

**REVIEWED****By Mike Buchanan at 2:53 pm, May 10, 2024**

March 31, 2022

Mr. Oakley Hayes  
Environmental Specialist  
Harvest Four Corners  
1755 Arroyo Drive  
Bloomfield, New Mexico 87413

**Subject: 2021 Annual Groundwater Report  
Florance 47X  
RP Number 3RP-317-0  
Incident Number nAUTOfAB000185  
San Juan County, New Mexico**

Review of the 2021 Annual Groundwater  
Report: Content Satisfactory

1. Continue to remove PSH in MW-3 with skimmer pump to reduce LNAPL plume
2. Continue to conduct quarterly groundwater sampling events
3. Conduct O&M as prescribed in report.
4. Submit the 2022 & 2023 Annual Report (if they haven't already been submitted).
5. Submit the 2024 Annual Groundwater Monitoring Report for the site by April 1, 2025.

Dear Mr. Hayes,

WSP USA Inc. (WSP), on behalf of Harvest Four Corners, LLC (Harvest) has prepared this report detailing annual groundwater monitoring activities completed between January 2021 and December 2021 at the Florance #47X (Site), Remediation Permit (RP) Number 3RP-317-0 and Incident Number nAUTOfAB000185. The purpose of this project was to continue phase-separated hydrocarbon (PSH) recovery and monitoring of petroleum hydrocarbon impacts to groundwater resulting from a release involving a former earthen dehydrator pit.

## LOCATION

The Site is located at latitude 36.843195 and longitude -107.800839 in Unit G, Section 5, Township 30 North, Range 9 West (Figure 1). The Site is located in Crow Canyon, a tributary to Pump Canyon, in the San Juan Basin in San Juan County, New Mexico.

## SITE HISTORY

Groundwater at the Site is impacted by petroleum hydrocarbons due to a release from a former earthen dehydrator pit. In June 1996, source material was excavated to approximately 19 feet below ground surface (bgs). A subsequent borehole drilled in the excavation to approximately 115 feet bgs identified groundwater at approximately 97 feet bgs. Laboratory analytical results of groundwater collected from the borehole identified concentrations of benzene, toluene, ethylbenzene, and total xylenes (BTEX) exceeding New Mexico Water Quality Control Commission (NMWQCC) standards. As a result, five groundwater monitoring wells (MW-1 through MW-5) were installed.

Since installation of the five monitoring wells, groundwater elevations and groundwater quality have been monitored at the Site, with monitoring wells MW-2, MW-3, and MW-5 containing PSH during at least one sampling event. Historical records documenting monitoring activities and results can be found in previous annual reports submitted to the New Mexico Oil Conservation Division (NMOCD).

In October 2019, WSP conducted drilling activities which included the installation of two new monitoring wells, MW-6 and MW-7, located downgradient of monitoring wells MW-3 and MW-5, for use as point of compliance (POC) monitoring wells. On December 17, 2019, United Field Services in Farmington, New Mexico was contracted to survey top-of-casing elevations to accurately determine groundwater elevations above mean sea level (amsl).

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## METHODOLOGY

Groundwater monitoring activities were conducted at the Site from January through December 2021. WSP conducted quarterly site visits to monitor groundwater elevations in all monitoring wells and collected groundwater samples from monitoring wells MW-2, MW-5, MW-6, and MW-7 in May 2021.

## GROUNDWATER AND PSH ELEVATIONS

Groundwater levels were monitored quarterly by recording depth to groundwater and depth to PSH measurements in the existing monitoring wells with an oil/water interface probe. The interface probe was decontaminated with Alconox™ soap and rinsed with distilled water prior to each measurement. Top-of-casing elevations from the survey were used to calculate groundwater potentiometric elevations, draft groundwater contours, and determine groundwater flow direction.

## GROUNDWATER SAMPLING

On May 24, 2021, monitoring wells MW-2, MW-5, MW-6, and MW-7 were purged using disposable polyvinyl chloride (PVC) bailers. As groundwater was purged from each monitoring well, pH, electrical conductance (EC), and temperature, were recorded for determining stabilization conditions prior to sampling. Monitoring wells were purged until a total of three casing volumes were removed or the well was purged dry, indicating that groundwater would be representative of aquifer conditions. Purged groundwater was containerized and disposed of at a nearby Harvest compressor station.

Groundwater samples were collected by filling three 40-milliliter (mL) glass vials from each well. The laboratory-supplied vials were filled and capped with zero headspace to prevent degradation of the sample. Samples were labeled with the date and time of collection, well designation, project name, sample collector's name, and parameters to be analyzed. They were immediately sealed, packed on ice, and submitted to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021. 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.

Monitoring wells MW-1 and MW-4 were not sampled in 2021. Monitoring well MW-3 was also not sampled due to the presence of PSH. The following NMWQCC standards apply to groundwater: 5 micrograms per liter (µg/L) benzene, 1,000 µg/L toluene, 700 µg/L ethylbenzene, and 620 µg/L total xylenes.

## PSH RECOVERY

In November 2019, WSP installed a solar powered pneumatic pumping PSH recovery system in monitoring MW-3. The pump utilizes a hydrophobic and oleophilic skimmer that floats on the water column to remove PSH from the water PSH interface. The system cycles between vacuum and pressure to move PSH to the surface, where it is containerized. A delay between pumping cycles allows for recharge of fluids in the monitoring well and prevents over-pumping to efficiently use the power generated from the solar panels. Bi-weekly to monthly site visits were conducted in 2021 to monitor system performance, PSH recovery, and conduct system operations and maintenance (O&M). Between May 24, 2021, and October 27, 2021, the liquid recovery intake switch alarm and compressor solenoids required troubleshooting and service. Replacement parts were installed, but delivery delays due supply chain issues resulted in a longer than anticipated system downtime. The system was running efficiently after the cable was replaced.

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## RESULTS

Depth to groundwater information and analytical results are provided in Tables 1 and 2, respectively. Groundwater collection forms and analytical laboratory reports for the analyzed samples are included in Enclosure A and Enclosure B, respectively.

Depth to groundwater was collected on March 31, 2021, May 24, 2021, August 23, 2021, and November 23, 2021. Depth to groundwater data collected on May 23, 2021, during the annual groundwater sampling event, indicated groundwater was present at elevations between 6,146.15 feet (MW-7) and 6,150.74 feet (MW-1) amsl. Based on data collected during the four quarterly events, the interpreted groundwater-flow direction is to the southeast (contours shown on Figures 2 through 5). Contours were inferred based on groundwater elevations and physical characteristics at the Site (topography, proximity to irrigation ditches, etc.). PSH levels in MW-3 ranged in thickness from 0.52 feet in March 2021 to 2.03 feet in August 2021. PSH thickness and approximate plume extent are depicted on Figures 2 through 5.

The on-site wells, except for MW-1, MW-3, and MW-4, were sampled on May 24, 2021. BTEX constituents in groundwater were detected in monitoring wells MW-2 and MW-5. Groundwater from wells MW-2 and MW-5 contained benzene concentrations of 28 µg/L and 58 µg/L, respectively, which exceed the NMWQCC standard. Monitoring wells MW-6 and MW-7 did not contain detectable concentrations of BTEX compounds in groundwater and were all compliant with the NMWQCC standards. BTEX results and approximate plume extent are presented on Figure 4 and summarized in Table 2.

Approximately 34.3 gallons of PSH have been recovered from monitoring well MW-3 through pneumatic pumping since PSH recovery installation on November 18, 2019, through December 17, 2021. A total of 12.0 gallons of PSH were recovered in 2021. At the time of the installation of the PSH recovery system in November 2019, the PSH thickness was 1.93 feet; in 2021, PSH ranged in thickness from 0.52 feet in March 2021 to 2.03 feet in August 2021. Operation data and system maintenance data are summarized in Table 3.

## CONCLUSION

Impacted groundwater at the Site has been successfully delineated with downgradient monitoring wells MW-6 and MW-7 in compliance with NMWQCC standards for BTEX in groundwater and the absence of PSH in each well. Additionally, groundwater data collected during this year, as well as historical groundwater data, indicate contaminant concentrations have declined over time. Despite the decline in contaminant concentrations in most wells, PSH remains in well MW-3.

To address residual PSH at the Site, WSP installed a mechanical PSH pumping system in monitoring well MW-3 in November 2019. Approximately 34.3 gallons of PSH have been recovered from monitoring well MW-3 through pneumatic pumping since PSH recovery installation on November 18, 2019.

With the installation of the PSH recovery system, WSP recommends monthly site visits for O&M purposes. Additional O&M visits may be necessary depending on product recovery rates and system maintenance requirements. In addition, WSP recommends groundwater monitoring through quarterly well gauging (depth-to-groundwater and depth-to-PSH measurements) and annual groundwater sampling for laboratory analysis of BTEX compounds.

Kind regards,

A handwritten signature in black ink that reads 'Eric Carroll'.

Eric Carroll  
Associate Geologist

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A handwritten signature in black ink that reads 'Brooke Herb'.

Brooke Herb  
Sr. Consultant, Geologist



Encl.

Figure 1: Site Location Map

Figure 2: Groundwater Elevations and Analytical Results (March 2021)

Figure 3: Groundwater Elevations and Analytical Results (June 2021)

Figure 4: Groundwater Elevations and Analytical Results (September 2021)

Figure 5: Groundwater Elevations and Analytical Results (December 2021)

Table 1: Groundwater Elevation Summary

Table 2: Groundwater Laboratory Analytical Results

Table 3: Pneumatic Product Recovery System Data

Enclosure A: Groundwater Collection Forms

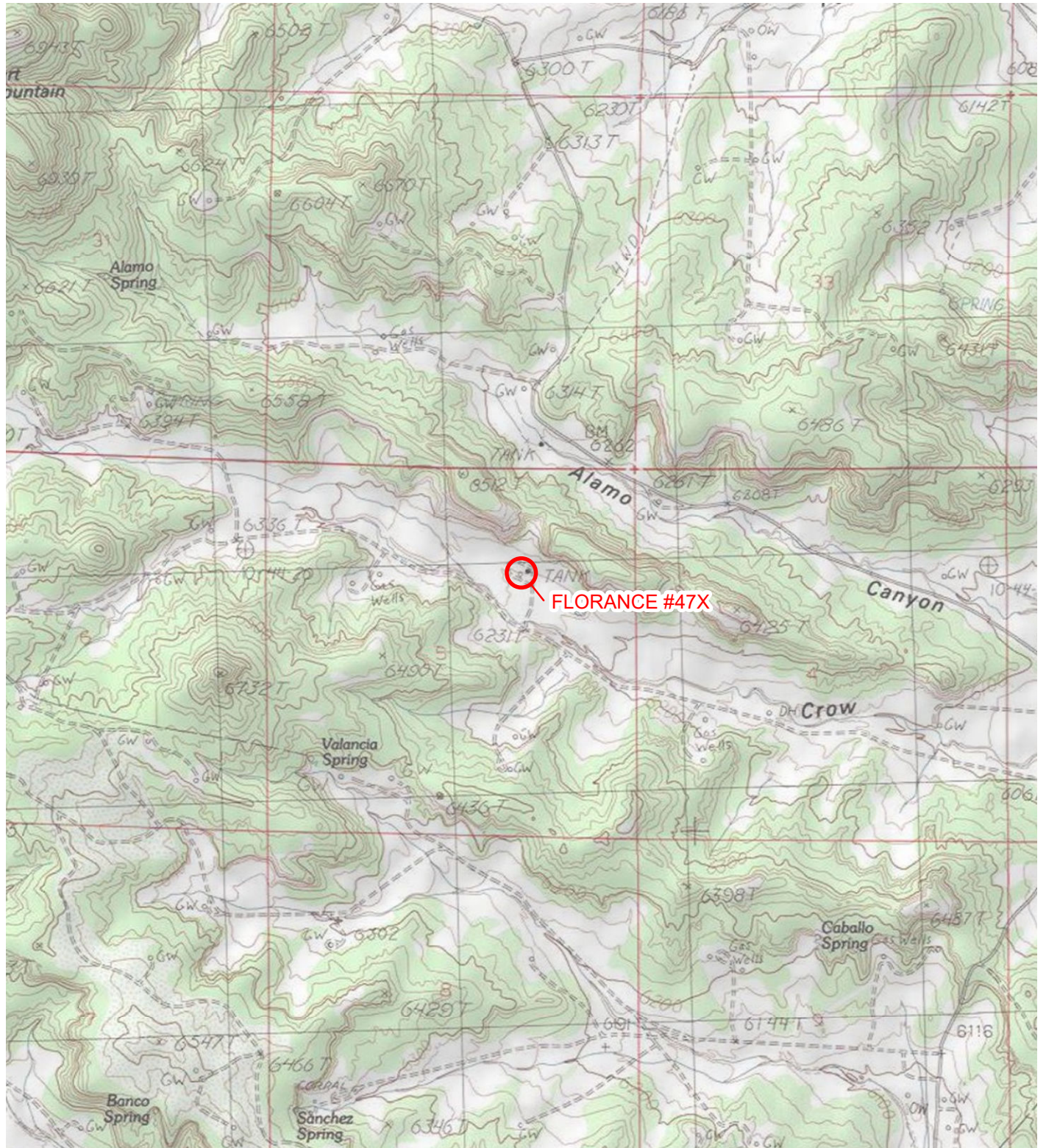
Enclosure B: Laboratory Analytical Results

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## FIGURES





**LEGEND**


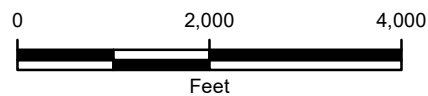
 SITE LOCATION

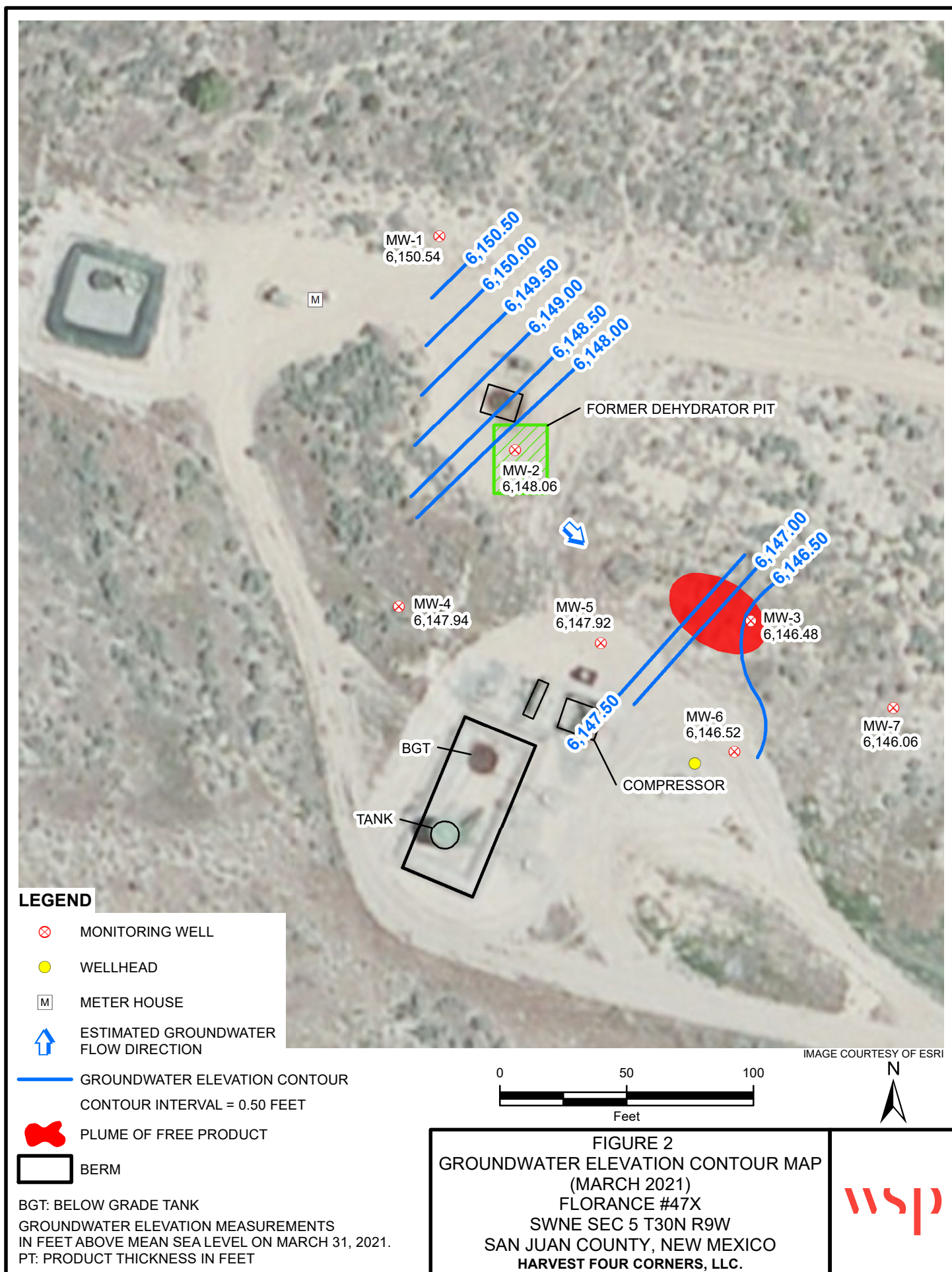
IMAGE COURTESY OF ESRI/USGS

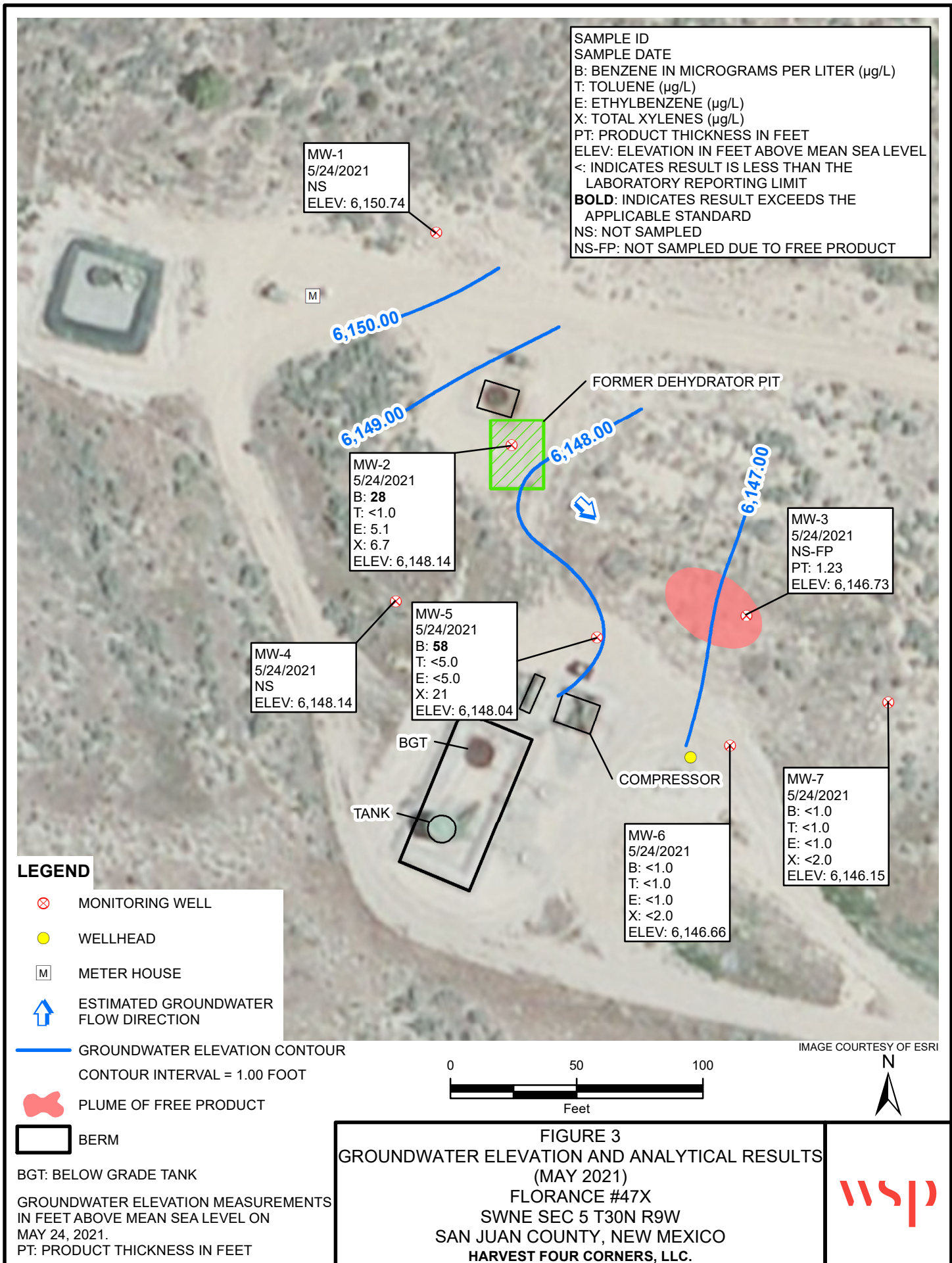


**FIGURE 1**  
**SITE LOCATION MAP**  
**FLORANCE #47X**  
 SWNE SEC 5 T30N R9W  
 SAN JUAN COUNTY, NEW MEXICO  
 HARVEST FOUR CORNERS, LLC.

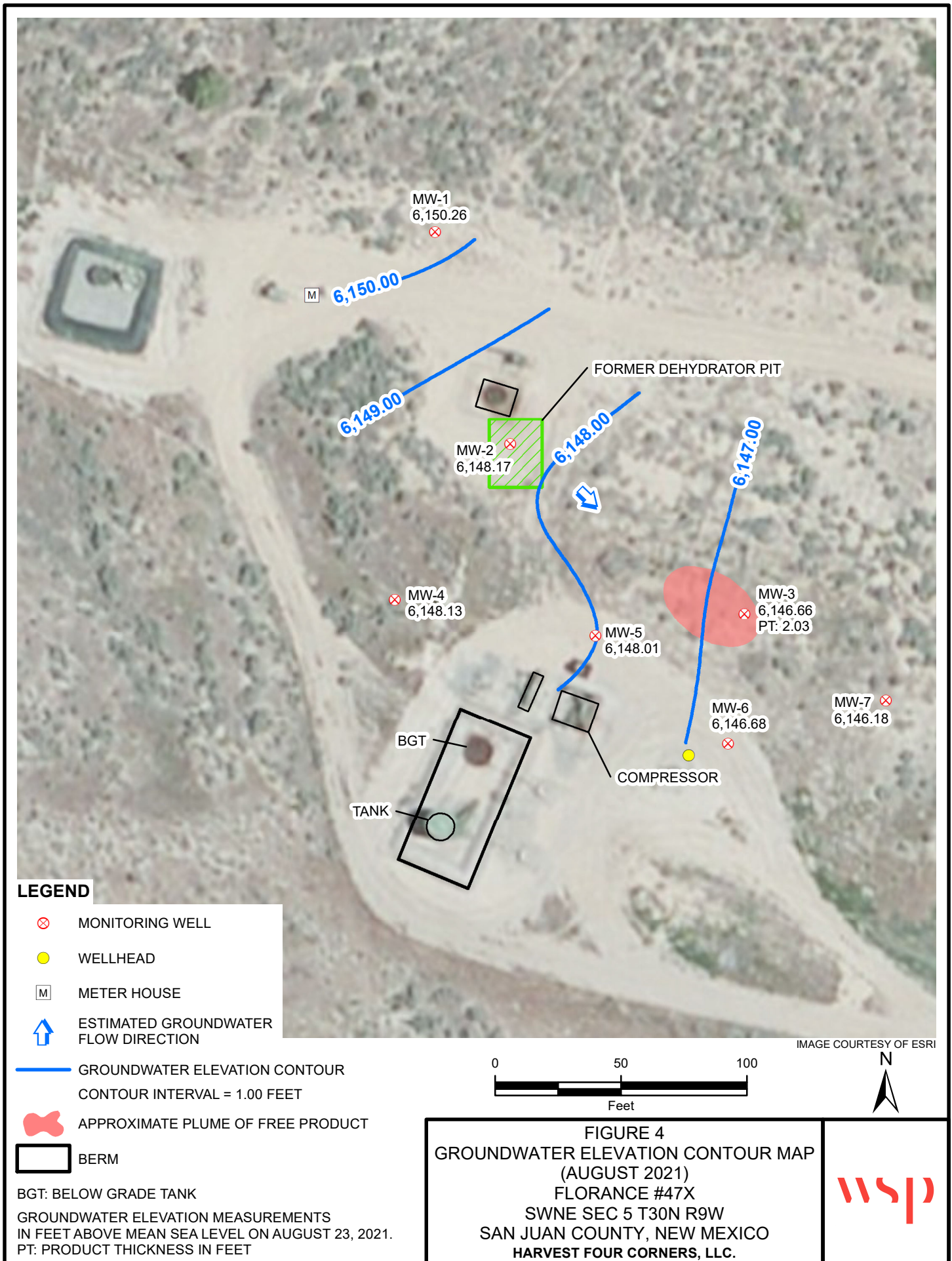




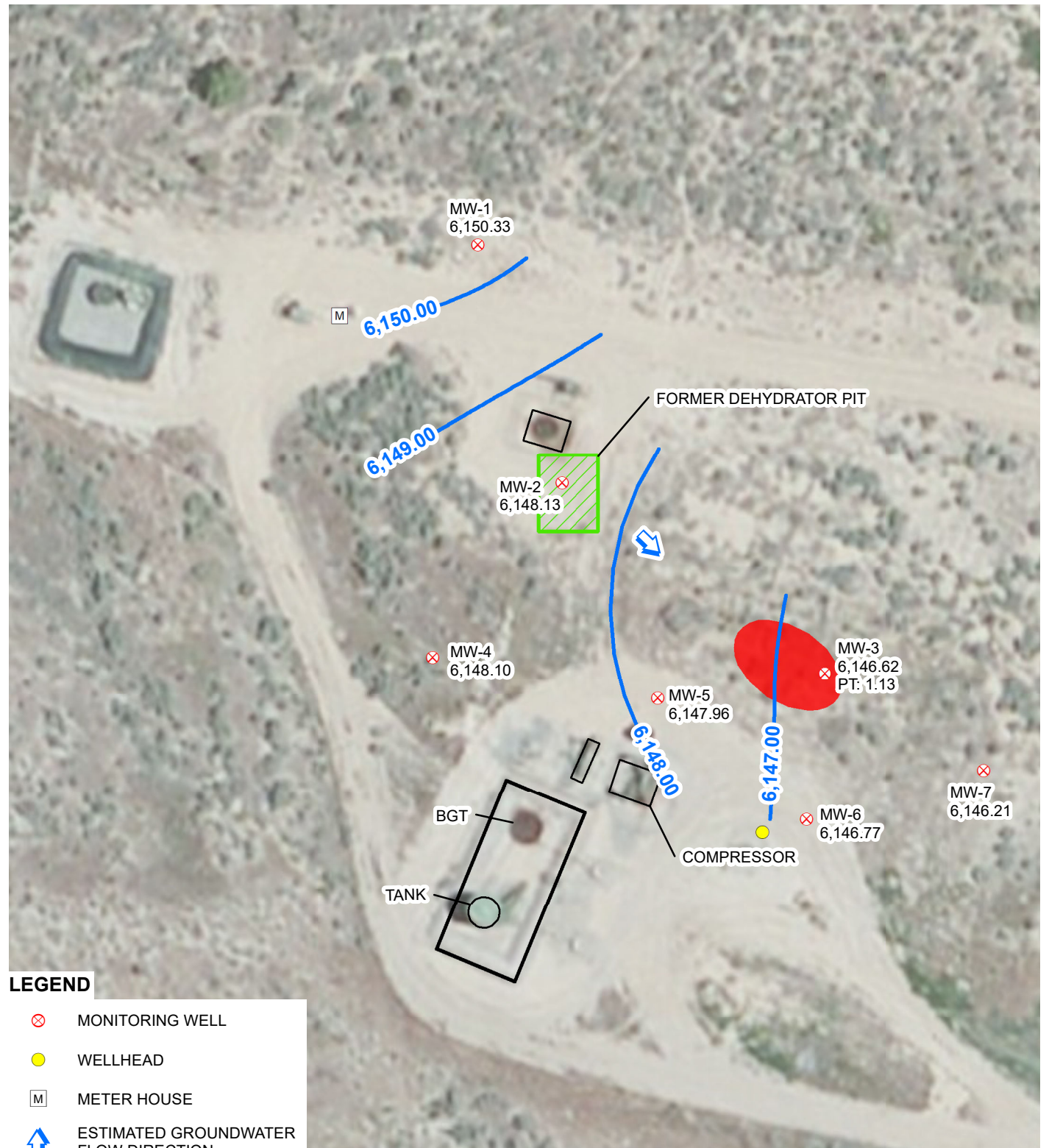








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**LEGEND**

⊗ MONITORING WELL

● WELLHEAD

M METER HOUSE

↑ ESTIMATED GROUNDWATER FLOW DIRECTION

— GROUNDWATER ELEVATION CONTOUR  
CONTOUR INTERVAL = 1.00 FEET

⊗ APPROXIMATE PLUME OF FREE PRODUCT

▭ BERM

BGT: BELOW GRADE TANK

GROUNDWATER ELEVATION MEASUREMENTS  
IN FEET ABOVE MEAN SEA LEVEL ON NOVEMBER 23, 2021.  
PT: PRODUCT THICKNESS IN FEET

IMAGE COURTESY OF ESRI

0 50 100  
Feet



**FIGURE 5**  
**GROUNDWATER ELEVATION CONTOUR MAP**  
**(NOVEMBER 2021)**  
**FLORANCE #47X**  
**SWNE SEC 5 T30N R9W**  
**SAN JUAN COUNTY, NEW MEXICO**  
**HARVEST FOUR CORNERS, LLC.**

**wsp**

## TABLES



TABLE 1

**GROUNDWATER ELEVATIONS SUMMARY**  
**FLORANCE #47X**  
**SAN JUAN COUNTY, NEW MEXICO**

Well Name	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	4/2/2012	6,229.61	UNK	UNK	UNK	UNK
MW-1	6/13/2012	6,229.61	UNK	UNK	UNK	UNK
MW-1	10/2/2012	6,229.61	UNK	UNK	UNK	UNK
MW-1	12/6/2012	6,229.61	UNK	UNK	UNK	UNK
MW-1	3/1/2013	6,229.61	99.52	NP	NP	6,130.09
MW-1*	6/24/2013	6,250.21	99.41	NP	NP	6,150.80
MW-1	9/12/2013	6,250.21	98.90	NP	NP	6,151.31
MW-1	12/4/2013	6,250.21	98.79	NP	NP	6,151.42
MW-1	3/19/2014	6,250.21	99.08	NP	NP	6,151.13
MW-1	6/13/2014	6,250.21	99.02	NP	NP	6,151.19
MW-1	9/11/2014	6,250.21	99.01	NP	NP	6,151.20
MW-1	12/4/2014	6,250.21	99.18	NP	NP	6,151.03
MW-1	3/17/2015	6,250.21	99.14	NP	NP	6,151.07
MW-1	4/28/2016	6,250.21	99.17	NP	NP	6,151.04
MW-1	8/11/2016	6,250.21	99.28	NP	NP	6,150.93
MW-1	10/17/2016	6,250.21	99.20	NP	NP	6,151.01
MW-1	1/31/2017	6,250.21	99.24	NP	NP	6,150.97
MW-1	4/28/2017	6,250.21	99.24	NP	NP	6,150.97
MW-1	7/28/2017	6,250.21	99.31	NP	NP	6,150.90
MW-1**	10/7/2019	6,250.35	99.54	NP	NP	6,150.81
MW-1	3/19/2020	6,250.35	99.52	NP	NP	6,150.83
MW-1	6/23/2020	6,250.35	99.57	NP	NP	6,150.78
MW-1	9/8/2020	6,250.35	99.31	NP	NP	6,151.04
MW-1	12/4/2020	6,250.35	99.59	NP	NP	6,150.76
MW-1	3/31/2021	6,250.35	99.81	NP	NP	6,150.54
MW-1	5/24/2021	6,250.35	99.61	NP	NP	6,150.74
MW-1	8/23/2021	6,250.35	100.09	NP	NP	6,150.26
MW-1	11/23/2021	6,250.35	100.02	NP	NP	6,150.33
MW-2	4/2/2012	6,226.30	UNK	UNK	UNK	UNK
MW-2	6/13/2012	6,226.30	UNK	UNK	UNK	UNK
MW-2	10/2/2012	6,226.30	UNK	UNK	UNK	UNK
MW-2	12/6/2012	6,226.30	UNK	UNK	UNK	UNK
MW-2	3/1/2013	6,226.30	98.47	NP	NP	6,127.83
MW-2*	6/24/2013	6,247.15	98.45	NP	NP	6,148.70
MW-2	9/12/2013	6,247.15	98.60	NP	NP	6,148.55
MW-2	12/4/2013	6,247.15	98.41	NP	NP	6,148.74

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Well Name	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-2	3/19/2014	6,247.15	98.54	NP	NP	6,148.61
MW-2	6/13/2014	6,247.15	98.53	NP	NP	6,148.62
MW-2	9/11/2014	6,247.15	98.60	NP	NP	6,148.55
MW-2	12/4/2014	6,247.15	98.56	NP	NP	6,148.59
MW-2	3/17/2015	6,247.15	98.63	NP	NP	6,148.52
MW-2	4/28/2016	6,247.15	98.73	NP	NP	6,148.42
MW-2	8/11/2016	6,247.15	98.76	NP	NP	6,148.39
MW-2	10/17/2016	6,247.15	98.73	NP	NP	6,148.42
MW-2	1/31/2017	6,247.15	98.77	NP	NP	6,148.38
MW-2	4/28/2017	6,247.15	98.76	NP	NP	6,148.39
MW-2	7/28/2017	6,247.15	98.82	NP	NP	6,148.33
MW-2**	10/7/2019	6,247.28	99.03	NP	NP	6,148.25
MW-2	3/19/2020	6,247.28	99.03	NP	NP	6,148.25
MW-2	6/23/2020	6,247.28	99.07	NP	NP	6,148.21
MW-2	9/8/2020	6,247.28	98.96	NP	NP	6,148.32
MW-2	12/4/2020	6,247.28	99.10	NP	NP	6,148.18
MW-2	3/31/2021	6,247.28	99.22	NP	NP	6,148.06
MW-2	5/24/2021	6,247.28	99.14	NP	NP	6,148.14
MW-2	8/23/2021	6,247.28	99.11	NP	NP	6,148.17
MW-2	11/23/2021	6,247.28	99.15	NP	NP	6,148.13
MW-3	4/2/2012	6,217.53	UNK	UNK	UNK	UNK
MW-3	6/13/2012	6,217.53	UNK	UNK	UNK	UNK
MW-3	10/2/2012	6,217.53	UNK	UNK	UNK	UNK
MW-3	12/6/2012	6,217.53	UNK	UNK	UNK	UNK
MW-3	3/1/2013	6,217.53	92.48	91.51	0.97	6,125.83
MW-3*	6/24/2013	6,238.51	91.71	90.86	0.85	6,147.48
MW-3	9/12/2013	6,238.51	91.69	90.89	0.80	6,147.46
MW-3	12/4/2013	6,238.51	91.23	90.83	0.40	6,147.60
MW-3	3/19/2014	6,238.51	91.59	91.03	0.56	6,147.37
MW-3	6/13/2014	6,238.51	91.38	91.08	0.30	6,147.37
MW-3	9/11/2014	6,238.51	91.47	91.20	0.27	6,147.26
MW-3	12/4/2014	6,238.51	91.15	91.15†	<0.01	6,147.36
MW-3	3/17/2015	6,238.51	91.53	91.22	0.31	6,147.23
MW-3	4/28/2016	6,238.51	92.00	91.20	0.80	6,147.15
MW-3	8/11/2016	6,238.51	92.54	91.18	1.36	6,147.06

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**FLORANCE #47X**  
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Well Name	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-3	10/17/2016	6,238.51	92.54	91.56	0.98	6,146.75
MW-3	1/31/2017	6,238.51	92.59	91.09	1.50	6,147.12
MW-3	4/28/2017	6,238.51	92.10	91.21	0.89	6,147.12
MW-3	7/28/2017	6,238.51	92.28	91.26	1.02	6,147.05
MW-3**	10/7/2019	6,238.66	93.46	91.31	2.15	6,146.92
MW-3	3/19/2020	6,238.66	92.85	91.62	1.23	6,146.79
MW-3	6/23/2020	6,238.66	92.41	91.83	0.58	6,146.71
MW-3	9/8/2020	6,238.66	91.71	91.66	0.05	6,146.99
MW-3	12/4/2020	6,238.66	92.90	91.72	1.18	6,146.70
MW-3	3/31/2021	6,238.66	92.60	92.08	0.52	6,146.48
MW-3	5/24/2021	6,238.66	92.91	91.68	1.23	6,146.73
MW-3	8/23/2021	6,238.66	93.62	91.59	2.03	6,146.66
MW-3	11/23/2021	6,238.66	92.94	91.81	1.13	6,146.62
MW-4	4/2/2012	6,219.93	UNK	UNK	UNK	UNK
MW-4	6/13/2012	6,219.93	UNK	UNK	UNK	UNK
MW-4	10/2/2012	6,219.93	UNK	UNK	UNK	UNK
MW-4	12/6/2012	6,219.93	UNK	UNK	UNK	UNK
MW-4	3/1/2013	6,219.93	92.02	NP	NP	6,127.91
MW-4*	6/24/2013	6,240.67	91.98	NP	NP	6,148.69
MW-4	9/12/2013	6,240.67	92.00	NP	NP	6,148.67
MW-4	12/4/2013	6,240.67	91.96	NP	NP	6,148.71
MW-4	3/19/2014	6,240.67	92.09	NP	NP	6,148.58
MW-4	6/13/2014	6,240.67	92.06	NP	NP	6,148.61
MW-4	9/11/2014	6,240.67	92.13	NP	NP	6,148.54
MW-4	12/4/2014	6,240.67	92.10	NP	NP	6,148.57
MW-4	3/17/2015	6,240.67	92.17	NP	NP	6,148.50
MW-4	4/28/2016	6,240.67	92.25	NP	NP	6,148.42
MW-4	8/11/2016	6,240.67	92.32	NP	NP	6,148.35
MW-4	10/17/2016	6,240.67	92.29	NP	NP	6,148.38
MW-4	1/31/2017	6,240.67	92.31	NP	NP	6,148.36
MW-4	4/28/2017	6,240.67	92.31	NP	NP	6,148.36
MW-4	7/28/2017	6,240.67	92.36	NP	NP	6,148.31
MW-4**	10/7/2019	6,240.80	92.60	NP	NP	6148.20
MW-4	3/19/2020	6,240.80	92.58	NP	NP	6148.22
MW-4	6/23/2020	6,240.80	92.63	NP	NP	6148.17



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Well Name	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-4	9/8/2020	6,240.80	92.53	NP	NP	6148.27
MW-4	12/4/2020	6,240.80	92.65	NP	NP	6148.15
MW-4	3/31/2021	6,240.80	92.86	NP	NP	6147.94
MW-4	5/24/2021	6,240.80	92.66	NP	NP	6148.14
MW-4	8/23/2021	6,240.80	92.67	NP	NP	6148.13
MW-4	11/23/2021	6,240.80	92.70	NP	NP	6148.10
MW-5	4/2/2012	6,216.97	UNK	UNK	UNK	UNK
MW-5	6/13/2012	6,216.97	UNK	UNK	UNK	UNK
MW-5	10/2/2012	6,216.97	UNK	UNK	UNK	UNK
MW-5	12/6/2012	6,216.97	UNK	UNK	UNK	UNK
MW-5	3/1/2013	6,216.97	90.48	90.46	0.02	6,126.51
MW-5*	6/24/2013	6,238.33	89.78	NP	NP	6,148.55
MW-5	9/12/2013	6,238.33	89.98	NP	NP	6,148.35
MW-5	12/4/2013	6,238.33	89.86	NP	NP	6,148.47
MW-5	3/19/2014	6,238.33	89.91	NP	NP	6,148.42
MW-5	6/13/2014	6,238.33	89.95	NP	NP	6,148.38
MW-5	9/11/2014	6,238.33	90.02	NP	NP	6,148.31
MW-5	12/4/2014	6,238.33	90.02	NP	NP	6,148.31
MW-5	3/17/2015	6,238.33	89.98	NP	NP	6,148.35
MW-5	4/28/2016	6,238.33	90.11	NP	NP	6,148.22
MW-5	8/11/2016	6,238.33	90.20	NP	NP	6,148.13
MW-5	10/17/2016	6,238.33	90.18	NP	NP	6,148.15
MW-5	1/31/2017	6,238.33	90.11	NP	NP	6,148.22
MW-5	4/28/2017	6,238.33	90.13	NP	NP	6,148.20
MW-5	7/28/2017	6,238.33	90.17	90.16	0.01	6,148.16
MW-5**	10/14/2019	6,236.47	88.3	NP	NP	6,148.17
MW-5	3/19/2020	6,236.47	88.37	NP	NP	6,148.10
MW-5	6/23/2020	6,236.47	88.41	NP	NP	6,148.06
MW-5	9/8/2020	6,236.47	88.35	NP	NP	6,148.12
MW-5	12/4/2020	6,236.47	88.42	NP	NP	6,148.05
MW-5	3/31/2021	6,236.47	88.55	NP	NP	6,147.92
MW-5	5/24/2021	6,236.47	88.43	NP	NP	6,148.04
MW-5	8/23/2021	6,236.47	88.46	NP	NP	6,148.01
MW-5	11/23/2021	6,236.47	88.51	NP	NP	6,147.96

TABLE 1

**GROUNDWATER ELEVATIONS SUMMARY**  
**FLORANCE #47X**  
**SAN JUAN COUNTY, NEW MEXICO**

Well Name	Date	Top of Casing Elevation (feet AMSL)	Depth to Groundwater (feet BTOC)	Depth to Product (feet BTOC)	Product Thickness (feet)	Groundwater Elevation (feet AMSL)
<b>MW-6**</b>	10/14/2019	6,235.26	88.42	NP	NP	6,146.84
<b>MW-6</b>	3/19/2020	6,235.26	88.51	NP	NP	6,146.75
<b>MW-6</b>	6/23/2020	6,235.26	88.52	NP	NP	6,146.74
<b>MW-6</b>	9/8/2020	6,235.26	88.30	NP	NP	6,146.96
<b>MW-6</b>	12/4/2020	6,235.26	88.53	NP	NP	6,146.73
<b>MW-6</b>	3/31/2021	6,235.26	88.74	NP	NP	6,146.52
<b>MW-6</b>	5/24/2021	6,235.26	88.60	NP	NP	6,146.66
<b>MW-6</b>	8/23/2021	6,235.26	88.58	NP	NP	6,146.68
<b>MW-6</b>	11/23/2021	6,235.26	88.49	NP	NP	6,146.77
<b>MW-7**</b>	10/14/2019	6,237.28	90.94	NP	NP	6,146.34
<b>MW-7</b>	3/19/2020	6,237.28	90.98	NP	NP	6,146.30
<b>MW-7</b>	6/23/2020	6,237.28	91.06	NP	NP	6,146.22
<b>MW-7</b>	9/8/2020	6,237.28	90.91	NP	NP	6,146.37
<b>MW-7</b>	12/4/2020	6,237.28	91.08	NP	NP	6,146.20
<b>MW-7</b>	3/31/2021	6,237.28	91.22	NP	NP	6,146.06
<b>MW-7</b>	5/24/2021	6,237.28	91.13	NP	NP	6,146.15
<b>MW-7</b>	8/23/2021	6,237.28	91.1	NP	NP	6,146.18
<b>MW-7</b>	11/23/2021	6,237.28	91.07	NP	NP	6,146.21

&lt; - less than

\* - Top of casing elevation was resurveyed on 6/20/13

\*\* - Top of casing elevation was resurveyed on 12/17/2019

† - Oil-water interface probe did not detect phase separated hydrocarbons. PSH observed visually using a bailer.

Groundwater elevation calculation in wells with product: (Top of Casing Elevation - Depth to Water) + (Product Thickness \* 0.8)

AMSL - above mean sea level

BTOC - below top of casing

NP - no free phase hydrocarbons are present the well

UNK - data is not known

TABLE 2

**GROUNDWATER LABORATORY ANALYTICAL RESULTS**  
**FLORACE #47X**  
**SAN JUAN COUNTY, NEW MEXICO**

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
<b>NMWQCC Standard (µg/L)</b>		<b>5</b>	<b>1,000</b>	<b>700</b>	<b>620</b>
MW-1	1/8/1997	3,380	7,150	917	7,200
MW-1	7/13/1997	367	241	35	191
MW-1	10/1/1997	171	54	27	65
MW-1	1/6/1998	147	70	20	73.6
MW-1	3/9/1998	140	1.4	17	36
MW-1	6/11/1998	94	19	11	16.3
MW-1	8/12/1998	49	4.7	8.8	5.7
MW-1	12/15/1998	46	11	5.8	4.7
MW-1	2/9/1999	33	6.6	5.6	4.7
MW-1	4/21/1999	40	15	6.4	10.4
MW-1	7/28/1999	34	7.8	3	3.0
MW-1	11/3/1933	2.9	<0.5	<0.5	<1.5
MW-1	3/23/2000	10	1.1	<0.5	<1.5
MW-1	6/14/2000	4.1	1.4	0.6	<1.5
MW-1	11/17/2000	4.64	<1.0	<1.0	<1.0
MW-1	1/31/2001	3.67	1.44	<1.0	<1.0
MW-1	4/30/2001	5.44	1.90	<1.0	1.78
MW-1	10/10/2001	1.1	<2.0	<2.0	<2.0
MW-1	12/2/2003	<2.0	<2.0	<2.0	<5.0
MW-1	9/20/2004	3.4	<2.0	<2.0	<5.0
MW-1	12/3/2004	<2.0	<2.0	<2.0	<5.0
MW-1	3/10/2005	<2.0	<2.0	<2.0	<5.0
MW-1	6/18/2005	<2.0	<2.0	<2.0	<5.0
MW-1	7/13/2006	2.2	<1.0	<1.0	<3.0
MW-1	9/21/2006	4.9	<1.0	<1.0	<3.0
MW-1	3/29/2010	<1.0	<1.0	<1.0	<3.0
MW-1	6/18/2010	<1.0	<1.0	<1.0	<3.0
MW-1	9/10/2010	1.2	<1.0	<1.0	<3.0
MW-1	12/4/2010	<1.0	<1.0	<1.0	<3.0
MW-1	3/2/2011	<1.0	<1.0	<1.0	<3.0
MW-1	6/14/2011	3.6	<1.0	<1.0	<3.0
MW-1	9/12/2011	<1.0	<1.0	<1.0	<3.0
MW-1	1/3/2012	<1.0	<1.0	<1.0	<3.0
MW-1	4/2/2012	<1.0	<1.0	<1.0	<3.0
MW-1	6/13/2012	<1.0	<1.0	<1.0	<3.0
MW-1	10/2/2012	1.1	<1.0	<1.0	<3.0
MW-1	12/6/2012	<1.0	<1.0	<1.0	<3.0
MW-1	3/1/2013	<1.0	<1.0	<1.0	<2.0
MW-1	11/1/2019	1.4	<1.0	<1.0	<1.5
MW-1	6/23/2020	NS	NS	NS	NS
MW-1	5/24/2021	NS	NS	NS	NS
MW-2	8/12/1998	9,800	14,000	920	9,200
MW-2	12/15/1998	12,000	17,000	870	8,700



TABLE 2

**GROUNDWATER LABORATORY ANALYTICAL RESULTS  
FLORACE #47X  
SAN JUAN COUNTY, NEW MEXICO**

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
<b>NMWQCC Standard (µg/L)</b>		<b>5</b>	<b>1,000</b>	<b>700</b>	<b>620</b>
MW-2	2/9/1999	11,000	16,000	720	7,300
MW-2	4/21/1999	14,000	20,000	850	8,500
MW-2	7/28/1999	11,000	15,000	740	6,800
MW-2	11/3/1999	11,000	14,000	770	8,100
MW-2	3/23/2000	12,000	15,000	810	8,200
MW-2	6/14/2000	6,400	7,000	570	5,800
MW-2	11/17/2000	5,980	3,240	600	4,780
MW-2	1/31/2001	6,300	2,790	458	5,490
MW-2	4/30/2001	7,160	2,200	404	7,060
MW-2	10/10/2001	4,500	1,000	390	3,800
MW-2	12/2/2003	11,000	<100	540	6,400
MW-2	9/20/2004	11,000	<200	600	5,800
MW-2	12/3/2004	11,000	<200	630	6,300
MW-2	3/10/2005	10,000	38	490	5,700
MW-2	6/18/2005	9,700	<100	640	6,000
MW-2	9/16/2005	8,900	31	370	4,800
MW-2	11/30/2005	<2.0	2.9	<2.0	12.2
MW-2	7/18/2006	16,900	<10.0	753	4,370
MW-2	3/29/2010	9,460	67	521	6,210
MW-2	6/18/2010	3,270	<1.0	260	3,530
MW-2	12/4/2010	1,470	26.3	599	2,720
MW-2	3/2/2011	2,530	1.4	764	3,700
MW-2	6/14/2011	8,500	<20.0	537	4,490
MW-2	1/3/2012	9,400	<50.0	710	6,340
MW-2	4/2/2012	10,000	710	<100	6,390
MW-2	6/13/2012	11,200	716	<50.0	6,790
MW-2	10/2/2012	10,200	765	<100	7,260
MW-2	12/6/2012	8,280	722	<50.0	5,610
MW-2	3/4/2013	8,600	<10	<10	6,500
MW-2	6/24/2013	6,300	<10	600	5,800
MW-2	9/12/2013	NSO	NSO	NSO	NSO
MW-2	12/4/2013	39	72	<5.0	150
MW-2	3/19/2014	9,700	<10	760	7,000
MW-2	6/13/2014	8,600	<10	290	5,800
MW-2	9/11/2014	9,700	<10	490	7,200
MW-2	12/8/2014	9,400	<10	360	6,900
MW-2	3/17/2015	5,000	<20	340	3,000
MW-2	4/28/2017	5,100	<5	410	3,600
MW-2	11/1/2019	4,600	<1.0	270	190
MW-2	6/23/2020	8,200	<20	410	150
MW-2	5/24/2021	28	<1.0	5.1	6.7
MW-3	4/2/2012	NS	NS	NS	NS
MW-3	6/13/2012	NS	NS	NS	NS

TABLE 2

**GROUNDWATER LABORATORY ANALYTICAL RESULTS**  
**FLORACE #47X**  
**SAN JUAN COUNTY, NEW MEXICO**

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
<b>NMWQCC Standard (µg/L)</b>		<b>5</b>	<b>1,000</b>	<b>700</b>	<b>620</b>
MW-3	10/2/2012	NS	NS	NS	NS
MW-3	12/6/2012	NS	NS	NS	NS
MW-3	3/1/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-3	6/24/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-3	9/12/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-3	12/4/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-3	3/19/2014	NS-FP	NS-FP	NS-FP	NS-FP
MW-3	6/13/2014	NS-FP	NS-FP	NS-FP	NS-FP
MW-3	9/11/2014	NS-FP	NS-FP	NS-FP	NS-FP
MW-3	12/4/2014	NS-FP	NS-FP	NS-FP	NS-FP
MW-3	3/17/2015	NS-FP	NS-FP	NS-FP	NS-FP
MW-3	11/1/2019	NS-FP	NS-FP	NS-FP	NS-FP
MW-3	6/23/2020	NS-FP	NS-FP	NS-FP	NS-FP
MW-3	5/24/2021	NS-FP	NS-FP	NS-FP	NS-FP
MW-4	12/15/1998	44	11	5.8	4.8
MW-4	2/9/1999	11,000	16,000	730	7,300
MW-4	4/21/1999	68	25	9.3	13
MW-4	7/2/1999	11,000	14,000	700	6,700
MW-4	3/23/2000	11,000	13,000	770	7,800
MW-4	6/14/2000	28	42	7	135
MW-4	11/17/2000	59.9	104	2.94	98.3
MW-4	1/31/2001	30.3	81.0	5.20	156
MW-4	4/30/2001	36.1	56.1	1.32	73
MW-4	10/10/2001	24	28	<2.0	47
MW-4	12/2/2003	2.3	2.7	<2.0	6.5
MW-4	9/20/2004	3.6	3.2	<2.0	9.8
MW-4	12/3/2004	2.5	2.3	<2.0	8
MW-4	3/10/2005	3.0	3.5	<2.0	11
MW-4	6/18/2005	<2.0	3	<2.0	8.6
MW-4	9/16/2005	<2.0	2.3	<2.0	9.4
MW-4	11/30/2005	<2.0	<2.0	<2.0	10.4
MW-4	7/13/2006	2.9	<1.0	1.0	9.9
MW-4	9/21/2006	1.2	<1.0	<1.0	9.6
MW-4	3/29/2010	1.3	<1.0	<1.0	8.7
MW-4	6/18/2010	<1.0	<1.0	<1.0	6.8
MW-4	9/10/2010	<1.0	<1.0	<1.0	3.9
MW-4	12/4/2010	<1.0	<1.0	<1.0	5.6
MW-4	3/2/2011	<1.0	<1.0	<1.0	3
MW-4	6/14/2011	<1.0	<1.0	<1.0	6
MW-4	9/12/2011	<1.0	<1.0	<1.0	4.7
MW-4	1/3/2012	<1.0	<1.0	<1.0	5.4
MW-4	4/2/2012	<1.0	<1.0	<1.0	6.1
MW-4	6/13/2012	<1.0	<1.0	<1.0	3.7

TABLE 2

**GROUNDWATER LABORATORY ANALYTICAL RESULTS**  
**FLORACE #47X**  
**SAN JUAN COUNTY, NEW MEXICO**

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
<b>NMWQCC Standard (µg/L)</b>		<b>5</b>	<b>1,000</b>	<b>700</b>	<b>620</b>
MW-4	10/2/2012	<1.0	<1.0	<1.0	4.5
MW-4	12/6/2012	<1.0	<1.0	<1.0	6
MW-4	3/1/2013	<1.0	<1.0	<1.0	<2.0
MW-4	11/1/2019	<1.0	<1.0	<1.0	<1.5
MW-4	6/23/2020	NS	NS	NS	NS
MW-4	5/24/2021	NS	NS	NS	NS
MW-5	6/14/2000	<b>1,100</b>	710	100	<b>1,100</b>
MW-5	6/14/2000	<b>890</b>	570	80	<b>900</b>
MW-5	11/17/2000	<b>161</b>	110	8.09	60.8
MW-5	4/30/2001	<b>15.7</b>	21.6	2.01	17.9
MW-5	10/10/2001	<b>380</b>	120	19	220
MW-5	12/2/2003	<b>41</b>	7.9	3.1	10
MW-5	9/20/2004	<b>17</b>	3.7	<2.0	9.9
MW-5	12/9/2004	<b>13</b>	3.3	<2.0	14
MW-5	3/10/2005	5.5	<2.0	<2.0	6.3
MW-5	7/13/2006	<b>920</b>	74	34.7	<b>1,980</b>
MW-5	9/21/2006	<b>135</b>	19.2	17.0	409
MW-5	4/2/2012	NS	NS	NS	NS
MW-5	6/13/2012	NS	NS	NS	NS
MW-5	10/2/2012	NS	NS	NS	NS
MW-5	12/6/2012	NS	NS	NS	NS
MW-5	3/1/2013	NS-FP	NS-FP	NS-FP	NS-FP
MW-5	6/24/2013	<b>930</b>	<50	98	<b>1,100</b>
MW-5	9/12/2013	<b>2,400</b>	40	250	<b>3,800</b>
MW-5	12/4/2013	<b>410</b>	46	51	<b>1,000</b>
MW-5	3/19/2014	<b>920</b>	3.1	100	<b>660</b>
MW-5	6/13/2014	<b>4,000</b>	<20	480	<b>1,700</b>
MW-5	9/11/2014	<b>3,000</b>	33	370	<b>2,800</b>
MW-5	12/4/2014	<b>3,000</b>	14	390	<b>2,900</b>
MW-5	3/17/2015	<b>570</b>	<10	52	<b>660</b>
MW-5	4/28/2016	<b>270</b>	<10	30	400
MW-5	4/28/2017	<b>380</b>	<2.0	55	560
MW-5	11/1/2019	<b>2,200</b>	<1.0	150	210
MW-5	6/23/2020	<b>360</b>	<2.0	2.4	210
MW-5	5/24/2021	<b>58</b>	<5.0	<5.0	21
MW-6	11/1/2019	<1.0	<1.0	<1.0	<1.5
MW-6	6/23/2020	<1.0	<1.0	<1.0	<1.5
MW-6	5/4/2021	<1.0	<1.0	<1.0	<2.0

**TABLE 2**  
**GROUNDWATER LABORATORY ANALYTICAL RESULTS**  
**FLORACE #47X**  
**SAN JUAN COUNTY, NEW MEXICO**

Well Name	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
<b>NMWQCC Standard (µg/L)</b>		<b>5</b>	<b>1,000</b>	<b>700</b>	<b>620</b>
<b>MW-7</b>	11/1/2019	<1.0	<1.0	<1.0	<1.5
<b>MW-7</b>	6/23/2020	<1.0	<1.0	<1.0	<1.5
<b>MW-7</b>	5/4/2021	<1.0	<1.0	<1.0	<2.0

**Notes:**

&lt; - indicates result is less than laboratory reporting detection limit

µg/L - micrograms per liter

NMWQCC - New Mexico Water Quality Control Commission

NS - not sampled

NS-FP - not sampled due to the presence of free phase hydrocarbons in the well

NSO - not sampled due to obstruction

**Bold** - indicates sample exceeds NMWQCC standard



TABLE 3

**PNEUMATIC PRODUCT RECOVERY SYSTEM DATA  
FLORANCE #47X  
SAN JUAN COUNTY, NEW MEXICO**

Date	Well ID	Cycles	Run Time (hours)	Cycles (Lifetime)	Lifetime (hours)	Estimated Product Recovered (gallons)	Depth to Product (feet)	Depth to Water (feet)	PSH Thickness (feet)	Battery Voltage	System ON/OFF	Any Faults	Notes/Maintenance Completed
11/18/2019	MW-3	0	0:00:00	1,809	160:07:11	0.0	91.26	93.19	1.93	12.7	ON	NO	Installed sipper at MW-3 vac: 18s, press: 40s, delay: 8 hours
12/3/2019	MW-3	47	13:23:00	1,856	6:16:10	0.9	91.55	93.49	1.94	12.7	ON	NO	2.5 ounces per cycle
1/9/2020	MW-3	158	2:23:03	1,967	19:06:13	2.7	91.5	93.01	1.51	12.7	ON	NO	2 oz. per cycle, 5 inches of product in barrel
1/30/2020	MW-3	221	71:23:46	2,030	232:06:56	4.1	91.59	93.12	1.53	12.8	ON	NO	3 oz. product per cycle delay set to 6 hours.
2/26/2020	MW-3	303	99:04:18	2,112	0003:11:28	5.4	91.8	93.1	1.3	12.8	ON	NO	2 oz per cycle, changed delay to 6 hours.
3/19/2020	MW-3	390	120:22:41	2,199	0025:05:52	6.8	91.62	92.85	1.23	12.8	ON	NO	2 oz per cycle, ~4.5 inches of product in barrel
4/1/2020	MW-3	391	120:23:13	2,200	0025:06:23	6.8	91.46	92.95	1.49	12.7	ON	NO	~ 1 oz per cycle, changed solar panel to 26 degrees from 0.
4/20/2020	MW-3	467	139:23:28	2,276	0044:06:38	7.4	91.7	92.49	0.79	12.7	ON	NO	Cleaned panel/pump, ~ 5" inches of product in barrel
5/4/2020	MW-3	523	154:00:04	2,332	0058:04:15	7.8	91.83	92.4	0.57	12.7	ON	NO	Cleaned panel/pump, 6" inches of product in barrel. 1 oz recovered in cycle.
6/23/2020	MW-3	727	204:01:16	2,536	108:08:27	12.6	91.83	92.41	0.58	12.9	ON	NO	Clean pump, 9" of product in barrel 3 oz. recovered per cycle.

TABLE 3

**PNEUMATIC PRODUCT RECOVERY SYSTEM DATA  
FLORANCE #47X  
SAN JUAN COUNTY, NEW MEXICO**

Date	Well ID	Cycles	Run Time (hours)	Cycles (Lifetime)	Lifetime (hours)	Estimated Product Recovered (gallons)	Depth to Product (feet)	Depth to Water (feet)	PSH Thickness (feet)	Battery Voltage	System ON/OFF	Any Faults	Notes/Maintenance Completed
7/24/2020	MW-3	861	235:00:56	2,670	139:08:07	17.8	91.84	92.44	0.6	12.9	ON	NO	Clean pump/solar panel, 9" of product in barrel, bailed 5 oz of product from well
8/6/2020	MW-3	918	248:02:02	2,727	152:09:12	18.3	91.84	91.87	0.03	12.9	ON	NO	Clean pump/solar panel, 9" of product in barrel
9/8/2020	MW-3	1,061	25:00:01	2,870	185:07:11	20.5	91.66	91.71	0.05	12.9	ON	NO	Change vacuum to 10 seconds and delay to 10 hours
9/25/2020	MW-3	1,070	28:08:15	2,879	188:15:26	20.6	91.72	92.69	0.97	13.3	ON	Intake Overload	Clean pump/solar panel, 16" of product in barrel, Repair cracked intake lines
10/14/2020	MW-3	1,098	40:00:58	2,907	200:08:08	21.1	91.87	92.5	0.63	12.7	ON	Intake Overload	Clean pump/solar panel, 20" of product in barrel, Repair cracked intake lines. Polytube needs to be replaced with vinyl.
10/26/2020	MW-3	1,110	44:05:25	2,912	204:12:36	21.3	91.72	92.69	0.97	12.6	ON	Intake Overload	21" of product in barrel, replace intake lines. Clean snow of solar Panel.
11/4/2020	MW-3	1,118	44:05:25	2,927	204:12:36	21.4	91.7	92.66	0.96	12.6	ON	Intake Overload	22" of product in barrel.
11/24/2020	MW-3	1,121	48:19:28	2,930	209:02:39	21.4	91.59	92.71	1.12	13	ON	Intake Overload	21" of product in barrel. Clean solar Panel.
12/4/2020	MW-3	1,140	58:17:47	2,949	219:00:57	21.7	91.72	92.90	1.18	12.6	ON	NO	Increase pressure cycle to 2:15 to clear intake. Delay set to 10 hours
12/18/2020	MW-3	1,173	72:16:37	2,982	232:23:47	22.2	91.69	92.90	1.21	12.7	ON	NO	~ 6" in barrel, 1 oz recovered in cycle

TABLE 3

**PNEUMATIC PRODUCT RECOVERY SYSTEM DATA  
FLORANCE #47X  
SAN JUAN COUNTY, NEW MEXICO**

Date	Well ID	Cycles	Run Time (hours)	Cycles (Lifetime)	Lifetime (hours)	Estimated Product Recovered (gallons)	Depth to Product (feet)	Depth to Water (feet)	PSH Thickness (feet)	Battery Voltage	System ON/OFF	Any Faults	Notes/Maintenance Completed
12/30/2020	MW-3	1,180	75:05:06	2,989	235:12:16	22.3	91.7	93.02	1.32	12.7	ON	Intake Overload	Cleaned pump, attached white tubing from pump back to solar sipper control box, changed solar panel angle to 51 degrees for winter, 1 oz PSH recovered in cycle, ~6 " in barrel.
1/13/2021	MW-3	1,214	89:05:49	3,023	249:13:00	22.8	91.78	92.48	0.7	12.7	ON	NO	~6.5" PSH in bbl. Cleaned solar panel. 2 oz yellow/brown PSH recovered in cycle.
2/1/2021	MW-3	1,256	106:19:27	3,065	11:02:37	23.5	92.07	92.64	0.57	12.8	ON	Intake Overload	~18" PSH in bbl. Cleaned solar panel. 3 oz yellow/brown PSH recovered in cycle. Intake line cracked, repair and system returned to normal operation
2/16/2021	MW-3	1,295	121:18:34	3,104	26:01:44	24.1	91.64	92.69	1.05	13.6	ON	Intake Overload	~19" PSH in bbl. Air line frozen at well head, Warmed with hand and ran 2 cycles to clear condensation in line.
3/12/2021	MW-3	1,330	135:06:54	3,139	39:14:04	24.6	91.54	92.89	1.35	12.7	ON	Intake Overload	Cleaned out air lines
3/31/2021	MW-3	1,402	152:16:33	3,211	56:23:43	25.8	92.08	92.6	0.52	12.8	ON	Intake Overload	~19" PSH in bbl. Replaced Discharge line.
4/15/2021	MW-3	1,437	163:09:42	3,246	67:16:52	26.0	92.00	92.70	0.70	14.3	ON	No	Angle solar panel to 54 degrees for summer sun.
5/24/2021	MW-3	1,448	166:23:46	3,257	71:06:56	26.1	91.68	92.91	1.23	12.8	ON	Intake Overload	Attached air supply line back to panel side.
6/21/2021	MW-3	1,461	170:06:08	3,270	74:13:18	26.2	91.64	93.11	1.47	13.4	ON	NO	Adjust pump depth
7/27/2021	MW-3	1,464	170:20:14	3,273	75:03:24	26.2	NP	92.61	NP	12.8	ON	Intake Override	Clear fault and air lines reset pump

**TABLE 3**  
**PNEUMATIC PRODUCT RECOVERY SYSTEM DATA**  
**FLORANCE #47X**  
**SAN JUAN COUNTY, NEW MEXICO**

Date	Well ID	Cycles	Run Time (hours)	Cycles (Lifetime)	Lifetime (hours)	Estimated Product Recovered (gallons)	Depth to Product (feet)	Depth to Water (feet)	PSH Thickness (feet)	Battery Voltage	System ON/OFF	Any Faults	Notes/Maintenance Completed
8/23/2021	MW-3	1,464	170:20:14	3,274	75:03:24	26.2	NP	93.61	NP	13.8	ON	Intake Override	Clear fault and air lines reset pump. Need to replace cable for Intake alarm.
8/27/2021	MW-3	1,464	170:20:14	3,273	75:03:24	26.2	91.58	93.52	1.94	12.7	Off	Off	Panel off in setup mode. Directional solenoid broken.
10/27/2021	MW-3	1,479	170:21:39	3,288	75:04:49	26.4	91.57	93.55	1.98	12.8	ON	Intake Overload	Replace cable at intake float.
11/10/2021	MW-3	1,562	184:22:51	3,371	89:06:01	28.3	—	—	—	12.7	ON	NO	
11/23/2021	MW-3	1,641	197:23:12	3,450	102:06:22	30.2	91.81	92.94	1.13	12.8	ON	NO	Clean and reset pump.
12/17/2021	MW-3	1,816	220:05:20	3,625	124:01:30	34.3	—	91.47	—	12.7	ON	Intake Overload	~17" PSH in bbl. Reset pump. Ran 2 cycles, ice in discharge line, ~ 2 oz water and oily product recovered on 2nd cycle.

**Notes:**

PSH - phase separated hydrocarbons

NP - No product observed



## ENCLOSURE A – GROUNDWATER COLLECTION FORMS

## Water Sample Collection Form

Sample Location Florance 47x

Harvest Four Corners, LLC

Sample Date 5.24.21

Sample Time 1438

Sample ID mw-2

Analyses BTEX 8021

Matrix	Groundwater
--------	-------------

Turn Around Time	Standard
------------------	----------

Depth to Water 99.14

Time

Vol. of H<sub>2</sub>O to purge 4.9 gallons

(height of water column \* 0.1631 for 2" well or 0.6524 for 4" well) \* 3 well vols

Method of Purging PVC boiler

Method of Sampling PVC bailer

[illegible]

**Comments:**

Describe Deviations from SOP:

Signature: Caitlin M.

5.24.21

## Water Sample Collection Form

Sample Location	Flordance 47K	Harvest Four Corners, LLC
Sample Date	5-24-21	
Sample Time	1326	
Sample ID	mw-5	
Analyses	BTEX 8021	
Matrix	Groundwater	Hall Environmental
Turn Around Time	Standard	Hand delivery
Depth to Water	88.43	10.98.53
Time		
Vol. of H2O to purge	4.9 gallons	
	(height of water column * 0.1631 for 2" well or 0.6524 for 4" well) * 3 well vols	
Method of Purging	PVC bailer	
Method of Sampling	PVC bailer	

[illegible]

Comments: Well bailed dry @ 2.75 gallons

Describe Deviations from SOP: 2nd net bail 4.9 gallons

Signature: Arturo M... 5.24.21

**Water Sample Collection Form**

Sample Location Florance 47X Harvest Four Corners, LLC  
 Sample Date 5-24-21  
 Sample Time 1248  
 Sample ID MW-6  
 Analyses BTEX 8021  
 Matrix Groundwater Hall Environmental  
 Turn Around Time Standard Hand delivery  
 Depth to Water 88.6 TO: 100.21  
 Time  
 Vol. of H2O to purge 5.6 gallons  
 (height of water column \* 0.1631 for 2" well or 0.6524 for 4" well) \* 3 well vols  
 Method of Purging PVC bailer  
 Method of Sampling PVC bailer

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (F or C)	Conductivity (us or ms)	Comments
1226		.25	7.01	19.1	2.03	cloudy No sheen/odor
1232		.50	6.98	18.9	1802 $\mu$ s	" "
1234		.75	6.98	17.2	1795	" "
1236		1	6.98	17.0	1791	" "
1245		2	6.94	17.8	1798	" "
1248		3.25	6.98	16.8	1778	" "
		4				
		5.6				

Comments: well bailed dry @ 2.25 gallons

Describe Deviations from SOP: Did not purge 5.6 gallons

Signature: Carl Moe 5-24-21



**Water Sample Collection Form**

Sample Location Florance 47X Harvest Four Corners, LLC  
 Sample Date 5-24-21  
 Sample Time 1203  
 Sample ID MW-7  
 Analyses BTEX 8021  
 Matrix Groundwater Hall Environmental  
 Turn Around Time Standard Hand delivery  
 Depth to Water 91.13 TD: 102.13  
 Time \_\_\_\_\_  
 Vol. of H2O to purge 5.3 gallons  
 (height of water column \* 0.1631 for 2" well or 0.6524 for 4" well) \* 3 well vols  
 Method of Purging PVC bailer  
 Method of Sampling PVC bailer

Time	Vol. Removed (gal.)	Total Vol H2O removed (gal.)	pH (std. units)	Temp. (F or C)	Conductivity (us or ms)	Comments
1127		.25	6.96	17.7	1634	Cloudy, no sheen / odor
1130		.50	6.93	16.7	1587	" "
1133		.75	6.90	16.8	1602	" "
1135		1	6.91	16.6	1592	" "
1141		2	6.87	17.2	1625	" "
1147		3	6.89	17.2	1607	" "
1153		4	6.91	16.9	1628	" "
1203		5.3	6.93	17.7	1639	" "

Comments: \_\_\_\_\_

Describe Deviations from SOP: \_\_\_\_\_

Signature: Curtis Mox5-24-21

## ENCLOSURE B – LABORATORY ANALYTICAL RESULTS



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

May 28, 2021

Brooke Herb

Harvest

1755 Arroyo Dr.

Bloomfield, NM 87413

TEL: (505) 632-4475

FAX

RE: Florance 47X

OrderNo.: 2105A45

Dear Brooke Herb:

Hall Environmental Analysis Laboratory received 4 sample(s) on 5/25/2021 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](http://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 horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order: 2105A45

Date Reported: 5/28/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Harvest

Lab Order: 2105A45

Project: Florance 47X

Lab ID: 2105A45-001

Collection Date: 5/24/2021 2:38:00 PM

Client Sample ID: MW-2

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: CCM
Benzene	28	1.0		µg/L	1	5/25/2021 3:05:00 PM	R77656
Toluene	ND	1.0		µg/L	1	5/25/2021 3:05:00 PM	R77656
Ethylbenzene	5.1	1.0		µg/L	1	5/25/2021 3:05:00 PM	R77656
Xylenes, Total	6.7	2.0		µg/L	1	5/25/2021 3:05:00 PM	R77656
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	5/25/2021 3:05:00 PM	R77656

Lab ID: 2105A45-002

Collection Date: 5/24/2021 1:26:00 PM

Client Sample ID: MW-5

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: CCM
Benzene	58	5.0		µg/L	5	5/25/2021 3:25:00 PM	R77656
Toluene	ND	5.0		µg/L	5	5/25/2021 3:25:00 PM	R77656
Ethylbenzene	ND	5.0		µg/L	5	5/25/2021 3:25:00 PM	R77656
Xylenes, Total	21	10		µg/L	5	5/25/2021 3:25:00 PM	R77656
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	5	5/25/2021 3:25:00 PM	R77656

Lab ID: 2105A45-003

Collection Date: 5/24/2021 12:48:00 PM

Client Sample ID: MW-6

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: CCM
Benzene	ND	1.0		µg/L	1	5/25/2021 3:45:00 PM	R77656
Toluene	ND	1.0		µg/L	1	5/25/2021 3:45:00 PM	R77656
Ethylbenzene	ND	1.0		µg/L	1	5/25/2021 3:45:00 PM	R77656
Xylenes, Total	ND	2.0		µg/L	1	5/25/2021 3:45:00 PM	R77656
Surr: 4-Bromofluorobenzene	86.6	70-130		%Rec	1	5/25/2021 3:45:00 PM	R77656

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

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

## Analytical Report

Lab Order: 2105A45

Date Reported: 5/28/2021

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Harvest

Lab Order: 2105A45

Project: Florance 47X

Lab ID: 2105A45-004

Collection Date: 5/24/2021 12:03:00 PM

Client Sample ID: MW-7

Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8021B: VOLATILES							Analyst: CCM
Benzene	ND	1.0		µg/L	1	5/25/2021 4:05:00 PM	R77656
Toluene	ND	1.0		µg/L	1	5/25/2021 4:05:00 PM	R77656
Ethylbenzene	ND	1.0		µg/L	1	5/25/2021 4:05:00 PM	R77656
Xylenes, Total	ND	2.0		µg/L	1	5/25/2021 4:05:00 PM	R77656
Surr: 4-Bromofluorobenzene	87.0	70-130		%Rec	1	5/25/2021 4:05:00 PM	R77656

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

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

Page 2 of 3



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

WO#: 2105A45

28-May-21

**Client:** Harvest  
**Project:** Florance 47X

Sample ID: <b>100ng btex lcs</b>	SampType: <b>LCS</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R77656</b>			RunNo: <b>77656</b>						
Prep Date:	Analysis Date: <b>5/25/2021</b>			SeqNo: <b>2757073</b>			Units: <b>µg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.7	80	120			
Toluene	19	1.0	20.00	0	95.1	80	120			
Ethylbenzene	20	1.0	20.00	0	98.3	80	120			
Xylenes, Total	58	2.0	60.00	0	96.7	80	120			
Surr: 4-Bromofluorobenzene	18		20.00		92.3	70	130			

Sample ID: <b>mb</b>	SampType: <b>MBLK</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R77656</b>			RunNo: <b>77656</b>						
Prep Date:	Analysis Date: <b>5/25/2021</b>			SeqNo: <b>2757074</b>			Units: <b>µg/L</b>			
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		92.6	70	130			

Sample ID: <b>2105A45-004ams</b>	SampType: <b>MS</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>MW-7</b>	Batch ID: <b>R77656</b>			RunNo: <b>77656</b>						
Prep Date:	Analysis Date: <b>5/25/2021</b>			SeqNo: <b>2757118</b>			Units: <b>µg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.8	80	120			
Toluene	18	1.0	20.00	0	92.4	80	120			
Ethylbenzene	19	1.0	20.00	0	96.0	80	120			
Xylenes, Total	56	2.0	60.00	0	94.1	80	120			
Surr: 4-Bromofluorobenzene	17		20.00		83.9	70	130			

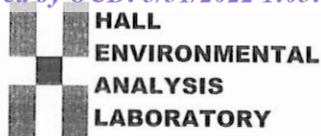
Sample ID: <b>2105A45-004amsd</b>	SampType: <b>MSD</b>			TestCode: <b>EPA Method 8021B: Volatiles</b>						
Client ID: <b>MW-7</b>	Batch ID: <b>R77656</b>			RunNo: <b>77656</b>						
Prep Date:	Analysis Date: <b>5/25/2021</b>			SeqNo: <b>2757119</b>			Units: <b>µg/L</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	17	1.0	20.00	0	84.2	80	120	7.52	20	
Toluene	17	1.0	20.00	0	87.1	80	120	5.92	20	
Ethylbenzene	18	1.0	20.00	0	90.2	80	120	6.23	20	
Xylenes, Total	53	2.0	60.00	0	88.6	80	120	6.03	20	
Surr: 4-Bromofluorobenzene	16		20.00		80.4	70	130	0	0	

**Qualifiers:**

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Limit

Page 3 of 3



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: Harvest

Work Order Number: 2105A45

RcptNo: 1

Received By: Juan Rojas

5/25/2021 7:22:00 AM

*Juan Rojas*

Completed By: Cheyenne Cason

5/25/2021 8:27:06 AM

*Cason*

Reviewed By: SPA 5.25.21

### 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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: KRG 5/24/21

### Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via:

☐ eMail☐ Phone☐ Fax☐ In Person

Regarding:

Client Instructions:

16. Additional remarks:

### 17. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.6	Good	Yes			



**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 94526

CONDITIONS

Operator: Harvest Four Corners, LLC 1755 Arroyo Dr Bloomfield, NM 87413	OGRID:
	373888
	Action Number:
	94526
Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)	

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the 2021 Annual Groundwater Report: Content Satisfactory 1. Continue to remove PSH in MW-3 with skimmer pump to reduce LNAPL plume 2. Continue to conduct quarterly groundwater sampling events 3. Conduct O&M as prescribed in report. 4. Submit the 2022 & 2023 Annual Report (if they haven't already been submitted). 5. Submit the 2024 Annual Groundwater Monitoring Report for the site by April 1, 2025.	5/10/2024