



NV

March 24, 2023

Keith Manwell
Jicarilla Apache Environmental Protection Office
Jicarilla Agency Bureau of Indian Affairs
P.O. Box 167
Dulce, New Mexico 87528

Re: 2022 Annual Groundwater Monitoring Report
Jicarilla Contract 147-6
Rio Arriba County, New Mexico
Harvest Four Corners, LLC
NMOCD Incident No: nAUTOfAB000298

Mr. Manwell:

Ensolum, LLC (Ensolum), on behalf of Harvest Four Corners, LLC (Harvest), presents this *2022 Annual Groundwater Monitoring Report* to the Jicarilla Apache Environmental Protection Office (JAEPO) to document groundwater monitoring activities conducted at the Jicarilla Contract 147-6 natural gas production site (Site) during 2022. The Site is located within Unit Letter C, Section 6 within Township 25 North and Range 5 West, Rio Arriba County, New Mexico (Figure 1). The Site is adjacent to a tributary of Tapacito Creek, which drains into Largo Wash.

There are currently eight monitoring wells onsite, which are monitored annually for groundwater elevations. Four monitoring wells (MW-3, MW-6, MW11, and MW-14) are sampled annually. This report presents the results of the 2022 monitoring events.

SITE BACKGROUND

The source of groundwater impact is a former unlined dehydrator pit formerly operated by the Gas Company of New Mexico (GCNM/PNM). In July 1998, over 12,000 cubic yards of impacted soil were excavated from the Site. A groundwater sample collected from the open excavation at approximately 26 feet below ground surface (bgs) contained 1,400 micrograms per liter (µg/L) of benzene, 4,500 µg/L of toluene, 580 µg/L of ethylbenzene, and 6,800 µg/L of total xylenes (collectively referred to as BTEX). In January 1999, five monitoring wells (MW-1, MW-2, MW-3, MW-4, and MW-5) were installed. Based on the analytical results of groundwater sampling, an additional five monitoring wells (MW-6, MW-7, MW-8, MW-9, and MW-10) were installed in 1999 and 2000. Over time, three monitoring wells (MW-4, MW-5, and MW-7) located near a wash adjacent to the Site were destroyed by erosion. Records regarding these activities are documented in previous groundwater reports submitted to the JAEPO and New Mexico Oil Conservation Division (NMOCD, Incident No: nAUTOfAB000298).

Williams purchased the GCNM facility from PNM in 2000 and assumed environmental liability for the former unlined dehydrator pit. Between 2000 and December 2012, Williams monitored groundwater quality in the monitoring wells at the Site. Williams installed two monitoring wells (MW-11 and MW-12) on October 21, 2013, to better understand Site conditions. Williams installed

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two additional monitoring wells (MW-13 and MW-14) on November 20, 2017. In 2018, Harvest purchased the facility from Williams and assumed environmental liability for the Site. Monitoring well MW-12 was destroyed by erosion before the 2020 groundwater sampling event and monitoring wells MW-9 and MW-13 were destroyed by erosion between the 2020 and 2021 sampling events.

SITE GROUNDWATER CLEANUP STANDARDS

NMOCD requires groundwater-quality standards be met as presented by the New Mexico Water Quality Control Commission (NMWQCC) and listed in Title 20, Chapter 6, Part 2, Section 3103 (20.6.2.3103) of the New Mexico Administrative Code (NMAC). The following standards are presented for the constituents of concern (COCs) at the Site:

- Benzene: 5 µg/L
- Toluene: 1,000 µg/L
- Ethylbenzene: 700 µg/L
- Total Xylenes: 620 µg/L

GROUNDWATER SAMPLING ACTIVITIES AND RESULTS

Groundwater-level measurements were collected in June 2022 within all wells, and samples were collected from wells MW-3, MW-6, MW-11, and MW-14. Upgradient monitoring wells MW-1, MW-2, MW-8, and MW-10 have not been sampled since 2013, before which eight consecutive groundwater sampling events demonstrated dissolved BTEX concentrations to be in compliance with the NMWQCC standards. Static groundwater-level monitoring included recording depth-to-groundwater using an 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. Measured depths-to-groundwater and calculated groundwater elevations are presented in Table 1. The inferred groundwater flow direction is to the north-northwest, as indicated on the groundwater potentiometric surface map presented in Figure 2.

GROUNDWATER SAMPLING

Groundwater from monitoring wells MW-3, MW-6, MW-11, and MW-14 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, including temperature, pH, and electrical conductivity were collected during the purging process.

Following well purging, groundwater samples were placed directly into laboratory-provided containers and labeled with the date and time of collection, well designation, project name, sample collector's name, and parameters to be analyzed. Containers were immediately sealed and packed on ice to preserve samples. Samples were submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis of BTEX by United State Environmental Protection Agency (EPA) Method 8021B. Proper chain-of-custody 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.

GROUNDWATER ANALYTICAL RESULTS

During the June 2022 sampling event, dissolved BTEX constituents were not detected above the laboratory reporting limit in groundwater from wells MW-11 and MW-14. In well MW-3, dissolved benzene and total xylenes exceeded the NMWQCC standards with concentrations of 280 µg/L and 1,800 µg/L, respectively. In well MW-6, dissolved benzene exceeded the NMWQCC

standards with a concentration of 810 µg/L. Analytical results are summarized in Table 2 and depicted on Figure 2, with complete laboratory analytical reports attached as Appendix A.

CONCLUSION

Laboratory analytical results indicate groundwater samples collected from monitoring well MW-3 contain concentrations of benzene and total xylenes that exceed the NMWQCC groundwater standards. Additionally, monitoring well MW-6 contained a concentration of dissolved benzene that exceed the NMWQCC groundwater standard. Dissolved BTEX concentrations are within range of historical sampling results and are continually decreasing in monitoring wells MW-3 and MW-6. The impacted groundwater plume remains stable, with similar gradient and flow direction. Natural attenuation via biodegradation appears to be an effective remedial option for this Site based on reductions in all dissolved BTEX constituents with only benzene and total xylenes left to remediate. Groundwater sample results from downgradient well MW-14 contained no detectable concentrations of BTEX, indicating the dissolved phase impacts are not migrating downgradient.

RECOMMENDATIONS

Based on current and historical data gathered at the Site, Ensolum/Harvest recommend continued annual gauging of all wells on Site and annual sampling of monitoring wells MW-3, MW-6, MW-11, and MW-14, to monitor impacts to groundwater and assess the continued natural attenuation of petroleum hydrocarbons beneath the Site.

A subsequent annual report summarizing groundwater remediation and monitoring activities in 2023 will be submitted to the JAEPO by March 31, 2024.

Ensolum appreciates the opportunity to provide these environmental services to Hilcorp. Please contact either of the undersigned with any questions.

Sincerely,

Ensolum, LLC



Eric Carroll
Project Geologist
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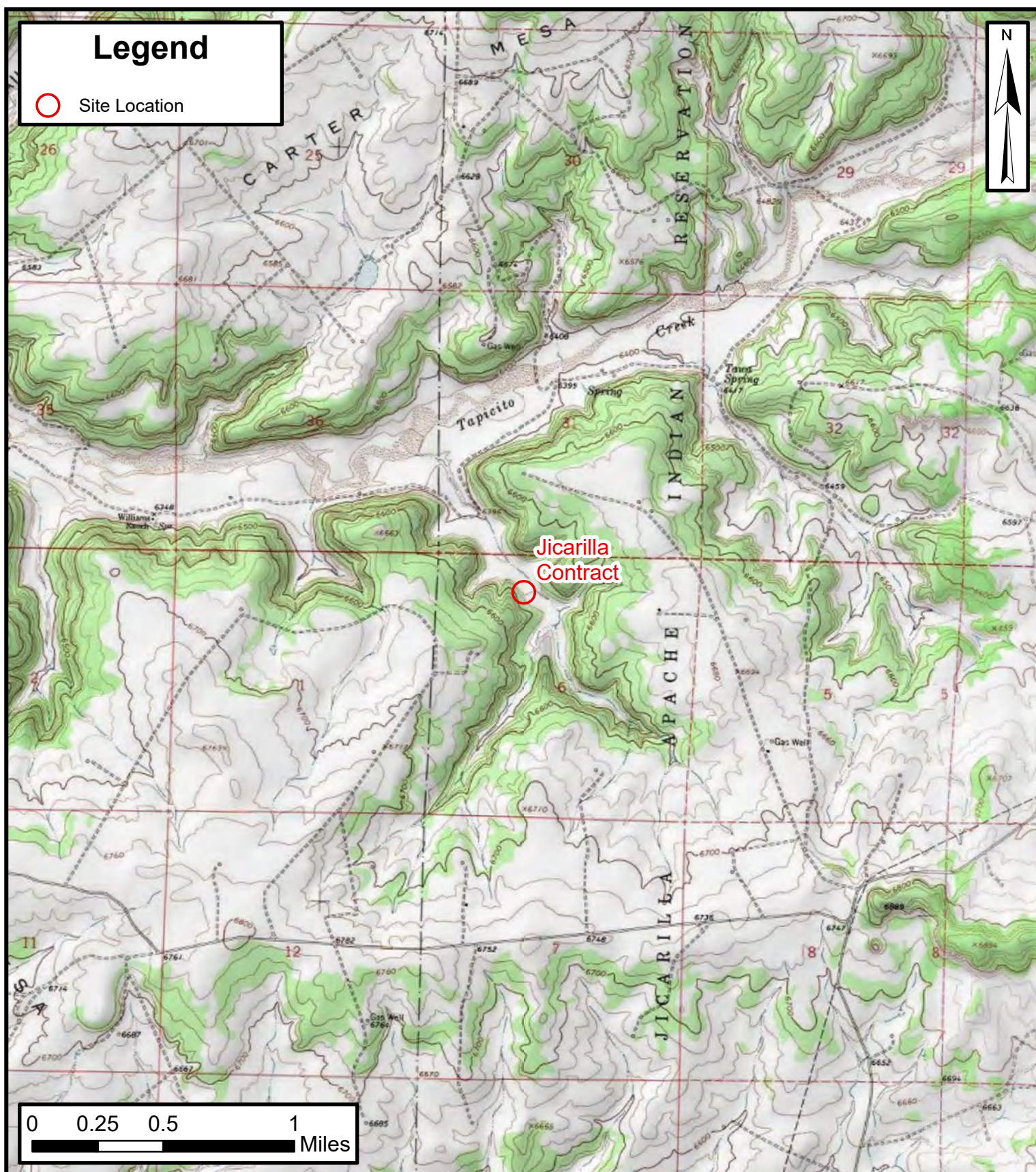
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Attachments:

- Figure 1: Site Location Map
Figure 2: Groundwater Elevation Contour Map and Analytical Results (May 2022)
- Table 1: Groundwater Elevation
Table 2: Groundwater Analytical Results
- Appendix A: Sample Collection Forms
Appendix B: Laboratory Analytical Report



FIGURES



Site Location Map

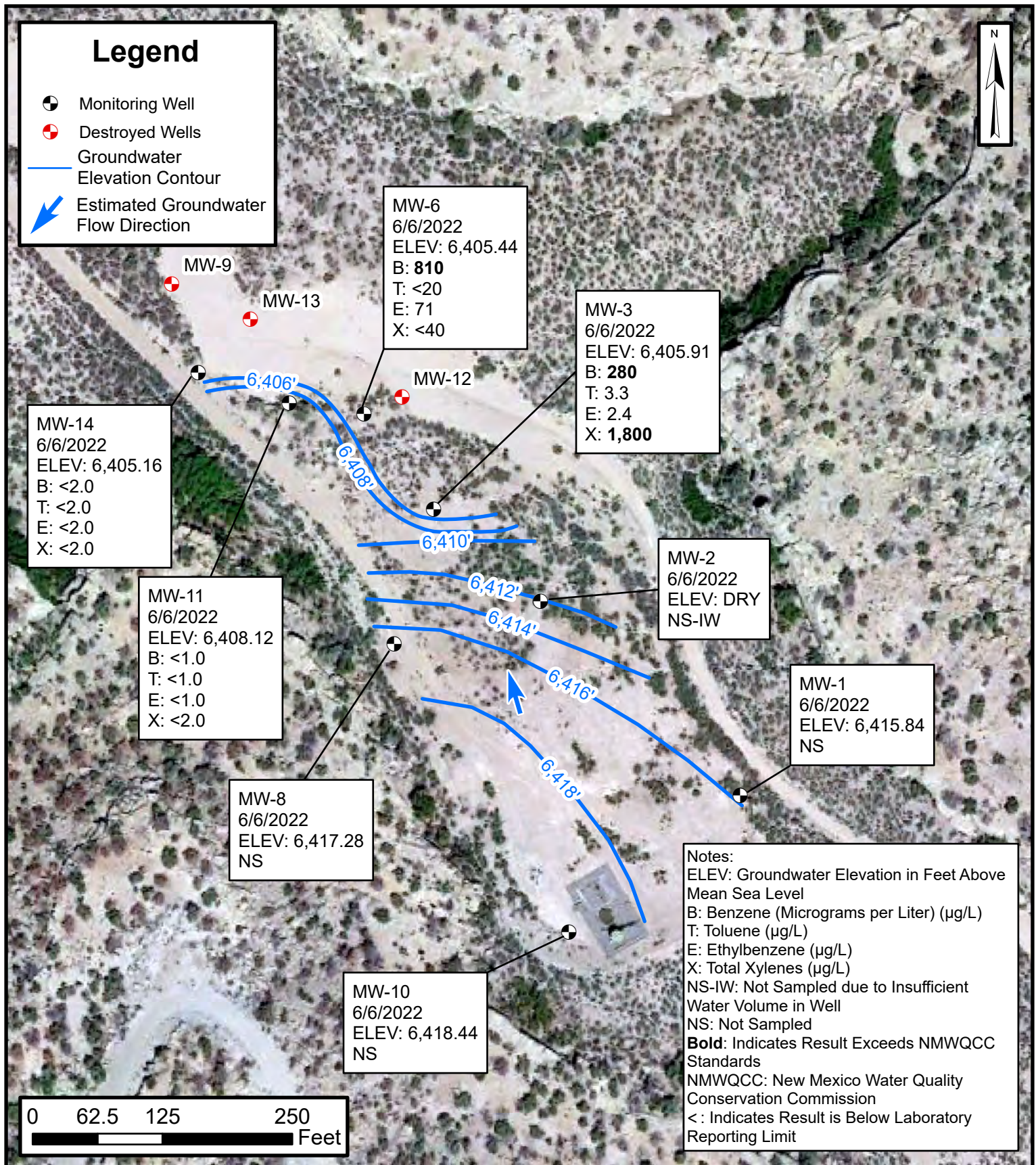
Jicarilla Contract 147-6
Harvest Four Corners, LLC

36.43371, -107.40344
Rio Arriba County, New Mexico

FIGURE

1





Groundwater Elevation and Analytical Results (June 2022)

Jicarilla Contract 147-6
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 36.43371, -107.40344
 Rio Arriba County, New Mexico

FIGURE
2

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TABLES



TABLE 1
GROUNDWATER ELEVATION
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 Harvest Four Corners, LLC
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Well Identification	Date	Top of Casing Elevation (feet amsl)	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
MW-1	3/4/2013	6,435.75	21.85	NP	NP	6,413.90
	6/25/2013*	6,440.95	22.51	NP	NP	6,418.44
	12/2/2013	6,440.95	21.11	NP	NP	6,419.84
	6/16/2014	6,440.95	21.82	NP	NP	6,419.13
	6/18/2015	6,440.95	21.90	NP	NP	6,419.05
	9/25/2015	6,440.95	21.72	NP	NP	6,419.23
	12/18/2015	6,440.95	21.61	NP	NP	6,419.34
	6/14/2016	6,440.95	21.99	NP	NP	6,418.96
	6/26/2018	6,440.95	23.19	NP	NP	6,417.76
	6/26/2019	6,440.95	23.12	NP	NP	6,417.83
	6/15/2020	6,440.95	24.27	NP	NP	6,416.68
	5/28/2021	6,440.95	24.47	NP	NP	6,416.48
	6/6/2022	6,440.95	25.11	NP	NP	6,415.84
MW-2	3/4/2013	6,432.70	22.34	22.33	0.01	6,411.17
	6/25/2013*	6,437.27	22.90	NP	NP	6,414.37
	12/2/2013	6,437.27	21.76	NP	NP	6,415.51
	6/16/2014	6,437.27	22.39	NP	NP	6,414.88
	12/2/2014	6,437.27	22.33	NP	NP	6,414.94
	6/18/2015	6,437.27	22.41	NP	NP	6,414.86
	9/25/2015	6,437.27	22.76	NP	NP	6,414.51
	12/18/2015	6,437.27	22.31	NP	NP	6,414.96
	6/14/2016	6,437.27	22.46	NP	NP	6,414.81
	6/27/2017	6,437.27	23.06	NP	NP	6,414.21
	6/26/2018	6,437.27	DRY	NP	NP	DRY
	6/26/2019	6,437.27	DRY	NP	NP	DRY
	6/15/2020	6,437.27	DRY	NP	NP	DRY
	5/28/2021	6,437.27	DRY	NP	NP	DRY
	6/6/2022	6,437.27	DRY	NP	NP	DRY
MW-3	3/4/2013	6,422.80	21.26	NP	NP	6,401.54
	6/25/2013*	6,427.87	21.37	NP	NP	6,406.50
	12/2/2013	6,427.87	21.44	NP	NP	6,406.43
	6/16/2014	6,427.87	20.73	NP	NP	6,407.14
	12/9/2014	6,427.87	21.59	NP	NP	6,406.28
	6/18/2015	6,427.87	20.58	NP	NP	6,407.29
	9/25/2015	6,427.87	21.61	NP	NP	6,406.26
	12/18/2015	6,427.87	21.38	NP	NP	6,406.49
	6/14/2016	6,427.87	20.57	NP	NP	6,407.30
	6/27/2017	6,427.87	21.04	NP	NP	6,406.83
	12/1/2017	6,427.63	21.72	21.70	0.02	6,405.93
	6/26/2018	6,427.63	21.28	NP	NP	6,406.35
	6/26/2019	6,427.63	21.08	NP	NP	6,406.55
	6/15/2020	6,427.63	21.60	NP	NP	6,406.03
	5/28/2021	6,427.63	21.54	NP	NP	6,406.09
	6/6/2022	6,427.63	21.72	NP	NP	6,405.91
MW-4	3/4/2013	DEST	DEST	DEST	DEST	DEST
MW-5	3/4/2013	DEST	DEST	DEST	DEST	DEST



TABLE 1
GROUNDWATER ELEVATION
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MW-6	3/4/2013	6,426.77	25.61	NP	NP	6,401.16
	6/25/2013*	6,431.94	26.14	NP	NP	6,405.80
	12/2/2013	6,431.94	26.08	NP	NP	6,405.86
	6/16/2014	6,431.94	25.39	NP	NP	6,406.55
	12/2/2014	6,431.94	26.31	NP	NP	6,405.63
	6/18/2015	6,431.94	25.21	NP	NP	6,406.73
	9/25/2015	6,431.94	26.47	NP	NP	6,405.47
	12/18/2015	6,431.94	26.09	NP	NP	6,405.85
	6/14/2016	6,431.94	25.26	NP	NP	6,406.68
	6/27/2017	6,431.94	25.80	NP	NP	6,406.14
	12/1/2017**	6,431.71	26.34	26.32	0.02	6,405.39
	6/26/2018	6,431.71	26.27	NP	NP	6,405.44
	6/26/2019	6,431.71	25.85	NP	NP	6,405.86
	6/15/2020	6,431.71	26.29	NP	NP	6,405.42
	5/28/2021	6,431.71	26.00	NP	NP	6,405.71
	6/6/2022	6,431.71	26.27	NP	NP	6,405.44
MW-7	3/4/2013	DEST	DEST	DEST	DEST	DEST
MW-8	3/4/2013	6,430.33	16.36	NP	NP	6,413.97
	6/25/2013	6,435.14*	17.31	NP	NP	#VALUE!
	12/2/2013	6,435.14	17.65	NP	NP	6,417.49
	6/16/2014	6,435.14	16.82	NP	NP	6,418.32
	12/2/2014	6,435.14	16.79	NP	NP	6,418.35
	6/18/2015	6,435.14	16.62	NP	NP	6,418.52
	9/25/2015	6,435.14	17.35	NP	NP	6,417.79
	12/18/2015	6,435.14	16.58	NP	NP	6,418.56
	6/14/2016	6,435.14	16.80	NP	NP	6,418.34
	6/27/2017	6,435.14	17.33	NP	NP	6,417.81
	6/26/2018	6,435.14	17.61	NP	NP	6,417.53
	6/26/2019	6,435.14	17.37	NP	NP	6,417.77
	6/15/2020	6,435.14	17.90	NP	NP	6,417.24
	5/28/2021	6,435.14	17.48	NP	NP	6,417.66
	6/6/2022	6,435.14	17.86	NP	NP	6,417.28
MW-9	3/4/2013	6,423.04	28.55	NP	NP	6,394.49
	6/25/2013*	6,428.08	28.83	NP	NP	6,399.25
	12/2/2013	6,428.08	28.65	NP	NP	6,399.43
	6/16/2014	6,428.08	28.08	NP	NP	6,400.00
	12/2/2014	6,428.08	28.45	NP	NP	6,399.63
	6/18/2015	6,428.08	27.83	NP	NP	6,400.25
	9/25/2015	6,428.08	28.86	NP	NP	6,399.22
	12/18/2015	6,428.08	28.52	NP	NP	6,399.56
	6/14/2016	6,428.08	28.64	NP	NP	6,399.44
	6/27/2017	6,428.08	28.29	NP	NP	6,399.79
	6/26/2018	6,428.08	28.45	NP	NP	6,399.63
	6/26/2019	6,428.08	28.11	NP	NP	6,399.97
	6/15/2020	6,428.08	28.78	NP	NP	6,399.30
	5/28/2021	DEST	DEST	DEST	DEST	DEST
MW-10	3/4/2013	6,435.38	20.90	20.89	0.01	6,415.29
	6/25/2013*	6,440.48	21.59	NP	NP	6,418.89
	12/2/2013	6,440.48	20.93	NP	NP	6,419.55
	6/16/2014	6,440.48	21.14	NP	NP	6,419.34



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MW-10	12/2/2014	6,440.48	21.17	NP	NP	6,419.31
	6/18/2015	6,440.48	21.01	NP	NP	6,419.47
	9/25/2015	6,440.48	21.56	NP	NP	6,418.92
	12/18/2015	6,440.48	21.01	NP	NP	6,419.47
	6/14/2016	6,440.48	21.12	NP	NP	6,419.36
	6/27/2017	6,440.48	21.63	NP	NP	6,418.85
	6/26/2018	6,440.48	21.76	NP	NP	6,418.72
	6/26/2019	6,440.48	21.56	NP	NP	6,418.92
	6/15/2020	6,440.48	22.10	NP	NP	6,418.38
	5/28/2021	6,440.48	21.75	NP	NP	6,418.73
	6/6/2022	6,440.48	22.04	NP	NP	6,418.44
MW-11	12/2/2013	6,433.46	24.38	NP	NP	6,409.08
	6/16/2014	6,433.46	24.35	NP	NP	6,409.11
	12/2/2014	6,433.46	24.46	NP	NP	6,409.00
	6/18/2015	6,433.46	24.30	NP	NP	6,409.16
	9/25/2015	6,433.46	24.68	NP	NP	6,408.78
	12/18/2015	6,433.46	24.32	NP	NP	6,409.14
	6/14/2016	6,433.46	24.30	NP	NP	6,409.16
	6/27/2017	6,433.46	24.36	NP	NP	6,409.10
	12/1/2017**	6,432.86	24.35	NP	NP	6,408.51
	6/26/2018	6,432.86	24.43	NP	NP	6,408.43
	6/26/2019	6,432.86	24.22	NP	NP	6,408.64
	6/15/2020	6,432.86	24.69	NP	NP	6,408.17
	5/28/2021	6,432.86	24.46	NP	NP	6,408.40
	6/6/2022	6,432.86	24.74	NP	NP	6,408.12
MW-12	12/2/2013	6,429.62	21.87	NP	NP	6,407.75
	6/16/2014	6,429.62	21.65	NP	NP	6,407.97
	12/2/2014	6,429.62	22.20	NP	NP	6,407.42
	6/18/2015	6,429.62	21.50	NP	NP	6,408.12
	9/25/2015	6,429.62	22.38	NP	NP	6,407.24
	12/18/2015	6,429.62	22.03	NP	NP	6,407.59
	6/14/2016	6,429.62	21.49	NP	NP	6,408.13
	6/27/2017	6,429.62	21.98	NP	NP	6,407.64
	12/1/2017**	6,428.74	22.25	NP	NP	6,406.49
	6/26/2018	6,428.74	22.21	NP	NP	6,406.53
	6/26/2019	6,428.74	15.29	NP	NP	6,413.45
	6/15/2020	DEST	DEST	DEST	DEST	DEST
	5/28/2021	DEST	DEST	DEST	DEST	DEST
MW-13	12/1/2017	6,422.01	13.10	NP	NP	6,408.91
	6/26/2018	6,422.01	DRY	NP	NP	DRY
	6/26/2019	6,422.01	DRY	NP	NP	DRY
	6/15/2020	6,422.01	DRY	NP	NP	DRY
	6/15/2020	DEST	DEST	DEST	DEST	DEST



TABLE 1
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MW-14	12/1/2017	6,428.45	23.28	NP	NP	6,405.17
	6/26/2018	6,428.45	23.50	NP	NP	6,404.95
	6/26/2019	6,428.45	22.50	NP	NP	6,405.95
	6/15/2020	6,428.45	22.98	NP	NP	6,405.47
	5/28/2021	6,428.45	23.06	NP	NP	6,405.39
	6/6/2022	6,428.45	23.29	NP	NP	6,405.16

Notes:

* Top of casing elevation was resurveyed on 6/19/2013

** Top of casing elevation was resurveyed on 1/3/2018

AMSL: above mean sea level

BTOC: below top of casing

DEST: well has been destroyed

NP: no product

UNK: unknown



TABLE 2
GROUNDWATER ANALYTICAL RESULTS
 Jicarilla Contract 147-6
 Harvest Four Corners, LLC
 Rio Arriba, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards		5	1,000	700	620
MW-1	1/28/1999	<0.5	1.5	<0.5	2.6
	4/14/1999	<0.5	<0.5	<0.5	<1.5
	9/27/1999	<0.5	<0.5	<0.5	<1.5
	11/15/1999	<0.5	<0.5	<0.5	<1.5
	2/13/2001	<1	<1	<1	<1
	5/9/2001	<1	<1	<1	<1
	11/2/2001	<1.0	3.1	<2.0	<2.0
	3/20/2010	<1.0	<1.0	<1.0	<3.0
	6/22/2010	<1.0	<1.0	<1.0	<3.0
	9/16/2010	<1.0	<1.0	<1.0	<3.0
	12/8/2010	<1.0	<1.0	<1.0	<3.0
	3/10/2011	<1.0	<1.0	<1.0	<3.0
	6/15/2011	<1.0	<1.0	<1.0	<3.0
	9/13/2011	<1.0	<1.0	<1.0	<3.0
	1/6/2012	<1.0	<1.0	<1.0	<3.0
	4/6/2012	<1.0	<1.0	<1.0	<3.0
	6/12/2012	<1.0	<1.0	<1.0	<3.0
	9/27/2012	<1.0	<1.0	<1.0	<3.0
	12/7/2012	<1.0	<1.0	<1.0	<3.0
	3/4/2013	<1.0	<1.0	<1.0	<2.0
	6/25/2013	<2.0	<2.0	<2.0	<4.0
MW-2	1/28/1999*	490	38	<5	1,700
	4/14/1999*	230	<5	<5	671
	10/14/1999	55	<0.5	2.6	196.5
	11/15/1999	130	<0.5	15	272
	3/20/2000	140	5.3	120	440*
	6/6/2000	52	<0.5	48	46
	2/13/2001	124	14.8	72.3	681
	5/9/2001	35.4	15.1	27	23
	11/2/2001	150	3.4	120	1,200
	9/24/2003	2.8	5.1	2.8	<5.0
	12/17/2003	2.5	5.9	<2.0	<5.0
	9/19/2004	<2.0	3.2	<2.0	<5.0
	12/4/2004	<2.0	2.4	<2.0	<5.0



TABLE 2
GROUNDWATER ANALYTICAL RESULTS
 Jicarilla Contract 147-6
 Harvest Four Corners, LLC
 Rio Arriba, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards		5	1,000	700	620
MW-2	3/9/2005*	23	13	<10	<25
	9/17/2005	<2.0	<2.0	4.3	<5.0
	12/1/2005	<2.0	2.8	<2.0	<5.0
	3/20/2010	<1.0	<1.0	<1.0	<3.0
	6/22/2010	<1.0	<1.0	<1.0	<3.0
	9/16/2010	<1.0	<1.0	<1.0	4.8
	12/8/2010	<1.0	<1.0	<1.0	<3.0
	3/10/2011	<1.0	<1.0	<1.0	<3.0
	6/15/2011	<1.0	<1.0	<1.0	<3.0
	9/13/2011	<1.0	<1.0	<1.0	17.8
	1/6/2012	<1.0	<1.0	<1.0	<3.0
	4/6/2012	<1.0	<1.0	<1.0	<3.0
	6/12/2012	<1.0	<1.0	<1.0	<3.0
	9/27/2012	<1.0	<1.0	<1.0	18.5
	12/7/2012	<1.0	<1.0	<1.0	<3.0
	3/4/2013	NS	NS	NS	NS
	6/25/2013	<2.0	<2.0	8.1	19
MW-3	1/28/1999	7,100	5,900	260	4,130
	4/14/1999	6,700	3,100	220	3,360
	9/27/1999*	5,800	2,800	260	3,560
	11/15/1999*	5,200	1,800	200	2,970
	3/20/2000*	3,900	460	230	1,710
	6/7/2000*	4,400	64	190	1,232
	2/13/2001	7,250	1,660	305	5,800
	5/9/2001	7,810	1,860	531	7,610
	11/2/2001	6,700	7,400	420	7,900
	9/24/2003*	5,800	7,300	320	5,700
	12/17/2003	4,900	5,300	280	5,200
	9/19/2004*	5,400	9,500	310	6,500
	12/4/2004*	5,700	11,000	330	7,100
	3/9/2005*	4,700	7,900	280	5,600
	6/16/2005*	6,100	9,800	380	6,600
	9/17/2005	4,500	10,000	260	5,900
	12/1/2005*	5,570	9,970	324	6,760



TABLE 2
GROUNDWATER ANALYTICAL RESULTS
 Jicarilla Contract 147-6
 Harvest Four Corners, LLC
 Rio Arriba, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards		5	1,000	700	620
MW-3	3/20/2010	3,590	1,990	252	2,310
	6/22/2010	2,710	1,080	191	1,170
	9/16/2010	3,240	3,630	219	2,210
	12/8/2010	2,950	3,380	229	1,900
	3/10/2011	1,800	729	122	1,900
	6/15/2011	2,150	1,710	124	1,000
	9/13/2011	3,460	4,500	330	4,670
	1/6/2012	1,790	1,970	144	1,400
	4/6/2012	1,900	127	955	1,040
	6/12/2012	2,700	203	4,990	2,890
	9/27/2012	2,070	194	4,380	2,690
	12/7/2012	1,650	145	1,810	1,630
	3/4/2013	1,200	720	88	680
	6/25/2013	2,300	3,300	250	4,000
	12/2/2013	2,900	7,700	350	5,700
	6/16/2014	1,700	1,400	120	3,100
	12/2/2014	910	600	110	1,500
	6/18/2015	2,300	7,300	300	6,000
	6/14/2016	930	820	130	2,200
	6/27/2017	1,500	1,700	280	4,700
	6/26/2018	540	<50	<50	2,100
	6/26/2019	100	13	15	310
	6/15/2020	570	110	200	2,000
	5/28/2021	180	<2.0	91	590
	6/6/2022	280	3.3	2.4	1,800
MW-4	1/28/1999*	1,500	10,000	810	9,300
	4/14/1999*	280	30	5.0	500
	9/27/1999	56	<0.5	3.6	22
	11/15/1999	120	<0.5	8.1	41.5
	3/20/2000	250	<0.5	45	47
	6/7/2000	270	1.6	5.6	10.2
	2/13/2001	353	3.85	69.5	59.8
	5/9/2001	684	6.10	110	97.2



TABLE 2
GROUNDWATER ANALYTICAL RESULTS
 Jicarilla Contract 147-6
 Harvest Four Corners, LLC
 Rio Arriba, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards		5	1,000	700	620
MW-4	11/2/2001	480	7.9	84	34
	9/24/2003	190	45	57	60
	12/17/2003	200	2.9	58	<5.0
	12/4/2004	170	<2.0	49	<5.0
	9/19/2004	55	<2.0	14	<5.0
	3/9/2005	68	<2.0	22	18
	6/16/2005	130	<2.0	40	<5.0
	9/17/2005	100	<2.0	38	55
	12/6/2005	100	<2.0	36.6	<5.0
	4/6/2012	NS	NS	NS	NS
	6/12/2012	NS	NS	NS	NS
	9/27/2012	NS	NS	NS	NS
	12/7/2012	NS	NS	NS	NS
	3/4/2013	<2.0	<2.0	<2.0	<4.0
	6/25/2013	DEST	DEST	DEST	DEST
MW-5	1/28/1999*	1,600	10,000	820	9,500
	4/14/1999*	310	26	3.6	479
	9/27/1999	<0.5	<0.5	1.5	2
	11/15/1999*	<2.5	6	39.0	<3.0
	3/20/2000	5.1	<0.5	210.0	8.0
	6/7/2000	1.5	<0.5	3.3	2.9
	2/13/2001	3.49	<1	222	31.5
	5/9/2001	4.68	20.8	244	28.7
	11/2/2001	2.8	<2.0	200	13
	3/4/2013	DEST	DEST	DEST	DEST
MW-6	9/27/1999*	16,000	460.0	280	1,299
	11/15/1999*	20,000	940	330	1,640
	3/20/2000*	18,000	630	380	1,530
	6/7/2000*	19,000	820	370	1,960
	2/13/2001	22,300	60	358	1,560
	5/9/2001	33,900	2,310	577	3,820
	11/2/2001	31,000	2,200	730	4,500
	9/24/2003*	18,000	1,200	370	2,000
	12/17/2003*	21,000	<400	500	2,200



TABLE 2
GROUNDWATER ANALYTICAL RESULTS
 Jicarilla Contract 147-6
 Harvest Four Corners, LLC
 Rio Arriba, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards		5	1,000	700	620
MW-6	12/4/2004*	16,000	120	360	1,800
	9/19/2004*	18,000	1,900	380	2,300
	3/9/2005*	19,000	810	410	2,100
	6/16/2005*	24,000	<400	620	2,500
	9/17/2005	15,000	370	380	1,400
	12/1/2005*	15,600	957	460	2,580
	3/20/2010	19,400	10,900	570	3,330
	6/22/2010	13,500	<100	411	16,740
	9/16/2010	10,200	2,190	280	1,410
	12/8/2010	10,000	495	380	1,510
	3/10/2011	13,000	4,260	380	1,740
	6/15/2011	14,400	518	364	1,450
	9/13/2011	12,300	2,570	498	2,730
	1/6/2012	11,600	730	339	1,660
	4/6/2012	13,800	333	3,070	1,590
	6/12/2012	13,000	406	1,010	1,560
	9/27/2012	10,300	360	3,430	2,070
	12/7/2012	10,200	315	1,540	1,760
	3/4/2013	7,900	180	5.4	300
	6/25/2013	10,000	270	340	920
	12/2/2013	8,400	250	250	930
	6/16/2014	9,300	<100	270	350
	12/2/2014	6,600	120	210	700
	6/18/2015	5,600	<10	<10	120
	12/18/2015	NS	NS	NS	NS
	6/14/2016	5,200	<50	170	200
	6/27/2017	4,400	<5.0	140	130
	6/26/2018	4,900	<5.0	180	240
	6/26/2019	4,300	<5.0	150	280
	6/15/2020	3,800	<5.0	150	230
	5/28/2021	640	<5.0	62	14
	6/6/2022	810	<20	71	<40



TABLE 2
GROUNDWATER ANALYTICAL RESULTS
 Jicarilla Contract 147-6
 Harvest Four Corners, LLC
 Rio Arriba, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards		5	1,000	700	620
MW-7	10/14/1999	30	120	8.9	165
	11/15/1999	0.5	1.3	0.5	4.6
	3/20/2000	5.5	0.8	0.9	4.7
	6/7/2000	<0.5	<0.5	<0.5	<1.5
	2/13/2001	<1	<1	<1	<1
	5/9/2001	4.00	<1	<1	<1
	11/2/2001	16	<2.0	<2.0	2
	4/6/2012	NS	NS	NS	NS
	6/12/2012	NS	NS	NS	NS
	9/27/2012	NS	NS	NS	NS
	12/7/2012	NS	NS	NS	NS
	3/4/2013	DEST	DEST	DEST	DEST
MW-8	3/20/2000*	2,400	2,300	55.0	540
	6/7/2000*	1,100	130	27.0	106.7
	2/13/2001	613	16.2	13.0	12.4
	5/9/2001	182	3.65	6.98	2.41
	11/2/2001	370	<2.0	8.9	2.0
	9/24/2003	78	2.2	4.2	<5.0
	12/17/2003	55	<2.0	3.2	<5.0
	12/4/2004	19	<2.0	<2.0	<5.0
	9/19/2004	81	<2.0	2.8	<5.0
	3/9/2005	210*	4.6	5.2	8.6
	6/16/2005	43	<2.0	<2.0	<5.0
	9/17/2005	38	<2.0	<2.0	<5.0
	12/1/2005	23	<2.0	<2.0	<5.0
	3/20/2010	6.3	<1.0	<1.0	<3.0
	6/22/2010	3.0	<1.0	<1.0	<3.0
	9/16/2010	22.9	<1.0	<1.0	<3.0
	12/8/2010	<1.0	<1.0	<1.0	<3.0
	3/10/2011	2	<1.0	<1.0	<3.0
	6/15/2011	4.1	<1.0	<1.0	<3.0
	9/13/2011	1.9	<1.0	<1.0	<3.0
	1/6/2012	2.4	<1.0	<1.0	<3.0
	4/6/2012	<1.0	<1.0	<1.0	<3.0



TABLE 2
GROUNDWATER ANALYTICAL RESULTS
 Jicarilla Contract 147-6
 Harvest Four Corners, LLC
 Rio Arriba, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards		5	1,000	700	620
MW-8	6/12/2012	2.5	<1.0	<1.0	<3.0
	9/27/2012	<1.0	<1.0	<1.0	<3.0
	12/7/2012	<1.0	<1.0	<1.0	<3.0
	3/4/2013	<1.0	<1.0	<1.0	<2.0
MW-9	3/20/2000	<0.5	1.4	<0.5	1.5
	6/7/2000	<0.5	<0.5	<0.5	<1.5
	2/13/2001	<1	<1	<1	<1
	5/9/2001	<1	<1	<1	<1
	11/2/2001	150	<2.0	<2.0	<2.0
	9/24/2003	86	<2.0	<2.0	<5.0
	12/17/2003	69	<2.0	<2.0	<5.0
	12/4/2004	5.2	<2.0	<2.0	<5.0
	9/19/2004	45	<2.0	<2.0	<5.0
	3/9/2005	3.8	<2.0	<2.0	<5.0
	6/16/2005	<2.0	<2.0	<2.0	<5.0
	9/17/2005	<2.0	<2.0	<2.0	<5.0
	12/1/2005	<2.0	<2.0	<2.0	<5.0
	3/20/2010	<1.0	<1.0	<1.0	<3.0
	6/22/2010	<1.0	<1.0	<3.0	<3.0
	9/16/2010	8.6	<1.0	<1.0	<3.0
	12/8/2010	7.8	<1.0	<1.0	<3.0
	3/10/2011	<1.0	<1.0	<1.0	<3.0
	6/15/2011	<1.0	<1.0	<1.0	<3.0
	9/13/2011	<1.0	<1.0	<1.0	<3.0
	1/6/2012	<1.0	<1.0	<1.0	<3.0
	4/6/2012	<1.0	<1.0	<1.0	<3.0
	6/12/2012	<1.0	2.1	<1.0	<3.0
	9/27/2012	<1.0	<1.0	<1.0	<3.0
	12/7/2012	<1.0	<1.0	<1.0	<3.0
	3/4/2013	<2.0	<2.0	<2.0	<4.0
	6/25/2013	<2.0	<2.0	<2.0	<4.0
	6/27/2017	<1.0	<1.0	<1.0	<1.5
	6/26/2018	<1.0	<1.0	<1.0	<1.5
	6/26/2019	<1.0	<1.0	<1.0	<2.0



TABLE 2
GROUNDWATER ANALYTICAL RESULTS
 Jicarilla Contract 147-6
 Harvest Four Corners, LLC
 Rio Arriba, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards		5	1,000	700	620
MW-9	6/15/2020	<1.0	<1.0	<1.0	<2.0
	5/28/2021	DEST	DEST	DEST	DEST
MW-10	3/20/2000	0.8	2.9	<0.5	1.5
	6/7/2000	<0.5	<0.5	<0.5	<1.5
	2/13/2001	<1	<1	1.5	<1
	5/9/2001	<1	<1	<1	<1
	11/2/2001	<1.0	<2.0	<2.0	<2.0
	4/6/2012	NS	NS	NS	NS
	6/12/2012	NS	NS	NS	NS
	9/27/2012	NS	NS	NS	NS
	12/7/2012	<1.0	<1.0	<1.0	<3.0
	3/4/2013	NS	NS	NS	NS
	6/25/2013	<2.0	<2.0	<2.0	<4.0
MW-11	12/2/2013	<1.0	6.5	2.7	39
	6/27/2017	<1.0	<1.0	<1.0	<1.5
	12/1/2017	<1.0	<1.0	<1.0	<2.0
	6/26/2018	<1.0	<1.0	<1.0	<1.5
	6/26/2019	<1.0	<1.0	<1.0	<2.0
	6/15/2020	<1.0	<1.0	<1.0	<2.0
	5/28/2021	<1.0	<1.0	<1.0	<2.0
	6/6/2022	<1.0	<1.0	<1.0	<2.0
MW-12	12/2/2013	12	<1.0	74	<2.0
	6/16/2014	3.0	<1.0	42	<2.0
	12/2/2014	2.7	<1.0	29	<2.0
	6/18/2015	6.5	<1.0	36	<1.5
	9/25/2015	<1.0	<1.0	16	<1.5
	12/18/2015	11	<1.0	56	<2.0
	6/14/2016	5.2	<1.0	28	<2.0
	6/27/2017	1.6	<1.0	22	<1.5
	12/1/2017	2.1	<1.0	25	<2.0
	6/26/2018	<1.0	<1.0	4.7	<1.5
	6/26/2019	2.5	<1.0	3.6	<2.0
	6/15/2020	DEST	DEST	DEST	DEST



TABLE 2
GROUNDWATER ANALYTICAL RESULTS
 Jicarilla Contract 147-6
 Harvest Four Corners, LLC
 Rio Arriba, New Mexico

Well Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
NMWQCC Standards		5	1,000	700	620
MW-13	12/1/2017	<2.0	<2.0	<2.0	<4.0
	6/26/2019	NS-Dry	NS-Dry	NS-Dry	NS-Dry
	6/15/2020	NS-Dry	NS-Dry	NS-Dry	NS-Dry
	5/28/2021	DEST	DEST	DEST	DEST
MW-14	12/1/2017	<2.0	<2.0	<2.0	<4.0
	6/26/2018	8.1	<1.0	<1.0	47
	6/26/2019	13	<1.0	<1.0	25
	6/15/2020	NS	NS	NS	NS
	5/28/2021	<2.0	<2.0	<2.0	<4.0
	6/6/2022	<2.0	<2.0	<2.0	<4.0

Notes:

DEST: monitoring well is destroyed

µg/L: micrograms per liter

NMWQCC: New Mexico Water Quality Control Commission

NS: not sampled

<: indicates results is less than laboratory reporting detection limit

*: indicates sample was diluted

**: Sample identified as MW-4 on laboratory reports was later determined to be an unknown well and MW-4 was determined to be destroyed

Concentrations in **bold** and shaded exceed the New Mexico Water Quality Control Commission Standards, 20.6.2 of the New Mexico Administrative Code



APPENDIX A


Groundwater Collection Forms

ENSOLU

ENSOLUM

Client <u>Imvix</u>			LOW-FLOW GROUNDWATER SAMPLING FORM									
Project Name <u>Jicarilla 147-G</u>												
Project Location <u>Rio Arriba</u>												
Project Manager <u>Brake Herb</u>												
SAMPLING INFORMATION			Soil Boring / Monitor Well Number: <u>MW-3</u>									
Date Completed <u>6/6/23</u>			Project # <u>NR</u>									
Total Depth of Monitor Well <u>23.42</u>			Type of Water Quality Meter <u>Aquatrail 500</u>									
Screen Interval <u>NR</u>			Date Calibrated <u>6/6/23</u>									
Sample Tubing Intake Depth <u>NR</u>			Other Notes <u>NR</u>									
Geologist <u>Reece Hanson</u>			DTW: <u>21.72</u>									
			TD: <u>23.42</u>									

Upper Half Foot	Tubing Placement	GW Depth (static)	After Purge	Time (minutes)	Purge Rate (L/min)	Temp. (°C)	pH (unitless)	DO (mg/L)	ORP (mV)	Cond. (mS/cm)	GW Depth (feet)	Comments:
												NR = Not Recorded No parameters taken, Bail ~ 0.3 gal then one sample water dark gray/black w/ mod. odor used HgCl ₂ vials



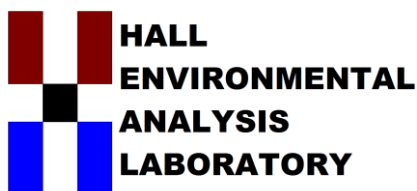
Date: <u>10/26/22</u> Project Name: <u>Jicarilla 147-0</u> Project Location: <u>Rio Arriba</u> Project Manager: <u>Brooke Herb</u>		LOW-FLOW GROUNDWATER SAMPLING FORM										
SAMPLING INFORMATION			Soil Boring / Monitor Well Number: <u>MW-11</u> Project #: <u>NR</u> Type of Water Quality Meter: <u>Aqua Troll 500</u> Date Calibrated: <u>6/6/22</u> Other Notes: <u>NR</u> DTW: <u>24.74</u> TD: <u>35.07</u> 3 casing volumes = ~ 5 gal									
Date Completed: <u>8/6/22</u> Total Depth of Monitor Well: <u>35.07</u> Screen Interval: <u>NR</u> Sample Tubing Intake Depth: <u>NR</u> Geologist: <u>Rick Hansen</u>												
Sample #	Tubing Placement	GW Depth (static)	Vol. Removed After Pump	Time (minutes)	Flow Rate (L/min)	Temp. (°C)	pH (unitless)	DO (mg/L)	ORP (mV)	Cond. (mS/cm)	GW Depth (feet)	Comments:
			1.0	1456	1.0	18.11	7.59	3.06	177.1	1236.1		NR = Not Recorded light gray slightly silty no sheen / odor well began turning dry after bailing ~ 3.5 gal grab sample @ 1508
			1.0	1459	2.0	16.70	7.81	3.77	53.7	1280		
			1.0	1502	3.0	16.83	7.97	4.36	83.1	1264.3		





APPENDIX B

Laboratory Analytical Reports



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

June 22, 2022

Brooke Herb

Harvest

1755 Arroyo Dr.

Bloomfield, NM 87413

TEL: (505) 632-4475

FAX:

RE: Jicarilla Contract 147 6

OrderNo.: 2206585

Dear Brooke Herb:

Hall Environmental Analysis Laboratory received 4 sample(s) on 6/9/2022 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,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a white background.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report

Lab Order 2206585

Date Reported: 6/22/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Harvest

Client Sample ID: MW-14

Project: Jicarilla Contract 147 6

Collection Date: 6/6/2022 1:18:00 PM

Lab ID: 2206585-001

Matrix: AQUEOUS

Received Date: 6/9/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: BRM
Benzene	ND	2.0	D	µg/L	2	6/14/2022 10:03:00 PM	B88732
Toluene	ND	2.0	D	µg/L	2	6/14/2022 10:03:00 PM	B88732
Ethylbenzene	ND	2.0	D	µg/L	2	6/14/2022 10:03:00 PM	B88732
Xylenes, Total	ND	4.0	D	µg/L	2	6/14/2022 10:03:00 PM	B88732
Surr: 4-Bromofluorobenzene	92.8	70-130	D	%Rec	2	6/14/2022 10:03:00 PM	B88732

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

Page 1 of 6

Analytical Report

Lab Order 2206585

Date Reported: 6/22/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Harvest

Client Sample ID: MW-6

Project: Jicarilla Contract 147 6

Collection Date: 6/6/2022 1:40:00 PM

Lab ID: 2206585-002

Matrix: AQUEOUS

Received Date: 6/9/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: BRM
Benzene	810	20		µg/L	50	6/15/2022 12:20:00 AM	D88732
Toluene	ND	20		µg/L	50	6/15/2022 12:20:00 AM	D88732
Ethylbenzene	71	20		µg/L	50	6/15/2022 12:20:00 AM	D88732
Xylenes, Total	ND	40		µg/L	50	6/15/2022 12:20:00 AM	D88732
Surr: 4-Bromofluorobenzene	89.8	70-130		%Rec	50	6/15/2022 12:20:00 AM	D88732

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

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Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order 2206585
Date Reported: 6/22/2022

CLIENT: Harvest Client Sample ID: MW-3
Project: Jicarilla Contract 147 6 Collection Date: 6/6/2022 2:12:00 PM
Lab ID: 2206585-003 Matrix: AQUEOUS Received Date: 6/9/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: BRM
Benzene	280	10		µg/L	10	6/16/2022 12:31:00 PM	B88732
Toluene	3.3	1.0		µg/L	1	6/14/2022 10:22:00 PM	B88732
Ethylbenzene	2.4	1.0		µg/L	1	6/14/2022 10:22:00 PM	B88732
Xylenes, Total	1800	20		µg/L	10	6/16/2022 12:31:00 PM	B88732
Surr: 4-Bromofluorobenzene	115	70-130		%Rec	1	6/14/2022 10:22:00 PM	B88732

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

Analytical Report

Lab Order 2206585

Date Reported: 6/22/2022

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Harvest

Client Sample ID: MW-11

Project: Jicarilla Contract 147 6

Collection Date: 6/6/2022 3:08:00 PM

Lab ID: 2206585-004

Matrix: AQUEOUS

Received Date: 6/9/2022 7:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES							Analyst: BRM
Benzene	ND	1.0		µg/L	1	6/15/2022 1:19:00 AM	D88732
Toluene	ND	1.0		µg/L	1	6/15/2022 1:19:00 AM	D88732
Ethylbenzene	ND	1.0		µg/L	1	6/15/2022 1:19:00 AM	D88732
Xylenes, Total	ND	2.0		µg/L	1	6/15/2022 1:19:00 AM	D88732
Surr: 4-Bromofluorobenzene	88.6	70-130		%Rec	1	6/15/2022 1:19:00 AM	D88732

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 Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		

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QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2206585

22-Jun-22

Client: Harvest
Project: Jicarilla Contract 147 6

Sample ID: 100ng btex lcs	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSW	Batch ID: B88732		RunNo: 88732							
Prep Date:	Analysis Date: 6/14/2022		SeqNo: 3150208		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.7	80	120			
Toluene	19	1.0	20.00	0	93.0	80	120			
Ethylbenzene	19	1.0	20.00	0	93.8	80	120			
Xylenes, Total	56	2.0	60.00	0	94.0	80	120			
Surr: 4-Bromofluorobenzene	19		20.00		95.9	70	130			

Sample ID: mb	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBW	Batch ID: B88732		RunNo: 88732							
Prep Date:	Analysis Date: 6/14/2022		SeqNo: 3150209		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	19		20.00		95.9	70	130			

Sample ID: 100ng btex lcs2	SampType: LCS		TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSW	Batch ID: D88732		RunNo: 88732							
Prep Date:	Analysis Date: 6/14/2022		SeqNo: 3150224		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	88.8	80	120			
Toluene	18	1.0	20.00	0	91.4	80	120			
Ethylbenzene	19	1.0	20.00	0	92.6	80	120			
Xylenes, Total	55	2.0	60.00	0	92.3	80	120			
Surr: 4-Bromofluorobenzene	18		20.00		91.3	70	130			

Sample ID: mb2	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles							
Client ID: PBW	Batch ID: D88732		RunNo: 88732							
Prep Date:	Analysis Date: 6/15/2022		SeqNo: 3150225		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	18		20.00		90.1	70	130			

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 Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		

QC SUMMARY REPORT**Hall Environmental Analysis Laboratory, Inc.**

WO#: 2206585

22-Jun-22

Client: Harvest
Project: Jicarilla Contract 147 6

Sample ID: 2206585-002ams	SampType: MS		TestCode: EPA Method 8021B: Volatiles							
Client ID: MW-6	Batch ID: D88732		RunNo: 88732							
Prep Date:	Analysis Date: 6/15/2022		SeqNo: 3150227		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1700	50	1000	814.7	90.5	80	120			
Toluene	890	50	1000	0	89.5	80	120			
Ethylbenzene	970	50	1000	70.65	90.2	80	120			
Xylenes, Total	2700	100	3000	0	90.1	80	120			
Surr: 4-Bromofluorobenzene	880		1000		87.8	70	130			

Sample ID: 2206585-002amsd	SampType: MSD		TestCode: EPA Method 8021B: Volatiles							
Client ID: MW-6	Batch ID: D88732		RunNo: 88732							
Prep Date:	Analysis Date: 6/15/2022		SeqNo: 3150228		Units: µg/L					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1700	50	1000	814.7	84.9	80	120	3.32	20	
Toluene	870	50	1000	0	86.6	80	120	3.27	20	
Ethylbenzene	950	50	1000	70.65	87.8	80	120	2.46	20	
Xylenes, Total	2600	100	3000	0	87.7	80	120	2.63	20	
Surr: 4-Bromofluorobenzene	850		1000		85.3	70	130	0	0	

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 Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		



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

Sample Log-In Check List

Client Name: Harvest

Work Order Number: 2206585

RcptNo: 1

Received By: Tracy Casarrubias 6/9/2022 7:20:00 AM

Completed By: Isaiah Ortiz 6/9/2022 4:53:34 PM

Reviewed By: KPG 6.10.22

I-0x

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 $>0^{\circ}\text{C}$ 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: cmc 6/10/22

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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.5	Good	Not Present			
2	3.7	Good	Not Present			

Client: 11-11-11

Mailing Address: Attn: Monica Smith

Project #:

Released to Imaging: 5/19/2023 7:32:23 AM

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 202498

CONDITIONS

Operator: Harvest Four Corners, LLC 1755 Arroyo Dr Bloomfield, NM 87413	OGRID: 373888
	Action Number: 202498
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Accepted for the record. Incident on tribal land.	5/19/2023