March 31, 2022

RECEIVED
By Mike Buchanan at 4:42 pm, May 20, 2024

Mr. Nelson Velez
Environmental Specialist
NMOCD
1220 South St. Francis Drive
Santa Fe, NM 87505

The 2021 Annual Groundwater Monitoring Report for OH Randel #007 Incident ID#NAUTOFWC00434 has been accepted for the record. Site is located on Navajo Nation Lands.

Subject: **2021 Annual Groundwater Monitoring Report**
OH Randel #007
NMOCD Incident ID: NAUTOFWCO00434
San Juan County, New Mexico

Dear Mr. Velez:

WSP USA Inc. (WSP) presents this annual report on behalf of Hilcorp Energy Company (Hilcorp) to the New Mexico Oil Conservation Division (NMOCD) to document groundwater monitoring activities conducted at the OH Randel #007 (Incident ID# NAUTOFWC00434) natural gas production well (Site) during 2021. The Site is located within Unit Letter D of Section 15 within Township 26 North and Range 11 West, San Juan County, New Mexico (Figure 1) which is considered Navajo Nation lands.

Currently, there are six monitoring wells onsite which are monitored semi-annually for groundwater elevations. One monitoring well is sampled semi-annually. This report presents the results of 2021 monitoring events.

SITE BACKGROUND

In March 2002, former Site operator, XTO, encountered petroleum hydrocarbon-impacted soil, which appeared to be the result of an abandoned earthen separator pit. A Blagg Engineering, Inc. (Blagg) Field Report titled: *Pit Closure Verification*, documenting subsequent soil sampling and the installation of groundwater monitoring well MW-1 to investigate potential impact to groundwater, is included as Enclosure A. Groundwater was encountered at approximately 16 feet below ground surface (bgs) and phase-separated hydrocarbons (PSH) were detected.

In April 2002, monitoring wells MW-2, MW-3, MW-4, MW-5, and MW-6 were installed upgradient, downgradient, and cross-gradient of the suspected source area. Completion diagrams and borehole logs are included as Enclosure B. From 2002 through 2004, PSH was regularly detected in monitoring wells MW-1 and MW-2, and PSH was detected in monitoring well MW-6 from 2002 through 2006. XTO recovered approximately 22 gallons of PSH by manually bailing monitoring wells MW-1, MW-2, and MW-6 from 2004 through January 2006. XTO submitted a *2005 Annual Groundwater Report* to the NMOCD and proposed excavating impacted soil near the former separator pit and installing additional groundwater monitoring wells to further delineate petroleum hydrocarbon impact to groundwater.

In August 2006, XTO submitted a remediation work plan (Enclosure C) developed by Lodestar Services, Inc. (Lodestar) to Mr. Steve Austin of the Navajo Nation Environmental Protection Agency (NNEPA) and the United States Environmental Protection Agency (EPA) Region 9. The 2002 work plan was approved by the NNEPA in October 2006. In November 2006, the first phase of the 2002 work plan was completed, which included excavating the earthen separator pit to a depth beneath the groundwater table and backfilling with clean soil. Approximately 9,000 cubic yards of petroleum hydrocarbon impacted soil were removed and transported offsite to an NMOCD-permitted landfarm. No PSH was observed on the groundwater table during the excavation. Monitoring wells MW-1, MW-2, and MW-6 were removed during the excavation. The NNEPA and EPA Region 9 approved the closure of the excavation as described in the *Report of Excavation and Sampling at OH Randel #7* by Lodestar dated January 29, 2007 (Enclosure D). Groundwater analytical results indicated samples from monitoring wells MW-3, MW-4, and MW-5 contained concentrations below the laboratory reporting limits for benzene, toluene, ethylbenzene, and total xylenes (BTEX).

XTO submitted a *2006 Annual Groundwater Report* to the NMOCD proposing to install monitoring wells MW-7 and MW-8 to the north and east of the former source area and to conduct quarterly monitoring of BTEX concentrations. In May 2007, monitoring wells MW-7 and MW-8 were installed. Completion diagrams and borehole logs are presented as Enclosure B. Groundwater analytical

WSP USA
848 EAST 2ND AVENUE
DURANGO CO 81301

Tel.: 970-385-1096
wsp.com

results indicated samples from monitoring well MW-7 contained BTEX concentrations exceeding New Mexico Water Quality Control Commission (NMWQCC) standards. Samples from downgradient monitoring well MW-8 did not contain detectable concentrations of BTEX. XTO proposed to evaluate additional potential sources of groundwater impact around monitoring well MW-7 and appropriate remediation methods.

XTO submitted the *2007 Annual Groundwater Report* to the NMOCD proposing to discontinue sampling of monitoring wells MW-3, MW-4, and MW-5, and to conduct semi-annual sampling of monitoring wells MW-7 and MW-8. XTO submitted the *2008 Annual Groundwater Report* to the NMOCD proposing to install monitoring wells MW-9 and MW-10 to delineate impacted groundwater near existing monitoring well MW-7. Additionally, XTO proposed adding chemical oxygenate to monitoring well MW-7 to enhance bioremediation and conducting quarterly sampling of monitoring wells.

In July 2009, monitoring wells MW-9 and MW-10 were installed. The water-bearing unit supplying the existing groundwater monitoring wells was observed to be a clay with low hydraulic conductivity that was mostly dry. Monitoring wells MW-9 and MW-10 were completed in the same clay bed at similar depths to the existing monitoring wells despite the fact that no saturated sediment was identified in soil borings. Well installation did not penetrate the clay to avoid creating a conduit to deeper aquifers. After allowing 24 hours for the new monitoring wells to fill with groundwater, monitoring well MW-9 contained only 1.5 feet of groundwater and did not recharge after being purged dry. Monitoring well MW-10 never filled with groundwater and was ultimately plugged and abandoned. The completion diagrams and borehole logs for monitoring wells MW-9 and MW-10 are included in Enclosure B. Monitoring well MW-9 was sampled after well development and samples contained benzene concentrations exceeding NMWQCC standards.

In March 2010, XTO submitted the *2009 Annual Groundwater Report* to the NMOCD recommending continued use of chemical oxygenate in monitoring well MW-7 and conducting quarterly sampling of monitoring wells MW-7 and MW-9. XTO proposed to discontinue sampling of monitoring well MW-8 as analytical results for four consecutive sampling events indicated BTEX concentrations were in compliance with the NMWQCC standards.

XTO submitted the *2010 Annual Groundwater Report* to the NMOCD and NNEPA recommending continued quarterly sampling of groundwater for BTEX constituents in monitoring well MW-7. Laboratory analytical results from four consecutive quarters of groundwater sampling from monitoring well MW-9 indicated BTEX concentrations were compliant with NMWQCC standards; therefore, XTO recommended discontinuing sampling of monitoring well MW-9.

In October 2011, XTO met with the NMOCD to present a brief history of the Site and propose the application of hydrogen peroxide to groundwater via monitoring well MW-7 as an injection point to oxygenate the aquifer and enhance bioremediation. The NMOCD did not provide comments for the proposed work plan and XTO did not proceed with the action.

XTO submitted the *2011 Annual Groundwater Report* to the NMOCD and NNEPA. The report included an analysis of the beneficial use of groundwater at the Site. The analysis concluded the groundwater is not a current source of beneficial use and based on the poor background water quality of the aquifer, low productivity, and legal restrictions on its source for uses other than irrigation, the aquifer is not viable for beneficial use in the future. Attenuation of residual BTEX in groundwater at the Site will continue through natural processes, and migration of any BTEX will be restricted by the subsurface lithology and hydrologic properties of the aquifer. As such, XTO requested Site closure from the NMOCD and NNEPA based on the lack of present and reasonably foreseeable beneficial use of the impacted groundwater. Following NMOCD and NNEPA approval for closure, XTO planned to abandon all monitoring well locations in accordance with the monitoring well abandonment plan. XTO was awaiting approval or comments from the NMOCD and NNEPA regarding the closure request and did not conduct monitoring at the Site during 2012.

In March 2013, following the NMOCD and NNEPA verbal request that XTO pursue additional remediation before requesting Site closure, XTO resumed applying chemical oxygenate by installing ten Oxygen Release Compound® (ORC) socks in monitoring well MW-7. The ORC socks were removed from monitoring well MW-7 in December 2013 to assess equilibrium conditions.

XTO submitted the *2014, 2015, 2016, and 2017 Annual Groundwater Reports* to the NMOCD recommending continued semi-annual gauging of depth to groundwater and sampling of groundwater for BTEX in monitoring well MW-7. Additionally, XTO investigated the application of a chemical amendment to enhance natural attenuation, however, based on the historical sampling results and the groundwater flow direction, XTO opted not to pursue further active remediation as the elevated benzene concentrations appeared to be confined to a small area surrounding monitoring well MW-7 and are not likely to migrate offsite.

In August of 2017, Hilcorp acquired the Site from XTO and continued semi-annual monitoring of groundwater through 2021. Hilcorp submitted the *2018, 2019, and 2020 Annual Groundwater Reports* to the NMOCD recommending continued semi-annual gauging of

all wells and sampling groundwater for BTEX analysis in monitoring well MW-7. A summary of groundwater elevations and laboratory analytical results from historical and current groundwater monitoring are presented in Table 1 and Table 2, respectively.

GROUNDWATER SAMPLING ACTIVITIES AND RESULTS

In 2020, depth to groundwater was measured in monitoring wells MW-3, MW-4, MW-5, MW-7, MW-8, and MW-9. Semi-annual groundwater samples were collected from groundwater monitoring well MW-7 and submitted to Hall Environmental Analytical Laboratory (HEAL) in Albuquerque, New Mexico, for laboratory analysis of BTEX by EPA Method 8021B.

GROUNDWATER-LEVEL MEASUREMENTS

Prior to collection of groundwater samples, depth to groundwater in each well was measured using a keck oil/water interface probe. Groundwater elevations are detailed in Table 1. Presence of any free-phase petroleum hydrocarbons was investigated using the interface probe. The interface probe was decontaminated with Alconox™ soap and rinsed with de-ionized water prior to each measurement to prevent cross-contamination.

GROUNDWATER SAMPLING

The volume of groundwater in monitoring well MW-7 was calculated, and a minimum of three well casing volumes of groundwater was purged (unless the well purged dry) using a new disposable polyvinyl chloride (PVC) bailer or a dedicated PVC bailer. All purge groundwater was disposed of into Hilcorp tanks. Once the monitoring well was purged, groundwater samples were collected by filling a minimum of two 40-milliliter (mL) glass vials. The laboratory-supplied vials were filled and capped with zero headspace to prevent degradation of the samples. Samples were labeled with the date and time of collection, well designation, project name, sample collector's name, and parameters to be analyzed. The samples were immediately sealed, packed on ice, and hand delivered to HEAL. Proper chain-of-custody (COC) procedures were followed documenting the date and time sampled, sample number, type of sample, sample collector's name, preservative used, analyses required, and sample collector's signature. Laboratory analytical reports for 2021 are included as Enclosure E and the 2021 groundwater sample collection forms semi-annual monitoring events are included as Enclosure F.

GROUNDWATER CONTOUR MAPS

Groundwater elevations measured in monitoring wells during June and December 2021 visits were used to draft groundwater potentiometric surface maps (Figures 2 and 3). Contours were inferred based on groundwater elevations and observation of physical characteristics (topography, proximity to irrigation ditches, etc.) at the Site.

GROUNDWATER ANALYTICAL RESULTS

Groundwater elevations measured during 2021 Site monitoring activities indicate the groundwater continues to flow to the north, which is consistent with historical monitoring events. Figures 2 and 3 depict the inferred groundwater potentiometric surface and groundwater analytical results for the June and the December 2021 semi-annual monitoring events. Groundwater elevation data are summarized in Table 1.

During 2021, laboratory analytical results indicated benzene and total xylenes concentrations in samples from monitoring well MW-7 exceeded the NMWQCC standards during both semi-annual sampling events. Benzene concentrations ranged from 5,400 micrograms per liter (µg/L) in June to 7,400 µg/L in December. Total xylenes concentrations ranged from 4,000 µg/L in June to 5,900 µg/L in December. The toluene and ethylbenzene concentrations were in compliance with the NMWQCC standards for both 2021 semi-annual sampling events. Laboratory analytical results are summarized in Table 2.

CONCLUSIONS AND RECOMMENDATIONS

Laboratory analytical results from groundwater monitoring in 2021 indicate benzene and total xylenes concentrations in monitoring well MW-7 exceeded NMWQCC standards during both semi-annual sampling events. Toluene and ethylbenzene concentrations were in compliance with the NMWQCC standards in monitoring well MW-7 during both 2021 semi-annual sampling events. Based on historical sampling results and the groundwater flow direction, elevated benzene and total xylenes concentrations appear confined to a limited area surrounding monitoring well MW-7 and are not likely to migrate offsite.

WSP proposes continued monitoring of groundwater elevations semi-annually in all monitoring wells and collecting groundwater samples semi-annually in monitoring well MW-7 in 2022. Hilcorp will implement more active remediation and increase bioremediation by installing Oxygen Release Compound (ORC®) socks in MW-7. Field screening values for ORP and DO will be

collected during the purging process for MW-7 and directly after the ORC® socks are removed during each sampling event. ORP and DO values can be used to assess effectiveness of the ORC socks. A negative ORP value generally indicates the water is chemically anaerobic and reducing; positive ORP values generally indicate the water is aerobic and oxidizing. This indicates if the installation of the ORC® socks are effectually contributing to an aerobic environment more conducive to oxidation of hydrocarbons over time. The DO values can indicate if there is sufficient dissolved oxygen in the groundwater for aerobic biodegradation to continue. An evaluation of the ORC® socks effectiveness will be included in the 2022 annual report.

Kind regards,

Devin Hencmann
Senior, Geologist

Josh Adams, P.G.
Consultant, Geologist

Enclosed:

Figure 1: Site Location Map
Figure 2: Groundwater Elevation and Analytical Results (June 2021)
Figure 3: Groundwater Elevation and Analytical Results (December 2021)

Table 1: Groundwater Elevation Summary
Table 2: Groundwater Analytical Results

Enclosure A: Blagg Field Report: Pit Closure Verification (2002)
Enclosure B: Completion Diagrams and Borehole Logs
Enclosure C: Lodestar Remediation Work Plan (2006)
Enclosure D: Lodestar Report of Excavation and Sampling at OH Randel #7 (2007)
Enclosure E: 2021 Laboratory Analytical Reports
Enclosure F: 2021 Groundwater Sample Collection Forms

FIGURES

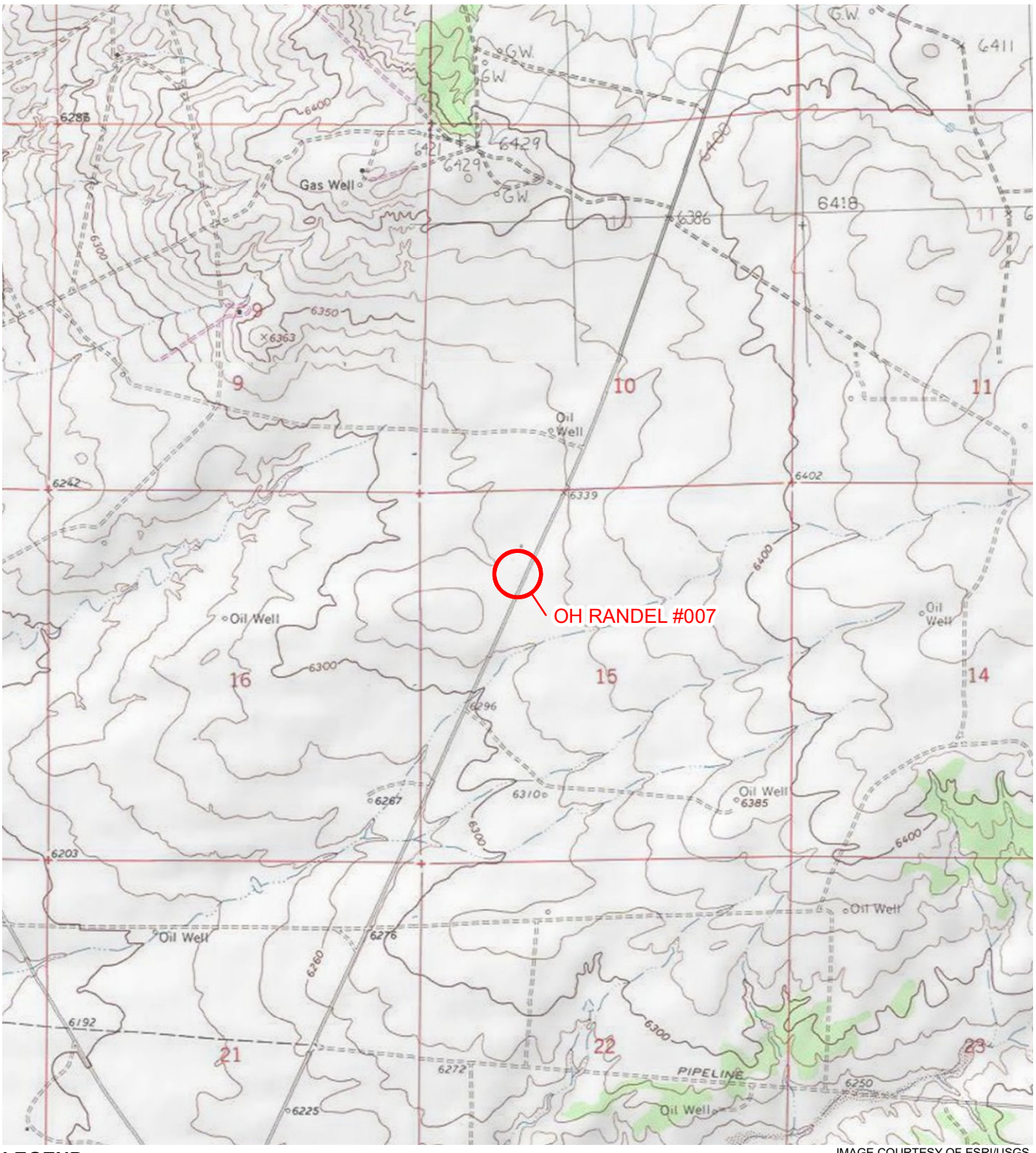

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

FIGURE 1
SITE LOCATION MAP
OH RANDEL #007
NWNW SEC 15 T26N R11W
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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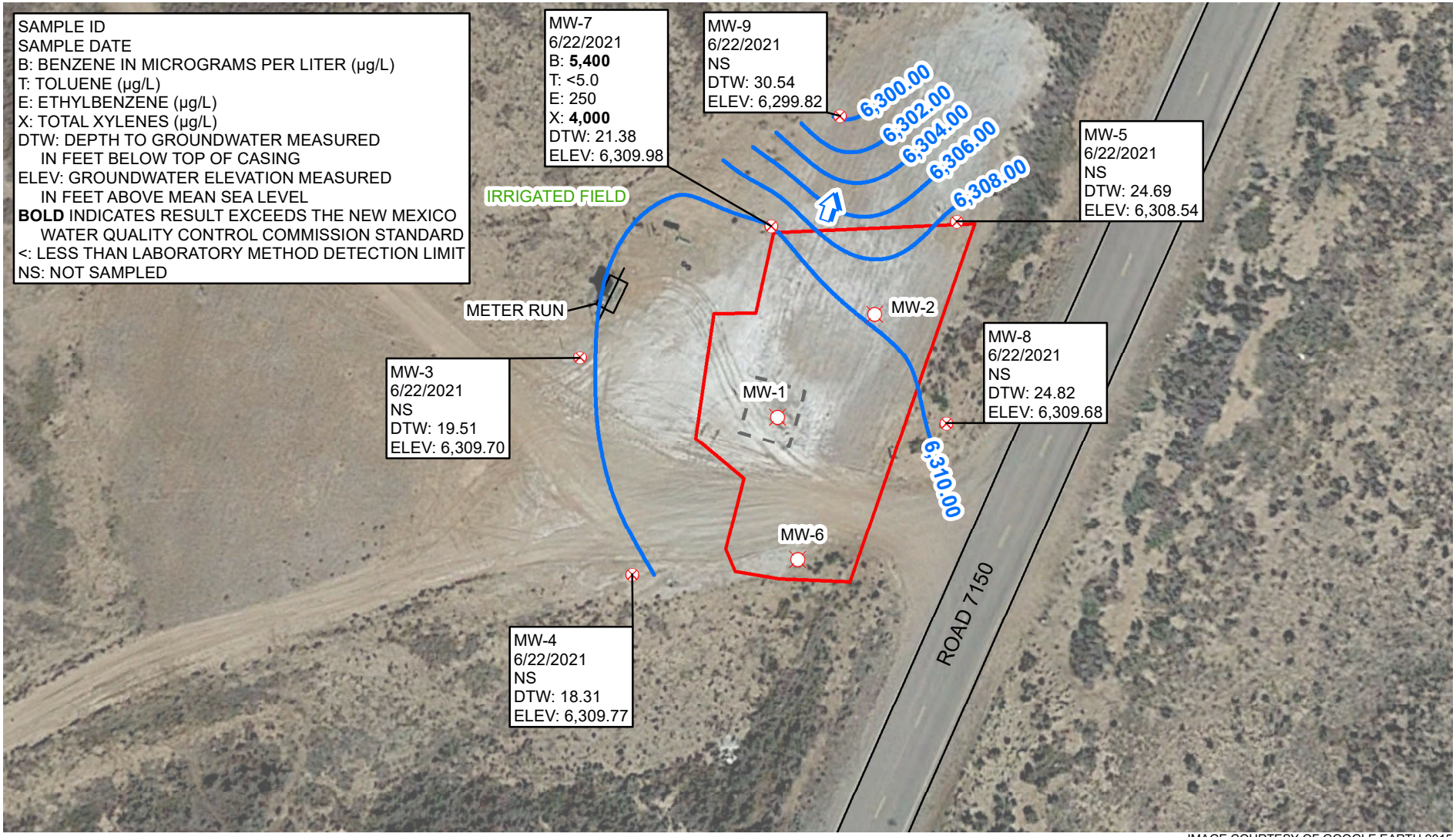

IMAGE COURTESY OF GOOGLE EARTH 2015

LEGEND

- MONITORING WELL
- DESTROYED MONITORING WELL
- ESTIMATED GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION CONTOUR
- CONTOUR INTERVAL = 2.00 FEET
- APPROXIMATE EXCAVATION PERIMETER (11/2006)
- ABANDONED SEPARATOR PIT

0 60 120
Feet

N

FIGURE 2
GROUNDWATER ELEVATION AND ANALYTICAL RESULTS (JUNE 2021)
OH RANDEL #007
NWNW SEC 15 T26N R11W
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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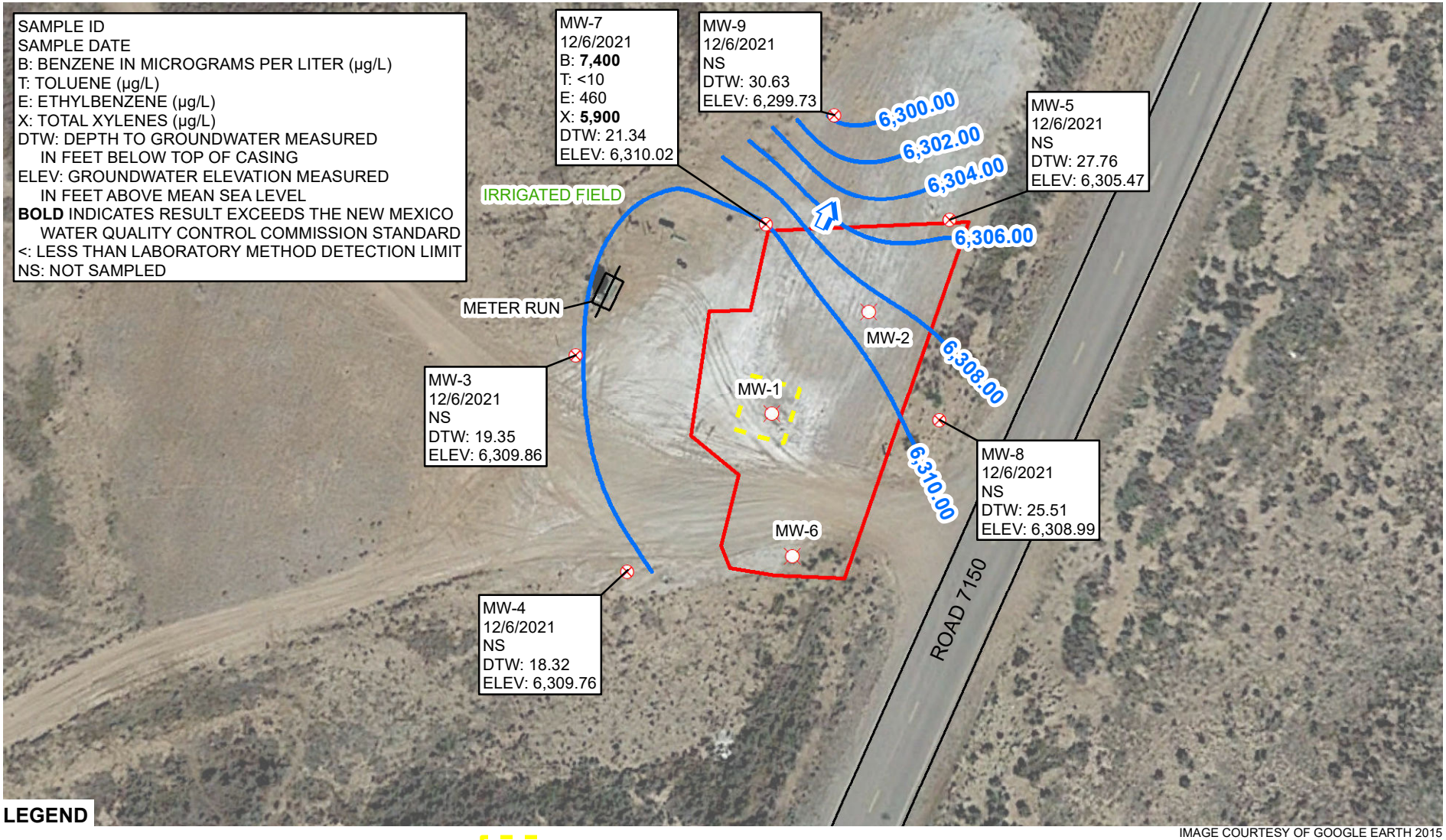

FIGURE 3
GROUNDWATER ELEVATION AND ANALYTICAL RESULTS (DECEMBER 2021)
OH RANDEL #007
NWNW SEC 15 T26N R11W
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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TABLES

Table 1

Groundwater Elevation Summary
OH Randel #007
San Juan County, New Mexico

Well ID	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Groundwater Elevation (feet AMSL)
MW-1	4/22/2002	16.30	16.63	No Survey Data
MW-1	4/24/2002	NM	NM	No Survey Data
MW-1	8/27/2002	16.19	16.49	No Survey Data
MW-1	10/08/2002	15.79	16.16	No Survey Data
MW-1	5/23/2003	15.73	16.04	No Survey Data
MW-1	5/28/2003	15.81	15.99	No Survey Data
MW-1	6/6/2003	15.93	16.04	No Survey Data
MW-1	6/18/2003	15.97	16.04	No Survey Data
MW-1	6/26/2003	17.85	17.93	No Survey Data
MW-1	7/31/2003	16.18	16.19	No Survey Data
MW-1	8/29/2003	NM	16.29	No Survey Data
MW-1	6/21/2004	16.28	17.09	No Survey Data
MW-1	9/20/2006	0.00	22.28	No Survey Data
MW-1	12/5/2006 *	NM	NM	No Survey Data
MW-1	12/6/2021	NM	NM	No Survey Data
MW-2	4/22/2002	NM	18.32	No Survey Data
MW-2	4/24/2002	18.35	18.38	No Survey Data
MW-2	8/27/2002	18.92	19.86	No Survey Data
MW-2	10/08/2002	17.50	18.02	No Survey Data
MW-2	5/23/2003	17.30	17.83	No Survey Data
MW-2	5/28/2003	17.62	17.78	No Survey Data
MW-2	6/6/2003	17.71	17.83	No Survey Data
MW-2	6/18/2003	17.79	17.88	No Survey Data
MW-2	6/26/2003	16.05	16.09	No Survey Data
MW-2	7/31/2003	NM	15.86	No Survey Data
MW-2	8/29/2003	NM	15.99	No Survey Data
MW-2	6/21/2004	16.10	16.83	No Survey Data
MW-2	9/20/2006	0.00	17.15	No Survey Data
MW-2	12/5/2006 *	NM	NM	No Survey Data
MW-2	12/6/2021	NM	NM	No Survey Data

Table 1

Groundwater Elevation Summary
OH Randel #007
San Juan County, New Mexico

Well ID	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Groundwater Elevation (feet AMSL)
MW-3	4/22/2002	ND	16.26	6,312.95
MW-3	4/24/2002	ND	16.25	6,312.96
MW-3	8/27/2002	ND	15.28	6,313.93
MW-3	10/8/2002	ND	14.74	6,314.47
MW-3	3/3/2003	ND	15.17	6,314.04
MW-3	6/18/2003	ND	15.16	6,314.05
MW-3	8/29/2003	ND	15.39	6,313.82
MW-3	9/20/2006	NM	NM	NM
MW-3	12/5/2006	ND	13.85	6,315.36
MW-3	3/8/2007	ND	13.40	6,315.81
MW-3	5/17/2007	ND	12.87	6,316.34
MW-3	8/9/2007	ND	12.37	6,316.84
MW-3	5/12/2008	ND	14.83	6,314.38
MW-3	11/7/2008	ND	13.92	6,315.29
MW-3	7/8/2009	ND	14.14	6,315.07
MW-3	11/5/2009	ND	14.53	6,314.68
MW-3	5/25/2010	ND	14.21	6,315.00
MW-3	8/12/2010	ND	NM	NM
MW-3	11/17/2010	ND	15.30	6,313.91
MW-3	2/14/2011	ND	NM	NM
MW-3	5/17/2011	ND	15.74	6,313.47
MW-3	8/9/2011	ND	15.87	6,313.34
MW-3	11/9/2011	ND	16.21	6,313.00
MW-3	6/17/2013	ND	17.32	6,311.89
MW-3	12/16/2013	ND	16.88	6,312.33
MW-3	6/11/2014	ND	18.60	6,310.61
MW-3	12/9/2014	ND	17.37	6,311.84
MW-3	6/11/2015	ND	18.45	6,310.76
MW-3	12/21/2015	ND	17.55	6,311.66
MW-3	6/20/2016	ND	18.86	6,310.35

Table 1

Groundwater Elevation Summary
OH Randel #007
San Juan County, New Mexico

Well ID	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Groundwater Elevation (feet AMSL)
MW-3	12/14/2016	ND	17.86	6,311.35
MW-3	6/26/2017	ND	18.11	6,311.10
MW-3	12/12/2017	ND	18.28	6,310.93
MW-3	6/28/2018	ND	18.65	6,310.56
MW-3	12/10/2018	ND	18.77	6,310.44
MW-3	6/19/2019	ND	19.25	6,309.96
MW-3	12/9/2019	ND	18.90	6,310.31
MW-3	6/22/2020	ND	19.30	6,309.91
MW-3	12/14/2020	ND	19.16	6,310.05
MW-3	6/22/2021	ND	19.51	6,309.70
MW-3	12/6/2021	ND	19.35	6,309.86
MW-4	4/22/2002	ND	16.63	6,311.45
MW-4	4/24/2002	ND	16.66	6,311.42
MW-4	8/27/2002	ND	16.47	6,311.61
MW-4	10/8/2002	ND	16.03	6,312.05
MW-4	3/3/2003	ND	15.94	6,312.14
MW-4	6/18/2003	ND	16.03	6,312.05
MW-4	8/29/2003	ND	16.29	6,311.79
MW-4	9/20/2006	NM	NM	NM
MW-4	12/5/2006	ND	13.75	6,314.33
MW-4	3/8/2007	ND	12.55	6,315.53
MW-4	5/17/2007	ND	13.03	6,315.05
MW-4	8/9/2007	ND	12.59	6,315.49
MW-4	5/12/2008	ND	12.57	6,315.51
MW-4	11/7/2008	ND	13.68	6,314.40
MW-4	7/8/2009	ND	13.72	6,314.36
MW-4	11/5/2009	ND	14.12	6,313.96
MW-4	5/25/2010	ND	13.86	6,314.22
MW-4	8/12/2010	ND	14.39	6,313.69
MW-4	11/17/2010	ND	14.60	6,313.48

Table 1

Groundwater Elevation Summary
OH Randel #007
San Juan County, New Mexico

Well ID	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Groundwater Elevation (feet AMSL)
MW-4	2/14/2011	ND	15.55	6,312.53
MW-4	5/17/2011	ND	14.95	6,313.13
MW-4	8/9/2011	ND	15.11	6,312.97
MW-4	11/9/2011	ND	15.38	6,312.70
MW-4	6/17/2013	ND	16.33	6,311.75
MW-4	12/16/2013	ND	15.99	6,312.09
MW-4	6/11/2014	ND	16.30	6,311.78
MW-4	12/9/2014	ND	16.48	6,311.60
MW-4	6/11/2015	ND	16.14	6,311.94
MW-4	12/21/2015	ND	16.75	6,311.33
MW-4	6/20/2016	ND	16.98	6,311.10
MW-4	12/14/2016	ND	16.95	6,311.13
MW-4	6/26/2017	ND	17.09	6,310.99
MW-4	12/12/2017	ND	17.27	6,310.81
MW-4	6/28/2018	ND	17.53	6,310.55
MW-4	12/10/2018	ND	17.66	6,310.42
MW-4	6/19/2019	ND	17.89	6,310.19
MW-4	12/9/2019	ND	17.83	6,310.25
MW-4	6/22/2020	ND	18.09	6,309.99
MW-4	12/14/2020	ND	18.06	6,310.02
MW-4	6/22/2021	ND	18.31	6,309.77
MW-4	12/6/2021	ND	18.32	6,309.76
MW-5	4/22/2002	ND	19.11	6,314.12
MW-5	4/24/2002	ND	19.14	6,314.09
MW-5	8/10/2002	ND	19.10	6,314.13
MW-5	6/18/2003	ND	18.86	6,314.37
MW-5	6/21/2004	ND	19.64	6,313.59
MW-5	6/28/2005	ND	17.30	6,315.93
MW-5	9/20/2006	NM	NM	NM
MW-5	12/5/2006	ND	18.65	6,314.58

Table 1

Groundwater Elevation Summary
OH Randel #007
San Juan County, New Mexico

Well ID	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Groundwater Elevation (feet AMSL)
MW-5	3/8/2007	ND	18.15	6,315.08
MW-5	5/17/2007	ND	17.78	6,315.45
MW-5	8/9/2007	ND	NM	NM
MW-5	5/12/2008	ND	18.82	6,314.41
MW-5	11/7/2008	ND	18.90	6,314.33
MW-5	7/8/2009	ND	20.08	6,313.15
MW-5	11/5/2009	ND	20.44	6,312.79
MW-5	5/25/2010	ND	20.33	6,312.90
MW-5	8/12/2010	ND	20.51	6,312.72
MW-5	11/17/2010	ND	20.93	6,312.30
MW-5	2/14/2011	ND	20.97	6,312.26
MW-5	5/17/2011	ND	21.20	6,312.03
MW-5	8/9/2011	ND	21.47	6,311.76
MW-5	11/9/2011	ND	21.69	6,311.54
MW-5	6/17/2013	ND	22.74	6,310.49
MW-5	12/16/2013	ND	22.36	6,310.87
MW-5	6/11/2014	ND	22.77	6,310.46
MW-5	12/9/2014	ND	22.21	6,311.02
MW-5	6/11/2015	ND	22.69	6,310.54
MW-5	12/21/2015	ND	22.55	6,310.68
MW-5	6/20/2016	ND	23.08	6,310.15
MW-5	12/14/2016	ND	23.19	6,310.04
MW-5	6/26/2017	ND	23.28	6,309.95
MW-5	12/12/2017	ND	23.45	6,309.78
MW-5	6/28/2018	ND	24.76	6,308.47
MW-5	12/10/2018	ND	23.99	6,309.24
MW-5	6/19/2019	ND	24.18	6,309.05
MW-5	12/9/2019	ND	24.24	6,308.99
MW-5	3/13/2020	ND	24.30	6,308.93
MW-5	6/22/2020	ND	24.39	6,308.84
MW-5	12/14/2020	ND	24.55	6,308.68

Table 1

Groundwater Elevation Summary
OH Randel #007
San Juan County, New Mexico

Well ID	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Groundwater Elevation (feet AMSL)
MW-5	6/22/2021	ND	24.69	6,308.54
MW-5	12/6/2021	ND	27.76	6,305.47
MW-6	4/22/2002	0.00	18.31	No Survey Data
MW-6	4/24/2002	0.00	18.32	No Survey Data
MW-6	8/27/2002	NM	NM	No Survey Data
MW-6	10/8/2002	16.84	18.13	No Survey Data
MW-6	5/23/2003	16.62	17.95	No Survey Data
MW-6	5/28/2003	16.68	17.90	No Survey Data
MW-6	6/6/2003	16.80	18.00	No Survey Data
MW-6	6/18/2003	16.78	18.02	No Survey Data
MW-6	6/26/2003	16.88	18.10	No Survey Data
MW-6	7/31/2003	17.77	19.13	No Survey Data
MW-6	8/29/2003	16.88	18.34	No Survey Data
MW-6	6/21/2004	17.78	18.95	No Survey Data
MW-6	9/20/2006	15.79	16.87	No Survey Data
MW-6	12/5/2006 *	NM	NM	No Survey Data
MW-6	6/22/2021	NM	NM	No Survey Data
MW-6	12/6/2021	NM	NM	No Survey Data
MW-7	5/17/2007	ND	15.46	6,315.90
MW-7	8/9/2007	ND	14.72	6,316.64
MW-7	11/27/2007	ND	14.91	6,316.45
MW-7	5/12/2008	ND	15.12	6,316.24
MW-7	11/7/2008	ND	15.82	6,315.54
MW-7	7/8/2009	ND	16.44	6,314.92
MW-7	11/5/2009	ND	16.76	6,314.60
MW-7	5/25/2010	ND	16.63	6,314.73
MW-7	8/12/2010	ND	16.82	6,314.54
MW-7	11/17/2010	ND	17.65	6,313.71
MW-7	2/14/2011	ND	17.74	6,313.62

Table 1

Groundwater Elevation Summary
OH Randel #007
San Juan County, New Mexico

Well ID	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Groundwater Elevation (feet AMSL)
MW-7	5/17/2011	ND	17.92	6,313.44
MW-7	8/9/2011	ND	18.11	6,313.25
MW-7	11/9/2011	ND	18.46	6,312.90
MW-7	6/17/2013	ND	19.45	6,311.91
MW-7	12/16/2013	ND	19.39	6,311.97
MW-7	6/11/2014	ND	19.56	6,311.80
MW-7	12/9/2014	ND	19.67	6,311.69
MW-7	6/11/2015	ND	19.40	6,311.96
MW-7	12/21/2015	ND	19.50	6,311.86
MW-7	6/20/2016	ND	19.91	6,311.45
MW-7	12/14/2016	ND	20.04	6,311.32
MW-7	6/26/2017	ND	20.33	6,311.03
MW-7	12/12/2017	ND	20.44	6,310.92
MW-7	6/28/2018	ND	20.91	6,310.45
MW-7	12/10/2018	ND	20.94	6,310.42
MW-7	6/19/2019	ND	21.15	6,310.21
MW-7	12/9/2019	ND	20.95	6,310.41
MW-7	6/22/2020	ND	21.21	6,310.15
MW-7	12/14/2020	ND	21.16	6,310.20
MW-7	6/22/2021	ND	21.38	6,309.98
MW-7	12/6/2021	ND	21.34	6,310.02
MW-8	5/17/2007	ND	19.64	6,314.86
MW-8	8/9/2007	ND	18.94	6,315.56
MW-8	11/27/2007	ND	19.20	6,315.30
MW-8	5/12/2008	ND	19.97	6,314.53
MW-8	11/7/2008	ND	19.55	6,314.95
MW-8	7/8/2009	ND	20.01	6,314.49
MW-8	11/5/2009	ND	20.41	6,314.09
MW-8	5/25/2010	ND	20.31	6,314.19
MW-8	8/12/2010	ND	20.41	6,314.09

Table 1

Groundwater Elevation Summary
OH Randel #007
San Juan County, New Mexico

Well ID	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Groundwater Elevation (feet AMSL)
MW-8	11/17/2010	ND	20.63	6,313.87
MW-8	2/14/2011	ND	20.35	6,314.15
MW-8	5/17/2011	ND	20.30	6,314.20
MW-8	8/9/2011	ND	20.83	6,313.67
MW-8	11/9/2011	ND	21.00	6,313.50
MW-8	6/17/2013	ND	22.17	6,312.33
MW-8	12/16/2013	ND	21.40	6,313.10
MW-8	6/11/2014	ND	22.09	6,312.41
MW-8	12/9/2014	ND	22.80	6,311.70
MW-8	6/11/2015	ND	21.76	6,312.74
MW-8	12/21/2015	ND	22.83	6,311.67
MW-8	6/20/2016	ND	22.40	6,312.10
MW-8	12/14/2016	ND	23.54	6,310.96
MW-8	6/26/2017	ND	22.28	6,312.22
MW-8	12/12/2017	ND	22.70	6,311.80
MW-8	6/28/2018	ND	23.02	6,311.48
MW-8	12/10/2018	ND	23.21	6,311.29
MW-8	6/19/2019	ND	23.28	6,311.22
MW-8	12/9/2019	ND	23.50	6,311.00
MW-8	6/22/2020	ND	23.85	6,310.65
MW-8	12/14/2020	ND	24.27	6,310.23
MW-8	6/22/2021	ND	24.82	6,309.68
MW-8	12/6/2021	ND	25.51	6,308.99
MW-9	7/8/2009	ND	35.26	6,295.10
MW-9	11/5/2009	ND	33.08	6,297.28
MW-9	5/25/2010	ND	29.28	6,301.08
MW-9	8/12/2010	ND	31.12	6,299.24
MW-9	5/25/2010	ND	20.31	6,310.05
MW-9	8/12/2010	ND	20.41	6,309.95
MW-9	11/17/2010	ND	30.49	6,299.87

Table 1

Groundwater Elevation Summary
OH Randel #007
San Juan County, New Mexico

Well ID	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Groundwater Elevation (feet AMSL)
MW-9	2/14/2011	ND	31.60	6,298.76
MW-9	5/17/2011	ND	30.39	6,299.97
MW-9	8/9/2011	ND	29.84	6,300.52
MW-9	11/9/2011	ND	28.76	6,301.60
MW-9	6/17/2013	ND	28.36	6,302.00
MW-9	12/16/2013	ND	27.97	6,302.39
MW-9	6/11/2014	ND	28.68	6,301.68
MW-9	12/9/2014	ND	28.45	6,301.91
MW-9	6/11/2015	ND	28.98	6,301.38
MW-9	12/21/2015	ND	28.22	6,302.14
MW-9	6/20/2016	ND	28.66	6,301.70
MW-9	12/14/2016	ND	28.42	6,301.94
MW-9	6/26/2017	ND	29.05	6,301.31
MW-9	12/12/2017	ND	29.00	6,301.36
MW-9	6/28/2018	ND	29.48	6,300.88
MW-9	12/10/2018	ND	29.48	6,300.88
MW-9	6/19/2019	ND	30.09	6,300.27
MW-9	12/9/2019	ND	30.20	6,300.16
MW-9	6/22/2020	ND	30.50	6,299.86
MW-9	12/14/2020	ND	30.32	6,300.04
MW-9	6/22/2021	ND	30.54	6,299.82
MW-9	12/6/2021	ND	30.63	6,299.73

AMSL - above mean sea level
BTOC - below top of casing
ND - none detected
NM - not measured
* - well was destroyed

Table 2

Groundwater Analytical Results
OH Randel #007
San Juan County, New Mexico

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Groundwater Standard		**5**	**1,000**	**700**	**620**
MW-3	4/24/2002	**24**	2.4	0.58	200
MW-3	8/27/2002	**9.4**	ND	ND	150
MW-3	3/3/2003	**5.5**	ND	ND	43
MW-3	6/18/2003	**6.1**	0.97	ND	43
MW-3	8/29/2003	3.2	0.53	ND	24
MW-3	12/5/2006	<1	<1	<1	<3
MW-3	5/17/2007	<1	<1	<1	<2
MW-3	8/9/2007	<1	<1	<1	<2
MW-4	4/24/2002	ND	0.59	ND	2.1
MW-4	8/27/2002	1.3	ND	ND	3.5
MW-4	3/3/2003	4.2	ND	ND	5
MW-4	6/18/2003	**6.2**	ND	ND	4.5
MW-4	8/29/2003	**8.3**	ND	ND	4.3
MW-4	12/5/2006	<1	<1	<1	<3
MW-4	5/17/2007	<1	<1	<1	<2
MW-4	8/9/2007	<1	<1	<1	<2
MW-5	4/24/2002	**510**	0.64	8.9	240
MW-5	6/18/2003	**1,100**	20	ND	**660**
MW-5	6/21/2004	**2,000**	ND	ND	260
MW-5	6/28/2005	**1,100**	15	ND	160
MW-5	12/5/2006	**37**	<1	<1	4.1
MW-5	5/17/2007	<1	<1	<1	<2
MW-6	4/24/2002	**6,100**	**4,800**	**920**	**6,600**
MW-7	5/17/2007	**8,500**	**17,000**	**980**	**16,000**
MW-7	8/9/2007	**9,800**	**11,000**	**770**	**12,000**
MW-7	11/27/2007	**12,000**	**9,000**	**940**	**13,000**
MW-7	5/12/2008	**7,900**	**11,000**	**830**	**12,000**

Table 2

Groundwater Analytical Results
OH Randel #007
San Juan County, New Mexico

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Groundwater Standard		**5**	**1,000**	**700**	**620**
MW-7	11/7/2008	**12,000**	**16,000**	**1,100**	**17,000**
MW-7	7/8/2009	**9,800**	**8,200**	<100	**12,000**
MW-7	11/5/2009	**9,800**	**7,900**	570	**13,000**
MW-7	5/25/2010	**7,200**	**3,800**	440	**11,000**
MW-7	8/12/2010	**82**	58	9.2	200
MW-7	11/17/2010	**5,200**	**5,500**	76	**3,400**
MW-7	2/14/2011	**2,200**	1,000	<120	**1,800**
MW-7	5/17/2011	**500**	190	16	180
MW-7	8/9/2011	**81.3**	36.9	5.3	39.4
MW-7	11/9/2011	**26**	16	2.3	20
MW-7	6/17/2013	0.72	<5.0	<0.50	<1.5
MW-7	12/16/2013	**130**	<50	7.6	62
MW-7	6/11/2014	**7,600**	**6,400**	100	**5,900**
MW-7	12/9/2014	**9,400**	**2,600**	250	**6,100**
MW-7	6/11/2015	**8,300**	960	410	**7,200**
MW-7	12/21/2015	**9,040**	67.6	465	**7,310**
MW-7	6/20/2016	**9,160**	412	615	**8,750**
MW-7	12/14/2016	**8,400**	368	284	**6,950**
MW-7	6/26/2017	**6,580**	<10.0	126	**3,950**
MW-7	12/12/2017	**9,050**	<50.0	406	**7,020**
MW-7	6/28/2018	**8,300**	6.2	220	**6,100**
MW-7	12/10/2018	**8,400**	<10.0	320	**6,200**
MW-7	6/19/2019	**14,000**	<50	540	**12,000**
MW-7	12/9/2019	**6,800**	<50	330	**5,700**
MW-7	6/22/2020	**830**	<5.0	22	**640**
MW-7	12/14/2020	**9,400**	<20	470	**6,600**
MW-7	6/22/2021	**5,400**	<5.0	250	**4,000**
MW-7	12/6/2021	**7,400**	<10	460	**5,900**
MW-8	5/17/2007	<1.0	1.9	<1.0	3.7
MW-8	8/9/2007	<1.0	<1.0	<1.0	<2.0

Table 2

Groundwater Analytical Results
OH Randel #007
San Juan County, New Mexico

Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Groundwater Standard		**5**	**1,000**	**700**	**620**
MW-8	11/27/2007	**21.0**	<1.0	<1.0	<2.0
MW-8	5/12/2008	1.4	<1.0	<1.0	<2.0
MW-8	11/7/2008	1.2	<1.0	<1.0	<2.0
MW-8	7/8/2009	<1.0	<1.0	<1.0	<2.0
MW-8	11/5/2009	1.1	<1.0	<1.0	<2.0
MW-9	7/8/2009	**91**	160	6.9	100
MW-9	11/30/2009	<1	<1	<1	<2
MW-9	5/25/2010	<1.0	<1.0	<1.0	<2.0
MW-9	8/12/2010	<0.5	<5.0	<0.5	<1.5
MW-9	11/17/2010	2.4	<5.0	<0.5	<1.5

µg/L - micrograms per liter
ND - not detected
NMWQCC - New Mexico Water Quality Control Commission
BOLD indicates the result exceeds the NMWQCC Standard
< indicates result is less than the stated laboratory method detection limit

ENCLOSURE A – BLAGG FIELD REPORT: PIT CLOSURE VERIFICATION (2002)

CLIENT: XTO

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

LOCATION NO: _____
C.O.C. NO: 9796

FIELD REPORT: PIT CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: O.H. RANDEL WELL #: 7 TYPE: ABAN. SEP.
QUAD/UNIT: D SEC: 15 TWP: 26N RNG: 11W PM: NM CNTY: SJ ST: NM
QTR/FOOTAGE: 1150'N/1150'W NW/NW CONTRACTOR:

DATE STARTED: 3/12/02
DATE FINISHED: _____
ENVIRONMENTAL SPECIALIST: NV

EXCAVATION APPROX. NA FT. x NA FT. x NA FT. DEEP. CUBIC YARDAGE: NA
DISPOSAL FACILITY: ON-SITE REMEDIATION METHOD: _____
LAND USE: RANGE - BLM LEASE: _____ FORMATION: DK

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 239 FT. S75E FROM WELLHEAD.
DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'
NMOCD RANKING SCORE: 0 NMOCD TPH CLOSURE STD: 5000 PPM

OVM CALIB. READ. 52.7 ppm
OVM CALIB. GAS = 100 ppm RF = 0.52
TIME: 11:48 (am)/pm DATE: 3/12/02

SOIL AND EXCAVATION DESCRIPTION:

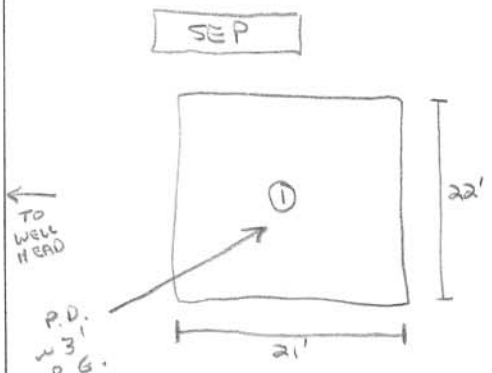
SOIL TYPE: (SAND) / SILTY SAND / SILT / SILTY CLAY / CLAY / GRAVEL / OTHER _____
SOIL COLOR: MED. GRAY
COHESION (ALL OTHERS): (NON COHESIVE) / SLIGHTLY COHESIVE / COHESIVE / HIGHLY COHESIVE
CONSISTENCY (NON COHESIVE SOILS): (LOOSE) / (FIRM) / DENSE / VERY DENSE
~~PLASTICITY (CLAYS)~~: NON PLASTIC / SLIGHTLY PLASTIC / COHESIVE / MEDIUM PLASTIC / HIGHLY PLASTIC
~~DENSITY (COHESIVE CLAYS & SILTS)~~: SOFT / FIRM / STIFF / VERY STIFF / HARD
MOISTURE: DRY / SLIGHTLY MOIST / (MOIST) / WET / SATURATED / SUPER SATURATED
DISCOLORATION/STAINING OBSERVED: (YES) / NO EXPLANATION - BET. 4-6' BELOW GRADE
HC ODOR DETECTED: (YES) / NO EXPLANATION - MED. GRAY SAND (STRONG)
SAMPLE TYPE: (GRAB) / COMPOSITE - # OF PTS. -
ADDITIONAL COMMENTS: CONDUCTED SAMPLING WITH HAND SHOVEL.

FIELD 418.1 CALCULATIONS

SAMP. TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

SCALE
0 FT

PIT PERIMETER



P.D. = PIT DEPRESSION; B.G. = BELOW GRADE
T.H. = TEST HOLE; ~ = APPROX.; B = BELOW

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 @ 6'	1,015
2 @	
3 @	
4 @	
5 @	

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
(1) @ 6'	TPH (8015B)	1130
"	BTEX (8021B)	"

PIT PROFILE

TRAVEL NOTES: CALLOUT: 3/12/02 - MORN. ONSITE: 3/12/02 - MORN.

revised: 02/27/02 bei1005C.skd

ENCLOSURE B – COMPLETION DIAGRAMS AND BOREHOLE LOGS

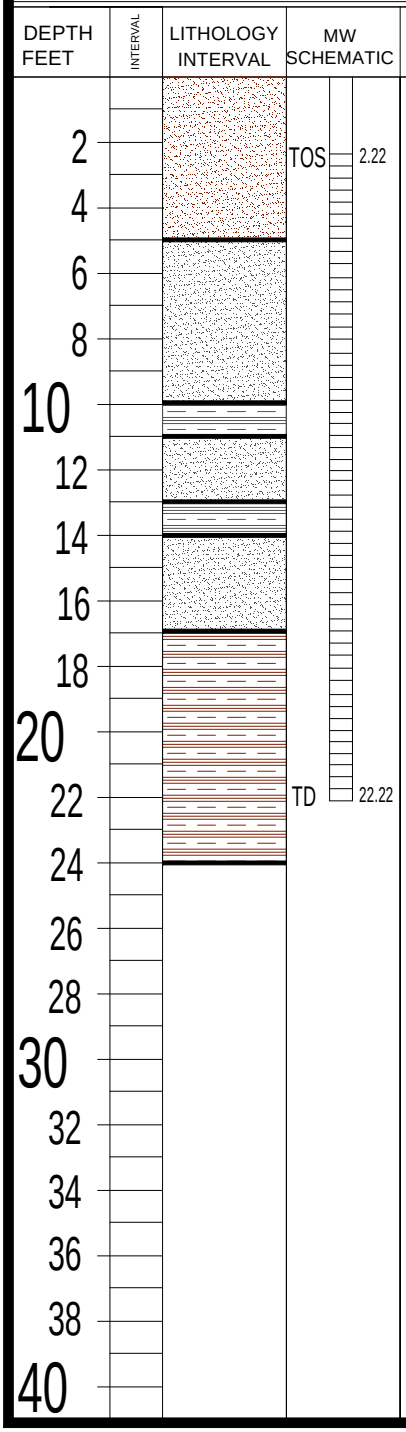
FIGURE 8

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

BORE / TEST HOLE REPORT

CLIENT:	XTO ENERGY INC.
LOCATION NAME:	RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	240 FT., S76.5E FEET FROM WELL HEAD.

BORING #.....	BH - 1
MW #.....	1
PAGE #.....	1
DATE STARTED	3/22/02
DATE FINISHED	3/22/02
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 0.15 FT. ABOVE GROUND SURFACE.

MODERATE TO DARK YELLOWISH BROWN SAND & ROCK AGGREGATE, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 5.0 FT. BELOW GRADE).

LIGHT TO MEDIUM GRAY SAND, NON COHESIVE, SLIGHTLY MOIST TO MOIST, FIRM, STRONG HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTING (5.0 - 10.0 FT. BELOW GRADE).

LIGHT MEDIUM GRAY SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, SLIGHTLY MOIST, APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (10.0 - 11.0 FT. BELOW GRADE).

SAME AS 5.0 - 10.0 FT. INTERVAL (11.0 - 13.0 FT. BELOW GRADE).

SAME AS 10.0 - 11.0 FT. INTERVAL (13.0 - 14.0 FT. BELOW GRADE).

SAME AS 5.0 - 10.0 FT. INTERVAL EXCEPT MOIST TO WET (14.0 - 17.0 FT. BELOW GRADE).

GW DEPTH ON 3/25/02 = 16.68 FT. (APPROX.) FROM GROUND SURFACE.

LIGHT DUSKY BROWN SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, WET TO SATURATED, APPARENT STRONG HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (17.0 - 24.0 FT. BELOW GRADE).

NOTE:

- SAND.
- SILTY CLAY TO CLAY.

TOS - TOP OF SCREEN FROM GROUND SURFACE.
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
GW - GROUND WATER.

Monitor well consist of 2 inch PVC piping - casing from 0.15 ft. above grade to 2.22 ft. below grade, 0.010 slotted screen between 2.22 to 22.22 feet below grade, sand packed annular to grade.

DRAWING: RANDEL-7-MW1.SKF | DATE: 10/19/05 | DWN BY: NJV

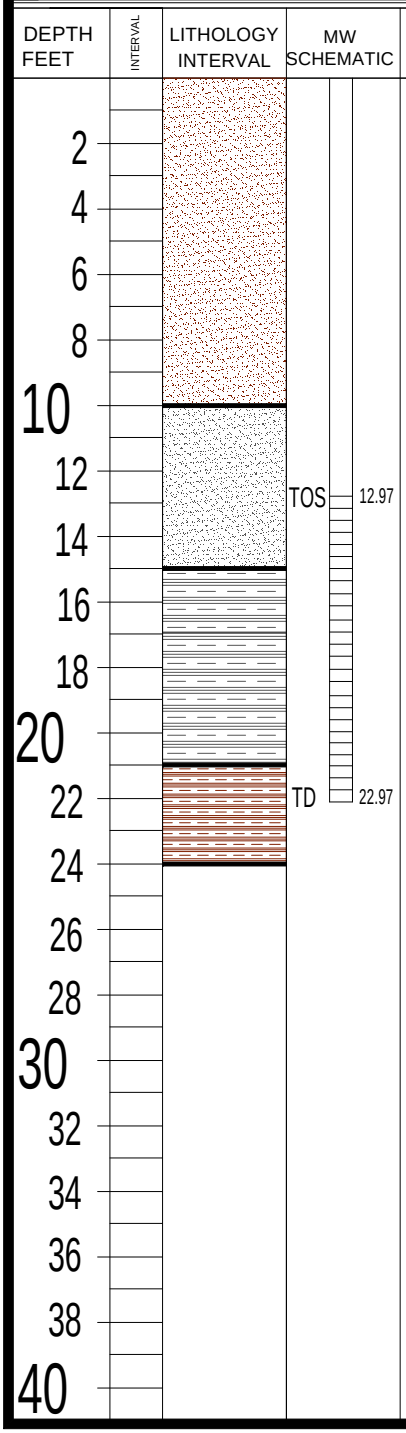
FIGURE 9

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

BORE / TEST HOLE REPORT

CLIENT:	XTO ENERGY INC.
LOCATION NAME:	RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	274 FT., S87.5E FEET FROM WELL HEAD.

BORING #.....	BH - 2
MW #.....	2
PAGE #.....	2
DATE STARTED	4/09/02
DATE FINISHED	4/09/02
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.63 FT. ABOVE GROUND SURFACE.

MODERATE TO DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 10.0 FT. BELOW GRADE).

LIGHT TO MEDIUM GRAY SILTY SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, DENSE, STRONG HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTING (10.0 - 15.0 FT. BELOW GRADE).

▼ GW DEPTH ON 4/22/02 = 16.69 FT. (APPROX.) FROM GROUND SURFACE.

LIGHT MEDIUM GRAY SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, SLIGHTLY MOIST, APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (15.0 - 21.0 FT. BELOW GRADE).

LIGHT DUSKY BROWN SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, DRY, SLIGHT APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (21.0 - 24.0 FT. BELOW GRADE).

NOTE:

- SAND.
- SILTY SAND (HC IMPACTED).
- SILTY CLAY TO CLAY.

TOS - TOP OF SCREEN FROM GROUND SURFACE.
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
GW - GROUND WATER.

Monitor well consist of 2 inch PVC piping - casing from 1.63 ft. above grade to 12.97 ft. below grade, 0.010 slotted screen between 12.97 to 22.97 feet below grade, sand packed annular to 10 ft. below grade, then filled with clean native soil to surface.

DRAWING: RANDEL-7-MW2.SKF | DATE: 10/19/05 | DWN BY: NJV

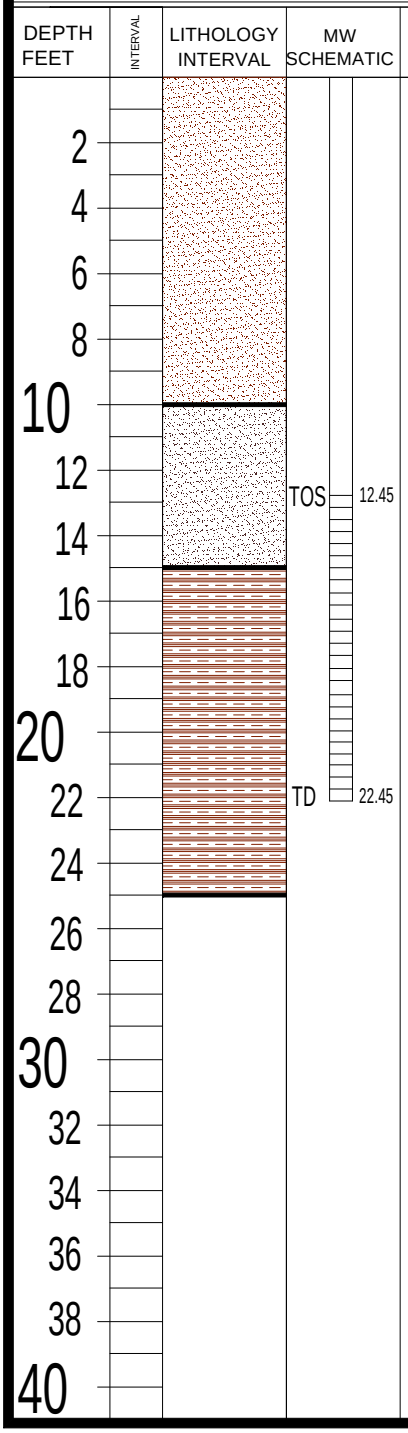
FIGURE 10

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

BORE / TEST HOLE REPORT

CLIENT:	XTO ENERGY INC.
LOCATION NAME:	RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	158 FT., S80.5E FEET FROM WELL HEAD.

BORING #.....	BH - 3
MW #.....	3
PAGE #.....	3
DATE STARTED	4/09/02
DATE FINISHED	4/09/02
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.15 FT. ABOVE GROUND SURFACE.

MODERATE TO DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 10.0 FT. BELOW GRADE).

MODERATE TO DARK YELLOWISH BROWN SILTY SAND, COHESIVE, SLIGHTLY MOIST TO WET, FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTING (10.0 - 15.0 FT. BELOW GRADE).

GW DEPTH ON 4/22/02 = 14.11 FT. (APPROX.) FROM GROUND SURFACE.

LIGHT DUSKY BROWN SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, WET TO SATURATED, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (15.0 - 25.0 FT. BELOW GRADE).

NOTE:

- SAND.
- SILTY SAND.
- SILTY CLAY TO CLAY.

TOS - TOP OF SCREEN FROM GROUND SURFACE.
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
GW - GROUND WATER.

Monitor well consist of 2 inch PVC piping - casing from 2.15 ft. above grade to 12.45 ft. below grade, 0.010 slotted screen between 12.45 to 22.45 feet below grade, sand packed annular to 10 ft. below grade, then filled with clean native soil to surface.

DRAWING: RANDEL-7-MW3.SKF	DATE: 10/19/05	DWN BY: NJV

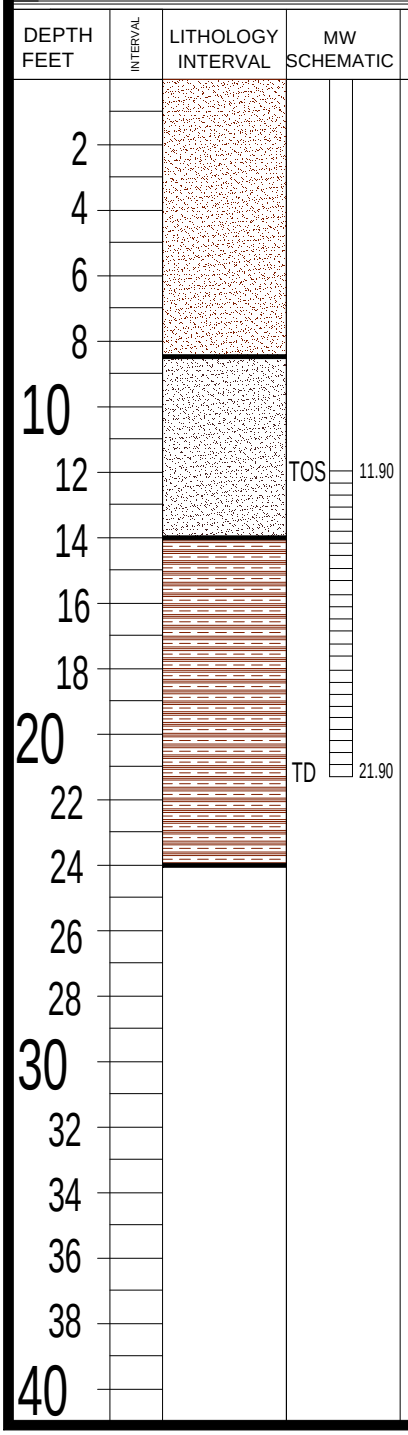
FIGURE 11

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

BORE / TEST HOLE REPORT

CLIENT:	XTO ENERGY INC.
LOCATION NAME:	RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	210 FT., S56E FEET FROM WELL HEAD.

BORING #.....	BH - 4
MW #.....	4
PAGE #.....	4
DATE STARTED	4/09/02
DATE FINISHED	4/09/02
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.60 FT. ABOVE GROUND SURFACE.

MODERATE TO DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 8.5 FT. BELOW GRADE).

MODERATE TO DARK YELLOWISH BROWN SILTY SAND, COHESIVE, SLIGHTLY MOIST TO WET, FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTING (8.5 - 14.0 FT. BELOW GRADE).

GW DEPTH ON 4/22/02 = 15.03 FT. (APPROX.) FROM GROUND SURFACE.

LIGHT DUSKY BROWN SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, WET TO SATURATED, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (14.0 - 24.0 FT. BELOW GRADE).

NOTE:

- SAND.
- SILTY SAND.
- SILTY CLAY TO CLAY.

TOS - TOP OF SCREEN FROM GROUND SURFACE.
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
GW - GROUND WATER.

Monitor well consist of 2 inch PVC piping - casing from 1.60 ft. above grade to 11.90 ft. below grade, 0.010 slotted screen between 11.90 to 21.90 feet below grade, sand packed annular to 8 ft. below grade, then filled with clean native soil to surface.

DRAWING: RANDEL-7-MW4.SKF | DATE: 10/19/05 | DWN BY: NJV

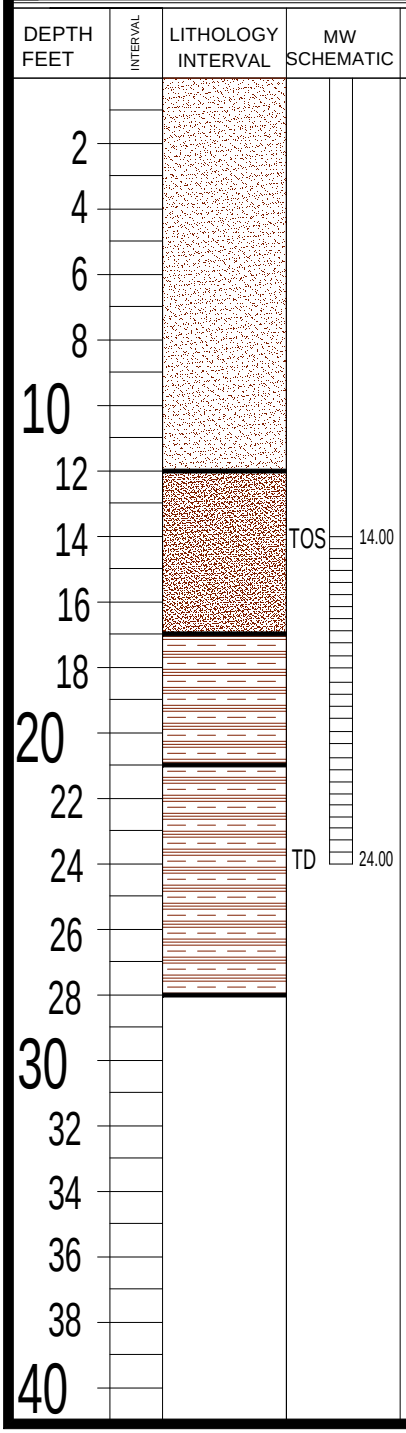
FIGURE 12

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

BORE / TEST HOLE REPORT

CLIENT:	XTO ENERGY INC.
LOCATION NAME:	RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	312 FT., N86E FEET FROM WELL HEAD.

BORING #.....	BH - 5
MW #.....	5
PAGE #.....	5
DATE STARTED	4/19/02
DATE FINISHED	4/19/02
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 1.00 FT. ABOVE GROUND SURFACE.

MODERATE TO DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 12.0 FT. BELOW GRADE).

MODERATE BROWN SILTY SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, DENSE, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTING (12.0 - 17.0 FT. BELOW GRADE).

GW DEPTH ON 4/22/02 = 18.11 FT. (APPROX.) FROM GROUND SURFACE.

MEDIUM BROWN TO LIGHT OLIVE GRAY SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, SLIGHTLY MOIST, APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (17.0 - 21.0 FT. BELOW GRADE).

LIGHT DUSKY BROWN SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, DRY, SLIGHT APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (21.0 - 28.0 FT. BELOW GRADE).

NOTE:

- SAND.
- SILTY SAND.
- SILTY CLAY TO CLAY.

TOS - TOP OF SCREEN FROM GROUND SURFACE.
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
GW - GROUND WATER.

Monitor well consist of 2 inch PVC piping - casing from 1.0 ft. above grade to 14.00 ft. below grade, 0.010 slotted screen between 14.00 to 24.00 feet below grade, sand packed annular to 12 ft. below grade, then filled with clean native soil to surface.

DRAWING: RANDEL-7-MW5.SKF | DATE: 10/19/05 | DWN BY: NJV

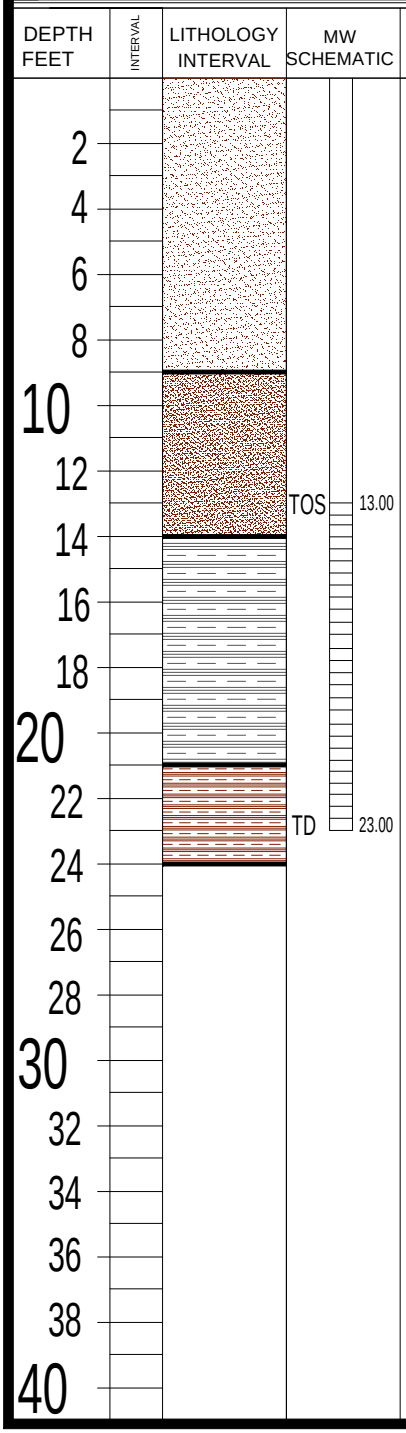
FIGURE 13

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

BORE / TEST HOLE REPORT

CLIENT:	XTO ENERGY INC.
LOCATION NAME:	RANDEL, O.H. #7 - SEP. PIT, UNIT D, SEC. 15, T26N, R11W
CONTRACTOR:	BLAGG ENGINEERING, INC.
EQUIPMENT USED:	MOBILE DRILL RIG (EARTHPROBE)
BORING LOCATION:	266 FT., S65.5E FEET FROM WELL HEAD.

BORING #.....	BH - 6
MW #.....	6
PAGE #.....	6
DATE STARTED	4/19/02
DATE FINISHED	4/19/02
OPERATOR.....	JCB
PREPARED BY	NJV



FIELD CLASSIFICATION AND REMARKS

GROUND SURFACE

TOP OF CASING APPROX. 2.00 FT. ABOVE GROUND SURFACE.

MODERATE TO DARK YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, LOOSE TO FIRM, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTINGS (0.0 - 9.0 FT. BELOW GRADE).

MODERATE BROWN TO LIGHT OLIVE GRAY SILTY SAND, NON COHESIVE, DRY TO SLIGHTLY MOIST, DENSE, NO APPARENT HC ODOR DETECTED PHYSICALLY WITHIN AUGER CUTTING (9.0 - 14.0 FT. BELOW GRADE).

GW DEPTH ON 4/22/02 = 16.51 FT. (APPROX.) FROM GROUND SURFACE.

LIGHT OLIVE TO MEDIUM GRAY SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, SLIGHTLY MOIST, APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (14.0 - 21.0 FT. BELOW GRADE).

LIGHT DUSKY BROWN SILTY CLAY TO CLAY, MEDIUM PLASTIC, STIFF, DRY, SLIGHT APPARENT HC ODOR DETECTED PHYSICALLY WITHIN CUTTINGS (21.0 - 24.0 FT. BELOW GRADE).

NOTE:

- SAND.
- SILTY SAND.
- SILTY CLAY TO CLAY.

TOS - TOP OF SCREEN FROM GROUND SURFACE.
TD - TOTAL DEPTH OF MONITOR WELL FROM GROUND SURFACE.
GW - GROUND WATER.

Monitor well consist of 2 inch PVC piping - casing from 2.00 ft. above grade to 13.00 ft. below grade, 0.010 slotted screen between 13.00 to 23.00 feet below grade, sand packed annular to 10 ft. below grade, then filled with clean native soil to surface.

DRAWING: RANDEL-7-MW6.SKF | DATE: 10/19/05 | DWN BY: NJV

RECORD OF SUBSURFACE EXPLORATION

LodeStar Services
P.O. Box 4465
Durango, CO 81302
303-917-6288

Borehole #: 1
Well #: MW-7
Page: 1 of 2
Project Number:
Project Name: XTO Ground Water
Project Location: OH Randel #7

Borehole Location: 36º 29.508' N, 107º 59.720' W
GWL Depth: 19'
Drilled By: Enviro-Drill
Well Logged By: Ashley Ager
Date Started: 05/01/07
Date Completed: 05/01/07

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
0	1	0-5'	cuttings	brown, unconsolidated, poorly sorted sand and gravel, damp	0	Easy
5	2	5-7'	split spoon	brown, unconsolidated, poorly sorted sand and gravel, damp	0	Easy
10	3	10-12	split spoon	10-10.5: brown, unconsolidated, poorly sorted sand and gravel, damp 10.5-12: whitish-brown medium sand, well sorted, unconsolidated, dry	0 0	Easy
15	4	15-17	split spoon	15-15.5: reddish brown coarse sand, poorly sorted, damp 15.5-16.5: brown clay with white chalkish material on top 16.5-17: reddish brown silty sand, coarse, poorly sorted, damp	7.2 0 0	Easy
20						

Comments:

Geologist Signature *Ashley L. Ager*

RECORD OF SUBSURFACE EXPLORATION

LodeStar Services
P.O. Box 4465
Durango, CO 81302
303-917-6288

Borehole #: 1
Well #: MW-7
Page: 2 of 2
Project Number:
Project Name: XTO Ground Water
Project Location: OH Randel #7

Borehole Location: 36º 29.522' N, 107º 59.736' W
GWL Depth: 16.5
Drilled By: Enviro-Drill
Well Logged By: Ashley Ager
Date Started: 05/01/07
Date Completed: 05/01/07

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
20	5	20-22	split spoon	20-20.4: reddish brown, coarse sand, poorly sorted, damp 20.4-20.8: gray coarse sand, moist, poorly sorted 20.8-21: saturated gray coarse sand, poorly sorted 21-22: reddish gray clay	1.3 1.0 0.5 0	Easy
25	6	25-16	split spoon	Variegated reddish brown clay, dry	0	Easy
30	7	30-32	split spoon	Variegated reddish brown clay, dry	0	Easy
35						
40						

Comments: Very thin saturated layer at approximately 20'. Stiff clay is present below that. Wet layer probably represents a small perched aquifer atop the clay.

Geologist Signature *Ashley L. Ager*

RECORD OF SUBSURFACE EXPLORATION

LodeStar Services
P.O. Box 4465
Durango, CO 81302
303-917-6288

Borehole #: 1
Well #: MW-8
Page: 1 of 2
Project Number:
Project Name: XTO Ground Water
Project Location: OH Randel #7

Borehole Location: 36º 29.522' N, 107º 59.736' W
GWL Depth: 16.5
Drilled By: Enviro-Drill
Well Logged By: Ashley Ager
Date Started: 05/01/07
Date Completed: 05/01/07

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
0	1	0-5'	cuttings	brown, unconsolidated, poorly sorted sand and gravel, damp	0	Easy
5	2	5-7'	split spoon	brown, unconsolidated, poorly sorted sand and gravel, damp	0	Easy
10	3	10-11.8	split spoon	brown, unconsolidated, poorly sorted sand and gravel, damp	0	Easy
15	4	15-16.9	split spoon	15-15.8: brown, unconsolidated, poorly sorted sand and gravel 15.8-16.4: moist, grayish brown sandy silt 16.4-16.9: coarse, poorly sorted, grayish brown sand, wet, some HC odor	0 52.8 319	Easy Easy Easy
20						

Comments:

Geologist Signature *Ashley L. Ager*

RECORD OF SUBSURFACE EXPLORATION

LodeStar Services
P.O. Box 4465
Durango, CO 81302
303-917-6288

Borehole #: 1
Well #: MW-8
Page: 2 of 2
Project Number:
Project Name: XTO Ground Water
Project Location: OH Randel #7

Borehole Location: 36º 29.522' N, 107º 59.736' W
GWL Depth: 16.5
Drilled By: Enviro-Drill
Well Logged By: Ashley Ager
Date Started: 05/01/07
Date Completed: 05/01/07

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
20	5	20-21.8	split spoon	20-20.4: reddish brown sand, coarse, poorly sorted, some gravel content, moist	78.9	Easy
				20.4-21.8: variegated reddish gray stiff clay, moist	0.2	Easy
25	6	25-27	split spoon	Variegated reddish brown clay wet at top, dry at bottom	0	Easy
30	7	30-32	split spoon	30-30.7: variegated reddish brown clay	0	Steady
				30.7-31.8: greenish gray silty sand, coarse, poorly sorted, consolidated, dry	0	
35						
40						

Comments: Very thin saturated layer at approximately 16.5'. Stiff clay is present below that. Wet layer probably represents a small perched aquifer atop the clay.

Geologist Signature *Ashley L. Ager*

RECORD OF SUBSURFACE EXPLORATION

LodeStar Services
P.O. Box 4465
Durango, CO 81302
303-917-6288

Borehole #: B-1
Well #: MW-9
Page: 1 of 2
Project Number:
Project Name: XTO Ground Water
Project Location: OH Randel #7

Borehole Location: 36º 29.531' N, 107º 59.731' W
GWL Depth: 16'
Drilled By: Kelly Padilla
Well Logged By: Ashley Ager
Date Started: 07/07/09
Date Completed: 07/07/09

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
0		0-5	cuttings	brown, poorly sorted coarse sand and gravel, road base		easy
5	1	5-7'	split spoon, 17"	0-13.5": 7.5 YR 5/6 strong brown sp, poorly sorted coarse sand, sub angular, dry, unconsolidated 13.5 - 17": 10YR 6/1 gray, sandy shale, crumbly	0	34 Blows
10	2	10-12	split spoon, 22"	10 YR 5/3 brown sp, poorly sorted, coarse sand, sub angular, dry	0	30 Blows
15	3	15-17	split spoon, 18"	0-2": same as above 2 - 16": 10 YR 5/3 brown sm, poorly sorted, medium sand w/ higher silt content, damp	0	25 Blows
20						

Comments:

Geologist Signature: Ashley L. Ager

RECORD OF SUBSURFACE EXPLORATION

LodeStar Services
P.O. Box 4465
Durango, CO 81302
303-917-6288

Borehole #: B-1
Well #: MW-9
Page: 2 of 2
Project Number:
Project Name: XTO Ground Water
Project Location: OH Randel #7

Borehole Location: 36º 29.531' N, 107º 59.731' W
GWL Depth: 16'
Drilled By: Kelly Padilla
Well Logged By: Ashley Ager
Date Started: 07/07/09
Date Completed: 07/07/09

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
20	4	20-22	split spoon, 20"	10 YR 3/2 v. dark grayish brown CL, clay some coarse sand at top, damp	0.1	68 Blows Wet rod
25	5	25-27	split spoon, 18"	10 YR 7/2 light gray CL, clay interbedded with 10 yr 4/2 dark grayish brown clays, iron discoloration, dry	0	58 Blows
30	6	30-32	split spoon, 18"	same as above, dry	0	76 Blows
35	7	35-37'	split spoon, 15"	same as above, dry	0	41 Blows
40						

Comments: Drilling stopped at 35' based on previous knowledge of depth in existing monitoring wells. Identified damp sandy layer at 16', and hole is dry after drilling to 37'. Will let sit and see if water fills in. 3" of water in hole after 30 mins. Set well.

Geologist Signature: Ashley L. Ager

RECORD OF SUBSURFACE EXPLORATION

LodeStar Services
P.O. Box 4465
Durango, CO 81302
303-917-6288

Borehole #: B-2
Well #:
Page: 1 of 2
Project Number:
Project Name: XTO Ground Water
Project Location: OH Randel #7

Borehole Location: 36º 29' 30.46" N, 107º 59' 44.2" W
GWL Depth: Dry Hole
Drilled By: Kelly Padilla
Well Logged By: Ashley Ager
Date Started: 07/07/09
Date Completed: 07/08/09

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
0		0-5'	cuttings	brown poorly sorted coarse sand and gravel - road base		easy
5	1	5-7'	split spoon, 11"	2.5 Y 6/1 Gray coarse sand sp, subrounded, backfill	0	Easy, 26 Blows
10	2	10-12	split spoon, 16"	2.5 Y 4/2 dark grayish brown, fine sand, poorly sorted, lots of fines	0	25 Blows
15	3	15-17	split spoon, 10"	2.5 Y 4/1 Dark Gray, fine silty sand, about 5% c. content, damp, backfill	0	12 Blows Wet rod
20						

Comments:

Geologist Signature: Ashley L. Ager

RECORD OF SUBSURFACE EXPLORATION

LodeStar Services
P.O. Box 4465
Durango, CO 81302
303-917-6288

Borehole #: B-2
Well #:
Page: 2 of 2
Project Number:
Project Name: XTO Ground Water
Project Location: OH Randel #7

Borehole Location: 36º 29' 30.46" N, 107º 59' 44.2" W
GWL Depth: dry hole
Drilled By: Kelly Padilla
Well Logged By: Ashley Ager
Date Started: 07/07/09
Date Completed: 07/08/09

Drilling Method: Hollow Stem Auger
Air Monitoring Method: PID

Depth (feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description	Air Monitoring	Drilling Conditions
20	4	20-22	split spoon, 19"	5 YR 3/2 Dark reddish brown CL, Clay, damp	0.1	59 Blows
25	5	25-27	split spoon, 16.5"	0 - 2": same as above 2-16.5": 10YR 6/2 light brownish gray, silty clay, dry	0	66 Blows
30	6	30-32	split spoon, 14"	same as above, damp	0	48 Blows
35	7	35-37'	split spoon, 9"	same as above, dry Stop to see if it fills	11.2	45 Blows
40						

Comments: Drilling stopped at 35' based on previous knowledge of depth in existing monitoring wells. Identified damp sandy layer at ~16' and hole is dry after drilling to 37'. Let sit for 2 hours and did not fill in. Let sit overnight. At 11:15 am on 07/08/09, hole is still dry. Plug.

Geologist Signature: Ashley L. Ager

ENCLOSURE C – LODESTAR REMEDIATION WORK PLAN (2006)

Lodestar Services, Inc.
P.O. Box 3861, Farmington, NM 87499-3861, 505-334-2791

August 15, 2006

Mr. Steve Austin
Navajo Nation EPA
PO Box 1999
Shiprock, NM 87420

CERTIFIED MAIL: 7004 1160 0007 4952 1517

RE: OH Randel #7

Dear Mr. Austin,

XTO Energy Inc. (XTO) has contracted Lodestar Services, Incorporated (Lodestar) to oversee groundwater monitoring and remedial activities at the OH Randel #7 natural gas production well. It has come to our attention that the well is located on land regulated by the Navajo Nation Environmental Protection Agency (NNEPA). Previous regulatory correspondence has been with the New Mexico Oil Conservation Division (NMOCD). An annual comprehensive report was submitted to the NMOCD in January 2006 and is included for your review.

The OH Randel #7 is located in Unit D of Section 16 of Township 26N, Range 11W, and includes a former oil-water-separator pit that may have affected shallow groundwater. Six groundwater monitoring wells were previously installed on the site to investigate groundwater quality. One of the wells, MW-6, contains free-phase hydrocarbons. Previously MW-1 and MW-2 contained free-phase hydrocarbons. MW-1 is located in the center of the former pit. MW-2 is directly adjacent to the pit, and MW-6 is located down gradient of the pit. The annual report included herein has several groundwater contour maps provided by Blagg Engineering that indicate varying groundwater flow directions. Navajo Agricultural Products Incorporated (NAPI) conducts irrigation adjacent to the site and may influence groundwater flow direction.

The following steps are proposed remove impacted soil and free-phase hydrocarbons:

1. Excavate affected soil associated with historical operations from the former pit. Impacted soil will be disposed at a local land farm permitted by the NMOCD. Soil headspace gas will be monitored with a photo-ionization detector (PID) to determine extent of impacted soil during excavation according to the NMOCD Guidelines for headspace analysis. Soil above 10 milligrams per kilogram (mg/kg) benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and xylenes (BTEX), and 100 mg/kg total petroleum hydrocarbons will be removed. Laboratory analyses of composite samples collected from the sidewalls of the excavation will be used to document that impacted soil has been removed.
2. Erect temporary fencing around the excavated site and remove impacted water and free-phase hydrocarbons from the pit.

3. Once the free-phase hydrocarbons have been removed, backfill the excavation site with clean soil.
4. Replace groundwater-monitoring wells as necessary.
5. Install additional down gradient monitoring wells as necessary to characterize impacted groundwater.
6. Remove free phase hydrocarbons from groundwater, then sample groundwater-monitoring wells for benzene, toluene, ethylbenzene and total xylenes (BTEX) on a quarterly basis to monitor progress at the site.

Following completion of the above tasks, XTO will provide a letter report describing onsite activities and analytical results. XTO wishes to complete this work as soon as practical and will contact you to schedule activities. Should you have any questions or require additional information, please do not hesitate to contact Lisa Winn of XTO at (505) 324-1090 or you can call me at (505) 334 2791.

Sincerely,
LODESTAR SERVICES, INC

Martin Nee

Cc: Lisa Winn, XTO, w/o enclosures
Kim Champlin, XTO, w/o enclosures
Ashley Ager, LSI, w/o enclosures
Glenn Von Gonten, NMOCD
File
Attachments: Annual Report

cc Mr Jim Walkins USEPA

ENCLOSURE D – LODESTAR REPORT OF EXCAVATION AND SAMPLING AT OH RANDEL #7 (2007)

Lodestar Services, Incorporated
PO Box 3861 Farmington, NM 87499-3861 Office (505) 334-2791

January 29, 2007

Mr. William Freeman
Navajo Nation Environmental Protection Agency
PO Box 1999
Shiprock, NM 87420

RE: Report of Excavation and Sampling at OH Randel #7

Dear Mr. Freeman:

XTO Energy Inc. (XTO) operates the OH Randel #7 natural gas production well located in Unit D of Section 16 of Township 26N, Range 11W, San Juan County, New Mexico. A former oil-water-separator pit may have impacted soil and shallow groundwater at the site. On August 15, 2006, XTO submitted a work plan to the Navajo Nation Environmental Protection Agency (NNEPA) describing planned remedial activities to investigate and remove impacted soil. XTO contracted Lodestar Services, Incorporated (Lodestar) to direct excavation activities according to the August 15 work plan. Core Oilfield Services completed the excavation, backfilling, and transportation of impacted soil to Envirotech Inc.'s land farm. Clean backfill was purchased from Moss Excavation's gravel pit located on highway 550 in Bloomfield, NM.

On November 13-27, 2006, a geologist from Lodestar was present during excavation of impacted soil at the OH Randel #7. During excavation, field screening according to the New Mexico Oil Conservation Division's (NMOCD) guidelines for headspace analysis was conducted to determine extent of impacted soil by collecting samples from the sidewalls and floor of the excavated pit. Following headspace screening and excavation, composite samples from the sidewalls and floor of the excavation were collected for laboratory analysis. Samples were collected where field screening indicated the highest concentrations of hydrocarbons. Compositing included placing four aliquots of soil from a given wall or floor into a one-gallon plastic bag. The soil within the bag was thoroughly mixed before filling a four-ounce glass jar. The sample was immediately placed on ice, and maintained under strict chain-of-custody until delivered to Envirotech Laboratories in Farmington, NM. Envirotech Laboratories analyzed the samples for benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbons (TPH) by United States Environmental Protection Agency (USEPA) methods 8021 and 8015, respectively. The results of sample analyses are as follows:

	GRO (ppm)	DRO (ppm)	TPH (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl benzene (ppb)	P&M Xylenes (ppb)	O Xylenes (ppb)	Total BTEX (ppb)
NMOCD Standard			100	10,000					50,000
North Excavation North Wall	2.6	3.6	6.2	2.2	20.3	39.1	374	64.8	500
North Excavation East Wall	1080	266	1350	518	3230	3290	9590	3610	20240

	GRO (ppm)	DRO (ppm)	TPH (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl benzene (ppb)	P&M Xylenes (ppb)	O Xylenes (ppb)	Total BTEX (ppb)
NMOCD Standard			100	10,000					50,000
North Excavation West Wall	8.0	ND	8.0	2.0	746	889	2170	979	4790
North Excavation Floor	3.6	ND	3.6	10.5	65.9	119	619	202	1020
South Excavation East Wall	5.2	15.0	20.2	7.4	50.7	16.7	78.6	37.0	190
South Excavation West Wall	0.5	0.4	0.9	3.3	9.1	19.6	84.7	28.4	145
South Excavation Floor	ND	ND	ND	ND	4.4	7.7	24.5	5.3	41.9
South Excavation South Wall	ND	ND	ND	ND	1.9	7.9	24.8	8.7	43.3

GRO: Gasoline Range Organics; DRO: Diesel Range Organics;
ND: Not Detected in sample; ppm: parts per million; ppb: parts per billion

Approximately six thousand eight hundred and eighty two cubic yards of soil were removed for treatment to the land farm. Lodestar and XTO met with the USEPA and the NNEPA on November 27, 2006 at the job site and received permission to backfill the excavation based on the above results.

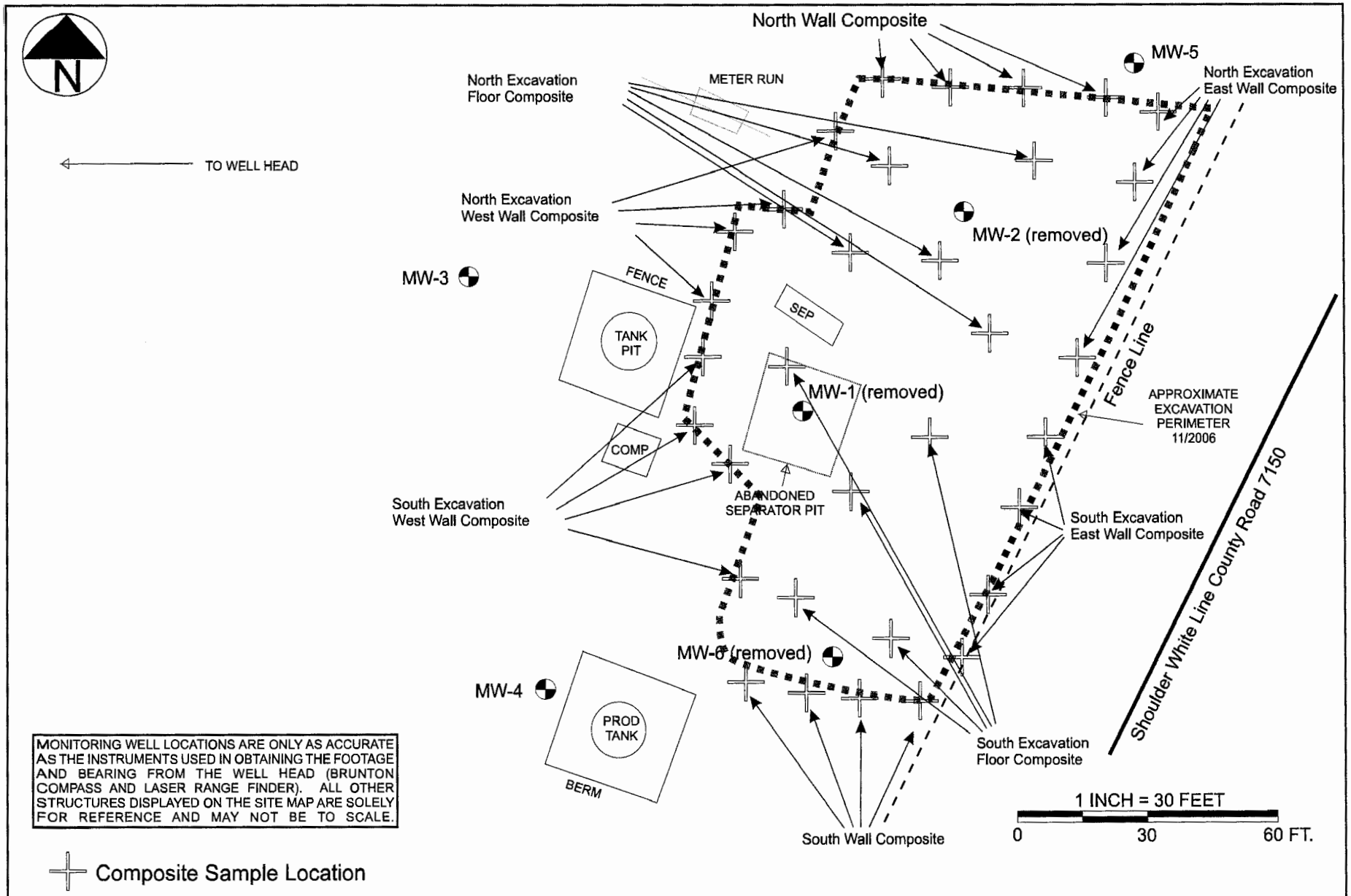
Six groundwater monitoring wells were previously installed on the site to investigate groundwater quality. Three of the wells, MW-1, MW-2, and MW-6 were removed during excavation activities.

Laboratory reports and Bill-of-Lading copies are attached. Please contact Lisa Winn of XTO at (505) 324-1090 with any questions that may arise.

Sincerely,
Lodestar Services, Inc.

Martin Nee

Cc: Jim Walker, USEPA
Lisa Winn, XTO Energy
Kim Champlin, XTO Energy
Ashley Ager, Lodestar Services



Lodestar Services, Inc PO Box 3861 Farmington, NM 87499	OH RANDEL #7 NW/4 NW/4 SEC. 15, T26N, R11W SAN JUAN COUNTY, NEW MEXICO	PROJECT: XTO Excavation DRAWN BY: MJN REVISED: 01/29/07	Composite Sample Location Map 1/29/2007

ENCLOSURE E – 2020 LABORATORY ANALYTICAL REPORTS

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

July 02, 2021

Jennifer Deal
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX

RE: OH Randel 7 OrderNo.: 2106B95

Dear Jennifer Deal:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/23/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2106B95**
Date Reported: **7/2/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW 7
Project: OH Randel 7 **Collection Date:** 6/22/2021 10:40:00 AM
Lab ID: 2106B95-001 **Matrix:** GROUNDWA **Received Date:** 6/23/2021 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	5400	100		µg/L	100	6/24/2021 12:54:00 PM
Toluene	ND	5.0		µg/L	5	6/23/2021 8:07:00 PM
Ethylbenzene	250	5.0		µg/L	5	6/23/2021 8:07:00 PM
Xylenes, Total	4000	150		µg/L	100	6/24/2021 12:54:00 PM
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	5	6/23/2021 8:07:00 PM
Surr: Dibromofluoromethane	96.2	70-130		%Rec	5	6/23/2021 8:07:00 PM
Surr: Toluene-d8	98.1	70-130		%Rec	5	6/23/2021 8:07:00 PM

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

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: **Hilcorp Energy** Work Order Number: **2106B95** RcptNo: 1

Received By: **Scott Anderson** **6/23/2021 8:45:00 AM** SPL

Completed By: **Desiree Dominguez** **6/23/2021 9:55:36 AM** DD

Reviewed By: JO 6.23.21

Chain of Custody

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

Log In

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

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

Adjusted?

Checked by: KPG 6/23/21

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good				

Chain-of-Custody Record

Client: Hilcorp Energy

Mailing Address: Jennifer Deal

Phone #:

email or Fax#: Jdeal@hilcorp.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☒ EDD (Type) EDF

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: OH Randel #7

Project #: TE01782000 5

Project Manager: Josh Adams

Sampler: Travis Short

On Ice: ☒ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 1.3-0.1=1.2 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2106B95
6/22	1040	GW	MW 7	3(VOA)	HCl	-001

Analysis Request

BTEX / ~~MTBE~~ / ~~TMB's~~ (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)						
X															

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/22	1340				6/22	1340
6/22/21	1540		SPA	CDO	6.23.21	8:15

Remarks:
Please Cc' Josh.adams@wsp.com

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

December 14, 2021

Josh Adams
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: OH Randel 007 OrderNo.: 2112379

Dear Josh Adams:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/7/2021 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2112379**
Date Reported: **12/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY **Client Sample ID:** MW-7
Project: OH Randel 007 **Collection Date:** 12/6/2021 1:45:00 PM
Lab ID: 2112379-001 **Matrix:** GROUNDWA **Received Date:** 12/7/2021 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	7400	100		µg/L	100	12/8/2021 9:33:03 AM
Toluene	ND	10		µg/L	10	12/8/2021 9:56:32 AM
Ethylbenzene	460	10		µg/L	10	12/8/2021 9:56:32 AM
Xylenes, Total	5900	200		µg/L	100	12/8/2021 9:33:03 AM
Surr: 4-Bromofluorobenzene	121	70-130		%Rec	10	12/8/2021 9:56:32 AM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2112379**

14-Dec-21

Client: HILCORP ENERGY

Project: OH Randel 007

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **B84376**	RunNo: **84376**
Prep Date:	Analysis Date: **12/8/2021**	SeqNo: **2964081** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	21		20.00		104	70	130			

Sample ID: **100ng btex lcs**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW**	Batch ID: **B84376**	RunNo: **84376**
Prep Date:	Analysis Date: **12/8/2021**	SeqNo: **2964082** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	95.7	80	120			
Toluene	19	1.0	20.00	0	95.9	80	120			
Ethylbenzene	19	1.0	20.00	0	95.7	80	120			
Xylenes, Total	58	2.0	60.00	0	95.8	80	120			
Surr: 4-Bromofluorobenzene	22		20.00		108	70	130			

Sample ID: **2112379-001ams**	SampType: **MS**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW-7**	Batch ID: **B84376**	RunNo: **84376**
Prep Date:	Analysis Date: **12/8/2021**	SeqNo: **2964085** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	7200	10	200.0	7105	29.3	80	120			ES
Toluene	150	10	200.0	0	75.0	80	120			S
Ethylbenzene	610	10	200.0	455.6	77.5	80	120			S
Xylenes, Total	6300	20	600.0	5901	67.4	80	120			ES
Surr: 4-Bromofluorobenzene	240		200.0		119	70	130			

Sample ID: **2112379-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW-7**	Batch ID: **B84376**	RunNo: **84376**
Prep Date:	Analysis Date: **12/8/2021**	SeqNo: **2964086** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	7100	10	200.0	7105	-1.66	80	120	0.868	20	ES
Toluene	150	10	200.0	0	73.4	80	120	2.06	20	S
Ethylbenzene	600	10	200.0	455.6	72.5	80	120	1.64	20	S
Xylenes, Total	6200	20	600.0	5901	49.4	80	120	1.72	20	ES
Surr: 4-Bromofluorobenzene	240		200.0		118	70	130	0	0	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: HILCORP ENERGY Work Order Number: 2112379 RcptNo: 1

Received By: **Sean Livingston** 12/7/2021 8:20:00 AM Sean Livingston

Completed By: **Sean Livingston** 12/7/2021 9:58:55 AM Sean Livingston

Reviewed By: JO 12/7/21

Chain of Custody

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

Log In

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

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)
Adjusted? _____
Checked by: JR 12/7/21

Special Handling (if applicable)

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

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

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.5	Good				

Chain-of-Custody Record

Client: Hilcorp

Mailing Address:

Phone #:

email or Fax#: K.KauSmark@hilcorp.com

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

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

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: OH Randel #007

Project #:

Project Manager: Josh Adams

Sampler: Boyd Matheson

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.6 -0.1=2.5 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2112379	BTEX / ~~MTBE~~ / ~~TMB's~~ (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Analysis Request
12/6/21	13:45	GW	MW-7	3VOA	HCl	001	X										

Remarks:

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12.6.21	14:45				12/6/21	1445
12/6/21	1818		See courier		12/7/21	8:20

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

ENCLOSURE F – 2020 GROUNDWATER SAMPLE COLLECTION FORMS

WSP USA Inc.
848 E. 2nd Ave.
Durango, Colorado 81301
T 970.385.1096

Groundwater Sample Collection Form

Project Name: Semi-Annual Groundwater Monitoring
Project Number:
Project Location: OH Randel #7
Sampler: Travis Short

Sample ID: MW-7
Sample Date: 6/22/2021
Laboratory: Hall Environmental
Analyses: BTEX 8021
Matrix: Groundwater
Sample Time: 1040
Shipping Method: Hand Delivery

Depth to Water: 21.38
Time: 1020
Total Depth of Well: 32.09
Depth to Product: —

Vol. of Water to Purge: 5.2 gal (height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging: PVC Bailer
Method of Sampling: PVC Bailer

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (F) C	Conductivity (us or ms)	Comments
1022	0.5	0.5	6.01	15.17	3.21	clear, no odor
1024	0.5	1	6.02	15.12	3.10	↓
1026	0.5	1.5	6.02	15.08	3.10	
1028	0.25	1.75	6.02	15.07	3.09	

Comments: bailed dry @ 1.75 gal

Describe Deviations from SOP: none

Signature: [signature] Date: 6/22/2021

wsp

WSP USA Inc.
848 E 2nd Ave
Durango, Colorado 81301
T 970 385 1096

Groundwater Sample Collection Form

Project Name: Semi-Annual Groundwater Monitoring
Project Number:

Project Location: OH Randel #7
Sampler: BH

Sample ID: MW-7
Sample Date: 12-6-2021
Laboratory: Hall Environmental
Analyses: BTEX 8021

Matrix: Groundwater
Sample Time: 13:45
Shipping Method: Hand Delivery

Depth to Water: ~~25.01~~ RM 21.34
Time: 13:22

Total Depth of Well: 32.15
Depth to Product: —

Vol. of Water to Purge: (32.15-21.34)0.1631·3 =5.3 (height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols
Method of Purging: PVC Bailer
Method of Sampling: PVC Bailer

Time	Vol. Removed	Total Vol. Removed (gallons)	pH (std. units)	Temp. (F)	Conductivity (us or ms)	Comments
1:26	0.25	0.25	6.87	16.0	3.960	Clear Color less to abrownish green slightly Turbid
1:28	0.25	0.50	6.86	15.9	3.577	
1:30	0.25	0.75	6.87	15.9	3.521	SAK
1:32	0.25	1.00	6.83	15.9	3.542	SAK
1:37	1.00	2.00	6.92	15.5	3.487	SAK
1:40	1.00	3.00	6.91	15.3	3.449	SAK
1:43	0.75	3.75	6.97	15.1	2.829	SAK

Comments:

Describe Deviations from SOP: Sampled after 3.75 gallons due to well going dry

Signature: [signature]

Date: 12-6-21 ~~6/22/2021~~

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

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

CONDITIONS

Action 94419

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 94419
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	The 2021 Annual Groundwater Monitoring Report for OH Randel #007 Incident ID#NAUTOFWC00434 has been accepted for the record. Site is located on Navajo Nation Lands.	5/20/2024