2018 ANNUAL GROUNDWATER REPORT

Lateral L-40 Line Drip
NMOCD CASE#: 3RP-212-0
Meter Code: LD174
T28N, R4W, Sec13, Unit H

SITE DETAILS

Site Location: Latitude: 36.659672 N, Longitude: -107.194520 W
Land Type: Federal
Operator: Enterprise (Pipeline)

SITE BACKGROUND

Environmental Remediation activities at Lateral L-40 Line Drip (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. The Site is not active but continues to be crossed by a pipeline operated by Enterprise.

The Site is located on Federal land. An initial site assessment was completed in January 1995, and an excavation to approximately 12 feet below ground surface (bgs) was completed in January of 1995, removing approximately 60 cubic yards (cy) of soil. Various site investigations have occurred since 1995. A monitoring well was installed in 1995 (MW-1), two soil borings were advanced in 1999, and one additional soil boring (SB-1) was advanced in 2016. Additional monitoring wells were installed in 2016 (MW-2, MW-3, MW-4, MW-5) and 2018 (MW-6, MW-7, MW-8, MW-9, MW-10). Soil vapor extraction (SVE) test wells were installed in 2018 (SVE-1, SVE-2, SVE-3). Also, SVE feasibility testing was conducted in October 2018. Historically, free product was observed and recovered from MW-1, but no free product has been noted since 2003. Currently, groundwater sampling is conducted on a semi-annual basis.

MONITORING WELL INSTALLATION ACTIVITIES

Monitoring well and test well locations were staked for permitting and utility locating purposes in May 2018. The well advancement and installation activities were completed in accordance with the September 19, 2018 *Work Plan for 2018 Well Installation and SVE Feasibility Testing Activities*, subsequently approved by the NMOCD. The NMOCD was notified of the start of the well installation activities via electronic mail (email) on September 20, 2018 (Appendix A).

Five monitoring wells (MW-6, MW-7, MW-8, MW-9, and MW-10) and three soil vapor extraction wells (SVE-1, SVE-2, and SVE-3) were advanced and installed in October 2018, to further characterize the extent of the dissolved-phase hydrocarbons at the Site and prepare for the SVE feasibility tests. Ground surface and casing elevations of the new monitoring wells were subsequently surveyed by a licensed surveyor using state plane coordinates.

Monitoring wells were constructed of 2-inch-diameter, Schedule 40 polyvinyl chloride (PVC), with 0.010-inch, continuous, factory-slotted PVC screen. The five monitoring wells were installed with 20 foot well screens, set from approximately 30 to 50 feet bgs. The monitoring wells were installed at depths that bisected the field-observed or expected water table. A 3-foot seal of bentonite chips was placed above the sand pack and hydrated, and the remaining annular space filled with bentonite grout. The five monitoring wells were completed as stick-up wells with locking protective casings and a concrete surface

completion. Four protective bollards were installed around each new monitoring well finished with a stick-up completion. Borehole logs and well construction diagrams are provided in Appendix B.

Soil vapor extraction wells were constructed of 4-inch-diameter, Schedule 40 polyvinyl chloride (PVC), with 0.020-inch, continuous, factory-slotted PVC screen. The three SVE test wells were advanced to auger refusal and installed with 10 foot well screens. Based on observed conditions during advancement, the well screen for SVE-1 was set from approximately 20 to 30 bgs, and the well screens for SVE-2 and SVE-3 were set at approximately 12 to 22 feet bgs. Each new SVE test well was finished with a stick-up completion, and two protective bollards were installed around each test well. Borehole logs and well construction diagrams are provided in Appendix B.

During advancement of each monitoring and test well completed in October 2018, one soil sample, at a minimum, was retained and placed in a 4-ounce jar for laboratory analysis. Soil samples were collected from MW-7, MW-8, MW-9, and MW-10 from the interval with the highest field screening reading. Two soil samples were collected from MW-6, one from above the sandstone encountered at about 21 feet bgs and the second from the 32 to 33-foot interval. Two soil samples were collected at SVE-1 at the two intervals with the highest field screening reading within the well-screened interval. At SVE-2 and SVE-3, a soil sample was collected from the interval with the highest field screening reading and from the interval near the bottom of the boring where hydrocarbon staining and/or odor was noted along with a high field screening reading. Retained sample jars were stored in an ice-filled cooler and shipped under standard chain-of-custody protocols to TestAmerica Laboratories, Inc. in Pensacola, Florida (TestAmerica). The soil samples were analyzed for the presence of benzene, toluene, ethylbenzene, and total xylenes (BTEX) according to United States Environmental Protection Agency (EPA) Method SW846 8021B; gasoline range organics, diesel range organics, and motor oil range organics using EPA Method 8015B; and chloride according to EPA Method 325.2. The soil sample analytical reports are provided in Appendix C.

Monitoring well development was performed using a well swab and down-hole pump until visibly clear groundwater was observed or the well went dry. Monitoring wells MW-8 and MW-10 went dry during development, and MW-6 did not contain measurable water immediately following installation. Development and decontamination water were containerized and transported to Basin Disposal, Inc. (Basin) in Bloomfield, NM for disposal. Soil cuttings were drummed and staged on-site for later removal and disposal at Envirotech, Inc. (Envirotech), located south of Bloomfield, NM. Soil and water disposal documents are contained in Appendices D and E, respectively.

SOIL VAPOR EXTRACTION FEASIBILITY TESTING

In accordance with the September 19, 2018 *Work Plan for 2018 Well Installation and SVE Feasibility Testing Activities*, SVE feasibility testing activities were conducted at the Site on October 20, 2018 by AcuVac Remediation, LLC, of Houston, Texas (AcuVac). The NMOCD was notified of the start date for the feasibility testing activities on October 16, 2018 (Appendix A). Test wells SVE-1, SVE-2, and SVE-3, and monitoring well MW-1 were used as extraction wells for the SVE feasibility testing.

The intent of SVE is to reduce concentrations of VOCs within the vadose zone through extraction and volatilization. The SVE feasibility testing was conducted using the AcuVac I-6 System; the vacuum extraction portion of the AcuVac system consists of a vacuum pump powered by an internal combustion engine (ICE). The vacuum pump was connected to the extraction well via hose and induced a vacuum on the well. Recovered vapors from the SVE blower were combusted using AcuVac's ICE system.

SVE feasibility testing was conducted on test wells SVE-1, SVE-2, SVE-3 and monitoring well MW-1 to evaluate pressure and flow rate response. SVE-1, SVE-2, and SVE-3 were installed above competent bedrock, in an area where hydrocarbons have been detected in the vadose zone. MW-1 was utilized as an extraction well due to the unsaturated portion of the well screen being situated in competent bedrock. The SVE tests involved inducing various vacuum pressures at the extraction well over a set time interval. During testing, flow rate, water level, carbon dioxide, oxygen, carbon monoxide, hydrogen sulfide, and hydrocarbon concentration data were collected to evaluate performance. Pressure/vacuum influence was also monitored at select monitoring wells of varying distances from the test well to provide data for evaluating the radius of influence. Based on the data collected during the feasibility test, SVE appears viable at the Site.

AcuVac's reports summarizing the SVE feasibility testing activities at the Site are presented as Appendix F. No wastes were generated during the feasibility testing activities that required off-site disposal.

GROUNDWATER SAMPLING ACTIVITIES

Pursuant to the Remediation Plan, Stantec Consulting Services Inc. (Stantec) provided field work notifications via email to the NMOCD on May 9, 2018 and October 23, 2018, prior to initiating groundwater sampling activities at the Site. Copies of the 2018 NMOCD notifications are provided in Appendix A.

On May 18, 2018 and November 1, 2018, water levels were gauged at MW-1 through MW-5; in November water levels were also gauged at monitoring wells MW-6 through MW-10. Monitoring well MW-6 was found to be dry on November 1, 2018. Groundwater samples were collected from the remaining selected monitoring wells using HydraSleeve™ (HydraSleeve) no-purge groundwater sampling devices. The HydraSleeves were set during the previous sampling event, or following well development for newly-installed wells, using a suspension tether and stainless-steel weights. The HydraSleeves were positioned to collect a sample from the screened interval by setting the bottom of the sleeve approximately 0.5 foot above termination depth of the monitoring wells.

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 where they were analyzed for BTEX. One laboratory-supplied trip blank was also collected during each groundwater sampling event. 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, email to NMOCD. The groundwater samples, field duplicates, and trip blanks were analyzed using EPA Method 8260.

The unused sample water was combined in a waste container and taken to Basin for disposal. Waste disposal documentation is included as Appendix E.

SUMMARY TABLES

Historic groundwater analytical results and well gauging data are summarized in Tables 1 and 2, respectively. Soil analytical results are summarized in Table 3.

2018 ANNUAL GROUNDWATER REPORT

Lateral L-40 Line Drip
NMOCD CASE#: 3RP-212-0
Meter Code: LD174
T28N, R4W, Sec13, Unit H

SITE MAPS

Groundwater analytical maps (Figures 1 and 3) and groundwater elevation contour maps (Figures 2 and 4) summarize results of the 2018 groundwater sampling and gauging events. The soil analytical map (Figure 5) summarizes the results of the soil sampling activities.

ANALYTICAL LAB REPORTS

The groundwater analytical lab reports are included as Appendix H. The soil analytical lab report is included in Appendix C.

SOIL RESULTS

- Soil samples were collected from the borings advanced for monitoring wells MW-6, MW-7, MW-8, MW-9, and MW-10; and from test wells SVE-1, SVE-2, and SVE-3.
- Concentrations of benzene were not detected above the applicable benzene NMOCD soil closure criteria in soil samples collected from MW-6, MW-7, MW-8, MW-9, MW-10, SVE-1, SVE-2, and SVE-3.
- Concentrations of total BTEX were below the applicable NMOCD soil closure criteria in soil samples collected from MW-6, MW-7, MW-8, MW-9, MW-10, SVE-1, SVE-2, and SVE-3.
- Concentrations of TPH were above the applicable NMOCD soil closure criteria in soil sample SVE-2 (15-16) and were below applicable NMOCD criteria in the other soil samples collected in 2018.
- Concentrations of chloride were below the applicable NMOCD soil closure criteria in the soil samples collected from MW-6, MW-7, MW-8, MW-9, MW-10, SVE-1, SVE-2, and SVE-3.

GROUNDWATER RESULTS

- Monitoring well MW-6 was dry during the November sampling event and therefore was not sampled.
- Groundwater elevations indicate a general flow direction to the south southwest (see Figures 2 and 4).
- Groundwater samples collected in May 2018 from monitoring wells MW-1 through MW-5, exceeded the New Mexico Water Quality Control Commission (NMWQCC) standard (10 micrograms per liter [µg/L]) for benzene in groundwater. Benzene concentrations also exceeded the NMWQCC standard in November 2018 at MW-1, MW-2, and MW-5. Benzene concentrations were either not detected or detected below the standard in the remaining collected groundwater samples.
- Concentrations of toluene were either below the NMWQCC standard (750 µg/L) or not detected at the site monitoring wells sampled in 2018.
- Concentrations of ethylbenzene were either below the NMWQCC standard (750 µg/L) or not detected at the site monitoring wells sampled in 2018.

- Groundwater samples collected in 2018 from MW-1 exceeded the NMWQCC standard (620 µg/L) for total xylenes in groundwater. At MW-5, the total xylene concentration exceeded the NMWQCC standard in the primary sample collected in November but was below the standard in the duplicate sample. Total xylenes were either below the NMWQCC standard or not detected at the remaining site monitoring wells sampled in 2018.
- A field duplicate was collected from MW-3 in May 2018 and from MW-5 in October. For each sampling event, no significant differences were noted between the primary and duplicate sample results.
- Detectable concentrations of BTEX constituents were not reported in the trip blanks collected and analyzed as part of the 2018 groundwater monitoring events.

PLANNED FUTURE ACTIVITIES

As agreed during the February 6, 2019, meeting with NMOCD, EPCGP, and Stantec, semi-annual groundwater monitoring is to continue in 2019. Groundwater samples will be collected from selected monitoring wells not containing free product. A field duplicate and trip blank will also be collected during each groundwater sampling event. The groundwater samples, field duplicate, and trip blank will be analyzed for BTEX constituents using EPA Method 8260.

Groundwater has been delineated within the USFS permit area, and 2018 SVE feasibility tests indicate SVE as a viable remedial option for the Site. A goshawk survey is anticipated to be conducted in the spring of 2019 to ascertain if there will be wildlife restrictions. Additional soil assessment is planned for the summer of 2019, but implementation is contingent on the goshawk survey results. A work plan to complete soil assessment activities in 2019 will be submitted under separate cover for NMOCD approval.

The activities completed in 2019 and their results will be summarized in the 2019 Annual Report, completed for submittal in early 2020.

TABLES

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Lat. L-40 Line Drip					
Location	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards:		10	750	750	620
MW-1	09/26/95	121	218	7.4	75.1
MW-1	11/11/96	12000	20400	612	6075
MW-1	03/31/97	11100	24700	702	7440
MW-1	05/09/97	12900	22900	761	7730
MW-1	11/06/00	8.2	<0.5	15	6.9
MW-1	04/17/08	396	<50	484	2770
MW-1	04/08/09	387	7.9 J	466	2680
MW-1	06/03/10	272	<50	384	2240
MW-1	05/03/11	115	4.8	430	2160
MW-1	05/09/12	302	10.2	404	1830
MW-1	06/09/13	150	13	330	2800
MW-1	09/11/13	160	330	15 J	2600
MW-1	12/14/13	160	15	320	2500
MW-1	04/06/14	150	30 J	400	2900
MW-1	10/26/14	120	9.9 J	350	2000
MW-1	06/01/15	83	12 J	250	1500
MW-1	11/23/15	150	<100	360	2100
MW-1	04/19/16	100	<25	300	1900
MW-1	10/16/16	180	<50	410	2500
MW-1	06/11/17	120	<50	350	2000
MW-1	11/11/17	120	<10	370	2000
MW-1	05/18/18	120	<10	280	1500
MW-1	11/01/18	190	48	150	1200
MW-2	10/16/16	180	430	17	150
MW-2	06/11/17	2300	21	11	180
MW-2	11/11/17	1900	230	13	280
MW-2	05/18/18	1100	33	<10	<100
MW-2	11/01/18	130	25	<1.0	13
MW-3	10/16/16	3.4	<5.0	<1.0	<5.0
MW-3	06/11/17	130	<5.0	<1.0	<5.0
MW-3	11/11/17	170	<1.0	<1.0	<10
MW-3	05/18/18	130	23	<1.0	<10
DP-01(MW-3)*	05/18/18	140	30	<1.0	<10
MW-3	11/01/18	<1.0	<1.0	<1.0	<10
MW-4	10/16/16	8.7	15	<1.0	6.1
MW-4	06/11/17	47	6.8	<1.0	<5.0
MW-4	11/11/17	26	<1.0	<1.0	<10

TABLE 1 - GROUNDWATER ANALYTICAL RESULTS

Lat. L-40 Line Drip					
Location	**Date**	**Benzene (µg/L)**	**Toluene (µg/L)**	**Ethylbenzene (µg/L)**	**Total Xylenes (µg/L)**
NMWQCC Standards:		10	750	750	620
MW-4	05/18/18	11	<1.0	<1.0	<10
MW-4	11/01/18	<1.0	<1.0	<1.0	<10
MW-5	10/16/16	750	3000	190	1600
MW-5	06/11/17	2000	230	75	710
MW-5	11/11/17	1100	550	85	820
MW-5	05/18/18	550	53	42	<50
MW-5	11/01/18	1200	370	190	810
DUP-01(MW-5)*	11/01/18	1200	270	120	550
MW-7	11/01/18	<1.0	<1.0	<1.0	<10
MW-8	11/01/18	<1.0	<1.0	<1.0	<10
MW-9	11/01/18	5.6	5.5	<1.0	<10
MW-10	11/01/18	<1.0	<1.0	<1.0	<10

Notes:

The groundwater monitoring dates for each monitoring well where no groundwater samples were collected and analyzed have been omitted.

"µg/L" = micrograms per liter

Results highlighted yellow exceed their respective New Mexico Water Quality Control Commission (NMWQCC) standards.

"J" = Result is less than the reporting limit but greater than or equal to the method detection limit and the result in an approximate value.

"<" = analyte was not detected at the indicated reporting limit (some historic data were reported at the detection limit).

*Field Duplicate results presented immediately below primary sample result

TABLE 2 GROUNDWATER ELEVATION TABLE

Lat. L-40 Line Drip						
Location	Date	TOC	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	GW Elevation (ft.)
MW-1	09/26/95	7259.57	36.68	NR		7222.89
MW-1	11/11/96	7259.57	36.62	36.16	0.46	7223.30
MW-1	03/31/97	7259.57	36.68	36.18	0.50	7223.27
MW-1	05/09/97	7259.57	36.57	36.45	0.12	7223.09
MW-1	11/06/00	7259.57	35.06	NR		7224.51
MW-1	01/02/01	7259.57	39.08	37.95	1.13	7221.34
MW-1	06/08/01	7259.57	39.00	37.89	1.11	7221.40
MW-1	07/02/01	7259.57	39.14	37.93	1.21	7221.34
MW-1	08/03/01	7259.57	39.10	37.83	1.27	7221.42
MW-1	09/12/01	7259.57	38.96	38.02	0.94	7221.32
MW-1	10/12/01	7259.57	38.43	38.19	0.24	7221.32
MW-1	12/13/01	7259.57	38.75	38.40	0.35	7221.08
MW-1	03/12/02	7259.57	38.76	38.42	0.34	7221.07
MW-1	04/03/02	7259.57	38.66	38.39	0.27	7221.11
MW-1	05/20/02	7259.57	38.56	38.46	0.10	7221.09
MW-1	06/10/02	7259.57	38.56	38.51	0.05	7221.05
MW-1	07/19/02	7259.57	38.64	NR		7220.93
MW-1	10/11/02	7259.57	38.87	38.84	0.03	7220.72
MW-1	05/06/03	7259.57	37.97	37.94	0.03	7221.62
MW-1	07/17/03	7259.57	38.95	ND		7220.62
MW-1	10/13/03	7259.57	39.06	ND		7220.51
MW-1	04/20/04	7259.57	39.18	ND		7220.39
MW-1	07/27/04	7259.57	39.22	ND		7220.35
MW-1	10/26/04	7259.57	39.35	ND		7220.22
MW-1	04/22/05	7259.57	39.52	ND		7220.05
MW-1	07/19/05	7259.57	39.34	ND		7220.23
MW-1	10/21/05	7259.57	39.57	ND		7220.00
MW-1	01/24/06	7259.57	38.67	ND		7220.90
MW-1	05/10/06	7259.57	38.72	ND		7220.85
MW-1	07/26/06	7259.57	38.72	ND		7220.85
MW-1	10/22/06	7259.57	38.91	ND		7220.66
MW-1	04/29/07	7259.57	38.92	ND		7220.65
MW-1	07/31/07	7259.57	38.85	ND		7220.72
MW-1	10/30/07	7259.57	38.79	ND		7220.78
MW-1	04/17/08	7259.57	38.98	ND		7220.59
MW-1	07/23/08	7259.57	38.99	ND		7220.58
MW-1	10/09/08	7259.57	38.95	ND		7220.62
MW-1	04/08/09	7259.57	39.04	ND		7220.53
MW-1	06/03/10	7259.57	39.40	ND		7220.17
MW-1	09/24/10	7259.57	39.45	ND		7220.12
MW-1	11/02/10	7259.57	39.47	ND		7220.10

TABLE 2 GROUNDWATER ELEVATION TABLE

Lat. L-40 Line Drip						
Location	**Date**	**TOC**	**Depth to Water (ft.)**	**Depth to LNAPL (ft.)**	**LNAPL Thickness (ft.)**	**GW Elevation (ft.)**
MW-1	05/03/11	7259.57	39.55	ND		7220.02
MW-1	09/28/11	7259.57	39.63	ND		7219.94
MW-1	11/02/11	7259.57	39.73	ND		7219.84
MW-1	05/09/12	7259.57	39.73	ND		7219.84
MW-1	06/09/13	7259.57	37.97	ND		7221.60
MW-1	09/11/13	7259.57	38.86	ND		7220.71
MW-1	12/14/13	7259.57	40.09	ND		7219.48
MW-1	04/06/14	7259.57	40.09	ND		7219.48
MW-1	10/26/14	7259.57	40.22	ND		7219.35
MW-1	06/01/15	7259.57	46.45	ND		7213.12
MW-1	11/23/15	7259.57	42.13	ND		7217.44
MW-1	04/19/16	7259.57	40.59	ND		7218.98
MW-1	10/16/16	7259.57	40.71	ND		7218.86
MW-1	06/11/17	7259.57	40.73	ND		7218.84
MW-1	11/11/17	7259.57	40.85	ND		7218.72
MW-1	05/18/18	7259.57	40.90	ND		7218.67
MW-1	11/01/18	7259.57	40.99	ND		7218.58
MW-2	10/16/16	7259.65	40.65	ND		7219.00
MW-2	06/11/17	7259.65	40.71	ND		7218.94
MW-2	11/11/17	7259.65	40.81	ND		7218.84
MW-2	05/18/18	7259.65	40.84	ND		7218.81
MW-2	11/01/18	7259.65	41.00	ND		7218.65
MW-3	10/16/16	7259.10	40.21	ND		7218.89
MW-3	06/11/17	7259.10	40.29	ND		7218.81
MW-3	11/11/17	7259.10	40.36	ND		7218.74
MW-3	05/18/18	7259.10	40.52	ND		7218.58
MW-3	11/01/18	7259.10	40.53	ND		7218.57
MW-4	10/16/16	7261.59	42.80	ND		7218.79
MW-4	06/11/17	7261.59	42.69	ND		7218.90
MW-4	11/11/17	7261.59	42.77	ND		7218.82
MW-4	05/18/18	7261.59	42.81	ND		7218.78
MW-4	11/01/18	7261.59	42.94	ND		7218.65
MW-5	10/16/16	7260.08	41.23	ND		7218.85
MW-5	06/11/17	7260.08	41.33	ND		7218.75
MW-5	11/11/17	7260.08	41.40	ND		7218.68
MW-5	05/18/18	7260.08	41.41	ND		7218.67
MW-5	11/01/18	7260.08	41.53	ND		7218.55

TABLE 2 GROUNDWATER ELEVATION TABLE

Lat. L-40 Line Drip						
Location	**Date**	**TOC**	**Depth to Water (ft.)**	**Depth to LNAPL (ft.)**	**LNAPL Thickness (ft.)**	**GW Elevation (ft.)**
MW-6	11/01/18	7261.87	Dry	ND		Dry
MW-7	11/01/18	7259.41	40.62	ND		7218.79
MW-8	11/01/18	7258.82	40.25	ND		7218.57
MW-9	11/01/18	7258.82	40.35	ND		7218.47
MW-10	11/01/18	7260.89	42.29	ND		7218.60

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

TABLE 3 - SOIL ANALYTICAL RESULTS

Lat. L-40 Line Drip											
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 (12-13)	10/06/16	**13**	110	29	410	**562**	8400	280	5.5	**8686**	BRL
MW-3 (29-30)	10/06/16	BRL	0.0063	BRL	0.015	0.0213	BRL	BRL	BRL	BRL	BRL
MW-4 (20-21)	10/06/16	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
MW-5 (20-21)	10/05/16	BRL	BRL	BRL	0.0073	0.0073	0.12	6.2	BRL	6.32	BRL
SB-1 (12-13)	10/06/16	BRL	BRL	0.0054	0.052	0.057	0.89	22	BRL	22.89	BRL
SB-1 (16-17)	10/06/16	0.059	0.90	1.8	14	17	170	45	BRL	**215**	BRL
SB-1 (21-22)	10/06/16	BRL	BRL	0.18	0.98	1.16	50	21	BRL	71	BRL
MW-6 (20-21)	10/05/18	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
MW-6 (32-33)	10/10/18	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
MW-7 (32-33)	10/09/18	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
MW-8 (24-25)	10/05/18	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
MW-9 (23-24)	10/05/18	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
MW-10 (32-33)	10/05/18	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
SVE-1 (21-22)	10/10/18	BRL	BRL	BRL	BRL	BRL	0.13	40	BRL	40	BRL
SVE-1 (27-28)	10/10/18	BRL	0.0078	0.01	0.053	0.07	9.0	48	BRL	57	BRL
SVE-2 (15-16)	10/13/18	0.88	7.3	1.4	11	21	280	40	BRL	**320**	BRL
SVE-2 (25-26)	10/13/18	0.11	0.51	0.02	0.30	0.94	1.3	BRL	BRL	1.3	BRL
SVE-3 (13-14)	10/13/18	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
SVE-3 (26-27)	10/13/18	0.0059	0.10	0.0064	0.28	0.39	0.85	BRL	BRL	0.85	BRL

Notes:

mg/kg	Milligrams per kilogram
BRL	Below Reporting Limits
NE	New Mexico Oil Conservation Division (NMOCD) Standard Not Established
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 groundwater ≤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

FIGURES

\\Us0389-ppfss01\shared_projects\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXDs\LAT L-40\2018 MAPS\LAT_L40_GARM_1SA_2018.mxd

LEGEND:

- 7259 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- GAS — NATURAL GAS LINE
- FENCE
- CARSON NATIONAL FOREST AND JICARILLA APACHE NATION LAND BOUNDARY
- MONITORING WELL
- SMA BENCHMARK
- GAS LINE VALVE

NOTES:

DP = FIELD DUPLICATE SAMPLE

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
<100 = BELOW METHOD DETECTION 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
	3/27/2019	SLG	SLG	SRV

TITLE:

GROUNDWATER ANALYTICAL RESULTS
MAY 18, 2018

PROJECT:

LAT L-40
SAN JUAN RIVER BASIN
RIO ARRIBA COUNTY, NEW MEXICO

Stantec

Figure No.: 1

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\LAT L-40\2018 MAPS\LAT_L40_GECM_1SA_2018.mxd

CARSON NATIONAL FOREST

JICARILLA APACHE RESERVATION

LATERAL L-40

TRUNK L

SMA BENCHMARK
ELEV 7258.84'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO CENTRAL

PIPE MARKER POST

FORMER EPC PIT
EXCAVATED TO 12 FEET

MW-1 7218.67
MW-2 7218.81
MW-3 7218.58
MW-4 7218.78
MW-5 7218.67

7218.8
7218.6
7218.7

7255
7256
7257
7258
7259

AERIAL IMAGERY FROM GOOGLE EARTH, DATE 3/16/2016

LEGEND:

- 7259 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- GAS — NATURAL GAS LINE
- FENCE
- CARSON NATIONAL FOREST AND JICARILLA APACHE NATION LAND BOUNDARY
- MONITORING WELL
- SMA BENCHMARK
- GAS LINE VALVE

NOTES:

5489.39 — GROUNDWATER ELEVATION (CORRECTED FOR PRODUCT THICKNESS WHEN PRESENT) FEET ABOVE MEAN SEA LEVEL

5489.25 — CORRECTED WATER 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
	1/25/2019	SLG	SLG	SRV

TITLE:

GROUNDWATER ELEVATION MAP
MAY 18, 2018

PROJECT:

LAT L-40
SAN JUAN RIVER BASIN
RIO ARRIBA COUNTY, NEW MEXICO

Stantec

Figure No.: **2**

\\Us0389-ppfss01\shared_projects\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXDs\LAT L-40\2018 MAPS\LAT_L40_GARM_2SA_2018.mxd

CARSON NATIONAL FOREST

LATERAL L-40

7255

TRUNK L

MW-7
B: <1.0
T: <1.0
E: <1.0
X: <10

MW-2
B: 130
T: 25
E: <1.0
X: 13

PIPE MARKER POST

SMA BENCHMARK
ELEV 7258.84'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO CENTRAL

MW-6
MW-6
NS

JICARILLA APACHE RESERVATION

FORMER EPC PIT
EXCAVATED TO 12 FEET

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

SB-1

MW-1
B: 190
T: 48
E: 150
X: 1200

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

MW-8
MW-8
B: <1.0
T: <1.0
E: <1.0
X: <10

MW-5
MW-5
B: 1200
T: 370
E: 190
X: 810

DUP-01
B: 1200
T: 270
E: 120
X: 550

MW-9
MW-9
B: 5.6
T: 5.5
E: <1.0
X: <10

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

AERIAL IMAGERY FROM GOOGLE EARTH, DATE 3/16/2016

LEGEND:

- 7259 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- GAS — NATURAL GAS LINE
- FENCE
- GATE
- CARSON NATIONAL FOREST AND JICARILLA APACHE NATION LAND BOUNDARY
- MONITORING WELL
- SMA BENCHMARK
- GAS LINE VALVE

NOTES:

DUP = FIELD DUPLICATE SAMPLE

EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:

RESULTS IN **BOLDFACE**/RED TYPE INDICATE CONCENTRATION IN EXCESS OF THE STANDARD FOR THAT ANALYTE.
µg/L = MICROGRAMS PER LITER
<100 = BELOW METHOD DETECTION 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
	3/27/2019	SLG	SLG	SRV

TITLE:

GROUNDWATER ANALYTICAL RESULTS NOVEMBER 1, 2018

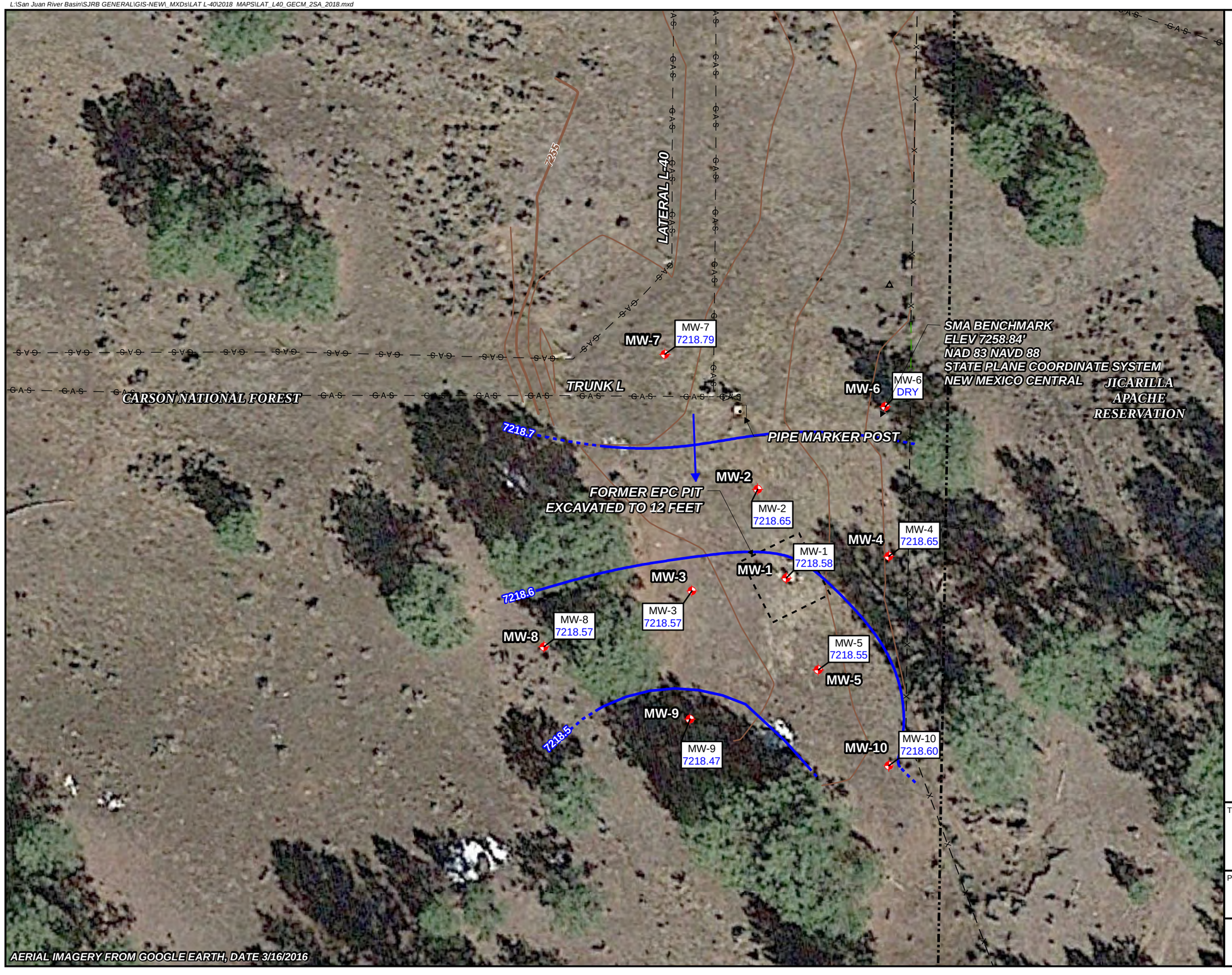
PROJECT:

LAT L-40
SAN JUAN RIVER BASIN
RIO ARRIBA COUNTY, NEW MEXICO

Stantec

Figure No.:
3

L:\San Juan River Basin\SJRB GENERAL\GIS-NEW_MXDs\LAT L-40\2018 MAPS\LAT_L40_GECM_2SA_2018.mxd



LEGEND:

- 7259 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- GAS — NATURAL GAS LINE
- FENCE
- GATE
- CARSON NATIONAL FOREST AND JICARILLA APACHE NATION LAND BOUNDARY
- MONITORING WELL
- SMA BENCHMARK
- GAS LINE VALVE

NOTES:

- 5489.39 — GROUNDWATER ELEVATION (CORRECTED FOR PRODUCT THICKNESS WHEN PRESENT) FEET ABOVE MEAN SEA LEVEL
- 5489.25 — CORRECTED WATER 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
	1/25/2019	SLG	SLG	SRV

TITLE:

GROUNDWATER ELEVATION MAP
NOVEMBER 1, 2018

PROJECT:

LAT L-40
SAN JUAN RIVER BASIN
RIO ARRIBA COUNTY, NEW MEXICO

Stantec

Figure No.: **4**

\\Us0389-ppfss01\shared_projects\193710238\07_historical\SJRB GENERAL\GIS-NEW_MXDs\LAT L-40\2018 MAPS\LAT_L40_SARM_2018.mxd

MW-7
32-33 ft. bgs
B: BRL
BTEX: BRL
TPH: BRL
Cl: BRL

SVE-2
15-16 ft. bgs
B: 0.88
BTEX: 21
TPH: 320
Cl: BRL

25-26 ft. bgs
B: 0.11
BTEX: 0.94
TPH: 1.3
Cl: BRL

MW-6
20-21 ft. bgs
B: BRL
BTEX: BRL
TPH: BRL
Cl: BRL

32-33 ft. bgs
B: BRL
BTEX: BRL
TPH: BRL
Cl: BRL

SVE-3
13-14 ft. bgs
B: BRL
BTEX: BRL
TPH: BRL
Cl: BRL

26-27 ft. bgs
B: 0.0059
BTEX: 0.39
TPH: 0.85
Cl: BRL

MW-3
29-30 ft. bgs
B: BRL
BTEX: 0.0213
TPH: BRL
Cl: BRL

MW-8
24-25 ft. bgs
B: BRL
BTEX: BRL
TPH: BRL
Cl: BRL

MW-9
23-24 ft. bgs
B: BRL
BTEX: BRL
TPH: BRL
Cl: BRL

SVE-1
21-22 ft. bgs
B: BRL
BTEX: BRL
TPH: 40
Cl: BRL

27-28 ft. bgs
B: BRL
BTEX: 0.07
TPH: 57
Cl: BRL

MW-5
20-21 ft. bgs
B: BRL
BTEX: 0.0073
TPH: 6.32
Cl: BRL

MW-2
12-13 ft. bgs
B: 13
BTEX: 562
TPH: 8686
Cl: BRL

MW-4
20-21 ft. bgs
B: BRL
BTEX: BRL
TPH: BRL
Cl: BRL

SB-1
12-13 ft. bgs
B: BRL
BTEX: 0.057
TPH: 22.89
Cl: BRL

16-17 ft. bgs
B: 0.059
BTEX: 17
TPH: 215
Cl: BRL

21-22 ft. bgs
B: BRL
BTEX: 1.16
TPH: 71
Cl: BRL

MW-10
32-33 ft. bgs
B: BRL
BTEX: BRL
TPH: BRL
Cl: BRL

BH-2
NS

BH-3
NS

MW-1
NS

LATERAL L-40

TRUNK L

CARSON NATIONAL FOREST

JICARILLA APACHE RESERVATION

SMA BENCHMARK
ELEV 7258.84'
NAD 83 NAVD 88
STATE PLANE COORDINATE SYSTEM
NEW MEXICO CENTRAL

PIPE MARKER POST

FORMER EPC PIT
EXCAVATED TO 12 FEET

7255

AERIAL IMAGERY FROM GOOGLE EARTH, DATE 3.16.2016

LEGEND:

- 7259 — APPROXIMATE GROUND SURFACE CONTOUR AND ELEVATION, FEET
- GAS — NATURAL GAS LINE
- X — FENCE
- GATE
- MONITORING WELL
- SOIL BORING
- BOREHOLE
- TEST WELL LOCATIONS
- SMA BENCHMARK
- GAS LINE VALVE
- CARSON NATIONAL FOREST AND JICARILLA APACHE NATION LAND BOUNDARY
- FOREST SERVICE JIC25 PERMIT BOUNDARY (4.3 ACRES) AND PROPOSED EXPANDED PERMIT AREA

NOTES:

MW-5 SAMPLES COLLECTED 10/5/2016; MW-2, MW-3, MW-4 AND SB-1 10/6/2016; MW-6 10/5/2018 AND 10/10/2018; MW-7 10/9/2018; MW-8 10/5/2018; MW-9 10/5/2018; MW-10 10/5/2018; SVE-1 10/10/2018; SVE-2 10/13/2018; SVE-3 10/13/2018.

UTILITY LOCATIONS ARE APPROXIMATE.

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

EXPLANATION OF ANALYTES AND APPLICABLE STANDARDS:

RESULTS IN **BOLDFACE**/RED 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

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
	3/28/2019	SLG	SLG	SRV

TITLE:

SOIL ANALYTICAL RESULTS

PROJECT:
LAT L-40
SAN JUAN RIVER BASIN
RIO ARRIBA COUNTY, NEW MEXICO

Stantec

Figure No.:
5

APPENDICES

APPENDIX A – NOTIFICATIONS TO NEW MEXICO OIL CONSERVATION DIVISION

APPENDIX B – BORING LOGS AND MONITORING WELL CONSTRUCTION DIAGRAMS

APPENDIX C – SOIL SAMPLE ANALYTICAL REPORT

APPENDIX D – SOIL WASTE DISPOSAL DOCUMENTATION

APPENDIX E – WATER WASTE DISPOSAL DOCUMENTATION

APPENDIX F – SVE STEP TEST REPORT

APPENDIX G – MAY 18, 2018 GROUNDWATER SAMPLING ANALYTICAL REPORT
NOVEMBER 1, 2018 GROUNDWATER SAMPLING ANALYTICAL REPORT

APPENDIX A

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

The content of this email is the confidential property of Stantec and should not be copied, modified, retransmitted, or used for any purpose except with Stantec's written authorization. If you are not the intended recipient, please delete all copies and notify us immediately.

From:	Varsa, Steve
To:	Bayliss, Randolph, EMNRD
Cc:	Smith, Cory, EMNRD; Fields, Vanessa, EMNRD; Wiley, Joe
Bcc:	Varsa, Steve
Subject:	3RP-212 - Lateral L-40 - Work Plan for 2018 Well Installation and SVE Feasibility Testing Activities
Date:	Thursday, September 20, 2018 7:58:00 AM
Attachments:	2018-09_Well Install & SVE Feasibility Testing Work Plan (Lat L 40).pdf

Hi Randy –

Please find attached the above-referenced work plan for your review and files. Well Installation activities at the Site are to be initiated on October 1, 2018. SVE pilot testing activities are to occur on October 18, 2018.

Please feel free to contact Joseph Wiley or me if you have any questions or need additional 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

The content of this email is the confidential property of Stantec and should not be copied, modified, retransmitted, or used for any purpose except with Stantec's written authorization. If you are not the intended recipient, please delete all copies and notify us immediately.

From:	Varsa, Steve
To:	Bayliss, Randolph, EMNRD
Cc:	Smith, Cory, EMNRD; Fields, Vanessa, EMNRD; Wiley, Joe
Bcc:	Varsa, Steve
Subject:	FW: 3RP-212 - Lateral L-40 - Work Plan for 2018 Well Installation and SVE Feasibility Testing Activities
Date:	Tuesday, October 16, 2018 4:48:00 AM
Attachments:	2018-09_Well Install & SVE Feasibility Testing Work Plan (Lat L 40).pdf

Hi Randy – This correspondence is to provide notice the planned SVE feasibility testing activities at the above-referenced site, now planned to occur on October 20, 2018.

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

The content of this email is the confidential property of Stantec and should not be copied, modified, retransmitted, or used for any purpose except with Stantec's written authorization. If you are not the intended recipient, please delete all copies and notify us immediately.

From: Varsa, Steve
Sent: Thursday, September 20, 2018 7:59 AM
To: Bayliss, Randolph, EMNRD <Randolph.Bayliss@state.nm.us>
Cc: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>; Wiley, Joe <Joe_Wiley@kindermorgan.com>
Subject: 3RP-212 - Lateral L-40 - Work Plan for 2018 Well Installation and SVE Feasibility Testing Activities

Hi Randy –

Please find attached the above-referenced work plan for your review and files. Well Installation activities at the Site are to be initiated on October 1, 2018. SVE pilot testing activities are to occur on October 18, 2018.

Please feel free to contact Joseph Wiley or me if you have any questions or need additional 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

The content of this email is the confidential property of Stantec and should not be copied, modified, retransmitted, or used for any purpose except with Stantec's written authorization. If you are not the intended recipient, please delete all copies and notify us immediately.

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

The content of this email is the confidential property of Stantec and should not be copied, modified, retransmitted, or used for any purpose except with Stantec's written authorization. If you are not the intended recipient, please delete all copies and notify us immediately.

APPENDIX B

Drilling Log

Stantec

Monitoring Well **MW-6**

Project *Lateral L 40* Client *El Paso CGP Company, LLC*

Location *Rio Arriba County, New Mexico* Project Number *193706391*

Surface Elev. *7259.44 ft* North *2060795.25* East *1353440.39*

Top of Casing *7261.87 ft* Water Level Initial ▽ *NA* Static ▼ *NA*

Hole Depth *50.0 ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *30.6 ft* Type *PVC*

Drill Co. *Cascade* Drilling Method *HSA* Sand Pack *Pioneer 10/20 sand*

Driller *Matt Cain* Driller Reg. # *WD-1210* Log By *Marc Hes*

Start Date *10/10/2018* Completion Date *10/10/2018* Checked By *S. Varsa*

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

COMMENTS
MW-6 was dry one day after installation.

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
0	0	100%			CL ML	Clay, silty, brown, firm, low plasticity, no hydrocarbon odor or staining. (0-5' hydroexcavated).	
5	0 0 0	60%			CL	Becomes sandy - fine-grained, dry.	
10	0 0	40%			CL	Becomes dark brown, little silt.	
15	0 0 0	60%			SW	Sand to a highly weathered sandstone, poorly-sorted, light grayish brown, dry, fine to medium-grained.	
20	0 0 0	Sampled 20-21' 30%				Sandstone, hard, dry, no hydrocarbon odor or staining, light grayish-brown.	
25	0	20%				Drill rig refusal at 25'. Material is sandstone, light brown, becomes light olive-brown at 26', pulverized, fine to medium-grained, medium hard, dry, no hydrocarbon odor or staining.	
30						*Continued Next Page*	

Drilling Log

Stantec

Monitoring Well **MW-6**

Project *Lateral L 40* Client *El Paso CGP Company, LLC*

Location *Rio Arriba County, New Mexico* Project Number *193706391*

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
						Continued	
30	1.1						
	1.8	40%					
		Sampled 32-33'					
35	0.1						
	0.8	50%					
	2.6					At 37', becomes light reddish-brown, iron oxide staining.	
40	0					At 40', becomes light gray, hydrocarbon-stained but no odor, moist.	
	0	50%					
	0						
	0						
45	0						
	0	60%					
	0						
	0.1					At 48', encountered a harder lens of sandstone.	
50						End of boring = 50'.	
55							
60							
65							
70							

Drilling Log

Stantec

Monitoring Well **MW-7**

Project *Lateral L 40* Client *El Paso CGP Company, LLC*

Location *Rio Arriba County, New Mexico* Project Number *193706391*

Surface Elev. *7256.88 ft* North *2060811.63* East *1363371.24*

Top of Casing *7259.41 ft* Water Level Initial ▽ *NA* Static ▼ *7220.818* 10/10/18 00:00

Hole Depth *50.0 ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *30.7 ft* Type *PVC*

Drill Co. *Cascade* Drilling Method *HSA* Sand Pack *Pioneer 10/20 sand*

Driller *Matt Cain* Driller Reg. # *WD-1210* Log By *Marc Hes*

Start Date *10/9/2018* Completion Date *10/9/2018* Checked By *S. Varsa*

COMMENTS

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
0	0	100%			CL ML	Clay, silty, brown, firm, moist, no hydrocarbon odor or staining. (0-8' hydroexcavated).	
5							
10	0	100%			SP	Sand, light brown, soft, moist, fine to medium-grained, no hydrocarbon odor or staining, highly weathered sandstone, friable.	
	0	30%				Sandstone, dry, medium hard, moderately weathered.	
						At 12', sandstone is pulverized.	
15	0	10%				At 15', sandstone becomes light olive-brown.	
20	0	40%					
25	0.2	40%					
	0.2						
30							

Continued Next Page

Drilling Log

Stantec

Monitoring Well **MW-7**

Project *Lateral L 40* Client *El Paso CGP Company, LLC*

Location *Rio Arriba County, New Mexico* Project Number *193706391*

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
						Continued	
30	1.1	40%					
	2.8						
	6.8	Sampled 32-33'					
35	1.5					At 35', becomes dark olive-brown.	
	2.0	40%				At 36', becomes light reddish-brown, iron oxide staining.	
	0.5					At 37', becomes very light gray, medium hard, non-weathered. At 37.5', becomes light bluish-gray, moist to wet, possible hydrocarbon staining.	
	0.6						
40	1.2					At 40' becomes light gray, no hydrocarbon odor, possible hydrocarbon staining.	
	3.3	40%					
	4.4						
	1.5						
45	0					Material is moist at 45' and wet from 47-47.25'.	
	0	40%					
	0						
	0					Becomes very hard at 48'.	
50						End of boring = 50'.	
55							
60							
65							
70							

Drilling Log

Stantec

Monitoring Well **MW-8**

Project *Lateral L 40* Client *El Paso CGP Company, LLC*

Location *Rio Arriba County, New Mexico* Project Number *193706391*

Surface Elev. *7256.46 ft* North *2060719.92* East *1363333.23*

Top of Casing *7258.82 ft* Water Level Initial ▽ NA Static ▼ *7220.738* 10/09/18 00:00

Hole Depth *50.0 ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *30.7 ft* Type *PVC*

Drill Co. *National EWP* Drilling Method *HSA* Sand Pack *Pioneer 10/20 sand*

Driller *Matt Cain* Driller Reg. # *WD-1210* Log By *Marc Hes*

Start Date *10/7/2018* Completion Date *10/7/2018* Checked By *S. Varsa*

COMMENTS

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
0	0	100%			CL ML	Clay, silty, brown, firm, low plasticity, no hydrocarbon odor or staining. (0-5' hydroexcavated).	
5	0	20%				Sand, light brown, medium hard, moderately weathered sandstone, fine-grained, dry, no hydrocarbon odor or staining. Driller indicates a hard sand lens exists from 7-8'.	
10	0	40%					
15	0				SP	At 15', becomes light olive-brown.	
	0	100%					
	0						
	0						
20	0						
	0.5	10%					
	0.5						
	0.8						
	1.8	Sampled 23-24'					
25	0.8						
	0.2	100%					
	0.2						
	0.2						
	0.2						
30							

Continued Next Page

Drilling Log

Stantec

Monitoring Well **MW-8**

Project *Lateral L 40* Client *El Paso CGP Company, LLC*

Location *Rio Arriba County, New Mexico* Project Number *193706391*

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
						Continued	
30	0.2						
	0.1	50%					
	0.1						
	0.1				SP		
35 ▼	0.1					At 35', becomes dark olive-brown.	
	0.1	100%				At 36', becomes light reddish-brown, iron oxide staining.	
	0.1					At 37', becomes very light gray, medium hard, non-weathered sandstone. At 37.5', becomes light bluish-gray, moist to wet, possible hydrocarbon staining.	
	0.1						
	0.1						
	0.1						
40	0.1					At 40' becomes light gray, no hydrocarbon odor, possible hydrocarbon staining.	
	0	40%					
	0						
	0						
45	0					Sandstone is moist at 45' and wet from 47-47.25'.	
	0	50%					
	0						
						Becomes very hard at 48'.	
50						End of boring = 50'.	
55							
60							
65							
70							

Drilling Log 2018 LATERAL L 40 LOGS - COPY FOR V2 XSECS.GPJ MWH IA.GDT 3/12/19

Drilling Log

Stantec

Monitoring Well **MW-9**

Project *Lateral L 40* Client *El Paso CGP Company, LLC*

Location *Rio Arriba County, New Mexico* Project Number *193706391*

Surface Elev. *7256.43 ft* North *2060697.22* East *1363379.12*

Top of Casing *7258.82 ft* Water Level Initial ▽ NA Static ▼ *7220.908* 10/09/18 00:00

Hole Depth *50.0 ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *30.6 ft* Type *PVC*

Drill Co. *Cascade* Drilling Method *HSA* Sand Pack *Pioneer 10/20 sand*

Driller *Matt Cain* Driller Reg. # *WD-1210* Log By *Marc Hes*

Start Date *10/5/2018* Completion Date *10/7/2018* Checked By *S. Varsa*

COMMENTS

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
0	0	100%			CL ML	Clay, silty, brown, firm, low plasticity, no hydrocarbon odor or staining. (0-5' hydroexcavated).	
5	0	100%				Sandstone, light reddish-brown, fine-grained, medium hard, weathered, no hydrocarbon odor, iron oxide stains	
10	0	40%				At 9', becomes very light brown, fine to medium-grained. From 10-12', sandstone is highly weathered, non-cemented, medium hard and pulverized.	
15	0	40%				At 15', sandstone becomes fine-grained. At 16', becomes very light gray and fine to medium-grained, and at 16.5', becomes light brown, fine to medium-grained, and pulverized.	
20	0.6 0.8 0.8 64.1	50%				At 21', becomes very light gray, very well cemented. At 22', becomes light brown, at 23', material has a slight hydrocarbon odor, is weakly cemented and pulverized, and non-weathered.	
25	NM 0.8 0.7 0.8 0.9	Sampled 23-24' 50%				At 25' becomes moderately cemented, pulverized, free of hydrocarbon odor.	
30	NM						

Continued Next Page

Drilling Log

Stantec

Monitoring Well **MW-9**

Project *Lateral L 40* Client *El Paso CGP Company, LLC*

Location *Rio Arriba County, New Mexico* Project Number *193706391*

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
						Continued	
30	NR					From 30-35' there was no recovery.	
	NR	0%					
	NR						
	NR						
	NR						
35 ▼	0.8					At 35', becomes olive and pulverized.	
	0.8	60%					
	3.4					At 37', becomes gray with possible hydrocarbon stain but no odor is present.	
	0.7					At 38.5', material appears to have moisture and at 40', is gray, medium hard, has a slight hydrocarbon odor, hydrocarbon staining, and is wet.	
	NM						
40	15.8						
	10.5	50%					
	8.6						
	4.3					Material is hard. Water present in the sampler from 43-50'.	
	NM						
45	1.1						
	6.8	100%					
	5.8						
	3.2						
	NM						
50						End of boring = 50'.	
55							
60							
65							
70							

Drilling Log

Stantec

Monitoring Well **MW-10**

Project *Lateral L 40* Client *El Paso CGP Company, LLC*

Location *Rio Arriba County, New Mexico* Project Number *193706391*

Surface Elev. *7258.83 ft* North *2060682.57* East *1363441.50*

Top of Casing *7260.89 ft* Water Level Initial ▽ NA Static ▼ *7220.528* 10/11/18 00:00

Hole Depth *50.0 ft* Screen: Diameter *2 in* Length *20.0 ft* Type/Size *PVC/0.01 in*

Hole Diameter *8.25 in* Casing: Diameter *2 in* Length *30.8 ft* Type *PVC*

Drill Co. *Cascade* Drilling Method *HSA* Sand Pack *Pioneer 10/20 sand*

Driller *Matt Cain* Driller Reg. # *WD-1210* Log By *Marc Hes*

Start Date *10/5/2018* Completion Date *10/10/2018* Checked By *S. Varsa*

COMMENTS

Bentonite Grout | Bentonite Seal | 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
0	0	100%			CL ML	Clay, silty, brown, firm, moist, no hydrocarbon odor or staining. (0-5' hydroexcavated).	
5	0	100%			CL ML	From 5-12.5', dark brown and dry.	
10	0	80%				Sandstone, light brown, fine to medium-grained, dry, highly weathered, friable, no hydrocarbon odor or staining.	
15	0	50%				At 14', becomes less weathered, medium-hard.	
20	0	80%				At 17', Sand (weathered sandstone), poorly sorted, fine to medium-grained, light brown, loose, dry, no hydrocarbon odor or staining.	
25	0	50%				At 20', Sandstone, light grayish-brown, becomes light olive brown from 25-30', soft, highly weathered, dry, no hydrocarbon odor or staining, fine to medium-grained, pulverized.	
30						From 26-27' material has very little cementation.	

Continued Next Page

Drilling Log

Stantec

Monitoring Well **MW-10**

Project *Lateral L 40* Client *El Paso CGP Company, LLC*

Location *Rio Arriba County, New Mexico* Project Number *193706391*

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
						Continued	
30	0						
	3.4	60%				At 32', becomes light brown, light gray from 34-36'.	
	0.8	Sampled 32-33'					
35	0.5						
		20%					
	▼						
40	0.5					Becomes light bluish-gray, moist to wet, balled cuttings, hydrocarbon odor present, drill rig refusal at 40'.	
	1.5	40%					
	0.8						
	1.1						
45	0.4					Light gray at 45'.	
	0.8	100%					
	2.1						
	0.5						
	0.1					Dry at 49'.	
50						End of boring = 50'.	
55							
60							
65							
70							

Drilling Log

Stantec

Vapor Extraction Well **SVE-1**

Project *Lateral L 40* Client *El Paso CGP Company, LLC*

Location *Rio Arriba County, New Mexico* Project Number *193706391*

Surface Elev. *7257.06 ft* North *2060742.27* East *1363401.99*

Top of Casing *7259.61 ft* Water Level Initial ▽ *NA* NA Static ▼ *NA* NA

Hole Depth *30.0 ft* Screen: Diameter *4 in* Length *10.0 ft* Type/Size *PVC/0.02 in*

Hole Diameter *10.25 in* Casing: Diameter *4 in* Length *20.0 ft* Type *PVC*

Drill Co. *Cascade* Drilling Method *HSA* Sand Pack *Pioneer 10/20 sand*

Driller *Matt Cain* Driller Reg. # *WD-1210* Log By *Marc Hes*

Start Date *10/11/2018* Completion Date *10/13/2018* Checked By *S. Varsa*

COMMENTS

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
0	0	100%			CL	Clay with silt, brown, soft, moist, low plasticity, no hydrocarbon odor or staining. (0-5' hydroexcavated).	
5	0.5 0.8 0.8	20%					
10	1.8 351 102	20%			SW	Sand with silt, light gray, poorly sorted, hydrocarbon odor and staining present, strong odor at 11'.	
15	377 198 64	40%				Sandstone, gray, poorly sorted, soft, moderately weathered, pulverized, hydrocarbon odor and staining present. At 16', becomes light olive-brown, pulverized, slight hydrocarbon odor but no staining present.	
20	351 480 1097	30% Sampled 21-22'				At 21', becomes light grayish-brown, hard, hydrocarbon odor and staining are present at 21' with a strong odor at 22' but no staining.	
25	348 551 1975	50% Sampled 27-28'				From 27-28', a strong hydrocarbon odor, no hydrocarbon staining.	
30						End of boring = 30'.	
35							

Drilling Log 2018 LATERAL L 40 LOGS.GPJ MWH IA.GDT 3/27/19

Drilling Log

Stantec

Vapor Extraction Well **SVE-2**

Project *Lateral L 40* Client *El Paso CGP Company, LLC*

Location *Rio Arriba County, New Mexico* Project Number *193706391*

Surface Elev. *7257.18 ft* North *2060767.04* East *1363395.28*

Top of Casing *7259.82 ft* Water Level Initial ▽ *NA* NA Static ▼ *NA* NA

Hole Depth *30.0 ft* Screen: Diameter *4 in* Length *10.0 ft* Type/Size *PVC/0.02 in*

Hole Diameter *10.25 in* Casing: Diameter *4 in* Length *12.0 ft* Type *PVC*

Drill Co. *Cascade* Drilling Method *HSA* Sand Pack *Pioneer 10/20 sand*

Driller *Matt Cain* Driller Reg. # *WD-1210* Log By *Marc Hes*

Start Date *10/13/2018* Completion Date *10/13/2018* Checked By *S. Varsa*

COMMENTS

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
0							
	0	100%			CL	Clay with silt, brown, soft, moist, dry at 7', low plasticity, no hydrocarbon odor or staining. (0-5' hydroexcavated).	
	0						
5	0						
	0	50%					
	0.5						
10	289					Sandstone, gray, poorly sorted, fine to medium-grained, soft, highly weathered, moderate hydrocarbon odor and staining. At 11' there is a strong odor, and the sandstone is hard and non-weathered.	
	1251	60%					
	675						
	351						
15	631					At 15' becomes light grayish-brown, a strong hydrocarbon odor is present at 16.	
	1875	50%					
	482						
		Sampled 15-16'					
20	695					At 20', becomes light gray to light grayish-brown, soft, pulverized.	
	823	50%					
	501						
25	278					At 25' becomes olive-brown, fine to medium-grained, poorly sorted, medium hard, moderate hydrocarbon odor, no hydrocarbon staining. At 26', become slight grayish-brown, with moderate hydrocarbon odor and hydrocarbon staining. At 27', driller notes a hard lens is present, sandstone is pulverized and reddish-brown.	
	341	50%					
		Sampled 25-26'					
30						End of boring = 30'.	
35							

Drilling Log 2018 LATERAL L 40 LOGS.GPJ MWH IA.GDT 3/27/19

Drilling Log

Stantec

Vapor Extraction Well **SVE-3**

Project *Lateral L 40* Client *El Paso CGP Company, LLC*

Location *Rio Arriba County, New Mexico* Project Number *193706391*

Surface Elev. *7257.28 ft* North *2060781.85* East *1363381.15*

Top of Casing *7259.89 ft* Water Level Initial ▽ *NA* NA Static ▼ *NA* NA

Hole Depth *30.0 ft* Screen: Diameter *4 in* Length *10.0 ft* Type/Size *PVC/0.02 in*

Hole Diameter *10.25 in* Casing: Diameter *4 in* Length *12.0 ft* Type *PVC*

Drill Co. *Cascade* Drilling Method *HSA* Sand Pack *Pioneer 10/20 sand*

Driller *Matt Cain* Driller Reg. # *WD-1210* Log By *Marc Hes*

Start Date *10/13/2018* Completion Date *10/13/2018* Checked By *S. Varsa*

COMMENTS

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
0							
		100%			CL	Clay with silt, brown, moist, low plasticity, no hydrocarbon odor or staining. (0-8' hydroexcavated).	
5							
	0.8				CL	Clay with silt, brown, soft, moist, low plasticity, no hydrocarbon odor or staining.	
	0.5	100%					
10	0.5					Sandstone, light gray, fine to medium-grained, poorly sorted, soft, dry, friable, highly weathered, no hydrocarbon odor and staining. At 10.5' becomes hard and very well cemented, light grayish-brown, dry.	
	10	80%					
	14					At 13', becomes light gray, dry, medium hard, with a strong hydrocarbon odor and hydrocarbon staining.	
	1380						
	671						
15	674	Sampled 13-14'				At 15' there is a moderate hydrocarbon odor and hydrocarbon staining is present, sandstone becomes light grayish-brown.	
	381						
	260	40%				At 17' a slight hydrocarbon odor is noted.	
20	20					At 20', becomes light brown, fine to medium-grained, soft, friable, with a very slight hydrocarbon odor.	
	130	50%					
	340					At 22' there is a moderate hydrocarbon odor.	
25	80					At 25', becomes light brown, with a slight hydrocarbon odor, no hydrocarbon staining noted. At 26' a moderate hydrocarbon odor is noted but no hydrocarbon staining, sandstone is pulverized.	
	240	50%					
	303						
		Sampled 26-27'					
30						End of boring = 30'.	
35							

APPENDIX C

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: 400-160383-1
Client Project/Site: ElPaso CGP Company, LLC - Lat L40

For:
Stantec Consulting Services Inc
1560 Broadway
Suite 1800
Denver, Colorado 80202

Attn: Ms. Sarah Gardner

Carol M Webb

Authorized for release by:
10/24/2018 10:54:24 AM

Carol Webb, Project Manager II
(850)471-6250
carol.webb@testamericainc.com

Links
Review your project results through TotalAccess
Have a Question? Ask The Expert
Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 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.

Table of Contents

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)

Job ID: 400-160383-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-160383-1

Comments
No additional comments.

Receipt
The samples were received on 10/10/2018 8:58 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.

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

GC VOA
Method 8021B: The continuing calibration verification (CCV) associated with batch 400-415770 and the MS/MSD recovered above the upper control limit for Benzene, Toluene, Ethylbenzene and Xylenes, Total. The MS/MSD percent recoveries and RPDs were within acceptance limits. Therefore, the data have been reported.

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

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

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

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

Lab Admin
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 - Lat L40

TestAmerica Job ID: 400-160383-1

Client Sample ID: MW-6 (25') — Lab Sample ID: 400-160383-1

No Detections.

Client Sample ID: MW-8 (24-25') — Lab Sample ID: 400-160383-2

No Detections.

Client Sample ID: MW-9 (23-24') — Lab Sample ID: 400-160383-3

No Detections.

Client Sample ID: MW-10 (32-33') — Lab Sample ID: 400-160383-4

No Detections.

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-160383-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-160383-1	MW-6 (25')	Solid	10/05/18 13:10	10/10/18 08:58
400-160383-2	MW-8 (24-25')	Solid	10/05/18 12:00	10/10/18 08:58
400-160383-3	MW-9 (23-24')	Solid	10/05/18 16:00	10/10/18 08:58
400-160383-4	MW-10 (32-33')	Solid	10/05/18 14:45	10/10/18 08:58

Client Sample ID: MW-6 (25')
Date Collected: 10/05/18 13:10
Date Received: 10/10/18 08:58

Lab Sample ID: 400-160383-1
Matrix: Solid
Percent Solids: 84.6

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<0.11		0.11		mg/Kg	☼	10/17/18 10:00	10/17/18 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*93*		*65 - 125*	*10/17/18 10:00*	*10/17/18 18:33*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0011		0.0011		mg/Kg	☼	10/17/18 10:00	10/17/18 18:33	1
Ethylbenzene	<0.0011		0.0011		mg/Kg	☼	10/17/18 10:00	10/17/18 18:33	1
Toluene	<0.0053		0.0053		mg/Kg	☼	10/17/18 10:00	10/17/18 18:33	1
Xylenes, Total	<0.0053		0.0053		mg/Kg	☼	10/17/18 10:00	10/17/18 18:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*91*		*40 - 150*	*10/17/18 10:00*	*10/17/18 18:33*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<5.8		5.8		mg/Kg	☼	10/11/18 08:57	10/11/18 19:45	1
C28-C35	<5.8		5.8		mg/Kg	☼	10/11/18 08:57	10/11/18 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*27 - 151*	*10/11/18 08:57*	*10/11/18 19:45*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<24		24		mg/Kg	☼		10/22/18 04:00	1

Client Sample ID: MW-8 (24-25')
Date Collected: 10/05/18 12:00
Date Received: 10/10/18 08:58

Lab Sample ID: 400-160383-2
Matrix: Solid
Percent Solids: 83.8

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<0.095		0.095		mg/Kg	☼	10/17/18 10:00	10/17/18 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*91*		*65 - 125*	*10/17/18 10:00*	*10/17/18 18:59*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00095		0.00095		mg/Kg	☼	10/17/18 10:00	10/17/18 18:59	1
Ethylbenzene	<0.00095		0.00095		mg/Kg	☼	10/17/18 10:00	10/17/18 18:59	1
Toluene	<0.0048		0.0048		mg/Kg	☼	10/17/18 10:00	10/17/18 18:59	1
Xylenes, Total	<0.0048		0.0048		mg/Kg	☼	10/17/18 10:00	10/17/18 18:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*89*		*40 - 150*	*10/17/18 10:00*	*10/17/18 18:59*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<5.9		5.9		mg/Kg	☼	10/11/18 08:57	10/11/18 19:58	1
C28-C35	<5.9		5.9		mg/Kg	☼	10/11/18 08:57	10/11/18 19:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*27 - 151*	*10/11/18 08:57*	*10/11/18 19:58*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<24		24		mg/Kg	☼		10/22/18 05:08	1

Client Sample ID: MW-9 (23-24')
Date Collected: 10/05/18 16:00
Date Received: 10/10/18 08:58

Lab Sample ID: 400-160383-3
Matrix: Solid
Percent Solids: 76.1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<0.12		0.12		mg/Kg	☼	10/17/18 10:00	10/17/18 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*92*		*65 - 125*	*10/17/18 10:00*	*10/17/18 19:25*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0012		0.0012		mg/Kg	☼	10/17/18 10:00	10/17/18 19:25	1
Ethylbenzene	<0.0012		0.0012		mg/Kg	☼	10/17/18 10:00	10/17/18 19:25	1
Toluene	<0.0058		0.0058		mg/Kg	☼	10/17/18 10:00	10/17/18 19:25	1
Xylenes, Total	<0.0058		0.0058		mg/Kg	☼	10/17/18 10:00	10/17/18 19:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*86*		*40 - 150*	*10/17/18 10:00*	*10/17/18 19:25*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<6.5		6.5		mg/Kg	☼	10/11/18 08:57	10/11/18 20:11	1
C28-C35	<6.5		6.5		mg/Kg	☼	10/11/18 08:57	10/11/18 20:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*70*		*27 - 151*	*10/11/18 08:57*	*10/11/18 20:11*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<26		26		mg/Kg	☼		10/22/18 05:31	1

Client Sample ID: MW-10 (32-33')
Date Collected: 10/05/18 14:45
Date Received: 10/10/18 08:58

Lab Sample ID: 400-160383-4
Matrix: Solid
Percent Solids: 70.2

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<0.12		0.12		mg/Kg	☼	10/17/18 10:00	10/17/18 19:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*96*		*65 - 125*	*10/17/18 10:00*	*10/17/18 19:50*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0012		0.0012		mg/Kg	☼	10/17/18 10:00	10/17/18 19:50	1
Ethylbenzene	<0.0012		0.0012		mg/Kg	☼	10/17/18 10:00	10/17/18 19:50	1
Toluene	<0.0062		0.0062		mg/Kg	☼	10/17/18 10:00	10/17/18 19:50	1
Xylenes, Total	<0.0062		0.0062		mg/Kg	☼	10/17/18 10:00	10/17/18 19:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*93*		*40 - 150*	*10/17/18 10:00*	*10/17/18 19:50*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<7.0		7.0		mg/Kg	☼	10/11/18 08:57	10/11/18 20:24	1
C28-C35	<7.0		7.0		mg/Kg	☼	10/11/18 08:57	10/11/18 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*78*		*27 - 151*	*10/11/18 08:57*	*10/11/18 20:24*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<29		29		mg/Kg	☼		10/22/18 05:54	1

GC VOA

Analysis Batch: 415770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160383-1	MW-6 (25')	Total/NA	Solid	8021B	415958
400-160383-2	MW-8 (24-25')	Total/NA	Solid	8021B	415958
400-160383-3	MW-9 (23-24')	Total/NA	Solid	8021B	415958
400-160383-4	MW-10 (32-33')	Total/NA	Solid	8021B	415958
MB 400-415958/3-A	Method Blank	Total/NA	Solid	8021B	415958
LCS 400-415958/2-A	Lab Control Sample	Total/NA	Solid	8021B	415958
400-160383-1 MS	MW-6 (25')	Total/NA	Solid	8021B	415958
400-160383-1 MSD	MW-6 (25')	Total/NA	Solid	8021B	415958

Analysis Batch: 415771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160383-1	MW-6 (25')	Total/NA	Solid	8015B	415958
400-160383-2	MW-8 (24-25')	Total/NA	Solid	8015B	415958
400-160383-3	MW-9 (23-24')	Total/NA	Solid	8015B	415958
400-160383-4	MW-10 (32-33')	Total/NA	Solid	8015B	415958
MB 400-415958/3-A	Method Blank	Total/NA	Solid	8015B	415958
LCS 400-415958/1-A	Lab Control Sample	Total/NA	Solid	8015B	415958
400-160383-1 MS	MW-6 (25')	Total/NA	Solid	8015B	415958
400-160383-1 MSD	MW-6 (25')	Total/NA	Solid	8015B	415958

Prep Batch: 415958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160383-1	MW-6 (25')	Total/NA	Solid	5035	
400-160383-2	MW-8 (24-25')	Total/NA	Solid	5035	
400-160383-3	MW-9 (23-24')	Total/NA	Solid	5035	
400-160383-4	MW-10 (32-33')	Total/NA	Solid	5035	
MB 400-415958/3-A	Method Blank	Total/NA	Solid	5035	
LCS 400-415958/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 400-415958/2-A	Lab Control Sample	Total/NA	Solid	5035	
400-160383-1 MS	MW-6 (25')	Total/NA	Solid	5035	
400-160383-1 MS	MW-6 (25')	Total/NA	Solid	5035	
400-160383-1 MSD	MW-6 (25')	Total/NA	Solid	5035	
400-160383-1 MSD	MW-6 (25')	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 414932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160383-1	MW-6 (25')	Total/NA	Solid	3546	
400-160383-2	MW-8 (24-25')	Total/NA	Solid	3546	
400-160383-3	MW-9 (23-24')	Total/NA	Solid	3546	
400-160383-4	MW-10 (32-33')	Total/NA	Solid	3546	
MB 400-414932/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-414932/2-A	Lab Control Sample	Total/NA	Solid	3546	
400-160392-A-4-A MS	Matrix Spike	Total/NA	Solid	3546	
400-160392-A-4-B MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

Analysis Batch: 415068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160383-1	MW-6 (25')	Total/NA	Solid	8015B	414932

GC Semi VOA (Continued)

Analysis Batch: 415068 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160383-2	MW-8 (24-25')	Total/NA	Solid	8015B	414932
400-160383-3	MW-9 (23-24')	Total/NA	Solid	8015B	414932
400-160383-4	MW-10 (32-33')	Total/NA	Solid	8015B	414932
MB 400-414932/1-A	Method Blank	Total/NA	Solid	8015B	414932
LCS 400-414932/2-A	Lab Control Sample	Total/NA	Solid	8015B	414932
400-160392-A-4-A MS	Matrix Spike	Total/NA	Solid	8015B	414932
400-160392-A-4-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	414932

HPLC/IC

Leach Batch: 416311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160383-1	MW-6 (25')	Soluble	Solid	DI Leach	
400-160383-2	MW-8 (24-25')	Soluble	Solid	DI Leach	
400-160383-3	MW-9 (23-24')	Soluble	Solid	DI Leach	
400-160383-4	MW-10 (32-33')	Soluble	Solid	DI Leach	
MB 400-416311/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 400-416311/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 400-416311/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
400-160383-1 MS	MW-6 (25')	Soluble	Solid	DI Leach	
400-160383-1 MSD	MW-6 (25')	Soluble	Solid	DI Leach	

Analysis Batch: 416374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160383-1	MW-6 (25')	Soluble	Solid	300.0	416311
400-160383-2	MW-8 (24-25')	Soluble	Solid	300.0	416311
400-160383-3	MW-9 (23-24')	Soluble	Solid	300.0	416311
400-160383-4	MW-10 (32-33')	Soluble	Solid	300.0	416311
MB 400-416311/1-A	Method Blank	Soluble	Solid	300.0	416311
LCS 400-416311/2-A	Lab Control Sample	Soluble	Solid	300.0	416311
LCSD 400-416311/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	416311
400-160383-1 MS	MW-6 (25')	Soluble	Solid	300.0	416311
400-160383-1 MSD	MW-6 (25')	Soluble	Solid	300.0	416311

General Chemistry

Analysis Batch: 415006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160383-1	MW-6 (25')	Total/NA	Solid	Moisture	
400-160383-2	MW-8 (24-25')	Total/NA	Solid	Moisture	
400-160383-3	MW-9 (23-24')	Total/NA	Solid	Moisture	
400-160383-4	MW-10 (32-33')	Total/NA	Solid	Moisture	
400-160424-A-5 MS	Matrix Spike	Total/NA	Solid	Moisture	
400-160424-A-5 MSD	Matrix Spike Duplicate	Total/NA	Solid	Moisture	
400-160383-2 DU	MW-8 (24-25')	Total/NA	Solid	Moisture	

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 400-415958/3-A
Matrix: Solid
Analysis Batch: 415771

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 415958

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<0.10		0.10		mg/Kg		10/17/18 10:00	10/17/18 12:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*93*		*65 - 125*	*10/17/18 10:00*	*10/17/18 12:22*	*1*

Lab Sample ID: LCS 400-415958/1-A
Matrix: Solid
Analysis Batch: 415771

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 415958

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C10			1.00	1.08		mg/Kg		108	62 - 141		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*92*		*65 - 125*

Lab Sample ID: 400-160383-1 MS
Matrix: Solid
Analysis Batch: 415771

Client Sample ID: MW-6 (25')
Prep Type: Total/NA
Prep Batch: 415958

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C10	<0.11		1.04	1.37		mg/Kg	☼	132	10 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*90*		*65 - 125*

Lab Sample ID: 400-160383-1 MSD
Matrix: Solid
Analysis Batch: 415771

Client Sample ID: MW-6 (25')
Prep Type: Total/NA
Prep Batch: 415958

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C10	<0.11		1.04	1.34		mg/Kg	☼	128	10 - 150	3	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*90*		*65 - 125*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 400-415958/3-A
Matrix: Solid
Analysis Batch: 415770

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 415958

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0010		0.0010		mg/Kg		10/17/18 10:00	10/17/18 12:22	1
Ethylbenzene	<0.0010		0.0010		mg/Kg		10/17/18 10:00	10/17/18 12:22	1
Toluene	<0.0050		0.0050		mg/Kg		10/17/18 10:00	10/17/18 12:22	1
Xylenes, Total	<0.0050		0.0050		mg/Kg		10/17/18 10:00	10/17/18 12:22	1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 400-415958/3-A
Matrix: Solid
Analysis Batch: 415770

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 415958

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene (pid)	89		40 - 150	10/17/18 10:00	10/17/18 12:22	1

Lab Sample ID: LCS 400-415958/2-A
Matrix: Solid
Analysis Batch: 415770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 415958

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0500	0.0553		mg/Kg		111	74 - 127		
Ethylbenzene			0.0500	0.0595		mg/Kg		119	79 - 131		
Toluene			0.0500	0.0559		mg/Kg		112	76 - 127		
Xylenes, Total			0.150	0.172		mg/Kg		115	80 - 129		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene (pid)	89		40 - 150

Lab Sample ID: 400-160383-1 MS
Matrix: Solid
Analysis Batch: 415770

Client Sample ID: MW-6 (25')
Prep Type: Total/NA
Prep Batch: 415958

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.0011		0.0521	0.0642		mg/Kg	☼	123	10 - 150		
Ethylbenzene	<0.0011		0.0521	0.0674		mg/Kg	☼	129	10 - 150		
Toluene	<0.0053		0.0521	0.0653		mg/Kg	☼	125	10 - 150		
Xylenes, Total	<0.0053		0.156	0.195		mg/Kg	☼	125	50 - 150		

Surrogate	MS %Recovery	MS Qualifier	Limits
a,a,a-Trifluorotoluene (pid)	91		40 - 150

Lab Sample ID: 400-160383-1 MSD
Matrix: Solid
Analysis Batch: 415770

Client Sample ID: MW-6 (25')
Prep Type: Total/NA
Prep Batch: 415958

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.0011		0.0528	0.0650		mg/Kg	☼	123	10 - 150	1	34
Ethylbenzene	<0.0011		0.0528	0.0699		mg/Kg	☼	132	10 - 150	4	66
Toluene	<0.0053		0.0528	0.0661		mg/Kg	☼	125	10 - 150	1	44
Xylenes, Total	<0.0053		0.159	0.202		mg/Kg	☼	128	50 - 150	4	46

Surrogate	MSD %Recovery	MSD Qualifier	Limits
a,a,a-Trifluorotoluene (pid)	88		40 - 150

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 400-414932/1-A
Matrix: Solid
Analysis Batch: 415068

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 414932

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<5.0		5.0		mg/Kg		10/11/18 08:57	10/11/18 18:29	1
C28-C35	<5.0		5.0		mg/Kg		10/11/18 08:57	10/11/18 18:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*89*		*27 - 151*	*10/11/18 08:57*	*10/11/18 18:29*	*1*

Lab Sample ID: LCS 400-414932/2-A
Matrix: Solid
Analysis Batch: 415068

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 414932

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			294	291		mg/Kg		99	63 - 153		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*91*		*27 - 151*

Lab Sample ID: 400-160392-A-4-A MS
Matrix: Solid
Analysis Batch: 415068

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 414932

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28	15		375	324		mg/Kg	☼	82	62 - 204		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*76*		*27 - 151*

Lab Sample ID: 400-160392-A-4-B MSD
Matrix: Solid
Analysis Batch: 415068

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 414932

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	15		371	295		mg/Kg	☼	75	62 - 204	9	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*72*		*27 - 151*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 400-416311/1-A
Matrix: Solid
Analysis Batch: 416374

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<21		21		mg/Kg			10/22/18 02:51	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 400-416311/2-A
Matrix: Solid
Analysis Batch: 416374

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			101	99.0		mg/Kg		98	80 - 120		

Lab Sample ID: LCSD 400-416311/3-A
Matrix: Solid
Analysis Batch: 416374

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			104	102		mg/Kg		98	80 - 120	3	15

Lab Sample ID: 400-160383-1 MS
Matrix: Solid
Analysis Batch: 416374

Client Sample ID: MW-6 (25')
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	<24		118	115		mg/Kg	☼	97	80 - 120		

Lab Sample ID: 400-160383-1 MSD
Matrix: Solid
Analysis Batch: 416374

Client Sample ID: MW-6 (25')
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<24		114	113		mg/Kg	☼	98	80 - 120	2	15

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-160383-1

Client Sample ID: MW-6 (25')
Date Collected: 10/05/18 13:10
Date Received: 10/10/18 08:58

Lab Sample ID: 400-160383-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			415006	10/11/18 13:00	KS	TAL PEN
	Instrument ID: NOEQUIP									

Client Sample ID: MW-6 (25')
Date Collected: 10/05/18 13:10
Date Received: 10/10/18 08:58

Lab Sample ID: 400-160383-1
Matrix: Solid
Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.60 g	5.0 g	415958	10/17/18 10:00	GRK	TAL PEN
Total/NA	Analysis	8015B		1	5 mL	5 mL	415771	10/17/18 18:33	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	5035			5.60 g	5.0 g	415958	10/17/18 10:00	GRK	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	415770	10/17/18 18:33	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	3546			15.29 g	1.0 mL	414932	10/11/18 08:57	KLR	TAL PEN
Total/NA	Analysis	8015B		1			415068	10/11/18 19:45	TAJ	TAL PEN
	Instrument ID: Eva									
Soluble	Leach	DI Leach			2.51 g	50 mL	416311	10/21/18 11:49	BAW	TAL PEN
Soluble	Analysis	300.0		1			416374	10/22/18 04:00	BAW	TAL PEN
	Instrument ID: IC2									

Client Sample ID: MW-8 (24-25')
Date Collected: 10/05/18 12:00
Date Received: 10/10/18 08:58

Lab Sample ID: 400-160383-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			415006	10/11/18 13:44	KS	TAL PEN
	Instrument ID: NOEQUIP									

Client Sample ID: MW-8 (24-25')
Date Collected: 10/05/18 12:00
Date Received: 10/10/18 08:58

Lab Sample ID: 400-160383-2
Matrix: Solid
Percent Solids: 83.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.26 g	5.0 g	415958	10/17/18 10:00	GRK	TAL PEN
Total/NA	Analysis	8015B		1	5 mL	5 mL	415771	10/17/18 18:59	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	5035			6.26 g	5.0 g	415958	10/17/18 10:00	GRK	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	415770	10/17/18 18:59	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	3546			15.25 g	1.0 mL	414932	10/11/18 08:57	KLR	TAL PEN
Total/NA	Analysis	8015B		1			415068	10/11/18 19:58	TAJ	TAL PEN
	Instrument ID: Eva									

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-160383-1

Client Sample ID: MW-8 (24-25')

Lab Sample ID: 400-160383-2
Date Collected: 10/05/18 12:00
Matrix: Solid
Date Received: 10/10/18 08:58
Percent Solids: 83.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2.45 g	50 mL	416311	10/21/18 11:49	BAW	TAL PEN
Soluble	Analysis	300.0		1			416374	10/22/18 05:08	BAW	TAL PEN
	Instrument ID: IC2									

Client Sample ID: MW-9 (23-24')

Lab Sample ID: 400-160383-3
Date Collected: 10/05/18 16:00
Matrix: Solid
Date Received: 10/10/18 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			415006	10/11/18 13:44	KS	TAL PEN
	Instrument ID: NOEQUIP									

Client Sample ID: MW-9 (23-24')

Lab Sample ID: 400-160383-3
Date Collected: 10/05/18 16:00
Matrix: Solid
Date Received: 10/10/18 08:58
Percent Solids: 76.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.63 g	5.0 g	415958	10/17/18 10:00	GRK	TAL PEN
Total/NA	Analysis	8015B		1	5 mL	5 mL	415771	10/17/18 19:25	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	5035			5.63 g	5.0 g	415958	10/17/18 10:00	GRK	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	415770	10/17/18 19:25	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	3546			15.27 g	1.0 mL	414932	10/11/18 08:57	KLR	TAL PEN
Total/NA	Analysis	8015B		1			415068	10/11/18 20:11	TAJ	TAL PEN
	Instrument ID: Eva									
Soluble	Leach	DI Leach			2.50 g	50 mL	416311	10/21/18 11:49	BAW	TAL PEN
Soluble	Analysis	300.0		1			416374	10/22/18 05:31	BAW	TAL PEN
	Instrument ID: IC2									

Client Sample ID: MW-10 (32-33')

Lab Sample ID: 400-160383-4
Date Collected: 10/05/18 14:45
Matrix: Solid
Date Received: 10/10/18 08:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			415006	10/11/18 13:44	KS	TAL PEN
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-160383-1

Client Sample ID: MW-10 (32-33')

Date Collected: 10/05/18 14:45
Date Received: 10/10/18 08:58

Lab Sample ID: 400-160383-4

Matrix: Solid
Percent Solids: 70.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.70 g	5.0 g	415958	10/17/18 10:00	GRK	TAL PEN
Total/NA	Analysis	8015B		1	5 mL	5 mL	415771	10/17/18 19:50	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	5035			5.70 g	5.0 g	415958	10/17/18 10:00	GRK	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	415770	10/17/18 19:50	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	3546			15.28 g	1.0 mL	414932	10/11/18 08:57	KLR	TAL PEN
Total/NA	Analysis	8015B		1			415068	10/11/18 20:24	TAJ	TAL PEN
	Instrument ID: Eva									
Soluble	Leach	DI Leach			2.44 g	50 mL	416311	10/21/18 11:49	BAW	TAL PEN
Soluble	Analysis	300.0		1			416374	10/22/18 05:54	BAW	TAL PEN
	Instrument ID: IC2									

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: 400-160383-1
Project/Site: ElPaso CGP Company, LLC - Lat L40

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

Method Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-160383-1

Method	Method Description	Protocol	Laboratory
8015B	Gasoline Range Organics - (GC)	SW846	TAL PEN
8021B	Volatile Organic Compounds (GC)	SW846	TAL PEN
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL PEN
300.0	Anions, Ion Chromatography	MCAWW	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN
DI Leach	Deionized Water Leaching Procedure	ASTM	TAL PEN

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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: Marc Hes	Lab PM: Webb, Carol M	Carrier Tracking No(s):	COC No: 400-77305-30160.1
Client Contact: Ms. Sarah Gardner	Phone: 303 885 4991	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: per Arf			
City: Denver	TAT Requested (days): per Arf			
State, Zip: CO, 80202				
Phone: 303-291-2239(Tel)	PO #: See Project Notes			
Email: sarah.gardner@mwhglobal.com	WO #:			
Project Name: Lat L 40	Project #: 40005479			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

400-160383 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO - TPH DRO ORO	8015B_GRO, 8021B	300_ORGFM_28D - Chloride	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N		
MW-6 (25')	10/5/18	1310	G	S	n	n	x	x	x	3	
MW-8 (24-25)	10/5/18	1200	G	S	n	n	x	x	x	3	
MW-9 (23-24)	10/5/18	1600	G	S	n	n	x	x	x	3	
MW-10 (32-33)	10/5/18	1445	G	S	n	n	x	x	x	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)

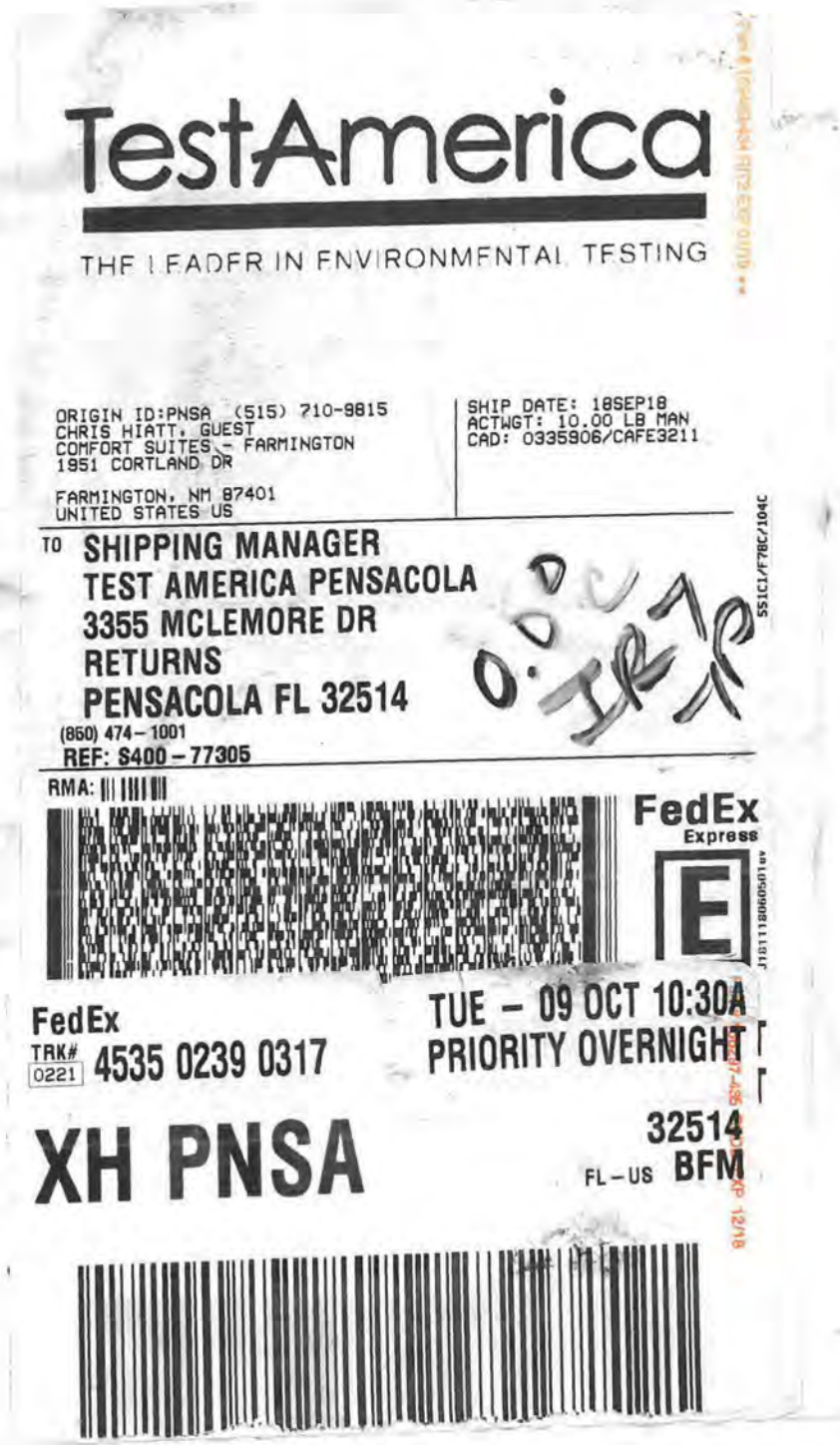
Special Instructions/QC Requirements: per Arf

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
MH Marc Hes	10-8-18 0600	Stantec		10/10/18 858	
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 & 0.1

Ver: 08/04/2016


TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
ORIGIN ID:PNSA (515) 710-9815
CHRIS HIATT, GUEST
COMFORT SUITES - FARMINGTON
1951 CORTLAND DR
FARMINGTON, NM 87401
UNITED STATES US
SHIP DATE: 18SEP18
ACTWGT: 10.00 LB MAN
CAD: 0335906/CAFE3211
TO SHIPPING MANAGER
TEST AMERICA PENSACOLA
3355 MCLEMORE DR
RETURNS
PENSACOLA FL 32514
(850) 474-1001
REF: S400-77305
RMA:
FedEx Express
FedEx
TRK# 0221 4535 0239 0317
TUE - 09 OCT 10:30A
PRIORITY OVERNIGHT
XH PNSA
32514
FL-US BFM

Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc

Job Number: 400-160383-1

Login Number: 160383
List Number: 1
Creator: Johnson, Jeremy N

List Source: TestAmerica Pensacola

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	Not present
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: 400-160493-1
Client Project/Site: ElPaso CGP Company, LLC - LAT L 40

For:
Stantec Consulting Services Inc
1560 Broadway
Suite 1800
Denver, Colorado 80202

Attn: Ms. Sarah Gardner

Carol M Webb

Authorized for release by:
10/26/2018 11:01:14 AM

Carol Webb, Project Manager II
(850)471-6250
carol.webb@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 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.

Table of Contents

Qualifiers

GC VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits

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 - LAT L 40

TestAmerica Job ID: 400-160493-1

Job ID: 400-160493-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-160493-1

Comments
No additional comments.

Receipt
The samples were received on 10/12/2018 8:41 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8º C.

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

GC VOA
Method 8015B: The following sample was diluted to bring the concentration of target analytes within the calibration range: SVE-1 (27-28) (400-160493-4). Elevated reporting limits (RLs) are provided.

Method 8021B: The continuing calibration verification (CCV) associated with batch 400-416375 recovered above the upper control limit for Benzene, Toluene, Ethylbenzene and Xylenes, Total. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: MW-7 (32-33) (400-160493-2).

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 400-416668 and analytical batch 400-416570 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) was within acceptance limits.

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

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

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

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

Lab Admin
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 - LAT L 40

TestAmerica Job ID: 400-160493-1

Client Sample ID: MW-6 (32-33) — Lab Sample ID: 400-160493-1

No Detections.

Client Sample ID: MW-7 (32-33) — Lab Sample ID: 400-160493-2

No Detections.

Client Sample ID: SVE-1 (21-22) — Lab Sample ID: 400-160493-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
C6-C10	0.13		0.11		mg/Kg	1	☼	8015B	Total/NA
C10-C28	40		5.3		mg/Kg	1	☼	8015B	Total/NA

Client Sample ID: SVE-1 (27-28) — Lab Sample ID: 400-160493-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
C6-C10	9.0		5.4		mg/Kg	50	☼	8015B	Total/NA
Ethylbenzene	0.013		0.0011		mg/Kg	1	☼	8021B	Total/NA
Toluene	0.0078		0.0057		mg/Kg	1	☼	8021B	Total/NA
Xylenes, Total	0.053	F2	0.0057		mg/Kg	1	☼	8021B	Total/NA
C10-C28	48		5.7		mg/Kg	1	☼	8015B	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - LAT L 40

TestAmerica Job ID: 400-160493-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-160493-1	MW-6 (32-33)	Solid	10/10/18 09:10	10/12/18 08:41
400-160493-2	MW-7 (32-33)	Solid	10/09/18 09:35	10/12/18 08:41
400-160493-3	SVE-1 (21-22)	Solid	10/10/18 14:55	10/12/18 08:41
400-160493-4	SVE-1 (27-28)	Solid	10/10/18 15:05	10/12/18 08:41

Client Sample ID: MW-6 (32-33)
Date Collected: 10/10/18 09:10
Date Received: 10/12/18 08:41

Lab Sample ID: 400-160493-1
Matrix: Solid
Percent Solids: 75.7

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<0.11		0.11		mg/Kg	☼	10/22/18 09:15	10/22/18 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*106*		*65 - 125*	*10/22/18 09:15*	*10/22/18 17:53*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0011		0.0011		mg/Kg	☼	10/22/18 09:15	10/22/18 17:53	1
Ethylbenzene	<0.0011		0.0011		mg/Kg	☼	10/22/18 09:15	10/22/18 17:53	1
Toluene	<0.0056		0.0056		mg/Kg	☼	10/22/18 09:15	10/22/18 17:53	1
Xylenes, Total	<0.0056		0.0056		mg/Kg	☼	10/22/18 09:15	10/22/18 17:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*106*		*40 - 150*	*10/22/18 09:15*	*10/22/18 17:53*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<6.4		6.4		mg/Kg	☼	10/13/18 11:12	10/14/18 02:59	1
C28-C35	<6.4		6.4		mg/Kg	☼	10/13/18 11:12	10/14/18 02:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*47*		*27 - 151*	*10/13/18 11:12*	*10/14/18 02:59*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<27		27		mg/Kg	☼		10/22/18 06:17	1

Client Sample ID: MW-7 (32-33)

Date Collected: 10/09/18 09:35
Date Received: 10/12/18 08:41

Lab Sample ID: 400-160493-2

Matrix: Solid
Percent Solids: 75.4

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<0.11		0.11		mg/Kg	☼	10/22/18 09:15	10/22/18 19:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*102*		*65 - 125*	*10/22/18 09:15*	*10/22/18 19:46*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0011		0.0011		mg/Kg	☼	10/22/18 09:15	10/22/18 19:46	1
Ethylbenzene	<0.0011		0.0011		mg/Kg	☼	10/22/18 09:15	10/22/18 19:46	1
Toluene	<0.0056		0.0056		mg/Kg	☼	10/22/18 09:15	10/22/18 19:46	1
Xylenes, Total	<0.0056		0.0056		mg/Kg	☼	10/22/18 09:15	10/22/18 19:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*99*		*40 - 150*	*10/22/18 09:15*	*10/22/18 19:46*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<6.5		6.5		mg/Kg	☼	10/13/18 11:12	10/14/18 03:12	1
C28-C35	<6.5		6.5		mg/Kg	☼	10/13/18 11:12	10/14/18 03:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*111*		*27 - 151*	*10/13/18 11:12*	*10/14/18 03:12*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<26		26		mg/Kg	☼		10/22/18 07:25	1

Client Sample ID: SVE-1 (21-22)

Date Collected: 10/10/18 14:55
Date Received: 10/12/18 08:41

Lab Sample ID: 400-160493-3

Matrix: Solid
Percent Solids: 93.5

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	0.13		0.11		mg/Kg	☼	10/22/18 09:15	10/22/18 20:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*104*		*65 - 125*	*10/22/18 09:15*	*10/22/18 20:24*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0011		0.0011		mg/Kg	☼	10/23/18 11:30	10/23/18 14:19	1
Ethylbenzene	<0.0011		0.0011		mg/Kg	☼	10/23/18 11:30	10/23/18 14:19	1
Toluene	<0.0053		0.0053		mg/Kg	☼	10/23/18 11:30	10/23/18 14:19	1
Xylenes, Total	<0.0053		0.0053		mg/Kg	☼	10/23/18 11:30	10/23/18 14:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*101*		*40 - 150*	*10/23/18 11:30*	*10/23/18 14:19*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	40		5.3		mg/Kg	☼	10/13/18 11:12	10/14/18 03:24	1
C28-C35	<5.3		5.3		mg/Kg	☼	10/13/18 11:12	10/14/18 03:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*58*		*27 - 151*	*10/13/18 11:12*	*10/14/18 03:24*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<22		22		mg/Kg	☼		10/22/18 07:48	1

Client Sample ID: SVE-1 (27-28)

Date Collected: 10/10/18 15:05
Date Received: 10/12/18 08:41

Lab Sample ID: 400-160493-4

Matrix: Solid
Percent Solids: 86.6

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	**9.0**		5.4		mg/Kg	☼	10/23/18 10:00	10/23/18 15:25	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*92*		*65 - 125*	*10/23/18 10:00*	*10/23/18 15:25*	*50*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0011	F2	0.0011		mg/Kg	☼	10/23/18 11:30	10/23/18 14:55	1
Ethylbenzene	**0.013**		0.0011		mg/Kg	☼	10/23/18 11:30	10/23/18 14:55	1
Toluene	**0.0078**		0.0057		mg/Kg	☼	10/23/18 11:30	10/23/18 14:55	1
Xylenes, Total	**0.053**	**F2**	0.0057		mg/Kg	☼	10/23/18 11:30	10/23/18 14:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*102*		*40 - 150*	*10/23/18 11:30*	*10/23/18 14:55*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	**48**		5.7		mg/Kg	☼	10/13/18 11:12	10/14/18 03:37	1
C28-C35	<5.7		5.7		mg/Kg	☼	10/13/18 11:12	10/14/18 03:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*87*		*27 - 151*	*10/13/18 11:12*	*10/14/18 03:37*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<23		23		mg/Kg	☼		10/22/18 08:11	1

GC VOA

Prep Batch: 415955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160493-4	SVE-1 (27-28)	Total/NA	Solid	5035	
MB 400-415955/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-415955/1-A	Lab Control Sample	Total/NA	Solid	5035	
400-160560-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
400-160560-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 416034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160493-4	SVE-1 (27-28)	Total/NA	Solid	8015B	415955
MB 400-415955/2-A	Method Blank	Total/NA	Solid	8015B	415955
LCS 400-415955/1-A	Lab Control Sample	Total/NA	Solid	8015B	415955
400-160560-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B	415955
400-160560-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	415955

Analysis Batch: 416375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160493-1	MW-6 (32-33)	Total/NA	Solid	8021B	416487
400-160493-2	MW-7 (32-33)	Total/NA	Solid	8021B	416487
MB 400-416487/3-A	Method Blank	Total/NA	Solid	8021B	416487
LCS 400-416487/1-A	Lab Control Sample	Total/NA	Solid	8021B	416487
400-160639-B-1-H MS	Matrix Spike	Total/NA	Solid	8021B	416487
400-160639-B-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	416487

Analysis Batch: 416376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160493-1	MW-6 (32-33)	Total/NA	Solid	8015B	416487
400-160493-2	MW-7 (32-33)	Total/NA	Solid	8015B	416487
400-160493-3	SVE-1 (21-22)	Total/NA	Solid	8015B	416487
MB 400-416487/3-A	Method Blank	Total/NA	Solid	8015B	416487
LCS 400-416487/2-A	Lab Control Sample	Total/NA	Solid	8015B	416487
400-160639-B-1-J MS	Matrix Spike	Total/NA	Solid	8015B	416487
400-160639-B-1-K MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	416487

Prep Batch: 416487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160493-1	MW-6 (32-33)	Total/NA	Solid	5035	
400-160493-2	MW-7 (32-33)	Total/NA	Solid	5035	
400-160493-3	SVE-1 (21-22)	Total/NA	Solid	5035	
MB 400-416487/3-A	Method Blank	Total/NA	Solid	5035	
LCS 400-416487/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 400-416487/2-A	Lab Control Sample	Total/NA	Solid	5035	
400-160639-B-1-H MS	Matrix Spike	Total/NA	Solid	5035	
400-160639-B-1-I MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	
400-160639-B-1-J MS	Matrix Spike	Total/NA	Solid	5035	
400-160639-B-1-K MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 416570

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160493-3	SVE-1 (21-22)	Total/NA	Solid	8021B	416668
400-160493-4	SVE-1 (27-28)	Total/NA	Solid	8021B	416668
MB 400-416668/3-A	Method Blank	Total/NA	Solid	8021B	416668

GC VOA (Continued)

Analysis Batch: 416570 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-416668/1-A	Lab Control Sample	Total/NA	Solid	8021B	416668
400-160493-4 MS	SVE-1 (27-28)	Total/NA	Solid	8021B	416668
400-160493-4 MSD	SVE-1 (27-28)	Total/NA	Solid	8021B	416668

Prep Batch: 416668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160493-3	SVE-1 (21-22)	Total/NA	Solid	5035	
400-160493-4	SVE-1 (27-28)	Total/NA	Solid	5035	
MB 400-416668/3-A	Method Blank	Total/NA	Solid	5035	
LCS 400-416668/1-A	Lab Control Sample	Total/NA	Solid	5035	
400-160493-4 MS	SVE-1 (27-28)	Total/NA	Solid	5035	
400-160493-4 MSD	SVE-1 (27-28)	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 415291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160493-1	MW-6 (32-33)	Total/NA	Solid	3546	
400-160493-2	MW-7 (32-33)	Total/NA	Solid	3546	
400-160493-3	SVE-1 (21-22)	Total/NA	Solid	3546	
400-160493-4	SVE-1 (27-28)	Total/NA	Solid	3546	
MB 400-415291/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-415291/2-A	Lab Control Sample	Total/NA	Solid	3546	
400-160510-H-7-G MS	Matrix Spike	Total/NA	Solid	3546	
400-160510-H-7-H MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	

Analysis Batch: 415336

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160493-1	MW-6 (32-33)	Total/NA	Solid	8015B	415291
400-160493-2	MW-7 (32-33)	Total/NA	Solid	8015B	415291
400-160493-3	SVE-1 (21-22)	Total/NA	Solid	8015B	415291
400-160493-4	SVE-1 (27-28)	Total/NA	Solid	8015B	415291
MB 400-415291/1-A	Method Blank	Total/NA	Solid	8015B	415291
LCS 400-415291/2-A	Lab Control Sample	Total/NA	Solid	8015B	415291
400-160510-H-7-G MS	Matrix Spike	Total/NA	Solid	8015B	415291
400-160510-H-7-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	415291

HPLC/IC

Leach Batch: 416311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160493-1	MW-6 (32-33)	Soluble	Solid	DI Leach	
400-160493-2	MW-7 (32-33)	Soluble	Solid	DI Leach	
400-160493-3	SVE-1 (21-22)	Soluble	Solid	DI Leach	
400-160493-4	SVE-1 (27-28)	Soluble	Solid	DI Leach	
MB 400-416311/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 400-416311/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 400-416311/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
400-160383-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
400-160383-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

HPLC/IC (Continued)

Analysis Batch: 416374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160493-1	MW-6 (32-33)	Soluble	Solid	300.0	416311
400-160493-2	MW-7 (32-33)	Soluble	Solid	300.0	416311
400-160493-3	SVE-1 (21-22)	Soluble	Solid	300.0	416311
400-160493-4	SVE-1 (27-28)	Soluble	Solid	300.0	416311
MB 400-416311/1-A	Method Blank	Soluble	Solid	300.0	416311
LCS 400-416311/2-A	Lab Control Sample	Soluble	Solid	300.0	416311
LCSD 400-416311/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	416311
400-160383-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	416311
400-160383-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	416311

General Chemistry

Analysis Batch: 415659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160493-1	MW-6 (32-33)	Total/NA	Solid	Moisture	
400-160493-2	MW-7 (32-33)	Total/NA	Solid	Moisture	
400-160493-3	SVE-1 (21-22)	Total/NA	Solid	Moisture	
400-160493-4	SVE-1 (27-28)	Total/NA	Solid	Moisture	
400-160481-A-41 DU	Duplicate	Total/NA	Solid	Moisture	

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 400-415955/2-A
Matrix: Solid
Analysis Batch: 416034

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 415955

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<5.0		5.0		mg/Kg		10/18/18 12:15	10/19/18 15:10	50

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*91*		*65 - 125*	*10/18/18 12:15*	*10/19/18 15:10*	*50*

Lab Sample ID: LCS 400-415955/1-A
Matrix: Solid
Analysis Batch: 416034

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 415955

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C10			50.0	66.8		mg/Kg		134	62 - 141		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*92*		*65 - 125*

Lab Sample ID: 400-160560-A-1-B MS
Matrix: Solid
Analysis Batch: 416034

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 415955

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C10	1400		2590	4770		mg/Kg	☼	131	10 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*79*		*65 - 125*

Lab Sample ID: 400-160560-A-1-C MSD
Matrix: Solid
Analysis Batch: 416034

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 415955

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C10	1400		2590	4900		mg/Kg	☼	136	10 - 150	3	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*84*		*65 - 125*

Lab Sample ID: MB 400-416487/3-A
Matrix: Solid
Analysis Batch: 416376

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 416487

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<0.10		0.10		mg/Kg		10/22/18 09:15	10/22/18 13:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*101*		*65 - 125*	*10/22/18 09:15*	*10/22/18 13:57*	*1*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: LCS 400-416487/2-A
Matrix: Solid
Analysis Batch: 416376

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 416487

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C10	1.00	1.13		mg/Kg		113	62 - 141

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*103*		*65 - 125*

Lab Sample ID: 400-160639-B-1-J MS
Matrix: Solid
Analysis Batch: 416376

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 416487

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C10	<0.10		1.04	0.933		mg/Kg	☼	90	10 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*104*		*65 - 125*

Lab Sample ID: 400-160639-B-1-K MSD
Matrix: Solid
Analysis Batch: 416376

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 416487

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C10	<0.10		1.06	1.17		mg/Kg	☼	110	10 - 150	23	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*106*		*65 - 125*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 400-416487/3-A
Matrix: Solid
Analysis Batch: 416375

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 416487

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0010		0.0010	mg/Kg		10/22/18 09:15	10/22/18 13:57	1
Ethylbenzene	<0.0010		0.0010	mg/Kg		10/22/18 09:15	10/22/18 13:57	1
Toluene	<0.0050		0.0050	mg/Kg		10/22/18 09:15	10/22/18 13:57	1
Xylenes, Total	<0.0050		0.0050	mg/Kg		10/22/18 09:15	10/22/18 13:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*102*		*40 - 150*	*10/22/18 09:15*	*10/22/18 13:57*	*1*

Lab Sample ID: LCS 400-416487/1-A
Matrix: Solid
Analysis Batch: 416375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 416487

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0530		mg/Kg		106	74 - 127
Ethylbenzene	0.0500	0.0546		mg/Kg		109	79 - 131

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 400-416487/1-A
Matrix: Solid
Analysis Batch: 416375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 416487

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Toluene			0.0500	0.0534		mg/Kg		107	76 - 127		
Xylenes, Total			0.150	0.163		mg/Kg		109	80 - 129		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*100*		*40 - 150*

Lab Sample ID: 400-160639-B-1-H MS
Matrix: Solid
Analysis Batch: 416375

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 416487

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.0010		0.0528	0.0566		mg/Kg	☼	107	10 - 150		
Ethylbenzene	<0.0010		0.0528	0.0469		mg/Kg	☼	89	10 - 150		
Toluene	<0.0052		0.0528	0.0520		mg/Kg	☼	99	10 - 150		
Xylenes, Total	<0.0052		0.158	0.143		mg/Kg	☼	90	50 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*100*		*40 - 150*

Lab Sample ID: 400-160639-B-1-I MSD
Matrix: Solid
Analysis Batch: 416375

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 416487

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.0010		0.0529	0.0500		mg/Kg	☼	94	10 - 150	13	34
Ethylbenzene	<0.0010		0.0529	0.0395		mg/Kg	☼	75	10 - 150	17	66
Toluene	<0.0052		0.0529	0.0445		mg/Kg	☼	84	10 - 150	16	44
Xylenes, Total	<0.0052		0.159	0.120		mg/Kg	☼	76	50 - 150	17	46

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*100*		*40 - 150*

Lab Sample ID: MB 400-416668/3-A
Matrix: Solid
Analysis Batch: 416570

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 416668

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0010		0.0010		mg/Kg		10/23/18 11:30	10/23/18 13:27	1
Ethylbenzene	<0.0010		0.0010		mg/Kg		10/23/18 11:30	10/23/18 13:27	1
Toluene	<0.0050		0.0050		mg/Kg		10/23/18 11:30	10/23/18 13:27	1
Xylenes, Total	<0.0050		0.0050		mg/Kg		10/23/18 11:30	10/23/18 13:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*100*		*40 - 150*	*10/23/18 11:30*	*10/23/18 13:27*	*1*

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 400-416668/1-A
Matrix: Solid
Analysis Batch: 416570

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 416668

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0500	0.0544		mg/Kg		109	74 - 127		
Ethylbenzene			0.0500	0.0544		mg/Kg		109	79 - 131		
Toluene			0.0500	0.0543		mg/Kg		109	76 - 127		
Xylenes, Total			0.150	0.161		mg/Kg		107	80 - 129		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*101*		*40 - 150*

Lab Sample ID: 400-160493-4 MS
Matrix: Solid
Analysis Batch: 416570

Client Sample ID: SVE-1 (27-28)
Prep Type: Total/NA
Prep Batch: 416668

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.0011	F2	0.0550	0.0411		mg/Kg	☼	75	10 - 150		
Ethylbenzene	0.013		0.0550	0.0563		mg/Kg	☼	79	10 - 150		
Toluene	0.0078		0.0550	0.0494		mg/Kg	☼	76	10 - 150		
Xylenes, Total	0.053	F2	0.165	0.152		mg/Kg	☼	60	50 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*100*		*40 - 150*

Lab Sample ID: 400-160493-4 MSD
Matrix: Solid
Analysis Batch: 416570

Client Sample ID: SVE-1 (27-28)
Prep Type: Total/NA
Prep Batch: 416668

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.0011	F2	0.0562	0.0676	F2	mg/Kg	☼	120	10 - 150	49	34
Ethylbenzene	0.013		0.0562	0.0839		mg/Kg	☼	126	10 - 150	39	66
Toluene	0.0078		0.0562	0.0743		mg/Kg	☼	118	10 - 150	40	44
Xylenes, Total	0.053	F2	0.169	0.245	F2	mg/Kg	☼	114	50 - 150	47	46

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*101*		*40 - 150*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 400-415291/1-A
Matrix: Solid
Analysis Batch: 415336

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 415291

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<5.0		5.0		mg/Kg		10/13/18 11:12	10/13/18 23:50	1
C28-C35	<5.0		5.0		mg/Kg		10/13/18 11:12	10/13/18 23:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*70*		*27 - 151*	*10/13/18 11:12*	*10/13/18 23:50*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 400-415291/2-A
Matrix: Solid
Analysis Batch: 415336

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 415291

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			287	249		mg/Kg		87	63 - 153		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*81*		*27 - 151*

Lab Sample ID: 400-160510-H-7-G MS
Matrix: Solid
Analysis Batch: 415336

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 415291

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28	5.8		282	203		mg/Kg		70	62 - 204		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*68*		*27 - 151*

Lab Sample ID: 400-160510-H-7-H MSD
Matrix: Solid
Analysis Batch: 415336

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 415291

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	5.8		286	207		mg/Kg		70	62 - 204	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*66*		*27 - 151*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 400-416311/1-A
Matrix: Solid
Analysis Batch: 416374

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<21		21		mg/Kg			10/22/18 02:51	1

Lab Sample ID: LCS 400-416311/2-A
Matrix: Solid
Analysis Batch: 416374

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			101	99.0		mg/Kg		98	80 - 120		

Lab Sample ID: LCSD 400-416311/3-A
Matrix: Solid
Analysis Batch: 416374

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			104	102		mg/Kg		98	80 - 120	3	15

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 400-160383-A-1-C MS
Matrix: Solid
Analysis Batch: 416374

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	<24		118	115		mg/Kg	☼	97	80 - 120		

Lab Sample ID: 400-160383-A-1-D MSD
Matrix: Solid
Analysis Batch: 416374

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<24		114	113		mg/Kg	☼	98	80 - 120	2	15

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - LAT L 40

TestAmerica Job ID: 400-160493-1

Client Sample ID: MW-6 (32-33)
Date Collected: 10/10/18 09:10
Date Received: 10/12/18 08:41

Lab Sample ID: 400-160493-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			415659	10/16/18 14:21	KS	TAL PEN
	Instrument ID: NOEQUIP									

Client Sample ID: MW-6 (32-33)
Date Collected: 10/10/18 09:10
Date Received: 10/12/18 08:41

Lab Sample ID: 400-160493-1
Matrix: Solid
Percent Solids: 75.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.92 g	5.0 g	416487	10/22/18 09:15	GRK	TAL PEN
Total/NA	Analysis	8015B		1	5 mL	5 mL	416376	10/22/18 17:53	GRK	TAL PEN
	Instrument ID: CH_JOAN									
Total/NA	Prep	5035			5.92 g	5.0 g	416487	10/22/18 09:15	GRK	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	416375	10/22/18 17:53	GRK	TAL PEN
	Instrument ID: CH_JOAN									
Total/NA	Prep	3546			15.39 g	1.0 mL	415291	10/13/18 11:12	KLR	TAL PEN
Total/NA	Analysis	8015B		1			415336	10/14/18 02:59	TAJ	TAL PEN
	Instrument ID: Eva									
Soluble	Leach	DI Leach			2.48 g	50 mL	416311	10/21/18 11:49	BAW	TAL PEN
Soluble	Analysis	300.0		1			416374	10/22/18 06:17	BAW	TAL PEN
	Instrument ID: IC2									

Client Sample ID: MW-7 (32-33)
Date Collected: 10/09/18 09:35
Date Received: 10/12/18 08:41

Lab Sample ID: 400-160493-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			415659	10/16/18 14:21	KS	TAL PEN
	Instrument ID: NOEQUIP									

Client Sample ID: MW-7 (32-33)
Date Collected: 10/09/18 09:35
Date Received: 10/12/18 08:41

Lab Sample ID: 400-160493-2
Matrix: Solid
Percent Solids: 75.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.89 g	5.0 g	416487	10/22/18 09:15	GRK	TAL PEN
Total/NA	Analysis	8015B		1	5 mL	5 mL	416376	10/22/18 19:46	GRK	TAL PEN
	Instrument ID: CH_JOAN									
Total/NA	Prep	5035			5.89 g	5.0 g	416487	10/22/18 09:15	GRK	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	416375	10/22/18 19:46	GRK	TAL PEN
	Instrument ID: CH_JOAN									
Total/NA	Prep	3546			15.33 g	1.0 mL	415291	10/13/18 11:12	KLR	TAL PEN
Total/NA	Analysis	8015B		1			415336	10/14/18 03:12	TAJ	TAL PEN
	Instrument ID: Eva									

Client Sample ID: MW-7 (32-33)

Lab Sample ID: 400-160493-2
Date Collected: 10/09/18 09:35
Matrix: Solid
Date Received: 10/12/18 08:41
Percent Solids: 75.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			2.58 g	50 mL	416311	10/21/18 11:49	BAW	TAL PEN
Soluble	Analysis	300.0		1			416374	10/22/18 07:25	BAW	TAL PEN
	Instrument ID: IC2									

Client Sample ID: SVE-1 (21-22)

Lab Sample ID: 400-160493-3
Date Collected: 10/10/18 14:55
Matrix: Solid
Date Received: 10/12/18 08:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			415659	10/16/18 14:21	KS	TAL PEN
	Instrument ID: NOEQUIP									

Client Sample ID: SVE-1 (21-22)

Lab Sample ID: 400-160493-3
Date Collected: 10/10/18 14:55
Matrix: Solid
Date Received: 10/12/18 08:41
Percent Solids: 93.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.09 g	5.0 g	416487	10/22/18 09:15	GRK	TAL PEN
Total/NA	Analysis	8015B		1	5 mL	5 mL	416376	10/22/18 20:24	GRK	TAL PEN
	Instrument ID: CH_JOAN									
Total/NA	Prep	5035			5.04 g	5.0 g	416668	10/23/18 11:30	GRK	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	416570	10/23/18 14:19	GRK	TAL PEN
	Instrument ID: CH_JOAN									
Total/NA	Prep	3546			15.03 g	1.0 mL	415291	10/13/18 11:12	KLR	TAL PEN
Total/NA	Analysis	8015B		1			415336	10/14/18 03:24	TAJ	TAL PEN
	Instrument ID: Eva									
Soluble	Leach	DI Leach			2.42 g	50 mL	416311	10/21/18 11:49	BAW	TAL PEN
Soluble	Analysis	300.0		1			416374	10/22/18 07:48	BAW	TAL PEN
	Instrument ID: IC2									

Client Sample ID: SVE-1 (27-28)

Lab Sample ID: 400-160493-4
Date Collected: 10/10/18 15:05
Matrix: Solid
Date Received: 10/12/18 08:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			415659	10/16/18 14:21	KS	TAL PEN
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - LAT L 40

TestAmerica Job ID: 400-160493-1

Client Sample ID: SVE-1 (27-28)
Date Collected: 10/10/18 15:05
Date Received: 10/12/18 08:41

Lab Sample ID: 400-160493-4
Matrix: Solid
Percent Solids: 86.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.37 g	5.0 g	415955	10/23/18 10:00	GRK	TAL PEN
Total/NA	Analysis	8015B		50	5 mL	5 mL	416034	10/23/18 15:25	SAB	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	5035			5.11 g	5.0 g	416668	10/23/18 11:30	GRK	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	416570	10/23/18 14:55	GRK	TAL PEN
	Instrument ID: CH_JOAN									
Total/NA	Prep	3546			15.17 g	1.0 mL	415291	10/13/18 11:12	KLR	TAL PEN
Total/NA	Analysis	8015B		1			415336	10/14/18 03:37	TAJ	TAL PEN
	Instrument ID: Eva									
Soluble	Leach	DI Leach			2.51 g	50 mL	416311	10/21/18 11:49	BAW	TAL PEN
Soluble	Analysis	300.0		1			416374	10/22/18 08:11	BAW	TAL PEN
	Instrument ID: IC2									

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: 400-160493-1
Project/Site: ElPaso CGP Company, LLC - LAT L 40

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

Method Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - LAT L 40

TestAmerica Job ID: 400-160493-1

Method	Method Description	Protocol	Laboratory
8015B	Gasoline Range Organics - (GC)	SW846	TAL PEN
8021B	Volatile Organic Compounds (GC)	SW846	TAL PEN
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL PEN
300.0	Anions, Ion Chromatography	MCAWW	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN
DI Leach	Deionized Water Leaching Procedure	ASTM	TAL PEN

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

400-160493 COC

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Marc Hes	Lab PM: Webb, Carol M	Carrier Tracking No(s):	COC No: 400-77305-30160.1
Client Contact: Ms. Sarah Gardner	Phone: 303 885 4991	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: per Arf
City: Denver	TAT Requested (days): per Arf
State, Zip: CO, 80202	PO #: See Project Notes
Phone: 303-291-2239(Tel)	WO #:
Email: sarah.gardner@mwhglobal.com	Project #: 40005479
Project Name: Lat L 40	SSOW#:
Site: LAT L 40	

Analysis Requested

Preservation Codes:

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

Other:

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)	8015B_DRO - TPH DRO ORO	8015B_GRO, 8021B	300_ORGFM_28D - Chloride	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	N	N	X	
MW-6 (32-33)	10/10/18	0910	G	S	n	n	x	x	x	3	
MW-7 (32-33)	10/9/18	0935	G	S	n	n	x	x	x	3	
SUE-1 (21-22)	10/10/18	1455	G	S	n	n	x	x	x	3	
SUE-1 (27-28)	10/10/18	1505	G	S	n	n	x	x	x	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: per Arf

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

Relinquished by: Marc Hes	Date/Time: 10-11-18 1500	Company: Stantec	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 10-12-18 8:41	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.8°c IR

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc

Job Number: 400-160493-1

Login Number: 160493
List Number: 1
Creator: Perez, Trina M

List Source: TestAmerica Pensacola

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	2.8°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.	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: 400-160685-1
Client Project/Site: ElPaso CGP Company, LLC - LAT L 40

For:
Stantec Consulting Services Inc
1560 Broadway
Suite 1800
Denver, Colorado 80202

Attn: Ms. Sarah Gardner

Carol M Webb

Authorized for release by:
10/30/2018 5:34:15 PM

Carol Webb, Project Manager II
(850)471-6250
carol.webb@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 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.

Table of Contents

Definitions/Glossary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - LAT L 40

TestAmerica Job ID: 400-160685-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
H	Sample was prepped or analyzed beyond the specified holding time

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

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)

Job ID: 400-160685-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-160685-1

Comments
No additional comments.

Receipt
The samples were received on 10/16/2018 9:11 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.7º C.

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

GC VOA
Method 8015B: The following sample was diluted to bring the concentration of target analytes within the calibration range: SVE-2 (15-16) (400-160685-1). Elevated reporting limits (RLs) are provided.

Method 8021B: Reanalysis of the following sample was performed outside of the analytical holding time due to Toluene over calibrated range for the first run.: SVE-2 (25-26) (400-160685-2). Estimated result in hold time was confirmed by secondary result which was out of hold but within the calibrated range.

Method 8021B: The following sample was diluted to bring the concentration of target analytes within the calibration range: SVE-2 (15-16) (400-160685-1). Elevated reporting limits (RLs) are provided.

Method 8021B: Reanalysis of the following sample was performed outside of the analytical holding time due to Toluene over calibrated range for the first run.: SVE-2 (25-26) (400-160685-2). Estimated result in hold time was confirmed by secondary result which was out of hold but within the calibrated range.

Method 8021B: Due to the high concentration of Toluene, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 400-417577 and analytical batch 400-417389 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

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

GC Semi VOA
Method 8015B: The matrix spike duplicate (MSD) recoveries for preparation batch 400-415976 and analytical batch 400-416269 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8015B: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 400-415976 and analytical batch 400-416269 was outside control limits. Sample non-homogeneity is suspected.

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

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

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

Lab Admin
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 - LAT L 40

TestAmerica Job ID: 400-160685-1

Client Sample ID: SVE-2 (15-16) — Lab Sample ID: 400-160685-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
C6-C10	280		6.7		mg/Kg	50	☼	8015B	Total/NA
Benzene	0.88		0.067		mg/Kg	50	☼	8021B	Total/NA
Ethylbenzene	1.4		0.067		mg/Kg	50	☼	8021B	Total/NA
Toluene	7.3		0.34		mg/Kg	50	☼	8021B	Total/NA
Xylenes, Total	11		0.34		mg/Kg	50	☼	8021B	Total/NA
C10-C28	40		6.9		mg/Kg	1	☼	8015B	Total/NA

Client Sample ID: SVE-2 (25-26) — Lab Sample ID: 400-160685-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
C6-C10	1.3		0.12		mg/Kg	1	☼	8015B	Total/NA
Benzene	0.11		0.0013		mg/Kg	1	☼	8021B	Total/NA
Ethylbenzene	0.022		0.0013		mg/Kg	1	☼	8021B	Total/NA
Toluene	0.51	E	0.0064		mg/Kg	1	☼	8021B	Total/NA
Toluene	0.44	H	0.0096		mg/Kg	1	☼	8021B	Total/NA
Xylenes, Total	0.30		0.0064		mg/Kg	1	☼	8021B	Total/NA

Client Sample ID: SVE-3 (13-14) — Lab Sample ID: 400-160685-3

No Detections.

Client Sample ID: SVE-3 (26-27) — Lab Sample ID: 400-160685-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
C6-C10	0.85		0.11		mg/Kg	1	☼	8015B	Total/NA
Benzene	0.0059		0.0013		mg/Kg	1	☼	8021B	Total/NA
Ethylbenzene	0.0064		0.0013		mg/Kg	1	☼	8021B	Total/NA
Toluene	0.10		0.0067		mg/Kg	1	☼	8021B	Total/NA
Xylenes, Total	0.28		0.0067		mg/Kg	1	☼	8021B	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - LAT L 40

TestAmerica Job ID: 400-160685-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-160685-1	SVE-2 (15-16)	Solid	10/13/18 12:55	10/16/18 09:11
400-160685-2	SVE-2 (25-26)	Solid	10/13/18 13:20	10/16/18 09:11
400-160685-3	SVE-3 (13-14)	Solid	10/13/18 14:50	10/16/18 09:11
400-160685-4	SVE-3 (26-27)	Solid	10/13/18 15:00	10/16/18 09:11

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - LAT L 40

TestAmerica Job ID: 400-160685-1

Client Sample ID: SVE-2 (15-16)
Date Collected: 10/13/18 12:55
Date Received: 10/16/18 09:11

Lab Sample ID: 400-160685-1
Matrix: Solid
Percent Solids: 72.0

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	280		6.7		mg/Kg	☼	10/26/18 08:40	10/26/18 13:49	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*80*		*65 - 125*	*10/26/18 08:40*	*10/26/18 13:49*	*50*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.88		0.067		mg/Kg	☼	10/26/18 08:40	10/26/18 13:49	50
Ethylbenzene	1.4		0.067		mg/Kg	☼	10/26/18 08:40	10/26/18 13:49	50
Toluene	7.3		0.34		mg/Kg	☼	10/26/18 08:40	10/26/18 13:49	50
Xylenes, Total	11		0.34		mg/Kg	☼	10/26/18 08:40	10/26/18 13:49	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*74*		*40 - 150*	*10/26/18 08:40*	*10/26/18 13:49*	*50*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	40		6.9		mg/Kg	☼	10/18/18 14:02	10/20/18 17:58	1
C28-C35	<6.9		6.9		mg/Kg	☼	10/18/18 14:02	10/20/18 17:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*84*		*27 - 151*	*10/18/18 14:02*	*10/20/18 17:58*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<28		28		mg/Kg	☼		10/23/18 21:44	1

Client Sample ID: SVE-2 (25-26)

Date Collected: 10/13/18 13:20
Date Received: 10/16/18 09:11

Lab Sample ID: 400-160685-2

Matrix: Solid
Percent Solids: 76.2

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	1.3		0.12		mg/Kg	☼	10/25/18 09:00	10/25/18 16:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*92*		*65 - 125*	*10/25/18 09:00*	*10/25/18 16:10*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.11		0.0013		mg/Kg	☼	10/26/18 15:00	10/26/18 21:22	1
Ethylbenzene	0.022		0.0013		mg/Kg	☼	10/26/18 15:00	10/26/18 21:22	1
Toluene	0.51	E	0.0064		mg/Kg	☼	10/26/18 15:00	10/26/18 21:22	1
Toluene	0.44	H	0.0096		mg/Kg	☼	10/29/18 12:00	10/29/18 18:44	1
Xylenes, Total	0.30		0.0064		mg/Kg	☼	10/26/18 15:00	10/26/18 21:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*98*		*40 - 150*	*10/26/18 15:00*	*10/26/18 21:22*	*1*
a,a,a-Trifluorotoluene (pid)	*93*		*40 - 150*	*10/29/18 12:00*	*10/29/18 18:44*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<6.6		6.6		mg/Kg	☼	10/18/18 14:02	10/20/18 18:11	1
C28-C35	<6.6		6.6		mg/Kg	☼	10/18/18 14:02	10/20/18 18:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*78*		*27 - 151*	*10/18/18 14:02*	*10/20/18 18:11*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<27		27		mg/Kg	☼		10/23/18 22:07	1

Client Sample ID: SVE-3 (13-14)

Date Collected: 10/13/18 14:50
Date Received: 10/16/18 09:11

Lab Sample ID: 400-160685-3

Matrix: Solid
Percent Solids: 83.3

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<0.11		0.11		mg/Kg	☼	10/25/18 09:00	10/25/18 13:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*93*		*65 - 125*	*10/25/18 09:00*	*10/25/18 13:06*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0012		0.0012		mg/Kg	☼	10/26/18 15:00	10/26/18 19:32	1
Ethylbenzene	<0.0012		0.0012		mg/Kg	☼	10/26/18 15:00	10/26/18 19:32	1
Toluene	<0.0060		0.0060		mg/Kg	☼	10/26/18 15:00	10/26/18 19:32	1
Xylenes, Total	<0.0060		0.0060		mg/Kg	☼	10/26/18 15:00	10/26/18 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*95*		*40 - 150*	*10/26/18 15:00*	*10/26/18 19:32*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<6.0	F2 F1	6.0		mg/Kg	☼	10/18/18 14:02	10/20/18 17:45	1
C28-C35	<6.0		6.0		mg/Kg	☼	10/18/18 14:02	10/20/18 17:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*69*		*27 - 151*	*10/18/18 14:02*	*10/20/18 17:45*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<24		24		mg/Kg	☼		10/23/18 22:30	1

Client Sample ID: SVE-3 (26-27)

Date Collected: 10/13/18 15:00
Date Received: 10/16/18 09:11

Lab Sample ID: 400-160685-4

Matrix: Solid
Percent Solids: 73.2

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	0.85		0.11		mg/Kg	☼	10/25/18 09:00	10/25/18 15:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*96*		*65 - 125*	*10/25/18 09:00*	*10/25/18 15:44*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	0.0059		0.0013		mg/Kg	☼	10/26/18 15:00	10/26/18 21:59	1
Ethylbenzene	0.0064		0.0013		mg/Kg	☼	10/26/18 15:00	10/26/18 21:59	1
Toluene	0.10		0.0067		mg/Kg	☼	10/26/18 15:00	10/26/18 21:59	1
Xylenes, Total	0.28		0.0067		mg/Kg	☼	10/26/18 15:00	10/26/18 21:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*100*		*40 - 150*	*10/26/18 15:00*	*10/26/18 21:59*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<6.7		6.7		mg/Kg	☼	10/18/18 14:02	10/20/18 18:24	1
C28-C35	<6.7		6.7		mg/Kg	☼	10/18/18 14:02	10/20/18 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*85*		*27 - 151*	*10/18/18 14:02*	*10/20/18 18:24*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<28		28		mg/Kg	☼		10/23/18 22:53	1

GC VOA

Analysis Batch: 416879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-2	SVE-2 (25-26)	Total/NA	Solid	8015B	416978
400-160685-3	SVE-3 (13-14)	Total/NA	Solid	8015B	416978
400-160685-4	SVE-3 (26-27)	Total/NA	Solid	8015B	416978
MB 400-416978/2-A	Method Blank	Total/NA	Solid	8015B	416978
LCS 400-416978/1-A	Lab Control Sample	Total/NA	Solid	8015B	416978
400-160685-3 MS	SVE-3 (13-14)	Total/NA	Solid	8015B	416978
400-160685-3 MSD	SVE-3 (13-14)	Total/NA	Solid	8015B	416978

Prep Batch: 416978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-2	SVE-2 (25-26)	Total/NA	Solid	5035	
400-160685-3	SVE-3 (13-14)	Total/NA	Solid	5035	
400-160685-4	SVE-3 (26-27)	Total/NA	Solid	5035	
MB 400-416978/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-416978/1-A	Lab Control Sample	Total/NA	Solid	5035	
400-160685-3 MS	SVE-3 (13-14)	Total/NA	Solid	5035	
400-160685-3 MSD	SVE-3 (13-14)	Total/NA	Solid	5035	

Analysis Batch: 417044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-1	SVE-2 (15-16)	Total/NA	Solid	8015B	417054
MB 400-417054/1-A	Method Blank	Total/NA	Solid	8015B	417054
LCS 400-417054/3-A	Lab Control Sample	Total/NA	Solid	8015B	417054
400-160685-1 MS	SVE-2 (15-16)	Total/NA	Solid	8015B	417054
400-160685-1 MSD	SVE-2 (15-16)	Total/NA	Solid	8015B	417054

Analysis Batch: 417046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-1	SVE-2 (15-16)	Total/NA	Solid	8021B	417054
MB 400-417054/1-A	Method Blank	Total/NA	Solid	8021B	417054
LCS 400-417054/2-A	Lab Control Sample	Total/NA	Solid	8021B	417054
400-160685-1 MS	SVE-2 (15-16)	Total/NA	Solid	8021B	417054
400-160685-1 MSD	SVE-2 (15-16)	Total/NA	Solid	8021B	417054

Prep Batch: 417054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-1	SVE-2 (15-16)	Total/NA	Solid	5035	
MB 400-417054/1-A	Method Blank	Total/NA	Solid	5035	
LCS 400-417054/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCS 400-417054/3-A	Lab Control Sample	Total/NA	Solid	5035	
400-160685-1 MS	SVE-2 (15-16)	Total/NA	Solid	5035	
400-160685-1 MSD	SVE-2 (15-16)	Total/NA	Solid	5035	

Analysis Batch: 417104

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-2	SVE-2 (25-26)	Total/NA	Solid	8021B	417429
400-160685-3	SVE-3 (13-14)	Total/NA	Solid	8021B	417429
400-160685-4	SVE-3 (26-27)	Total/NA	Solid	8021B	417429
MB 400-417429/2-A	Method Blank	Total/NA	Solid	8021B	417429
LCS 400-417429/1-A	Lab Control Sample	Total/NA	Solid	8021B	417429
400-160685-3 MS	SVE-3 (13-14)	Total/NA	Solid	8021B	417429

GC VOA (Continued)

Analysis Batch: 417104 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-3 MSD	SVE-3 (13-14)	Total/NA	Solid	8021B	417429

Analysis Batch: 417389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-2	SVE-2 (25-26)	Total/NA	Solid	8021B	417577
MB 400-417577/2-A	Method Blank	Total/NA	Solid	8021B	417577
LCS 400-417577/1-A	Lab Control Sample	Total/NA	Solid	8021B	417577
400-160685-2 MS	SVE-2 (25-26)	Total/NA	Solid	8021B	417577
400-160685-2 MSD	SVE-2 (25-26)	Total/NA	Solid	8021B	417577

Prep Batch: 417429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-2	SVE-2 (25-26)	Total/NA	Solid	5035	
400-160685-3	SVE-3 (13-14)	Total/NA	Solid	5035	
400-160685-4	SVE-3 (26-27)	Total/NA	Solid	5035	
MB 400-417429/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-417429/1-A	Lab Control Sample	Total/NA	Solid	5035	
400-160685-3 MS	SVE-3 (13-14)	Total/NA	Solid	5035	
400-160685-3 MSD	SVE-3 (13-14)	Total/NA	Solid	5035	

Prep Batch: 417577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-2	SVE-2 (25-26)	Total/NA	Solid	5035	
MB 400-417577/2-A	Method Blank	Total/NA	Solid	5035	
LCS 400-417577/1-A	Lab Control Sample	Total/NA	Solid	5035	
400-160685-2 MS	SVE-2 (25-26)	Total/NA	Solid	5035	
400-160685-2 MSD	SVE-2 (25-26)	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 415976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-1	SVE-2 (15-16)	Total/NA	Solid	3546	
400-160685-2	SVE-2 (25-26)	Total/NA	Solid	3546	
400-160685-3	SVE-3 (13-14)	Total/NA	Solid	3546	
400-160685-4	SVE-3 (26-27)	Total/NA	Solid	3546	
MB 400-415976/1-A	Method Blank	Total/NA	Solid	3546	
LCS 400-415976/2-A	Lab Control Sample	Total/NA	Solid	3546	
400-160685-3 MS	SVE-3 (13-14)	Total/NA	Solid	3546	
400-160685-3 MSD	SVE-3 (13-14)	Total/NA	Solid	3546	

Analysis Batch: 416269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-1	SVE-2 (15-16)	Total/NA	Solid	8015B	415976
400-160685-2	SVE-2 (25-26)	Total/NA	Solid	8015B	415976
400-160685-3	SVE-3 (13-14)	Total/NA	Solid	8015B	415976
400-160685-4	SVE-3 (26-27)	Total/NA	Solid	8015B	415976
MB 400-415976/1-A	Method Blank	Total/NA	Solid	8015B	415976
LCS 400-415976/2-A	Lab Control Sample	Total/NA	Solid	8015B	415976
400-160685-3 MS	SVE-3 (13-14)	Total/NA	Solid	8015B	415976

GC Semi VOA (Continued)

Analysis Batch: 416269 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-3 MSD	SVE-3 (13-14)	Total/NA	Solid	8015B	415976

HPLC/IC

Leach Batch: 416464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-1	SVE-2 (15-16)	Soluble	Solid	DI Leach	
400-160685-2	SVE-2 (25-26)	Soluble	Solid	DI Leach	
400-160685-3	SVE-3 (13-14)	Soluble	Solid	DI Leach	
400-160685-4	SVE-3 (26-27)	Soluble	Solid	DI Leach	
MB 400-416464/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 400-416464/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 400-416464/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
400-160898-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
400-160898-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 416573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-416464/1-A	Method Blank	Soluble	Solid	300.0	416464
LCS 400-416464/2-A	Lab Control Sample	Soluble	Solid	300.0	416464
LCSD 400-416464/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	416464
400-160898-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	416464
400-160898-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	416464

Analysis Batch: 416574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-1	SVE-2 (15-16)	Soluble	Solid	300.0	416464
400-160685-2	SVE-2 (25-26)	Soluble	Solid	300.0	416464
400-160685-3	SVE-3 (13-14)	Soluble	Solid	300.0	416464
400-160685-4	SVE-3 (26-27)	Soluble	Solid	300.0	416464
MB 400-416464/1-A	Method Blank	Soluble	Solid	300.0	416464
LCS 400-416464/2-A	Lab Control Sample	Soluble	Solid	300.0	416464
LCSD 400-416464/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	416464

General Chemistry

Analysis Batch: 416407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-160685-1	SVE-2 (15-16)	Total/NA	Solid	Moisture	
400-160685-2	SVE-2 (25-26)	Total/NA	Solid	Moisture	
400-160685-3	SVE-3 (13-14)	Total/NA	Solid	Moisture	
400-160685-4	SVE-3 (26-27)	Total/NA	Solid	Moisture	
400-160644-E-3 MS	Matrix Spike	Total/NA	Solid	Moisture	
400-160644-E-3 MSD	Matrix Spike Duplicate	Total/NA	Solid	Moisture	
400-160710-A-13 DU	Duplicate	Total/NA	Solid	Moisture	

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 400-416978/2-A
Matrix: Solid
Analysis Batch: 416879

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 416978

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<0.10		0.10		mg/Kg		10/25/18 09:00	10/25/18 09:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*91*		*65 - 125*	*10/25/18 09:00*	*10/25/18 09:23*	*1*

Lab Sample ID: LCS 400-416978/1-A
Matrix: Solid
Analysis Batch: 416879

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 416978

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C10			1.00	1.12		mg/Kg		112	62 - 141		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*89*		*65 - 125*

Lab Sample ID: 400-160685-3 MS
Matrix: Solid
Analysis Batch: 416879

Client Sample ID: SVE-3 (13-14)
Prep Type: Total/NA
Prep Batch: 416978

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
C6-C10	<0.11		1.16	1.18		mg/Kg	☼	102	10 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*90*		*65 - 125*

Lab Sample ID: 400-160685-3 MSD
Matrix: Solid
Analysis Batch: 416879

Client Sample ID: SVE-3 (13-14)
Prep Type: Total/NA
Prep Batch: 416978

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C10	<0.11		1.15	1.18		mg/Kg	☼	102	10 - 150	0	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*90*		*65 - 125*

Lab Sample ID: MB 400-417054/1-A
Matrix: Solid
Analysis Batch: 417044

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 417054

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<5.0		5.0		mg/Kg		10/26/18 08:40	10/29/18 16:48	50

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (fid)	*98*		*65 - 125*	*10/26/18 08:40*	*10/29/18 16:48*	*50*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: LCS 400-417054/3-A
Matrix: Solid
Analysis Batch: 417044

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 417054

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C10	50.0	70.2		mg/Kg		140	62 - 141

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*88*		*65 - 125*

Lab Sample ID: 400-160685-1 MS
Matrix: Solid
Analysis Batch: 417044

Client Sample ID: SVE-2 (15-16)
Prep Type: Total/NA
Prep Batch: 417054

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C10	280		67.2	339	4	mg/Kg	☼	89	10 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*72*		*65 - 125*

Lab Sample ID: 400-160685-1 MSD
Matrix: Solid
Analysis Batch: 417044

Client Sample ID: SVE-2 (15-16)
Prep Type: Total/NA
Prep Batch: 417054

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C10	280		67.2	321	4	mg/Kg	☼	61	10 - 150	6	32

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (fid)	*88*		*65 - 125*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 400-417054/1-A
Matrix: Solid
Analysis Batch: 417046

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 417054

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.050		0.050	mg/Kg		10/26/18 08:40	10/29/18 16:48	50
Ethylbenzene	<0.050		0.050	mg/Kg		10/26/18 08:40	10/29/18 16:48	50
Toluene	<0.25		0.25	mg/Kg		10/26/18 08:40	10/29/18 16:48	50
Xylenes, Total	<0.25		0.25	mg/Kg		10/26/18 08:40	10/29/18 16:48	50

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*98*		*40 - 150*	*10/26/18 08:40*	*10/29/18 16:48*	*50*

Lab Sample ID: LCS 400-417054/2-A
Matrix: Solid
Analysis Batch: 417046

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 417054

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	2.50	3.03		mg/Kg		121	74 - 127
Ethylbenzene	2.50	3.16		mg/Kg		126	79 - 131

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 400-417054/2-A
Matrix: Solid
Analysis Batch: 417046

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 417054

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Toluene			2.50	3.09		mg/Kg		124	76 - 127		
Xylenes, Total			7.50	9.47		mg/Kg		126	80 - 129		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*89*		*40 - 150*

Lab Sample ID: 400-160685-1 MS
Matrix: Solid
Analysis Batch: 417046

Client Sample ID: SVE-2 (15-16)
Prep Type: Total/NA
Prep Batch: 417054

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	0.88		3.36	4.78		mg/Kg	☼	116	10 - 150		
Ethylbenzene	1.4		3.36	5.68		mg/Kg	☼	127	10 - 150		
Toluene	7.3		3.36	11.9		mg/Kg	☼	135	10 - 150		
Xylenes, Total	11		10.1	22.4		mg/Kg	☼	116	50 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*72*		*40 - 150*

Lab Sample ID: 400-160685-1 MSD
Matrix: Solid
Analysis Batch: 417046

Client Sample ID: SVE-2 (15-16)
Prep Type: Total/NA
Prep Batch: 417054

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.88		3.36	4.67		mg/Kg	☼	113	10 - 150	2	34
Ethylbenzene	1.4		3.36	5.54		mg/Kg	☼	123	10 - 150	2	66
Toluene	7.3		3.36	11.4		mg/Kg	☼	120	10 - 150	4	44
Xylenes, Total	11		10.1	21.8		mg/Kg	☼	110	50 - 150	3	46

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*75*		*40 - 150*

Lab Sample ID: MB 400-417429/2-A
Matrix: Solid
Analysis Batch: 417104

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 417429

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0010		0.0010		mg/Kg		10/26/18 15:00	10/26/18 18:54	1
Ethylbenzene	<0.0010		0.0010		mg/Kg		10/26/18 15:00	10/26/18 18:54	1
Toluene	<0.0050		0.0050		mg/Kg		10/26/18 15:00	10/26/18 18:54	1
Xylenes, Total	<0.0050		0.0050		mg/Kg		10/26/18 15:00	10/26/18 18:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*97*		*40 - 150*	*10/26/18 15:00*	*10/26/18 18:54*	*1*

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 400-417429/1-A
Matrix: Solid
Analysis Batch: 417104

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 417429

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0495		mg/Kg		99	74 - 127
Ethylbenzene	0.0500	0.0510		mg/Kg		102	79 - 131
Toluene	0.0500	0.0507		mg/Kg		101	76 - 127
Xylenes, Total	0.150	0.152		mg/Kg		102	80 - 129

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*94*		*40 - 150*

Lab Sample ID: 400-160685-3 MS
Matrix: Solid
Analysis Batch: 417104

Client Sample ID: SVE-3 (13-14)
Prep Type: Total/NA
Prep Batch: 417429

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.0012		0.0576	0.0497		mg/Kg	☼	86	10 - 150
Ethylbenzene	<0.0012		0.0576	0.0477		mg/Kg	☼	83	10 - 150
Toluene	<0.0060		0.0576	0.0489		mg/Kg	☼	85	10 - 150
Xylenes, Total	<0.0060		0.173	0.144		mg/Kg	☼	81	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*94*		*40 - 150*

Lab Sample ID: 400-160685-3 MSD
Matrix: Solid
Analysis Batch: 417104

Client Sample ID: SVE-3 (13-14)
Prep Type: Total/NA
Prep Batch: 417429

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.0012		0.0597	0.0422		mg/Kg	☼	71	10 - 150	16	34
Ethylbenzene	<0.0012		0.0597	0.0453		mg/Kg	☼	76	10 - 150	5	66
Toluene	<0.0060		0.0597	0.0440		mg/Kg	☼	74	10 - 150	11	44
Xylenes, Total	<0.0060		0.179	0.138		mg/Kg	☼	75	50 - 150	5	46

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*93*		*40 - 150*

Lab Sample ID: MB 400-417577/2-A
Matrix: Solid
Analysis Batch: 417389

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 417577

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.0050		0.0050		mg/Kg		10/29/18 12:00	10/29/18 13:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene (pid)	*89*		*40 - 150*	*10/29/18 12:00*	*10/29/18 13:43*	*1*

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 400-417577/1-A
Matrix: Solid
Analysis Batch: 417389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 417577

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Toluene			0.0500	0.0560		mg/Kg		112	76 - 127		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*90*		*40 - 150*

Lab Sample ID: 400-160685-2 MS
Matrix: Solid
Analysis Batch: 417389

Client Sample ID: SVE-2 (25-26)
Prep Type: Total/NA
Prep Batch: 417577

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Toluene	0.44	H	0.0922	0.520	4	mg/Kg	☼	84	10 - 150		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*92*		*40 - 150*

Lab Sample ID: 400-160685-2 MSD
Matrix: Solid
Analysis Batch: 417389

Client Sample ID: SVE-2 (25-26)
Prep Type: Total/NA
Prep Batch: 417577

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Toluene	0.44	H	0.0957	0.688	E 4	mg/Kg	☼	256	10 - 150	28	44

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene (pid)	*93*		*40 - 150*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 400-415976/1-A
Matrix: Solid
Analysis Batch: 416269

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 415976

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
C10-C28	<5.0		5.0		mg/Kg		10/18/18 14:02	10/20/18 16:41	1
C28-C35	<5.0		5.0		mg/Kg		10/18/18 14:02	10/20/18 16:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*81*		*27 - 151*	*10/18/18 14:02*	*10/20/18 16:41*	*1*

Lab Sample ID: LCS 400-415976/2-A
Matrix: Solid
Analysis Batch: 416269

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 415976

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			287	221		mg/Kg		77	63 - 153		

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 400-415976/2-A
Matrix: Solid
Analysis Batch: 416269

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 415976

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*84*		*27 - 151*

Lab Sample ID: 400-160685-3 MS
Matrix: Solid
Analysis Batch: 416269

Client Sample ID: SVE-3 (13-14)
Prep Type: Total/NA
Prep Batch: 415976

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28	<6.0	F2 F1	343	272		mg/Kg	☼	79	62 - 204

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*83*		*27 - 151*

Lab Sample ID: 400-160685-3 MSD
Matrix: Solid
Analysis Batch: 416269

Client Sample ID: SVE-3 (13-14)
Prep Type: Total/NA
Prep Batch: 415976

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	<6.0	F2 F1	343	192	F2 F1	mg/Kg	☼	55	62 - 204	35	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*59*		*27 - 151*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 400-416464/1-A
Matrix: Solid
Analysis Batch: 416573

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<19		19		mg/Kg			10/23/18 16:02	1

Lab Sample ID: LCS 400-416464/2-A
Matrix: Solid
Analysis Batch: 416573

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			104	101		mg/Kg		97	80 - 120

Lab Sample ID: LCSD 400-416464/3-A
Matrix: Solid
Analysis Batch: 416573

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			98.8	96.4		mg/Kg		98	80 - 120	4	15

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 400-160898-A-1-B MS
Matrix: Solid
Analysis Batch: 416573

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	<28		139	138		mg/Kg	☼	93	80 - 120

Lab Sample ID: 400-160898-A-1-C MSD
Matrix: Solid
Analysis Batch: 416573

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	<28		144	147		mg/Kg	☼	96	80 - 120	6	15

Lab Sample ID: MB 400-416464/1-A
Matrix: Solid
Analysis Batch: 416574

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<19		19		mg/Kg			10/23/18 16:02	1

Lab Sample ID: LCS 400-416464/2-A
Matrix: Solid
Analysis Batch: 416574

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			104	101		mg/Kg		97	80 - 120

Lab Sample ID: LCSD 400-416464/3-A
Matrix: Solid
Analysis Batch: 416574

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			98.8	96.4		mg/Kg		98	80 - 120	4	15

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - LAT L 40

TestAmerica Job ID: 400-160685-1

Client Sample ID: SVE-2 (15-16)
Date Collected: 10/13/18 12:55
Date Received: 10/16/18 09:11

Lab Sample ID: 400-160685-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			416407	10/22/18 12:28	TMP	TAL PEN
	Instrument ID: NOEQUIP									

Client Sample ID: SVE-2 (15-16)
Date Collected: 10/13/18 12:55
Date Received: 10/16/18 09:11

Lab Sample ID: 400-160685-1
Matrix: Solid
Percent Solids: 72.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.17 g	5.00 g	417054	10/26/18 08:40	MEP	TAL PEN
Total/NA	Analysis	8015B		50	5 mL	5 mL	417044	10/26/18 13:49	GRK	TAL PEN
	Instrument ID: CH_JOAN									
Total/NA	Prep	5035			5.17 g	5.00 g	417054	10/26/18 08:40	MEP	TAL PEN
Total/NA	Analysis	8021B		50	5 mL	5 mL	417046	10/26/18 13:49	GRK	TAL PEN
	Instrument ID: CH_JOAN									
Total/NA	Prep	3546			15.11 g	1.0 mL	415976	10/18/18 14:02	KLR	TAL PEN
Total/NA	Analysis	8015B		1			416269	10/20/18 17:58	TAJ	TAL PEN
	Instrument ID: Eva									
Soluble	Leach	DI Leach			2.49 g	50 mL	416464	10/22/18 15:31	BAW	TAL PEN
Soluble	Analysis	300.0		1			416574	10/23/18 21:44	BAW	TAL PEN
	Instrument ID: IC2									

Client Sample ID: SVE-2 (25-26)
Date Collected: 10/13/18 13:20
Date Received: 10/16/18 09:11

Lab Sample ID: 400-160685-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			416407	10/22/18 12:28	TMP	TAL PEN
	Instrument ID: NOEQUIP									

Client Sample ID: SVE-2 (25-26)
Date Collected: 10/13/18 13:20
Date Received: 10/16/18 09:11

Lab Sample ID: 400-160685-2
Matrix: Solid
Percent Solids: 76.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.44 g	5.0 g	416978	10/25/18 09:00	GRK	TAL PEN
Total/NA	Analysis	8015B		1	5 mL	5 mL	416879	10/25/18 16:10	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	5035			5.14 g	5.0 g	417429	10/26/18 15:00	MEP	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	417104	10/26/18 21:22	GRK	TAL PEN
	Instrument ID: CH_JOAN									
Total/NA	Prep	5035			3.42 g	5.0 g	417577	10/29/18 12:00	GRK	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	417389	10/29/18 18:44	GRK	TAL PEN
	Instrument ID: CH_JOAN									

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - LAT L 40

TestAmerica Job ID: 400-160685-1

Client Sample ID: SVE-2 (25-26)

Lab Sample ID: 400-160685-2
Date Collected: 10/13/18 13:20
Matrix: Solid
Date Received: 10/16/18 09:11
Percent Solids: 76.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3546			15.03 g	1.0 mL	415976	10/18/18 14:02	KLR	TAL PEN
Total/NA	Analysis	8015B		1			416269	10/20/18 18:11	TAJ	TAL PEN
	Instrument ID: Eva									
Soluble	Leach	DI Leach			2.47 g	50 mL	416464	10/22/18 15:31	BAW	TAL PEN
Soluble	Analysis	300.0		1			416574	10/23/18 22:07	BAW	TAL PEN
	Instrument ID: IC2									

Client Sample ID: SVE-3 (13-14)

Lab Sample ID: 400-160685-3
Date Collected: 10/13/18 14:50
Matrix: Solid
Date Received: 10/16/18 09:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			416407	10/22/18 12:28	TMP	TAL PEN
	Instrument ID: NOEQUIP									

Client Sample ID: SVE-3 (13-14)

Lab Sample ID: 400-160685-3
Date Collected: 10/13/18 14:50
Matrix: Solid
Date Received: 10/16/18 09:11
Percent Solids: 83.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.24 g	5.0 g	416978	10/25/18 09:00	GRK	TAL PEN
Total/NA	Analysis	8015B		1	5 mL	5 mL	416879	10/25/18 13:06	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	5035			5.00 g	5.0 g	417429	10/26/18 15:00	MEP	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	417104	10/26/18 19:32	GRK	TAL PEN
	Instrument ID: CH_JOAN									
Total/NA	Prep	3546			15.05 g	1.0 mL	415976	10/18/18 14:02	KLR	TAL PEN
Total/NA	Analysis	8015B		1			416269	10/20/18 17:45	TAJ	TAL PEN
	Instrument ID: Eva									
Soluble	Leach	DI Leach			2.54 g	50 mL	416464	10/22/18 15:31	BAW	TAL PEN
Soluble	Analysis	300.0		1			416574	10/23/18 22:30	BAW	TAL PEN
	Instrument ID: IC2									

Client Sample ID: SVE-3 (26-27)

Lab Sample ID: 400-160685-4
Date Collected: 10/13/18 15:00
Matrix: Solid
Date Received: 10/16/18 09:11

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			416407	10/22/18 12:28	TMP	TAL PEN
	Instrument ID: NOEQUIP									

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - LAT L 40

TestAmerica Job ID: 400-160685-1

Client Sample ID: SVE-3 (26-27)

Date Collected: 10/13/18 15:00
Date Received: 10/16/18 09:11

Lab Sample ID: 400-160685-4

Matrix: Solid
Percent Solids: 73.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.98 g	5.0 g	416978	10/25/18 09:00	GRK	TAL PEN
Total/NA	Analysis	8015B		1	5 mL	5 mL	416879	10/25/18 15:44	GRK	TAL PEN
	Instrument ID: CH_RITA									
Total/NA	Prep	5035			5.09 g	5.0 g	417429	10/26/18 15:00	MEP	TAL PEN
Total/NA	Analysis	8021B		1	5 mL	5 mL	417104	10/26/18 21:59	GRK	TAL PEN
	Instrument ID: CH_JOAN									
Total/NA	Prep	3546			15.39 g	1.0 mL	415976	10/18/18 14:02	KLR	TAL PEN
Total/NA	Analysis	8015B		1			416269	10/20/18 18:24	TAJ	TAL PEN
	Instrument ID: Eva									
Soluble	Leach	DI Leach			2.47 g	50 mL	416464	10/22/18 15:31	BAW	TAL PEN
Soluble	Analysis	300.0		1			416574	10/23/18 22:53	BAW	TAL PEN
	Instrument ID: IC2									

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: 400-160685-1
Project/Site: ElPaso CGP Company, LLC - LAT L 40

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

Method Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - LAT L 40

TestAmerica Job ID: 400-160685-1

Method	Method Description	Protocol	Laboratory
8015B	Gasoline Range Organics - (GC)	SW846	TAL PEN
8021B	Volatile Organic Compounds (GC)	SW846	TAL PEN
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL PEN
300.0	Anions, Ion Chromatography	MCAWW	TAL PEN
Moisture	Percent Moisture	EPA	TAL PEN
3546	Microwave Extraction	SW846	TAL PEN
5035	Closed System Purge and Trap	SW846	TAL PEN
DI Leach	Deionized Water Leaching Procedure	ASTM	TAL PEN

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

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

400-160685 COC

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Marc Hes	Lab PM: Webb, Carol M	Carrier Tracking No(s):	COC No: 400-77305-30160.1
Client Contact: Ms. Sarah Gardner	Phone: 303 885 4991	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: Per Arf
City: Denver	TAT Requested (days): Per Arf
State, Zip: CO, 80202	
Phone: 303-291-2239(Tel)	PO #: See Project Notes
Email: sarah.gardner@mwhglobal.com	WO #:
Project Name: Lat L 40	Project #: 40005479
Site: LAT L 40	SSOW#:

Analysis Requested

Preservation Codes:

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

Other:

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)	8015B_DRO - TPH DRO ORO	8015B_GRO, 8021B	300_ORGFM_28D - Chloride	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N		
SVE-2 (15-16)	10/13/18	1255	G	S	n	n	x	x	x	3	
SVE-2 (25-26)	10/13/18	1320	G	S	n	n	x	x	x	3	
SVE-3 (13-14)	10/13/18	1450	G	S	n	n	x	x	x	3	
SVE-3 (26-27)	10/13/18	1500	G	S	n	n	x	x	x	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
MH Marc Hes	10-15-18 1700	Stantec		10/16/18 0911	TA PEN
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: 0.7°C IR8

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc

Job Number: 400-160685-1

Login Number: 160685
List Number: 1
Creator: Perez, Trina M

List Source: TestAmerica Pensacola

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	0.7°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.	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	

APPENDIX D

envirotech

Bill of Lading

MANIFEST # 62140
GENERATOR El Paso
POINT OF ORIGIN CAT L-40
TRANSPORTER ~~S~~ SIERRA OIL FIELD
DATE 10-23-18 JOB # 14073-0038

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

LOAD NO.	COMPLETE DESCRIPTION OF SHIPMENT					TRANSPORTING COMPANY			
	DESTINATION	MATERIAL	GRID	YDS	BBLS	TKT#	TRK#	TIME	DRIVER SIGNATURE
1	LF II-5	~~B~~ DRILL CUTTINGS	~~A-37~~		30	—	18	13:40	Jeff Clicks
			A-37		30				

RESULTS			LANDFARM EMPLOYEE	NOTES
270	CHLORIDE TEST	1		30 BBL's DROPED OFF to Be
	PAINT FILTER TEST	1	Certification of above receival & placement	DUMPED AND DECON

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

Generator Onsite Contact _____ Phone _____

Signatures required prior to distribution of the legal document. DISTRIBUTION: **White** - Company Records, **Yellow** - Billing, **Pink** - Customer, **Goldenrod** - LF Copy

san juan reproduction 578-126

envirotech

BOL# 62140

CHLORIDE TESTING / PAINT FILTER TESTING

DATE 10-23-18 TIME 13:40 Attach test strip here

CUSTOMER El Paso

SITE Lat L-40

DRIVER Just Clicker

SAMPLE (Soil) Straight _____ With Dirt _____

CHLORIDE TEST -270 mg/Kg

ACCEPTED YES ✓ NO _____

PAINT FILTER TEST Time started 13:40 Time completed 13:45

PASS YES ✓ NO _____

SAMPLER/ANALYST [signature]

5796 US Hwy 64, Farmington, NM 87401 || Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 || info@envirotech-inc.com envirotech-inc.com

APPENDIX E

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):**
Fields A#7A, Fogelson 4-1, Gallegos Canyon Unit #124E, GCU Com A #142E, 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 E, Sec. 34, T32N, R11W; Unit P, Sec. 4, T29N, R11W; Unit N, Sec. 35, T28N, R12W; Unit G, Sec. 25, R29N, R12W; 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.

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, Susan 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: Velma Ferguson TITLE: Attendant DATE: 5/19/15

SIGNATURE: _____ TELEPHONE NO.: 505-637-8936

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. 714236
NMOCD PERMIT: NM -001-0005
Oil Field Waste Document, Form C138
INVOICE:

DATE 5/19/16

DEL. TKT#.

GENERATOR: El Paso

BILL TO: El Paso

HAULING CO. Stem Tech

DRIVER: Saldh
(Print Full Name)

ORDERED BY: Jos Miley

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		Field A7A, Fogelson 4H Galleos com [illegible] 124E	10 Gal	.70	[illegible]	00	70	
2		Scudom A 142E James F Bell 1E Knicht 1 Lat L 40		~~.70~~				
3		State Gas Com N#1						
4								
5								

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 [signature]

san juan reproduction 168-6

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):
Lateral L 40

3. Location of Material (Street Address, City, State or ULSTR):
Unit H, Sec. 13, T28N, R04W

4. Source and Description of Waste:
A historic release has occurred on the above-referenced property. As part of environmental remediation activities, 5 monitoring wells and three test wells is being installed. The well development and decontamination water will be removed from the Site.

Estimated Volume 10 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, _____, representative for _____ 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: Sierra Oilfield 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: _____ TITLE: _____ DATE: _____

SIGNATURE: _____ TELEPHONE NO.: _____
Surface Waste Management Facility Authorized Agent

French Dr., Hobbs, NM 88240
et II
S. First St., Artesia, NM 88210
strict 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) _____ 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, _____ 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: _____ DATE: _____

SIGNATURE: _____ TELEPHONE NO.: _____

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: Sarah 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		Fogelson #1-1 State Gas Com N#1	1	70			70	
2		Gallegos Canyon Unit #124E					'18NOV 1 6:35PM	
3		C-O Com A #1 1MC 2						
4		Knight #1 Standard GCA #1A						
5		James F Bell #1E Lat L40						

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 ... The results 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

APPENDIX F

AcuVac Remediation, LLC
1656-H Townhurst, Houston, Texas 77043
713.468.6688 • www.acuvac.com

October 20, 2018

Mr. Stephen Varsa
Supervising Hydrogeologist
Stantec Consulting Services, Inc.
11153 Aurora Avenue
Des Moines, IA 50322

Dear Steve:

Re: Lateral L-40 Site, Rio Arriba County, NM (SVE Step Test #1)

At your request, AcuVac Remediation (AcuVac) performed four Soil Vapor Extraction (SVE) Step Tests at the above referenced site (Site) as outlined in Table A below, on October 20, 2018. Following is the Report and a copy of the Operating Data collected during the SVE Step Tests. Table #1 contains the summary data for all the SVE Step Tests. The contaminant is Non-Aqueous Phase Liquid (NAPL) which includes Light Non-Aqueous Phase Liquid (LNAPL).

Table A

Event Number	Well Number	Event Duration (hrs)	Test Summary
#1A	MW-1	1.25	Table #2
#1B	SVE-1	1.75	Table #3
#1C	SVE-2	1.50	Table #4
#1D	SVE-3	2.25	Table #5

SVE STEP TEST OBJECTIVES

- Determine well vacuum and vapor flow of each well.
- Provide vapor phase total petroleum hydrocarbons concentrations in the influent vapors.
- Provide background data on the soil vapor plume area.

SVE STEP TEST DESCRIPTION

A Step Test is a short SVE Test of 0.5 to 2.0 hours conducted from an existing monitoring or observation well located on-site and off-site. The test provides data on the soil vapor plume area, which may not totally conform to the groundwater plume. Each SVE Step Test provides well vacuum and well vapor flow data. From a soil gas sample (influent vapor), the HORIBA® Analyzer can provide total petroleum hydrocarbons in ppmv and the percent of CO_2 and CO. Additional instrumentation provides O_2 data. The depth to groundwater and depth to NAPL are also recorded. This informative data confirms whether or not the outer wells are within the vapor plume area and are functional.

METHODS AND EQUIPMENT

AcuVac owns and maintains an inventory of equipment to perform SVE Step Tests. The tests at the Site were conducted using the AcuVac I-6 System with a Roots RAI-33 blower, used as a vacuum pump, and a Roots RAI-22 positive displacement blower. The following table lists equipment and instrumentation employed in these tests and the data recorded by each.

Instrumentation Employed by AcuVac	
Measurement Equipment	Data Element
Extraction Well Induced Vacuum and Flow	
Dwyer Magnehelic Gauges	Extraction Well Vacuum
Dwyer Averaging Pitot Tubes / Magnehelic Gauges	Extractions Well Vapor Flow
Well Vapor Samples	
V-1 Vacuum Box	Extraction Well Non-Diluted Vapor Samples
HORIBA® Analyzer	Extraction Well Vapor TPH Concentration
Lumidor MicroMax Pro O_2 Monitor	Extraction Well Vapor Oxygen Content
LNAPL Thickness (if present)	
Solinst Interface Probes Model 122	Depth to NAPL and Depth to Groundwater
Atmospheric Conditions	
Testo Model 511	Relative and Absolute Barometric Pressure

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

AcuVac utilized a HORIBA® Analyzer to test the TPH concentrations contained in the extraction well vapors. A non-diluted vapor sample was obtained from the AcuVac well manifold. The non-diluted vapor sample was then processed by the HORIBA® to determine the TPH content. Well vapor samples were obtained throughout the test to calculate the TPH vapors burned as IC engine fuel. The manifold is designed to enable all of the induced well vacuum to be applied to the entire available well screen to ensure a representative vapor sample.

The AcuVac internal combustion engine is fully loaded for the maximum power necessary to achieve and maintain high induced vacuums and/or high well vapor flows required to maximize the vacuum radius of influence.

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

SVE QUICK TEST PROCEDURES

- Gauge the extraction well for depth to NAPL and depth to groundwater and record static data.
- Calculate the hydro-equivalent of the static groundwater level.
- Record all baseline data.
- Install vacuum manifold and hose.
- Connect the AcuVac System to the extraction well and then apply vacuum. Record the well vacuum and well flow, all system data (including fuel flow of propane), ambient temperature, and barometric pressure.
- Collect non-diluted influent vapor (well gas) samples to provide on-site HORIBA® Analyzer and Lumidor analytical data consisting of TPH ppmv, CO_2%, CO%, and O_2% every 15 minutes during the Step Test.
- Provide variable rates of induced well vacuum and well vapor flow over the test period.

DISCUSSION OF TEST RESULTS

Immediately prior to Test #1A, all observation wells were gauged with a manometer to record the baseline data. All wells recorded zero vacuum.

Test #1A - was a 1.25 hour test performed on well MW-1. The initial well vacuum was 20 In H_2O, increasing to 30 In H_2O at test hour 0.5, and to 40 in H_2O at test hour 1.0. The well vapor flow ranged from 2.62 scfm to 2.85 scfm. The observation wells did not respond to the extraction well induced vacuum to an extent to be considered within the 3% or 1% SVE radius of influence.

Test #1B - was a 1.75 hour test performed on well SVE-1. The initial well vacuum was 30 In H_2O, increasing to 40 In H_2O at test hour 0.5, and to 50 In H_2O at test hour 1.0. The well vapor flow ranged from 9.75 scfm to 20.43 scfm. The well vapors in well SVE-1 contained the highest level of TPH vapor concentration of all wells tested with a maximum volume of 77,850 ppmv and an average volume 77,635 ppmv. Observation wells MW-1 (7.0 ft), SVE-2 (24.5 ft), and MW-5 (33.0 ft) responded to the extraction well induced vacuum to an extent to be considered within the 3% or 1% SVE radius of influence.

Test #1C - was a 1.50 hour test performed on well SVE-2. The initial well vacuum was 30 In H_2O, increasing to 40 In H_2O at test hour 0.5 and to 50 in H_2O at test hour 1.0. The well vapor flow ranged from 13.51 scfm to 18.72 scfm. The well vapors from well SVE-2 contained high TPH vapor concentrations with a maximum reading of 66,260 ppmv and an average of 64,743 ppmv. With the exception of well SVE-1 (24.5 ft), the observation wells did not respond to the extraction well induced vacuum to an extent to be considered within the 3% or 1% SVE radius of influence.

Test #1D - was a 2.25 hour test performed on well SVE-3. The initial well vacuum was 10 In H_2O, increasing to 20 In H_2O at test hour 0.5, increasing to 30 in H_2O at test hour 1.0, increasing to 40 in H_2O at test hour 1.5 and increasing to 50 in H_2O at test hour 2.0. The well vapor flow ranged from 9.61 scfm to 26.97 scfm. The observation wells did not respond to the extraction well induced vacuum to an extent to be considered within the 3% or 1% SVE radius of influence.

INFORMATION INCLUDED WITH REPORT

- Table #1- Summary Data for all wells.
- Table #2- Operating Data- MW-1.
- Table #3- Operating Data- SVE-1.
- Graph 1A- Vacuum Influence of Well SVE-1 on the Observation Wells
- Graph 1B- Percentage of Vacuum Influence of Well SVE-1 on the Observation Wells.
- Table #4- Operating Data- SVE-2.
- Table #5- Operating Data- SVE-3.

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

Sincerely,
ACUVAC REMEDIATION, LLC

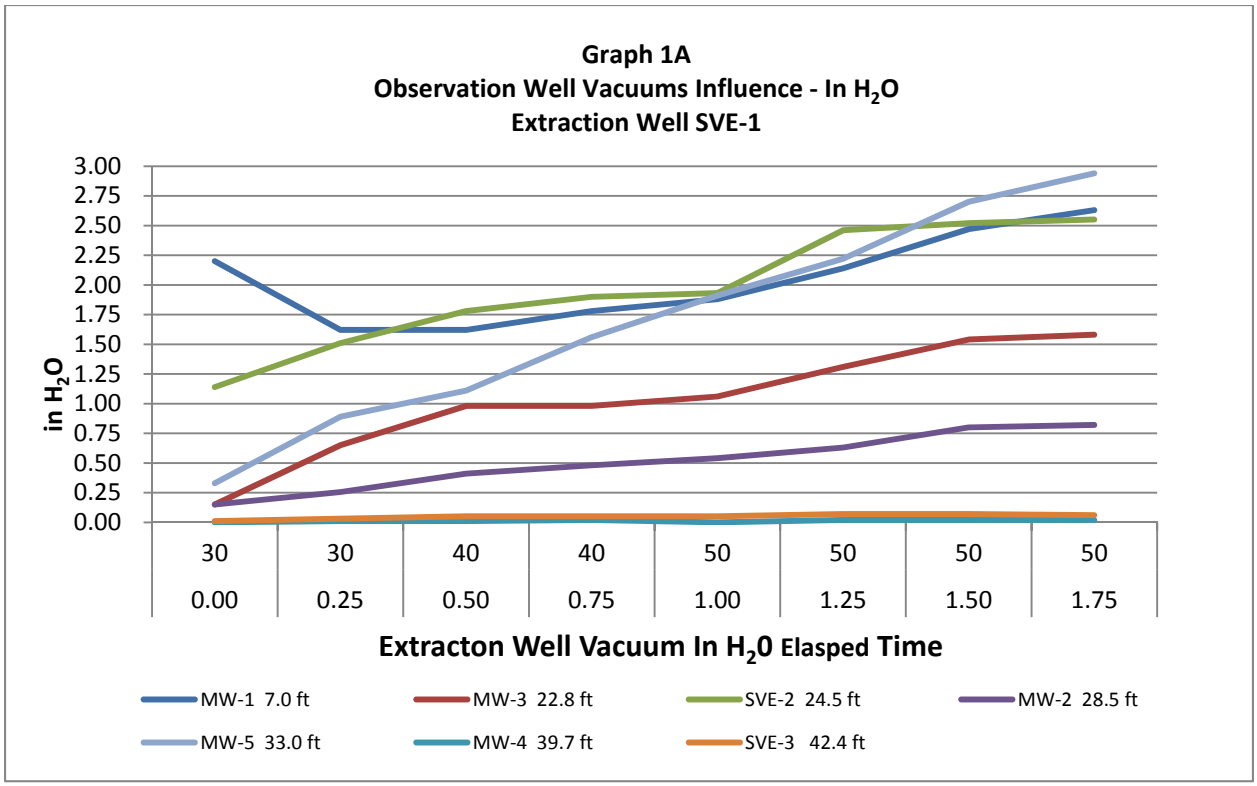
Paul D. Faucher
Vice President, Operations

TABLE #1
SVE STEP TESTS
SUMMARY DATA

Step Test Number		**#1A**	**#1B**	**#1C**	**#1D**
Well Number		**MW- 1**	**SVE-1**	**SVE-2**	**SVE-3**
Test Duration	hours	**1.25**	**1.75**	**1.50**	**2.25**
Well Data					
TD	ft BTOC	53.20	30.00	25.00	25.00
Well Size	inches	4.0	4.0	4.0	4.0
Screen Interval	ft BTOC	38.2 - 53.2	20.0 - 30.0	15.0 - 25.0	15.0 - 25.0
Site Elevation	ft	7,259	7,259	7,259	7,259
LNAPL Data					
Start of Test					
Depth to Groundwater	ft BTOC	41.13	29.83	24.85	Dry
Depth to NAPL	ft BTOC	-	-	-	-
LNAPL	ft	-	-	-	-
Hydro Equivalent	ft	41.13	29.83	24.85	-
End of Test					
Depth to Groundwater	ft BTOC	ND	ND	ND	ND
Depth to LNAPL	ft BTOC	0.00	0.00	0.00	0.00
LNAPL	ft	0.00	0.00	0.00	0.00
Hydro Equivalent	ft	0.00	0.00	0.00	0.00
Well Vac and Well Vapor Flow					
Max Extraction Well Vacuum	In H_2O	40.00	50.00	50.00	50.00
Avg Extraction Well Vacuum	In H_2O	30.00	42.50	41.43	30.00
Min Extraction Well Vacuum	In H_2O	20.00	30.00	30.00	10.00
Max Extraction Well Vapor Flow	scfm	3.35	20.43	18.72	27.48
Avg Extraction Well Vapor Flow	scfm	2.85	17.35	16.39	18.84
Min Extraction Well Vapor Flow	scfm	2.57	9.75	13.51	9.61
Vapor Data					
Maximum TPH	ppmv	13,280	77,850	66,260	3,760
Average TPH	ppmv	10,880	74,635	64,743	3,462
Minimum TPH	ppmv	8,480	70,070	63,050	3,200
Average CO2	%	1.87	9.78	7.16	2.32
Average CO	%	0.03	0.42	0.35	0.01
Average O_2	%	19.3	11.4	17.1	19.3
Average H_2S	ppm	0.0	0.0	0.0	0.0
Groundwater Upwelling					
Data Logger Position	ft BTOC	48.25	30.00	24.00	24.00
Average Water Column Above Data Logger	ft BTOC	5.14	0.45	0.00	0.00
Average Groundwater Upwelling	ft	1.02	(0.10)	0.00	0.00
Available Well Screen					
Depth to Groundwater	ft BTOC	40.12	29.93	-	-
Top of Well Screen	ft BTOC	35.20	20.00	15.00	15.00
Available/(Occluded) Well Screen	ft	4.92	9.93	15.00	15.00

TABLE #2 SVE STEP TEST #1A EXTRACTION WELL MW-1									
TIME		**9:00**	**9:15**	**9:30**	**9:45**	**10:00**	**10:15**		
TEST HOUR		**0:00**	**0.25**	**0.50**	**0.75**	**1.00**	**1.25**	**AVG**	**MAX**
EXTRACTION WELL MW-1									
Extraction Well Vacuum	In H_2O	20.00	20.00	30.00	30.00	40.00	40.00	**30.00**	**40.00**
Well Flow	scfm	2.62	2.62	2.58	2.57	3.35	3.35	**2.85**	**3.35**
VAPOR CONCENTRATIONS									
TPH	ppmv	-	-	8,480	-	-	13,280	**10,880**	**13,280**
CO_2	%	-	-	1.12	-	-	2.62	**1.87**	**2.62**
CO	%	-	-	0.02	-	-	0.03	**0.03**	**0.03**
O_2	%	-	-	19.8	-	-	18.7	**19.3**	**19.8**
H_2S	ppm	-	-	0.0	-	-	0.0	**0.0**	**0.0**
GROUNDWATER UPWELLING									
Data Logger Position	ft	48.25	48.25	48.25	48.25	48.25	48.25	**48.25**	**48.25**
Water Column Above Data Logger	ft	4.12	4.82	4.93	5.29	5.61	6.04	**5.14**	**6.04**
Groundwater Upwelling	ft	0.00	0.70	0.81	1.17	1.49	1.92	**1.02**	**1.92**
AVAILABLE/OCCLUDED SCREEN									
Depth to Groundwater- BTOC	ft	41.13	40.43	40.32	39.96	39.64	39.21	**40.12**	**41.13**
Top of Well Screen	ft	35.20	35.20	35.20	35.20	35.20	35.20	**35.20**	**35.20**
Available/(Occluded) Well Screen	ft	5.93	5.23	5.12	4.76	4.44	4.01	**4.92**	**5.93**
OBSERVED OW VACUUM\(PRESSURE)									
SVE-1 - 7.0 ft	In H_2O	0.00	0.01	0.01	0.03	0.06	0.07	**0.03**	**0.07**
SVE-2 - 27.1 ft	In H_2O	0.00	0.00	0.01	0.01	0.02	0.03	**0.01**	**0.03**
MW-2 - 29.1 ft	In H_2O	0.00	0.02	0.05	0.06	0.13	0.11	**0.06**	**0.13**
MW-3 - 29.7 ft	In H_2O	0.00	0.03	0.06	0.05	0.09	0.09	**0.05**	**0.09**
MW-5 - 30.4 ft	In H_2O	0.00	0.10	0.29	0.20	0.27	0.35	**0.20**	**0.35**
MW-4 - 33.3 ft	In H_2O	0.00	0.00	0.00	0.00	0.00	0.01	**0.00**	**0.01**
SVE-3 - 44.7 ft	In H_2O	0.00	0.00	0.00	0.00	0.02	0.00	**0.00**	**0.02**
OBSERVED OW VACUUM\(PRESSURE)									
SVE-1 - 7.0 ft	%	0.00	0.05	0.03	0.10	0.15	0.18	**0.08**	**0.18**
SVE-2 - 27.1 ft	%	0.00	0.00	0.03	0.03	0.05	0.08	**0.03**	**0.08**
MW-2 - 29.1 ft	%	0.00	0.10	0.17	0.20	0.33	0.28	**0.18**	**0.33**
MW-3 - 29.7 ft	%	0.00	0.15	0.20	0.17	0.23	0.23	**0.16**	**0.23**
MW-5 - 30.4 ft	%	0.00	0.50	0.97	0.67	0.68	0.88	**0.61**	**0.97**
MW-4 - 33.3 ft	%	0.00	0.00	0.00	0.00	0.00	0.03	**0.00**	**0.03**
SVE-3 - 44.7 ft	%	0.00	0.00	0.00	0.00	0.05	0.00	**0.01**	**0.05**

TABLE #3 SVE STEP TEST #1B EXTRACTION WELL SVE-1											
Time		**10:15**	**10:30**	**10:45**	**11:00**	**11:15**	**11:30**	**11:45**	**12:00**		
Test Hour		**0.00**	**0.25**	**0.50**	**0.75**	**1.00**	**1.25**	**1.50**	**1.75**	**AVG**	**MAX**
EXTRACTION DATA											
Extraction Well Vacuum	In H_2O	30.00	30.00	40.00	40.00	50.00	50.00	50.00	50.00	**42.50**	**50.00**
Well Flow SCFM	scfm	9.75	13.99	16.65	16.65	20.43	20.43	20.43	20.43	**17.35**	**20.43**
VAPOR CONCENTRATIONS											
TPH	ppmv	-	74,150	-	76,470	-	70,070	-	77,850	**74,635**	**77,850**
CO_2	%	-	9.30	-	9.42	-	11.28	-	9.10	**9.78**	**11.28**
CO	%	-	0.39	-	0.38	-	0.49	-	0.41	**0.42**	**0.49**
O_2	%	-	7.8	-	12.7	-	13.6	-	11.6	**11.4**	**13.6**
H_2S	ppm	-	0.0	-	0.0	-	0.0	-	0.0	**0.0**	**0.0**
GROUNDWATER UPWELLING											
Data Logger Position	ft	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	**30.00**	**30.00**
Water Column Above Data Logger	ft	0.55	0.52	0.49	0.49	0.45	0.36	0.35	0.37	**0.45**	**0.55**
Groundwater Upwelling	ft	0.00	(0.03)	(0.06)	(0.06)	(0.10)	(0.19)	(0.20)	(0.18)	**(0.10)**	**0.00**
AVAILABLE/OCCLUDED SCREEN											
Depth to Groundwater- BTOC	ft	29.83	29.86	29.89	29.89	29.93	30.02	30.03	30.01	**29.93**	**30.03**
Top of Well Screen	ft	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	**20.00**	**20.00**
Available/(Occluded) Well Screen	ft	9.83	9.86	9.89	9.89	9.93	10.02	10.03	10.01	**9.93**	**10.03**
OBSERVED OW VACUUM\(PRESSURE)											
MW-1 - 7.0 ft	In H_2O	2.20	1.62	1.62	1.78	1.88	2.14	2.47	2.63	**2.04**	**2.63**
MW-3 - 22.8 ft	In H_2O	0.15	0.65	0.98	0.98	1.06	1.31	1.54	1.58	**1.03**	**1.58**
SVE-2 - 24.5 ft	In H_2O	1.14	1.51	1.78	1.90	1.93	2.46	2.52	2.55	**1.97**	**2.55**
MW-2 - 28.5 ft	In H_2O	0.15	0.26	0.41	0.48	0.54	0.63	0.80	0.82	**0.51**	**0.82**
MW-5 - 33.0 ft	In H_2O	0.33	0.89	1.11	1.56	1.91	2.22	2.70	2.94	**1.71**	**2.94**
MW-4 - 39.7 ft	In H_2O	0.00	0.01	0.01	0.02	0.00	0.02	0.02	0.02	**0.01**	**0.02**
SVE-3 - 42.4 ft	In H_2O	0.01	0.03	0.05	0.05	0.05	0.07	0.07	0.06	**0.05**	**0.07**
OBSERVED OW VACUUM\(PRESSURE)											
MW-1 - 7.0 ft	%	7.33	5.40	4.05	4.45	3.76	4.28	4.94	5.26	**4.93**	**7.33**
MW-3 - 22.8 ft	%	0.50	2.17	2.45	2.45	2.12	2.62	3.08	3.16	**2.32**	**3.16**
SVE-2 - 24.5 ft	%	3.80	5.03	4.45	4.75	3.86	4.92	5.04	5.10	**4.62**	**5.10**
MW-2 - 28.5 ft	%	0.50	0.85	1.03	1.20	1.08	1.26	1.60	1.64	**1.14**	**1.64**
MW-5 - 33.0 ft	%	1.10	2.97	2.78	3.90	3.82	4.44	5.40	5.88	**3.79**	**5.88**
MW-4 - 39.7 ft	%	0.00	0.03	0.03	0.05	0.00	0.04	0.04	0.04	**0.03**	**0.05**
SVE-3 - 42.4 ft	%	0.03	0.10	0.13	0.13	0.10	0.14	0.14	0.12	**0.11**	**0.14**


Graph 1A
Observation Well Vacuums Influence - In H_2O
Extraction Well SVE-1
in H_2O
3.00
2.75
2.50
2.25
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
30 30 40 40 50 50 50 50
0.00 0.25 0.50 0.75 1.00 1.25 1.50 1.75
Extracton Well Vacuum In H_20 Elasped Time
MW-1 7.0 ft
MW-3 22.8 ft
SVE-2 24.5 ft
MW-2 28.5 ft
MW-5 33.0 ft
MW-4 39.7 ft
SVE-3 42.4 ft

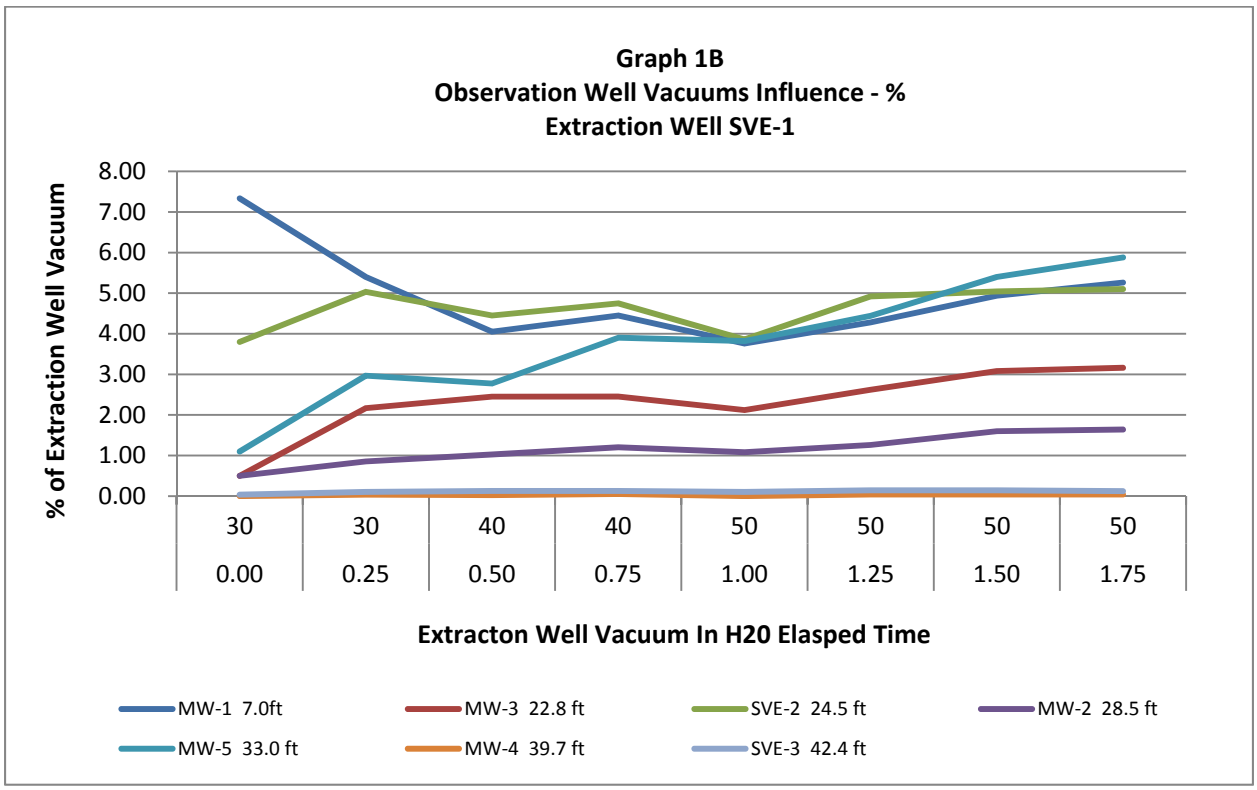

Graph 1B
Observation Well Vacuums Influence - %
Extraction WEll SVE-1
% of Extraction Well Vacuum
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
30 30 40 40 50 50 50 50
0.00 0.25 0.50 0.75 1.00 1.25 1.50 1.75
Extracton Well Vacuum In H20 Elasped Time
MW-1 7.0ft
MW-3 22.8 ft
SVE-2 24.5 ft
MW-2 28.5 ft
MW-5 33.0 ft
MW-4 39.7 ft
SVE-3 42.4 ft

TABLE #4 SVE STEP TEST #1C EXTRACTION WELL SVE-2										
TIME		**12:30**	**12:45**	**13:00**	**13:15**	**13:30**	**13:45**	**14:00**		
TEST HOUR		**0:00**	**0.25**	**0.50**	**0.75**	**1.00**	**1.25**	**1.50**	**AVG**	**MAX**
EXTRACTION DATA										
Extraction Well Vacuum	In H_2O	**30.00**	**30.00**	**40.00**	**40.00**	**50.00**	**50.00**	**50.00**	**41.43**	**50.00**
Well Flow SCFM	scfm	**13.51**	**13.51**	**15.76**	**15.76**	**18.72**	**18.72**	**18.72**	**16.39**	**18.72**
VAPOR CONCENTRATIONS										
TPH	ppmv	-	64,920	-	63,050	-	66,260	-	**64,743**	**66,260**
CO_2	%	-	6.82	-	8.04	-	6.62	-	**7.16**	**8.04**
CO	%	-	0.35	-	0.38	-	0.33	-	**0.35**	**0.38**
O_2	%	-	16.3	-	16.7	-	18.3	-	**17.1**	**18.3**
H_2S	ppm	-	0.0	-	0.0	-	0.0	-	**0.0**	**0.0**
GROUNDWATER UPWELLING										
Data Logger Position	ft	24.00	24.00	24.00	24.00	24.00	24.00	24.00	**24.00**	**24.00**
Water Column Above Data Logger	ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**
Groundwater Upwelling	ft	-	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**
AVAILABLE \ OCCLUDED SCREEN										
Depth to Groundwater- BTOC	ft	-	-	-	-	-	-	-	**-**	**-**
Top of Well Screen	ft	15.00	15.00	15.00	15.00	15.00	15.00	15.00	**15.00**	**15.00**
Available/(Occluded) Well Screen	ft	15.00	15.00	15.00	15.00	15.00	15.00	15.00	**15.00**	**15.00**
OBSERVED OW VACUUM \ (PRESSURE)										
MW-2 - 6.5 ft	In H_2O	0.61	0.37	0.24	0.23	0.20	0.23	0.27	**0.31**	**0.61**
SVE-3 - 17.5 ft	In H_2O	0.14	0.07	0.07	0.06	0.10	0.09	0.10	**0.09**	**0.14**
SVE-1 - 24.5 ft	In H_2O	1.91	1.40	1.24	1.41	1.40	1.73	1.70	**1.54**	**1.91**
MW-1 - 27.1 ft	In H_2O	1.71	1.09	0.52	0.28	0.15	0.13	0.07	**0.56**	**1.71**
MW-3 - 31.4 ft	In H_2O	0.74	0.41	0.20	0.27	0.10	0.11	0.09	**0.27**	**0.74**
MW-4 - 48.8 ft	In H_2O	0.03	0.07	0.01	0.00	0.00	0.00	0.00	**0.00**	**0.07**
MW-7 - 52.7 ft	In H_2O	0.24	0.22	0.13	0.10	0.09	0.11	0.13	**0.15**	**0.24**
OBSERVED OW VACUUM \ (PRESSURE)										
MW-2 - 6.5 ft	%	2.03	1.23	0.60	0.58	0.40	0.46	0.54	**0.83**	**2.03**
SVE-3 - 17.5 ft	%	0.47	0.23	0.18	0.15	0.20	0.18	0.20	**0.23**	**0.47**
SVE-1 - 24.5 ft	%	6.37	4.67	3.10	3.53	2.80	3.46	3.40	**3.90**	**6.37**
MW-1 - 27.1 ft	%	5.70	3.63	1.30	0.70	0.30	0.26	0.14	**1.72**	**5.70**
MW-3 - 31.4 ft	%	2.47	1.37	0.50	0.68	0.20	0.22	0.18	**0.80**	**2.47**
MW-4 - 48.8 ft	%	0.10	0.23	0.03	0.00	0.00	0.00	0.00	**0.05**	**0.23**
MW-7 - 52.7 ft	%	0.80	0.73	0.33	0.25	0.18	0.22	0.26	**0.40**	**0.80**

TABLE #5 SVE STEP TEST #1D EXTRACTION WELL SVE-3													
TIME		**14:15**	**14:30**	**14:45**	**15:00**	**15:15**	**15:30**	**15:45**	**16:00**	**16:15**	**16:30**		
TEST HOUR		**0:00**	**0.25**	**0.50**	**0.75**	**1.00**	**1.25**	**1.50**	**1.75**	**2.00**	**2.25**	**AVG**	**MAX**
EXTRACTION DATA													
Extraction Well Vacuum	In H_2O	10.00	10.00	20.00	20.00	30.00	30.00	40.00	40.00	50.00	50.00	**30.00**	**50.00**
Well Flow SCFM	scfm	9.61	9.61	15.46	15.46	17.56	17.63	21.65	27.48	26.97	26.97	**18.84**	**27.48**
VAPOR CONCENTRATIONS													
TPH	ppmv	-	3,760	-	3,550	-	3,320	-	3,480	-	3,200	**3,462**	**3,760**
CO_2	%	-	2.12	-	2.30	-	2.34	-	2.52	-	2.34	**2.32**	**2.52**
CO	%	-	0.01	-	0.01	-	0.01	-	0.01	-	0.01	**0.01**	**0.01**
O_2	%	-	19.3	-	18.4	-	19.7	-	19.5	-	19.5	**19.3**	**19.7**
H_2S	ppm	-	0.0	-	0.0	-	0.0	-	0.0	-	0.0	**0.0**	**0.0**
GROUNDWATER UPWELLING													
Data Logger Position	ft	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	**24.00**	**24.00**
Water Column Above Data Logger	ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**
Groundwater Upwelling	ft	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**	**0.00**
AVAILABLE \ OCCLUDED SCREEN													
Depth to Groundwater- BTOC	ft	-	-	-	-	-	-	-	-	-	-	**-**	**-**
Top of Well Screen	ft	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	**15.00**	**15.00**
Available/(Occluded) Well Screen	ft	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	**15.00**	**15.00**
OBSERVED OW VACUUM \ (PRESSURE)													
MW-2 - 17.3 ft	In H_2O	0.06	0.02	0.03	0.11	0.16	0.19	0.27	0.32	0.37	0.15	**0.17**	**0.37**
MW-7 - 35.7 ft	In H_2O	0.01	0.00	0.02	0.11	0.14	0.24	0.27	0.32	0.42	0.46	**0.20**	**0.46**
MW-3 - 42.1 ft	In H_2O	0.03	0.00	0.00	0.00	0.00	0.03	0.13	0.09	0.11	0.13	**0.05**	**0.13**
SVE-1 - 42.4 ft	In H_2O	0.01	0.00	0.00	0.00	0.00	0.01	0.06	0.03	0.05	0.05	**0.02**	**0.06**
MW-1 - 44.7 ft	In H_2O	0.03	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.02	**0.01**	**0.05**
SVE-2 - 52.7 ft	In H_2O	0.06	0.05	0.05	0.06	0.10	0.14	0.18	0.18	0.20	0.23	**0.13**	**0.23**
MW-4 - 64.0 ft	In H_2O	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.00	0.00	**0.01**	**0.03**
OBSERVED OW VACUUM \ (PRESSURE)													
MW-2 - 17.3 ft	%	0.60	0.20	0.15	0.55	0.53	0.63	0.68	0.80	0.74	0.30	**0.52**	**0.80**
MW-7 - 35.7 ft	%	0.10	0.00	0.10	0.55	0.47	0.80	0.68	0.80	0.84	0.92	**0.53**	**0.92**
MW-3 - 42.1 ft	%	0.30	0.00	0.00	0.00	0.00	0.10	0.33	0.23	0.22	0.26	**0.14**	**0.33**
SVE-1 - 42.4 ft	%	0.10	0.00	0.00	0.00	0.00	0.03	0.15	0.08	0.10	0.10	**0.06**	**0.15**
MW-1 - 44.7 ft	%	0.30	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.04	**0.05**	**0.30**
SVE-2 - 52.7 ft	%	0.60	0.50	0.25	0.30	0.33	0.47	0.45	0.45	0.40	0.46	**0.42**	**0.60**
MW-4 - 64.0 ft	%	0.00	0.00	0.00	0.00	0.00	0.07	0.08	0.00	0.00	0.00	**0.01**	**0.08**

AcuVac Remediation

OPERATING DATA – EVENT # 1A PAGE # 1 ACUVAC SVE SYSTEM

Location: Lat L-40, Rio Arriba County, NM **Project Manager: Faucher / George**

Date	TD - 50.2		10/20/18					
WELL	Screen 35.2 → 50.2	Time	0900	0915	0930	0945	1000	1015
	MW-1	Hr Meter	-	-	-	-	-	-
ENGINE / BLOWER	Engine Speed	RPM	2000	2000	1900	1900	1900	1900
	Oil Pressure	psi	50	50	50	50	50	50
	Water Temp	°F	130	130	130	130	130	130
	Alternator	Volts	13	13	13	13	13	13
	Intake Vacuum	"Hg	18	18	18	18	18	18
	Gas Flow Fuel/Propane	cfh	120	120	110	110	100	100
ATMOSPHERE VACUUM / AIR	Extraction Well Vac.	"H_2O	20	20	30	30	40	40
	Extraction Well Flow	scfm	2.62	2.62	2.58	2.57	3.35	3.35
	Influent Vapor Temp.	°F	30	30	30	34	38	38
	Air Temp	°F	35	38	39	40	42	46
	Barometric Pressure	"Hg	29.48	29.48	29.49	29.49	29.50	29.50
VAPOR / INFLUENT	TPH	ppmv	-	-	8480	-	-	13280
	CO_2	%	-	-	1.12	-	-	2.62
	CO	%	-	-	.02	-	-	.03
	O_2	%	-	-	19.8	-	-	18.7
	H_2S	ppm	-	-	0	-	-	0
Outer Wells	MW-4	"H_2O	0.00	0.00	0.00	0.00	0.00	.01
	MW-5	"H_2O	0.00	.10	.29	.20	.27	.35
	MW-3	"H_2O	0.00	.03	.06	.05	.09	.09
	MW-2	"H_2O	0.00	.02	.05	.06	.13	.11
	SVE-2	"H_2O	0.00	0.00	.01	.01	.02	.03
	SVE-3	"H_2O	0.00	0.00	0.00	0.00	.02	0
	SVE-1		0.00	.01	.01	.03	.06	.07
NOTES	OUTER WELL READINGS TAKEN IMMEDIATELY BEFORE INCREASE IN WELL VAC							
	DL 4.12		4.19	4.82	4.93	5.29	5.61	6.04
	UPWELLING		.07	.70	.81	1.17	1.49	1.92
EW	Extraction Well	DTNAPL						
	Extraction Well	DTGW						

AcuVac Remediation

OPERATING DATA – EVENT # 13 PAGE # 1 ACUVAC SVE SYSTEM

Location: Lat L-40, Rio Arriba County, NM **Project Manager: Faucher / George**

Date			10/20/18					
WELL SVE-1	Time		1015	1030	1045	1100	1115	1130
	Hr Meter		-	-	-	-	-	-
ENGINE / BLOWER	Engine Speed	RPM	2100	1900	1900	1900	2000	2000
	Oil Pressure	psi	50	50	50	50	50	50
	Water Temp	°F	130	130	130	135	135	135
	Alternator	Volts	13	13	13	13	13	13
	Intake Vacuum	"Hg	16	16	16	16	16	16
	Gas Flow Fuel/Propane	cfh	65	60	45	40	0	0
ATMOSPHERE VACUUM / AIR	Extraction Well Vac.	"H_2O	30	30	40	40	50	50
	Extraction Well Flow	scfm	9.75	13.99	16.65	16.65	20.43	20.43
	Influent Vapor Temp.	°F	44	44	44	44	44	44
	Air Temp	°F	46	48	50	52	52	53
	Barometric Pressure	"Hg	29.50	29.50	29.49	29.49	29.48	29.48
VAPOR / INFLUENT	TPH	ppmv	-	74150	-	76470	-	70,870
	CO_2	%	-	9.30	-	9.42	-	11.28
	CO	%	-	.39	-	.38	-	.49
	O_2	%	-	7.8	-	12.7	-	13.6
	H_2S	ppm	-	0	-	0	-	0
Outer Wells	MW-4	"H_2O	0	.01	.01	.02	0	.02
	MW-5	"H_2O	.33	.89	1.11	1.56	1.91	2.22
	MW-3	"H_2O	.15	.65	.98	.98	1.06	1.31
	MW-2	"H_2O	.15	.26	.41	.48	.54	.63
	SVE-2	"H_2O	1.14	1.51	1.78	1.90	1.93	2.46
	SVE-3	"H_2O	.01	.03	.05	.05	.05	.09
NOTES	MW-1		2.20	1.62	1.62	1.78	1.88	2.14
	DC HEAD	.55	.55	.52	.49	.49	.45	.36
	UPWELLING		-	-	-	-	-	-
EW	Extraction Well	DTNAPL						
	Extraction Well	DTGW						

AcuVac Remediation

OPERATING DATA – EVENT # 13 **PAGE # 2** **ACUVAC SVE SYSTEM**

Location: Lat L-40, Rio Arriba County, NM **Project Manager: Faucher / George**

Date			10/20/18					
WELL SVE-1		`Time	1145	1200				
		Hr Meter	-	-				
ENGINE / BLOWER	Engine Speed	RPM	1900	1900				
	Oil Pressure	psi	50	50				
	Water Temp	°F	135	135				
	Alternator	Volts	13	13				
	Intake Vacuum	"Hg	16	16				
	Gas Flow Fuel/Propane	cfh	0	0				
ATMOSPHERE VACUUM / AIR	Extraction Well Vac.	"H_2O	50	50				
	Extraction Well Flow	scfm	20.43	20.43				
	Influent Vapor Temp.	°F	44	44				
	Air Temp	°F	54	55				
	Barometric Pressure	"Hg	29.48	29.48				
VAPOR / INFLUENT	TPH	ppmv	-	77850				
	CO_2	%	-	9.10				
	CO	%	-	.41				
	O_2	%	-	11.6				
	H_2S	ppm	-	6				
Outer Wells	MW-4	"H_2O	.02	.02				
	MW-5	"H_2O	2.70	2.94				
	MW-3	"H_2O	1.54	1.58				
	MW-2	"H_2O	.80	.82				
	SVE-2	"H_2O	2.52	2.55				
	SVE-3	"H_2O	.07	.06				
NOTES	MW-1		2.47	2.63				
	DL HEAD		.35	.37				
	UPWELLING		-	-				
EW	Extraction Well	DTNAPL						
	Extraction Well	DTGW						

AcuVac Remediation

OPERATING DATA – EVENT # 1C PAGE # 1 ACUVAC SVE SYSTEM

Location: Lat L-40, Rio Arriba County, NM **Project Manager: Faucher / George**

Date			10/20/18						
WELL	Time		1230	1245	1300	1315	1330	1345	1400
SVE-2	Hr Meter								
ENGINE / BLOWER	Engine Speed	RPM	2000	2000	2000	1800	2000	2000	2000
	Oil Pressure	psi	50	50	50	50	50	50	50
	Water Temp	°F	140	140	140	140	140	140	140
	Alternator	Volts	13	13	13	13	13	13	13
	Intake Vacuum	"Hg	16	16	16	16	16	16	16
	Gas Flow Fuel/Propane	cfh	50	45	0	0	0	0	0
ATMOSPHERE VACUUM / AIR	Extraction Well Vac.	"H_2O	30	30	40	40	50	50	50
	Extraction Well Flow	scfm	13.51	13.51	15.76	15.76	18.72	18.72	18.72
	Influent Vapor Temp.	°F	48	48	48	48	48	48	48
	Air Temp	°F	56	57	58	58	59	59	59
	Barometric Pressure	"Hg	29.47	29.45	29.44	29.43	29.43	29.43	29.43
VAPOR / INFLUENT	TPH	ppmv	–	64,920	–	63050	–	66,260	–
	CO_2	%	–	6.82	–	8.04	–	6.62	–
	CO	%	–	.35	–	.38	–	.33	–
	O_2	%	–	16.3	–	16.7	–	18.3	–
	H_2S	ppm	–	0	–	0	–	0	–
Outer Wells	MW-4	"H_2O	.03	.07	.01	0	0	0	0
	MW-3	"H_2O	.74	.41	.20	.27	.10	.11	.09
	MW-2	"H_2O	.61	.37	.24	.23	.20	.23	.27
	SVE-3	"H_2O	.14	.07	.07	.06	.10	.09	.10
	SVE-1	"H_2O	1.91	1.40	1.24	1.41	1.40	1.73	1.70
	MW-1	"H_2O	1.71	1.09	.52	.28	.15	.13	.07
NOTES	MW-7		.24	.22	.13	.10	.09	.11	.13
	DL HEAD		–	–	–	–	–	–	–
	UPWELLING		–	–	–	–	–	–	–
EW	Extraction Well	DTNAPL							
	Extraction Well	DTGW							

AcuVac Remediation

OPERATING DATA – EVENT # 1 PAGE # 1 ACUVAC SVE SYSTEM

Location: Lat L-40, Rio Arriba County, NM **Project Manager: Faucher / George**

Date			6/20/18					
WELL SVE-3	`Time		1415	1430	1445	1500	1515	1530
	Hr Meter							
ENGINE / BLOWER	Engine Speed	RPM	2000	2000	2000	2000	1900	1900
	Oil Pressure	psi	50	50	50	50	50	50
	Water Temp	°F	140	140	140	140	140	140
	Alternator	Volts	13	13	13	13	13	13
	Intake Vacuum	"Hg	18	18	18	18	18	18
	Gas Flow Fuel/Propane	cfh	110	110	110	110	100	100
ATMOSPHERE VACUUM / AIR	Extraction Well Vac.	"H_2O	10	10	20	20	30	30
	Extraction Well Flow	scfm	9.61	9.61	15.46	15.46	17.56	17.63
	Influent Vapor Temp.	°F	48	48	48	48	48	44
	Air Temp	°F	59	62	62	62	62	61
	Barometric Pressure	"Hg	29.43	29.41	29.40	29.40	29.39	29.39
VAPOR / INFLUENT	TPH	ppmv	–	3760	–	3550	–	3320
	CO_2	%	–	2.12	–	2.30	–	2.34
	CO	%	–	.01	–	.01	–	.01
	O_2	%	–	19.3	–	18.4	–	19.7
	H_2S	ppm	–	0	–	0	–	0
Outer Wells	MW-4	"H_2O	0	0	0	0	0	.02
	MW-3	"H_2O	.03	0	0	0	0	.03
	MW-2	"H_2O	.06	.02	.03	.11	.16	.19
	SVE-2	"H_2O	.06	.05	.05	.06	.10	.14
	SVE-1	"H_2O	.01	0	.0	0	0	.01
	MW-1	"H_2O	.03	0	0	0	0	0
	MW-7		.01	0	.02	.11	.14	.24
NOTES								
	DL HEAD		–	–	–	–	–	–
	UPWELLING		–	–	–	–	–	–
EW	Extraction Well	DTNAPL						
	Extraction Well	DTGW						

AcuVac Remediation

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

Location: Lat L-40, Rio Arriba County, NM **Project Manager: Faucher / George**

Date			10/20/18					
WELL		`Time	1545	1600	1615	1630		
SVE-3		Hr Meter	–	–	–	–		
ENGINE / BLOWER	Engine Speed	RPM	1900	2100	2100	2100		
	Oil Pressure	psi	50	50	50	50		
	Water Temp	°F	140	140	140	140		
	Alternator	Volts	13	13	13	13		
	Intake Vacuum	"Hg	16	16	16	16		
	Gas Flow Fuel/Propane	cfh	100	110	110	110		
ATMOSPHERE VACUUM / AIR	Extraction Well Vac.	"H_2O	40	50	50	50		
	Extraction Well Flow	scfm	21.65	3.6	.36	.36		
	Influent Vapor Temp.	°F	44	44	44	44		
	Air Temp	°F	61	61	61	60		
	Barometric Pressure	"Hg	29.39	29.39	29.39	29.39		
VAPOR / INFLUENT	TPH	ppmv	–	3480	–	3200		
	CO_2	%	–	2.52	–	2.34		
	CO	%	–	.01	–	.01		
	O_2	%	–	19.5	–	19.5		
	H_2S	ppm	–	0	–	0		
Outer Wells	MW-4	"H_2O	.03	0	0	0		
	MW-3	"H_2O	.13	.09	.11	.13		
	MW-2	"H_2O	.27	.32	.37	.15		
	SVE-2	"H_2O	.18	.18	.20	.23		
	SVE-1	"H_2O	.06	.03	.05	.05		
	MW-1	"H_2O	.05	0	0	.02		
NOTES	MW-7		.27	.32	.42	.46		
	DL ~~H2O~~		–	–	–	–		
	UPWELLING		–	–	–	–		
EW	Extraction Well	DTNAPL						
	Extraction Well	DTGW						

APPENDIX G

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: 400-154040-1
Client Project/Site: ElPaso CGP Company, LLC - Lat L 40

For:
Stantec Consulting Services Inc
1560 Broadway
Suite 1800
Denver, Colorado 80202

Attn: Ms. Sarah Gardner

Carol M Webb

Authorized for release by:
5/31/2018 4:18:46 PM

Carol Webb, Project Manager II
(850)471-6250
carol.webb@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 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.

Table of Contents

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)

Job ID: 400-154040-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-154040-1

Comments
No additional comments.

Receipt
The samples were received on 5/22/2018 9:19 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0º C.

GC/MS VOA
Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-1 (400-154040-1), MW-2 (400-154040-2) and MW-5 (400-154040-5). 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 - Lat L 40

TestAmerica Job ID: 400-154040-1

Client Sample ID: MW-1 — Lab Sample ID: 400-154040-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	120		10		ug/L	10		8260C	Total/NA
Ethylbenzene	280		10		ug/L	10		8260C	Total/NA
Xylenes, Total	1500		100		ug/L	10		8260C	Total/NA

Client Sample ID: MW-2 — Lab Sample ID: 400-154040-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	1100		10		ug/L	10		8260C	Total/NA
Toluene	33		10		ug/L	10		8260C	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 400-154040-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	130		1.0		ug/L	1		8260C	Total/NA
Toluene	23		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-4 — Lab Sample ID: 400-154040-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	11		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 400-154040-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	550		5.0		ug/L	5		8260C	Total/NA
Toluene	53		5.0		ug/L	5		8260C	Total/NA
Ethylbenzene	42		5.0		ug/L	5		8260C	Total/NA

Client Sample ID: DP-01 — Lab Sample ID: 400-154040-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	140		1.0		ug/L	1		8260C	Total/NA
Toluene	30		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: TB (5/18/18) — Lab Sample ID: 400-154040-7

No Detections.

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L 40

TestAmerica Job ID: 400-154040-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-154040-1	MW-1	Water	05/18/18 12:25	05/22/18 09:19
400-154040-2	MW-2	Water	05/18/18 12:40	05/22/18 09:19
400-154040-3	MW-3	Water	05/18/18 12:20	05/22/18 09:19
400-154040-4	MW-4	Water	05/18/18 12:15	05/22/18 09:19
400-154040-5	MW-5	Water	05/18/18 12:30	05/22/18 09:19
400-154040-6	DP-01	Water	05/18/18 00:00	05/22/18 09:19
400-154040-7	TB (5/18/18)	Water	05/18/18 12:05	05/22/18 09:19

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L 40

TestAmerica Job ID: 400-154040-1

Client Sample ID: MW-1
Date Collected: 05/18/18 12:25
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-1
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**120**		10		ug/L			05/28/18 20:54	10
Toluene	<10		10		ug/L			05/28/18 20:54	10
Ethylbenzene	**280**		10		ug/L			05/28/18 20:54	10
Xylenes, Total	**1500**		100		ug/L			05/28/18 20:54	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*95*		*78 - 118*		*05/28/18 20:54*	*10*
Dibromofluoromethane	*101*		*81 - 121*		*05/28/18 20:54*	*10*
1,2-Dichloroethane-d4 (Surr)	*106*		*67 - 134*		*05/28/18 20:54*	*10*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L 40

TestAmerica Job ID: 400-154040-1

Client Sample ID: MW-2
Date Collected: 05/18/18 12:40
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-2
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1100**		10		ug/L			05/28/18 21:21	10
Toluene	**33**		10		ug/L			05/28/18 21:21	10
Ethylbenzene	<10		10		ug/L			05/28/18 21:21	10
Xylenes, Total	<100		100		ug/L			05/28/18 21:21	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*78 - 118*		*05/28/18 21:21*	*10*
Dibromofluoromethane	*104*		*81 - 121*		*05/28/18 21:21*	*10*
1,2-Dichloroethane-d4 (Surr)	*108*		*67 - 134*		*05/28/18 21:21*	*10*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L 40

TestAmerica Job ID: 400-154040-1

Client Sample ID: MW-3
Date Collected: 05/18/18 12:20
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-3
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**130**		1.0		ug/L			05/28/18 19:09	1
Toluene	**23**		1.0		ug/L			05/28/18 19:09	1
Ethylbenzene	<1.0		1.0		ug/L			05/28/18 19:09	1
Xylenes, Total	<10		10		ug/L			05/28/18 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*05/28/18 19:09*	*1*
Dibromofluoromethane	*102*		*81 - 121*		*05/28/18 19:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*		*05/28/18 19:09*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L 40

TestAmerica Job ID: 400-154040-1

Client Sample ID: MW-4
Date Collected: 05/18/18 12:15
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-4
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**11**		1.0		ug/L			05/28/18 19:36	1
Toluene	<1.0		1.0		ug/L			05/28/18 19:36	1
Ethylbenzene	<1.0		1.0		ug/L			05/28/18 19:36	1
Xylenes, Total	<10		10		ug/L			05/28/18 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*78 - 118*		*05/28/18 19:36*	*1*
Dibromofluoromethane	*104*		*81 - 121*		*05/28/18 19:36*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*		*05/28/18 19:36*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L 40

TestAmerica Job ID: 400-154040-1

Client Sample ID: MW-5
Date Collected: 05/18/18 12:30
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-5
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**550**		5.0		ug/L			05/28/18 20:28	5
Toluene	**53**		5.0		ug/L			05/28/18 20:28	5
Ethylbenzene	**42**		5.0		ug/L			05/28/18 20:28	5
Xylenes, Total	<50		50		ug/L			05/28/18 20:28	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*78 - 118*		*05/28/18 20:28*	*5*
Dibromofluoromethane	*103*		*81 - 121*		*05/28/18 20:28*	*5*
1,2-Dichloroethane-d4 (Surr)	*109*		*67 - 134*		*05/28/18 20:28*	*5*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L 40

TestAmerica Job ID: 400-154040-1

Client Sample ID: DP-01
Date Collected: 05/18/18 00:00
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-6
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**140**		1.0		ug/L			05/29/18 09:10	1
Toluene	**30**		1.0		ug/L			05/29/18 09:10	1
Ethylbenzene	<1.0		1.0		ug/L			05/29/18 09:10	1
Xylenes, Total	<10		10		ug/L			05/29/18 09:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*05/29/18 09:10*	*1*
Dibromofluoromethane	*96*		*81 - 121*		*05/29/18 09:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*67 - 134*		*05/29/18 09:10*	*1*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L 40

TestAmerica Job ID: 400-154040-1

Client Sample ID: TB (5/18/18)

Date Collected: 05/18/18 12:05
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-7

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			05/28/18 15:24	1
Toluene	<1.0		1.0		ug/L			05/28/18 15:24	1
Ethylbenzene	<1.0		1.0		ug/L			05/28/18 15:24	1
Xylenes, Total	<10		10		ug/L			05/28/18 15:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*05/28/18 15:24*	*1*
Dibromofluoromethane	*94*		*81 - 121*		*05/28/18 15:24*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*67 - 134*		*05/28/18 15:24*	*1*

QC Association Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L 40

TestAmerica Job ID: 400-154040-1

GC/MS VOA

Analysis Batch: 399157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154040-1	MW-1	Total/NA	Water	8260C	
400-154040-2	MW-2	Total/NA	Water	8260C	
400-154040-3	MW-3	Total/NA	Water	8260C	
400-154040-4	MW-4	Total/NA	Water	8260C	
400-154040-5	MW-5	Total/NA	Water	8260C	
MB 400-399157/4	Method Blank	Total/NA	Water	8260C	
LCS 400-399157/1002	Lab Control Sample	Total/NA	Water	8260C	
400-154042-A-1 MS	Matrix Spike	Total/NA	Water	8260C	
400-154042-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

Analysis Batch: 399162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154040-7	TB (5/18/18)	Total/NA	Water	8260C	
MB 400-399162/27	Method Blank	Total/NA	Water	8260C	
LCS 400-399162/1002	Lab Control Sample	Total/NA	Water	8260C	
400-154079-A-12 MS	Matrix Spike	Total/NA	Water	8260C	
400-154079-A-12 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

Analysis Batch: 399165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154040-6	DP-01	Total/NA	Water	8260C	
MB 400-399165/4	Method Blank	Total/NA	Water	8260C	
LCS 400-399165/1002	Lab Control Sample	Total/NA	Water	8260C	
400-154258-A-1 MS	Matrix Spike	Total/NA	Water	8260C	
400-154258-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

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

Lab Sample ID: MB 400-399157/4
Matrix: Water
Analysis Batch: 399157

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			05/28/18 11:15	1
Toluene	<1.0		1.0		ug/L			05/28/18 11:15	1
Ethylbenzene	<1.0		1.0		ug/L			05/28/18 11:15	1
Xylenes, Total	<10		10		ug/L			05/28/18 11:15	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*96*		*78 - 118*		*05/28/18 11:15*	*1*
Dibromofluoromethane	*108*		*81 - 121*		*05/28/18 11:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*67 - 134*		*05/28/18 11:15*	*1*

Lab Sample ID: LCS 400-399157/1002
Matrix: Water
Analysis Batch: 399157

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	54.9		ug/L		110	70 - 130		
Toluene			50.0	55.9		ug/L		112	70 - 130		
Ethylbenzene			50.0	57.9		ug/L		116	70 - 130		
Xylenes, Total			100	115		ug/L		115	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*95*		*78 - 118*
Dibromofluoromethane	*102*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*109*		*67 - 134*

Lab Sample ID: 400-154042-A-1 MS
Matrix: Water
Analysis Batch: 399157

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	50.6		ug/L		101	56 - 142		
Toluene	<1.0		50.0	50.6		ug/L		101	65 - 130		
Ethylbenzene	<1.0		50.0	52.4		ug/L		105	58 - 131		
Xylenes, Total	<10		100	103		ug/L		103	59 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*93*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*

Lab Sample ID: 400-154042-A-1 MSD
Matrix: Water
Analysis Batch: 399157

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	50.1		ug/L		100	56 - 142	1	30
Toluene	<1.0		50.0	51.2		ug/L		102	65 - 130	1	30

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

Lab Sample ID: 400-154042-A-1 MSD
Matrix: Water
Analysis Batch: 399157

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	52.3		ug/L		105	58 - 131	0	30
Xylenes, Total	<10		100	103		ug/L		103	59 - 130	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*106*		*67 - 134*

Lab Sample ID: MB 400-399162/27
Matrix: Water
Analysis Batch: 399162

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			05/28/18 12:48	1
Toluene	<1.0		1.0		ug/L			05/28/18 12:48	1
Ethylbenzene	<1.0		1.0		ug/L			05/28/18 12:48	1
Xylenes, Total	<10		10		ug/L			05/28/18 12:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*05/28/18 12:48*	*1*
Dibromofluoromethane	*95*		*81 - 121*		*05/28/18 12:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*67 - 134*		*05/28/18 12:48*	*1*

Lab Sample ID: LCS 400-399162/1002
Matrix: Water
Analysis Batch: 399162

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	52.3		ug/L		105	70 - 130		
Toluene			50.0	56.7		ug/L		113	70 - 130		
Ethylbenzene			50.0	57.0		ug/L		114	70 - 130		
Xylenes, Total			100	113		ug/L		113	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*78 - 118*
Dibromofluoromethane	*94*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*109*		*67 - 134*

Lab Sample ID: 400-154079-A-12 MS
Matrix: Water
Analysis Batch: 399162

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	53.5		ug/L		105	56 - 142		
Toluene	<1.0		50.0	56.6		ug/L		113	65 - 130		
Ethylbenzene	<1.0		50.0	57.5		ug/L		115	58 - 131		
Xylenes, Total	<10		100	114		ug/L		114	59 - 130		

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

Lab Sample ID: 400-154079-A-12 MS
Matrix: Water
Analysis Batch: 399162

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

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*106*		*67 - 134*

Lab Sample ID: 400-154079-A-12 MSD
Matrix: Water
Analysis Batch: 399162

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	53.2		ug/L		105	56 - 142	1	30
Toluene	<1.0		50.0	53.3		ug/L		107	65 - 130	6	30
Ethylbenzene	<1.0		50.0	53.0		ug/L		106	58 - 131	8	30
Xylenes, Total	<10		100	104		ug/L		104	59 - 130	9	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*106*		*67 - 134*

Lab Sample ID: MB 400-399165/4
Matrix: Water
Analysis Batch: 399165

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 07:56	1
Toluene	<1.0		1.0		ug/L			05/29/18 07:56	1
Ethylbenzene	<1.0		1.0		ug/L			05/29/18 07:56	1
Xylenes, Total	<10		10		ug/L			05/29/18 07:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*78 - 118*		*05/29/18 07:56*	*1*
Dibromofluoromethane	*93*		*81 - 121*		*05/29/18 07:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*67 - 134*		*05/29/18 07:56*	*1*

Lab Sample ID: LCS 400-399165/1002
Matrix: Water
Analysis Batch: 399165

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	49.8		ug/L		100	70 - 130		
Toluene			50.0	53.4		ug/L		107	70 - 130		
Ethylbenzene			50.0	55.0		ug/L		110	70 - 130		
Xylenes, Total			100	109		ug/L		109	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*78 - 118*
Dibromofluoromethane	*96*		*81 - 121*

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

Lab Sample ID: LCS 400-399165/1002
Matrix: Water
Analysis Batch: 399165

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*105*		*67 - 134*

Lab Sample ID: 400-154258-A-1 MS
Matrix: Water
Analysis Batch: 399165

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	53.0		ug/L		106	56 - 142
Toluene	<1.0		50.0	55.8		ug/L		112	65 - 130
Ethylbenzene	<1.0		50.0	56.0		ug/L		112	58 - 131
Xylenes, Total	<10		100	108		ug/L		108	59 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	*97*		*78 - 118*
Dibromofluoromethane	*97*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*110*		*67 - 134*

Lab Sample ID: 400-154258-A-1 MSD
Matrix: Water
Analysis Batch: 399165

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	49.4		ug/L		99	56 - 142	7	30
Toluene	<1.0		50.0	51.1		ug/L		102	65 - 130	9	30
Ethylbenzene	<1.0		50.0	50.6		ug/L		101	58 - 131	10	30
Xylenes, Total	<10		100	100		ug/L		100	59 - 130	8	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*95*		*81 - 121*
1,2-Dichloroethane-d4 (Surr)	*109*		*67 - 134*

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L 40

TestAmerica Job ID: 400-154040-1

Client Sample ID: MW-1
Date Collected: 05/18/18 12:25
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-1
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		10	5 mL	5 mL	399157	05/28/18 20:54	WPD	TAL PEN
	Instrument ID: CH_TAN									

Client Sample ID: MW-2
Date Collected: 05/18/18 12:40
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-2
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		10	5 mL	5 mL	399157	05/28/18 21:21	WPD	TAL PEN
	Instrument ID: CH_TAN									

Client Sample ID: MW-3
Date Collected: 05/18/18 12:20
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-3
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	399157	05/28/18 19:09	WPD	TAL PEN
	Instrument ID: CH_TAN									

Client Sample ID: MW-4
Date Collected: 05/18/18 12:15
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-4
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	399157	05/28/18 19:36	WPD	TAL PEN
	Instrument ID: CH_TAN									

Client Sample ID: MW-5
Date Collected: 05/18/18 12:30
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-5
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		5	5 mL	5 mL	399157	05/28/18 20:28	WPD	TAL PEN
	Instrument ID: CH_TAN									

Client Sample ID: DP-01
Date Collected: 05/18/18 00:00
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-6
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	399165	05/29/18 09:10	WPD	TAL PEN
	Instrument ID: CH_CONAN									

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L 40

TestAmerica Job ID: 400-154040-1

Client Sample ID: TB (5/18/18)

Date Collected: 05/18/18 12:05
Date Received: 05/22/18 09:19

Lab Sample ID: 400-154040-7

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	399162	05/28/18 15:24	WPD	TAL PEN
	Instrument ID: CH_CONAN									

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: 400-154040-1
Project/Site: ElPaso CGP Company, LLC - Lat L 40

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: ElPaso CGP Company, LLC - Lat L 40

TestAmerica Job ID: 400-154040-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	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: 400-74085-29207.1
Client Contact: Ms. Sarah Gardner	Phone: 3032912239	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): Standard			
State, Zip: CO, 80202	PO #: See Project Notes			
Phone: 303-291-2239(Tel)	WO #:			
Email: sarah.gardner@mwhglobal.com	Project #: 40005479			
Project Name: Lat L 40 Q2 2018	SSOW#:			
Site: Lat L-40				

Analysis Requested

Preservation Codes:

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

Other:

400-154040 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - (MOD) BTEX 8260	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
mw-1	5/18/18	1225	G	W			3	3	
mw-2	5/18/18	1240	G	W			3	3	
mw-3	5/18/18	1220	G	W			3	3	
mw-4	5/18/18	1215	G	W			3	3	
mw-5	5/18/18	1230	G	W			3	3	
DP-01	5/18/18	—	G	W			3	3	
TB(5/18/18)	5/18/18	1205	—	W			3	3	

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: 5/21/2018 800	Company Stantec	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 5/22/18@0919	Company TA Pens	
Custody Seals Intact: △ Yes △ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.0°C IR7.			

Ver: 08/04/2016

5/31/2018

Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc

Job Number: 400-154040-1

Login Number: 154040
List Number: 1
Creator: Whitley, Adrian

List Source: TestAmerica Pensacola

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	2.0°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").	True	
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: 400-161559-1
Client Project/Site: ElPaso CGP Company, LLC - Lat L40

For:
Stantec Consulting Services Inc
1560 Broadway
Suite 1800
Denver, Colorado 80202

Attn: Ms. Sarah Gardner

Carol M Webb

Authorized for release by:
11/13/2018 1:52:30 PM

Carol Webb, Project Manager II
(850)471-6250
carol.webb@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 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.

Table of Contents

Definitions/Glossary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

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)

Job ID: 400-161559-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-161559-1

Comments
No additional comments.

Receipt
The samples were received on 11/3/2018 8:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0º C.

GC/MS VOA
Method 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-1 (400-161559-1), MW-5 (400-161559-5) and DUP-01 (400-161559-10). 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 - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: MW-1 — Lab Sample ID: 400-161559-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	190		2.0		ug/L	2		8260C	Total/NA
Toluene	48		2.0		ug/L	2		8260C	Total/NA
Ethylbenzene	150		2.0		ug/L	2		8260C	Total/NA
Xylenes, Total - DL	1200		50		ug/L	5		8260C	Total/NA

Client Sample ID: MW-2 — Lab Sample ID: 400-161559-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	130	F2 F1	1.0		ug/L	1		8260C	Total/NA
Toluene	25	F2 F1	1.0		ug/L	1		8260C	Total/NA
Xylenes, Total	13		10		ug/L	1		8260C	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 400-161559-3

No Detections.

Client Sample ID: MW-4 — Lab Sample ID: 400-161559-4

No Detections.

Client Sample ID: MW-5 — Lab Sample ID: 400-161559-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Toluene	370		2.0		ug/L	2		8260C	Total/NA
Ethylbenzene	190		2.0		ug/L	2		8260C	Total/NA
Xylenes, Total	810		20		ug/L	2		8260C	Total/NA
Benzene - DL	1200		10		ug/L	10		8260C	Total/NA

Client Sample ID: MW-7 — Lab Sample ID: 400-161559-6

No Detections.

Client Sample ID: MW-8 — Lab Sample ID: 400-161559-7

No Detections.

Client Sample ID: MW-9 — Lab Sample ID: 400-161559-8

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene	5.6		1.0		ug/L	1		8260C	Total/NA
Toluene	5.5		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-10 — Lab Sample ID: 400-161559-9

No Detections.

Client Sample ID: DUP-01 — Lab Sample ID: 400-161559-10

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Toluene	270		2.0		ug/L	2		8260C	Total/NA
Ethylbenzene	120		2.0		ug/L	2		8260C	Total/NA
Xylenes, Total	550		20		ug/L	2		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: DUP-01 (Continued)

Lab Sample ID: 400-161559-10

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	1200		10		ug/L	10		8260C	Total/NA

Client Sample ID: TB-01

Lab Sample ID: 400-161559-11

No Detections.

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-161559-1	MW-1	Water	11/01/18 14:00	11/03/18 08:15
400-161559-2	MW-2	Water	11/01/18 14:30	11/03/18 08:15
400-161559-3	MW-3	Water	11/01/18 14:10	11/03/18 08:15
400-161559-4	MW-4	Water	11/01/18 13:30	11/03/18 08:15
400-161559-5	MW-5	Water	11/01/18 14:20	11/03/18 08:15
400-161559-6	MW-7	Water	11/01/18 13:35	11/03/18 08:15
400-161559-7	MW-8	Water	11/01/18 13:40	11/03/18 08:15
400-161559-8	MW-9	Water	11/01/18 13:50	11/03/18 08:15
400-161559-9	MW-10	Water	11/01/18 13:55	11/03/18 08:15
400-161559-10	DUP-01	Water	11/01/18 12:05	11/03/18 08:15
400-161559-11	TB-01	Water	11/01/18 12:00	11/03/18 08:15

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: MW-1
Date Collected: 11/01/18 14:00
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-1
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	190		2.0		ug/L			11/07/18 23:04	2
Toluene	48		2.0		ug/L			11/07/18 23:04	2
Ethylbenzene	150		2.0		ug/L			11/07/18 23:04	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*78 - 118*		*11/07/18 23:04*	*2*
Dibromofluoromethane	*101*		*81 - 121*		*11/07/18 23:04*	*2*
Toluene-d8 (Surr)	*110*		*80 - 120*		*11/07/18 23:04*	*2*
1,2-Dichloroethane-d4 (Surr)	*116*		*67 - 134*		*11/07/18 23:04*	*2*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1200		50		ug/L			11/08/18 11:02	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*11/08/18 11:02*	*5*
Dibromofluoromethane	*101*		*81 - 121*		*11/08/18 11:02*	*5*
Toluene-d8 (Surr)	*101*		*80 - 120*		*11/08/18 11:02*	*5*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*		*11/08/18 11:02*	*5*

Client Sample Results

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: MW-2
Date Collected: 11/01/18 14:30
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-2
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**130**	**F2 F1**	1.0		ug/L			11/07/18 17:28	1
Toluene	**25**	**F2 F1**	1.0		ug/L			11/07/18 17:28	1
Ethylbenzene	<1.0		1.0		ug/L			11/07/18 17:28	1
Xylenes, Total	**13**		10		ug/L			11/07/18 17:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*78 - 118*		*11/07/18 17:28*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*11/07/18 17:28*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*11/07/18 17:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*67 - 134*		*11/07/18 17:28*	*1*

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: MW-3
Date Collected: 11/01/18 14:10
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-3
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			11/07/18 19:53	1
Toluene	<1.0		1.0		ug/L			11/07/18 19:53	1
Ethylbenzene	<1.0		1.0		ug/L			11/07/18 19:53	1
Xylenes, Total	<10		10		ug/L			11/07/18 19:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*106*		*78 - 118*		*11/07/18 19:53*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*11/07/18 19:53*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/07/18 19:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*67 - 134*		*11/07/18 19:53*	*1*

Client Sample ID: MW-4
Date Collected: 11/01/18 13:30
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-4
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.0		1.0		ug/L			11/07/18 20:17	1
Toluene	<1.0		1.0		ug/L			11/07/18 20:17	1
Ethylbenzene	<1.0		1.0		ug/L			11/07/18 20:17	1
Xylenes, Total	<10		10		ug/L			11/07/18 20:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*78 - 118*		*11/07/18 20:17*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*11/07/18 20:17*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/07/18 20:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*117*		*67 - 134*		*11/07/18 20:17*	*1*

Client Sample ID: MW-5
Date Collected: 11/01/18 14:20
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-5
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Toluene	**370**		2.0		ug/L			11/07/18 23:28	2
Ethylbenzene	**190**		2.0		ug/L			11/07/18 23:28	2
Xylenes, Total	**810**		20		ug/L			11/07/18 23:28	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*106*		*78 - 118*		*11/07/18 23:28*	*2*
Dibromofluoromethane	*97*		*81 - 121*		*11/07/18 23:28*	*2*
Toluene-d8 (Surr)	*109*		*80 - 120*		*11/07/18 23:28*	*2*
1,2-Dichloroethane-d4 (Surr)	*112*		*67 - 134*		*11/07/18 23:28*	*2*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1200**		10		ug/L			11/08/18 11:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*78 - 118*		*11/08/18 11:27*	*10*
Dibromofluoromethane	*102*		*81 - 121*		*11/08/18 11:27*	*10*
Toluene-d8 (Surr)	*98*		*80 - 120*		*11/08/18 11:27*	*10*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*		*11/08/18 11:27*	*10*

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: MW-7
Date Collected: 11/01/18 13:35
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-6
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			11/07/18 20:41	1
Toluene	<1.0		1.0		ug/L			11/07/18 20:41	1
Ethylbenzene	<1.0		1.0		ug/L			11/07/18 20:41	1
Xylenes, Total	<10		10		ug/L			11/07/18 20:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*78 - 118*		*11/07/18 20:41*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*11/07/18 20:41*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*11/07/18 20:41*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*67 - 134*		*11/07/18 20:41*	*1*

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: MW-8
Date Collected: 11/01/18 13:40
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-7
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			11/07/18 21:05	1
Toluene	<1.0		1.0		ug/L			11/07/18 21:05	1
Ethylbenzene	<1.0		1.0		ug/L			11/07/18 21:05	1
Xylenes, Total	<10		10		ug/L			11/07/18 21:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*104*		*78 - 118*		*11/07/18 21:05*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*11/07/18 21:05*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/07/18 21:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*67 - 134*		*11/07/18 21:05*	*1*

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: MW-9
Date Collected: 11/01/18 13:50
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-8
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**5.6**		1.0		ug/L			11/07/18 21:29	1
Toluene	**5.5**		1.0		ug/L			11/07/18 21:29	1
Ethylbenzene	<1.0		1.0		ug/L			11/07/18 21:29	1
Xylenes, Total	<10		10		ug/L			11/07/18 21:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*78 - 118*		*11/07/18 21:29*	*1*
Dibromofluoromethane	*99*		*81 - 121*		*11/07/18 21:29*	*1*
Toluene-d8 (Surr)	*108*		*80 - 120*		*11/07/18 21:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*67 - 134*		*11/07/18 21:29*	*1*

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: MW-10
Date Collected: 11/01/18 13:55
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-9
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			11/07/18 21:53	1
Toluene	<1.0		1.0		ug/L			11/07/18 21:53	1
Ethylbenzene	<1.0		1.0		ug/L			11/07/18 21:53	1
Xylenes, Total	<10		10		ug/L			11/07/18 21:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*106*		*78 - 118*		*11/07/18 21:53*	*1*
Dibromofluoromethane	*102*		*81 - 121*		*11/07/18 21:53*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/07/18 21:53*	*1*
1,2-Dichloroethane-d4 (Surr)	*118*		*67 - 134*		*11/07/18 21:53*	*1*

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: DUP-01
Date Collected: 11/01/18 12:05
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-10
Matrix: Water

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Toluene	270		2.0		ug/L			11/07/18 23:52	2
Ethylbenzene	120		2.0		ug/L			11/07/18 23:52	2
Xylenes, Total	550		20		ug/L			11/07/18 23:52	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*11/07/18 23:52*	*2*
Dibromofluoromethane	*99*		*81 - 121*		*11/07/18 23:52*	*2*
Toluene-d8 (Surr)	*107*		*80 - 120*		*11/07/18 23:52*	*2*
1,2-Dichloroethane-d4 (Surr)	*111*		*67 - 134*		*11/07/18 23:52*	*2*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1200		10		ug/L			11/08/18 11:52	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*11/08/18 11:52*	*10*
Dibromofluoromethane	*103*		*81 - 121*		*11/08/18 11:52*	*10*
Toluene-d8 (Surr)	*96*		*80 - 120*		*11/08/18 11:52*	*10*
1,2-Dichloroethane-d4 (Surr)	*101*		*67 - 134*		*11/08/18 11:52*	*10*

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: TB-01
Date Collected: 11/01/18 12:00
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-11
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			11/07/18 19:05	1
Toluene	<1.0		1.0		ug/L			11/07/18 19:05	1
Ethylbenzene	<1.0		1.0		ug/L			11/07/18 19:05	1
Xylenes, Total	<10		10		ug/L			11/07/18 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*105*		*78 - 118*		*11/07/18 19:05*	*1*
Dibromofluoromethane	*100*		*81 - 121*		*11/07/18 19:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*67 - 134*		*11/07/18 19:05*	*1*

QC Association Summary

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

GC/MS VOA

Analysis Batch: 418711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161559-1	MW-1	Total/NA	Water	8260C	
400-161559-2	MW-2	Total/NA	Water	8260C	
400-161559-3	MW-3	Total/NA	Water	8260C	
400-161559-4	MW-4	Total/NA	Water	8260C	
400-161559-5	MW-5	Total/NA	Water	8260C	
400-161559-6	MW-7	Total/NA	Water	8260C	
400-161559-7	MW-8	Total/NA	Water	8260C	
400-161559-8	MW-9	Total/NA	Water	8260C	
400-161559-9	MW-10	Total/NA	Water	8260C	
400-161559-10	DUP-01	Total/NA	Water	8260C	
400-161559-11	TB-01	Total/NA	Water	8260C	
MB 400-418711/4	Method Blank	Total/NA	Water	8260C	
LCS 400-418711/1002	Lab Control Sample	Total/NA	Water	8260C	
400-161559-2 MS	MW-2	Total/NA	Water	8260C	
400-161559-2 MSD	MW-2	Total/NA	Water	8260C	

Analysis Batch: 418794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-161559-1 - DL	MW-1	Total/NA	Water	8260C	
400-161559-5 - DL	MW-5	Total/NA	Water	8260C	
400-161559-10 - DL	DUP-01	Total/NA	Water	8260C	
MB 400-418794/4	Method Blank	Total/NA	Water	8260C	
LCS 400-418794/1002	Lab Control Sample	Total/NA	Water	8260C	
400-161337-A-5 MS	Matrix Spike	Total/NA	Water	8260C	
400-161337-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

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

Lab Sample ID: MB 400-418711/4
Matrix: Water
Analysis Batch: 418711

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			11/07/18 16:59	1
Toluene	<1.0		1.0		ug/L			11/07/18 16:59	1
Ethylbenzene	<1.0		1.0		ug/L			11/07/18 16:59	1
Xylenes, Total	<10		10		ug/L			11/07/18 16:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*102*		*78 - 118*		*11/07/18 16:59*	*1*
Dibromofluoromethane	*101*		*81 - 121*		*11/07/18 16:59*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*11/07/18 16:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*67 - 134*		*11/07/18 16:59*	*1*

Lab Sample ID: LCS 400-418711/1002
Matrix: Water
Analysis Batch: 418711

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	54.3		ug/L		109	70 - 130		
Toluene			50.0	55.3		ug/L		111	70 - 130		
Ethylbenzene			50.0	56.7		ug/L		113	70 - 130		
Xylenes, Total			100	112		ug/L		112	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*78 - 118*
Dibromofluoromethane	*103*		*81 - 121*
Toluene-d8 (Surr)	*104*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*112*		*67 - 134*

Lab Sample ID: 400-161559-2 MS
Matrix: Water
Analysis Batch: 418711

Client Sample ID: MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	130	F2 F1	50.0	179		ug/L		90	56 - 142		
Toluene	25	F2 F1	50.0	75.4		ug/L		101	65 - 130		
Ethylbenzene	<1.0		50.0	51.8		ug/L		104	58 - 131		
Xylenes, Total	13		100	117		ug/L		103	59 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*104*		*78 - 118*
Dibromofluoromethane	*102*		*81 - 121*
Toluene-d8 (Surr)	*105*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*111*		*67 - 134*

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

Lab Sample ID: 400-161559-2 MSD
Matrix: Water
Analysis Batch: 418711

Client Sample ID: MW-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	130	F2 F1	50.0	52.8	F2 F1	ug/L		-162	56 - 142	109	30
Toluene	25	F2 F1	50.0	55.1	F2 F1	ug/L		61	65 - 130	31	30
Ethylbenzene	<1.0		50.0	55.5		ug/L		111	58 - 131	7	30
Xylenes, Total	13		100	108		ug/L		95	59 - 130	8	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*105*		*78 - 118*
Dibromofluoromethane	*101*		*81 - 121*
Toluene-d8 (Surr)	*106*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*107*		*67 - 134*

Lab Sample ID: MB 400-418794/4
Matrix: Water
Analysis Batch: 418794

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			11/08/18 10:12	1
Toluene	<1.0		1.0		ug/L			11/08/18 10:12	1
Ethylbenzene	<1.0		1.0		ug/L			11/08/18 10:12	1
Xylenes, Total	<10		10		ug/L			11/08/18 10:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*101*		*78 - 118*		*11/08/18 10:12*	*1*
Dibromofluoromethane	*102*		*81 - 121*		*11/08/18 10:12*	*1*
Toluene-d8 (Surr)	*96*		*80 - 120*		*11/08/18 10:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*67 - 134*		*11/08/18 10:12*	*1*

Lab Sample ID: LCS 400-418794/1002
Matrix: Water
Analysis Batch: 418794

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	56.2		ug/L		112	70 - 130		
Toluene			50.0	55.5		ug/L		111	70 - 130		
Ethylbenzene			50.0	56.7		ug/L		113	70 - 130		
Xylenes, Total			100	113		ug/L		113	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*98*		*78 - 118*
Dibromofluoromethane	*104*		*81 - 121*
Toluene-d8 (Surr)	*99*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*102*		*67 - 134*

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

Lab Sample ID: 400-161337-A-5 MS
Matrix: Water
Analysis Batch: 418794

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

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<1.0		50.0	49.7		ug/L		99	56 - 142
Toluene	<1.0		50.0	45.4		ug/L		91	65 - 130
Ethylbenzene	<1.0		50.0	43.3		ug/L		87	58 - 131
Xylenes, Total	<10		100	87.4		ug/L		87	59 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*103*		*81 - 121*
Toluene-d8 (Surr)	*98*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*67 - 134*

Lab Sample ID: 400-161337-A-5 MSD
Matrix: Water
Analysis Batch: 418794

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	47.3		ug/L		95	56 - 142	5	30
Toluene	<1.0		50.0	44.7		ug/L		89	65 - 130	2	30
Ethylbenzene	<1.0		50.0	42.1		ug/L		84	58 - 131	3	30
Xylenes, Total	<10		100	84.2		ug/L		84	59 - 130	4	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*78 - 118*
Dibromofluoromethane	*103*		*81 - 121*
Toluene-d8 (Surr)	*101*		*80 - 120*
1,2-Dichloroethane-d4 (Surr)	*97*		*67 - 134*

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: MW-1
Date Collected: 11/01/18 14:00
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-1
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	DL	5	5 mL	5 mL	418794	11/08/18 11:02	BSW	TAL PEN
	Instrument ID: CH_WASP									
Total/NA	Analysis	8260C		2	5 mL	5 mL	418711	11/07/18 23:04	BSW	TAL PEN
	Instrument ID: Tesla									

Client Sample ID: MW-2
Date Collected: 11/01/18 14:30
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-2
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	418711	11/07/18 17:28	BSW	TAL PEN
	Instrument ID: Tesla									

Client Sample ID: MW-3
Date Collected: 11/01/18 14:10
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-3
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	418711	11/07/18 19:53	BSW	TAL PEN
	Instrument ID: Tesla									

Client Sample ID: MW-4
Date Collected: 11/01/18 13:30
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-4
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	418711	11/07/18 20:17	BSW	TAL PEN
	Instrument ID: Tesla									

Client Sample ID: MW-5
Date Collected: 11/01/18 14:20
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-5
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	DL	10	5 mL	5 mL	418794	11/08/18 11:27	BSW	TAL PEN
	Instrument ID: CH_WASP									
Total/NA	Analysis	8260C		2	5 mL	5 mL	418711	11/07/18 23:28	BSW	TAL PEN
	Instrument ID: Tesla									

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: MW-7
Date Collected: 11/01/18 13:35
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-6
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	418711	11/07/18 20:41	BSW	TAL PEN
	Instrument ID: Tesla									

Client Sample ID: MW-8
Date Collected: 11/01/18 13:40
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-7
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	418711	11/07/18 21:05	BSW	TAL PEN
	Instrument ID: Tesla									

Client Sample ID: MW-9
Date Collected: 11/01/18 13:50
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	418711	11/07/18 21:29	BSW	TAL PEN
	Instrument ID: Tesla									

Client Sample ID: MW-10
Date Collected: 11/01/18 13:55
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	5 mL	5 mL	418711	11/07/18 21:53	BSW	TAL PEN
	Instrument ID: Tesla									

Client Sample ID: DUP-01
Date Collected: 11/01/18 12:05
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C	DL	10	5 mL	5 mL	418794	11/08/18 11:52	BSW	TAL PEN
	Instrument ID: CH_WASP									
Total/NA	Analysis	8260C		2	5 mL	5 mL	418711	11/07/18 23:52	BSW	TAL PEN
	Instrument ID: Tesla									

Lab Chronicle

Client: Stantec Consulting Services Inc
Project/Site: ElPaso CGP Company, LLC - Lat L40

TestAmerica Job ID: 400-161559-1

Client Sample ID: TB-01
Date Collected: 11/01/18 12:00
Date Received: 11/03/18 08:15

Lab Sample ID: 400-161559-11
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	418711	11/07/18 19:05	BSW	TAL PEN
	Instrument ID: Tesla									

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: 400-161559-1
Project/Site: ElPaso CGP Company, LLC - Lat L40

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	LA180023	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 - Lat L40

TestAmerica Job ID: 400-161559-1

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. Spiering	Lab PM: Webb, Carol M	Carrier Tracking No(s):	COC No: 400-77994-29207.2
Client Contact: Ms. Sarah Gardner	Phone: 303 291 2299	E-Mail: carol.webb@testamericainc.com		Page: Page ~~2 of 2~~ 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: Lat L 40 Q4 2018	Project #: 40005479			
Site: Lat L40	SSOW#:			

Analysis Requested

400-161559 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	11-01-18	1400	G	W			3		Unpreserved
MW-2	11-01-18	1430	G	W			3		Unpreserved
MW-3	11-01-18	1410	G	W			3		Unpreserved
MW-4	11-01-18	1330	G	W			3		Unpreserved
MW-5	11-01-18	1420	G	W			3		Unpreserved
MW-7	11-01-18	1335	G	W			3		Unpreserved
MW-8	11-01-18	1340	G	W			3		Unpreserved
MW-9	11-01-18	1350	G	W			3		Unpreserved
MW-10	11-01-18	1355	G	W			3		Unpreserved
DUP-01	11/01/18	1205	G	W			3		Unpreserved
TB-01	11-01-18	1200	—	W			2		

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
Sarah Gardner	11/2/2018 920	Stantec			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11-3-18 0815	Company TA-PEN

Custody Seals Intact: △ Yes △ No
Custody Seal No.: 431945
Cooler Temperature(s) °C and Other Remarks: 3.0°C IR-7

Ver: 08/04/2016

Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc

Job Number: 400-161559-1

Login Number: 161559
List Number: 1
Creator: Conrady, Hank W

List Source: TestAmerica Pensacola

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