streams: **NHD, USGS (2010)**

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital Representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

Water Bodies: **NHD, USGS (2010)**

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

USGS Topographic Maps: **USGS (2007)**

USGS 24k Topographic map series. 1:24000. Maps are seamless, scanned images of USGS paper topographic maps. Data available from: http://store.usgs.gov.

Figure 3: Proximity to Permanent Structure

Layers:

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name: NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 4: Proximity to Water Wells

Layers:

Water Wells: **iWaters Database: NMOSE/ISC (Dec. 2009)**

New Mexico Office of the State Engineer (OSE) /ISC iWaters database. (Data updated: 12/2009. Data received: 03/09/2010). Data available from: http://www.ose.state.nm.us/waters_db_index.html.

Springs/Seeps: **NHD, USGS (2010)**

National Hydrography Dataset (NHD). U.S. Geological Survey. (Data last updated: 02/19/2010. Data received: 03/09/2010). High-resolution: 1:24,000. Digital representation of USGS 24k Topographic map series with field updates as required. Data available from: http://nhd.usgs.gov/.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name: NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 5: Proximity to Municipal Boundary

Layers:

Municipal Boundary: **San Juan County, New Mexico (2010)**

Data provided by San Juan County GIS Division. (Data received: 03/25/2010).

Shaded Relief: **NED, USGS (1999)**

National Elevation Dataset (NED). U.S. Geological Survey, EROS Data Center. (Data created: 1999. Data downloaded: April, 2010). Resolution: 10 meter (1/3 arc-second). Data available from: http://ned.usgs.gov/.

StreetMap North America: **Tele Atlas North America, Inc., ESRI (2008)**

Data derived from Tele Atlas Dynamap/Transportation North America, version 5.2. (Data updated: annually. Data series issue: 2008).

Figure 6: Proximity to Wetlands

Layers:

Wetlands: **NWI (2010)**

National Wetlands Inventory (NWI). U.S Fish and Wildlife Service. (Data last updated: 09/25/2009. Data received: 03/21/2010). Data available from: http://www.fws.gov/wetlands/.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name:
NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 7: Proximity to Subsurface Mine

Layers:

Subsurface Mine: **NM Mining and Minerals Division (2010)**

New Mexico Mining and Minerals Division. (Data received: 03/12/2010). Contact: Susan Lucas Kamat, Geologist. Provided PLSS NM locations (Sections) for the two subsurface mines located in San Juan and Rio Arriba counties.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery. Projected coordinate system name:
NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

Figure 8: Proximity to FEMA Floodplain

Layers:

FEMA Floodplain: **FEMA (varying years)**

Data digitized and rectified by Wright Water Engineers, Inc. (Data digitized: August 2008).
Digitized from hard copy Flood Insurance Rate Maps (FIRMs) (varying years) of San Juan County.

Aerial Imagery: **Conoco (Summer 2009)**

ConocoPhillips Company. (Flown: Summer 2009). 12 in. High Resolution Orthoimagery.
Projected coordinate system name:
NAD_1983_StatePlane_New_Mexico_West_FIPS_3003_Feet.

Provided as tiled .tiff images and indexed using polygon index layer.

BP AMERICA PRODUCTION COMPANY

San Juan Basin in Northwest New Mexico
Below-Grade Tank Design and Construction Plan

Pursuant to Rule 19.15.17.11 NMAC, BP America Production Company (BP) shall construct a below-grade tank (BGT) or modify an existing permitted BGT according to the following plan. Any deviations from this plan will be addressed on the New Mexico Oil Conservation Division's (NMCOD) form C-144 at the time of submittal.

Design and Construction Plan

1. BP will design and construct a BGT which will be constructed to contain liquids and prevent contamination of fresh water and protect public health and the environment.

2. BP is the well operator and shall install and maintain a well sign that is in compliance with 19.15.16.8 NMAC. The sign will be posted at the well site to address, at a minimum;
   a. Well Number
   b. Property name
   c. Operators name
   d. Location by footage, quarter-quarter section, township and range (or unit letter)
   e. API number
   f. Emergency contact information

3. BP will fence or enclose its BGTs in a manner that prevents unauthorized access and shall maintain its fence in good repair.

4. BP will fence or enclose a BGT located within 1,000 feet of a permanent residence, school, hospital, institution or church with, at a minimum a chain link security fence at least six (6) feet in height with at least two (2) strands of barbed wire at the top. BP will ensure that all gates associated with the fence are closed and locked when responsible personnel are not on-site.

5. BP is requesting NMOCD's approval for an alternative fence design that provides, at a minimum, equivalent protection to the design specified in Paragraph 3 of Subsection D of 19.15.17.11 NMAC for BGTs beyond the stated distance in paragraph 4 of this document. BP's proposed design for its BGTs will utilize 48" steel mesh field-fence (hogwire) with a metal or steel top rail. Perimeter T-post will be installed roughly every 10 feet.

6. BP will construct an expanded metal covering that completely covers the top of the BGT. The covering will be constructed such that it will prevent hazardous conditions to wildlife, including migratory birds

7. BP shall construct the BGT of materials that are resistant to produced water, any contained liquids, and damage from sunlight. BP's BGTs will be constructed of carbon steel that meets the requirements of ASTM A36.

8. BP's BGTs shall have a properly constructed earthen foundation consisting of a level base free of rocks, debris, sharp edges, or irregularities as to prevent punctures, cracks or indentations to the tank bottom as demonstrated on the design drawing.

9. BP will construct and operate the BGT to prevent surface water run-on by using both earthen

berms and leaving a portion of the BGT above the original grade as demonstrated on the design drawing.

10. BP will construct and operate the BGT to prevent overflow and overfilling of the BGT. Overflow will be prevented by use of an electronic high fluid level detector that will automatically engage an electronic shut-off valve when a 1 foot freeboard is reached. The Hi-level automatic alarm notifies well optimizers when liquid level has reached within a pre-set distance to the top of the BGT. The Hi Hi alarm will trigger the Hi-level automatic shutdown valve which will close in the well until the liquid level can be lowered.

11. BP will construct and install a double-walled tank design per Subparagraph (b) of Paragraph (4) of Subsection I of19.15.17.11 NMAC with a two (2) inch diameter leak detection port. The floor supports located in the annular space of the tank bottom will be channeled to allow outward movement of liquid between the walls. Leak detection will be monitored per BP's Operating and Maintenance Plan. The walls of the BGT will be constructed of carbon steel that meets the ASTM A36 standard. BP's BGT design will insure containment of tank contents and protect underlying groundwater. The production equipment line drain is an automated drain that allows water level in production equipment (generally the separator) to be maintained within the equipment's operating parameters. The environmental drain is a manually operated drain that is used to drain liquids off of equipment. The tank drain is a manually operated drain, typically in the closed position that is used to rid the condensate tank of any water accumulation. The vent drain is a manually operated drain off the discharge of production equipment (usually the separator) and is used to blowdown the wellsite. The swab drain line is a manually operated drain originating between the wellhead and separator and is used during well workovers when large amounts of liquid are removed from the well and sent straight to the BGT.

12. BP owned and operated BGTs that were constructed and installed prior to June 16, 2008 that do not meet all the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC and are not included in Paragraph (6) of Subsection I of 19.15.17.11 NMAC are not required to equip or be retrofit to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC so long as the BGT demonstrates integrity. If the existing BP BGT does not demonstrate integrity, BP shall promptly remove the BGT and install a BGT that complies with the BP NMOCD approved BGT design attached to the Design and Construction Plan. BP shall comply with the operational requirements of 19.15.17.12 NMAC.

13. BP owned and operated BGTs that were constructed and installed prior to June 16, 2008 that are single walled and where any portion of the tank side wall is below ground surface and not visible shall be retrofit or replaced to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or shall be closed within 5 years of June 16, 2008. If the existing BP owned and operated BGT does not demonstrate integrity, BP shall promptly remove the BGT and install a BGT that complies with the BP NMOCD approved BGT design attached to the Design and Construction Plan. BP shall comply with the operational requirements of 19.15.17.12 NMAC.

14. The general specifications for the design and construction of the BGT have been provided in the attached BP design and construction schematic.

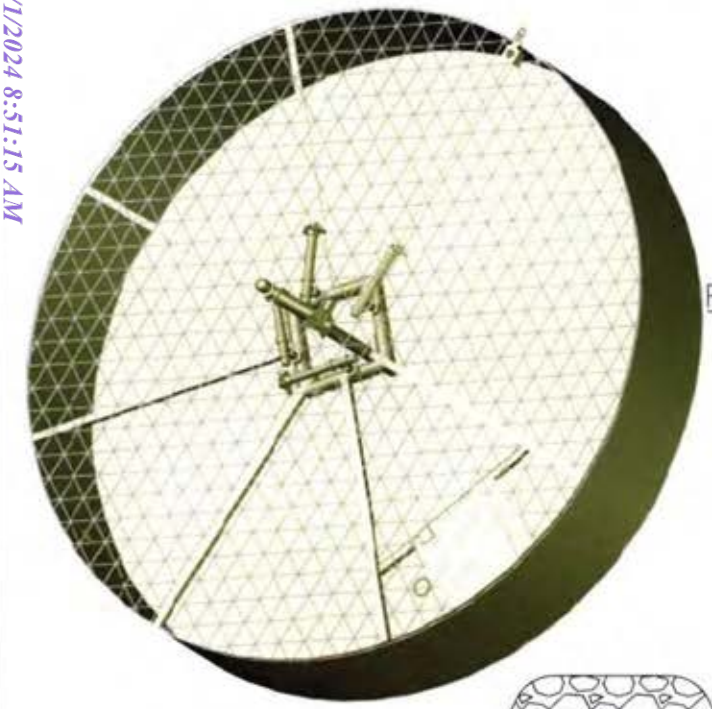
DOUBLE WALLED BGT

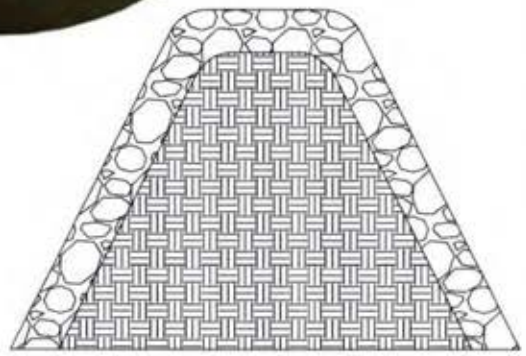
MANUAL OPERATION

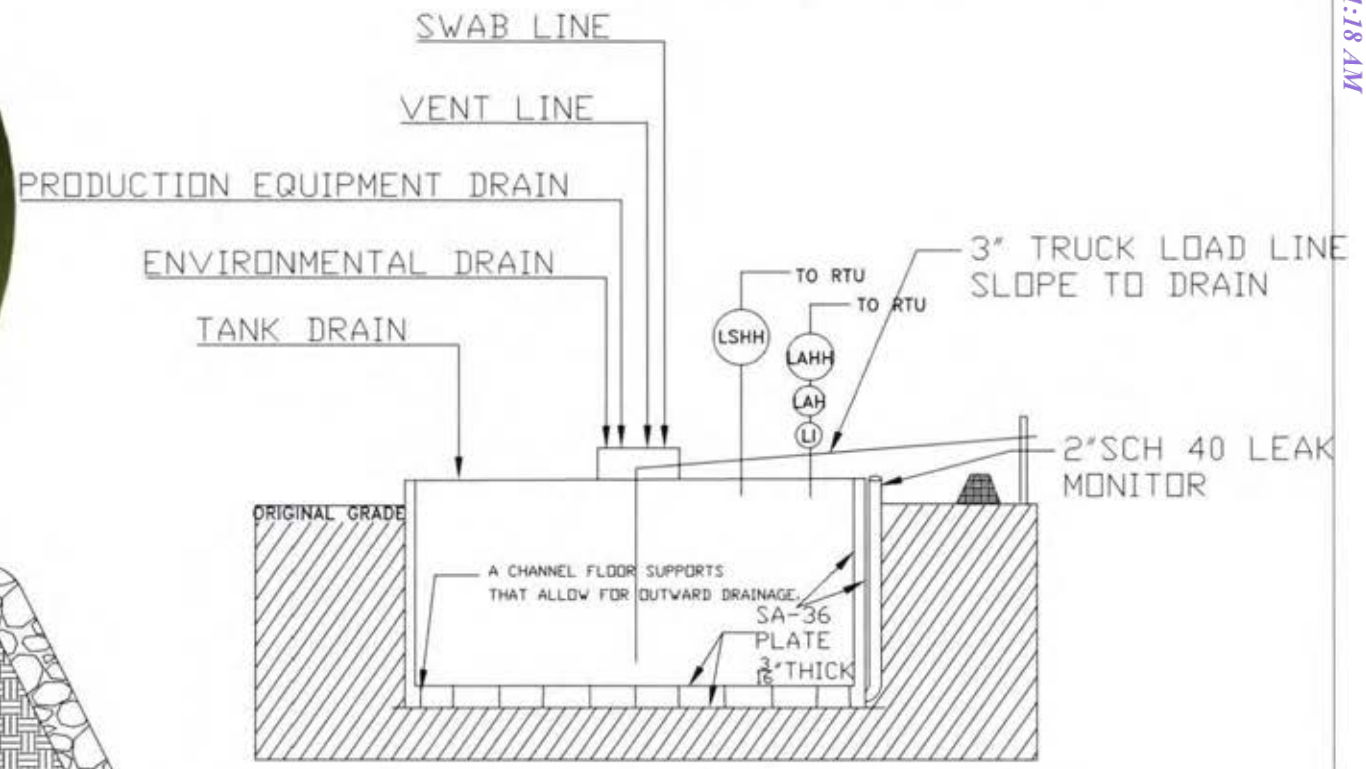
1.) PRODUCTION TANK DRAIN LINE
2.) SWAB LINE
3.) ENVIRONMENTAL DRAIN

AUTOMATED OPERATION

1.) VENT LINE DRAIN LINE
2.) SEPARATOR DRAIN LINE
3.) AUTOMATIC SHUT OFF LSHH ACTIVATES AT 12" FROM TOP OF TANK.







PROPERLY CONSTRUCTED FOUNDATION CONSISTING OF A LEVEL BASE FREE OF ROCKS, DEBRIS, SHARP EDGES OR IRREGULARITIES TO PREVENT PUNCTURES CRACKS OR INDENTATIONS TO THE TANK BOTTOM.

bp

SAN JUAN OPERATIONS CENTER
FARMINGTON, NEW MEXICO
BP AMERICA PRODUCTION COMPANY

FACILITIES LAYOUT

DOUBLE WALLED BELOW GRADE TANK

BP AMERICA PRODUCTION COMPANY

San Juan Basin in Northwest New Mexico
Below-Grade Tank Operating and Maintenance Plan

Pursuant to Rule 19.15.17.12 NMAC, BP America Production Company (BP) shall maintain and operate a below-grade tank (BGT) with the following requirements. Deviations from this plan will be addressed with a submittal to the New Mexico Oil Conservation Division's (NMOCD) using form C-144 at the time of the BGT permit or modification to an existing permitted BGT application.

Operating and Maintenance Plan

1. BP's BGTs will be operated and maintained to contain liquids and solids and promptly identify a release or potential release. BP's BGTs will be operated and maintained to prevent contamination to freshwater and protect public health and the environment. BP will use automated high fluid level alarms and automated shut-off valves to insure that liquids are contained within the vessel and that the vessel does not overflow. These alarms and shut-off valves will be consistent with those demonstrated in the design plan. BP will perform and document inspections of the BGTs on a monthly basis to confirm the integrity of the vessel.

2. BP will not knowingly discharge or store any hazardous waste into a BGT

3. If a BGT develops a leak, or a release occurs due to mechanical failure or vandalism, or if a penetration of the BGT occurs below the liquid's surface, BP shall: 1) evacuate liquids from the BGT to a level below the damage or leak line within 48 hours; and 2) notify the NMOCD's District III office within 48 hours of the discovery. BP will review #4 of the BP Operating and Maintenance plan prior to any repair or replacement to determine if the BGT and location will require closure. If appropriate BP shall repair or replace the BGT with the BP NMOCD approved design. If a release from the BGT occurs BP shall follow the release reporting procedures of 19.15.29 NMAC. If closure of the BGT is required, BP shall implement the approved closure plan for the BGT.

4. If a BP operated BGT that was constructed and installed prior to June 16, 2008 that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC does not demonstrate integrity or if the BGT develops any of the conditions identified in Paragraph (5) of Subsection A of 19.15.17.12 NMAC, BP shall close the existing BGT pursuant to the closure requirements of 19.15.17.13 NMAC and will install a BGT that complies with BP NMOCD approved BGT design attached to the Design and Construction Plan.

5. If a BP operated BGT that was constructed and installed prior to June 16, 2008 that does not comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC is equipped or retrofit to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, BP shall visually inspect the area beneath the BGT during the retrofit and shall document any areas that are wet, discolored or showing other evidence of a release on Form C-141. BP shall demonstrate to the division whether evidence of contamination indicates that an imminent threat to fresh water, public health, safety or the environment exists. If the division

6. BP will install and construct the BGT following the BP NMOCD approved Design and Construction Plan, and will control surface water run on by the use of a berm or leaving a portion of the tank wall exposed. BP will use high level shot-off devices to insure that the BGT does not overflow.

7. The following requirements adhere to Subsection D of 19.15.17.12 NMAC.

    a. BP will remove any visible or measurable layer of oil from the fluid surface of the BGT.
    b. BP will inspect the BGT monthly. The monthly inspection will consist of the following:
        i. Personnel will conduct a walk-around of the BGT to observe any abnormalities or signs of corrosion on the vessel. Personnel will inspect the surface run-on berm. Where applicable, inspection of the BGT's double wall – double bottom inspection port, tank flanges and valves for signs of leakage or spills will be conducted. Personnel will record any BGT deficiencies, repair as necessary and report to BP Dispatch Office immediately if an imminent danger to fresh water, public heath, or to the environment is observed. BP will maintain a written record of the monthly inspections on the BP inspection from referred to as the San Juan Lease Inspection Form. BP will maintain these written records for at least five (5) years. A copy of the San Juan Lease Inspection Form is attached.

8. BP will maintain sufficient freeboard of one foot in the BGT to prevent overtopping.

Managed Form NOP-5878 Revision 1

San Juan Lease Inspection

Custodian: Field Environmental Coordinator

Date: **Run:** ***Location:*** ***Name of Inspector:***

Yes	Action	N/A	
			Required Signs
			Does location have Well Sign and emergency phone number?
			Do compressor engines have Hearing Protection signs?
			Hydrogen Sulfide Signs (where applicable)
			Chemical containers and tanks have proper Hazcom label or BP Multi-Product Hazcom numbers?
Yes	Action	N/A	**Location- General**
			Housekeeping satisfactory?
			Tripping or falling hazards are absent? **If NO, identify and report to FSC.**
			Rig anchors/Deadmen adequately marked and visible if they present a hazard to drivers?
			Driving hazards such as risers are marked or flagged?
			Painting meets safety standards?
			Cattleguards/gates properly maintained?
			Tarps in good repair?
			Seeps, drips, or leaks are absent?
			Is weed control adequate?
			Stains on ground are absent? **If NO, remediate immediately, identify and report to FEC.**
			Are there any open ended valves that are not plugged?
Yes	Action	N/A	**Vessel/Tank**
			Adequate fencing around below grade tank?
			Are the dike/berm walkover in place, used and stable?
			Are dikes/berms in good condition?
			Is there adequate and safe access to pit for gauging?
			Does the pit have a high level alarm?
			Are stairways and catwalks properly maintained and in good condition?
			Toprail, midrail and toeboard in place?
			Are thief hatches in good condition, seal properly, and in the closed position?
			Is tank vent line equipped with a PV valve? (Enardo)
			Does the tank have a high level alarm?
			Are open ended load lines and pipes capped?
			Is soil around load lines clean of oil stains?
			Is tank area free of any evidence of seeps or leaks (including manway cover)?
			Are there proper seals on sales and drain valves?
			Are all suspected dump lines well supported?
			Are above ground dump lines marked with t-posts and plastic covers?
			Have all fiberglass drip pits been removed?
Yes	Action	N/A	**Treaters/Separators/Compressors/Pump Jacks**
			If there is a block valve upstream of the relief valve, is the block valve secured in the open position?
			Are relief valve discharge and blow downs piped to a safe area and secured against movement?
			Has flame arrestor been inspected within the last 5 years?
			Is flame port closed?
			Do all lines pass through a super muffler or swirl pot to the pit/tank? If not, are all lines secured?
			Is starting gas vented to a safe area, at least 10' vertically?
			No excessive vibration, knocking or unusual noises anywhere on unit or piping?
			Are site glasses in operating condition?
			Are environmental rails piped to a pit in a dedicated line?
			Do all blow downs, relief valve discharges, and risers have rain caps?
			Stuffing box leaks are absent?
			Are the weight guards and belt guard in place?
			Are skids in good condition?
			Are concrete bases / foundations in good condition?
			Are concrete bases free from erosion or settlement problems?
			Is secondary containment in place for day tanks?

Comments:

Signature of Inspector:

My signature assures that this location is SAFE, is in compliance with the LAW, and exhibits high standards of Pride, Ownership and Excellence.

BP AMERICA PRODUCTION COMPANY
SAN JUAN BASIN, NORTHWEST NEW MEXICO

BELOW-GRADE TANK CLOSURE PLAN

This plan will address the standard protocols and procedures for closure of below-grade tanks (BGTs) on BP America Production Company (BP) well sites. As stipulated in Paragraph A of 19.15.17.13 NMAC, BP shall close a BGT within the time periods provided in 19.15.17.13 NMAC, or by an earlier date that the New Mexico Oil Conservation Division (NMOCD) requires because of imminent danger to fresh water, public health, safety or the environment. If deviations from this plan are necessary, any specific changes will be included on form C-144 and approved by the NMOCD. BP shall close an existing BGT that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I of 19.15.17.11 NMAC within five years after June 16, 2008, if not retrofit with a BGT that complies with the BP NMOCD approved BGT design attached to the BP Design and Construction Plan. BP shall close an existing BGT that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, if not previously retrofitted to comply with the BP NMOCD approve BGT Design attached to the BP Design and Construction Plan, prior to any sale or change in operator pursuant to 19.15.9.9 NMAC. BP shall close the permitted BGT within 60 days of cessation of the BGTs operation or as required by the transitional provisions of Subsection B, D, or E of 19.15.17.17 NMAC.

General Closure Plan

1. BP shall notify the surface owner by certified mail that it plans to close a BGT. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records demonstrates compliance with this requirement.
2. BP shall notify the division District III office verbally or by other means at least 72 hours, but not more than one (1) week, prior to any closure operation. The notice shall include the operator's name, and the location to be closed by unit letter, section, township and range. If the BGT closure is associated with a particular well, then the notice shall also include the well's name, number and API number.
3. BP shall remove liquids and sludge from the BGT prior to implementing a closure method and dispose of the liquids and sludge in a NMOCD's division-approved facility. The facilities to be used are:
    a. BP Crouch Mesa Landfarm, Permit NM-02-003 (Solids)
    b. JFJ Landfarm, Permit NM-01-010(B) (Solids and Sludge)
    c. Basin Disposal, Permit NM-01-0005 (Liquids)
    d. Envirotech Inc Soil Remediation Facility, Permit NM-01-0011 (Solids and Sludge)
    e. BP Operated E.E. Elliott SWD #1, API 30-045-27799 (Liquids)
    f. BP Operated 13 GCU SWD #1, API 30-045-28601 (Liquids)
    g. BP Operated GCU 259 SWD, API 30-045-20006 (Liquids)
    h. BP Operated GCU 306 SWD, API 30-045-24286 (Liquids)
    i. BP Operated GCU 307 SWD, API 30-045-24248 (Liquids)
    j. BP Operated GCU 328 SWD, API 30-045-24735 (Liquids)
    k. BP Operated Pritchard SWD #1, API 30-045-28351 (Liquids)

4. BP shall remove the BGT and dispose of it in a NMOCD approved facility or recycle, reuse, or reclaim it in a manner that the NMOCD approves. If a liner is present and must be disposed of it will be cleaned by scraping any soils or other attached materials on the liner to a de minimus amount and disposed at a permitted solid waste facility, pursuant to Subparagraph (m) of Paragraph (1) of Subsection C of 19.15.35.8 NMAC. Documentation as to the final disposition of the removed BGT will be provided in the final closure report.
5. BP shall remove any on-site equipment associated with a BGT unless the equipment is required for well production.
6. BP shall test the soils beneath the BGT to determine whether a release has occurred. BP shall collect at a minimum: a five (5) point composite sample and individual grab samples from any area that is wet, discolored or showing other evidence of a release and analyze for BTEX, TPH and chlorides. The testing methods for those constituents are as follows;

Constituents	Testing Method	Release Verification (mg/Kg)
Benzene	US EPA Method SW-846 8021B or 8260B	0.2
Total BTEX	US EPA Method SW-846 8021B or 8260B	50
TPH	US EPA Method SW-846 418.1	100
Chlorides	US EPA Method 300.0 or 4500B	250 or background

Notes: mg/Kg = milligram per kilogram, BTEX = benzene, toluene, ethylbenzene, and total xylenes, TPH = total petroleum hydrocarbons. Other EPA methods that the division approves may be applied to all constituents listed. Chloride closure standards will be determined by which ever concentration level is greatest.

7. BP shall notify the division District III office of its results on form C-141.
8. If it is determined that a release has occurred, then BP will comply with 19.15.30 NMAC and 19.15.29 NMAC, as appropriate.
9. If the sampling demonstrates that a release has not occurred or that any release does not exceed the concentrations specified above, then BP shall backfill the excavation, with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover, re-contour and re-vegitate the location. The location will be reclaimed if it is not with in the active process area.
10. BP shall reclaim the BGT location and all areas associated with the BGT including associated access roads to a safe and stable condition that blends with the surrounding undisturbed area. BP shall substantially restore the impacted surface area to the condition that existed prior to oil and gas operations by placement of the soil cover as provided in Subsection H of 19.15.17.13 NMAC, re-contour the location and associated areas to a contour that approximates the original contour and blends with the surrounding topography and re-vegetate according to Subsection I of 19.15.17.13 NMAC.
11. The soil cover for closures where the BGT has been removed or remediated to the NMOCD's satisfaction shall consist of the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater. The soil

12. BP shall seed the disturbed area the first growing season after closure of the BGT. Seeding will be accomplished by drilling on the contour whenever practical or by other division-approved methods. Vegetative cover will be, at a minimum, 70% of the native perennial vegetative cover (un-impacted by overgrazing, fire or other intrusion damaging to native vegetation), consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintenance of that cover through two successive growing seasons. During the two growing seasons that prove viability, there shall be no artificial irrigation of the vegetation.
13. BP shall seed, plant and re-seed pursuant to Paragraph (3) of Subsection I of 19.15.17.13 NMAC, until the location successfully achieves the required vegetative cover.
14. Pursuant to Paragraph (5) of Subsection I of 19.15.17.13 NMAC, BP shall notify the NMOCD when it has seeded or planted and when it successfully achieves re-vegetation.
15. Within 60 days of closure completion, BP shall submit a closure report on NMOCD's form C-144, and will include the following;
    a. proof of closure notification (surface owner and NMOCD)
    b. sampling analytical reports; information required by 19.15.17 NMAC;
    c. disposal facility name and permit number
    d. details on back-filling, capping, covering, and where applicable re-vegetation application rates and seeding techniques and
    e. site reclamation, photo documentation.Disposal Facility Name and Permit Number
16. BP shall certify that all information in the report and attachments is accurate, truthful, and compliant with all applicable closure requirements and conditions specified in the approved closure plan.

ATTACHMENT G - EPCGP Soil Boring Logs and Well Construction Diagrams

Stantec

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole #
Well # MW-1
Page of

Project Name: EPFS GW Pits
Project Number: Phase 6002
Project Location: Sandoval A1A 89620

Elevation:
Borehole Location: Approximate Center of OHPit
GWL Depth:
Logged By: S. Pope
Drilled By: M. Donahue
Date/Time Started: 0945 8/22/97
Date/Time Completed: 1300 8/22/97

Well Logged By: S. Pope
Personnel On-Site: C. Gomez
Contractors On-Site:
Client Personnel On-Site:
Drilling Method: HSA 6 1/4 ID
Air Monitoring Method: PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ	BH	S	Drilling Conditions & Blow Counts
0–28			Cuttings	Brown SAND w/ some clay Moist, Loose Backfill from excavation. TO ≈ 28'						– Driller [illegible] [illegible]
28–36				Brown SAND trace clay Abundant cobbles, Moist Hard		29; ∇ 31.5				– Abundant cobble very [illegible] drilling; water @ 31.5
				TOB 36.0						

Comments: Extremely difficult Drilling Could only get to 36.0' will set @ 36'

Geologist Signature: [signature]

MONITORING WELL INSTALLATION RECORD

Phillip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # _____
Well # MW-1
Page ___ of ___

Project Name LPF's GW Pits
Project Number 17520 Phase 6002
Project Location SANDOVAL AIA

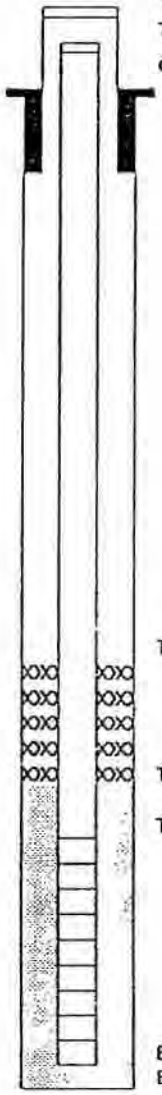
Elevation _____
Well Location Approximate Center of Original Pit
GWL Depth 31.5
Installed By M. Donohue

On Site Geologist S. Pope
Personnel On-Site C. Gomez
Contractors On-Site _____
Client Personnel On-Site _____

Date/Time Started 1300 8/22/97
Date/Time Completed 1500 8/22/97

Depths in Reference to Ground Surface

Item	Material	Depth
Top of Protective Casing		
Bottom of Protective Casing		
Top of Permanent Borehole Casing		
Bottom of Permanent Borehole Casing		
Top of Concrete		
Bottom of Concrete		
Top of Grout		
Bottom of Grout		
Top of Well Riser	4" Sch 40 PVC	+2.6
Bottom of Well Riser		25.75
Top of Well Screen	4" Sch 40 PVC	25.75
Bottom of Well Screen	.010 SLOT	35.9
Top of Peltonite Seal	3/8" Hole Plug	19.0
Bottom of Peltonite Seal		23.0
Top of Gravel Pack	10-20 Silica	23.0
Bottom of Gravel Pack		35.9
Top of Natural Cave-In		—
Bottom of Natural Cave-In		—
Top of Groundwater		31.5
Total Depth of Borehole		35.9



Top of Protective Casing _____
Top of Riser 2.6
Ground Surface 0

Top of Seal 19.0
Top of Gravel Pack 23
Top of Screen 25.75
Bottom of Screen 35.9
Bottom of Borehole 35.9

Comments: Sand Bridged in Auger hole to 26.5' Used 3-10 gallons water. Used 9.5 BAG SAND (50#). 2.50# Bags Hole Plug, 3 BAGS PORTLAND, 1/4 BAG Bentonite Powder. WL After Install in 32.6 BGS

Geologist Signature S. Pope

Drilling Log

MWH

Monitoring Well **MW-2**

Page: 1 of 2

Project *Sandoval GC A#1A* Owner *El Paso Remediation Company*

Location *San Juan County, New Mexico* Project Number *10508033.0102*

Surface Elev. *5715.27 ft* North *NA* East *NA*

Top of Casing *5717.56 ft* Water Level Initial ▽ *0* Static ▼ *5682.25*

Hole Depth *45.0ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *26.5 ft* Type *PVC*

Drill Co. *National EWP* Drilling Method *See Comment* Sand Pack *12/20 Silica Sand*

Driller *Matt Cain* Driller Reg. # *WD 1210* Log By *Brad Barton*

Start Date *10/20/2015* Completion Date *11/5/2015* Checked By *S. Varsa*

COMMENTS
Drilling Method - Hollow Stem Auger/Air Rotary/Casing Hammer

Bentonite Grout | Bentonite Granules | Grout | Portland Cement | Sand Pack | Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion	Elevation (ft)
0 ▽						Silty with gravel and cobbles, minor vegetation.		5715.27 ▽
						0-8 Hydro-Vac		5715
	0.0					(0 - 8) Silty SAND: with gravel, minor cementation, coarse medium fine size, medium brown, dry to slight moist, wet from hydro vac, no hydrocarbon odor, minor clay content 5-10 percent.		
	0.0				SM			
5	0.0							5710
	0.0	100%				⇩increasing clay content with depth 10-20 percent.		
	0.0				SM	(8 - 10) Silty SAND: continued ☆Excess recovery due to slough in hole.		
10		100%						5705
	0.0				SM	(10 - 13.8) Silty SAND: continued, increasing clay content.		
	0.0							
						(13.8 - 15) No Recovery		
15		76%						5700
	0.0				SM	(15 - 17.5) Silty SAND with Clay: some discoloration, reddish brown (Fe staining), light brown to medium brown, very fine sand, loose, low plasticity, slight moist, no hydrocarbon odor.		
	0.0							
						(17.5 - 20) No Recovery		
20		50% MW-2 (20-22ft) sample						5695
	0.0				SW	(20 - 22) Well Graded SAND: light brown, all sand sizes, cobbles start at 21 feet, cobbles up to 3 inch, rounded, no hydrocarbon odor, dry to slight moist.		
						Driller reports cobbles at about 22 feet bgs.		
						(22 - 24) No Recovery		
		50%						
	0.0				SW	(24 - 24.5) Well Graded SAND with Cobbles: continued, not enough volume for sample.		
25		50%						

Continued Next Page

Drilling Log SANDOVAL GC A#1A LOGS.GPJ MWH IA.GDT 1/7/16

MWH

Drilling Log

Monitoring Well **MW-2**

Page: 2 of 2

Project *Sandoval GC A#1A* Owner *El Paso Remediation Company*

Location *San Juan County, New Mexico* Project Number *10508033.0102*

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion	Elevation (ft)
						Continued		
25						(24.5 - 25) No Recovery (25 - 30) No Recovery		5690
30		0% 0%				(30 - 31) No Recovery, refusal with hollow stem auger.		5685
	☆50.8					(31 - 45) Cuttings, ground up sand, light grayish brown, moist, slight hydrocarbon odor, coarse sand to fine sand, minor gravel, cobbles suspected with possible sandstone. At 31 feet switched to air rotary rig.		
35		100%				⇩cuttings, light brown, wet, slight hydrocarbon odor.		5680
	☆5.4							
40		100%				⇩crushed sandstone, light brown, fine to medium sand, very slight hydrocarbon odor.		5675
	☆0.9							
45		100%				☆PID from cuttings Bottom of Boring 45 feet Monitoring Well TD = 44.5 feet		5670
50								5665
55								5660

Drilling Log SANDOVAL GC A#1A LOGS.GPJ MWH IA.GDT 1/7/16

Drilling Log

MWH

Monitoring Well **MW-3**

Page: 1 of 2

Project *Sandoval GC A#1A* Owner *El Paso Remediation Company*

Location *San Juan County, New Mexico* Project Number *10508033.0102*

Surface Elev. *5716.24 ft* North *NA* East *NA*

Top of Casing *5718.73 ft* Water Level Initial ▽ *5685.23* Static ▼ *5681.32*

Hole Depth *45.0ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *26.5 ft* Type *PVC*

Drill Co. *National EWP* Drilling Method *See Comment* Sand Pack *12/20 Silica*

Driller *Matt Cain* Driller Reg. # *WD 1210* Log By *Brad Barton*

Start Date *10/20/2015* Completion Date *10/25/2015* Checked By *S. Varsa*

COMMENTS
Drilling Method - Hollow Stem Auger/Air Rotary/Casing Hammer

Bentonite Grout | Bentonite Granules | Grout | Portland Cement | Sand Pack | Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion	Elevation (ft)
						Dirt with minor vegetation		5716.24
0						0-8 Hydro-Vac		
	0.0					(0 - 8) Silty SAND: medium brown, dry to slight moist, wet from hydro vac, minor cementation. Driller reports cobbles and clay at about 5 feet bgs.		5715
	0.0				SM			
5	0.0							5710
	0.0					⇩increasing cementation		
		100%				(8 - 15) Silty SAND: with minor clay, minor cementation, fine to medium sand, trace coarse sand, dry to slight moist, medium brown, no hydrocarbon odor. Excess recovery due to slough in hole.		
	0.0							
10		100%						
	0.0					⇩trace cobbles, minor gravel - subrounded and rounded		5705
					SM			
	0.0					⇩increasing cementation, color changes to light brown, white cementation visible, no hydrocarbon odor.		
		100%						
15						(15 - 17.8) Grades to Poorly Graded SAND: loose, weakly to no cementation, fine sand, light brown, no hydrocarbon odor, dry, minor discoloration in matrix, reddish brown (Fe staining).		5700
	0.0				SP			
	0.0							
						(17.8 - 20) No Recovery		
		56%						
20	0.0					(20 - 21.5) Well Graded Gravel with Sand: loose gravel up to cobble size - about 2 inch, rounded, brown, no hydrocarbon odor, slight moist. Driller reports hard drilling 20-25 feet bgs due to cobbles and rock.		5695
	0.0				SWG			
						(21.5 - 25) No Recovery		
		30%						
25								

Continued Next Page

Drilling Log SANDOVAL GC A#1A LOGS.GPJ MWH IA.GDT 1/7/16

MWH

Drilling Log

Monitoring Well **MW-3**

Page: 2 of 2

Project *Sandoval GC A#1A* Owner *El Paso Remediation Company*

Location *San Juan County, New Mexico* Project Number *10508033.0102*

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion	Elevation (ft)
						Continued		
25						(25 - 30) No Recovery (cuttings all cobbles) very hard drilling, pulverized cobbles in sample barrel at about 30 feet.		5690
30 ▽	0.2 0.0	0% MW-3 (30-31ft) sample				(30 - 31.8) Poorly Graded SAND with Cobbles: olive brown to gray, cobbles up to 2 inch, rounded, wet at 31.0 feet bgs, no hydrocarbon odor, medium sand.		▽ 5685
						(31.8 - 35) No Recovery		
35 ▼	☆512.6	36%				(35 - 38.1) Poorly Graded SAND: strongly cemented to sandstone, barrel is heated so sample is drying out fast, wet to dry, slight hydrocarbon odor, barrel really hot from drilling, medium sand, olive brown to gray.		▼ 5680
	☆10.2					☆High PID reading due to super heated barrel drying out wet sample.		
						(38.1 - 40) No Recovery		
40	☆65.7	62%				(40 - 42.1) Poorly Graded SAND to Sandstone: continued, heated from drilling, very slight hydrocarbon odor, wet to dry.		5675
	☆35.8					(42.8 - 45) No Recovery		
45		56%				☆PID from cuttings Bottom of Boring 45 feet Monitoring Well TD = 44.5 feet		5670
50								5665
55								5660

Drilling Log SANDOVAL GC A#1A LOGS.GPJ MWH IA.GDT 1/7/16

MWH

Drilling Log

Monitoring Well **MW-4**

Page: 1 of 2

Project *Sandoval GC A#1A* Owner *El Paso Remediation Company*

Location *San Juan County, New Mexico* Project Number *10508033.0102*

Surface Elev. *5715.62 ft* North *NA* East *NA*

Top of Casing *5718.15 ft* Water Level Initial ▽ *5680.65* Static ▼ *0*

Hole Depth *45.0ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *24.0 ft* Type *PVC*

Drill Co. *National EWP* Drilling Method *See Comment* Sand Pack *12/20 Silica*

Driller *Matt Cain* Driller Reg. # *WD 1210* Log By *Brad Barton*

Start Date *10/20/2015* Completion Date *11/5/2015* Checked By *S. Varsa*

COMMENTS
Drilling Method - Hollow Stem Auger/Air Rotary/Casing Hammer

Bentonite Grout | Bentonite Granules | Grout | Portland Cement | Sand Pack | Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion	Elevation (ft)
0 ▼						Dirt with gravel, minor vegetation.		5715.6 ▼
0	0.0					0-8 Hydro-Vac		5715
	0.0				SM	(0 - 8) Silty SAND: loose, medium brown, dry to slightly moist, wet from hydro vac, fine sand minor gravel, minor clay content (5-10 percent, no hydrocarbon odor.		
5	0.0							5710
	0.0	100%			SM	(8 - 9.1) Silty SAND: continued		
	0.0					⇩increasing cementation at 9 feet bgs.		
10		55%				(9.1 - 10) No Recovery		
	0.0					(10 - 14.4) Silty SAND: continued		5705
	0.0				SM	⇩color grades to light brown.		
15		88%				(14.4 - 15) No Recovery		
	0.0					(15 - 18) Silty SAND: continued		5700
	0.0				SM			
					SW	(18 - 18.9) Well Graded SAND: weakly cemented, light brown, loose, medium and fine sand sizes, trace coarse sand, no hydrocarbon odor.		
20		78% MW-4 (20-22.2ft) sample				(18.5 - 20) No Recovery		5695
	0.0				SW	(20 - 22.2) Well Graded SAND with Cobbles: minor clay lenses, dry to slight moist, medium to coarse sand, cobbles up to 3 inch, no hydrocarbon odor.		
						(22.2 - 24) No Recovery		
		55%						
25	0.0	100%				(24 - 35) Cuttings - cobbles, pulverized to well graded sand, brown, dry to slightly moist, no hydrocarbon odor.		

Continued Next Page

Drilling Log SANDOVAL GC A#1A LOGS.GPJ MWH IA.GDT 1/7/16

MWH

Drilling Log

Monitoring Well **MW-4**

Page: 2 of 2

Project *Sandoval GC A#1A* Owner *El Paso Remediation Company*

Location *San Juan County, New Mexico* Project Number *10508033.0102*

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion	Elevation (ft)
						Continued		
25						At 25 feet switched to air rotary rig. ⇩bigger gravels in cuttings		5690
	☆0.0							
30		100%				⇩less gravel in cuttings continued.		5685
	☆0.0							
35 ▽		100%				⇩light olive brown, shale pulverized to FAT Clay.		5680
	☆0.1							
40		100%				⇩very moist, FAT Clay cuttings, SHALE.		5675
	☆0.5							
45		100%				☆PID from cuttings Bottom of Boring 45 feet Monitoring Well TD = 44.5 feet		5670
50								5665
55								5660

Drilling Log SANDOVAL GC A#1A LOGS.GPJ MWH IA.GDT 1/7/16

Drilling Log

MWH

Monitoring Well **MW-5**

Page: 1 of 2

Project *Sandoval GC A#1A* Owner *El Paso Remediation Company*

Location *San Juan County, New Mexico* Project Number *10508033.0102*

Surface Elev. *5714.58 ft* North *NA* East *NA*

Top of Casing *5714.35 ft* Water Level Initial ▽ *5679.35* Static ▼ *0*

Hole Depth *45.0ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *24.0 ft* Type *PVC*

Drill Co. *National EWP* Drilling Method *See Comment* Sand Pack *12/20 Silica*

Driller *Matt Cain* Driller Reg. # *WD 1210* Log By *Brad Barton*

Start Date *10/20/2015* Completion Date *11/3/2015* Checked By *S. Varsa*

COMMENTS
Drilling Method - Hollow Stem Auger/Air Rotary/Casing Hammer

Bentonite Grout | Bentonite Granules | Grout | Portland Cement | Sand Pack | Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion	Elevation (ft)
0 ▼						Dirt, road area, near meter house		5714.5 ▼
	0.0					0-8 Hydro-Vac		
	0.0				SM	(0 - 8) Silty SAND: medium brown, loose, fine to medium sand, dry to slightly moist, wet from hydro vac, minor clay content, trace gravel, no hydrocarbon odor.		
5	0.0							5710
	0.0	100%				(8 - 13.5) Silty SAND: continued		
	0.0					Excess recovery due to slough in hole.		
10		100%						5705
	0.0				SM	Silty SAND: continued		
	0.0							
						(13.5 - 15) No Recovery		
15		70%						5700
	0.0				CH	(15 - 18) FAT CLAY: discoloration reddish brown and white in clay matrix, weak cementation (white), iron staining reddish brown, stiff, moist, high plasticity, cobbles at 18 feet bgs.		
	0.0	MW-5 (16.5-18ft) sample						
		100%				Cobbles at 18 feet bgs.		
	NA					(18 - 35) Cobbles: cuttings from air rotary are gravel of cobbles, dry, no hydrocarbon odor, powdered cobbles.		
20		100%				Driller reports cobbles at 18 feet bgs, refusal at 18 feet of hollow stem auger.		5695
	☆0.0					At 18 feet switched to air rotary rig.		
		100%						5690
25								

Continued Next Page

Drilling Log SANDOVAL GC A#1A LOGS.GPJ MWH IA.GDT 1/7/16

MWH

Drilling Log

Monitoring Well **MW-5**

Page: 2 of 2

Project *Sandoval GC A#1A* Owner *El Paso Remediation Company*

Location *San Juan County, New Mexico* Project Number *10508033.0102*

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Well Completion	Elevation (ft)
						Continued		
25								
	☆0.0							
30		100%				⇩cobbles, crushed and fine to medium sand from hammering on cobbles, no hydrocarbon odor, slight moist.		5685
	☆0.0							
35 ▽		100%				(35 - 45) Cobbles/Sandstone: Bedrock ⇩very moist, very slight hydrocarbon odor, crushed sandstone, light brown.		5680 ▽
	☆2.7							
40		100%				⇩moist to slight moist, no hydrocarbon odor, crushed sandstone, light brown.		5675
	☆0.2							
45		100%				☆PID from cuttings Bottom of Boring 45 feet Monitoring Well TD = 44.5 feet		5670
50								5665
55								5660

Drilling Log SANDOVAL GC A#1A LOGS.GPJ MWH IA.GDT 1/7/16

MWH

Drilling Log

Soil Boring **SB-1**

Page: 1 of 1

Project *Sandoval GC A#1A* Owner *El Paso Remediation Company*

Location *San Juan County, New Mexico* Project Number *10508033.0102*

Surface Elev. *5713.87 ft* North *NA* East *NA*

Top of Casing *NA* Water Level Initial ▽ *NA* Static ▼ *NA*

Hole Depth *27.0ft* Screen: Diameter *NA* Length *NA* Type/Size *NA*

Hole Diameter *8.25 in* Casing: Diameter *NA* Length *NA* Type *NA*

Drill Co. *National EWP* Drilling Method *See Comment* Sand Pack *NA*

Driller *Matt Cain* Driller Reg. # *WD 1210* Log By *Brad Barton*

Start Date *10/20/2015* Completion Date *10/26/2015* Checked By *S. Varsa*

COMMENTS
Drilling Method - Hollow Stem Auger/Air Rotary/Casing Hammer
SB-1 located 6 to 7 feet south southeast of MW-1.

Bentonite Grout | Bentonite Granules | Grout | Portland Cement | Sand Pack | Sand Pack

Depth (ft)	PID (ppm)	% Recovery	Blow Count Recovery	Graphic Log	USCS	Description (Color, Moisture, Texture, Structure, Odor) Geologic Descriptions are Based on the USCS.	Elevation (ft)
						Silty soil at surface, minor gravel/cobbles.	5713.87
0	0.0				SM	0-8 Hydro-Vac (0 - 8) Silty SAND: medium brown, very fine sand, loose, dry to slight moist, minor clay content, no hydrocarbon odor, no cementation. cuttings moist due to hydro vac.	
	0.0						5710
5	0.0						
	0.0	100%					
	0.0				SM	(8 - 9.6) Silty SAND: continued, loose, fine sand, no hydrocarbon odor.	5705
10		80%				(9.6 - 10) No Recovery	
	0.0				SM	(10 - 14.6) Silty SAND: continued ⇩minor gravel up to 1/4 inch, subrounded.	
	0.0						5700
15		92%				(14.6 - 15) No Recovery	
	0.0				SM	(15 - 18.9) Silty SAND: continued, slight moist, no hydrocarbon odor (Fill),	
	0.0						5695
						(18.9 - 20) No Recovery	
20	0.0	78% SB-1 (22-23.8ft) sample			SW	(20 - 23.8) Silty SAND with minor gravel: continued, slight moist, no hydrocarbon odor.	
	0.0						5690
						(23.8 - 25) No Recovery	
25	0.0	76%			SW	(25 - 26.1) Well Graded SAND: pulverized cobbles to sand, fine to medium sand, no hydrocarbon odor.	
		55%				(26.1 - 27) No Recovery	
						Refusal at 27 feet bgs.	5685
30							

Drilling Log SANDOVAL GC A#1A LOGS.GPJ MWH IA.GDT 1/7/16

ATTACHMENT H - BP Soil Boring Logs and Well Construction Diagrams

Stantec

BLAGG ENGINEERING, Inc.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

BORE / TEST HOLE REPORT

BORING #..... BH1
MW #..... NA
PAGE #..... 1
DATE STARTED 09/20/06
DATE FINISHED 09/20/06
OPERATOR..... DP
PREPARED BY NJV

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: SANDOVAL GC A # 1A COMPRESSOR PIT UNIT C, SEC. 35, T30N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / ENVIROTECH, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75)
BORING LOCATION: 180 FEET, N40W FROM WELL HEAD.

DEPTH (FT.)	INTERVAL	LITHOLOGY INTERVAL	OVM READING (ppm)	FIELD CLASSIFICATION AND REMARKS
				GROUND SURFACE
2				DARK YELLOWISH ORANGE TO DARK YELLOWISH BROWN SAND (FILL MATERIAL), NON COHESIVE, SLIGHTLY MOIST, FIRM TO LOOSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 7.0 FT. BELOW GRADE).
4				
6				
8				DARK YELLOWISH BROWN / MEDIUM GRAY SAND INTERMIXED, NON COHESIVE, SLIGHTLY MOIST, FIRM, STRONG APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (7.0 - 12.0 FT. BELOW GRADE).
10				
12				
14				MEDIUM GRAY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, STRONG APPARENT HYDRO-CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (12.0 - 17.0 FT. BELOW GRADE).
16			1,491	BH1 @ 15-17 FT. TIME: 1218 BLOW COUNT = 50 PER 20 INCHES COLLECTED WITH SPLIT SPOON SAMPLER. TPH = 10,000 ppm , BENZENE = 19 ppm , TOTAL BTEX = 1,183 ppm , CHLORIDE = 5.5 ppm.
18				AUGER REFUSAL - COBBLES ENCOUNTERED AT 17 FEET BELOW GRADE.
20				
22				
24				
26				
28				
30				
32				
34				
36				
38				
40				

NOTES: - SAND.
OVM - Organic Vapor Meter or Photo-ionization Detector (PID).
TPH - Total Petroleum Hydrocarbons EPA Method 8015B.
BTEX - benzene , toluene, ethylbenzene, total xylenes EPA Method 8021B.
ppm - Parts per million (unit value).

OVM CALIBRATION = 51.3 ppm with 100 ppm Isobutylence gas & response factor set @ 0.52 ; DATE - 09/19/06, TIME - 1535.

DRAWING: SANDOVAL GC A 1A BH1.SKF | DATE: 03/19/07 | DWN BY: NJV

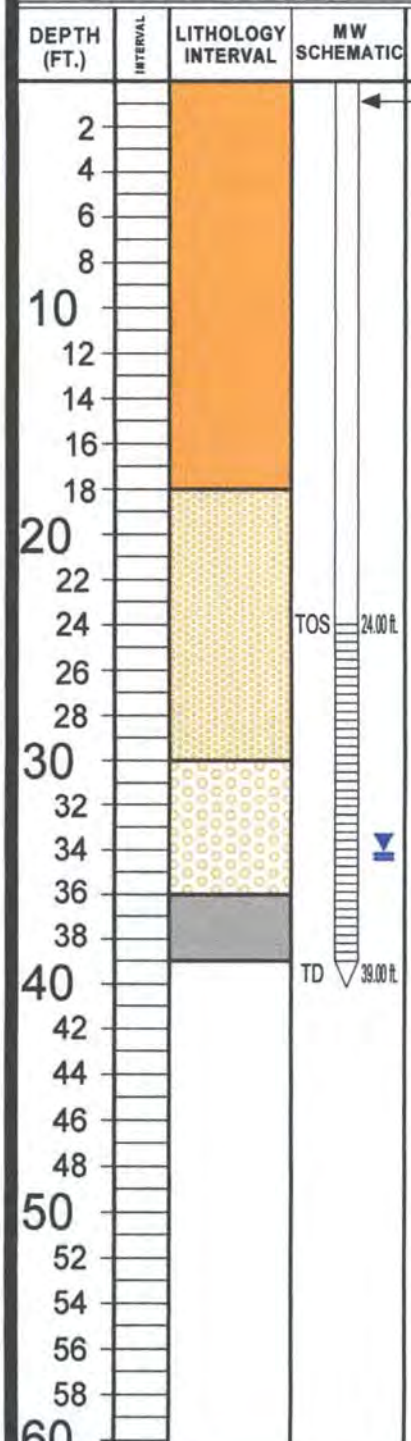
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 1

BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: SANDOVAL GC A # 1A COMPRESSOR PIT UNIT C, SEC. 35, T30N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM
BORING LOCATION: 205 FEET, N26W FROM WELL HEAD.

BORING #..... BH - 3
MW #..... 1
PAGE #..... 2
DATE STARTED 12/01/11
DATE FINISHED 12/02/11
OPERATOR..... KP
LOGGED BY..... JCB



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.75 FT. ABOVE GRADE.

DARK YELLOWISH BROWN SILTY SAND, NON COHESIVE, DRY TO MOIST, FIRM, THIN LAYERS OF ROUNDED PEBBLES TO 5.0 FEET BELOW GRADE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 18.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH GRAVEL (18.0 - 30.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH COBBLE TO BOULDER SIZE GRAVEL (30.0 - 36.0 FT. BELOW GRADE).

GROUNDWATER ~ 33.97 ft. BELOW GRADE ; MEASURED 12/09/11.

BLUE/VERY LIGHT GRAY SILTSTONE TO CLAYSTONE, NON COHESIVE, DRY, DENSE TO VERY DENSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (36.0 - 39.0 FT. BELOW GRADE).

Monitor well dry to TD (5,677.94' elevation) (40.4' below casing top), measured on 11/09/2017

NOTES:
- SILTY SAND.
- SILTY SAND & GRAVEL.
- SILTSTONE / CLAYSTONE.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 1.00 ft. above grade to 24.00 ft. below grade, 0.020 slotted screen between 24.00 to 39.00 ft. below grade, sand packed annular to 22.0 ft. below grade, bentonite grout between 20.0 to 22.0 ft. below grade. Steel protector encompassing above grade casing and secured with padlock.

DRAWING: SANDOVAL GC A 1A MW1-BH3. SKF | DATE: 12/07/11 | DWN BY: NJV

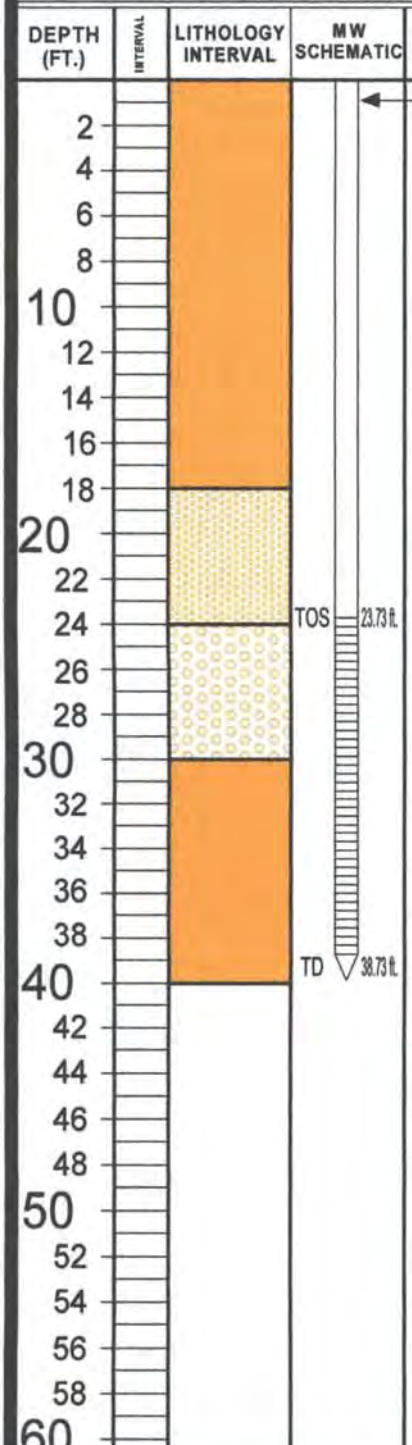
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 3

BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: SANDOVAL GC A # 1A COMPRESSOR PIT UNIT C, SEC. 35, T30N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM
BORING LOCATION: 73 FEET, N34.5W FROM WELL HEAD.

BORING #..... BH - 4
MW #..... 3
PAGE #..... 4
DATE STARTED 12/05/11
DATE FINISHED 12/05/11
OPERATOR..... KP
LOGGED BY..... JCB



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. AT GRADE.

DARK YELLOWISH BROWN SILTY SAND, NON COHESIVE, DRY TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 18.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH GRAVEL (18.0 - 24.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH COBBLE TO BOULDER SIZE GRAVEL (24.0 - 30.0 FT. BELOW GRADE).

DARK YELLOWISH ORAGEN SILTSTONE TO CLAYSTONE, NON COHESIVE, DRY, DENSE TO VERY DENSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (30.0 - 40.0 FT. BELOW GRADE).

Monitor well dry to TD (5,675.08' elevation) (39.2' below casing top), measured on 11/09/2017

NOTES:
- SILTY SAND.
- SILTY SAND & GRAVEL.
- SILTSTONE / CLAYSTONE.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

GROUNDWATER NOT PRESENT DURING 12/09/11 GAUGING.

Monitor well consist of 2 inch PVC piping - casing from grade to 23.73 ft. below grade, 0.020 slotted screen between 23.73 to 38.73 ft. below grade, sand packed annular to 22.0 ft. below grade, bentonite grout between 20.0 to 22.0 ft. below grade. Flush mount protector encompassing exposed casing. Secured well with locking cap and padlock.

DRAWING: SANDOVAL GC A 1A MW3-BH4. SKF | DATE: 12/07/11 | DWN BY: NJV

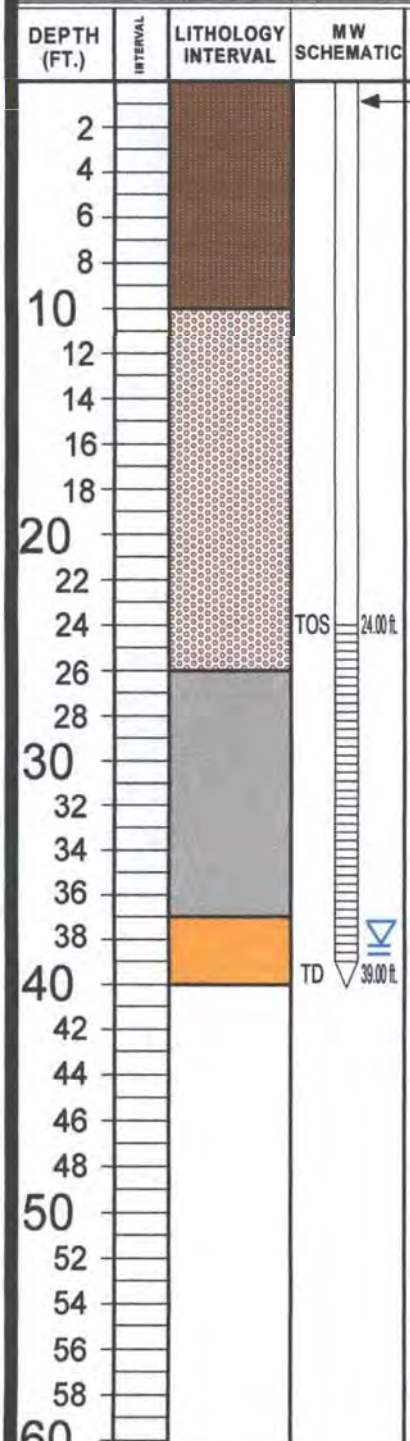
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 4

BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: SANDOVAL GC A # 1A COMPRESSOR PIT UNIT C, SEC. 35, T30N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM
BORING LOCATION: 150 FEET, N61W FROM WELL HEAD.

BORING #..... BH - 5
MW #..... 4
PAGE #..... 5
DATE STARTED 12/06/11
DATE FINISHED 12/06/11
OPERATOR..... KP
LOGGED BY..... NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 0.25 FT. BELOW GRADE.

MODERATE YELLOWISH BROWN SILTY SAND, NON COHESIVE, DRY TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 10.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH GRAVEL (10.0 - 26.0 FT. BELOW GRADE).

BLUE/VERY LIGHT GRAY SILTSTONE TO CLAYSTONE, NON COHESIVE, DRY, DENSE TO VERY DENSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (26.0 - 37.0 FT. BELOW GRADE).

GW measured at 5,676.07' elevation (38.25' below casing top), measured on 11/20/2017

SAME AS ABOVE EXCEPT PALE YELLOWISH ORANGE (37.0 - 40.0 FT. BELOW GRADE).

NOTES:
- SILTY SAND.
- SILTY SAND & GRAVEL.
- SILTSTONE / CLAYSTONE.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

GROUNDWATER NOT PRESENT DURING 12/09/11 GAUGING.

Monitor well consist of 2 inch PVC piping - casing from 0.25 ft. to 24.00 ft. below grade, 0.020 slotted screen between 24.00 to 39.00 ft. below grade, sand packed annular to 22.0 ft. below grade, bentonite grout between 20.0 to 22.0 ft. below grade. Flush mount protector encompassing exposed casing. Secured well with locking cap and padlock.

DRAWING: SANDOVAL GC A 1A MW4-BH5. SKF | DATE: 12/07/11 | DWN BY: NJV

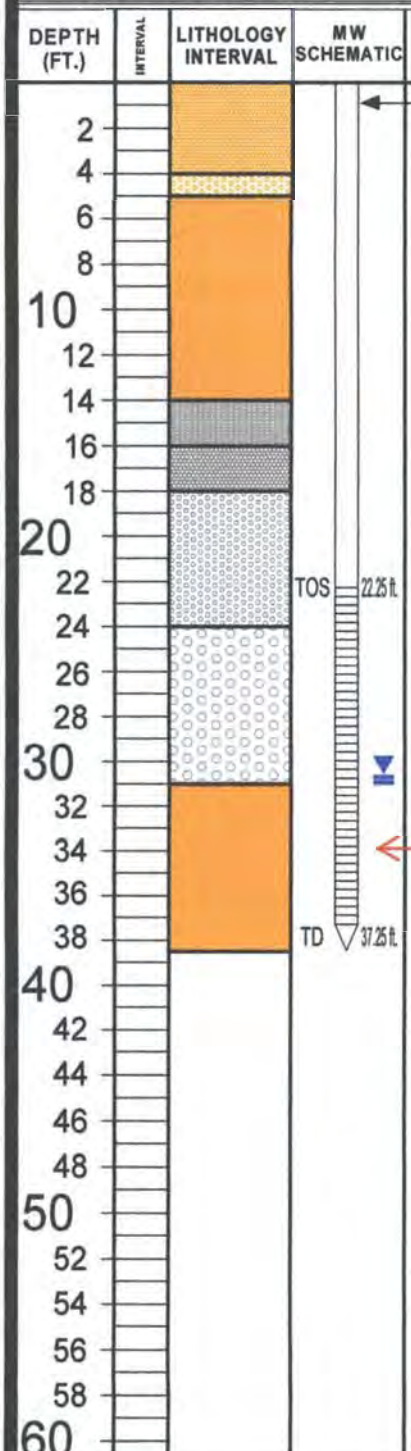
BLAGG ENGINEERING, INC.
P.O. BOX 87
BLOOMFIELD, NM 87413
(505) 632-1199

MW # 2

BORE / TEST HOLE REPORT

CLIENT: BP AMERICA PRODUCTION CO.
LOCATION NAME: SANDOVAL GC A # 1A COMPRESSOR PIT UNIT C, SEC. 35, T30N, R9W
CONTRACTOR: BLAGG ENGINEERING, INC. / KYVEK ENERGY SERVICES, INC.
EQUIPMENT USED: MOBILE DRILL RIG (CME 75) - TUBEX SYSTEM
BORING LOCATION: 182.7 FEET, N45W FROM WELL HEAD.

BORING #..... BH - 2
MW #..... 2
PAGE #..... 3
DATE STARTED 08/11/11
DATE FINISHED 08/22/11
OPERATOR..... KP
LOGGED BY..... NJV/JCB



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.75 FT. ABOVE GRADE.

PALE YELLOWISH BROWN SAND, NON COHESIVE, DRY TO MOIST, FIRM, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (0.0 - 4.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH MINOR PEA SIZE GRAVEL (4.0 - 5.0 FT. BELOW GRADE).

DARK YELLOWISH BROWN SILTY SAND TO SILTY CLAY, COHESIVE, DRY TO MOIST, FIRM TO STIFF, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (4.0 - 14.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT LIGHT GRAY AND WITH AN APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY (14.0 - 16.0 FT. BELOW GRADE).

LIGHT TO MEDIUM GRAY SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM, STRONG APPARENT HYDRO - CARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (16.0 - 18.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH GRAVEL (18.0 - 24.0 FT. BELOW GRADE).

SAME AS ABOVE EXCEPT WITH COBBLE TO BOULDER SIZE GRAVEL (24.0 - 31.0 FT. BELOW GRADE).

GROUNDWATER ~ 30.79 ft. BELOW GRADE ; MEASURED 08/25/11.

PALE YELLOWISH ORANGE SILTSTONE TO CLAYSTONE, NON COHESIVE, DRY, DENSE TO VERY DENSE, NO APPARENT HYDROCARBON ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (31.0 - 38.5 FT. BELOW GRADE).

2.7' product, top at 5,680.72' elevation (36.22' below casing top), measured on 11/08/2017

NOTES:
- SAND.
- SILTY SAND TO SILTY CLAY.
- SAND & GRAVEL.
- SILTSTONE / CLAYSTONE.

TOS - Top of screen of monitor well.
TD - Total depth/bottom extent of monitor well.

Monitor well consist of 2 inch PVC piping - casing from 2.75 ft. above grade to 22.25 ft. below grade, 0.020 slotted screen between 22.25 to 37.25 ft. below grade, sand packed annular to 20.0 ft. below grade, bentonite grout between 17.0 to 20.0 ft. below grade. Steel protector encompassing above grade casing and secured with padlock.

DRAWING: SANDOVAL GC A 1A MW2-BH2. SKF | DATE: 08/25/11 | DWN BY: NJV

ATTACHMENT I - Cross-Sections

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\SANDOVAL GC A#1A\2018 MAPS\Sandoval_X-SEC_2018.mxd

LEGEND:

- 6508 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- GAS — NATURAL GAS LINE
- OVHD — OVERHEAD ELECTRIC LINE
- A — A' CROSS SECTION TRACE
- MONITORING WELL
- SOIL BORING
- OTHER MONITORING WELL
- OTHER SOIL BORING
- SMA BENCHMARK
- RIG ANCHOR

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	12/12/2018	SLG	SLG	SRV

TITLE:

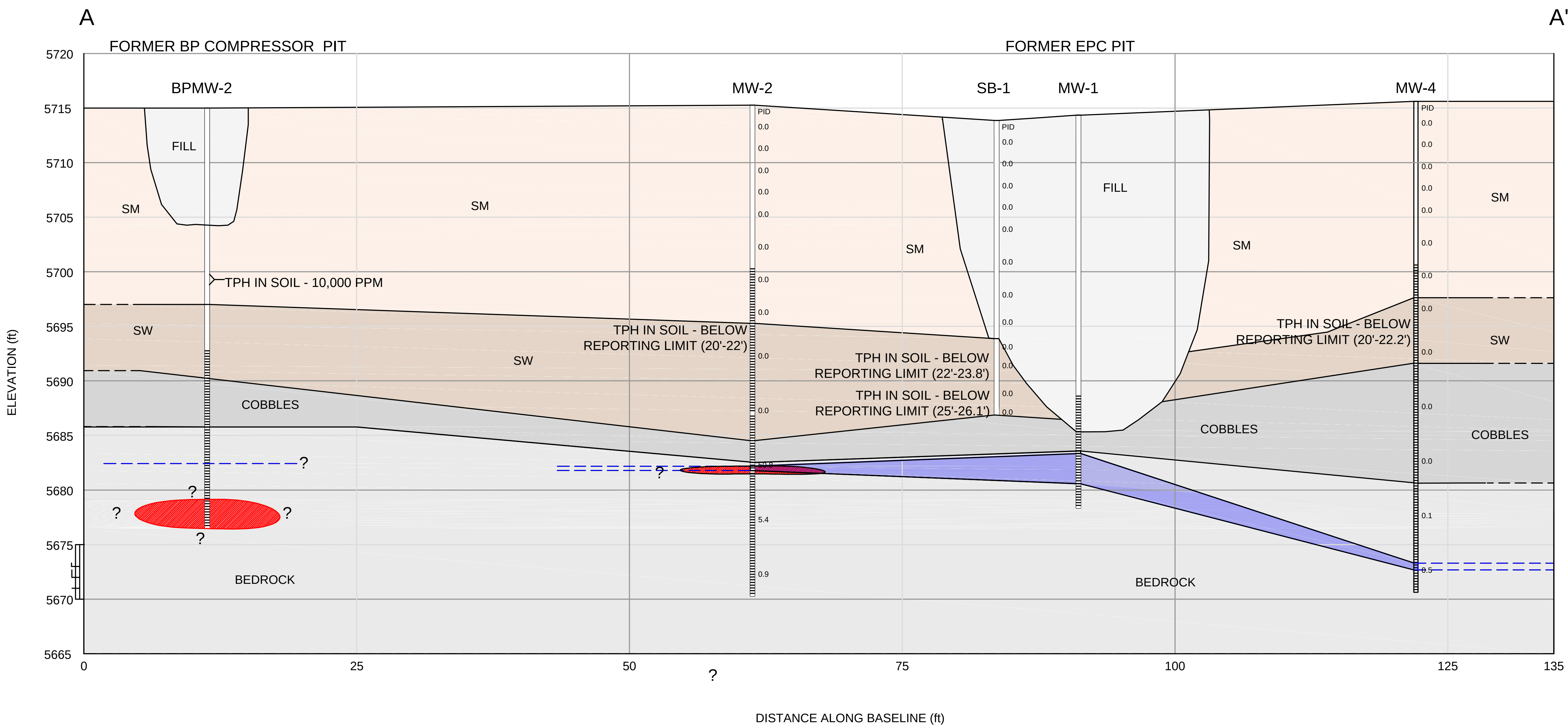
CROSS SECTION TRACE

PROJECT:

SANDOVAL GC A#1A
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: 1



Legend

- USCS SAND WEAKLY CEMENTED (SW)
- USCS POORLY-GRADED SAND (SP)
- USCS SILTY SAND (SM)
- USCS HIGH PLASTICITY CLAY (CH)
- COBBLES
- BEDROCK
- RECORDED RANGE OF GROUNDWATER FLUCTUATION
- INFERRED INTERFACE
- INFERRED PRODUCT
- MONITORING WELL SCREENED INTERVAL

Stantec

Project Location
SAN JUAN COUNTY
NEW MEXICO

Client/Project
193710238
STATE GAS COM
SANDOVAL GC A#1

Figure No.
2.0

Title
Prepared by
CROSS SECTION A-A'

2019/04/11 3:45 PM By: Hansen, Scott
...\CAD\Sandoval GC A#1 Cross Sections.dwg

B

B'

FORMER EPC PIT

MW-3 SB-1 MW-1 MW-5 BPMW-3

ELEVATION (ft)

5720
5715
5710
5705
5700
5695
5690
5685
5680
5675
5670
5665

SM
FILL
SP
SW
CH
COBBLES
BEDROCK

TPH IN SOIL - BELOW REPORTING LIMIT (22'-23.8')
TPH IN SOIL - BELOW REPORTING LIMIT (25'-26.1')
TPH IN SOIL - BELOW REPORTING LIMIT (16.5'-18')

PID
0.0
NA
512.6
10.2
65.7
35.8
2.7
0.2

0 25 50 75 100 125

DISTANCE ALONG BASELINE (ft)

Legend

- USCS SAND WEAKLY CEMENTED (SW)
- USCS POORLY-GRADED SAND (SP)
- USCS SILTY SAND (SM)
- USCS HIGH PLASTICITY CLAY (CH)
- COBBLES
- BEDROCK
- RECORDED RANGE OF GROUNDWATER FLUCTUATION
- INFERRED INTERFACE
- MONITORING WELL SCREENED INTERVAL

Stantec

Project Location
SAN JUAN COUNTY
NEW MEXICO
Client/Project 193710238
STATE GAS COM
SANDOVAL GC A#1
Figure No.
3.0
Title
CROSS SECTION B-B'
Prepared by

ATTACHMENT J - Groundwater Gauging Data

Stantec

TABLE 2 - GROUNDWATER ELEVATION RESULTS

Sandoval GC A #1A						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-1	05/30/95	5716.63	34.49	NR		5682.14
MW-1	04/12/96	5716.63	35.39	NR		5681.24
MW-1	07/26/96	5716.63	35.61	NR		5681.02
MW-1	10/18/96	5716.63	35.79	NR		5680.84
MW-1	01/21/97	5716.63	35.80	NR		5680.83
MW-1	04/16/97	5716.63	35.99	NR		5680.64
MW-1	07/11/97	5716.63	36.05	NR		5680.58
MW-1	09/04/97	5716.63	35.18	NR		5681.45
MW-1	10/22/97	5716.63	35.14	NR		5681.49
MW-1	01/06/98	5716.63	35.10	NR		5681.53
MW-1	04/23/98	5716.63	35.15	NR		5681.48
MW-1	04/19/99	5716.63	35.10	NR		5681.53
MW-1	04/13/00	5716.63	34.70	NR		5681.93
MW-1	05/30/01	5716.63	34.97	NR		5681.66
MW-1	10/08/01	5716.63	35.19	NR		5681.44
MW-1	05/16/02	5716.63	35.11	NR		5681.52
MW-1	05/21/03	5716.63	35.26	ND		5681.37
MW-1	11/16/04	5716.63	34.84	ND		5681.79
MW-1	11/08/05	5716.63	33.87	ND		5682.76
MW-1	11/08/06	5716.63	34.02	ND		5682.61
MW-1	11/29/07	5716.63	33.29	ND		5683.34
MW-1	11/18/08	5716.63	33.41	ND		5683.22
MW-1	11/04/09	5716.63	33.64	ND		5682.99
MW-1	06/03/10	5716.63	33.46	ND		5683.17
MW-1	11/09/10	5716.63	32.94	ND		5683.69
MW-1	11/16/11	5716.63	33.28	ND		5683.35
MW-1	06/08/13	5716.63	33.67	ND		5682.96
MW-1	09/09/13	5716.63	33.78	ND		5682.85
MW-1	12/12/13	5716.63	33.80	ND		5682.83
MW-1	04/02/14	5716.63	33.85	ND		5682.78
MW-1	10/23/14	5716.63	34.04	ND		5682.59
MW-1	05/30/15	5716.63	34.19	ND		5682.44
MW-1	11/20/15	5716.63	34.33	ND		5682.30
MW-1	04/19/16	5716.63	34.52	ND		5682.11
MW-1	10/16/16	5716.63	34.17	ND		5682.46
MW-1	06/08/17	5716.63	34.71	ND		5681.92
MW-1	11/11/17	5716.63	34.27	ND		5682.36
MW-1	05/16/18	5716.63	34.21	ND		5682.42
MW-1	10/28/18	5716.63	34.44	ND		5682.19

TABLE 2 - GROUNDWATER ELEVATION RESULTS

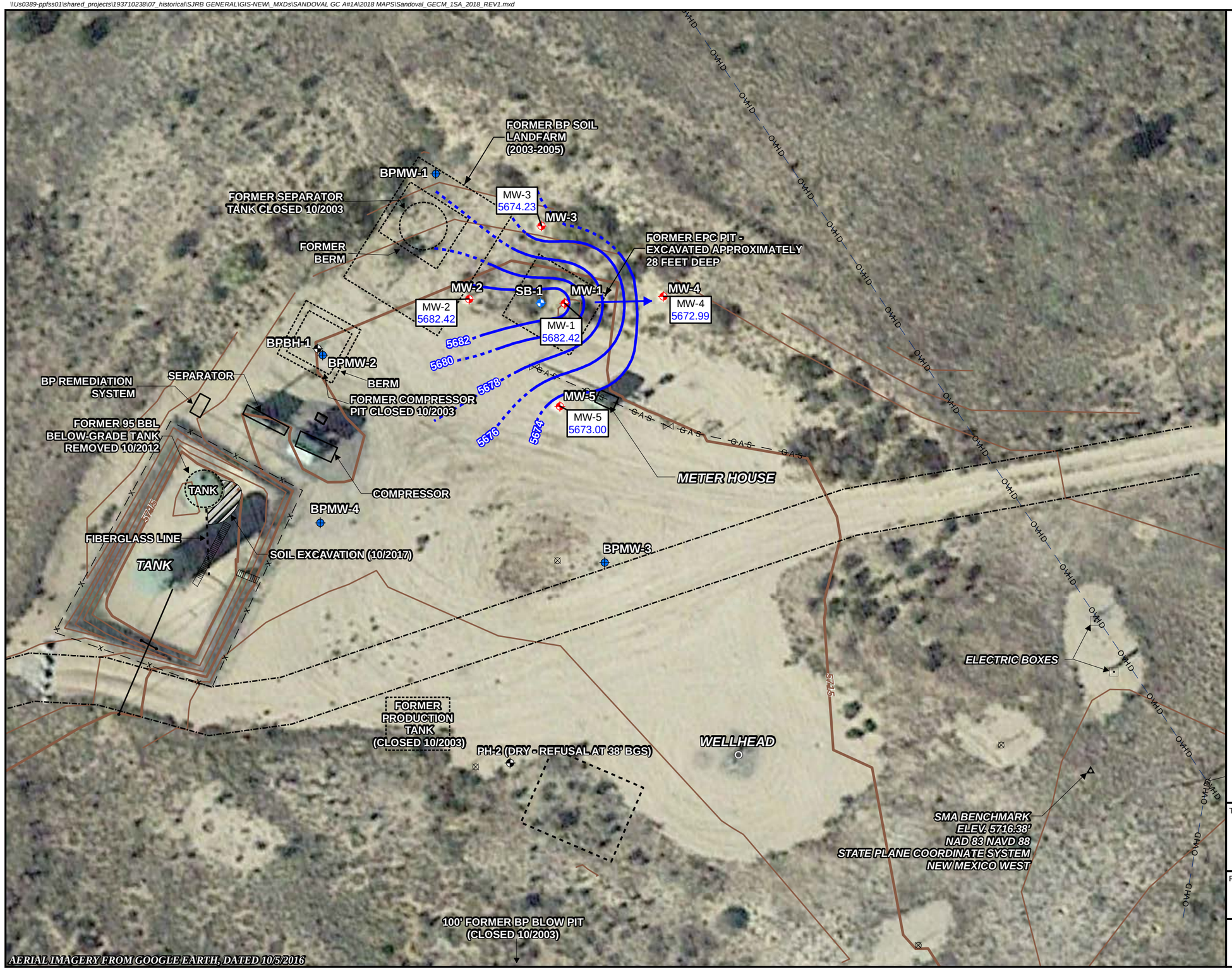
Sandoval GC A #1A						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-2	11/20/15	5717.56	35.29	ND		5682.27
MW-2	04/19/16	5717.56	35.49	ND		5682.07
MW-2	10/16/16	5717.56	36.03	35.60	0.43	5681.85
MW-2	06/08/17	5717.56	36.25	35.50	0.75	5681.87
MW-2	11/11/17	5717.56	35.19	ND		5682.37
MW-2	05/16/18	5717.56	35.14	ND		5682.42
MW-2	10/28/18	5717.56	35.35	ND		5682.21
MW-3	11/20/15	5718.73	37.16	ND		5681.57
MW-3	04/19/16	5718.73	42.25	ND		5676.48
MW-3	10/16/16	5718.73	44.19	ND		5674.54
MW-3	06/08/17	5718.73	44.87	ND		5673.86
MW-3	11/11/17	5718.73	43.82	ND		5674.91
MW-3	05/16/18	5718.73	44.50	ND		5674.23
MW-3	10/28/18	5718.73	45.47	ND		5673.26
MW-4	11/20/15	NR	NR	NR		NR
MW-4	11/23/15	5718.15	44.93	ND		5673.22
MW-4	04/19/16	5718.15	44.84	ND		5673.31
MW-4	10/16/16	5718.15	45.02	ND		5673.13
MW-4	06/08/17	5718.15	45.18	ND		5672.97
MW-4	11/11/17	5718.15	45.18	ND		5672.97
MW-4	05/16/18	5718.15	45.16	ND		5672.99
MW-4	10/28/18	5718.15	45.48	ND		5672.67
MW-5	11/20/15	NR	NR	NR		NR
MW-5	11/23/15	5714.35	41.16	ND		5673.19
MW-5	04/19/16	5714.35	41.15	ND		5673.20
MW-5	10/16/16	5714.35	42.25	ND		5672.10
MW-5	06/08/17	5714.35	41.38	ND		5672.97
MW-5	11/11/17	5714.35	41.36	ND		5672.99
MW-5	05/16/18	5714.35	41.35	ND		5673.00
MW-5	10/28/18	5714.35	41.68	ND		5672.67

Notes:
"ft" = feet
"TOC" = Top of casing
"LNAPL" = Light non-aqueous phase liquid
"ND" = LNAPL not detected
"NR" = LNAPL not recorded

ATTACHMENT K - 2018 Groundwater Elevation Figures

Stantec

\\Us0389-ppfss01\shared_projects\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXDs\SANDOVAL GC A#1A\2018 MAPS\Sandoval_GECM_1SA_2018_REV1.mxd



LEGEND:

- 6508 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- GAS — NATURAL GAS LINE
- OVHD — OVERHEAD ELECTRIC LINE
- MONITORING WELL
- SOIL BORING
- OTHER MONITORING WELL
- OTHER SOIL BORING
- SMA BENCHMARK
- RIG ANCHOR

NOTES:

5673.19 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL

5677 WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL).

DIRECTION OF APPARENT GROUNDWATER FLOW

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	4/5/2019	SLG	SLG	SRV

TITLE:

GROUNDWATER ELEVATION MAP
MAY 16, 2018

PROJECT:

SANDOVAL GC A#1A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: **2**

\\Us0389-ppfss01\shared_projects\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXDs\SANDOVAL GC A#1A\2018 MAPS\Sandoval_GECM_2SA_2018.mxd

FORMER BP SOIL LANDFARM (2003-2005)

BPMW-1

FORMER SEPARATOR TANK CLOSED 10/2003

MW-3 5673.26

MW-3

FORMER BERM

FORMER EPC PIT - EXCAVATED APPROXIMATELY 28 FEET DEEP

MW-2

SB-1

MW-1

MW-4

MW-2 5682.21

MW-1 5682.19

MW-4 5672.67

BPBH-1

BPMW-2

5680

5678

5676

BP REMEDIATION SYSTEM

SEPARATOR

BERM

FORMER COMPRESSOR PIT CLOSED 10/2003

MW-5

MW-5 5672.67

FORMER 95 BBL BELOW-GRADE TANK REMOVED 10/2012

METER HOUSE

TANK

COMPRESSOR

5715

BPMW-4

FIBERGLASS LINE

SOIL EXCAVATION (10/2017)

TANK

BPMW-3

ELECTRIC BOXES

FORMER PRODUCTION TANK (CLOSED 10/2003)

PH-2 (DRY - REFUSAL AT 38' BGS)

WELLHEAD

SMA BENCHMARK
ELEV. 5716.38'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST

100' FORMER BP BLOW PIT (CLOSED 10/2003)

AERIAL IMAGERY FROM GOOGLE EARTH, DATED 10/5/2016

LEGEND:

- 6508 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- GAS — NATURAL GAS LINE
- OVHD — OVERHEAD ELECTRIC LINE
- MONITORING WELL
- SOIL BORING
- OTHER MONITORING WELL
- OTHER SOIL BORING
- SMA BENCHMARK
- RIG ANCHOR

NOTES:

5673.19 — GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL

5677 — WATER LEVEL ELEVATION CONTOUR DASHED WHERE INFERRED (FEET ABOVE MEAN SEA LEVEL).

DIRECTION OF APPARENT GROUNDWATER FLOW

N

SCALE IN FEET

0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	4/5/2019	SLG	SLG	SRV

TITLE:

GROUNDWATER ELEVATION MAP
OCTOBER 28, 2018

PROJECT:

SANDOVAL GC A#1A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: 4

ATTACHMENT L - Soil Analytical Data Table

Stantec

TABLE 3 - SOIL ANALYTICAL RESULTS

Sandoval GC A #1A											
Location (depth in feet bgs)	**Date (mm/dd/yy)**	**Benzene (mg/kg)**	**Toluene (mg/kg)**	**Ethylbenzene (mg/kg)**	**Total Xylenes (mg/kg)**	**BTEX Total (mg/kg)**	**GRO C6-10 (mg/kg)**	**DRO C10-28 (mg/kg)**	**MRO C28-35 (mg/kg)**	**TPH (mg/kg)**	**Chloride (mg/kg)**
NMOCD Criteria:		10	NE	NE	NE	50	NE	NE	NE	100	600
MW-2 (20-22')	10/26/15	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
MW-3 (30-31')	10/25/15	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
MW-4 (20-22.2')	10/26/15	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	36
MW-5 (16.5-18')	10/26/15	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
SB-1 (22-23.8')	10/26/15	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
SB-1 (25-26.1')	10/26/15	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL

Notes:

mg/kg	Milligrams per kilogram
NE	New Mexico Oil Conservation Division (NMOCD) Standard Not Established
BRL	Below Reporting Limit
BTEX	Benzene, toluene, ethylbenzene, xylenes
GRO	Gasoline range organics
DRO	Diesel range organics
MRO	Motor oil range organics
Total BTEX	Sum of the detectable concentrations of individual BTEX constituents
TPH	Total Petroleum Hydrocarbon concentration is calculated by adding GRO, DRO, and MRO and rounded to the nearest mg/kg.
NMOCD Criteria	New Mexico Oil Conservation Division closure criteria for pits ≤50 feet below bottom of pit to groundwater less than 10,000 mg/L TDS Results bolded and highlighted yellow exceed their respective NMOCD Standards

ATTACHMENT M - Soil Analytical Results Figure

\\Us0389-ppfss01\shared_projects\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXDs\SANDOVAL GC A#1A\2018 MAPS\Sandoval_SARM_2018_Rev1.mxd

LEGEND:

- 6508 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- GAS — NATURAL GAS LINE
- OVHD — OVERHEAD ELECTRIC LINE
- MONITORING WELL
- SOIL BORING
- OTHER MONITORING WELL
- OTHER SOIL BORING
- SMA BENCHMARK
- RIG ANCHOR

NOTES:

MW-3 SAMPLES COLLECTED 10/25/2015; MW-2, MW-4, MW-5 AND SB-1 10/26/2015.

UTILITY LOCATIONS ARE APPROXIMATE.

ft. bgs = FEET BELOW GROUND SURFACE
NS = NOT SAMPLED

EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:

RESULTS IN **BOLDFACE** TYPE INDICATE CONCENTRATION IN EXCESS OF APPLICABLE NEW MEXICO OIL CONSERVATION DIVISION SOIL CRITERIA FOR THAT ANALYTE.
mg/kg = MILLIGRAM/KILOGRAM
BRL = BELOW REPORTING LIMITS
NA = NOT ANALYZED

ANALYTE	NMOCD STANDARDS
B = Benzene	10 mg/kg
BTEX = Benzene, toluene, ethylbenzene, xylenes	50 mg/kg
TPH = Total Petroleum Hydrocarbons	100 mg/kg
Cl = Chloride	600 mg/kg

N

SCALE IN FEET
0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	4/5/2019	SLG	SLG	SRV

TITLE:

SOIL ANALYTICAL RESULTS

PROJECT:

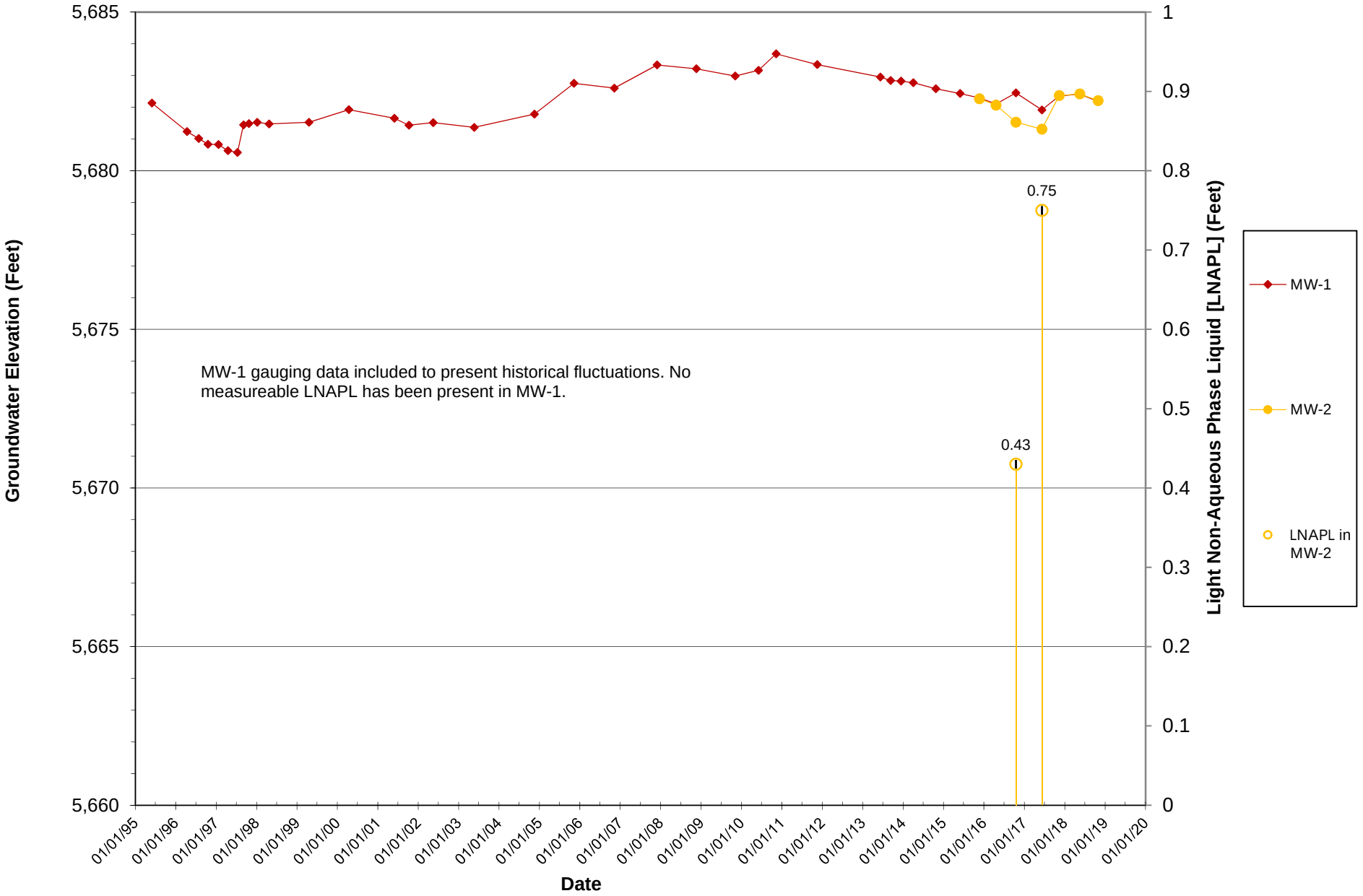
SANDOVAL GC A#1A
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: 5

ATTACHMENT N - Product Hydrograph

Stantec



Stantec	SANDOVAL GC A#1A SAN JUAN RIVER BASIN SAN JUAN COUNTY, NEW MEXICO	GROUNDWATER ELEVATION AND MEASURED LNAPL (Groundwater elevation not adjusted for presence of LNAPL)	FIGURE 10

ATTACHMENT O - Groundwater Analytical Data

Stantec

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Sandoval GC A #1A					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-1	05/30/95	5500	3980	579	4780
MW-1	04/12/96	10400	8960	925	10100
MW-1	07/26/96	8980	7980	1000	9430
MW-1	10/18/96	11050	9960	900	10700
MW-1	01/21/97	7700	7210	787	8430
MW-1	04/16/97	8900	8680	996	9250
MW-1	07/11/97	8240	7850	709	8230
MW-1	09/04/97	4420	2370	850	9660
MW-1	10/22/97	3460	39.6	714	7690
MW-1	01/06/98	3850	194	795	8570
MW-1	04/23/98	4330	406	783	7220
MW-1	04/19/99	4300	1260	629	7440
MW-1	04/13/00	2300	1500	590	5900
MW-1	05/30/01	2800	710	560	5200
MW-1	10/08/01	NS	NS	NS	NS
MW-1	05/16/02	3000	1500	440	5300
MW-1	05/21/03	3850	601	443	6360
MW-1	11/16/04	2490	30.9	346	2860
MW-1	11/08/05	338	8.5	80.1	757
MW-1	11/08/06	198	3.4	14.9	83.6
MW-1	11/29/07	441	3.8	52.2	72.2
MW-1	11/18/08	120	<2	17.9	8.3
MW-1	11/04/09	88.4	<1	14.8	4.3
MW-1	06/03/10	NS	NS	NS	NS
MW-1	11/09/10	54	<2	8.7	12.7
MW-1	11/16/11	31.3	<1	14.2	8.9
MW-1	06/08/13	0.27 J	<0.30	<0.20	<0.23
MW-1	09/09/13	0.36 J	<0.30	<0.20	<0.23
MW-1	12/12/13	0.31 J	<0.38	<0.20	<0.65
MW-1	04/02/14	1.1 J	1.7 J	<0.20	1.4 J
MW-1	10/23/14	3.3	<0.70	3.8	<1.6
MW-1	05/30/15	5.7	<5.0	5.3	6
MW-1	11/20/15	8.3	<5.0	5.2	14
MW-1	04/19/16	<2.0	<10	<2.0	<10
MW-1	10/16/16	3.2	<5.0	2	<5.0
MW-1	06/08/17	5.2	<5.0	2.4	7.9
MW-1	11/11/17	10	<1.0	<1.0	<10
MW-1	05/16/18	9.3	1.4	1.3	<10
MW-1	10/28/18	1.9	<1.0	3	<10

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Sandoval GC A #1A					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-2	11/20/15	2400	3700	530	7400
MW-2[1]	04/19/16[1]	6600	8200	1200	16000
MW-2	10/16/16	NS	NS	NS	NS
MW-2	06/08/17	NS	NS	NS	NS
MW-2	11/11/17	3500	4300	940	12000
MW-2	05/16/18	4000	3700	820	12000
DP-01(MW-2)*	05/16/18	3700	3400	690	11000
MW-2	10/28/18	4600	4800	910	16000
MW-3	11/20/15	55	62	16	140
MW-3	04/19/16	1.6	<5.0	1.8	40
MW-3	10/16/16	<1.0	<5.0	<1.0	<5.0
MW-3	06/08/17	<1.0	<5.0	<1.0	<5.0
MW-3	11/11/17	23	27	2	18
MW-3	05/16/18	<1.0	<1.0	<1.0	<10
MW-3	10/28/18	<1.0	<1.0	<1.0	<10
MW-4	11/23/15	490	<10	4	140
MW-4[1]	04/19/16[1]	3.2	<5.0	<1.0	10
MW-4	10/16/16	22	<5.0	<1.0	9.6
MW-4	06/08/17	33	<5.0	<1.0	<5.0
MW-4	11/11/17	7	<1.0	<1.0	<10
MW-4	05/16/18	1.1	<1.0	<1.0	<10
MW-4	10/28/18	14	<1.0	<1.0	<10
MW-5	11/23/15	7500	17000	590	7100
MW-5	04/19/16	5800	1600	680	6100
MW-5	10/16/16	4700	6700	1000	10000
MW-5	06/08/17	4800	6000	1600	16000
MW-5	11/11/17	3800	4300	1100	11000
MW-5	05/16/18	4100	2800	850	9100
MW-5	10/28/18	2800	1700	590	6900

Notes:
"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).
"NS" = Monitoring well not sampled
[1] = It is believed the groundwater sample analytical results for MW-2 and MW-4 were switched for this sampling event, as discussed in the 2016 Annual Groundwater Report for this Site.
*Field Duplicate (DP) results presented immediately below primary sample result

ATTACHMENT P - 2018 Groundwater Analytical Figures

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FORMER BP SOIL LANDFARM (2003-2005)

BPMW-1

FORMER SEPARATOR TANK CLOSED 10/2003

FORMER BERM

MW-3
B: <1.0
T: <1.0
E: <1.0
X: <10

MW-3

FORMER EPC PIT - EXCAVATED APPROXIMATELY 28 FEET DEEP

MW-2

SB-1

MW-1

MW-4

MW-2
B: 4000
T: 3700
E: 820
X: 12000

DP-01
B: 3700
T: 3400
E: 690
X: 11000

MW-1
B: 9.3
T: 1.4
E: 1.3
X: <10

MW-4
B: 1.1
T: <1.0
E: <1.0
X: <10

BPBH-1

BPMW-2

BERM

BP REMEDIATION SYSTEM

SEPARATOR

FORMER COMPRESSOR PIT CLOSED 10/2003

MW-5

MW-5
B: 4100
T: 2800
E: 850
X: 9100

METER HOUSE

FORMER 95 BBL BELOW-GRADE TANK REMOVED 10/2012

TANK

COMPRESSOR

BPBH-4

5715

FIBERGLASS LINE

SOIL EXCAVATION (10/2017)

TANK

BPBH-3

ELECTRIC BOXES

FORMER PRODUCTION TANK (CLOSED 10/2003)

PH-2 (DRY - REFUSAL AT 38' BGS)

WELLHEAD

SMA BENCHMARK
ELEV. 5716.38'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST

100' FORMER BP BLOW PIT (CLOSED 10/2003)

AERIAL IMAGERY FROM GOOGLE EARTH, DATED 10/5/2016

LEGEND:

- 6508 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- GAS — NATURAL GAS LINE
- OVHD — OVERHEAD ELECTRIC LINE
- MONITORING WELL
- SOIL BORING
- OTHER MONITORING WELL
- OTHER SOIL BORING
- SMA BENCHMARK
- RIG ANCHOR

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
<10 = 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

SCALE IN FEET
0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	3/25/2019	SLG	SLG	SRV

TITLE:

GROUNDWATER ANALYTICAL RESULTS
MAY 16, 2018

PROJECT:
SANDOVAL GC A#1A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: 1

\\Us0389-ppfss01\shared_projects\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXDs\SANDOVAL GC A#1A\2018 MAPS\Sandoval_GARM_2SA_2018.mxd

FORMER BP SOIL LANDFARM (2003-2005)

BPMW-1

FORMER SEPARATOR TANK CLOSED 10/2003

MW-3
B: <1.0
T: <1.0
E: <1.0
X: <10

MW-3

FORMER BERM

FORMER EPC PIT - EXCAVATED APPROXIMATELY 28 FEET DEEP

MW-2

SB-1

MW-1

MW-4

MW-2
B: 4600
T: 4800
E: 910
X: 16000

DUP-01
B: 4700
T: 4600
E: 930
X: 14000

MW-1
B: 1.9
T: <1.0
E: 3.0
X: <10

MW-4
B: 14
T: <1.0
E: <1.0
X: <10

BPBH-1

BPMW-2

BERM

BP REMEDIATION SYSTEM

SEPARATOR

FORMER COMPRESSOR PIT CLOSED 10/2003

MW-5

MW-5
B: 2800
T: 1700
E: 590
X: 6900

FORMER 95 BBL BELOW-GRADE TANK REMOVED 10/2012

METER HOUSE

TANK

COMPRESSOR

BPBH-4

FIBERGLASS LINE

SOIL EXCAVATION (10/2017)

TANK

BPBH-3

ELECTRIC BOXES

FORMER PRODUCTION TANK (CLOSED 10/2003)

PH-2 (DRY - REFUSAL AT 38' BGS)

WELLHEAD

SMA BENCHMARK
ELEV. 5716.38'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO WEST

100' FORMER BP BLOW PIT (CLOSED 10/2003)

AERIAL IMAGERY FROM GOOGLE EARTH, DATED 10/5/2016

LEGEND:

- 6508 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- ACCESS ROAD
- FORMER PIT
- GAS — NATURAL GAS LINE
- OVHD — OVERHEAD ELECTRIC LINE
- MONITORING WELL
- SOIL BORING
- OTHER MONITORING WELL
- OTHER SOIL BORING
- SMA BENCHMARK
- RIG ANCHOR

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
<10 = 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

SCALE IN FEET
0 30 60

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	3/25/2019	SLG	SLG	SRV

TITLE:

GROUNDWATER ANALYTICAL RESULTS
OCTOBER 28, 2018

PROJECT:
SANDOVAL GC A#1A
SAN JUAN RIVER BASIN
SAN JUAN COUNTY, NEW MEXICO

Stantec

Figure No.: 3

ATTACHMENT Q - Analytical Lab Reports

Stantec

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 400-153909-1
Client Project/Site: El Paso CGP Company - Sandoval GC A#1
Revision: 1

For:
Stantec Consulting Services Inc
1560 Broadway
Suite 1800
Denver, Colorado 80202

Attn: Ms. Sarah Gardner

Carolyn Webb

Authorized for release by:
5/31/2018 6:02:06 PM

Carol Webb, Project Manager II
(850)471-6250
carol.webb@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time

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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Case Narrative

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

Job ID: 400-153909-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-153909-1

Comments
No additional comments.

Receipt
The samples were received on 5/18/2018 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.0º C.

GC/MS VOA
Method 8260C: Reanalysis of the following sample was performed outside of the analytical holding time due to the client requesting verification analysis: DP-01 (400-153909-6). The sample was a duplicate and the original analysis did not concur with any of the other samples. The analysis that was performed outside of holding time has been reported due to the initial errouneous results on the original analysis.

No additional analytical or quality issues were noted, other than those described above or 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: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

Client Sample ID: MW-1 — Lab Sample ID: 400-153909-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	9.3		1.0		ug/L	1		8260C	Total/NA
Toluene	1.4		1.0		ug/L	1		8260C	Total/NA
Ethylbenzene	1.3		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-2 — Lab Sample ID: 400-153909-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	4000		50		ug/L	50		8260C	Total/NA
Toluene	3700		50		ug/L	50		8260C	Total/NA
Ethylbenzene	820		50		ug/L	50		8260C	Total/NA
Xylenes, Total	12000		500		ug/L	50		8260C	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 400-153909-3

No Detections.

Client Sample ID: MW-4 — Lab Sample ID: 400-153909-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	1.1		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 400-153909-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	4100		50		ug/L	50		8260C	Total/NA
Toluene	2800		50		ug/L	50		8260C	Total/NA
Ethylbenzene	850		50		ug/L	50		8260C	Total/NA
Xylenes, Total	9100		500		ug/L	50		8260C	Total/NA

Client Sample ID: DP-01 — Lab Sample ID: 400-153909-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	3700	H	100		ug/L	100		8260C	Total/NA
Toluene	3400	H	100		ug/L	100		8260C	Total/NA
Ethylbenzene	690	H	100		ug/L	100		8260C	Total/NA
Xylenes, Total	11000	H	1000		ug/L	100		8260C	Total/NA

Client Sample ID: TB (5/16/18) — Lab Sample ID: 400-153909-7

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Sample Summary

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-153909-1	MW-1	Water	05/16/18 15:30	05/18/18 09:10
400-153909-2	MW-2	Water	05/16/18 15:45	05/18/18 09:10
400-153909-3	MW-3	Water	05/16/18 15:35	05/18/18 09:10
400-153909-4	MW-4	Water	05/16/18 15:25	05/18/18 09:10
400-153909-5	MW-5	Water	05/16/18 15:50	05/18/18 09:10
400-153909-6	DP-01	Water	05/16/18 00:00	05/18/18 09:10
400-153909-7	TB (5/16/18)	Water	05/16/18 15:20	05/18/18 09:10

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

Client Sample ID: MW-1
Date Collected: 05/16/18 15:30
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-1
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**9.3**		1.0		ug/L			05/22/18 00:08	1
Toluene	**1.4**		1.0		ug/L			05/22/18 00:08	1
Ethylbenzene	**1.3**		1.0		ug/L			05/22/18 00:08	1
Xylenes, Total	<10		10		ug/L			05/22/18 00:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*05/22/18 00:08*	*1*
Dibromofluoromethane	*105*		*81 - 121*		*05/22/18 00:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*67 - 134*		*05/22/18 00:08*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

Client Sample ID: MW-2
Date Collected: 05/16/18 15:45
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-2
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4000		50		ug/L			05/22/18 01:14	50
Toluene	3700		50		ug/L			05/22/18 01:14	50
Ethylbenzene	820		50		ug/L			05/22/18 01:14	50
Xylenes, Total	12000		500		ug/L			05/22/18 01:14	50

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

Client Sample ID: MW-3
Date Collected: 05/16/18 15:35
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-3
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			05/22/18 00:30	1
Toluene	<1.0		1.0		ug/L			05/22/18 00:30	1
Ethylbenzene	<1.0		1.0		ug/L			05/22/18 00:30	1
Xylenes, Total	<10		10		ug/L			05/22/18 00:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*05/22/18 00:30*	*1*
Dibromofluoromethane	*109*		*81 - 121*		*05/22/18 00:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*		*05/22/18 00:30*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

Client Sample ID: MW-4
Date Collected: 05/16/18 15:25
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-4
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.1**		1.0		ug/L			05/22/18 00:52	1
Toluene	<1.0		1.0		ug/L			05/22/18 00:52	1
Ethylbenzene	<1.0		1.0		ug/L			05/22/18 00:52	1
Xylenes, Total	<10		10		ug/L			05/22/18 00:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*05/22/18 00:52*	*1*
Dibromofluoromethane	*111*		*81 - 121*		*05/22/18 00:52*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*67 - 134*		*05/22/18 00:52*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

Client Sample ID: MW-5
Date Collected: 05/16/18 15:50
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-5
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4100		50		ug/L			05/22/18 01:35	50
Toluene	2800		50		ug/L			05/22/18 01:35	50
Ethylbenzene	850		50		ug/L			05/22/18 01:35	50
Xylenes, Total	9100		500		ug/L			05/22/18 01:35	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*05/22/18 01:35*	*50*
Dibromofluoromethane	*107*		*81 - 121*		*05/22/18 01:35*	*50*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*		*05/22/18 01:35*	*50*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

Client Sample ID: DP-01
Date Collected: 05/16/18 00:00
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-6
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3700	H	100		ug/L			05/29/18 14:56	100
Toluene	3400	H	100		ug/L			05/29/18 14:56	100
Ethylbenzene	690	H	100		ug/L			05/29/18 14:56	100
Xylenes, Total	11000	H	1000		ug/L			05/29/18 14:56	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*90*		*78 - 118*		*05/29/18 14:56*	*100*
Dibromofluoromethane	*101*		*81 - 121*		*05/29/18 14:56*	*100*
1,2-Dichloroethane-d4 (Surr)	*81*		*67 - 134*		*05/29/18 14:56*	*100*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

Client Sample ID: TB (5/16/18)

Date Collected: 05/16/18 15:20
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-7

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			05/21/18 21:13	1
Toluene	<1.0		1.0		ug/L			05/21/18 21:13	1
Ethylbenzene	<1.0		1.0		ug/L			05/21/18 21:13	1
Xylenes, Total	<10		10		ug/L			05/21/18 21:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*05/21/18 21:13*	*1*
Dibromofluoromethane	*105*		*81 - 121*		*05/21/18 21:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*67 - 134*		*05/21/18 21:13*	*1*

QC Association Summary

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

GC/MS VOA

Analysis Batch: 398390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-153909-1	MW-1	Total/NA	Water	8260C	
400-153909-2	MW-2	Total/NA	Water	8260C	
400-153909-3	MW-3	Total/NA	Water	8260C	
400-153909-4	MW-4	Total/NA	Water	8260C	
400-153909-5	MW-5	Total/NA	Water	8260C	
400-153909-7	TB (5/16/18)	Total/NA	Water	8260C	
MB 400-398390/4	Method Blank	Total/NA	Water	8260C	
LCS 400-398390/1002	Lab Control Sample	Total/NA	Water	8260C	
400-153911-B-8 MS	Matrix Spike	Total/NA	Water	8260C	
400-153911-B-8 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

Analysis Batch: 399190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-153909-6	DP-01	Total/NA	Water	8260C	
MB 400-399190/4	Method Blank	Total/NA	Water	8260C	
LCS 400-399190/1002	Lab Control Sample	Total/NA	Water	8260C	
400-154116-A-1 MS	Matrix Spike	Total/NA	Water	8260C	
400-154116-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

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

Lab Sample ID: MB 400-398390/4
Matrix: Water
Analysis Batch: 398390

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			05/21/18 18:39	1
Toluene	<1.0		1.0		ug/L			05/21/18 18:39	1
Ethylbenzene	<1.0		1.0		ug/L			05/21/18 18:39	1
Xylenes, Total	<10		10		ug/L			05/21/18 18:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*05/21/18 18:39*	*1*
Dibromofluoromethane	*103*		*81 - 121*		*05/21/18 18:39*	*1*
1,2-Dichloroethane-d4 (Surr)	*94*		*67 - 134*		*05/21/18 18:39*	*1*

Lab Sample ID: LCS 400-398390/1002
Matrix: Water
Analysis Batch: 398390

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	57.3		ug/L		115	70 - 130		
Toluene			50.0	51.1		ug/L		102	70 - 130		
Ethylbenzene			50.0	53.6		ug/L		107	70 - 130		
Xylenes, Total			100	110		ug/L		110	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*94*		*78 - 118*
Dibromofluoromethane	*109*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*100*		*67 - 134*

Lab Sample ID: 400-153911-B-8 MS
Matrix: Water
Analysis Batch: 398390

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	58.8		ug/L		118	56 - 142		
Toluene	<1.0		50.0	51.3		ug/L		103	65 - 130		
Ethylbenzene	<1.0		50.0	51.8		ug/L		104	58 - 131		
Xylenes, Total	<10		100	104		ug/L		104	59 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*78 - 118*
Dibromofluoromethane	*106*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*96*		*67 - 134*

Lab Sample ID: 400-153911-B-8 MSD
Matrix: Water
Analysis Batch: 398390

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	60.2		ug/L		120	56 - 142	2	30
Toluene	<1.0		50.0	54.0		ug/L		108	65 - 130	5	30

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

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

Lab Sample ID: 400-153911-B-8 MSD
Matrix: Water
Analysis Batch: 398390

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
Ethylbenzene	<1.0		50.0	55.2		ug/L		110	58 - 131	6	30
Xylenes, Total	<10		100	112		ug/L		112	59 - 130	7	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*107*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*95*		*67 - 134*

Lab Sample ID: MB 400-399190/4
Matrix: Water
Analysis Batch: 399190

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			05/29/18 14:05	1
Toluene	<1.0		1.0		ug/L			05/29/18 14:05	1
Ethylbenzene	<1.0		1.0		ug/L			05/29/18 14:05	1
Xylenes, Total	<10		10		ug/L			05/29/18 14:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*89*		*78 - 118*		*05/29/18 14:05*	*1*
Dibromofluoromethane	*103*		*81 - 121*		*05/29/18 14:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*85*		*67 - 134*		*05/29/18 14:05*	*1*

Lab Sample ID: LCS 400-399190/1002
Matrix: Water
Analysis Batch: 399190

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	47.6		ug/L		95	70 - 130		
Toluene			50.0	41.6		ug/L		83	70 - 130		
Ethylbenzene			50.0	41.4		ug/L		83	70 - 130		
Xylenes, Total			100	83.4		ug/L		83	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*84*		*78 - 118*
Dibromofluoromethane	*100*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*86*		*67 - 134*

Lab Sample ID: 400-154116-A-1 MS
Matrix: Water
Analysis Batch: 399190

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	45.9		ug/L		92	56 - 142		
Toluene	<1.0		50.0	38.8		ug/L		78	65 - 130		
Ethylbenzene	<1.0		50.0	36.6		ug/L		73	58 - 131		
Xylenes, Total	<10		100	73.1		ug/L		73	59 - 130		

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

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

Lab Sample ID: 400-154116-A-1 MS
Matrix: Water
Analysis Batch: 399190

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

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*89*		*78 - 118*
Dibromofluoromethane	*104*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*79*		*67 - 134*

Lab Sample ID: 400-154116-A-1 MSD
Matrix: Water
Analysis Batch: 399190

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	44.6		ug/L		89	56 - 142	3	30
Toluene	<1.0		50.0	37.5		ug/L		75	65 - 130	4	30
Ethylbenzene	<1.0		50.0	35.4		ug/L		71	58 - 131	3	30
Xylenes, Total	<10		100	70.8		ug/L		71	59 - 130	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*91*		*78 - 118*
Dibromofluoromethane	*99*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*83*		*67 - 134*

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

Client Sample ID: MW-1
Date Collected: 05/16/18 15:30
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-1
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	398390	05/22/18 00:08	S1K	TAL PEN
	Instrument ID: CH_LARS									

Client Sample ID: MW-2
Date Collected: 05/16/18 15:45
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-2
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		50	5 mL	5 mL	398390	05/22/18 01:14	S1K	TAL PEN
	Instrument ID: CH_LARS									

Client Sample ID: MW-3
Date Collected: 05/16/18 15:35
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-3
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	398390	05/22/18 00:30	S1K	TAL PEN
	Instrument ID: CH_LARS									

Client Sample ID: MW-4
Date Collected: 05/16/18 15:25
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-4
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	398390	05/22/18 00:52	S1K	TAL PEN
	Instrument ID: CH_LARS									

Client Sample ID: MW-5
Date Collected: 05/16/18 15:50
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-5
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		50	5 mL	5 mL	398390	05/22/18 01:35	S1K	TAL PEN
	Instrument ID: CH_LARS									

Client Sample ID: DP-01
Date Collected: 05/16/18 00:00
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-6
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		100	5 mL	5 mL	399190	05/29/18 14:56	BSW	TAL PEN
	Instrument ID: CH_WASP									

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

Client Sample ID: TB (5/16/18)

Date Collected: 05/16/18 15:20
Date Received: 05/18/18 09:10

Lab Sample ID: 400-153909-7

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	398390	05/21/18 21:13	S1K	TAL PEN
	Instrument ID: CH_LARS									

Laboratory References:

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

Accreditation/Certification Summary

Client: Stantec Consulting Services Inc
TestAmerica Job ID: 400-153909-1
Project/Site: El Paso CGP Company - Sandoval GC A#1

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	06-30-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-19

Method Summary

Client: Stantec Consulting Services Inc
Project/Site: El Paso CGP Company - Sandoval GC A#1

TestAmerica Job ID: 400-153909-1

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

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: S. Gardner / S. Hansen	Lab PM: Webb, Carol M	Carrier Tracking No(s):	COC No: 400-74087-29209.1
Client Contact: Ms. Sarah Gardner	Phone: 303 291 2239	E-Mail: carol.webb@testamericainc.com		Page: Page 1 of 1
Company: Stantec Consulting Services Inc				Job #:

Address: 1560 Broadway Suite 1800	Due Date Requested:	Analysis Requested
City: Denver	TAT Requested (days): Standard	
State, Zip: CO, 80202	PO #: See Project Notes	
Phone: 303-291-2239(Tel)	WO #:	
Email: sarah.gardner@mwhglobal.com	Project #: 40005479	
Project Name: Sandoval GC A#1 Q2 2018	SSOW#:	
Site: Sandoval GC A#1		

400-153909 COC

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:

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 (Yes or No)	8260C - BTEX 8260	Total Number of containers	Special Instructions/Note:
Preservation Code:							A		
MW-1	5/16/2018	1530	G	W			3	3	
MW-2	5/16/2018	1545	G	W			3	3	Unpreserved
MW-3	5/16/2018	1535	G	W			3	3	
MW-4	5/16/2018	1525	G	W			3	3	
MW-5	5/16/2018	1550	G	W			3	3	
DP-01	5/16/2018	—	G	W			3	3	Unpreserved
TB(5/16/18)	5/16/2018	1520	—	W			3	3	

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:	Company	Received by:	Date/Time:	Company
[signature]	5/17/2018 800	Stantec	[signature]	5-18-18 9:10	TA-PA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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: 0.0°C IR 8

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc Job Number: 400-153909-1

Login Number: 153909 **List Source: TestAmerica Pensacola**
List Number: 1
Creator: Johnson, Jeremy N

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	0.0°C IR7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 400-161288-1

Client Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

For:

Stantec Consulting Services Inc
1560 Broadway
Suite 1800
Denver, Colorado 80202

Attn: Ms. Sarah Gardner

Carol M Webb

Authorized for release by:
11/5/2018 12:54:11 PM

Carol Webb, Project Manager II
(850)471-6250
carol.webb@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Case Narrative

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

Job ID: 400-161288-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-161288-1

Comments
No additional comments.

Receipt
The samples were received on 10/30/2018 9:38 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.1º C.

GC/MS VOA
Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-2 (400-161288-2), MW-5 (400-161288-5) and DUP-01 (400-161288-7). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or 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: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

Client Sample ID: MW-1 — Lab Sample ID: 400-161288-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	1.9		1.0		ug/L	1		8260C	Total/NA
Ethylbenzene	3.0		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-2 — Lab Sample ID: 400-161288-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	4600		50		ug/L	50		8260C	Total/NA
Toluene	4800		50		ug/L	50		8260C	Total/NA
Ethylbenzene	910		50		ug/L	50		8260C	Total/NA
Xylenes, Total	16000		500		ug/L	50		8260C	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 400-161288-3

No Detections.

Client Sample ID: MW-4 — Lab Sample ID: 400-161288-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	14		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 400-161288-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	2800		20		ug/L	20		8260C	Total/NA
Toluene	1700		20		ug/L	20		8260C	Total/NA
Ethylbenzene	590		20		ug/L	20		8260C	Total/NA
Xylenes, Total	6900		200		ug/L	20		8260C	Total/NA

Client Sample ID: TB-01 — Lab Sample ID: 400-161288-6

No Detections.

Client Sample ID: DUP-01 — Lab Sample ID: 400-161288-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	4700		50		ug/L	50		8260C	Total/NA
Toluene	4600		50		ug/L	50		8260C	Total/NA
Ethylbenzene	930		50		ug/L	50		8260C	Total/NA
Xylenes, Total	14000		500		ug/L	50		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-161288-1	MW-1	Water	10/28/18 08:05	10/30/18 09:38
400-161288-2	MW-2	Water	10/28/18 08:20	10/30/18 09:38
400-161288-3	MW-3	Water	10/28/18 07:45	10/30/18 09:38
400-161288-4	MW-4	Water	10/28/18 08:00	10/30/18 09:38
400-161288-5	MW-5	Water	10/28/18 08:10	10/30/18 09:38
400-161288-6	TB-01	Water	10/28/18 07:20	10/30/18 09:38
400-161288-7	DUP-01	Water	10/28/18 07:25	10/30/18 09:38

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

Client Sample ID: MW-1
Date Collected: 10/28/18 08:05
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-1
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.9**		1.0		ug/L			11/02/18 12:40	1
Toluene	<1.0		1.0		ug/L			11/02/18 12:40	1
Ethylbenzene	**3.0**		1.0		ug/L			11/02/18 12:40	1
Xylenes, Total	<10		10		ug/L			11/02/18 12:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*11/02/18 12:40*	*1*
Dibromofluoromethane	*98*		*81 - 121*		*11/02/18 12:40*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/02/18 12:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*67 - 134*		*11/02/18 12:40*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

Client Sample ID: MW-2
Date Collected: 10/28/18 08:20
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-2
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4600		50		ug/L			11/02/18 15:38	50
Toluene	4800		50		ug/L			11/02/18 15:38	50
Ethylbenzene	910		50		ug/L			11/02/18 15:38	50
Xylenes, Total	16000		500		ug/L			11/02/18 15:38	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*78 - 118*		*11/02/18 15:38*	*50*
Dibromofluoromethane	*96*		*81 - 121*		*11/02/18 15:38*	*50*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/02/18 15:38*	*50*
1,2-Dichloroethane-d4 (Surr)	*97*		*67 - 134*		*11/02/18 15:38*	*50*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

Client Sample ID: MW-3
Date Collected: 10/28/18 07:45
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-3
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			11/02/18 13:07	1
Toluene	<1.0		1.0		ug/L			11/02/18 13:07	1
Ethylbenzene	<1.0		1.0		ug/L			11/02/18 13:07	1
Xylenes, Total	<10		10		ug/L			11/02/18 13:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*78 - 118*		*11/02/18 13:07*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*11/02/18 13:07*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/02/18 13:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*67 - 134*		*11/02/18 13:07*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

Client Sample ID: MW-4
Date Collected: 10/28/18 08:00
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-4
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**14**		1.0		ug/L			11/02/18 13:33	1
Toluene	<1.0		1.0		ug/L			11/02/18 13:33	1
Ethylbenzene	<1.0		1.0		ug/L			11/02/18 13:33	1
Xylenes, Total	<10		10		ug/L			11/02/18 13:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*78 - 118*		*11/02/18 13:33*	*1*
Dibromofluoromethane	*103*		*81 - 121*		*11/02/18 13:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*67 - 134*		*11/02/18 13:33*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

Client Sample ID: MW-5
Date Collected: 10/28/18 08:10
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-5
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2800		20		ug/L			11/02/18 15:11	20
Toluene	1700		20		ug/L			11/02/18 15:11	20
Ethylbenzene	590		20		ug/L			11/02/18 15:11	20
Xylenes, Total	6900		200		ug/L			11/02/18 15:11	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*78 - 118*		*11/02/18 15:11*	*20*
Dibromofluoromethane	*99*		*81 - 121*		*11/02/18 15:11*	*20*
Toluene-d8 (Surr)	*102*		*80 - 120*		*11/02/18 15:11*	*20*
1,2-Dichloroethane-d4 (Surr)	*97*		*67 - 134*		*11/02/18 15:11*	*20*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

Client Sample ID: TB-01
Date Collected: 10/28/18 07:20
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-6
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			11/02/18 11:21	1
Toluene	<1.0		1.0		ug/L			11/02/18 11:21	1
Ethylbenzene	<1.0		1.0		ug/L			11/02/18 11:21	1
Xylenes, Total	<10		10		ug/L			11/02/18 11:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*78 - 118*		*11/02/18 11:21*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*11/02/18 11:21*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*67 - 134*		*11/02/18 11:21*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

Client Sample ID: DUP-01
Date Collected: 10/28/18 07:25
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-7
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4700		50		ug/L			11/02/18 16:04	50
Toluene	4600		50		ug/L			11/02/18 16:04	50
Ethylbenzene	930		50		ug/L			11/02/18 16:04	50
Xylenes, Total	14000		500		ug/L			11/02/18 16:04	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*94*		*78 - 118*		*11/02/18 16:04*	*50*
Dibromofluoromethane	*98*		*81 - 121*		*11/02/18 16:04*	*50*
Toluene-d8 (Surr)	*99*		*80 - 120*		*11/02/18 16:04*	*50*
1,2-Dichloroethane-d4 (Surr)	*98*		*67 - 134*		*11/02/18 16:04*	*50*

QC Association Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

GC/MS VOA

Analysis Batch: 418043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161288-1	MW-1	Total/NA	Water	8260C	
400-161288-2	MW-2	Total/NA	Water	8260C	
400-161288-3	MW-3	Total/NA	Water	8260C	
400-161288-4	MW-4	Total/NA	Water	8260C	
400-161288-5	MW-5	Total/NA	Water	8260C	
400-161288-6	TB-01	Total/NA	Water	8260C	
400-161288-7	DUP-01	Total/NA	Water	8260C	
MB 400-418043/4	Method Blank	Total/NA	Water	8260C	
LCS 400-418043/1002	Lab Control Sample	Total/NA	Water	8260C	
400-161064-A-7 MS	Matrix Spike	Total/NA	Water	8260C	
400-161064-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

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

Lab Sample ID: MB 400-418043/4
Matrix: Water
Analysis Batch: 418043

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			11/02/18 08:42	1
Toluene	<1.0		1.0		ug/L			11/02/18 08:42	1
Ethylbenzene	<1.0		1.0		ug/L			11/02/18 08:42	1
Xylenes, Total	<10		10		ug/L			11/02/18 08:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*78 - 118*		*11/02/18 08:42*	*1*
Dibromofluoromethane	*102*		*81 - 121*		*11/02/18 08:42*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*11/02/18 08:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*11/02/18 08:42*	*1*

Lab Sample ID: LCS 400-418043/1002
Matrix: Water
Analysis Batch: 418043

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	42.9		ug/L		86	70 - 130		
Toluene			50.0	46.5		ug/L		93	70 - 130		
Ethylbenzene			50.0	46.7		ug/L		93	70 - 130		
Xylenes, Total			100	92.5		ug/L		93	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*93*		*78 - 118*
Dibromofluoromethane	*98*		*81 - 121*
Toluene-d8 (Surr)	*97*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*

Lab Sample ID: 400-161064-A-7 MS
Matrix: Water
Analysis Batch: 418043

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	43.0		ug/L		86	56 - 142		
Toluene	<1.0		50.0	45.7		ug/L		91	65 - 130		
Ethylbenzene	<1.0		50.0	45.0		ug/L		90	58 - 131		
Xylenes, Total	<10		100	88.0		ug/L		88	59 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*92*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
Toluene-d8 (Surr)	*97*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*67 - 134*

QC Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

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

Lab Sample ID: 400-161064-A-7 MSD
Matrix: Water
Analysis Batch: 418043

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	43.7		ug/L		87	56 - 142	2	30
Toluene	<1.0		50.0	46.4		ug/L		93	65 - 130	2	30
Ethylbenzene	<1.0		50.0	45.1		ug/L		90	58 - 131	0	30
Xylenes, Total	<10		100	89.4		ug/L		89	59 - 130	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*92*		*78 - 118*
Dibromofluoromethane	*99*		*81 - 121*
Toluene-d8 (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*67 - 134*

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

Client Sample ID: MW-1
Date Collected: 10/28/18 08:05
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-1
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	418043	11/02/18 12:40	WPD	TAL PEN
	Instrument ID: CH_TAN									

Client Sample ID: MW-2
Date Collected: 10/28/18 08:20
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-2
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		50	5 mL	5 mL	418043	11/02/18 15:38	WPD	TAL PEN
	Instrument ID: CH_TAN									

Client Sample ID: MW-3
Date Collected: 10/28/18 07:45
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-3
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	418043	11/02/18 13:07	WPD	TAL PEN
	Instrument ID: CH_TAN									

Client Sample ID: MW-4
Date Collected: 10/28/18 08:00
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-4
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	418043	11/02/18 13:33	WPD	TAL PEN
	Instrument ID: CH_TAN									

Client Sample ID: MW-5
Date Collected: 10/28/18 08:10
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-5
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		20	5 mL	5 mL	418043	11/02/18 15:11	WPD	TAL PEN
	Instrument ID: CH_TAN									

Client Sample ID: TB-01
Date Collected: 10/28/18 07:20
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-6
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	418043	11/02/18 11:21	WPD	TAL PEN
	Instrument ID: CH_TAN									

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

Client Sample ID: DUP-01
Date Collected: 10/28/18 07:25
Date Received: 10/30/18 09:38

Lab Sample ID: 400-161288-7
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		50	5 mL	5 mL	418043	11/02/18 16:04	WPD	TAL PEN
	Instrument ID: CH_TAN									

Laboratory References:

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

Accreditation/Certification Summary

Client: Stantec Consulting Services Inc
TestAmerica Job ID: 400-161288-1
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

Laboratory: TestAmerica Pensacola

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

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-19
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-19
California	State Program	9	2510	06-30-19
Florida	NELAP	4	E81010	06-30-19
Georgia	State Program	4	E81010 (FL)	06-30-19
Illinois	NELAP	5	200041	10-09-19
Iowa	State Program	7	367	08-01-20
Kansas	NELAP	7	E-10253	10-31-18 *
Kentucky (UST)	State Program	4	53	06-30-19
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-19
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-19
Massachusetts	State Program	1	M-FL094	06-30-19
Michigan	State Program	5	9912	06-30-19
New Jersey	NELAP	2	FL006	06-30-19
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-19
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-19
Tennessee	State Program	4	TN02907	06-30-19
Texas	NELAP	6	T104704286-18-16	09-30-19
US Fish & Wildlife	Federal		LE058448-0	07-31-19
USDA	Federal		P330-18-00148	05-17-21
Virginia	NELAP	3	460166	06-14-19
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC -Sandoval GC A#1

TestAmerica Job ID: 400-161288-1

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

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

Chain of Custody Record

400-161288 COC

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: S Gardner/ S. Spiering	Lab PM: Webb, Carol M	Carrier Tracking No(s):	COC No: 400-77996-29209.1
Client Contact: Ms. Sarah Gardner	Phone: 303 291 2239	E-Mail: carol.webb@testamericainc.com		Page: Page 1 of 1
Company: Stantec Consulting Services Inc				Job #:
Address: 1560 Broadway Suite 1800	Due Date Requested:			
City: Denver	TAT Requested (days): 7 day			
State, Zip: CO, 80202				
Phone: 303-291-2239(Tel)	PO #: See Project Notes			
Email: sarah.gardner@stantec.com	WO #:			
Project Name: Sandoval GC A#1 Q4 2018	Project #: 40005479			
Site: Sandoval GC A#1	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:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=wasteoil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - BTEX 8260	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
MW-1	10/28/18	805	G	W			2		Unpreserved
MW-2	10/28/18	820	G	W			3		Unpreserved
MW-3	10/28/18	745	G	W			3		Unpreserved
MW-4	10/28/18	800	G	W			3		
MW-5	10/28/18	810	G	W			2		Unpreserved
TB-01	10/28/18	720	—	W			3		
DUP-01	10/28/18	725	G	W			3		Unpreserved

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:	Company	Received by:	Date/Time:	Company
[signature]	10/29/2018 1200	Stantec	[signature]	10/30/18 0938	[illegible]
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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: 4.1°C IR7

Ver: 08/04/2016

Login Sample Receipt Checklist

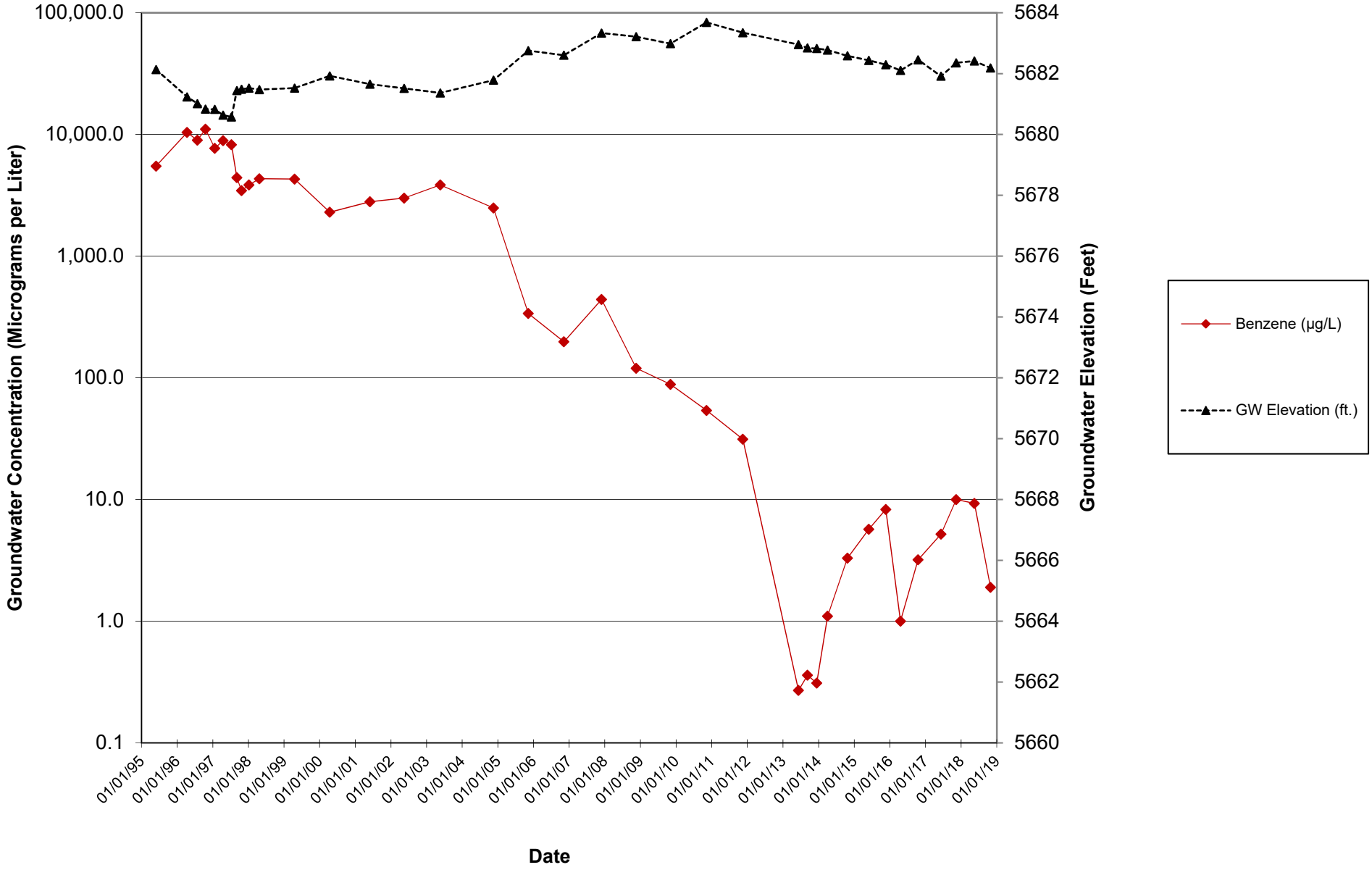
Client: Stantec Consulting Services Inc Job Number: 400-161288-1

Login Number: 161288 **List Source: TestAmerica Pensacola**
List Number: 1
Creator: Perez, Trina M

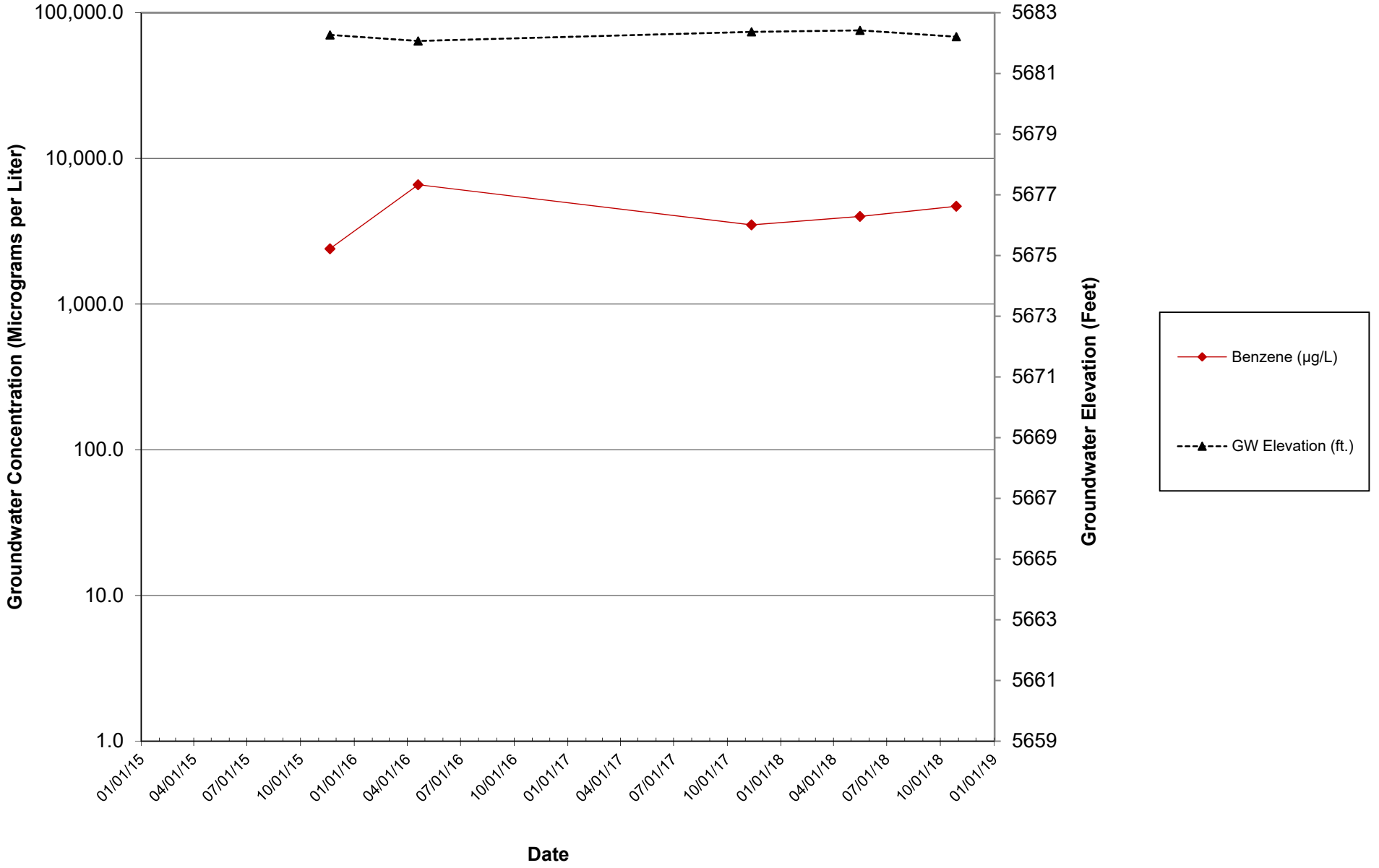
Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.1°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.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ATTACHMENT R - Groundwater Hydrographs

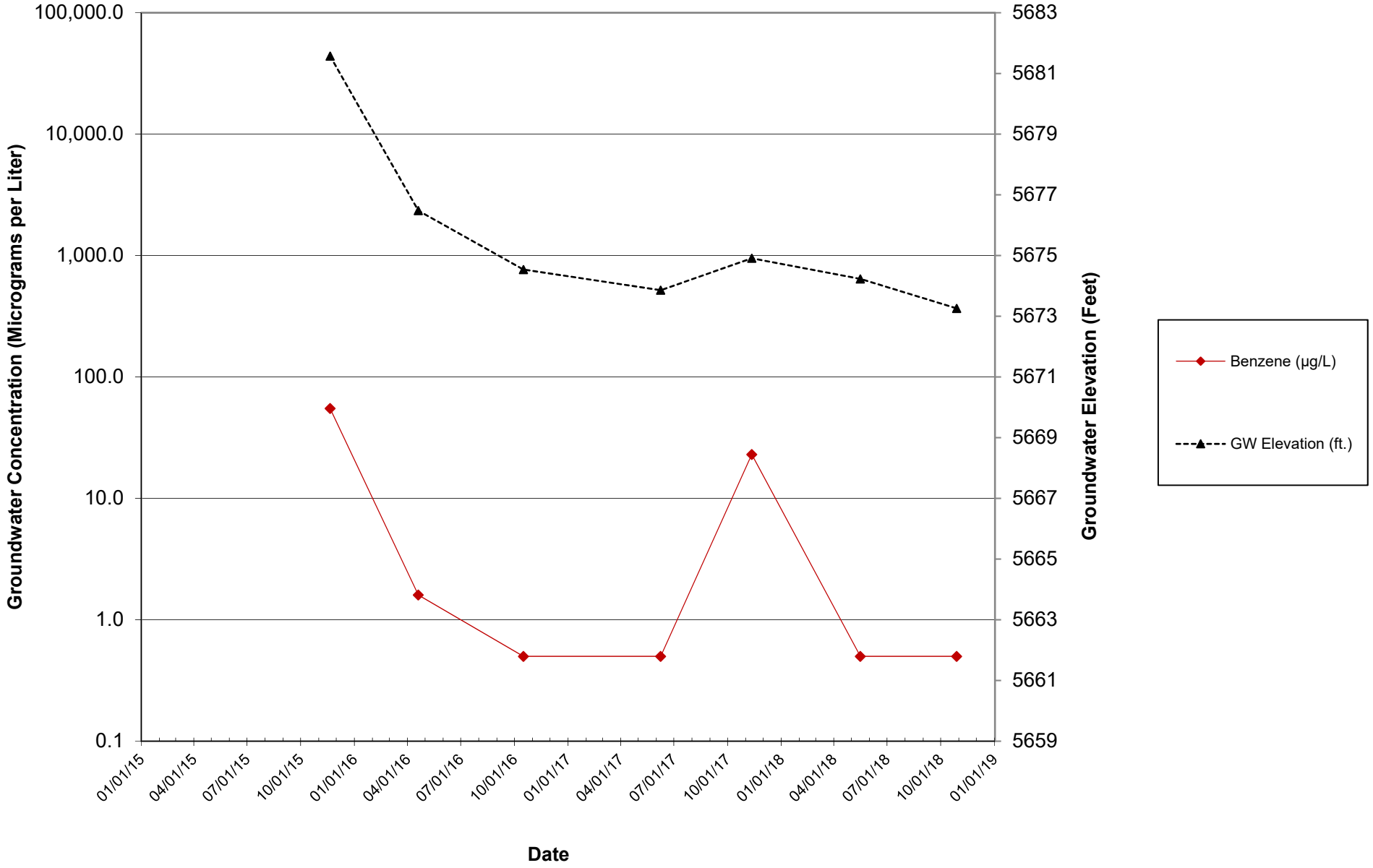
Stantec



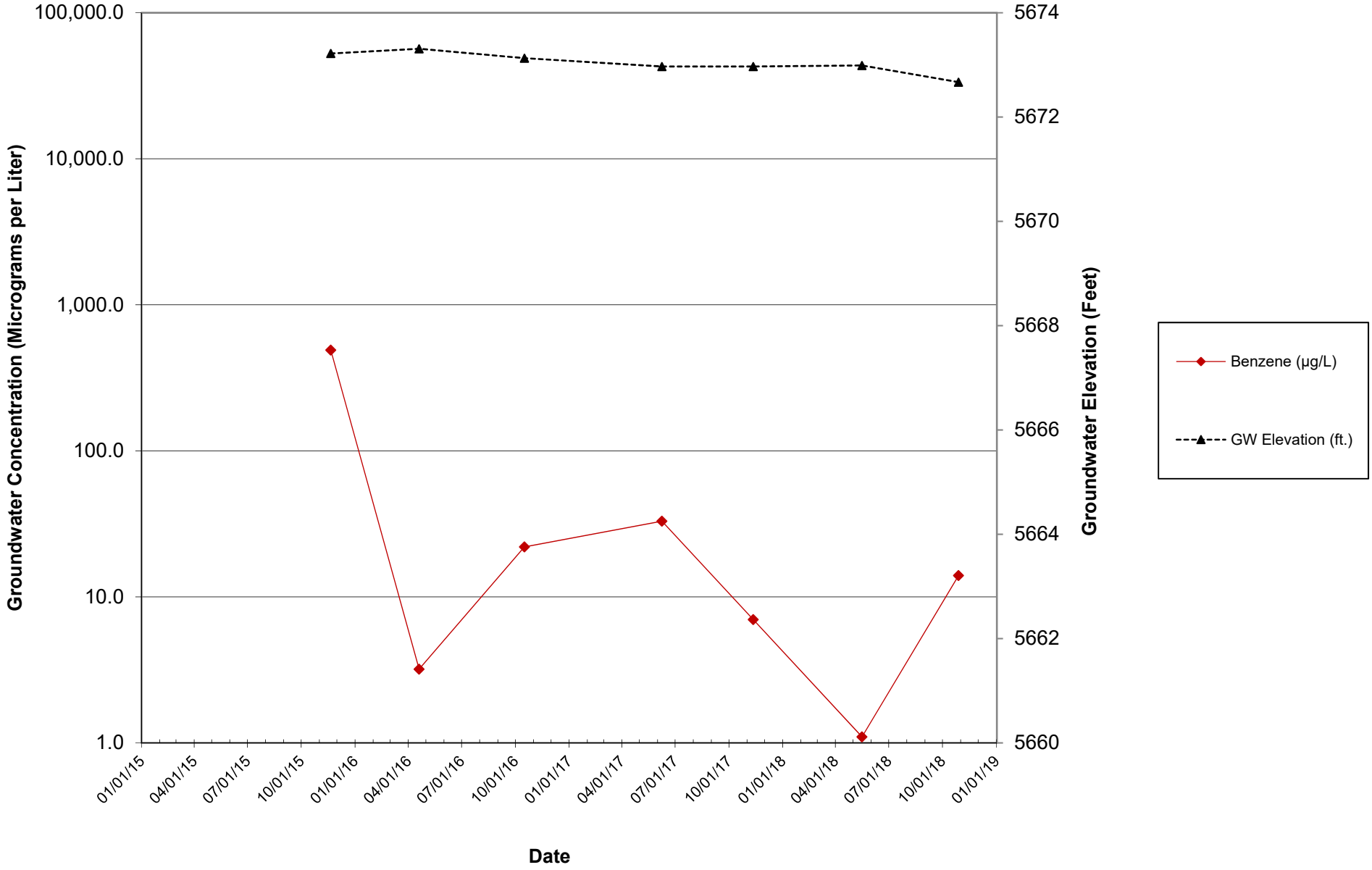
Stantec	SANDOVAL GC A#1A SAN JUAN RIVER BASIN SAN JUAN COUNTY, NEW MEXICO	GROUNDWATER HYDROGRAPH (SAMPLED DATES ONLY) MW-1	FIGURE 1



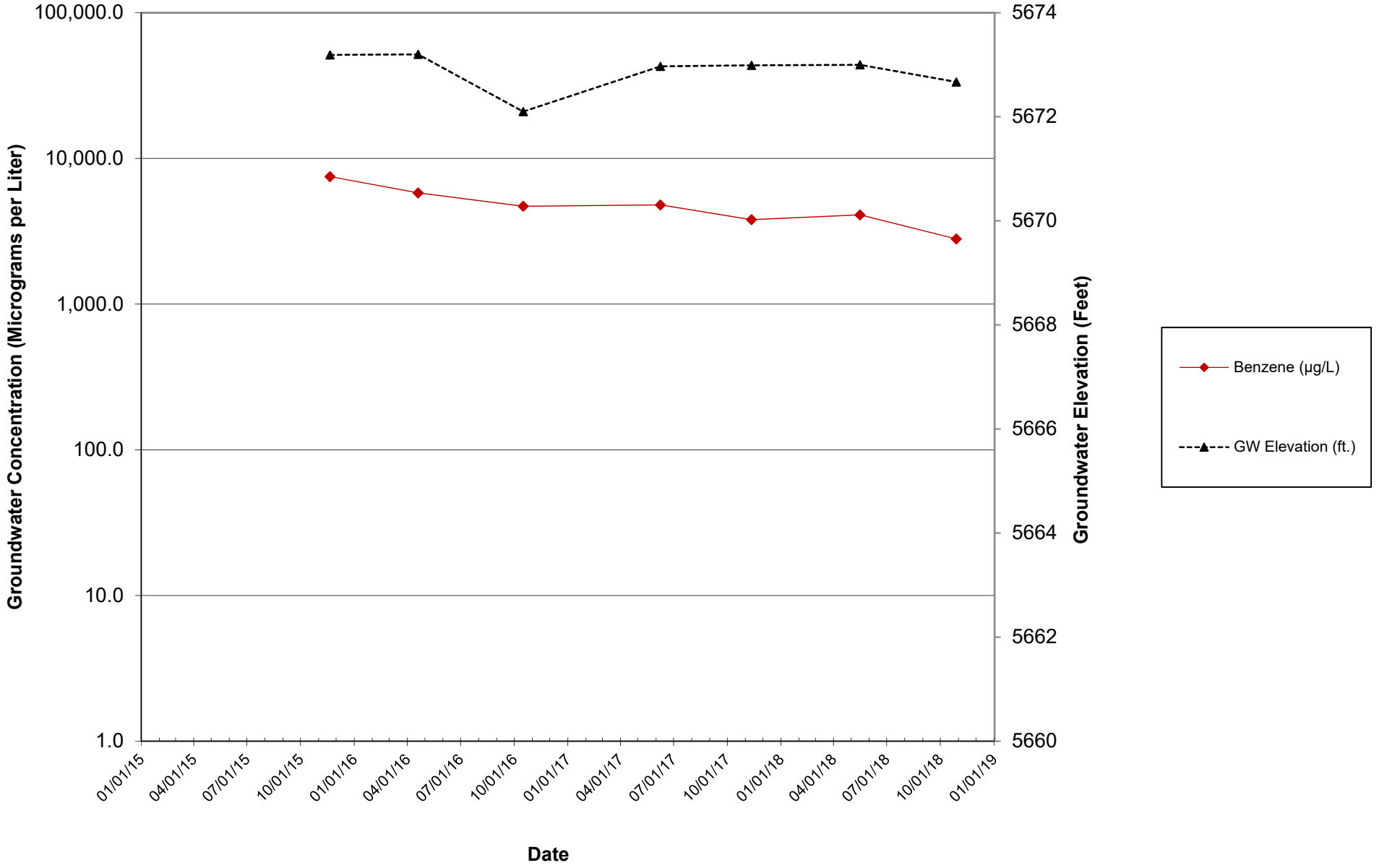
Stantec	SANDOVAL GC A#1A SAN JUAN RIVER BASIN SAN JUAN COUNTY, NEW MEXICO	GROUNDWATER HYDROGRAPH (SAMPLED DATES ONLY) MW-2	FIGURE 2



Stantec	SANDOVAL GC A#1A SAN JUAN RIVER BASIN SAN JUAN COUNTY, NEW MEXICO	GROUNDWATER HYDROGRAPH MW-3	FIGURE 3



Stantec	SANDOVAL GC A#1A SAN JUAN RIVER BASIN SAN JUAN COUNTY, NEW MEXICO	GROUNDWATER HYDROGRAPH MW-4	FIGURE 4



Stantec	SANDOVAL GC A#1A SAN JUAN RIVER BASIN SAN JUAN COUNTY, NEW MEXICO	GROUNDWATER HYDROGRAPH MW-5	FIGURE 5

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 94687

CONDITIONS

Operator:	OGRID:
El Paso Natural Gas Company, L.L.C 1001 Louisiana Street Houston, TX 77002	7046
	Action Number: 94687
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	2021 ANNUAL GROUNDWATER REPORT Sandoval GC A#1A Incident Number: nAUTOfAB000635 has been accepted for the record.	5/1/2024