REVIEWED
By Nelson Velez at 8:37 am, Mar 09, 2022

Review of 2021 Annual Groundwater Report:
Content satisfactory

1. Sample monitor wells MW-1, MW-3, MW-8R for manganese on a semi-annual basis
2. Submit the Annual Monitoring Report to the OCD no later than March 31, 2023.

February 14, 2022

New Mexico Energy, Minerals and Natural Resources Department
New Mexico Oil Conservation Division
1000 Rio Brazos
Aztec, New Mexico 87410

Subject: **2021 Annual Groundwater Monitoring Report**
San Juan 29-7 Unit 37
Rio Arriba County, New Mexico
NMOCD Incident Number: NCS1904241144
NMOCD Administrative Order: 3R-425

To Whom it May Concern:

WSP USA Inc. (WSP), on behalf of Hilcorp Energy Company (Hilcorp), presents this *2021 Annual Groundwater Monitoring Report* to the New Mexico Oil Conservation Division (NMOCD) to document groundwater monitoring activities conducted at the San Juan 29-7 Unit 37 natural gas production well (Site) during 2021. The Site is located within Unit Letter N Section 12 within Township 29 North and Range 7 West, Rio Arriba County, New Mexico (Figure 1).

SITE BACKGROUND

A leaking inspection plate gasket on the above-ground condensate tank was discovered by ConocoPhillips (previous well owner) on August 26, 2010. Approximately 23 barrels of condensate was released and fully contained within the berm; however, no liquids were recovered. The release was reported by ConocoPhillips on September 16, 2010 to NMOCD on a C-141 *Release Notification and Corrective Action* form.

After the discovery, delineation activities were conducted at the Site in 2010 and 2011 to characterize soil and groundwater impacted by the release. Site characterization indicated hydrocarbon impacts from the release exceeded NMOCD Table I Closure Criteria for soils (19.15.29.12 of the New Mexico Administrative Code [NMAC]) and New Mexico Water Quality Control Commission (NMWQCC) standards for groundwater. Based on the nature of the release, the original contaminants of concern at the Site included benzene, toluene, ethylbenzene, and xylenes (BTEX) and total petroleum hydrocarbons (TPH) in vadose zone soil and benzene, toluene, total xylenes, manganese, selenium, sulfate, and total dissolved solids (TDS) in groundwater.

Approximately 3,000 cubic yards of impacted soils were excavated from the release area and transported off-site for disposal. Impacted groundwater was present in the immediate area of the release and extended approximately 60 feet downgradient. Eight groundwater monitoring wells (MW-1 through MW-8 were installed to assess ongoing groundwater conditions at the Site. Soil and groundwater impacts remaining at the Site were additionally treated in 2012 and 2013 with the injection of the chemical oxidant CoolOx® in attempts to remediate residual impacts by chemical oxidation and enhanced bioremediation.

Hilcorp acquired the Site from ConocoPhillips in April 2017 and has continued to monitor groundwater conditions at the Site. GHD Services Inc. (GHD) prepared the *2018 Annual Groundwater Monitoring Report* (dated January 2019) on behalf of Hilcorp. Based on that report, the NMOCD concurred with the conclusions that sulfate and TDS were attributed to naturally-occurring background concentrations at the Site and these constituents could be removed as contaminants of concern. In addition, NMOCD agreed that BTEX constituents could be removed as contaminants of concern for all onsite wells with at least eight consecutive quarters with concentrations below NMWQCC standards (which included all wells except replacement well MW-8R). At that time, well MW-8R had achieved seven quarters with results below NMWQCC standards.

During sampling events in 2019, BTEX concentrations remained below NMWQCC standards in groundwater collected from MW-8R, therefore BTEX as a contaminant of concern for groundwater in all wells at the Site was removed. Based on WSP's *2020 Annual Groundwater Monitoring Report*, dated March 8, 2021, the NMOCD approved the elimination of selenium as a contaminant of concern from all wells at the Site. Additionally, based on historical sampling data, dissolved manganese had been below NMWQCC

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standards for eight or more consecutive quarters in wells MW-2, MW-4, MW-5, MW-6, and MW-7; therefore, the NMOCD approved the termination of monitoring these wells for all future sampling (NMOCD approval email dated December 28, 2021).

Based on historical sampling results and prior agreements with NMOCD, dissolved manganese is considered the only contaminant of concern for groundwater in select wells at the Site (as presented below). Well locations and Site features are shown on Figure 2.

SITE GROUNDWATER CLEANUP STANDARDS

NMOCD requires groundwater-quality standards presented in NMAC 20.6.2.3103 be met. During the 2021 monitoring events, groundwater samples were analyzed for dissolved manganese based on historical sampling results. The following standards for the contaminants of concern at the Site in milligrams per liter (mg/L) are presented below:

ANALYTE	WELLS	LIMIT
Dissolved Manganese	MW-1, MW-3, MW-8R	0.2 mg/L

GROUNDWATER SAMPLING ACTIVITIES AND RESULTS

Semi-annual groundwater sampling events were conducted at the Site on March 1 and 2, 2021 (Q1) and September 24, 2021 (Q3). The following sections summarize the sampling procedures and results gathered during these events.

GROUNDWATER-LEVEL MEASUREMENTS

Prior to collection of groundwater samples in selected monitoring wells, depth to groundwater was measured in all Site wells using a Keck oil/water interface probe. The interface probe was decontaminated with Alconox™ soap and rinsed with distilled water prior to each measurement to prevent cross-contamination. Groundwater elevations are detailed in Table 1.

Groundwater potentiometric surface maps from semi-annual data are presented on Figures 3 and 4. The groundwater potentiometric surface elevations have been consistent with little variability by season and throughout the history of monitoring the wells at the Site. The inferred groundwater-flow direction is generally to the south-southwest with an approximate hydraulic gradient of 0.018 feet/foot.

GROUNDWATER SAMPLING

Groundwater was purged and sampled using a disposable bailer. Purging was accomplished by removing stagnant groundwater from the monitoring well prior to collecting a sample. Field measurements of groundwater quality parameters were collected during the purging process and are presented in Table 2.

Following well purging, groundwater samples were collected and placed directly into laboratory-provided bottles and labeled with the date and time of collection, well designation, project name, sample collector's name, and parameters to be analyzed. Sample bottles were immediately sealed, packed on ice, and submitted to Pace Analytical or Hall Environmental Analysis Laboratory for analysis of dissolved manganese by United States Environmental Protection Agency (EPA) Method 6010B. 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. Analytical laboratory reports from the sampling events are included as Enclosure A.

GROUNDWATER ANALYTICAL RESULTS

During the 2021 groundwater sampling events, dissolved manganese concentrations exceeded the NMWQCC standard in all samples collected from wells MW-1, MW-3 and MW-8R. Dissolved manganese concentrations ranged from 0.622 mg/L in well MW-8R to 1.9 mg/L in well MW-3. A summary of analytical results are presented in Table 3 and depicted on Figure 5.

CONCLUSIONS AND RECOMMENDATIONS

Groundwater samples collected from wells MW-1, MW-3, MW-8R continue to contain dissolved manganese concentrations exceeding the NMWQCC groundwater quality standard. Elevated dissolved manganese concentrations appear to be a result of low-oxygen and reducing groundwater conditions in these wells. Average oxygen concentrations in wells MW-1, MW-3, and MW-8R (from data collected between 2015 and 2021) range from 1.68 to 2.02 mg/L, whereas average oxygen concentrations in all other on-Site wells range from 2.97 to 6.06 mg/L. Additionally, the oxidation-reduction potential (ORP) in wells MW-1, MW-3, and MW-8R

range from -17.3 to -84.3 millivolts (mV), suggesting continued reducing groundwater conditions in these wells leading to the dissolution of manganese and increased dissolved manganese concentrations. Conversely, the remaining wells at the Site have ORP values ranging from 18.0 to 35.8 mV, suggesting oxidizing conditions conducive to the precipitation of manganese resulting in lower dissolved manganese concentrations.

As groundwater conditions at the Site continue to equilibrate and dissolved oxygen increases, groundwater conditions will become increasingly aerobic. As this happens, dissolved manganese has the ability to precipitate out of solution leading to decreased concentrations in groundwater. This trend has already been documented in wells MW-2, MW-4, MW-5, MW-6, and MW-7. Because there are no potential receptors downgradient of the Site (closest water well, SJ-03390, is located 1,900 feet southeast and cross gradient from the Site and is screened in a hydrogeologically separate water-bearing zone), WSP recommends conducting annual sampling of wells MW-1, MW-3, MW-8R until dissolved manganese concentrations attenuate to below NMWQCC standards. At that time, Hilcorp will begin quarterly sampling until eight consecutive quarters indicate that manganese concentrations are below NMWQCC standards.

WSP appreciates the opportunity to provide these environmental services. Please contact either of the undersigned with any questions at (970) 385-1096.

Kind regards,

Stuart Hyde, L.G.
Senior Geologist

Daniel Moir, P.G.
Sr. Lead Consultant, Geologist

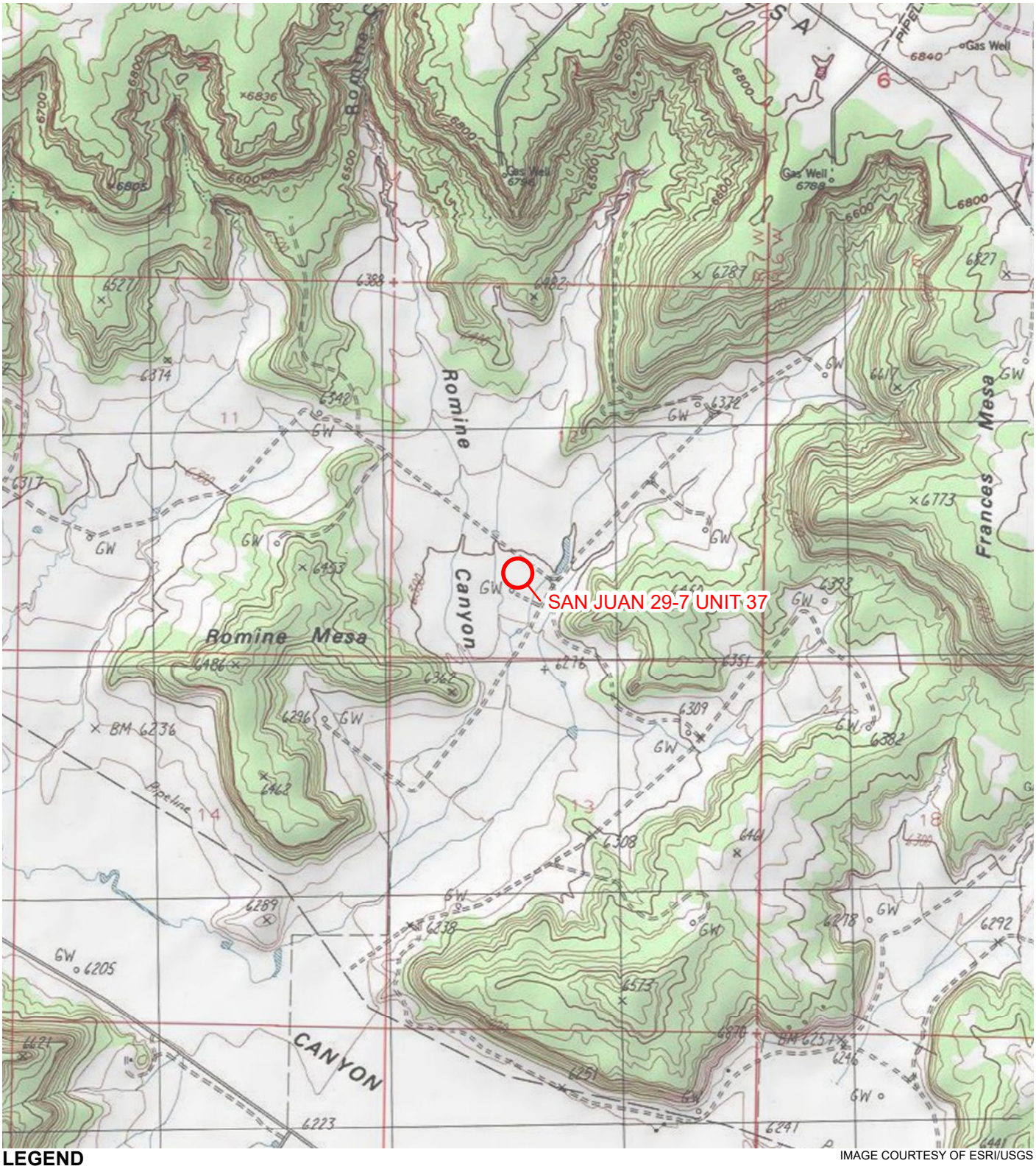
Enclosed:

Figure 1: Site Location Map
Figure 2: Site Map
Figure 3: Q1 Groundwater Elevation Map
Figure 4: Q3 Groundwater Elevation Map
Figure 5: Annual Groundwater Analytical Results

Table 1: Well Construction Information and Groundwater Elevations
Table 2: Field Parameter Results
Table 3: Petroleum Hydrocarbon and General Chemistry Groundwater Analytical Results

Enclosure A: Analytical Laboratory Reports

FIGURES



LEGEND

SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

0 2,000 4,000

Feet

N

NEW MEXICO

FIGURE 1
SITE LOCATION MAP
SAN JUAN 29-7 UNIT 37
SEC 12-T29N-R7W
RIO ARRIBA COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

wsp

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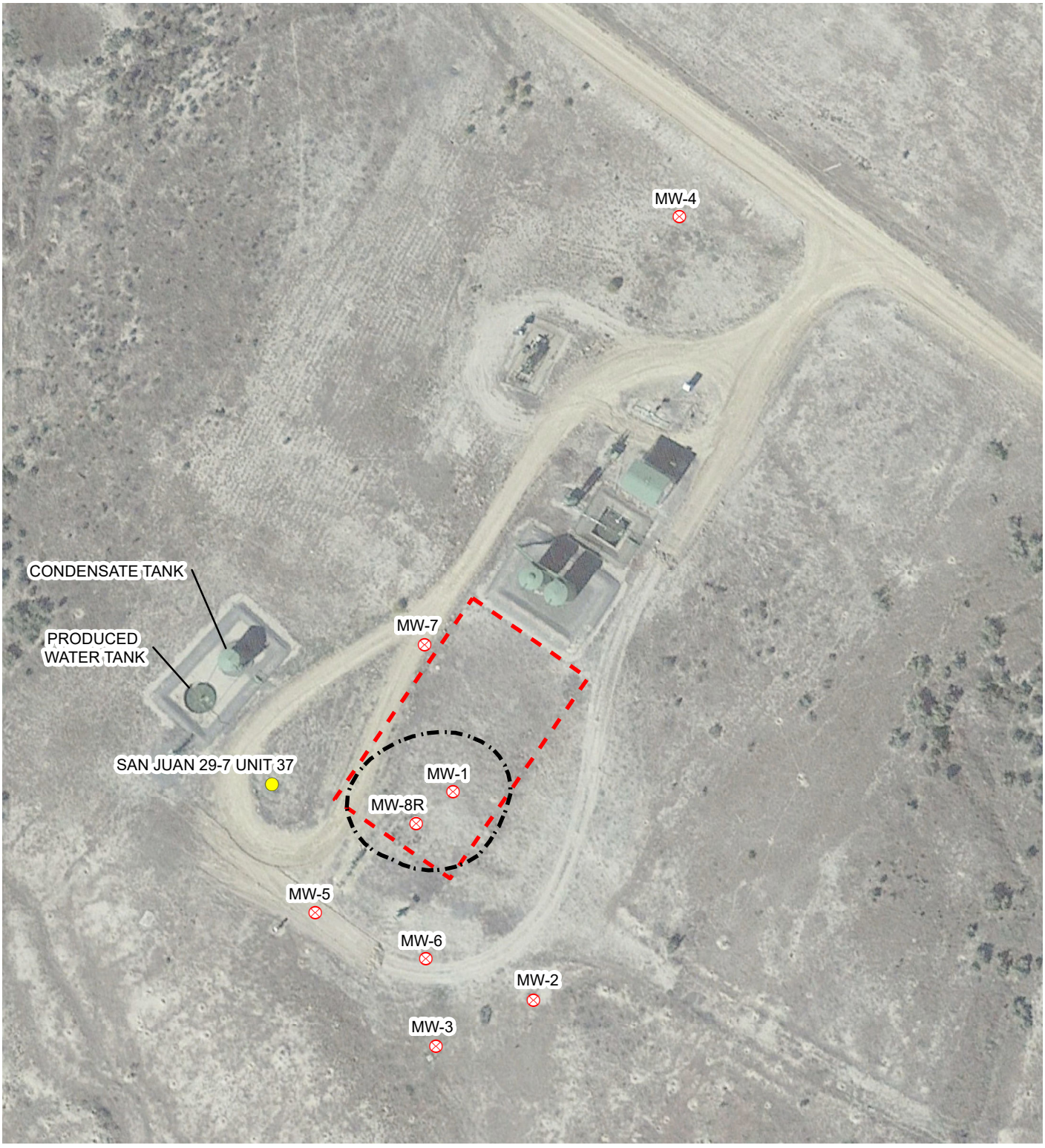

IMAGE COURTESY OF GOOGLE EARTH 2016

LEGEND

- MONITORING WELL
- WELLHEAD
- APPROXIMATE EXCAVATION EXTENT 2010
- APPROXIMATE COOL OX INJECTION EXTENT

0 80 160
Feet

N

FIGURE 2
SITE MAP
SAN JUAN 29-7 UNIT 37
SEC 12-T29N-R7W
RIO ARRIBA COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

P:\Hilcorp\GIS\MXD\017819036_SAN JUAN 29-7 UNIT 37\017819036_FIG02_SJ29-7_SITE_2020.mxd

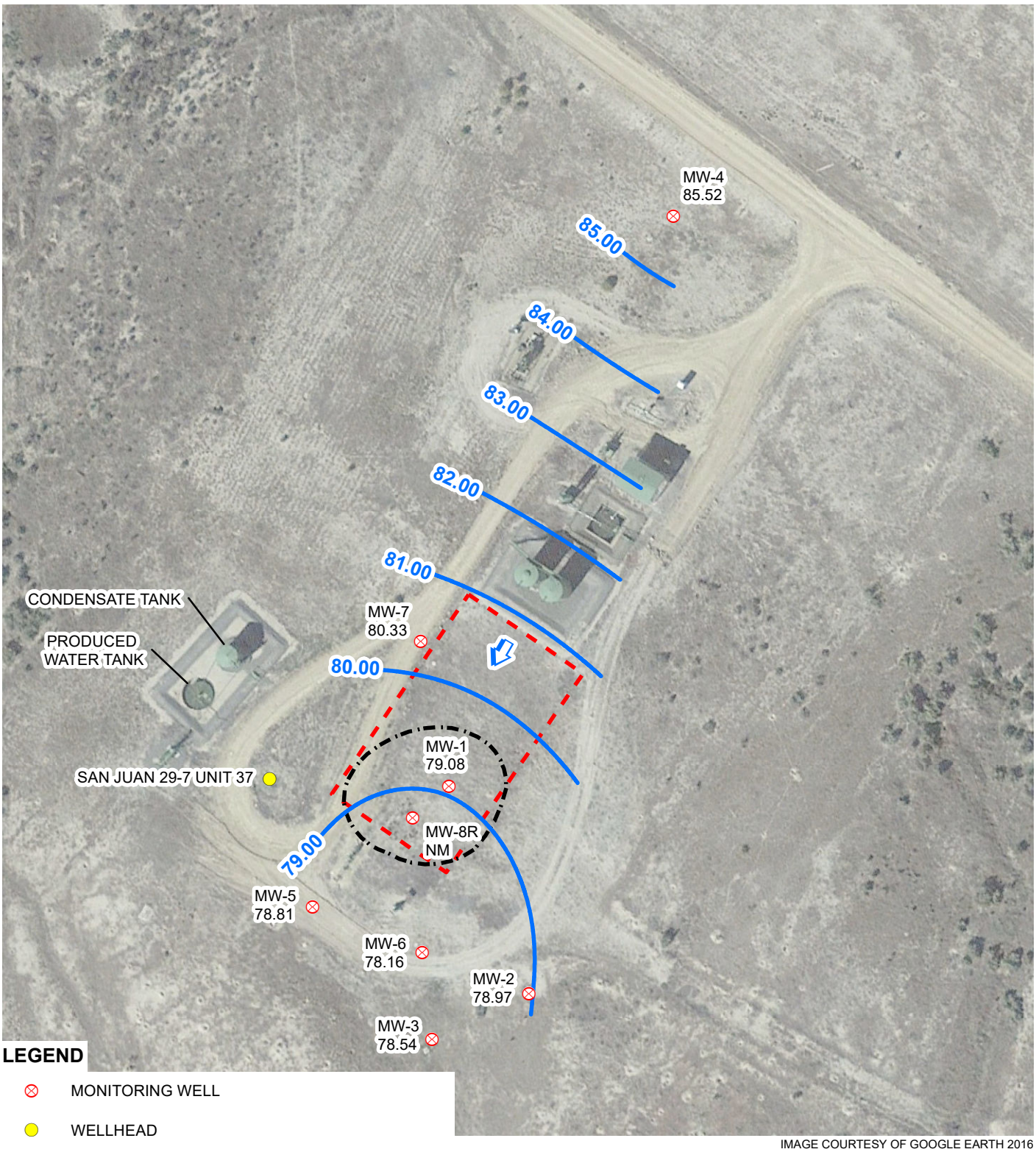

IMAGE COURTESY OF GOOGLE EARTH 2016

LEGEND

- MONITORING WELL
- WELLHEAD
- GROUNDWATER FLOW DIRECTION
- RELATIVE GROUNDWATER ELEVATION CONTOUR
  CONTOUR INTERVAL = 1.00 FOOT
  GRADIENT = 0.018 FEET/FOOT
- APPROXIMATE EXCAVATION EXTENT 2010
- APPROXIMATE COOL OX INJECTION EXTENT

GROUNDWATER ELEVATIONS WERE MEASURED ON MARCH 1 AND 2, 2021.
NM: NOT MEASURED

0 80 160
Feet

N

FIGURE 3
Q1 GROUNDWATER ELEVATION MAP
SAN JUAN 29-7 UNIT 37
SEC 12-T29N-R7W
RIO ARRIBA COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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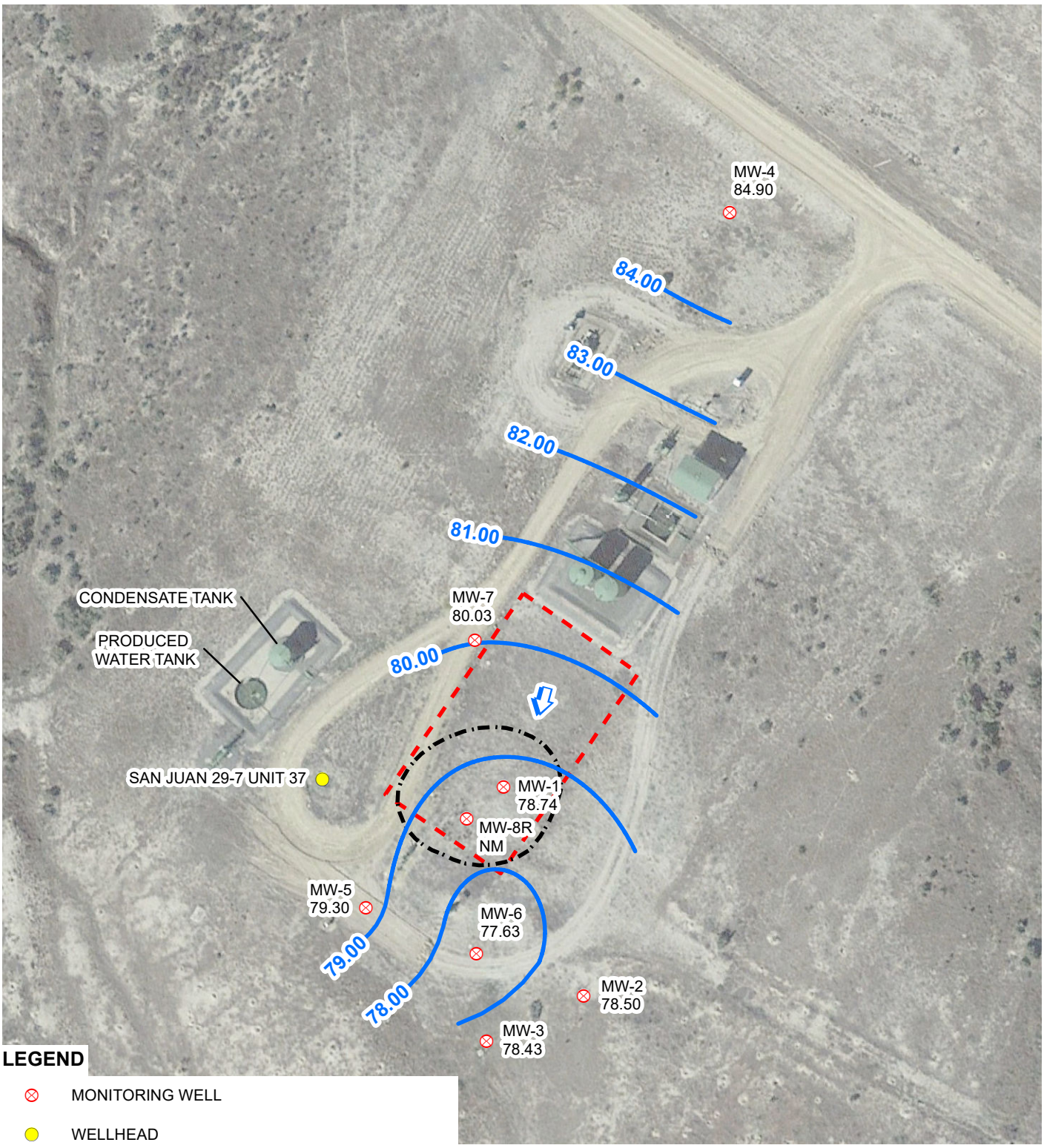

FIGURE 4
Q3 GROUNDWATER ELEVATION MAP
SAN JUAN 29-7 UNIT 37
SEC 12-T29N-R7W
RIO ARRIBA COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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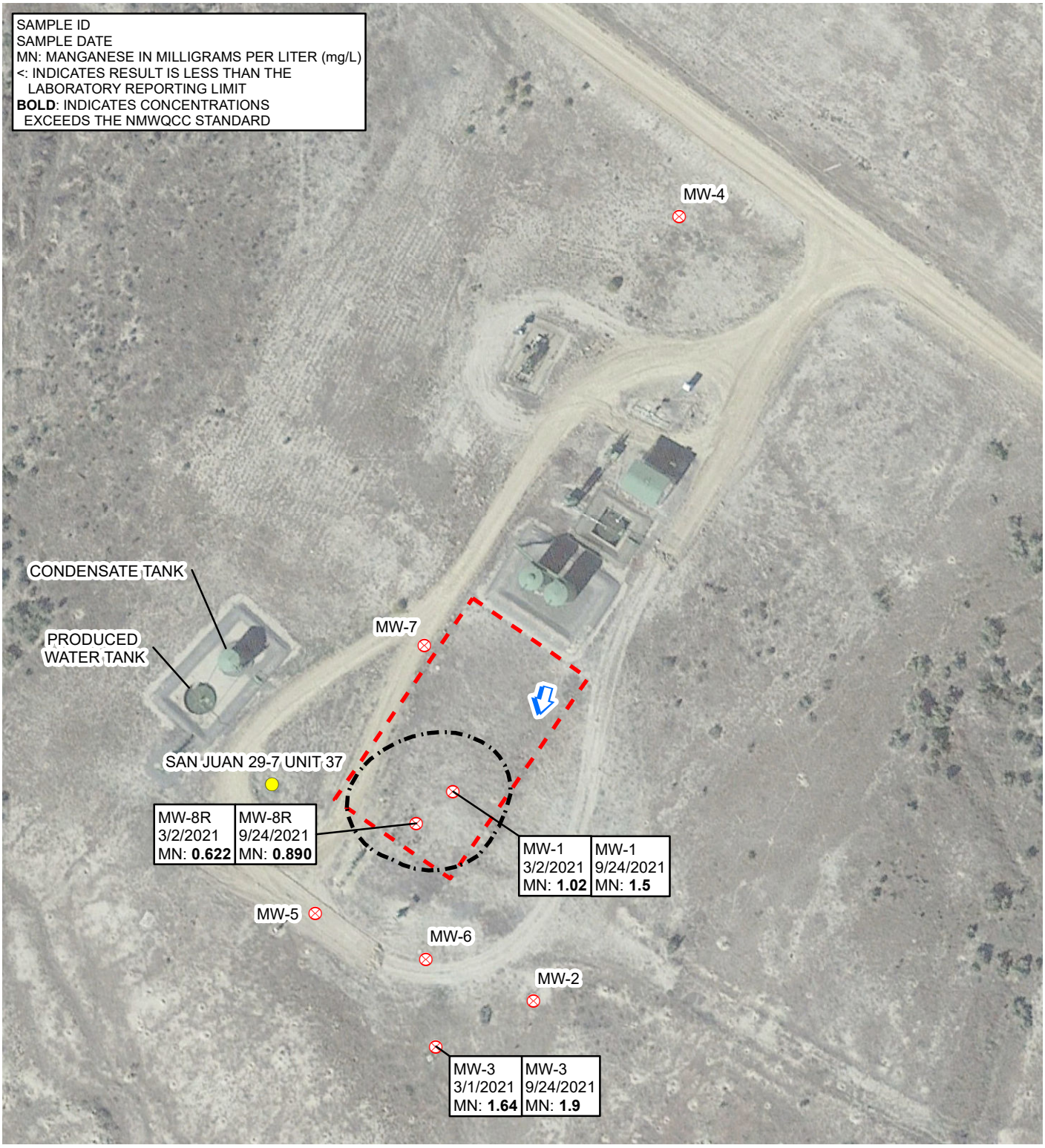

LEGEND

- MONITORING WELL
- WELLHEAD
- GROUNDWATER FLOW DIRECTION
- APPROXIMATE EXCAVATION EXTENT 2010
- APPROXIMATE COOL OX INJECTION EXTENT

0 80 160
Feet

N

FIGURE 5
ANNUAL GROUNDWATER ANALYTICAL RESULTS
SAN JUAN 29-7 UNIT 37
SEC 12-T29N-R7W
RIO ARRIBA COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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TABLES

TABLE 1
WELL CONSTRUCTION INFORMATION AND GROUNDWATER ELEVATIONS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Top of Casing Elevation (feet) (1)	Sample Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet) (1)
MW-1	189.24	3/17/2011	108.91	80.33
		8/17/2011	108.81	80.43
		10/18/2011	108.87	80.37
		2/23/2012	108.74	80.50
		6/5/2012	108.75	80.49
		9/18/2012	108.68	80.56
		1/8/2013	108.62	80.62
		3/26/2013	108.69	80.55
		6/11/2013	108.81	80.43
		9/10/2013	109.04	80.20
		1/7/2014	109.26	79.98
		3/18/2014	109.10	80.14
		6/16/2014	109.31	79.93
		9/25/2014	109.54	79.70
		12/16/2014	109.59	79.65
		3/17/2015	109.61	79.63
		6/16/2015	109.68	79.56
		9/15/2015	109.62	79.62
		12/1/2015	109.78	79.46
		3/29/2016	109.61	79.63
		6/21/2016	109.89	79.35
		9/7/2016	109.87	79.37
		11/30/2016	109.89	79.35
		3/7/2017	109.92	79.32
		6/13/2017	110.06	79.18
		9/26/2017	110.00	79.24
		12/19/2017	109.99	79.25
		3/14/2018	109.93	79.31
		6/26/2018	110.02	79.22
		9/5/2018	110.06	79.18
		12/14/2018	110.04	79.20
		3/29/2019	109.95	79.29
		6/24/2019	110.44	78.80
		9/13/2019	110.12	79.12
		11/6/2019	110.05	79.19
		3/5/2020	110.16	79.08
		5/6/2020	110.13	79.11
		8/20/2020	110.04	79.20
		10/21/2020	110.01	79.23
		3/2/2021	110.16	79.08
		9/24/2021	110.50	78.74
MW-2	189.6	3/17/2011	109.20	80.40
		8/17/2011	109.10	80.50
		10/18/2011	109.13	80.47
		2/23/2012	109.05	80.55
		6/5/2012	109.10	80.50
		9/18/2012	109.28	80.32
		1/8/2013	109.07	80.53
		3/26/2013	109.12	80.48
		6/11/2013	109.32	80.28
		9/10/2013	109.32	80.28
		1/7/2014	109.71	79.89
		3/18/2014	109.71	79.89
		6/16/2014	109.83	79.77
		9/16/2014	109.94	79.66
		12/16/2014	110.04	79.56
		3/17/2015	110.09	79.51
		6/16/2015	110.17	79.43

TABLE 1
WELL CONSTRUCTION INFORMATION AND GROUNDWATER ELEVATIONS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Top of Casing Elevation (feet) (1)	Sample Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet) (1)
MW-2	189.6	9/15/2015	110.14	79.46
		12/1/2015	110.23	79.37
		3/29/2016	110.26	79.34
		6/21/2016	110.31	79.29
		9/7/2016	110.33	79.27
		11/30/2016	110.39	79.21
		3/7/2017	110.37	79.23
		6/13/2017	110.35	79.25
		9/26/2017	110.54	79.06
		12/19/2017	110.50	79.10
		3/14/2018	110.54	79.06
		6/26/2018	110.55	79.05
		9/5/2018	110.60	79.00
		12/14/2018	110.51	79.09
		3/27/2019	110.57	79.03
		6/18/2019	110.55	79.05
		9/11/2019	110.57	79.03
		11/5/2019	110.56	79.04
		3/4/2020	110.61	78.99
		5/6/2020	110.63	78.97
		8/21/2020	110.60	79.00
		10/22/2020	110.62	78.98
		3/1/2021	110.63	78.97
		9/24/2021	111.10	78.50
MW-3	189.13	3/17/2011	109.42	79.71
		8/17/2011	109.35	79.78
		10/18/2011	109.37	79.76
		2/23/2012	109.26	79.87
		6/5/2012	109.28	79.85
		9/18/2012	109.30	79.83
		1/8/2013	109.28	79.85
		3/26/2013	109.33	79.80
		6/11/2013	109.41	79.72
		9/10/2013	109.58	79.55
		1/7/2014	109.70	79.43
		3/18/2014	109.68	79.45
		6/16/2014	109.84	79.29
		9/16/2014	109.97	79.16
		12/16/2014	110.08	79.05
		3/17/2015	110.03	79.10
		6/16/2015	110.08	79.05
		9/15/2015	110.08	79.05
		12/1/2015	110.24	78.89
		3/29/2016	110.04	79.09
		6/21/2016	110.15	78.98
		9/7/2016	110.27	78.86
		11/30/2016	110.26	78.87
		3/7/2017	110.25	78.88
		6/13/2017	110.36	78.77
		9/26/2017	110.48	78.65
		12/19/2017	110.39	78.74
		3/14/2018	110.35	78.78
		6/26/2018	110.40	78.73
		9/5/2018	110.55	78.58
		12/14/2018	110.30	78.83
		3/26/2019	110.35	78.78
		6/17/2019	110.31	78.82
		9/10/2019	110.37	78.76

TABLE 1
WELL CONSTRUCTION INFORMATION AND GROUNDWATER ELEVATIONS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Top of Casing Elevation (feet) (1)	Sample Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet) (1)
MW-3	**189.13**	11/4/2019	110.38	78.75
		3/3/2020	110.32	78.81
		5/4/2020	110.43	78.70
		8/19/2020	110.41	78.72
		10/21/2020	110.46	78.67
		3/1/2021	110.59	78.54
		9/24/2021	110.70	78.43
MW-4	197.6	3/17/2011	111.11	86.49
		8/17/2011	111.10	86.50
		10/18/2011	111.16	86.44
		2/23/2012	111.14	86.46
		6/5/2012	111.20	86.40
		9/18/2012	111.12	86.48
		1/8/2013	111.14	86.46
		3/26/2013	111.23	86.37
		6/11/2013	111.41	86.19
		9/10/2013	111.47	86.13
		1/7/2014	111.66	85.94
		3/18/2014	111.60	86.00
		6/16/2014	111.68	85.92
		9/25/2014	111.77	85.83
		12/16/2014	111.80	85.80
		3/17/2015	111.77	85.83
		6/16/2015	111.78	85.82
		9/15/2015	111.76	85.84
		12/1/2015	111.89	85.71
		3/29/2016	111.92	85.68
		6/21/2016	111.95	85.65
		9/7/2016	111.33	86.27
		11/30/2016	112.03	85.57
		3/7/2017	111.90	85.70
		6/13/2017	111.92	85.68
		9/26/2017	112.01	85.59
		12/19/2017	112.05	85.55
		3/15/2018	112.02	85.58
		6/26/2018	112.02	85.58
		9/5/2018	112.05	85.55
		12/14/2018	112.02	85.58
		3/25/2019	112.04	85.56
		6/14/2019	112.03	85.57
		9/9/2019	110.57	87.03
		11/1/2019	112.07	85.53
		3/2/2020	112.05	85.55
		5/1/2020	112.05	85.55
		8/18/2020	112.01	85.59
		10/19/2020	112.02	85.58
		3/1/2021	112.08	85.52
		9/24/2021	112.70	84.90

TABLE 1
WELL CONSTRUCTION INFORMATION AND GROUNDWATER ELEVATIONS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Top of Casing Elevation (feet) (1)	Sample Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet) (1)
MW-5	188.7	10/18/2011	108.05	80.65
		2/23/2012	108.44	80.26
		6/5/2012	108.38	80.32
		9/18/2012	108.11	80.59
		1/8/2013	108.36	80.34
		3/26/2013	108.72	79.98
		6/11/2013	108.56	80.14
		9/10/2013	108.77	79.93
		1/7/2014	108.91	79.79
		3/18/2014	108.91	79.79
		6/16/2014	109.01	79.69
		9/16/2014	109.20	79.50
		12/16/2014	109.22	79.48
		3/17/2015	109.25	79.45
		6/16/2015	109.33	79.37
		9/15/2015	109.37	79.33
		12/1/2015	109.37	79.33
		3/29/2016	109.38	79.32
		6/21/2016	109.63	79.07
		9/7/2016	109.58	79.12
		11/30/2016	109.54	79.16
		3/7/2017	109.63	79.07
		6/13/2017	109.65	79.05
		9/26/2017	109.72	78.98
		12/19/2017	110.64	78.06
		3/14/2018	109.72	78.98
		6/26/2018	109.73	78.97
		9/5/2018	109.74	78.96
		12/14/2018	109.72	78.98
		3/26/2019	109.65	79.05
		6/14/2019	109.80	78.90
		9/10/2019	109.75	78.95
		11/4/2019	109.88	78.82
		3/3/2020	109.73	78.97
		5/4/2020	109.82	78.88
		8/19/2020	109.93	78.77
		10/20/2020	109.84	78.86
		3/1/2021	109.89	78.81
		9/24/2021	109.40	79.30

TABLE 1
WELL CONSTRUCTION INFORMATION AND GROUNDWATER ELEVATIONS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Top of Casing Elevation (feet) (1)	Sample Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet) (1)
MW-6	188.03	10/18/2011	109.55	78.48
		2/23/2012	108.01	80.02
		6/5/2012	108.05	79.98
		9/18/2012	108.06	79.97
		1/8/2013	108.07	79.96
		3/26/2013	108.09	79.94
		6/11/2013	108.25	79.78
		9/10/2013	108.43	79.60
		1/7/2014	108.70	79.33
		3/18/2014	108.70	79.33
		6/16/2014	108.85	79.18
		9/16/2014	108.99	79.04
		12/16/2014	109.10	78.93
		3/17/2015	109.14	78.89
		6/16/2015	109.23	78.80
		9/15/2015	109.20	78.83
		12/1/2015	109.30	78.73
		3/29/2016	109.34	78.69
		6/21/2016	108.58	79.45
		9/7/2016	109.47	78.56
		11/30/2016	109.51	78.52
		3/7/2017	109.47	78.56
		6/13/2017	109.48	78.55
		9/26/2017	109.64	78.39
		12/19/2017	109.64	78.39
		3/15/2018	109.66	78.37
		6/26/2018	109.99	78.04
		9/5/2018	109.75	78.28
		12/14/2018	109.64	78.39
		3/26/2019	109.65	78.38
		6/18/2019	109.73	78.30
		9/11/2019	109.75	78.28
		11/5/2019	109.76	78.27
		3/4/2020	109.81	78.22
		5/6/2020	109.53	78.50
		8/20/2020	109.82	78.21
		10/20/2020	109.83	78.20
		3/1/2021	109.87	78.16
		9/27/2021	110.40	77.63

TABLE 1
WELL CONSTRUCTION INFORMATION AND GROUNDWATER ELEVATIONS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Top of Casing Elevation (feet) (1)	Sample Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet) (1)
MW-7	189.93	10/18/2011	109.70	80.23
		2/23/2012	106.58	83.35
		6/5/2012	107.95	81.98
		9/18/2012	108.1	81.83
		1/8/2013	108.13	81.8
		3/26/2013	108.24	81.69
		6/11/2013	108.45	81.48
		9/10/2013	108.64	81.29
		1/7/2014	108.80	81.13
		3/18/2014	108.83	81.10
		6/16/2014	108.96	80.97
		9/25/2014	109.10	80.83
		12/16/2014	109.13	80.80
		3/17/2015	109.12	80.81
		6/16/2015	109.14	80.79
		9/15/2015	109.07	80.86
		12/1/2015	109.15	80.78
		3/29/2016	109.23	80.70
		6/21/2016	109.39	80.54
		9/7/2016	109.42	80.51
		11/30/2016	109.51	80.42
		3/7/2017	109.44	80.49
		6/13/2017	109.38	80.55
		9/26/2017	109.52	80.41
		12/19/2017	109.52	80.41
		3/14/2018	109.49	80.44
		6/26/2018	109.57	80.36
		9/5/2018	109.55	80.38
		12/14/2018	109.50	80.43
		3/25/2019	109.48	80.45
		6/14/2019	109.50	80.43
		9/9/2019	109.48	80.45
		11/1/2019	109.53	80.40
		3/2/2020	109.53	80.40
		5/1/2020	109.53	80.40
		8/18/2020	109.52	80.41
		10/19/2020	109.51	80.42
		3/1/2021	109.60	80.33
		9/24/2021	109.90	80.03

TABLE 1
WELL CONSTRUCTION INFORMATION AND GROUNDWATER ELEVATIONS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Top of Casing Elevation (feet) (1)	Sample Date	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet) (1)
MW-8	189.86	10/19/2011	--	--
		2/23/2012	108.71	81.15
		6/5/2012	108.65	81.21
		9/20/2012	108.64	81.22
		1/8/2013	108.56	81.30
		3/26/2013	108.63	81.23
		6/11/2013	108.85	81.01
		7/13/2013	**Plugged and Abandoned**	
MW-8R	--	9/10/2013	108.39	--
		1/7/2014	108.65	--
		3/18/2014	108.62	--
		6/16/2014	108.77	--
		9/25/2014	108.91	--
		12/16/2014	108.95	--
		3/17/2015	109.00	--
		6/16/2015	109.12	--
		9/15/2015	109.01	--
		12/1/2015	109.18	--
		3/29/2016	109.12	--
		6/21/2016	109.32	--
		9/7/2016	109.31	--
		11/30/2016	109.26	--
		3/7/2017	109.31	--
		6/13/2017	109.27	--
		9/26/2017	109.40	--
		12/19/2017	109.39	--
		3/14/2018	109.34	--
		6/26/2018	109.42	--
		9/5/2018	109.48	--
		12/14/2018	109.37	--
		3/28/2019	109.38	--
		6/24/2019	109.38	--
		9/13/2019	109.91	--
		11/6/2019	109.86	--
		3/5/2020	109.52	--
		5/7/2020	109.62	--
		8/21/2020	109.63	--
		10/22/2020	109.43	--
		3/2/2021	109.63	--
		9/24/2021	110.00	--

Notes:
(1) - surface elevation based on an arbitrary datum of 200 feet
BTOC - below top of casing
-- - not measured

TABLE 2
FIELD PARAMETER RESULTS

HILCORP ENERGY COMPANY
SAN JUAN 29-7 UNIT 37
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Sample Date	Temperature (°C)	pH	TDS (mg/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-1	3/17/2015	18.10	7.28	2,200	3,380	--	53.0	2.75
	6/16/2015	17.70	7.30	1,970	3,030	1.39	-12.4	7.00
	9/15/2015	16.12	7.13	2,212	3,403	1.09	50.2	7.00
	12/1/2015	16.63	7.72	2,361	3,632	1.08	-100.5	6.50
	3/29/2016	16.64	7.22	3,100	3,350	4.20	126.0	7.00
	6/21/2016	17.10	7.44	--	3,320	0.46	6.5	7.00
	9/7/2016	16.31	7.34	2,139	3,290	0.56	-66.0	6.75
	12/1/2016	12.71	7.55	--	2,989	5.29	23.5	7.00
	3/7/2017	15.36	7.55	2,377	3,657	1.25	-108.8	7.00
	6/13/2017	18.42	7.38	2,109	3,245	1.67	-103.7	1.50
	9/26/2017	21.00	7.05	--	2,844	--	--	--
	12/19/2017	13.89	7.37	--	3,232	--	--	--
	3/14/2018	17.90	7.41	--	3,141	0.28	3.5	--
	6/26/2018	21.15	7.37	--	3,101	0.29	23.1	--
	9/5/2018	20.93	7.64	--	2,913	0.03	44.9	1.50
	3/29/2019	12.10	7.75	1,520	3,040	--	-34.7	--
	6/24/2019	20.40	7.28	1,580	3,130	26.60*	-38.0	--
	9/13/2019	17.80	6.28	1,550	3,100	25.30*	-45.5	--
	11/6/2019	15.50	6.90	1,540	3,090	100.60*	-45.6	--
	3/5/2020	14.90	6.73	1,530	3,060	5.99	-37.5	--
	5/6/2020	19.80	6.63	1,560	3,130	2.33	-30.4	--
	8/20/2020	21.30	6.95	1,520	3,030	1.21	-31.6	--
	10/21/2020	17.90	6.75	1,380	2,770	2.59	-30.3	--
	3/2/2021	16.60	6.94	1,400	2,810	0.58	-27.4	--
	9/24/2021	19.40	7.06	--	7,480	--	--	1.00
MW-2	3/17/2015	14.80	7.30	2,200	3,430	--	165.0	5.00
	6/16/2015	14.90	6.91	1,925	2,961	6.23	25.2	5.25
	9/15/2015	14.62	6.99	2,162	3,327	6.27	75.5	3.75
	12/1/2015	13.50	7.61	2,277	3,504	5.27	80.8	5.25
	3/29/2016	--	--	--	--	--	--	5.25
	6/21/2016	15.40	7.38	--	2,850	0.56	-121.6	5.25
	9/7/2016	13.96	6.98	2,064	3,175	6.37	60.7	5.25
	12/1/2016	13.33	7.92	--	2,932	7.31	29.7	5.00
	3/7/2017	12.71	7.30	2,320	3,570	3.81	-84.5	5.00
	6/13/2017	15.03	7.24	2,075	3,191	5.55	-12.2	1.00
	9/26/2017	15.67	6.83	--	2,795	--	--	--
	12/19/2017	11.60	7.05	--	3,176	--	--	--
	3/14/2018	14.81	7.14	--	3,135	4.53	70.3	--
	6/26/2018	17.31	7.08	--	3,010	3.47	54.9	--
	9/5/2018	17.39	7.39	--	2,890	3.86	67.4	1.50
	3/27/2019	16.60	7.02	1,550	3,010	--	7.5	--
	6/18/2019	18.00	7.02	1,560	3,130	26.60*	55.4	--
	9/11/2019	17.60	6.21	1,550	3,100	42.80*	-23.2	--
	11/5/2019	15.20	6.39	1,560	3,120	46.00*	-19.0	--
	3/4/2020	15.60	6.41	1,580	3,140	6.95	-17.4	--
	5/7/2020	16.10	6.46	1,550	3,080	3.28	-19.9	--
	8/21/2020	18.10	6.87	1,540	3,090	2.50	-18.0	--
	10/22/2020	15.50	6.47	1,370	2,750	4.05	-17.2	--

TABLE 2
FIELD PARAMETER RESULTS

HILCORP ENERGY COMPANY
SAN JUAN 29-7 UNIT 37
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Sample Date	Temperature (°C)	pH	TDS (mg/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-3	3/17/2015	15.10	7.45	1,900	3,040	--	-94.0	5.50
	6/16/2015	15.09	7.31	1,717	2,641	1.23	-123.5	5.50
	9/15/2015	15.03	7.30	1,912	2,941	1.39	-125.0	5.75
	12/1/2015	13.73	7.78	2,044	3,144	1.48	-164.2	5.50
	3/29/2016	15.82	7.34	1,900	2,940	5.66	-103.0	5.75
	6/21/2016	14.70	7.00	--	3,230	4.62	56.2	5.50
	9/7/2016	14.55	7.10	1,816	2,794	1.50	-102.7	5.50
	12/1/2016	14.91	7.74	--	2,556	1.97	-116.2	5.50
	3/7/2017	12.81	7.63	2,044	3,144	0.39	-192.6	5.00
	6/13/2017	14.77	7.58	1,819	2,801	0.42	-123.9	1.00
	9/26/2017	15.05	7.25	--	2,425	--	--	--
	12/19/2017	12.36	7.48	--	2,776	--	--	--
	3/14/2018	15.72	7.63	--	2,208	0.00	-139.6	--
	6/26/2018	18.48	7.63	--	2,589	0.22	-146.3	--
	9/5/2018	17.28	7.87	--	2,500	-0.07*	-124.3	1.50
	3/26/2019	15.80	7.35	1,320	2,640	2.02	-32.6	--
	6/17/2019	18.70	7.35	1,350	2,740	17.00*	-48.3	--
	9/10/2019	19.50	6.31	1,350	2,700	15.20*	-57.6	--
	11/4/2019	15.90	6.70	1,340	2,660	54.20*	-44.6	--
	3/3/2020	16.30	6.61	1,360	2,710	6.66	-33.6	--
	5/4/2020	18.30	6.72	1,330	2,620	1.92	-38.6	--
	8/19/2020	20.30	6.82	1,330	2,700	0.88	-34.4	--
	10/21/2020	15.80	6.73	1,170	2,340	3.47	-31.8	--
	3/1/2021	15.00	6.95	1,190	2,390	0.56	-33.6	--
	9/24/2021	19.30	6.85	--	6,570	--	--	1.00
MW-4	3/17/2015	16.30	7.43	2,000	3,120	--	125.0	3.00
	6/16/2015	14.68	7.38	1,760	2,707	6.38	13.6	5.75
	9/15/2015	14.75	6.99	1,980	3,047	7.23	48.3	5.75
	12/1/2015	14.57	7.89	1,451	2,231	5.92	-12.2	5.50
	3/29/2016	16.94	7.33	1,900	3,030	7.71	110.0	5.50
	6/21/2016	15.30	7.62	--	2,980	4.10	58.9	5.50
	9/7/2016	14.52	7.50	1,919	2,953	6.36	65.1	5.75
	12/2/2016	12.48	7.81	--	2,688	9.18	76.9	5.50
	3/7/2017	--	--	--	--	--	--	--
	9/26/2017	12.75	7.25	--	2,537	--	--	6.00
	12/19/2017	12.22	7.49	--	2,914	--	--	--
	3/14/2018	14.13	7.57	--	28	5.95	55.1	--
	6/26/2018	15.95	7.64	--	2,682	4.63	33.8	--
	9/5/2018	14.99	7.84	--	2,625	6.35	51.2	6.00
	3/25/2019	15.60	7.77	1,400	2,570	--	-33.4	--
	6/14/2019	15.70	7.35	1,410	2,790	60.10*	61.6	--
	9/9/2019	18.40	7.30	1,420	2,830	51.10*	-56.7	--
	11/1/2019	12.50	7.03	1,380	2,770	49.10*	-51.8	--
	3/2/2020	13.90	6.78	1,430	2,940	9.11	-42.6	--
	5/1/2020	18.40	6.47	1,410	2,790	5.62	-39.9	--
	8/18/2020	19.80	6.63	1,450	2,990	2.52	-40.0	--
	10/19/2020	16.40	6.46	1,220	2,430	2.97	-32.2	--

TABLE 2
FIELD PARAMETER RESULTS

HILCORP ENERGY COMPANY
SAN JUAN 29-7 UNIT 37
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Sample Date	Temperature (°C)	pH	TDS (mg/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-5	3/17/2015	18.00	6.80	2,400	3,790	--	87.0	3.50
	6/16/2015	17.17	6.49	2,174	3,345	2.36	63.2	5.00
	9/15/2015	16.10	6.64	2,468	3,796	1.97	64.7	5.00
	12/1/2015	15.73	7.10	2,603	4,004	2.66	168.2	5.00
	3/29/2016	19.44	6.87	2,400	3,750	3.01	66.0	5.00
	6/21/2016	18.00	6.68	--	3,660	0.92	91.1	5.00
	9/7/2016	15.71	6.89	2,331	3,586	3.99	55.4	5.00
	12/1/2016	16.15	7.40	--	3,266	3.55	22.4	5.00
	3/7/2017	13.27	7.64	2,617	4,026	3.10	-64.7	15.00
	9/26/2017	14.09	6.85	--	3,030	--	--	4.50
	12/19/2017	12.49	6.85	--	3,513	--	--	--
	3/14/2018	15.02	6.92	--	3,476	1.37	70.5	--
	6/26/2018	16.65	7.05	--	3,124	1.64	47.6	5.00
	9/5/2018	16.10	7.47	--	3,186	3.88	63.6	5.00
	3/26/2019	12.80	7.29	1,490	2,780	--	-3.3	--
	6/17/2019	17.20	7.25	1,740	3,460	31.60*	-26.0	--
	9/10/2019	17.90	6.27	1,710	3,430	30.80*	-27.7	--
	11/4/2019	15.10	6.77	1,710	3,370	26.40*	103.1	--
	3/3/2020	16.20	6.36	1,690	3,360	9.83	-16.7	--
	5/4/2020	16.20	6.69	1,670	3,340	2.66	-23.2	--
	8/19/2020	19.20	6.58	1,660	3,370	1.86	-13.4	--
	10/20/2020	17.10	6.51	1,480	3,030	1.78	-11.8	--
MW-6	3/17/2015	17.30	6.90	1,800	2,800	--	103.0	3.25
	6/16/2015	17.77	6.73	1,584	2,437	2.12	1.9	4.00
	9/15/2015	15.96	6.57	1,784	2,745	2.87	84.3	3.75
	12/1/2015	16.18	7.32	1,867	2,873	2.93	82.9	3.75
	3/29/2016	16.64	6.77	1,700	2,630	4.89	103.0	3.75
	6/21/2016	17.00	7.11	--	27	3.86	59.8	4.25
	9/7/2016	16.48	7.00	1,676	2,578	1.87	8.7	3.75
	12/2/2016	12.07	7.29	--	2,409	4.10	50.8	4.00
	3/7/2017	14.16	7.10	1,936	2,979	2.01	-63.8	3.50
	6/13/2017	16.86	7.00	1,716	2,640	2.29	-36.8	1.00
	9/26/2017	16.61	6.51	--	2,287	--	--	1.50
	12/19/2017	13.49	6.85	--	2,640	--	--	--
	3/14/2018	16.20	6.94	--	2,581	2.36	68.9	--
	6/26/2018	22.89	6.91	--	2,494	2.20	52.8	--
	9/5/2018	20.66	7.18	--	2,381	2.13	65.0	1.00
	3/26/2019	16.40	6.95	1,270	2,540	--	-0.6	--
	6/18/2020	17.20	7.19	1,280	2,570	38.70*	-16.1	--
	9/11/2019	18.50	6.20	1,280	2,560	38.80*	-13.4	--
	11/5/2019	16.90	6.31	1,300	2,620	94.90*	-14.5	--
	3/4/2020	15.10	6.54	1,290	2,580	5.92	-8.7	--
	5/6/2020	17.40	6.39	1,280	2,570	3.26	-5.6	--
	8/20/2020	18.50	6.67	1,240	2,600	2.35	-11.6	--
	10/20/2020	18.10	6.39	1,150	2,270	3.52	-6.3	--

TABLE 2
FIELD PARAMETER RESULTS

HILCORP ENERGY COMPANY
SAN JUAN 29-7 UNIT 37
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Sample Date	Temperature (°C)	pH	TDS (mg/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-7	3/17/2015	17.40	7.64	2,600	4,100	--	118.0	3.50
	6/16/2015	17.05	8.28	2,366	3,639	3.73	-48.2	6.25
	9/15/2015	16.47	7.66	2,663	4,096	6.44	85.4	6.25
	12/1/2015	16.03	7.90	2,853	4,389	2.00	-65.0	6.00
	3/29/2016	18.42	7.45	2,600	4,050	7.12	108.0	6.25
	6/21/2016	16.40	7.50	--	3,990	5.73	58.1	6.00
	9/7/2016	16.04	7.54	2,571	3,970	6.15	59.2	6.00
	12/2/2016	14.19	7.57	--	3,604	5.91	47.7	6.00
	3/7/2017	13.80	7.59	2,853	4,390	8.58	-29.4	5.50
	6/13/2017	17.73	7.47	2,510	3,863	9.30	-2.2	1.00
	9/26/2017	16.71	7.07	--	3,337	--	--	--
	12/19/2017	13.35	7.33	--	3,799	--	--	--
	3/14/2018	16.21	7.26	--	3,674	8.57	71.9	--
	6/26/2018	18.13	7.20	--	3,596	8.44	56.5	--
	9/5/2018	21.46	7.59	--	3,438	6.08	65.5	1.75
	3/25/2019	16.20	7.37	1,770	3,560	--	-30.6	--
	6/14/2019	18.20	7.03	1,820	3,650	46.20*	-22.5	--
	9/9/2019	18.10	7.23	1,810	3,620	35.60*	-50.5	--
	11/1/2019	13.50	6.61	1,750	3,410	139.50*	-32.2	--
	3/2/2020	14.50	6.61	1,760	3,500	8.71	-32.1	--
	5/1/2020	18.80	6.60	1,780	3,580	3.88	-25.3	--
	8/18/2020	20.30	6.99	1,800	3,510	2.35	-27.8	--
	10/19/2020	16.70	6.42	1,580	3,130	3.98	-22.5	--
MW-8R	3/17/2015	19.30	6.96	2,100	3,310	--	30.0	3.00
	6/16/2015	17.82	7.07	1,970	3,033	0.48	-50.3	5.00
	9/15/2015	18.30	6.91	2,222	3,431	1.20	-10.7	5.25
	12/1/2015	16.75	7.41	2,341	3,595	1.08	-91.3	5.00
	3/29/2016	15.86	7.24	2,100	3,340	4.49	-56.0	5.25
	6/21/2016	18.20	7.15	--	3,230	0.18	-104.8	5.00
	9/7/2016	17.21	7.07	2,128	3,274	0.53	-81.1	5.00
	12/1/2016	13.01	7.10	--	2,930	2.36	39.6	5.00
	3/7/2017	14.89	7.40	2,368	3,644	2.40	-144.1	5.00
	6/13/2017	17.30	7.13	2,061	3,171	0.49	-103.0	1.50
	9/26/2017	19.77	6.97	--	2,860	--	--	--
	12/19/2017	14.97	7.11	--	3,176	--	--	--
	3/14/2018	19.03	7.09	--	3,127	0.04	-3.6	--
	6/26/2018	21.51	7.04	--	3,015	0.26	-13.9	--
	9/5/2018	21.78	7.32	--	2,872	0.05	8.3	2.75
	3/28/2019	17.00	7.32	1,560	3,070	--	-11.4	--
	6/24/2019	17.60	7.25	1,580	3,160	23.60*	-22.5	--
	9/13/2019	20.10	6.09	1,570	3,140	30.10*	-27.2	--
	11/6/2019	15.90	6.37	1,540	3,120	118.20*	-9.8	--
	3/5/2020	16.00	6.76	1,530	3,060	6.71	-32.1	--
	5/7/2020	20.04	6.51	1,610	3,240	--	-24.1	--
	8/21/2020	24.20	6.76	1,500	2,970	1.78	-14.3	--
	10/22/2020	15.90	6.76	1,430	2,840	4.04	-19.0	--
	3/2/2021	15.80	6.96	1,420	2,840	0.72	-13.3	--
	9/24/2021	18.40	7.12	--	7,760	--	--	1.00

Notes:

mg/L - milligrams per liter

uS/cm - microsiemens per centimeter

mg/L - milligrams per liter

°C - degrees Celcius
DO - dissolved oxygen
mV - millivolts
ORP - oxidation-reduction potential
TDS - total dissolved solids
-- - data not collected
* - anomalous data

TABLE 3
PETROLEUM HYDROCARBON AND GENERAL CHEMISTRY GROUNDWATER ANALYTICAL RESULTS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Manganese (dissolved) (mg/L)	Nitrate (as N) (mg/L)	Selenium (dissolved) (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Heterotrophic Plate Count (CFU/mL)
NMWQCC Standards			**0.005**	**1.00**	**0.70**	**0.62**	NE	NE	**0.2**	**10**	**0.05**	**600**	**1,000**	NE
MW-1	3/17/2011	(orig)	**0.066**	0.39	0.011	0.084	1.5	0.28	**2.77**	<0.500	< 0.01	**1,610**	**2,730**	--
	8/17/2011	(orig)	**0.0189**	0.0068	< 0.001	0.0044	< 0.50	< 0.50	**0.318**	0.25	< 0.015	**1,500**	**2,480**	180,000
	10/18/2011	(orig)	--	--	--	--	--	--	--	--	--	--	--	300,000
	2/23/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**6.40**	0.78	**0.055**	**1,710**	**2,480**	23,000
	6/5/2012	(orig)	< 0.001	0.002	< 0.001	< 0.003	--	--	**5.15**	9.4	0.033	**1,520**	--	93,000
	6/5/2012	(Duplicate)	< 0.001	0.002	< 0.001	< 0.003	--	--	--	--	--	--	--	--
	9/18/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**2.60**	**27.5**	0.044	**1,070**	**2,140**	>80000
	9/18/2012	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	--	--	--	--	--	>80,000
	1/8/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.10**	**25.3**	**0.568**	**1,150**	**2,180**	76,000
	1/8/2013	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	--	--	--	--	--	142,000
	3/26/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.486**	**37**	**0.079**	**1,000**	**1,980**	280,000
	6/11/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.520**	**31.1**	**0.056**	**1,050**	--	81,500
	6/11/2013	(Duplicate)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	--	--	--	--	--	--
	9/10/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.164	**18.7**	0.0492	**1,130**	**2,090**	2,300
	1/7/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.132	**22.5**	0.0349	**1,040**	**1,990**	335,000
	3/18/2014	(orig)	0.0036	< 0.001	< 0.001	< 0.003	--	--	**0.643**	**20.1**	< 0.015	**1,170**	**2,270**	6,700
	6/16/2014	(orig)	--	--	--	--	--	--	**1.20**	5.7	< 0.015	**1,380**	**2,300**	--
	9/25/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.57**	4.4	< 0.015	**1,690**	--	--
	12/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.49**	2.9	< 0.015	**1,580**	**2,410**	--
	3/17/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.60**	3.4	< 0.015	**1,430**	**2,560**	--
	6/16/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.36**	2.5	< 0.015	**1,470**	**1,920**	--
	9/15/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.52**	2.8	< 0.015	**1,500**	**2,400**	--
	12/1/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.76**	1.2	< 0.015	**1,420**	**2,370**	--
	3/29/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.86**	0.4	< 0.015	**1,600**	**2,260**	--
	6/21/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.72**	1.1	< 0.015	**1,390**	**2,250**	--
	9/7/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.38**	1.7	< 0.015	**1,560**	**2,230**	--
	12/2/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	--	0.5	--	**1,450**	**2,410**	--
	3/7/2017	(orig)	--	--	--	--	--	--	**1.90**	--	--	--	--	--
	6/13/2017	(orig)	--	--	--	--	--	--	**1.76**	--	--	--	--	--
	9/26/2017	(orig)	--	--	--	--	--	--	**2.04**	--	< 0.015	--	--	--
	12/19/2017	(orig)	--	--	--	--	--	--	**1.75**	--	--	--	--	--
	3/14/2018	(orig)	--	--	--	--	--	--	**1.94**	--	--	--	--	--
	6/26/2018	(orig)	--	--	--	--	--	--	**1.83**	--	--	--	--	--
	9/5/2018	(orig)	--	--	--	--	--	--	**1.83**	--	--	--	--	--
	12/14/2018	(orig)	--	--	--	--	--	--	**1.8**	--	--	--	--	--
	3/29/2019	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.056**	--	<0.01	--	--	--
	6/24/2019	(orig)	--	--	--	--	--	--	**2.00**	--	--	--	--	--
	9/13/2019	(orig)	--	--	--	--	--	--	**1.800**	--	--	--	--	--
	11/6/2019	(orig)	--	--	--	--	--	--	**0.608**	--	--	--	--	--
	3/5/2020	(orig)	--	--	--	--	--	--	**1.28**	--	--	--	--	--
	5/6/2020	(orig)	--	--	--	--	--	--	**1.11**	--	--	--	--	--
	8/20/2020	(orig)	--	--	--	--	--	--	**1.57**	--	--	--	--	--
	10/21/2020	(orig)	--	--	--	--	--	--	**0.625**	--	--	--	--	--
	3/2/2021	(orig)	--	--	--	--	--	--	**1.02**	--	--	--	--	--
	9/24/2021	(orig)	--	--	--	--	--	--	**1.5**	--	--	--	--	--

TABLE 3
PETROLEUM HYDROCARBON AND GENERAL CHEMISTRY GROUNDWATER ANALYTICAL RESULTS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Manganese (dissolved) (mg/L)	Nitrate (as N) (mg/L)	Selenium (dissolved) (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Heterotrophic Plate Count (CFU/mL)
NMWQCC Standards			**0.005**	**1.00**	**0.70**	**0.62**	NE	NE	**0.2**	**10**	**0.05**	**600**	**1,000**	NE
MW-2	3/17/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.1	< 0.11	**0.334**	**55.8**	**0.0664**	**1,000**	**2950**	--
	8/17/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.50	< 0.50	0.179	**71.9 E / 54.1**	**0.0726**	**1,040**	**2110**	61,000
	10/18/2011	(orig)	--	--	--	--	--	--	--	--	--	--	--	124,000
	2/23/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0360	**44.9**	**0.059**	**1,350**	**2,220**	14,900
	6/5/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0078	4.3	**0.061**	**1,500**	--	32,000
	9/18/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0194	**42.5**	**0.067**	**1,150**	**2,440**	6,500
	1/8/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0057	**41.8**	**0.0688**	**1,230**	**2,590**	29,000
	3/26/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0188	**43.3**	**0.0728**	**1,200**	**1,930**	4,100
	6/11/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0086	**40.6**	**0.0666**	**1,230**	--	18,000
	9/10/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	< 0.0050	**35.6**	**0.0657**	**1,200**	**2,210**	160
	1/7/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0069	**33.5**	**0.0745**	**1,300**	**2,390**	2,435
	3/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.281**	**40.2**	**0.080**	**1,320**	**2,580**	670
	6/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.09	**22.2**	**0.073**	**1,280**	**2,360**	--
	9/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.783**	**34**	**0.0734**	**1,140**	**2,440**	--
	12/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.746**	**31.0**	**0.0715**	**1,380**	**2,360**	--
	3/17/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0195	**38.3**	**0.0774**	**1,330**	**2,570**	--
	6/16/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0703	**32.7**	**0.0776**	**1,310**	**1,840**	--
	9/15/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	< 0.005	**37.4**	**0.0811**	**1,310**	**2,360**	--
	12/1/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0144	**34.7**	**0.0779**	**1,250**	**2,840**	--
	3/29/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	< 0.005	**36.1**	**0.0806**	**1,340**	**2,150**	--
	6/21/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0099	**40.6**	**0.0764**	**1,260**	**2,190**	--
	9/7/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0104	**29.9**	**0.074**	**1,390**	**2,320**	--
	12/2/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	< 0.005	**33.6**	**0.0759**	**1,290**	**2,410**	--
	3/7/2017	(orig)	--	--	--	--	--	--	< 0.005	--	--	--	--	--
	6/13/2017	(orig)	--	--	--	--	--	--	< 0.005	--	--	--	--	--
	9/26/2017	(orig)	--	--	--	--	--	--	< 0.005	--	**0.0725**	--	--	--
	12/19/2017	(orig)	--	--	--	--	--	--	< 0.005	--	**0.0756**	--	--	--
	3/14/2018	(orig)	--	--	--	--	--	--	< 0.005	--	**0.0798**	--	--	--
	6/26/2018	(orig)	--	--	--	--	--	--	--	--	**0.0684**	--	--	--
	9/5/2018	(orig)	--	--	--	--	--	--	< 0.005	--	**0.0746**	--	--	--
	12/14/2016	(orig)	--	--	--	--	--	--	< 0.01	--	**0.0742**	--	--	--
	3/29/2019	(orig)	--	--	--	--	--	--	< 0.01	--	**0.0826**	--	--	--
	6/18/2019	(orig)	--	--	--	--	--	--	< 0.01	--	--	--	--	--
	9/11/2019	(orig)	--	--	--	--	--	--	< 0.01	--	**0.0811**	--	--	--
	11/5/2019	(orig)	--	--	--	--	--	--	< 0.01	--	**0.0862**	--	--	--
	3/4/2020	(orig)	--	--	--	--	--	--	<0.005	--	**0.0835**	--	--	--
	5/7/2020	(orig)	--	--	--	--	--	--	<0.005	--	**0.0838**	--	--	--
	8/21/2020	(orig)	--	--	--	--	--	--	<0.005	--	**0.0822**	--	--	--
	10/22/2020	(orig)	--	--	--	--	--	--	<0.005	--	**0.0856**	--	--	--
MW-3	3/17/2011	(orig)	< 0.001	0.013	< 0.001	0.0042	< 0.1	< 0.1	**1.79**	**29.7**	0.0316	**857**	**2360**	--
	8/17/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.50	< 0.50	**1.42**	**33**	**0.0524**	**972**	**1960**	18,000
	10/18/2011	(orig)	--	--	--	--	--	--	--	--	--	--	--	230,000
	2/23/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.60**	**22.0**	0.038	**1,140**	**2,050**	11,900
	6/5/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.43**	**15.0**	0.048	**1,380**	--	22,000
	9/18/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.24**	**12.2**	0.032	**1,050**	**2,150**	23,000
	1/8/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.62**	**24.6**	**0.0673**	**1,140**	**2,240**	51,000
	3/26/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.83**	0.42	< 0.015	**1,080**	**2,030**	70
	6/11/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.75**	0.76	< 0.015	**1,110**	--	830
	9/10/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.7**	1.4	< 0.015	**1,120**	**1,910**	110
	1/7/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.77**	0.15	< 0.015	**1,180**	**1,970**	284
	1/7/2014	(Duplicate)	--	--	--	--	--	--	--	--	--	--	--	350
	3/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.81**	0.11	< 0.015	**1,150**	**2,050**	870
	6/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**2**	8.8	0.024	**1,130**	**1,190**	--
	9/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**2.29**	**11.3**	0.0261	**1,060**	**2,240**	--
	12/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**2.06**	6.1	< 0.015	**1,210**	**2,110**	--

TABLE 3
PETROLEUM HYDROCARBON AND GENERAL CHEMISTRY GROUNDWATER ANALYTICAL RESULTS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Manganese (dissolved) (mg/L)	Nitrate (as N) (mg/L)	Selenium (dissolved) (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Heterotrophic Plate Count (CFU/mL)
NMWQCC Standards			**0.005**	**1.00**	**0.70**	**0.62**	NE	NE	**0.2**	**10**	**0.05**	**600**	**1,000**	NE
MW-3	3/17/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**2.06**	4.3	< 0.015	**1,150**	**2,100**	--
	6/16/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.88**	6	< 0.015	**1,120**	**1,380**	--
	9/15/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**2.1**	8.1	< 0.015	**1,120**	**2,040**	--
	12/1/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**2.17**	7.2	< 0.015	**1,040**	**2,210**	--
	3/29/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**2.14**	8.2	< 0.015	**1,130**	**2,020**	--
	6/21/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.92**	**10.6**	< 0.015	**1,060**	**1,930**	--
	9/7/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.88**	2.3	< 0.015	**1,190**	**1,780**	--
	12/2/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.98**	6.9	< 0.015	**1,080**	**1,970**	--
	3/7/2017	(orig)	--	--	--	--	--	--	**2.22**	--	--	--	--	--
	6/13/2017	(orig)	--	--	--	--	--	--	**1.87**	--	--	--	--	--
	9/26/2017	(orig)	--	--	--	--	--	--	**1.82**	--	<0.015	--	--	--
	12/19/2017	(orig)	--	--	--	--	--	--	**1.82**	--	--	--	--	--
	3/14/2018	(orig)	--	--	--	--	--	--	**1.97**	--	--	--	--	--
	6/26/2018	(orig)	--	--	--	--	--	--	**1.94**	--	--	--	--	--
	9/5/2018	(orig)	--	--	--	--	--	--	**1.88**	--	--	--	--	--
	12/14/2018	(orig)	--	--	--	--	--	--	**1.76**	--	--	--	--	--
	3/29/2019	(orig)	--	--	--	--	--	--	**1.75**	--	--	--	--	--
	6/17/2019	(orig)	--	--	--	--	--	--	**1.74**	--	--	--	--	--
	9/10/2019	(orig)	--	--	--	--	--	--	**1.74**	--	--	--	--	--
	11/4/2019	(orig)	--	--	--	--	--	--	**1.74**	--	--	--	--	--
	3/3/2020	(orig)	--	--	--	--	--	--	**1.84**	--	--	--	--	--
	5/4/2020	(orig)	--	--	--	--	--	--	**1.64**	--	--	--	--	--
	8/19/2020	(orig)	--	--	--	--	--	--	**1.72**	--	--	--	--	--
	10/21/2020	(orig)	--	--	--	--	--	--	**1.69**	--	--	--	--	--
	3/1/2021	(orig)	--	--	--	--	--	--	**1.64**	--	--	--	--	--
	9/24/2021	(orig)	--	--	--	--	--	--	**1.9**	--	--	--	--	--
MW-4	3/17/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.1	0.14	0.022	**10.4**	0.042	**1,290**	**2,650**	--
	8/17/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.50	< 0.50	0.0062	9.4	0.0402	**1,240**	**2,000**	9,800
	10/18/2011	(orig)	--	--	--	--	--	--	--	--	--	--	--	90,000
	2/23/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0170	8.6	0.0350	**1,380**	**2,070**	40,000
	6/5/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0814	7.5	0.0369	**1,540**	--	49,000
	9/18/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.1030	7.8	0.0394	**1,190**	**2,180**	4,000
	1/8/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0289	9.3	0.0386	**1,240**	**2,230**	202,000
	3/26/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0605	8.9	0.0441	**1,200**	**1,950**	42,500
	6/11/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0484	7.3	0.0369	**1,260**	--	33,000
	9/10/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0303	8.6	0.0369	**1,180**	**2,090**	910
	1/7/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0265	5.5	0.0381	**1,350**	**1,960**	1,160
	3/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0227	8.2	0.0410	**1,280**	**2,180**	1,865
	6/16/2014	(orig)	--	--	--	--	--	--	0.0080	6.5	0.0340	**1,240**	**1,950**	--
	9/25/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0160	7	0.0335	**1,260**	--	--
	12/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0155	6.8	0.0314	**1,330**	**2,250**	--
	3/17/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0156	6.7	0.0432	**1,300**	**2,280**	--
	6/16/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0226	5.6	0.0408	**1,280**	**2,100**	--
	9/15/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0088	7.1	0.0406	**1,260**	**1,960**	--
	12/1/2015	(orig)	< 0.001	0.0023	< 0.001	< 0.003	--	--	0.0118	7.1	0.0402	**1,210**	**2,320**	--
	3/29/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0134	7.7	0.0416	**1,300**	**2,080**	--
	6/21/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0713	9.3	0.0427	**1,210**	**2,210**	--
	9/7/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0138	6.3	0.0354	**1,340**	**2,140**	--
	12/2/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	--	6.9	--	**1,250**	**1,950**	--
	3/7/2017	(orig)	--	--	--	--	--	--	--	--	--	--	--	--
	6/13/2017	(orig)	--	--	--	--	--	--	--	--	--	--	--	--
	9/26/2017	(orig)	--	--	--	--	--	--	0.0538	--	0.0358	--	--	--
	12/19/2017	(orig)	--	--	--	--	--	--	0.1280	--	0.0433	--	--	--
	3/14/2018	(orig)	--	--	--	--	--	--	<0.005	--	0.0398	**1470**	**2160**	--
	6/26/2018	(orig)	--	--	--	--	--	--	--	--	0.0361	**1,320**	**2,290**	--

TABLE 3
PETROLEUM HYDROCARBON AND GENERAL CHEMISTRY GROUNDWATER ANALYTICAL RESULTS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Manganese (dissolved) (mg/L)	Nitrate (as N) (mg/L)	Selenium (dissolved) (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Heterotrophic Plate Count (CFU/mL)
NMWQCC Standards			**0.005**	**1.00**	**0.70**	**0.62**	NE	NE	**0.2**	**10**	**0.05**	**600**	**1,000**	NE
MW-4	9/5/2018	(orig)	--	--	--	--	--	--	**0.0217**	--	0.039	**1,400**	**2,580**	--
	12/14/2018	(orig)	--	--	--	--	--	--	<0.010	--	0.0366	**1,130**	**2,220**	--
	3/29/2019	(orig)	--	--	--	--	--	--	<0.010	--	0.0274	--	--	--
	6/14/2019	(orig)	--	--	--	--	--	--	<0.010	--	--	--	--	--
	9/9/2019	(orig)	--	--	--	--	--	--	<0.010	--	0.0404	--	--	--
	11/4/2019	(orig)	--	--	--	--	--	--	<0.010	--	0.0398	**1,260**	**1,660**	--
	3/2/2020	(orig)	--	--	--	--	--	--	<0.005	--	0.0391	--	--	--
	5/1/2020	(orig)	--	--	--	--	--	--	<0.005	--	0.0391	--	--	--
	8/18/2020	(orig)	--	--	--	--	--	--	<0.005	--	0.0387	--	--	--
	10/19/2020	(orig)	--	--	--	--	--	--	<0.005	--	0.0426	--	--	--
MW-5	10/18/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.5	< 0.5	--	--	--	--	--	970,000
	2/23/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.10**	0.12	< 0.015	**3,500**	**2,760**	252,000
	6/5/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.868**	< 0.10	< 0.015	**2,040**	--	63,000
	9/18/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.791**	< 0.10	< 0.015	**1,620**	**2,830**	130,000
	1/8/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.58**	< 0.10	< 0.015	**1,710**	**2,950**	102,000
	3/26/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.356**	0.3	< 0.015	**1,700**	**2,370**	16,950
	6/11/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.609**	0.25	< 0.015	**1,630**	--	20,500
	9/10/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.368**	< 0.10	< 0.015	**1,640**	**2,540**	660
	1/7/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.396**	< 0.10	< 0.015	**1,740**	**2,770**	5,450
	3/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.606**	< 0.10	< 0.015	**1,760**	**2,800**	1,315
	6/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.93**	0.17	< 0.015	**1,730**	**2,320**	--
	9/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.433**	0.14	< 0.015	**1,490**	**2,850**	--
	12/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0706	0.13	< 0.015	**1,790**	**2,710**	--
	3/17/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0433	0.11	< 0.015	**1,730**	**3,030**	--
	6/16/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0331	< 0.10	< 0.015	**1,720**	**2,780**	--
	9/15/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0215	0.14	< 0.015	**1,810**	**3,180**	--
	12/1/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0163	0.16	< 0.015	**1,670**	**3,100**	--
	3/29/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.128	< 0.10	< 0.015	**1,760**	**2,700**	--
	6/21/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0109	0.11	< 0.015	**1,610**	**2,630**	--
	9/7/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.235**	< 0.10	< 0.015	**1,850**	**2,760**	--
	12/2/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.214**	< 0.10	< 0.015	**1,680**	**2,630**	--
	3/7/2017	(orig)	--	--	--	--	--	--	0.0405	--	--	--	--	--
	6/13/2017	(orig)	--	--	--	--	--	--	--	--	--	--	--	--
	9/26/2017	(orig)	--	--	--	--	--	--	**1.54**	--	<0.0015	--	--	--
	12/19/2017	(orig)	--	--	--	--	--	--	0.182	--	--	--	--	--
	3/14/2018	(orig)	--	--	--	--	--	--	0.192	--	--	--	--	--
	6/26/2018	(orig)	--	--	--	--	--	--	0.0054	--	--	--	--	--
	9/5/2018	(orig)	--	--	--	--	--	--	0.02	--	--	--	--	--
	12/14/2018	(orig)	--	--	--	--	--	--	<0.010	--	--	--	--	--
	3/29/2019	(orig)	--	--	--	--	--	--	<0.010	--	--	--	--	--
	6/17/2019	(orig)	--	--	--	--	--	--	<0.010	--	--	--	--	--
	9/10/2019	(orig)	--	--	--	--	--	--	<0.010	--	--	--	--	--
	11/4/2019	(orig)	--	--	--	--	--	--	<0.010	--	--	--	--	--
	3/3/2020	(orig)	--	--	--	--	--	--	<0.005	--	--	--	--	--
	5/4/2020	(orig)	--	--	--	--	--	--	<0.005	--	--	--	--	--
	8/19/2020	(orig)	--	--	--	--	--	--	0.00942	--	--	--	--	--
	10/20/2020	(orig)	--	--	--	--	--	--	0.0866	--	--	--	--	--
MW-6	10/18/2011	(orig)	**0.033**	< 0.001	< 0.001	0.012	< 0.5	< 0.5	--	--	--	--	--	720,000
	2/23/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	<0.005	**25.8**	**0.0590**	**950**	**1,760**	8,900
	6/5/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.600**	**35.0**	0.0454	**1,090**	--	35,000
	9/18/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**1.110**	**29.5**	0.0460	**955**	**1,990**	12,000
	1/8/2013	(orig)	0.0012	< 0.001	< 0.001	< 0.003	--	--	0.158	**25.6**	**0.0536**	**978**	**1,980**	1,910,000
	3/26/2013	(orig)	0.0022	< 0.001	< 0.001	< 0.003	--	--	**0.282**	**30.9**	**0.0602**	**945**	**1,740**	25,500
	6/11/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.328**	**27.6**	**0.0621**	**946**	--	4,750
	9/10/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.299**	**22.7**	0.0389	**929**	**1,710**	65

TABLE 3
PETROLEUM HYDROCARBON AND GENERAL CHEMISTRY GROUNDWATER ANALYTICAL RESULTS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Manganese (dissolved) (mg/L)	Nitrate (as N) (mg/L)	Selenium (dissolved) (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Heterotrophic Plate Count (CFU/mL)
NMWQCC Standards			**0.005**	**1.00**	**0.70**	**0.62**	NE	NE	**0.2**	**10**	**0.05**	**600**	**1,000**	NE
MW-6	1/7/2014	(orig)	0.0026	< 0.001	< 0.001	0.0034	--	--	**0.268**	**19.5**	0.0417	**984**	**2,060**	2,460
	3/18/2014	(orig)	0.0012	< 0.001	< 0.001	< 0.003	--	--	**0.246**	**23.6**	0.0392	**1,000**	**2,000**	710
	6/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.140	4.6	0.0360	**955**	**1,780**	--
	9/16/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.115	**23.2**	0.0386	**846**	**1,930**	--
	12/16/2014	(orig)	0.0014	< 0.001	< 0.001	< 0.003	--	--	0.147	**27.2**	0.0343	**1,000**	**1,830**	--
	3/17/2015	(orig)	< 0.001	0.0018	< 0.001	< 0.003	--	--	0.114	**26**	0.0360	**986**	**1,990**	--
	6/16/2015	(orig)	< 0.001	0.002	< 0.001	0.0037	--	--	0.0917	**22.2**	0.0370	**988**	**1,400**	--
	9/15/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0456	**26.4**	0.0369	**980**	**1,940**	--
	12/1/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0396	**25.3**	0.0373	**904**	**2,130**	--
	3/29/2016	(orig)	0.0020	0.0034	0.0015	0.0048	--	--	0.0338	**24.6**	0.0364	**963**	**1,900**	--
	6/21/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0819	**26.2**	0.0296	**884**	**1,880**	--
	9/7/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.1070	**22.4**	0.0272	**1,000**	**1,940**	--
	12/2/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	--	**24.8**	--	**936**	**1,860**	--
	3/7/2017	(orig)	--	--	--	--	--	--	0.1290	--	--	--	--	--
	6/13/2017	(orig)	--	--	--	--	--	--	0.0734	--	--	--	--	--
	9/26/2017	(orig)	--	--	--	--	--	--	0.0787	--	0.0277	--	--	--
	12/19/2017	(orig)	--	--	--	--	--	--	0.0481	--	0.0358	**800**	**2060**	--
	3/14/2018	(orig)	--	--	--	--	--	--	0.0459	--	0.0329	**1050**	**2030**	--
	6/26/2018	(orig)	--	--	--	--	--	--	--	--	0.0284	**972**	**2,030**	--
	9/5/2018	(orig)	--	--	--	--	--	--	**0.024**	--	0.0322	**1,060**	**2,150**	--
	12/14/2018	(orig)	--	--	--	--	--	--	<0.010	--	0.0391	**1,010**	**2,060**	--
	3/29/2019	(orig)	--	--	--	--	--	--	<0.010	--	0.044	--	--	--
	6/18/2019	(orig)	--	--	--	--	--	--	<0.010	--	--	--	--	--
	9/11/2019	(orig)	--	--	--	--	--	--	<0.010	--	0.0341	--	--	--
	11/5/2019	(orig)	--	--	--	--	--	--	<0.010	--	0.0342	**1,000**	**1,690**	--
	3/4/2020	(orig)	--	--	--	--	--	--	<0.005	--	0.0343	--	--	--
	5/6/2020	(orig)	--	--	--	--	--	--	<0.005	--	0.0334	--	--	--
	8/20/2020	(orig)	--	--	--	--	--	--	<0.005	--	0.0332	--	--	--
	10/20/2020	(orig)	--	--	--	--	--	--	<0.005	--	0.0381	--	--	--
MW-7	10/18/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.5	< 0.5	--	--	--	--	--	2,000,000
	2/23/2012	(orig)	< 0.001	0.0011	< 0.001	0.0034	--	--	< 0.005	4.6	0.022	**3,320**	**4,660**	< 1
	6/5/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.019	1.1	0.030	**1,820**	--	8
	9/18/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.012	1.0	0.024	**1,610**	**4,280**	1,900
	1/8/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0093	1.3	0.0164	**1,770**	**3,400**	145,000
	3/26/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	<0.005	5.3	< 0.015	**1,730**	**3,050**	79
	6/11/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0082	**18.7**	< 0.015	**1,700**	--	18
	9/10/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.168	**31.4**	< 0.015	**1,740**	**3,080**	110
	1/7/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.452**	**28.5**	< 0.015	**1,950**	**3,320**	8,300
	3/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.438**	**35**	< 0.015	**1,920**	**3,350**	940
	6/16/2014	(orig)	--	--	--	--	--	--	**0.49**	2.7	< 0.015	**1,930**	**2,940**	--
	9/25/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.231**	**29.7**	< 0.015	**1,970**	--	--
	12/16/2014	(orig)	0.0013	0.0031	< 0.001	< 0.003	--	--	**0.435**	3.9	< 0.015	**2,140**	**2,610**	--
	3/17/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.321**	**23.9**	< 0.015	**2,030**	**3,530**	--
	6/16/2015	(orig)	0.0023	0.0071	< 0.001	0.0045	--	--	**0.256**	**18.2**	< 0.015	**1,970**	**2,300**	--
	9/15/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	**0.227**	**20.2**	< 0.015	**2,010**	**3,100**	--
	12/1/2015	(orig)	0.0012	0.0053	< 0.001	< 0.003	--	--	0.108	**20.2**	< 0.015	**1,900**	**2,600**	--
	3/29/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.102	**17.2**	< 0.015	**2,080**	**3,120**	--
	6/21/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0552	**21.2**	< 0.015	**1,900**	**2,960**	--
	9/7/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	0.0387	**16**	< 0.015	**2,160**	**2,910**	--
	12/2/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--	--	--	**17.3**	--	**1,950**	**3,090**	--
	3/7/2017	(orig)	--	--	--	--	--	--	0.0077	--	--	--	--	--
	6/13/2017	(orig)	--	--	--	--	--	--	<0.005	--	--	--	--	--
	9/26/2017	(orig)	--	--	--	--	--	--	**0.2620**	--	<0.015	--	--	--
	12/19/2017	(orig)	--	--	--	--	--	--	<0 .0050	--	--	--	--	--
	3/14/2018	(orig)	--	--	--	--	--	--	0.0056	--	--	--	--	--

TABLE 3
PETROLEUM HYDROCARBON AND GENERAL CHEMISTRY GROUNDWATER ANALYTICAL RESULTS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Manganese (dissolved) (mg/L)	Nitrate (as N) (mg/L)	Selenium (dissolved) (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Heterotrophic Plate Count (CFU/mL)
NMWQCC Standards			**0.005**	**1.00**	**0.70**	**0.62**	NE	NE	**0.2**	**10**	**0.05**	**600**	**1,000**	NE
MW-7	6/26/2018	(orig)	--	--	--	--	--	--	<0 .0050	--	--	--	--	--
	9/5/2018	(orig)	--	--	--	--	--	--	<0 .0050	--	--	--	--	--
	12/14/2018	(orig)	--	--	--	--	--	--	<0 .010	--	--	--	--	--
	3/29/2019	(orig)	--	--	--	--	--	--	<0 .010	--	--	--	--	--
	6/14/2019	(orig)	--	--	--	--	--	--	<0 .010	--	--	--	--	--
	9/9/2019	(orig)	--	--	--	--	--	--	<0 .010	--	--	--	--	--
	11/1/2019	(orig)	--	--	--	--	--	--	<0 .010	--	--	--	--	--
	3/2/2020	(orig)	--	--	--	--	--	--	<0.005	--	--	--	--	--
	5/1/2020	(orig)	--	--	--	--	--	--	<0.005	--	--	--	--	--
	8/18/2020	(orig)	--	--	--	--	--	--	<0.005	--	--	--	--	--
	10/19/2020	(orig)	--	--	--	--	--	--	<0.005	--	--	--	--	--
MW-8	10/19/2011	(orig)	**0.15**	**1.24**	0.070	**1.43**	7.1	< 0.5	--	--	--	--	--	2,300,000
	2/23/2012	(orig)	**0.036**	0.772	0.054	**1.35**	--	--	<0.005	3.2	0.049	**813**	**5,790**	14
	2/23/2012	(Duplicate)	**0.069**	0.876	0.109	**1.66**	--	--	--	--	--	--	--	--
	6/5/2012	(orig)	**0.013**	0.120	0.025	0.447	--	--	0.022	**18.1**	0.045	**793**	--	630
	9/20/2012	(orig)	**0.0098**	0.002	0.006	0.342	--	--	--	**21.8**	--	**1,130**	**2,960**	--
	1/8/2013	(orig)	**0.0369**	0.0199	0.0018	0.0488	--	--	--	**30.4**	--	**1,260**	**2,700**	222,000
	3/26/2013	(orig)	**Not sampled due to damaged well casing.**											
	6/11/2013	(orig)	**Not sampled due to damaged well casing.**											
	7/13/2013	(orig)	**Plugged and Abandoned**											
MW-8R	9/10/2013	(orig)	**0.0100**	0.0171	0.0017	0.0615	--	--	**0.395**	**38.6**	0.038	**1,230**	**2,430**	5,700
	9/10/2013	(Duplicate)	**0.0083**	0.0125	0.0018	0.0443	--	--	--	--	--	--	--	8,700
	1/7/2014	(orig)	**0.179**	0.353	0.0105	**0.69**	--	--	**0.255**	**28.3**	0.0374	**1,360**	**2,900**	425,000
	1/7/2014	(Duplicate)	**0.192**	0.344	0.0107	**0.715**	--	--	--	--	--	--	--	--
	3/18/2014	(orig)	**0.103**	0.154	0.0076	0.164	--	--	0.106	**35.0**	< 0.015	**1,290**	**2,460**	8,550
	3/18/2014	(Duplicate)	**0.116**	0.149	0.0077	0.156	--	--	--	--	--	--	--	--
	6/16/2014	(orig)	**0.319**	0.846	0.0305	0.505	--	--	**1.5**	4.4	< 0.015	**1,510**	**2,330**	--
	6/16/2014	(Duplicate)	**0.291**	0.816	0.0296	**0.642**	--	--	--	--	--	--	--	--
	9/25/2014	(orig)	**0.172**	0.0022	< 0.001	0.0067	--	--	**1.38**	6.6	< 0.015	**1,530**	--	--
	9/25/2014	(Duplicate)	**0.182**	0.0025	< 0.001	0.0068	--	--	--	--	--	--	--	--
	12/16/2014	(orig)	**0.187**	0.301	0.0248	0.368	--	--	**1.01**	**13**	< 0.015	**1,470**	**2,440**	--
	12/16/2014	(Duplicate)	**0.195**	0.283	0.0246	0.353	--	--	--	--	--	--	--	--
	3/17/2015	(orig)	**0.262**	0.0205	**0.714**	0.501	--	--	**0.323**	**27**	0.021	**1,320**	**2,240**	--
	3/17/2015	(Duplicate)	**0.263**	0.0205	**0.701**	0.494	--	--	--	--	--	--	--	--
	6/16/2015	(orig)	**0.191**	0.418	0.0147	0.300	--	--	**0.707**	**11.2**	< 0.015	**1,410**	**2,040**	--
	6/16/2015	(Duplicate)	**0.193**	0.412	0.0141	0.293	--	--	--	--	--	--	--	--
	9/15/2015	(orig)	**0.451**	**1.04**	0.0587	**0.881**	--	--	**0.7**	**18**	< 0.015	**1,340**	**2,340**	--
	9/15/2015	(Duplicate)	**0.449**	0.965	0.0603	**0.83**	--	--	--	--	--	--	--	--
	12/1/2015	(orig)	**0.412**	0.873	0.0257	0.508	--	--	**0.84**	**13.1**	< 0.015	**1,290**	**2,180**	--
	12/1/2015	(Duplicate)	**0.418**	0.922	0.0264	0.526	--	--	--	--	--	--	--	--
	3/29/2016	(orig)	**0.173**	0.313	0.0136	0.222	--	--	**1.16**	2.8	< 0.015	**1,560**	**2,280**	--
	3/29/2016	(Duplicate)	**0.17**	0.278	0.0148	0.247	--	--	--	--	--	--	--	--
	6/21/2016	(orig)	**0.193**	0.586	0.0168	0.466	--	--	**0.431**	**20.7**	< 0.015	**1,280**	**2,180**	--
	6/21/2016	(Duplicate)	**0.204**	0.625	0.0182	0.456	--	--	--	--	--	--	--	--
	9/7/2016	(orig)	**0.27**	0.901	0.0291	**0.670**	--	--	**0.758**	**13.7**	< 0.015	**1,500**	**2,300**	--
	9/7/2016	(Duplicate)	**0.3**	**1.12**	0.0372	**0.812**	--	--	--	--	--	--	--	--
	12/2/2016	(orig)	**0.162**	0.122	< 0.005	0.246	--	--	**0.488**	**17.6**	< 0.015	**1,320**	**2,260**	--
	3/7/2017	(orig)	**0.0186**	<0.001	<0.001	<0.003	--	--	**0.437**	--	--	--	--	--
	6/13/2017	(orig)	0.0037	0.0047	<0.001	0.0089	--	--	**0.396**	--	--	--	--	--
	9/26/2017	(orig)	0.0032	0.0029	<0.001	0.0088	--	--	0.0218	--	<0.015	--	--	--
	12/19/2017	(orig)	0.0014	0.0022	< 0.001	0.0059	--	--	**0.432**	--	--	--	--	--
	3/14/2018	(orig)	<0.001	0.0013	<0.001	<0.003	--	--	**0.364**	--	--	--	--	--
	6/26/2018	(orig)	<0.001	<0.001	<0.001	<0.003	--	--	**0.434**	--	--	--	--	--
	9/5/2018	(orig)	<0.001	<0.001	<0.001	<0.003	--	--	**0.442**	--	--	--	--	--

TABLE 3
PETROLEUM HYDROCARBON AND GENERAL CHEMISTRY GROUNDWATER ANALYTICAL RESULTS

SAN JUAN 29-7 UNIT 37
HILCORP ENERGY COMPANY
RIO ARRIBA COUNTY, NEW MEXICO

Well ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	Manganese (dissolved) (mg/L)	Nitrate (as N) (mg/L)	Selenium (dissolved) (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Heterotrophic Plate Count (CFU/mL)
NMWQCC Standards			**0.005**	**1.00**	**0.70**	**0.62**	NE	NE	**0.2**	**10**	**0.05**	**600**	**1,000**	NE
MW-8R	12/14/2018	(orig)	<0.001	<0.001	<0.001	<0.003	--	--	**0.238**	--	--	--	--	--
	3/29/2019	(orig)	<0.001	<0.001	<0.001	<0.003	--	--	0.172	--	--	--	--	--
	6/24/2019	(orig)	--	--	--	--	--	--	**0.427**	--	--	--	--	--
	9/13/2019	(orig)	<0.001	<0.001	<0.001	<0.003	--	--	**0.357**	--	--	--	--	--
	11/6/2019	(orig)	<0.001	<0.001	<0.001	<0.003	--	--	0.0153	--	--	--	--	--
	3/5/2020	(orig)	--	--	--	--	--	--	**1.98**	--	--	--	--	--
	5/7/2020	(orig)	--	--	--	--	--	--	**0.775**	--	--	--	--	--
	8/21/2020	(orig)	--	--	--	--	--	--	0.0524	--	--	--	--	--
	10/22/2020	(orig)	--	--	--	--	--	--	**0.710**	--	--	--	--	--
	3/2/2021	(orig)	--	--	--	--	--	--	**0.622**	--	--	--	--	--
	9/24/2021	(orig)	--	--	--	--	--	--	**0.89**	--	--	--	--	--

Notes:

mg/L - milligrams per liter

CFU/mL - colony forming unit per milliliter

E = analyte concentration exceeded the calibration range

ND - not detected, practical quantitation limit unknown

NE - not established

NMWQCC - New Mexico Water Quality Control Commission

TPH DRO = total petroleum hydrocarbons diesel range organics

TPH GRO = total petroleum hydrocarbons gasoline range organics

<0.037 - indicates result less than the stated laboratory reporting limit (PQL)

BOLD - indicates concentration exceeds the NNEPA standard

-- - not analyzed

Cells shaded in gray indicate groundwater samples collected prior to CoolOx™ treatment

ENCLOSURE A – ANALYTICAL LABORATORY REPORTS

Pace Analytical®

ANALYTICAL REPORT

January 21, 2022

Revised Report

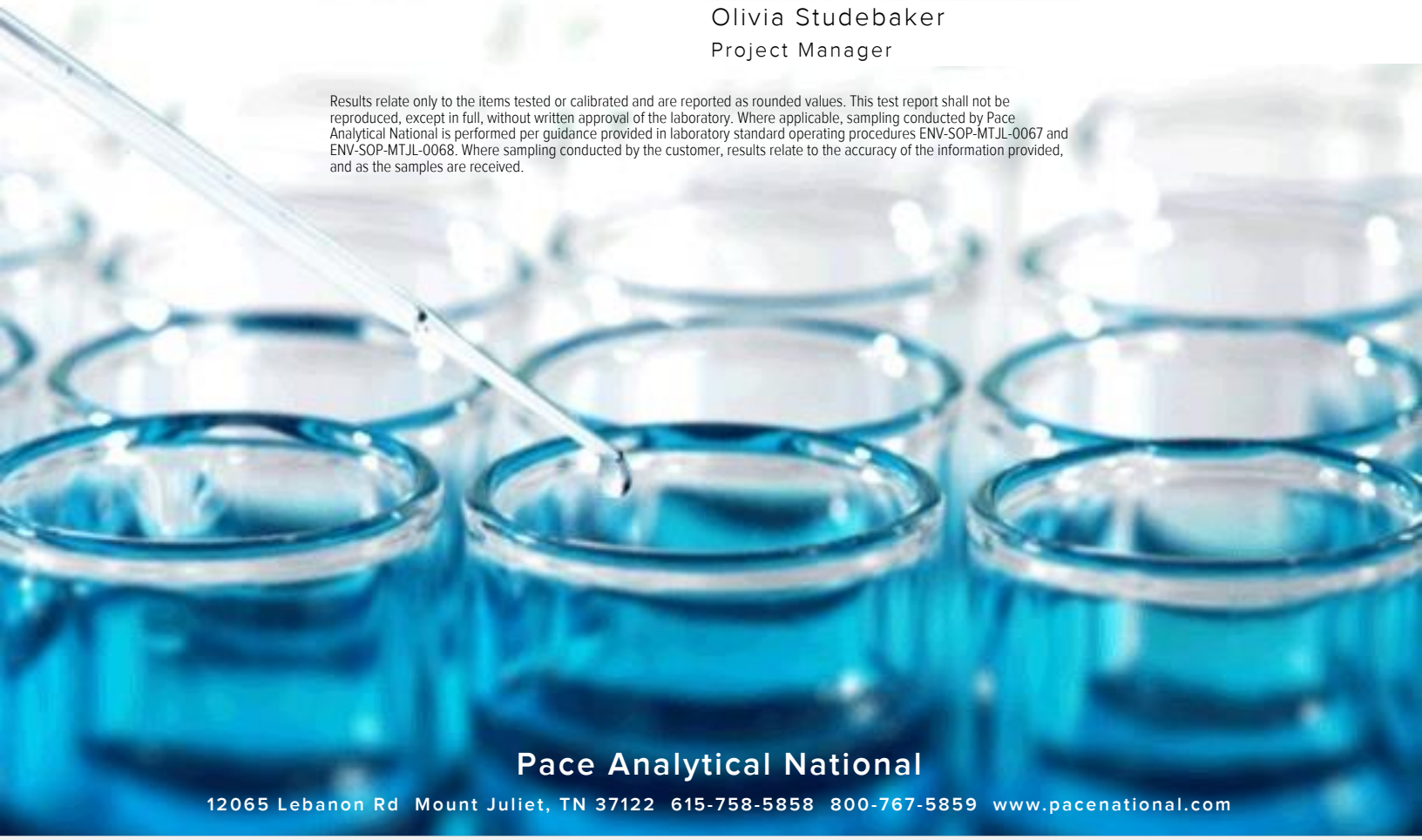
HilCorp-Farmington, NM

Sample Delivery Group:	L1323645
Samples Received:	03/05/2021
Project Number:	
Description:	San Juan 29-7 Unit 37
Site:	SAN JUAN 29-7 UNIT 37
Report To:	Clara Cardoza 382 Road 3100 Aztec, NM 87410

Entire Report Reviewed By:

Olivia Studebaker
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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SAMPLE SUMMARY

MW 1 L1323645-01 GW

Collected by: K. Hoekstra
Collected date/time: 03/02/21 14:30
Received date/time: 03/05/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1631331	1	03/10/21 03:45	03/10/21 11:00	EL	Mt. Juliet, TN

MW 3 L1323645-03 GW

Collected by: K. Hoekstra
Collected date/time: 03/01/21 12:00
Received date/time: 03/05/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1631331	1	03/10/21 03:45	03/10/21 11:06	EL	Mt. Juliet, TN

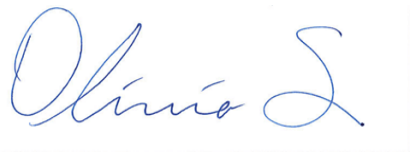
MW 8R L1323645-04 GW

Collected by: K. Hoekstra
Collected date/time: 03/02/21 11:50
Received date/time: 03/05/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1631331	1	03/10/21 03:45	03/10/21 11:14	EL	Mt. Juliet, TN

CASE NARRATIVE

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



Olivia Studebaker
Project Manager

Report Revision History

Level II Report - Version 1: 03/11/21 10:05
Level II Report - Version 2: 03/11/21 10:48

Project Narrative

Report MW-1, MW-3, and MW-8R

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Manganese,Dissolved	1.02		0.0100	1	03/10/2021 11:00	WG1631331

MW-3
Collected date/time: 03/01/21 12:00

L1323645

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Manganese,Dissolved	1.64		0.0100	1	03/10/2021 11:06	WG1631331

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Manganese,Dissolved	0.622		0.0100	1	03/10/2021 11:14	WG1631331

Method Blank (MB)

(MB) R3629212-1 03/10/21 10:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Manganese,Dissolved	U		0.000934	0.0100

Laboratory Control Sample (LCS)

(LCS) R3629212-2 03/10/21 10:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Manganese,Dissolved	1.00	0.969	96.9	80.0-120	

L1322776-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1322776-15 03/10/21 10:09 • (MS) R3629212-4 03/10/21 10:15 • (MSD) R3629212-5 03/10/21 10:18

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Manganese,Dissolved	1.00	0.861	1.81	1.83	95.0	96.8	1	75.0-125			0.994	20

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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

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

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

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

Billing Information:

ATTN: Clara Cardoza

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: Clara Cardoza

Email To: ccardoza@hilcorp.com; khoekstra@hilc

Project Description: San Juan 29-7 Unit 37

City/State Collected: Aztec, NM

Phone: 5055640733
Fax:

Client Project #

Lab Project #

L # 1323645

B238

Collected by (print): K Hoekstra

Site/Facility ID # San Juan 29-7 Unit 37

P.O. #

Acctnum: HILCORANM

Collected by (signature): Kurt Hoekstra

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Immediately Packed on Ice N ___ Y X

Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Dissolved Mn 250mlHDPE-No Pres	Dissolved Se 250mlHDPE-No Pres							Remarks	Sample # (lab only)
MW 1		GW		3-2	2:30	1	X									01
MW 2		GW		3-1	1:45	1		X								02
MW 3		GW		3-1	12:00	1	X									03
MW 8R		GW		3-2	11:50	1	X									04

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other ______

Remarks:

pH ______ Temp ______

Flow ______ Other ______

Samples returned via:
__ UPS __ FedEx __ Courier __ ______

Tracking # 9296 5243 0994

Sample Receipt Checklist
COC Seal Present/Intact: NP __Y __N
COC Signed/Accurate: Y __N
Bottles arrive intact: Y __N
Correct bottles used: Y __N
Sufficient volume sent: Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: Y __N

Relinquished by : (Signature) Kurt Hoekstra	Date: 3-4-21	Time: 7:30	Received by: (Signature)	Trip Blank Received: Yes / No (circled) HCL / MeoH TBR		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C [illegible]	Bottles Received: 4	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 3/5/21	Time: 0900	Hold: / Condition: NCF / OK

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

October 08, 2021

Stuart Hyde
Hilcorp Energy
PO Box 61529
Houston, TX 77208-1529
TEL:
FAX:

RE: San Juan 29 7 37 OrderNo.: 2109F65

Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 8 sample(s) on 9/28/2021 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 **2109F65**
Date Reported: **10/8/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: MW1
Project: San Juan 29 7 37
Collection Date: 9/24/2021 1:05:00 PM
Lab ID: 2109F65-001
Matrix: GROUNDWA
Received Date: 9/28/2021 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Manganese	1.5	0.010	*	mg/L	5	9/30/2021 12:26:16 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2109F65**
Date Reported: **10/8/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: MW3
Project: San Juan 29 7 37
Collection Date: 9/24/2021 2:15:00 PM
Lab ID: 2109F65-003
Matrix: GROUNDWA
Received Date: 9/28/2021 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Manganese	1.9	0.010	*	mg/L	5	9/30/2021 12:35:45 PM

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

Qualifiers:

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

Analytical Report
Lab Order **2109F65**
Date Reported: **10/8/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy
Client Sample ID: MW8R
Project: San Juan 29 7 37
Collection Date: 9/24/2021 12:39:00 PM
Lab ID: 2109F65-008
Matrix: GROUNDWA
Received Date: 9/28/2021 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Manganese	0.89	0.0020	*	mg/L	1	9/30/2021 12:24:41 PM

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

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2109F65**

08-Feb-22

Client: Hilcorp Energy

Project: San Juan 29 7 37

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A81703**	RunNo: **81703**
Prep Date:	Analysis Date: **9/30/2021**	SeqNo: **2888064** Units: **mg/L**

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

Sample ID: **LLLCS**	SampType: **LCSLL**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **BatchQC**	Batch ID: **A81703**	RunNo: **81703**
Prep Date:	Analysis Date: **9/30/2021**	SeqNo: **2888065** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.0020	0.0020	0.002000	0	100	50	150			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A81703**	RunNo: **81703**
Prep Date:	Analysis Date: **9/30/2021**	SeqNo: **2888066** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	0.49	0.0020	0.5000	0	98.9	85	115			

Sample ID: **2109F65-001AMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MW1**	Batch ID: **A81703**	RunNo: **81703**
Prep Date:	Analysis Date: **9/30/2021**	SeqNo: **2888135** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	4.0	0.010	2.500	1.542	99.9	70	130			

Sample ID: **2109F65-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MW1**	Batch ID: **A81703**	RunNo: **81703**
Prep Date:	Analysis Date: **9/30/2021**	SeqNo: **2888139** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	4.2	0.010	2.500	1.542	106	70	130	3.41	20	

Sample ID: **2109F65-003AMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MW3**	Batch ID: **A81703**	RunNo: **81703**
Prep Date:	Analysis Date: **9/30/2021**	SeqNo: **2888141** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	4.5	0.010	2.500	1.857	104	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2109F65**

08-Feb-22

Client: Hilcorp Energy

Project: San Juan 29 7 37

Sample ID: **2109F65-003AMSD**	SampType: **MSD**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MW3**	Batch ID: **A81703**	RunNo: **81703**
Prep Date:	Analysis Date: **9/30/2021**	SeqNo: **2888142** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	4.7	0.010	2.500	1.857	112	70	130	4.50	20	

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Sample Log-In Check List

Client Name: Hilcorp Energy | Work Order Number: 2109F65 | RcptNo: 1

Received By: Cheyenne Cason 9/28/2021 7:00:00 AM

Completed By: Isaiah Ortiz 9/28/2021 8:22:01 AM

Reviewed By: JRA 9/29/21

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 ☑ TME 9/29/21 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: 8 (<2 or >12 unless noted)
Adjusted? Yes
Checked by: TME 9/29/21

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: Added .40mL of HNO_3 to samples 002A + 004A for proper pH. – TME 9/29/21

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.0	Good	Not Present			
2	3.3	Good	Not Present			

Chain-of-Custody Record

Client: Hilcorp
Attn Kate Kaufman
Mailing Address: 1111 Travis St
Houston TX
Phone #:
email or Fax#: kkaufman@hilcorp.com
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: San Juan 29-7 #37
Project #: PO: 6000 3045
Project Manager: Stuart Hyde
Stuart.hyde@cwsp.com
Sampler: S Hyde
On Ice: ☒ Yes ☐ No
# of Coolers: 2 2.0 - 0 = 2.0
Cooler Temp(including CF): 3.3 - 0 = 3.3 (°C)

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2109F65	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)	Dissolved Mn	Dissolved Se				
9/24	1305	GW	MW1	poly	HNO_3	001											X					
9/27	1145		MW2			002											X	X				
9/24	1415		MW3			003											X					
9/24	1205		MW4			004											X	X				
9/24	1355		MW5			005											X					
9/27	1050		MW6			006											X	X				
9/24	1335		MW7			007											X					
9/24	1239	↓	MW8R	↓	↓	008	X										X					

Remarks:

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
9/27/21	1700				9/27/21	1700
9/27/21	1826		Cmc courier		9/28/21	0700

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.

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

Operator:	OGRID:
HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	372171
	Action Number: 82162
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Review of 2021 Annual Groundwater Report: Content satisfactory 1. Sample monitor wells MW-1, MW-3, MW-8R for manganese on a semi-annual basis 2. Submit the Annual Monitoring Report to the OCD no later than March 31, 2023.	2/16/2022