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April 29, 2024

REVIEWED
By Mike Buchanan at 1:53 pm, Jun 11, 2024

Mr. Michael Buchanan
Environmental Specialist
Environmental Bureau
New Mexico Energy, Minerals and Natural Resources Department – Oil Conservation Division
8801 Horizon Boulevard NE STE 260
Albuquerque, New Mexico 87113

Re: 2023 Annual Groundwater Monitoring Report
WTX to EMSU Battery to Byrd Pump Segment Crude Oil Release
NMOCD Incident No. NOY1822242858
Unit P, Section 11, Township 20S, Range 36E
Latitude 32.583874, Longitude -103.317460
Lea County, New Mexico

Review of the 2023 Annual Groundwater Monitoring Report for WTX to EMSU Battery to Byrd Pump Segment: Content Satisfactory
1. Continue to conduct groundwater monitoring at the site for all wells on a quarterly basis, as well as gauging LNAPL.
2. Propose an abatement plan to OCD if LNAPL is persistent in wells, as absorbent socks are not considered an abatement method.
3. Submit the 2024 Groundwater Monitoring report with recommendations to OCD for an abatement path forward by May 1, 2025.

Dear Mr. Buchanan:

On behalf of Holly Energy Partners – Operating, L.P. (HEP), TRC Environmental Corporation (TRC) is providing this *2023 Annual Groundwater Monitoring Report*. This report was prepared to summarize the 2023 groundwater monitoring activities performed at HEP's WTX to EMSU Battery to Byrd Pump Segment gathering line (Site) in accordance with the April 1, 2022, *Remediation Workplan Addendum* (Workplan Addendum), which was approved by New Mexico Oil Conservation Division (NMOCD) on April 5, 2022. Remediation at the Site is being conducted to address remaining affected soil associated with a gathering line release discovered by HEP in 2018.

The Site is located on private property owned by L&K Ranch, LLC, near County Road 46 in Lea County, New Mexico. The Site is located within Unit P, Section 11, Township 20 South, Range 36 East, at latitude 32.583874, longitude -103.317460. The Site location is depicted on a topographic map presented as Figure 1.

BACKGROUND

Quarterly groundwater monitoring activities were conducted during 2023 in accordance with the April 2022 Workplan Addendum. While previous groundwater assessment results indicated groundwater beneath the Site has not been affected by the 2018 release from the Byrd Pump Segment gathering line, quarterly groundwater monitoring was proposed at the Site as a conservative measure to monitor groundwater quality during implementation of the soil remedies described in the April 2022 Workplan Addendum. As documented in the October 12, 2022, *Remediation and Bioventing Pilot Test Summary and Full-Scale Bioventing System Recommendation Report* (Bioventing Recommendation Report), soil remediation activities (i.e., excavation and bioventing pilot test) commenced at the Site in August 2022 and quarterly groundwater sampling commenced at the Site during the third quarter of 2022. Prior to the

approval of the April 2022 Workplan Addendum, three groundwater sampling events were conducted from November 2020 to October 2021 as part of assessment activities.

Initial full-scale bioventing system installation activities (installation and completion of bioventing wells) commenced at the Site in May 2023 in accordance with the October 2022 Bioventing Recommendation Report, which was approved by NMOCD on November 28, 2022. The 2023 bioventing well installation activities are further discussed below. Quarterly groundwater monitoring activities will be conducted in 2024 and will be continued during operation of the planned bioventing system, as appropriate.

Copies of e-mail correspondence with NMOCD are included in Attachment A.

GROUNDWATER MONITORING ACTIVITIES

Quarterly groundwater monitoring activities were conducted on February 22 and 23, 2023, June 20, 2023, September 14, 2023, and December 13, 2023. Additionally, a follow-up gauging event was conducted on October 17, 2023, to confirm the September 2023 gauging data. During each event, an oil-water interface probe was used to measure static depth to groundwater and depth to light non-aqueous phase liquid (LNAPL), if present, to the nearest 0.01 foot in each monitoring well (MW-01 through MW-05). Measurements were used to determine the groundwater elevation, seasonal groundwater elevation trends, and groundwater flow direction and gradient. Fluid level measurement data is presented in Table 1.

Monitoring wells MW-01 through MW-05 were purged and sampled using low-flow, low-stress sampling techniques during each quarterly groundwater monitoring event with exception of well MW-01 during the September and December 2023 groundwater monitoring events. An electric, submersible, variable-rate pump and clean discharge tubing were slowly lowered into each well to prevent turbulence and mixing of any sediment from the bottom of the well. The pump was placed in the approximate center of the saturated screened interval and groundwater was purged at a low rate to minimize groundwater level drawdown in the well. Discharge tubing was connected to a flow-through cell which housed a multi-parameter water quality meter. Groundwater quality parameters were measured approximately every three to five minutes during purging until at least three of the six recorded field parameters (pH, temperature, conductivity, oxidation-reduction potential, dissolved oxygen, and turbidity) were stable. Monitoring well depth to groundwater and pump flow rate were also monitored during purging. Groundwater quality parameters are presented on the groundwater monitoring field forms included as Attachment B. The flow-through cell was disconnected, and a groundwater sample was collected from the discharge line of the pump once field parameters were stable. Samples were collected in clean, labeled, laboratory-supplied containers.

During the September 2023 groundwater monitoring event, measurable LNAPL (0.01 feet) was detected in well MW-01. After removing the LNAPL present in the well using a bailer, a grab

groundwater sample was collected from the well using a new, disposable bailer. It is estimated that 0.1 gallons of LNAPL and 0.6 gallons of groundwater were bailed from well MW-01 prior to sampling. The groundwater sample was collected despite the presence of LNAPL, as this was the first detection of LNAPL at the Site and this allowed a comparison of TPH concentrations with historical (pre-LNAPL) levels. Well MW-01 was not sampled during the December 2023 groundwater monitoring event due to the presence of measurable LNAPL (0.01 feet). Wells with measurable LNAPL will generally not be sampled during future groundwater monitoring events.

Groundwater samples were collected for laboratory analysis of total petroleum hydrocarbons (TPH) by EPA Method 8015M. All samples were handled with new nitrile gloves and labeled with the sample identification, collection date and time, sample analysis, preservatives, and initials of the samplers. The samples were then placed on ice in a laboratory-supplied cooler which remained in the custody of the sampling personnel until shipped under chain of custody to ALS Environmental of Houston, Texas. All non-dedicated equipment was decontaminated prior to being used at the Site and after use at each well.

GROUNDWATER MONITORING RESULTS

Gauging Data

Site-wide, synoptic fluid level gauging was performed during the quarterly groundwater monitoring events on February 22, 2023, June 20, 2023, September 14, 2023, and December 13, 2023. An additional synoptic gauging event was conducted on October 17, 2023, due to an anomalously low groundwater measurement at well MW-05 and the detection of LNAPL in well MW-01 during the September 2023 gauging event. The locations of the monitoring wells are depicted on Figure 2.

LNAPL was detected in well MW-01 during the third quarter (September 2023) monitoring event, additional October 2023 gauging event, and fourth quarter (December 2023) monitoring event; September 2023 is the first time LNAPL has been detected at the Site since groundwater monitoring commenced in November 2020. The apparent LNAPL thickness in MW-01 ranged from 0.01 feet (October and December 2023) to 0.02 feet (September 2023). During the September 2023 event, approximately 0.1 gallons of LNAPL were recovered from well MW-01 using a hand bailer. The LNAPL was observed to be dark with a sticky consistency and generally consistent with crude oil. The presence of measurable LNAPL in well MW-01 coincides with decreasing groundwater levels in MW-01; the December 2023 groundwater level at MW-01 is the lowest since monitoring commenced in November 2020.

As an interim LNAPL abatement measure, a sorbent sock was installed in well MW-01 after the additional gauging event on October 17, 2023. The sock was removed one day prior to the fourth quarter (December 2023) groundwater monitoring event and replaced with a new sorbent sock at

the end of the event. The absorbent sock removed in December 2023 recovered approximately 0.1 gallons of LNAPL.

Fluid level measurement data is presented in Table 1. A specific gravity of 0.85, within the published range for crude oil, was used to correct the groundwater elevation in well MW-01. The actual specific gravity of the crude oil present in well MW-01 is unknown. Due to anomalous measurements, the September 2023 gauging data was not used to prepare a potentiometric surface map. Instead, the October 2023 gauging data was used to prepare a potentiometric surface map. The February, June, October, and December 2023 groundwater potentiometric surface maps are depicted on Figures 3, 4, 5, and 6, respectively.

As shown on Figures 3 through 6, groundwater flow was to the south-southeast at a hydraulic gradient of 0.003 feet per foot in February, June, and October 2023 and 0.002 feet per foot in December 2023. This is generally consistent with previous monitoring events conducted at the Site. Average Site-wide groundwater elevations decreased by 0.01 feet from December 2022 to February 2023; decreased by 0.05 feet from February to June 2023; decreased by 0.23 feet from June to September 2023; increased by 0.85 feet from September to October 2023; and decreased by 0.87 feet from October to December 2023.

Overall, groundwater elevations have steadily decreased at all Site wells from November 2020 to December 2023, with the exception of a brief spike in groundwater elevations in October 2023 at wells MW-02, MW-03, MW-04, and MW-05. The October 2023 spike in groundwater elevations at wells MW-02, MW-03, MW-04, and MW-05 is likely associated with recharge from seasonal rainfall; according to the National Oceanic and Atmospheric Administration (NOAA), approximately 3.5 inches of rain fell in the area between September 14, 2023 and October 17, 2023, per a nearby weather station in Monument, New Mexico.

Groundwater Analytical Results

Groundwater samples were collected from each monitoring well during each quarterly monitoring event and analyzed for TPH, with the exception of well MW-01, which was not sampled in December 2023 due to the presence of measurable LNAPL. NMOCD does not have a groundwater action level for TPH; TPH concentrations are being monitored for any changes during soil remediation activities, which commenced in August 2022. Data from previous monitoring events (November 2020, May 2021, and October 2021) will serve as a baseline for the evaluation of TPH concentrations in groundwater.

In February 2023, TPH diesel range organics (DRO) was detected above reporting limits (RLs) in wells MW-01 (original sample only), MW-02, and MW-03 at a maximum concentration of 0.11 milligrams per liter (mg/L) (MW-01). TPH motor oil range organics (MRO) was detected above RLs in wells MW-01 (original sample only) and MW-03 at a maximum concentration of 0.31 mg/L (MW-03). This is the first detection of TPH MRO above RLs at MW-03 since monitoring at the Site

commenced in November 2020. TPH gasoline range organics (GRO) was not detected above RLs in any well during February 2023.

In June 2023, TPH DRO was detected above RLs in wells MW-01, MW-02, MW-04, and MW-05 (original and duplicate samples) at a maximum concentration of 0.16 mg/L (MW-01). TPH MRO was detected above RLs in wells MW-01 and MW-03 at a maximum concentration of 0.23 mg/L (MW-01). TPH GRO was not detected above RLs in any well during June 2023.

In September 2023, TPH DRO was detected above RLs in wells MW-01, MW-02 (original and duplicate samples), MW-04, and MW-05 at a maximum concentration of 43 mg/L (MW-01). TPH MRO was detected above RLs in wells MW-01 and MW-04 at a maximum concentration of 40 mg/L (MW-01). This is the first detection of TPH MRO above RLs at MW-04 since monitoring at the Site commenced in November 2020. TPH GRO was detected above RLs in all wells at a maximum concentration of 0.576 mg/L in (MW-01). This is the first detection of TPH GRO above RLs at MW-02, MW-03, MW-04, and MW-05 since monitoring at the Site commenced in November 2020. The September 2023 TPH DRO, MRO, and GRO concentrations at well MW-01 are the maximum concentrations reported at the Site since monitoring commenced in November 2020. The September 2023 TPH maximum concentrations in well MW-01 are attributed to the presence of measurable LNAPL in the well; the LNAPL was bailed from the well immediately before collection of a grab groundwater sample.

In December 2023, well MW-01 was not sampled due to the presence of measurable LNAPL. TPH DRO was detected above RLs in wells MW-02 and MW-04 (original and duplicate samples) at a maximum concentration of 0.42 mg/L (MW-02). TPH MRO was detected above RLs in wells MW-02 and MW-04 (original and duplicate samples) at a maximum concentration of 0.93 mg/L (MW-02). TPH GRO was not detected above RLs in any well during December 2023.

From October 2021 (the last event conducted before soil remediation activities were commenced on August 9, 2022) to December 2023, TPH DRO concentrations showed the following trends:

- MW-01: stable from October 2021 to June 2023 and increased from June to September 2023 (LNAPL present in September 2023); not sampled in December 2023.
- MW-02: stable with minor fluctuations from October 2021 to June 2023 and increased from June to December 2023.
- MW-03 and MW-05: stable with minor fluctuations from October 2021 to December 2023.
- MW-04: stable with minor fluctuations from October 2021 to February 2023 and increased from February to December 2023.

From October 2021 (the last event conducted before soil remediation activities were commenced on August 9, 2022) to December 2023, TPH MRO concentrations showed the following trends:

- MW-01: stable from October 2021 to June 2023 and increased from June to September 2023 (LNAPL present in September 2023); not sampled in December 2023.
- MW-02: stable (non-detect) from October 2021 to September 2023 with exception of a detected concentration in December 2022 and increased from September to December 2023.
- MW-03: stable (non-detect) from October 2021 to December 2022, increased from December 2022 to February 2023, and decreased from February to December 2023 (non-detect in September and December 2023).
- MW-04: stable (non-detect) from October 2021 to June 2023 and increased from June to December 2023.
- MW-05: stable (non-detect) from October 2021 to December 2023.

From October 2021 (the last event conducted before soil remediation activities were commenced on August 9, 2022) to December 2023, TPH GRO concentrations showed the following trends:

- MW-01: stable (non-detect) from October 2021 to June 2023 and increased from June to September 2023 (LNAPL present in September 2023); not sampled in December 2023.
- MW-02, MW-03, MW-04, and MW-05: stable (non-detect) from October 2021 to June 2023, increased from June to September 2023, and decreased to non-detect from September to December 2023.

The increased TPH concentrations in well MW-01 in September 2023 are attributed to the presence of measurable LNAPL in the well; the LNAPL was bailed from the well immediately prior to collection of a grab groundwater sample. TPH GRO concentrations in wells MW-02, MW-03, MW-04, and MW-05 briefly spiked in September 2023 before returning to non-detect in December 2023, while TPH DRO and/or MRO concentrations in wells MW-02, MW-03, MW-04, and MW-05 increased with fluctuations during 2023. The increased TPH concentrations in wells MW-02, MW-03, MW-04, and MW-05 during 2023 may be associated with seasonal groundwater level fluctuations, as water levels have overall decreased since groundwater monitoring commenced at the Site in November 2020, while significant rainfall in September and October 2023 likely caused a brief water level spike in October 2023. The increased TPH concentrations during 2023 are not attributed to implementation of soil remediation activities in August 2022, as the bioventing pilot test was so brief (7 days).

It should be noted that well MW-05, which had detections of TPH DRO and GRO in September 2023, is located approximately 95 feet north-northwest (i.e., upgradient) of the release location. The presence of TPH in groundwater upgradient of the Site indicates the potential contribution from an upgradient source or a regional issue.

Groundwater sample analytical data from 2020 to 2023 are presented in Table 2. A summary of the 2023 analytical results is presented on Figure 7. Copies of the laboratory analytical reports are included in Attachment C. Groundwater elevation and TPH concentration plots for wells MW-01 through MW-05 and the groundwater elevation and LNAPL thickness plot for well MW-01 are presented in Attachment D.

Quality Control/Quality Assurance Results

Data were reviewed to ensure that reported analytical results meet standard data quality objectives and laboratory-specified control limits. Data were reviewed with respect to analytical holding times, sample preservation, blanks (method and trip), laboratory control sample recoveries, matrix spike/matrix spike duplicate recoveries, and surrogate recoveries. It was determined that quality control data associated with the analytical results indicate reported concentrations of target analytes are defensible and measurement data reliability is generally within the expected limits of sampling and analytical error. Copies of laboratory analytical reports and Quality Control Forms are provided in Attachment C.

FULL-SCALE BIOVENTING SYSTEM INSTALLATION ACTIVITIES

Bioventing Well Installation

Four bioventing injection wells were installed from May 3 to 10, 2023, in general accordance with the October 2022 Bioventing Recommendation Report, which was approved by NMOCD on November 28, 2022. Three nested (BV-1 through BV-3) and one non-nested (BV-4) bioventing injection wells were installed at the Site. The locations of the bioventing wells are presented on Figure 2. Nested injection wells BV-1, BV-2, and BV-3 were installed near the release area. As shown on the boring and well construction logs included as Attachment E, each nested well was screened to allow for injection at shallow (i.e., BV-1S, BV-2S, and BV-3S), middle (i.e., BV-1M, BV-2M, and BV-3M), and deep (i.e., BV-1D, BV-2D, and BV-3D) intervals to target the entire vadose zone soil column from 4.5 feet bgs to the water table, including the capillary fringe. Non-nested injection well BV-4 was installed east of the release area and screened across the deep interval to target the capillary fringe. The injection wells were constructed using 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing and 0.020-inch slotted screen; the final screen intervals were within 2 feet of the screen intervals proposed in the October 2022 Bioventing Recommendation Report, with deviations of 2 to 3 feet based on the observed lithology (i.e., the top of the screen interval for BV-2D) and settling of the PVC casing and screen after initial installation (i.e., the top and bottom of the screen interval for BV-3D). A 10-20 grade silica sand was installed at least 0.5 feet above and below each screen interval with the exception of at well BV-2, where the top of the shallow screen interval (BV-2S) is approximately even with the bottom of the bentonite seal. At least 2 feet of hydrated bentonite were installed between each screen interval and above the shallowest screen interval. All wells were completed at grade with a protective traffic-rated well vault.

The locations of the bioventing injection wells are shown on Figure 2. The boring and well construction logs for BV-1, BV-2, BV-3, and BV-4 are included as Attachment E.

Bioventing System

As described in TRC's emails to NMOCD dated August 18, 2023, October 4, 2023, and November 16, 2023, HEP experienced difficulties arranging for the installation of an electrical power drop at the Site, which was required to facilitate operation of the planned electrical-powered bioventing system. Xcel Energy, the local electricity provider, was unable to procure an easement for the electrical power drop with adjacent property owners, so HEP evaluated alternative power sources for the planned bioventing system. In accordance with TRC's February 14, 2024, email to NMOCD, HEP switched to a propane-powered bioventing system. The overall operation and capability of the bioventing system will remain consistent with that proposed in the NMOCD-approved October 2022 Bioventing Recommendation Report; only the power source for the compressor has changed. Copies of e-mail correspondence with NMOCD are included in Attachment A.

Several system components have been installed at the Site to date, including the bioventing wells, propane tank pads and tanks, system shed, and additional system fencing. Upon delivery of the air compressor (estimated for early May 2024) and installation of the remaining system components, the bioventing system is anticipated to be operational during May 2024.

INVESTIGATION DERIVED WASTE MANAGEMENT

The investigation-derived waste (IDW) generated during the 2023 monitoring activities included purge and decontamination water, absorbent socks, and recovered LNAPL. Additionally, soil cuttings and decontamination water were generated during the May 2023 bioventing well installation activities. The soil and liquid IDW was stored in properly labeled 55-gallon drums at the Site. Field supplies (paper towels, gloves, tubing, etc.) used during field activities were stored in labeled 5-gallon buckets at the Site. The IDW generated during 2023 monitoring activities was characterized, profiled, and transported to an off-Site disposal facility under manifest in March 2024. Waste manifests are included as Attachment F.

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions are based on groundwater monitoring results from the 2023 quarterly groundwater monitoring activities:

- Groundwater flow was to the south-southeast during the 2023 quarterly monitoring events. This is generally consistent with previous monitoring events conducted at the Site.
- Measurable LNAPL was detected in well MW-01 during the third and fourth quarters of 2023. The third quarter 2023 detection was the first detection of LNAPL since

groundwater monitoring commenced at the Site in November 2020. The presence of measurable LNAPL in well MW-01 coincides with decreasing groundwater levels and is not attributed to implementation of soil remediation activities in August 2022.

- As an interim LNAPL abatement measure, a sorbent sock was installed in well MW-01 in October 2023 and replaced in December 2023.
- TPH DRO, MRO, and/or GRO were detected above RLs in all monitoring wells during 2023.
- The increased TPH concentrations in well MW-01 in September 2023 are attributed to the presence of measurable LNAPL in the well; the LNAPL was bailed from the well immediately prior to collection of a grab groundwater sample. TPH GRO concentrations in wells MW-02, MW-03, MW-04, and MW-05 briefly spiked in September 2023 before returning to non-detect in December 2023, while TPH DRO and/or MRO concentrations in wells MW-02, MW-03, MW-04, and MW-05 increased with fluctuations during 2023. The increased TPH concentrations in wells MW-02, MW-03, MW-04, and MW-05 during 2023 may be associated with seasonal groundwater level fluctuations, as water levels have overall decreased since groundwater monitoring commenced at the Site in November 2020, while significant rainfall in September and October 2023 likely caused a brief water level spike in October 2023. The increased TPH concentrations during 2023 are not attributed to implementation of soil remediation activities in August 2022, as the bioventing pilot test was so brief (7 days).
- The presence of TPH in groundwater upgradient of the Site in well MW-05 indicates the potential contribution from an upgradient source or a regional issue.
- Overall, the 2023 groundwater monitoring data indicates that groundwater beneath the Site may have been affected by the 2018 HEP release based on the presence of LNAPL, but has not been affected by soil remediation activities conducted to date.

The following Site activities will be conducted in 2024:

- Quarterly groundwater monitoring will continue at the Site during 2024. The five monitoring wells and four bioventing injection wells will be gauged for depth to LNAPL, if present, and water during each quarterly groundwater monitoring event. The first quarter 2024 event was completed on March 7 and 8, 2024.
- If measurable LNAPL remains in well MW-01, the sorbent sock in the well will be removed and replaced during each quarterly groundwater monitoring event, as needed.
- Installation and activation of a full-scale bioventing system in accordance with the October 2022 Bioventing Recommendation Report is anticipated in 2024.

- An Abatement Plan will be developed and submitted for NMOCD approval in 2024 if measurable LNAPL continues to be present at the Site through the third quarter 2024 (i.e., one year from initial detection in well MW-01).

The next Annual Groundwater Monitoring Report summarizing 2024 quarterly groundwater monitoring activities will be submitted to the NMOCD within 120 days from the end of 2024. The report will document installation of the bioventing system and will include system operation and maintenance data, as appropriate.

CLOSING

If you should have any questions or comments regarding this project, please contact Arsin Sahba of HF Sinclair at (972) 689-8540 or Jared Stoffel of TRC at (432) 238-3003.

Sincerely,

Jared Stoffel, P.G.
Project Manager

Bryan Gilbert, P.G.
Austin Office ECW Practice Leader

Attachments: Table 1 – Summary of Groundwater Elevations
Table 2 – Summary of Groundwater Sample Analytical Results

Figure 1 – Site Location Map
Figure 2 – Well Location Map
Figure 3 – Groundwater Potentiometric Surface Map – February 2023
Figure 4 – Groundwater Potentiometric Surface Map – June 2023
Figure 5 – Groundwater Potentiometric Surface Map – October 2023
Figure 6 – Groundwater Potentiometric Surface Map – December 2023
Figure 7 – Summary of 2023 Groundwater Sample Analytical Results

Attachment A – Copies of E-Mail Correspondence
Attachment B – Groundwater Sampling Forms
Attachment C – Laboratory Analytical Reports
Attachment D – Groundwater Elevation and TPH Plots
Attachment E – Bioventing Boring and Well Completion Logs
Attachment F – Waste Manifests

cc: Mike Bratcher, New Mexico Energy, Minerals, and Natural Resources Department, Artesia, New Mexico
Nelson Velez, New Mexico Energy, Minerals, and Natural Resources Department, Aztec, New Mexico
L&K Ranch LLC, Hobbs, New Mexico
Melanie Nolan, HEP, Artesia, New Mexico
Jason Leik, P.E., HEP, Dallas, Texas
Arsin Sahba, P.G., HF Sinclair, Dallas, Texas

TABLES

TABLE 1
SUMMARY OF GROUNDWATER ELEVATIONS
WTX TO EMSU BATTERY TO BYRD PUMP CRUDE OIL RELEASE, LEA COUNTY, NM

Monitor Well ID	Well Total Depth (feet btoc)	Ground Surface at Well Elevation (feet amsl)	Well Top of Casing Elevation (feet amsl)	Screened Interval (feet btoc)	Gauging Date	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	LNAPL Thickness (feet)	Corrected Depth to Water (feet btoc)	Corrected Groundwater Elevation (feet amsl)	Well Saturated Thickness (feet)
MW-01	49.25	3,561.71	3,561.53	30.0 - 50.0	11/07/20	ND	36.29	0.00	36.29	3,525.24	12.96
					05/28/21	ND	36.47	0.00	36.47	3,525.06	12.78
					10/12/21	ND	36.67	0.00	36.67	3,524.86	12.58
					08/16/22	ND	37.08	0.00	37.08	3,524.45	12.17
					12/20/22	ND	37.25	0.00	37.25	3,524.28	12.00
					02/22/23	ND	37.26	0.00	37.26	3,524.27	11.99
					06/20/23	ND	37.32	0.00	37.32	3,524.21	11.93
					09/14/23	37.46	37.48	0.02	37.46	3,524.07	11.79
					10/17/23	37.51	37.52	0.01	37.51	3,524.02	11.74
					12/13/23	37.56	37.57	0.01	37.56	3,523.97	11.69
MW-02	49.49	3,563.09	3,562.94	30.0 - 50.0	11/07/20	ND	37.59	0.00	37.59	3,525.35	11.90
					05/25/21	ND	37.81	0.00	37.81	3,525.13	11.68
					10/06/21	ND	37.95	0.00	37.95	3,524.99	11.54
					08/16/22	ND	38.35	0.00	38.35	3,524.59	11.14
					12/20/22	ND	38.53	0.00	38.53	3,524.41	10.96
					02/22/23	ND	38.54	0.00	38.54	3,524.40	10.95
					06/20/23	ND	38.58	0.00	38.58	3,524.36	10.91
					09/14/23	ND	38.75	0.00	38.75	3,524.19	10.74
					10/17/23	ND	37.79	0.00	37.79	3,525.15	11.70
					12/13/23	ND	38.83	0.00	38.83	3,524.11	10.66
MW-03	49.93	3,562.91	3,562.81	30.0 - 50.0	11/07/20	ND	37.58	0.00	37.58	3,525.23	12.35
					05/25/21	ND	37.79	0.00	37.79	3,525.02	12.14
					10/12/21	ND	37.99	0.00	37.99	3,524.82	11.94
					08/16/22	ND	38.31	0.00	38.31	3,524.50	11.62
					12/20/22	ND	38.49	0.00	38.49	3,524.32	11.44
					02/22/23	ND	38.51	0.00	38.51	3,524.30	11.42
					06/20/23	ND	38.56	0.00	38.56	3,524.25	11.37
					09/14/23	ND	38.71	0.00	38.71	3,524.10	11.22
					10/17/23	ND	37.73	0.00	37.73	3,525.08	12.20
					12/13/23	ND	38.81	0.00	38.81	3,524.00	11.12
MW-04	50.31	3,563.26	3,563.12	30.0 - 50.0	11/07/20	ND	37.92	0.00	37.92	3,525.20	12.39
					05/25/21	ND	38.12	0.00	38.12	3,525.00	12.19
					10/06/21	ND	38.28	0.00	38.28	3,524.84	12.03
					08/16/22	ND	38.64	0.00	38.64	3,524.48	11.67
					12/20/22	ND	38.82	0.00	38.82	3,524.30	11.49
					02/22/23	ND	38.85	0.00	38.85	3,524.27	11.46
					06/20/23	ND	38.91	0.00	38.91	3,524.21	11.40
					09/14/23	ND	39.05	0.00	39.05	3,524.07	11.26
					10/17/23	ND	38.08	0.00	38.08	3,525.04	12.23
					12/13/23	ND	39.14	0.00	39.14	3,523.98	11.17
MW-05	49.72	3,563.62	3,563.40	30.0 - 50.0	05/28/21	ND	38.15	0.00	38.15	3,525.25	11.57
					10/12/21	ND	38.34	0.00	38.34	3,525.06	11.38
					08/16/22	ND	38.68	0.00	38.68	3,524.72	11.04
					12/20/22	ND	38.89	0.00	38.89	3,524.51	10.83
					02/22/23	ND	38.89	0.00	38.89	3,524.51	10.83
					06/20/23	ND	38.92	0.00	38.92	3,524.48	10.80
					09/14/23	ND	39.49	0.00	39.49	3,523.91	10.23
					10/17/23	ND	38.11	0.00	38.11	3,525.29	11.61
					12/13/23	ND	39.21	0.00	39.21	3,524.19	10.51

Notes:
amsl = above mean sea level.
btoc = below top of casing.
LNAPL = light non-aqueous phase liquid.
ND = not detected.
Corrected water level elevations calculated using LNAPL specific gravity of 0.85.

TABLE 2
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
WTX TO EMSU BATTERY TO BYRD PUMP CRUDE OIL RELEASE, LEA COUNTY, NM

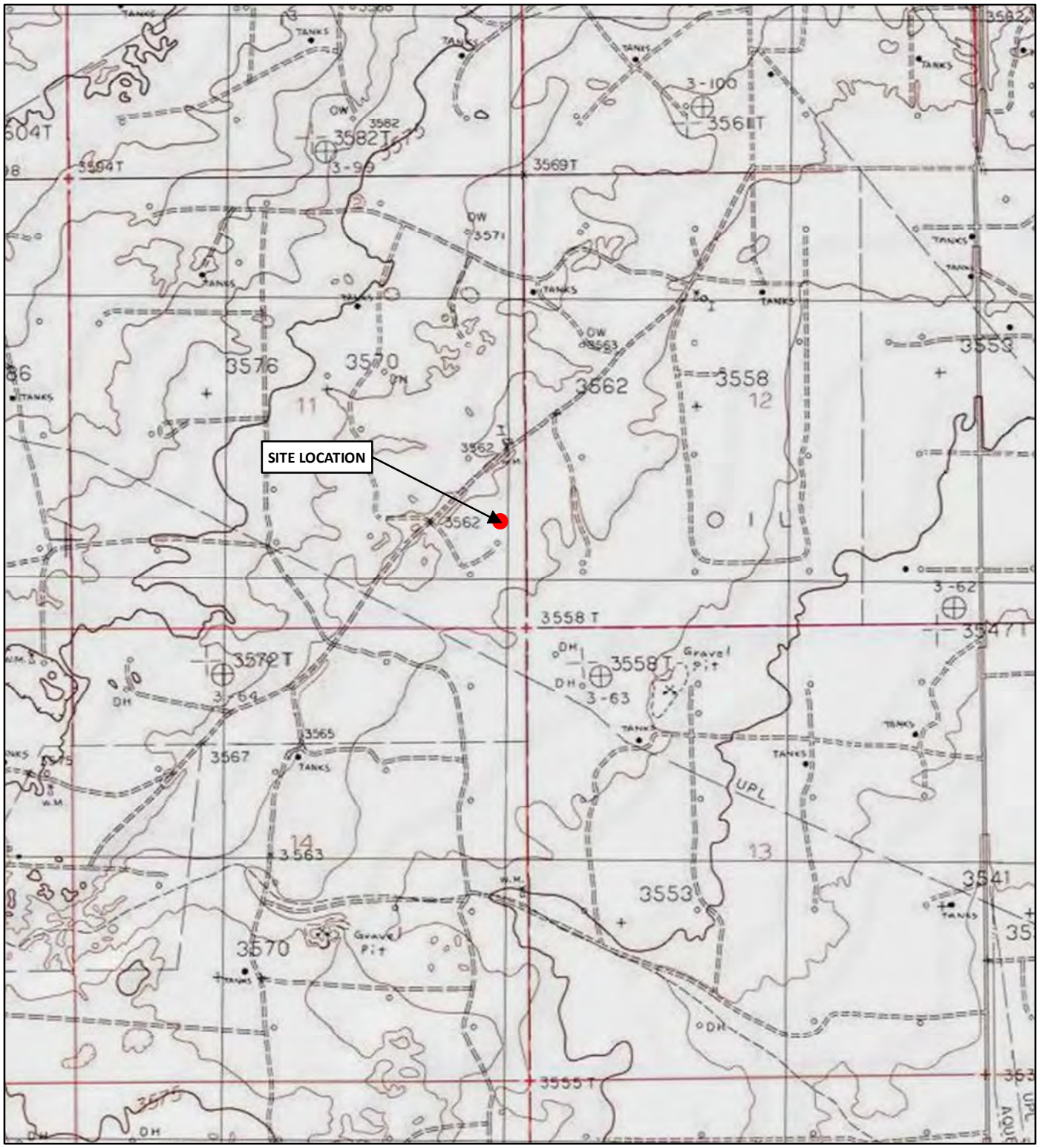
Monitoring Well ID	Sample Date	Constituent of Concern (COC)								
		BTEX (mg/L)				TPH (mg/L)			TDS (mg/L)	Chloride (mg/L)
		Benzene	Ethyl-benzene	Toluene	Total Xylenes	GRO	DRO	MRO		
Groundwater Action Levels		**0.005**	**0.7**	**1.0**	**0.62**	None	None	None	None	**250**
MW-01	11/7/2020	<0.0050	<0.0050	<0.0050	<0.0050	**0.0980**	**0.084**	<0.10 n	**3000**	**1260**
	5/28/2021	<0.005	<0.005	<0.005	<0.005	<0.0500	**0.24**	<0.10 n	--	**1270**
(Dup)	5/28/2021	<0.005	<0.005	<0.005	<0.005	<0.0500	**0.17**	<0.10 n	--	**1250**
	10/12/2021	<0.005	<0.005	<0.005	<0.005	<0.0500	**0.052**	<0.10 n	--	**1280**
	8/16/2022	--	--	--	--	<0.0500	**0.083**	**0.11 n**	--	--
(Dup)	8/16/2022	--	--	--	--	<0.0500	**0.085**	**0.11 n**	--	--
	12/20/2022	--	--	--	--	<0.0500	**0.095**	**0.22 n**	--	--
	2/23/2023	--	--	--	--	<0.0500	**0.11**	**0.22 n**	--	--
(Dup)	2/23/2023	--	--	--	--	<0.0500	<0.051	<0.10 n	--	--
	6/20/2023	--	--	--	--	<0.0500	**0.16**	**0.23 n**	--	--
	9/14/2023*	--	--	--	--	**0.576**	**43**	**40 n**	--	--
	12/13/2023	--	--	--	--	NS	NS	NS	--	--
MW-02	11/7/2020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0500	<0.050	<0.10 n	**2970**	**1210**
	5/25/2021	<0.005	<0.005	<0.005	<0.005	<0.0500	**0.12**	<0.10 n	--	**1250**
	10/6/2021	<0.005	<0.005	<0.005	<0.005	<0.0500	<0.050	<0.10 n	--	**1220**
	8/16/2022	--	--	--	--	<0.0500	**0.067**	<0.099 n	--	--
	12/20/2022	--	--	--	--	<0.0500	**0.090**	**0.23 n**	--	--
(Dup)	12/20/2022	--	--	--	--	<0.0500	<0.052	**0.14 n**	--	--
	2/22/2023	--	--	--	--	<0.0500	**0.064**	<0.10 n	--	--
	6/20/2023	--	--	--	--	<0.0500	**0.065**	<0.10 n	--	--
	9/14/2023	--	--	--	--	**0.425**	**0.099**	<0.10 n	--	--
(Dup)	9/14/2023	--	--	--	--	**0.206**	**0.090**	<0.10 n	--	--
	12/13/2023	--	--	--	--	<0.0500	**0.42**	**0.93 n**	--	--
MW-03	11/7/2020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0500	<0.050	<0.10 n	**1970**	**736**
	5/25/2021	<0.005	<0.005	<0.005	<0.005	<0.0500	**0.11**	<0.10 n	--	**849**
	10/12/2021	<0.005	<0.005	<0.005	<0.005	<0.0500	<0.050	<0.10 n	--	**862**
	8/16/2022	--	--	--	--	<0.0500	<0.051	<0.10 n	--	--
	12/20/2022	--	--	--	--	<0.0500	<0.050	<0.10 n	--	--
	2/22/2023	--	--	--	--	<0.0500	**0.079**	**0.31 n**	--	--
	6/20/2023	--	--	--	--	<0.0500	<0.052	**0.13 n**	--	--
	9/14/2023	--	--	--	--	**0.244**	<0.051	<0.10 n	--	--
	12/13/2023	--	--	--	--	<0.0500	<0.052	<0.10	--	--
MW-04	11/7/2020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0500	<0.050	<0.10 n	**3020**	**1190**
	5/25/2021	<0.005	<0.005	<0.005	<0.005	<0.0500	**0.064**	<0.10 n	--	**1310**
	10/6/2021	<0.005	<0.005	<0.005	<0.005	<0.0500	<0.050	<0.10 n	--	**1230**
(Dup)	10/6/2021	<0.005	<0.005	<0.005	<0.005	<0.0500	<0.050	<0.10 n	--	**1280**
	8/16/2022	--	--	--	--	<0.0500	**0.064**	<0.11 n	--	--
	12/20/2022	--	--	--	--	<0.0500	**0.054**	<0.10 n	--	--
	2/22/2023	--	--	--	--	<0.0500	<0.049	<0.099 n	--	--
	6/20/2023	--	--	--	--	<0.0500	**0.080**	<0.10 n	--	--
	9/14/2023	--	--	--	--	**0.421**	**0.12**	**0.19 n**	--	--
	12/13/2023	--	--	--	--	<0.0500	**0.17**	**0.54 n**	--	--
(Dup)	12/13/2023	--	--	--	--	<0.0500	**0.12**	**0.49 n**	--	--

TABLE 2
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
WTX TO EMSU BATTERY TO BYRD PUMP CRUDE OIL RELEASE, LEA COUNTY, NM

Monitoring Well ID	Sample Date	Constituent of Concern (COC)								
		BTEX (mg/L)				TPH (mg/L)			TDS (mg/L)	Chloride (mg/L)
		Benzene	Ethyl-benzene	Toluene	Total Xylenes	GRO	DRO	MRO		
Groundwater Action Levels		**0.005**	**0.7**	**1.0**	**0.62**	None	None	None	None	**250**
MW-05	5/28/2021	<0.005	<0.005	<0.005	<0.005	<0.0500	**0.22**	<0.10 n	**3690**	**1170**
	10/12/2021	<0.005	<0.005	<0.005	<0.005	<0.0500	<0.050	<0.10 n	--	**1230**
	8/16/2022	--	--	--	--	<0.0500	**0.065**	<0.10 n	--	--
	12/20/2022	--	--	--	--	<0.0500	**0.053**	<0.10 n	--	--
	2/22/2023	--	--	--	--	<0.0500	<0.052	<0.10 n	--	--
	6/20/2023	--	--	--	--	<0.0500	**0.066**	<0.10 n	--	--
(Dup)	6/20/2023	--	--	--	--	<0.0500	**0.065**	<0.10 n	--	--
	9/14/2023	--	--	--	--	**0.399**	**0.11**	<0.10 n	--	--
	12/13/2023	--	--	--	--	<0.0500	<0.053	<0.11 n	--	--

Notes:
COC = constituent of concern.
BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes by EPA Method 8260.
TPH = Total Petroleum Hydrocarbons by EPA Method 8015.
mg/L = milligrams per liter.
Groundwater Action Levels = Human health and drinking water standards for groundwater obtained from various sources.
BTEX-Human Health Standards for Groundwater obtained from NMAC 20.6.2.3103 (A).
NMOCD does not have a groundwater action level for TPH.
Chloride-Other Standards for Domestic Water Supply obtained from NMAC 20.6.2.3103 (B).
NMAC = New Mexico Administrative Code
NMOCD = New Mexico Oil Conservation Division
GRO = Gasoline Range Organics.
DRO = Diesel Range Organics.
MRO = Motor Oil Range Organics.
TDS = Total Dissolved Solids
Chloride by EPA Method 300.0.
< = COC not detected above reporting limit
-- = Parameter not analyzed.
n = Not offered for accreditation.
Dup = Duplicate sample data.
Detected concentrations reported in **bold**.
Gold shading represents concentration above Other Standards for Domestic Water Supply.
NS = Not sampled due to presence of measurable light non-aqeous phase liquid.
* = Measurable light non-aqueous phase liquid present in well MW-01 (removed with bailer immediately before sampling).

FIGURES



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES - MONUMENT SOUTH, NEW MEXICO (32103-E3)

N

1 " = 1,667 '
1:20,000

0 2,000 4,000 FEET

TRC
505 EAST HUNTLAND DRIVE
SUITE #250
AUSTIN, TX 78752
PHONE: 512.329.6080
TRC - GIS

PROJECT:

HOLLY ENERGY PARTNERS - OPERATING, L.P.
MONUMENT, LEA COUNTY, NEW MEXICO
WTX TO EMSU BATTERY RELEASE SITE

TITLE:

SITE LOCATION MAP

DRAWN BY:	M.JAGOE
CHECKED BY:	RDV
APPROVED BY:	J. STOFFEL
DATE:	JANUARY 2023
PROJ. NO.:	426140
FILE:	497744_1_Site Location Map.mxd

FIGURE 1

S:\1-PROJECTS\HOLLY_ENERGY_PARTNERS\466951\mxd\497744_1_Site Location Map.mxd -- Saved By: BLEE on 3/28/2023, 19:34:43 PM

LEGEND

- MONITORING WELL
- 6" GATHERING LINE
- RELEASE LOCATION
- BIOVENTING INJECTION WELL

NOTES:

BIOVENTING INJECTION WELLS BV-1, BV-2, BV-3, AND BV-4 INSTALLED IN MAY 2023.

BASE MAP: GOOGLE AND THEIR DATA PARTNERS (1/3/2023).
DATA SOURCES: TRC

N

0 12.5 25 FEET
1:300 1" = 25'

PROJECT:
HOLLY ENERGY PARTNERS - OPERATING, L.P.
MONUMENT, LEA COUNTY, NEW MEXICO
WTX TO EMSU BATTERY RELEASE SITE

TITLE:
WELL LOCATION MAP

DRAWN BY:	R. COLLINS	PROJ. NO.:	584282.0000.0000
CHECKED BY:	D. CLARK		
APPROVED BY:	J. STOFFEL		**FIGURE 2**
DATE:	APRIL 2024		

TRC
505 EAST HUNTLAND DRIVE
SUITE #250
AUSTIN, TX 78752
PHONE: 512.329.6080

FILE: 584282_WTX_GW_2023.APRX

Coordinates System: NAD 1983 2011 StatePlane New Mexico East FIPS 3001 Ft US; Map Rotation: 0
Saved By: ETROCI on 4/29/2024 11:51:56 AM; File Path: T:\PROJECTS\HOLLY_ENERGY_PARTNERS\584282_WTX10-APRX\584282_WTX_GW_2023\584282_WTX_GW_2023.aprx; Layout Name: FIGURE 2 WELLS

LEGEND

- MONITORING WELL
- GROUNDWATER FLOW DIRECTION
- 6" GATHERING LINE
- RELEASE LOCATION
- POTENTIOMETRIC CONTOUR (DASHED WHERE INFERRED)
- 3254.30 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

NOTES:

BASE MAP: GOOGLE AND THEIR DATA PARTNERS (1/3/2023).
DATA SOURCES: TRC

0 12.5 25 FEET
1:300 1" = 25'

PROJECT:
HOLLY ENERGY PARTNERS - OPERATING, L.P.
MONUMENT, LEA COUNTY, NEW MEXICO
WTX TO EMSU BATTERY RELEASE SITE

TITLE: GROUNDWATER POTENTIOMETRIC SURFACE MAP FEBRUARY 2023

DRAWN BY:	R. COLLINS	PROJ. NO.:	584282.0000.0000
CHECKED BY:	D. CLARK		FIGURE 3
APPROVED BY:	J. STOFFEL		
DATE:	MARCH 2024		

TRC
505 EAST HUNTLAND DRIVE
SUITE #250
AUSTIN, TX 78752
PHONE: 512.329.6080

FILE: 584282_WTX_GW_2023.APRX

Coordinate System: NAD 1983 2011 StatePlane New Mexico East FIPS 3001 Ft US; Map Rotation: 0
Saved By: RCOLLINS on 3/29/2024 4:54:52 AM; File Path: T:\PROJECTS\HOLLY_ENERGY_PARTNERS\584282_WTX\2-APRX\584282_WTX_GW_2023\584282_WTX_GW_2023.aprx; Layout Name: FIGURE 3 (FEB 2023)

LEGEND

- MONITORING WELL
- GROUNDWATER FLOW DIRECTION
- 6" GATHERING LINE
- RELEASE LOCATION
- POTENTIOMETRIC CONTOUR (DASHED WHERE INFERRED)
- 3524.36 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

NOTES:

BASE MAP: GOOGLE AND THEIR DATA PARTNERS (1/3/2023).
DATA SOURCES: TRC

N

0 12.5 25 FEET
1:300 1" = 25'

PROJECT:
HOLLY ENERGY PARTNERS - OPERATING, L.P.
MONUMENT, LEA COUNTY, NEW MEXICO
WTX TO EMSU BATTERY RELEASE SITE

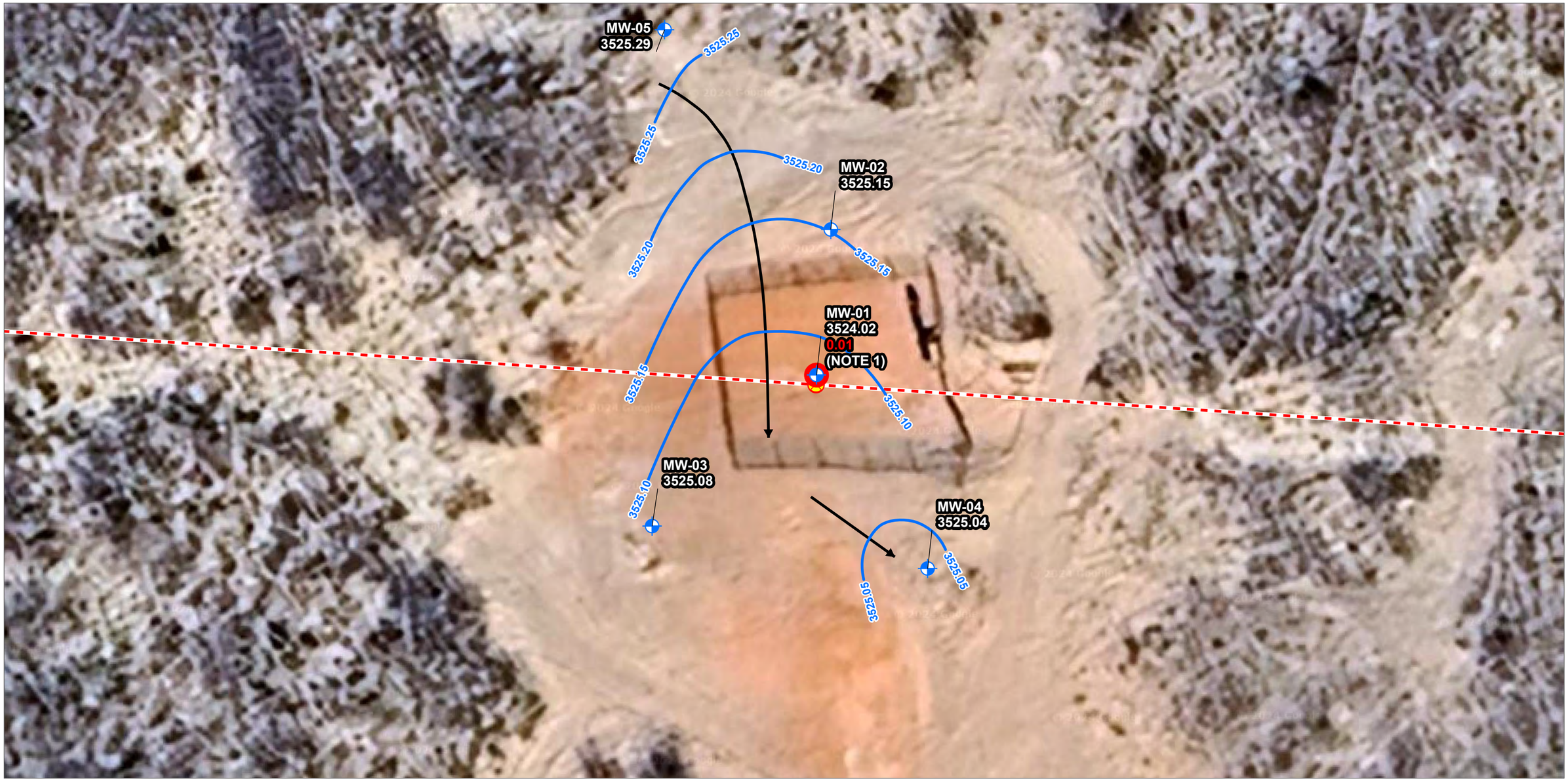
TITLE: GROUNDWATER POTENTIOMETRIC SURFACE MAP JUNE 2023

DRAWN BY:	R. COLLINS	PROJ. NO.:	584282.0000.0000
CHECKED BY:	D. CLARK		FIGURE 4
APPROVED BY:	J. STOFFEL		
DATE:	APRIL 2024		

TRC
505 EAST HUNTLAND DRIVE
SUITE #250
AUSTIN, TX 78752
PHONE: 512.329.6080

FILE: 584282_WTX_GW_2023.APRX

Coordinate System: NAD 1983 2011 StatePlane New Mexico East FIPS 3001 Ft US; Map Rotation: 0
Saved By: ETRACY on 4/29/2024 11:51:56 AM; File Path: T:\PROJECTS\HOLLY_ENERGY_PARTNERS\584282_WTX10-APRX\584282_WTX_GW_2023\584282_WTX_GW_2023.aprx; Layout Name: FIGURE 4 (JUNE 2023)



LEGEND

- MONITORING WELL
- 6" GATHERING LINE
- RELEASE LOCATION
- POTENTIOMETRIC CONTOUR (DASHED WHERE INFERRED)
- 3525.08 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- GROUNDWATER FLOW DIRECTION
- LNAPL PRESENT
- 0.01 APPARENT LNAPL THICKNESS

NOTES:

1: MW-01 GROUNDWATER ELEVATION NOT USED TO DEVELOP POTENTIOMETRIC CONTOURS DUE TO ANOMOLOUS MEASUREMENT.

LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID.

BASE MAP: GOOGLE AND THEIR DATA PARTNERS (1/3/2023).
DATA SOURCES: TRC

N

0 12.5 25 FEET
1:300 1" = 25'

PROJECT:
HOLLY ENERGY PARTNERS - OPERATING, L.P.
MONUMENT, LEA COUNTY, NEW MEXICO
WTX TO EMSU BATTERY RELEASE SITE

TITLE: GROUNDWATER POTENTIOMETRIC SURFACE MAP OCTOBER 2023

DRAWN BY:	R. COLLINS	PROJ. NO.:	584282.0000.0000
CHECKED BY:	D. CLARK		FIGURE 5
APPROVED BY:	J. STOFFEL		
DATE:	APRIL 2024		

TRC
505 EAST HUNTLAND DRIVE
SUITE #250
AUSTIN, TX 78752
PHONE: 512.329.6080

FILE: 584282_WTX_GW_2023.APRX

LEGEND

- MONITORING WELL
- 6" GATHERING LINE
- RELEASE LOCATION
- POTENTIOMETRIC CONTOUR (DASHED WHERE INFERRED)
- 3524.00 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- GROUNDWATER FLOW DIRECTION
- LNAPL PRESENT
- 0.01 APPARENT LNAPL THICKNESS

NOTES:

LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID.

BASE MAP: GOOGLE AND THEIR DATA PARTNERS (1/3/2023).
DATA SOURCES: TRC

N

0 12.5 25 FEET

1:300 1" = 25'

PROJECT:
HOLLY ENERGY PARTNERS - OPERATING, L.P.
MONUMENT, LEA COUNTY, NEW MEXICO
WTX TO EMSU BATTERY RELEASE SITE

TITLE: GROUNDWATER POTENTIOMETRIC SURFACE MAP DECEMBER 2023

DRAWN BY:	R. COLLINS	PROJ. NO.:	584282.0000.0000
CHECKED BY:	D. CLARK		FIGURE 6
APPROVED BY:	J. STOFFEL		
DATE:	MARCH 2024		

TRC
505 EAST HUNTLAND DRIVE
SUITE #250
AUSTIN, TX 78752
PHONE: 512.329.6080

FILE: 584282_WTX_GW_2023.APRX

Coordinate System: NAD 1983 2011 StatePlane New Mexico East FIPS 3001 Ft US; Map Rotation: 0
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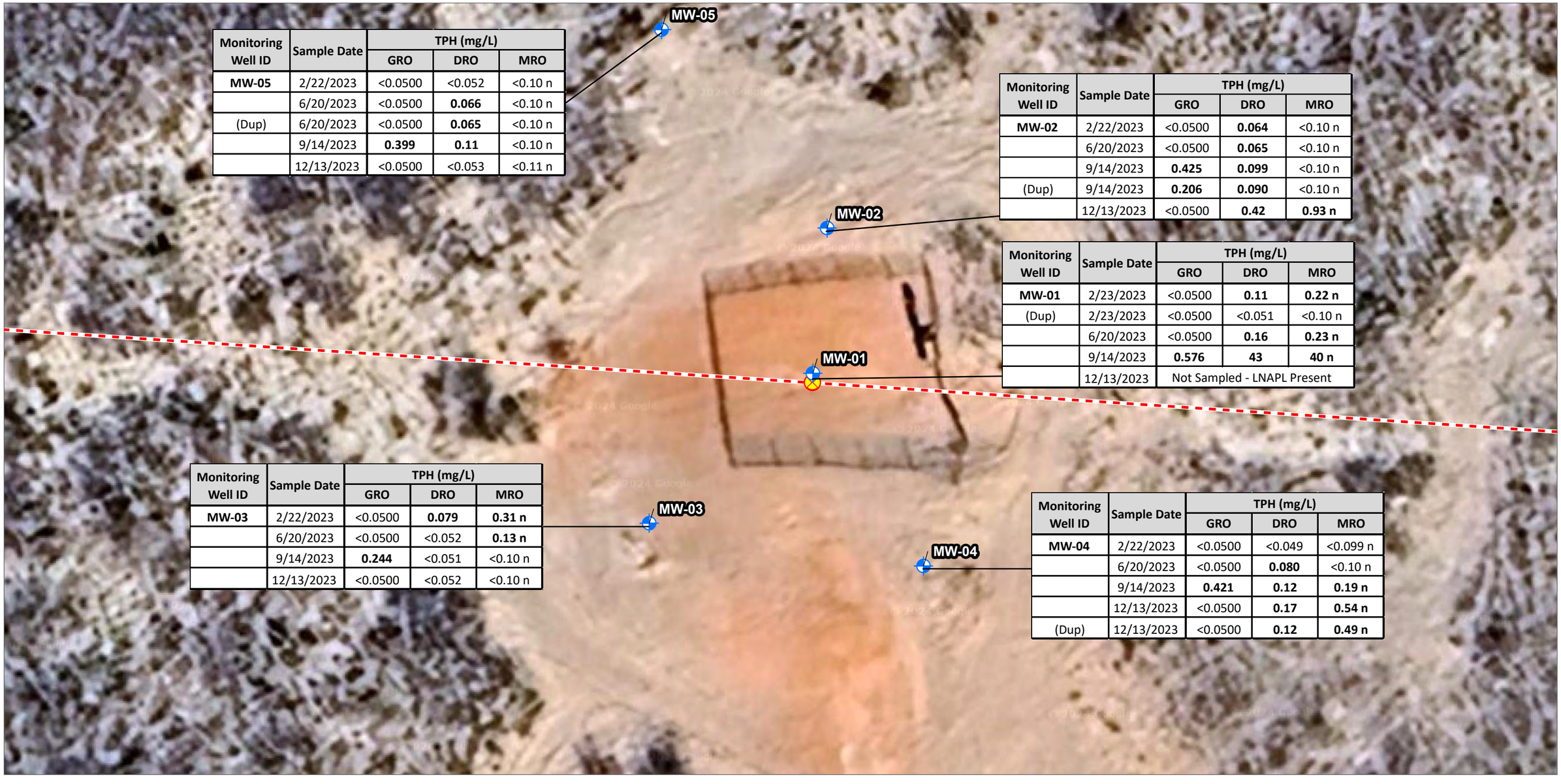

Monitoring Well ID	Sample Date	TPH (mg/L)		
		GRO	DRO	MRO
MW-05	2/22/2023	<0.0500	<0.052	<0.10 n
	6/20/2023	<0.0500	**0.066**	<0.10 n
(Dup)	6/20/2023	<0.0500	**0.065**	<0.10 n
	9/14/2023	**0.399**	**0.11**	<0.10 n
	12/13/2023	<0.0500	<0.053	<0.11 n

Monitoring Well ID	Sample Date	TPH (mg/L)		
		GRO	DRO	MRO
MW-02	2/22/2023	<0.0500	**0.064**	<0.10 n
	6/20/2023	<0.0500	**0.065**	<0.10 n
	9/14/2023	**0.425**	**0.099**	<0.10 n
(Dup)	9/14/2023	**0.206**	**0.090**	<0.10 n
	12/13/2023	<0.0500	**0.42**	**0.93 n**

Monitoring Well ID	Sample Date	TPH (mg/L)		
		GRO	DRO	MRO
MW-01	2/23/2023	<0.0500	**0.11**	**0.22 n**
(Dup)	2/23/2023	<0.0500	<0.051	<0.10 n
	6/20/2023	<0.0500	**0.16**	**0.23 n**
	9/14/2023	**0.576**	**43**	**40 n**
	12/13/2023	Not Sampled - LNAPL Present		

Monitoring Well ID	Sample Date	TPH (mg/L)		
		GRO	DRO	MRO
MW-03	2/22/2023	<0.0500	**0.079**	**0.31 n**
	6/20/2023	<0.0500	<0.052	**0.13 n**
	9/14/2023	**0.244**	<0.051	<0.10 n
	12/13/2023	<0.0500	<0.052	<0.10 n

Monitoring Well ID	Sample Date	TPH (mg/L)		
		GRO	DRO	MRO
MW-04	2/22/2023	<0.0500	<0.049	<0.099 n
	6/20/2023	<0.0500	**0.080**	<0.10 n
	9/14/2023	**0.421**	**0.12**	**0.19 n**
	12/13/2023	<0.0500	**0.17**	**0.54 n**
(Dup)	12/13/2023	<0.0500	**0.12**	**0.49 n**

LEGEND

- MONITORING WELL
- 6" GATHERING LINE
- RELEASE LOCATION

NOTES:

NEW MEXICO OIL CONSERVATION DIVISION (NMOCD) DOES NOT HAVE A GROUNDWATER ACTION LEVEL FOR TPH.
TPH = TOTAL PETROLEUM HYDROCARBONS.
GRO = GASOLINE RANGE ORGANICS.
DRO = DIESEL RANGE ORGANICS.
MRO = MOTOR OIL RANGE ORGANICS.
MG/L = MILLIGRAMS PER LITER.
(DUP) = DUPLICATE SAMPLE DATA.
n = NOT OFFERED FOR ACCREDITATION.
* = MEASURABLE LNAPL PRESENT IN WELL MW-01 IN SEPTEMBER AND DECEMBER 2023.
MW-01 NOT SAMPLED IN DECEMBER 2023 DUE TO THE PRESENCE OF LNAPL.
DETECTED CONCENTRATIONS REPORTED IN **BOLD**.

BASE MAP: GOOGLE AND THEIR DATA PARTNERS (1/3/2023).
Data Sources: TRC

0 12.5 25 FEET
1:300 1" = 25'

PROJECT:
HOLLY ENERGY PARTNERS - OPERATING, L.P.
MONUMENT, LEA COUNTY, NEW MEXICO
WTX TO EMSU BATTERY RELEASE SITE

TITLE:
SUMMARY OF 2023 GROUNDWATER SAMPLE ANALYTICAL RESULTS

DRAWN BY:	R. COLLINS	PROJ. NO.:	584282.0000.0000
CHECKED BY:	D. CLARK		
APPROVED BY:	J. STOFFEL		**FIGURE 7**
DATE:	APRIL 2024		

TRC
505 EAST HUNTLAND DRIVE
SUITE #250
AUSTIN, TX 78752
PHONE: 512.329.6080

FILE: 584282_WTX_GW_2023.APRX

ATTACHMENT A – COPIES OF E-MAIL CORRESPONDENCE

Stoffel, Jared

From: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>
Sent: Tuesday, April 5, 2022 4:42 PM
To: Stoffel, Jared; Bratcher, Mike, EMNRD
Cc: Gilbert, Bryan; Sahba, Arsin M.; Melanie Nolan; Trevor.baird; mark.shemaria; Clark, Darija; Helbert, Dana; Hoover, Shannon; Varnell, Richard
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Follow Up Flag: Follow up
Flag Status: Flagged

Jared,

The OCD approves this workplan. Please proceed with the project.

Cheers,

Chad Hensley ● Environmental Science & Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
811 First St. | Artesia, NM 88210
Office: 575.748.1283 | Cell: 575-703-1723
chad.hensley@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Friday, April 1, 2022 2:59 PM
To: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
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Subject: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

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Mr. Hensley and Mr. Bratcher,

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Thank you.

Jared Stoffel, P.G.
Project Manager

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Follow Up Flag: Follow up
Flag Status: Flagged

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Good morning. The approval is for UIC and the remediation.

Cheers,

Chad Hensley ● Environmental Science & Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
811 First St. | Artesia, NM 88210
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EMNRD/OCD

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To: Stoffel, Jared <JStoffel@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Hi,

Thank you for notification. Please keep this communication and include in allied report(s).

Bradford Billings
EMNRD/OCD

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Monday, August 1, 2022 10:29 AM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
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CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

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Good Afternoon Jennifer,

Based on the initial confirmation soil sample analytical results for the excavation performed on August 17 and 18, additional remedial excavation and sampling will be conducted at the site on Thursday, August 25.

Please let me know if you have any questions or concerns.

Thanks!

Bryan Gilbert, P.G.
Austin Office ECW Practice Leader

505 E. Huntland Drive, Suite 250, Austin, TX 78752
C: 925.699.6184 | F: 512.329.8750
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Office: 575.748.1283 | Cell: 575-703-1723
chad.hensley@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Wednesday, April 6, 2022 3:42 PM
To: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Chad,

We would like to clarify if this also includes the approval of the injection permits, or if that come separately from the Underground Injection group? Pending approval of the injection permits, as needed, we will proceed with field work following the completion of calving season as requested by the landowner. We will notify you when calving season has completed and the landowner has given us permission to access the property. Thank you very much for the approval to proceed and the additional clarification with regards to the injection permitting process.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>
Sent: Tuesday, April 5, 2022 4:42 PM
To: Stoffel, Jared <JStoffel@trccompanies.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Jared,

The OCD approves this workplan. Please proceed with the project.

Cheers,

Chad Hensley ● Environmental Science & Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
811 First St. | Artesia, NM 88210
Office: 575.748.1283 | Cell: 575-703-1723
chad.hensley@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Friday, April 1, 2022 2:59 PM

To: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Mr. Hensley and Mr. Bratcher,

Please see the attached addendum to the NMOCD-approved November 12, 2021, *Site Characterization Report and Remediation Workplan* for the WTX to EMSU Battery to Byrd Pump Segment Crude Oil Release Site (NOY1822242858). Included in the appendices are the requested C-108 form and associated federal underground injection form. Please let us know if you require any additional information. Otherwise we will stand by for NMOCD's approval of the Remediation Workplan Addendum and the authorization to inject.

Thank you.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

Stoffel, Jared

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>
Sent: Tuesday, August 23, 2022 5:34 PM
To: Gilbert, Bryan; Stoffel, Jared; Billings, Bradford, EMNRD; Bratcher, Mike, EMNRD
Cc: Sahba, Arsin; Trevor.baird; Melanie Nolan; Clark, Darija; Hoover, Shannon; Helbert, Dana; Varnell, Richard; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Thanks Gilbert for the notification.
Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thanks,
Jennifer Nobui

From: Gilbert, Bryan <BGilbert@trccompanies.com>
Sent: Tuesday, August 23, 2022 4:31 PM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Stoffel, Jared <JStoffel@trccompanies.com>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Good Afternoon Jennifer,

Based on the initial confirmation soil sample analytical results for the excavation performed on August 17 and 18, additional remedial excavation and sampling will be conducted at the site on Thursday, August 25.

Please let me know if you have any questions or concerns.

Thanks!

Bryan Gilbert, P.G.
Austin Office ECW Practice Leader

505 E. Huntland Drive, Suite 250, Austin, TX 78752
C: 925.699.6184 | F: 512.329.8750
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>
Sent: Wednesday, August 17, 2022 1:59 PM
To: Stoffel, Jared <JStoffel@trccompanies.com>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Thank you Jared for the notification.

Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Please let us know if you encounter any delays or have any questions.

Thanks,
Jennifer Nobui

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Friday, August 12, 2022 12:49 PM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

All,

I would like to follow up on our notification of the pilot test, soil boring activities, remedial excavation activities, and quarterly groundwater sampling activities with an updated timeline. Field activities were projected to be completed by August 12. An updated timeline is provided below.

- Bioventing Pilot Test - Field activities began on August 3, 2022, but the pilot test did not commence until August 9 (Day 1) due to equipment issues and troubleshooting. The pilot test is anticipated to be complete on August 15 (Day 7).
- Soil Boring – Drilling was originally scheduled for August 8. Due to a change in drill rig availability (the drill rig scheduled for the work was not operational), drilling is now scheduled for August 15.
- Quarterly Groundwater Monitoring – Due to the revised bioventing pilot test schedule (the monitoring wells cannot be gauged and sampled during the pilot test), quarterly groundwater monitoring activities are scheduled to begin August 16. This is a slight deviation from the schedule presented in the April 2022 Remediation Work Plan Addendum, which indicated quarterly groundwater monitoring would commence within 90 days of NMOCD approval of the Work Plan (i.e., August 13). Groundwater monitoring activities are expected to take 1 – 2 days.
- Remedial Excavation and Sampling – Due to the revised bioventing pilot test and quarterly groundwater monitoring schedules, remedial excavation and sampling activities are scheduled for August 17 to 19.

Please let me know if you have any questions or concerns. Thank you.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Sent: Thursday, August 4, 2022 11:48 AM
To: Stoffel, Jared <JStoffel@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Hi,

Thank you for notification. Please keep this communication and include in allied report(s).

Bradford Billings
EMNRD/OCD

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Monday, August 1, 2022 10:29 AM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>

Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

All,

I would like to submit a notification that the pilot test, soil boring activities, remedial excavation activities, and quarterly groundwater sampling activities are all scheduled to begin this week on August 3, 2022. The activities are projected to be completed within 2 weeks. This email is intended to notify you of both the remedial and monitoring activities occurring onsite and the collection of final samples from the remedial excavation during this time period in accordance with NMAC 19.15.29.12 D(1)(a). Please let me know if there are any questions or concerns. Thank you.

Jared Stoffel, P.G.
Project Manager

TRC
505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>
Sent: Thursday, April 7, 2022 8:16 AM
To: Stoffel, Jared <JStoffel@trccompanies.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Jared,

Good morning. The approval is for UIC and the remediation.

Cheers,

Chad Hensley ● Environmental Science & Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
811 First St. | Artesia, NM 88210

Office: 575.748.1283 | Cell: 575-703-1723
chad.hensley@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Wednesday, April 6, 2022 3:42 PM
To: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Chad,

We would like to clarify if this also includes the approval of the injection permits, or if that come separately from the Underground Injection group? Pending approval of the injection permits, as needed, we will proceed with field work following the completion of calving season as requested by the landowner. We will notify you when calving season has completed and the landowner has given us permission to access the property. Thank you very much for the approval to proceed and the additional clarification with regards to the injection permitting process.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>
Sent: Tuesday, April 5, 2022 4:42 PM
To: Stoffel, Jared <JStoffel@trccompanies.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Jared,

The OCD approves this workplan. Please proceed with the project.

Cheers,

Chad Hensley ● Environmental Science & Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
811 First St. | Artesia, NM 88210
Office: 575.748.1283 | Cell: 575-703-1723
chad.hensley@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Friday, April 1, 2022 2:59 PM
To: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Mr. Hensley and Mr. Bratcher,

Please see the attached addendum to the NMOCD-approved November 12, 2021, *Site Characterization Report and Remediation Workplan* for the WTX to EMSU Battery to Byrd Pump Segment Crude Oil Release Site (NOY1822242858). Included in the appendices are the requested C-108 form and associated federal underground injection form. Please let us know if you require any additional information. Otherwise we will stand by for NMOCD's approval of the Remediation Workplan Addendum and the authorization to inject.

Thank you.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

Stoffel, Jared

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Tuesday, December 13, 2022 12:48 PM
To: Stoffel, Jared
Cc: Billings, Bradford, EMNRD; Bratcher, Michael, EMNRD; Melanie Nolan; Gilbert, Bryan; Pearson, Christopher; Leik, Jason; Sahba, Arsin; Velez, Nelson, EMNRD
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Hello Jared

Your Remedial Plan for full scale implementation of the bioventing system has been approved. OCD approved it in the OCD portal on 11/28/22 with APP ID # 150523. But you can use this email as well for final approval. I will also make note of final approval of full scale bioventing system implementation in the Incident Events Notes. Please save this email and include it in the upcoming start up report. Let me know if you have any questions.

Thanks
Jennifer Nobui

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Tuesday, December 13, 2022 9:02 AM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Pearson, Christopher <CPearson@trccompanies.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Understood and noted. Please let me know if there are any other questions, comments, or concerns – otherwise we look forward to hearing back regarding the approval of the full-scale system through the portal. Thank you very much!

Jared Stoffel, P.G.
Project Manager

TRC
505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Monday, December 12, 2022 3:38 PM
To: Stoffel, Jared <JStoffel@trccompanies.com>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Pearson, Christopher <CPearson@trccompanies.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Thank you Jared for the response below. One quick addition for item #7

7. The proposed bioventing wells should be considered 'remediation wells' and thus **do not** require a C-108 or Class V injection permit approval. **No additional action is required on behalf of HEP with respect to the C-108 or Class V injection permits**.

Please note that each well needs to be named (nomenclature) and tracked individually, each wells' data produced and operating time needs to be tracked and documented just in case EPA contacts you regarding these wells. Please make note of that correction.

Thanks,
Jennifer Nobui

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Monday, December 12, 2022 2:15 PM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Pearson, Christopher <CPearson@trccompanies.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

All,
Thank you very much for meeting with us regarding the WTX to EMSU Remediation and Bioventing Pilot Test Summary and Full-Scale Bioventing System Recommendation Report submitted October 10, 2022. A brief summary of our meeting and path forward is provided below.

1. Soil boring SB-19A results showed no BTEX detected in soil above Closure Criteria. No further action with regards to SB-19A.
2. Remedial excavation was completed in accordance with the April 1, 2022 Work Plan Addendum that was approved by the OCD on April 5, 2022. Affected soil from surface to 4.5' bgs has been removed from the site.

3. Affected soil deeper than 4.5 feet bgs will be addressed during proposed full-scale bioventing.
4. HEP's interpretation of the bioventing pilot test results were supported by OCD as discussed during the call, including:
    a. pressure propagation shows an effective injection ROI of up to 90 feet; and
    b. the effective injection ROI indicated by the pressure propagation was corroborated by the soil gas results, including oxygen, VOCs, and carbon dioxide.
5. HEP's proposed full-scale bioventing system design was generally consistent with OCD's expectations as discussed during the call.
6. OCD has requested that HEP conduct weekly operations and maintenance (O&M) of the bioventing system for 1 to 2 months following installation and start-up rather than 2-3 weeks proposed by HEP. HEP will evaluate the weekly O&M data after 1 month of operation and will use this data to determine if a second month of weekly O&M is appropriate.
7. The proposed bioventing wells should be considered 'remediation wells' and thus **do not** require a C-108 or Class V injection permit approval. **No additional action is required on behalf of HEP with respect to the C-108 or Class V injection permits**.
8. OCD has requested that confirmation soil borings be proposed for OCD approval once bioventing system data indicate bioventing objectives have been achieved.

Based on our meeting, we anticipate a conditional approval of the October 12, 2022 Remediation and Bioventing Pilot Test Summary and Full-Scale Bioventing System Recommendation Report, thus an additional revision and submittal by HEP to the OCD will not be required. The primary change to the October 2022 report requested by OCD is the additional weekly system O&M following installation and startup (1-2 months rather than 2-3 weeks). HEP does not expect to receive a response or approval of the C-108/Class V permits provided in the October 12, 2022 Remediation and Bioventing Pilot Test Summary and Full-Scale Bioventing System Recommendation Report in order to enact the proposed full-scale bioventing remedy. Please let me know if I've missed or mischaracterized any of our items of discussion.

Again, thank you for taking the time to review the bioventing results and recommendations with us.

Jared Stoffel, P.G.
Project Manager

TRC
505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Thursday, December 1, 2022 3:44 PM
To: Stoffel, Jared <JStoffel@trccompanies.com>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Pearson, Christopher <CPearson@trccompanies.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Hello Jared

We are available for a discussion December 6, 2022 Tuesday at 3pm MST. Please send us an evite.

Thanks
Jennifer Nobui

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Thursday, December 1, 2022 2:03 PM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Pearson, Christopher <CPearson@trccompanies.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Jennifer –

Thank you for discussing the WTX to EMSU site with me yesterday. As we discussed, we have already completed the excavation, soil boring installation, and bioventing pilot test activities as approved by Chad Hensley on April 5, 2022. The most recently submitted report (submitted on October 12, 2022) documents the excavation, soil boring, and the results of the bioventing pilot test and provides recommendations for the full-scale bioventing system. I've attached the report for reference – I know there have been multiple submissions for this Site, and want to ensure that we both are referencing the same document.

In order to facilitate our additional discussion of what has occurred to date and answer any questions regarding the bioventing pilot test results, we would like to conduct a meeting with you and your team. Our team's availability (cc'd in this email) for this week and next week include:

December 2: any time of day
December 5: After 4 MST
December 6: After 3 MST
December 7: After 2:30 MST
December 9: After 2 MST

Would any of these days and times work for you? If so, I will set up a Teams meeting at your preferred time. Thank you very much!

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Monday, November 28, 2022 11:12 AM

To: Stoffel, Jared <JStoffel@trccompanies.com>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Hello Jared

I wanted to let you know that the Remediation Plan for the above-referenced site detailing a pilot test for bioventing has been approved with conditions. OCD has approved the proposed excavation activities and the advancement of a soil boring. In addition, OCD has approved the implementation of a pilot test for bioventing. However, please do not proceed with the full scale implementation of the bioventing system until OCD has had the opportunity to review the pilot test data to evaluate effectiveness of a full scale system. Please schedule a meeting with OCD after the pilot test has been completed so we can go over the data.

Also, at this time you are not required to submit a C-108 form or a EPA UDS Sheet. That will need to be addressed once full scale implementation is approved. Please let me know if you have any questions.

Thanks,

Jennifer Nobui, PG ● Environmental Specialist A
Environmental Bureau
EMNRD - Oil Conservation Division
5200 Oakland Avenue N.E Suite 100 | Albuquerque, NM 87113
505.470-3407 | Jennifer.Nobui@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Thursday, October 13, 2022 11:24 AM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Gilbert, Bryan <BGilbert@trccompanies.com>; Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Jennifer,
I wanted to provide an update that the report documenting the pilot test and soil remediation activities along with the full-scale bioventing system recommendations has been submitted through the portal. Please let me know if you have any questions that arise during your review. Thank you very much!

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>
Sent: Tuesday, August 23, 2022 5:34 PM
To: Gilbert, Bryan <BGilbert@trccompanies.com>; Stoffel, Jared <JStoffel@trccompanies.com>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Thanks Gilbert for the notification.
Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thanks,
Jennifer Nobui

From: Gilbert, Bryan <BGilbert@trccompanies.com>
Sent: Tuesday, August 23, 2022 4:31 PM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Stoffel, Jared <JStoffel@trccompanies.com>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Good Afternoon Jennifer,

Based on the initial confirmation soil sample analytical results for the excavation performed on August 17 and 18, additional remedial excavation and sampling will be conducted at the site on Thursday, August 25.

Please let me know if you have any questions or concerns.

Thanks!

Bryan Gilbert, P.G.
Austin Office ECW Practice Leader

505 E. Huntland Drive, Suite 250, Austin, TX 78752
C: 925.699.6184 | F: 512.329.8750
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>
Sent: Wednesday, August 17, 2022 1:59 PM
To: Stoffel, Jared <JStoffel@trccompanies.com>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Thank you Jared for the notification.

Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Please let us know if you encounter any delays or have any questions.

Thanks,
Jennifer Nobui

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Friday, August 12, 2022 12:49 PM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>

Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

All,

I would like to follow up on our notification of the pilot test, soil boring activities, remedial excavation activities, and quarterly groundwater sampling activities with an updated timeline. Field activities were projected to be completed by August 12. An updated timeline is provided below.

- Bioventing Pilot Test - Field activities began on August 3, 2022, but the pilot test did not commence until August 9 (Day 1) due to equipment issues and troubleshooting. The pilot test is anticipated to be complete on August 15 (Day 7).
- Soil Boring – Drilling was originally scheduled for August 8. Due to a change in drill rig availability (the drill rig scheduled for the work was not operational), drilling is now scheduled for August 15.
- Quarterly Groundwater Monitoring – Due to the revised bioventing pilot test schedule (the monitoring wells cannot be gauged and sampled during the pilot test), quarterly groundwater monitoring activities are scheduled to begin August 16. This is a slight deviation from the schedule presented in the April 2022 Remediation Work Plan Addendum, which indicated quarterly groundwater monitoring would commence within 90 days of NMOCD approval of the Work Plan (i.e., August 13). Groundwater monitoring activities are expected to take 1 – 2 days.
- Remedial Excavation and Sampling – Due to the revised bioventing pilot test and quarterly groundwater monitoring schedules, remedial excavation and sampling activities are scheduled for August 17 to 19.

Please let me know if you have any questions or concerns. Thank you.

Jared Stoffel, P.G.
Project Manager

TRC
505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Sent: Thursday, August 4, 2022 11:48 AM
To: Stoffel, Jared <JStoffel@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Hi,

Thank you for notification. Please keep this communication and include in allied report(s).

Bradford Billings
EMNRD/OCD

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Monday, August 1, 2022 10:29 AM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

All,
I would like to submit a notification that the pilot test, soil boring activities, remedial excavation activities, and quarterly groundwater sampling activities are all scheduled to begin this week on August 3, 2022. The activities are projected to be completed within 2 weeks. This email is intended to notify you of both the remedial and monitoring activities occurring onsite and the collection of final samples from the remedial excavation during this time period in accordance with NMAC 19.15.29.12 D(1)(a). Please let me know if there are any questions or concerns. Thank you.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>
Sent: Thursday, April 7, 2022 8:16 AM
To: Stoffel, Jared <JStoffel@trccompanies.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Jared,

Good morning. The approval is for UIC and the remediation.

Cheers,

Chad Hensley ● Environmental Science & Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
811 First St. | Artesia, NM 88210
Office: 575.748.1283 | Cell: 575-703-1723
chad.hensley@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Wednesday, April 6, 2022 3:42 PM
To: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Chad,

We would like to clarify if this also includes the approval of the injection permits, or if that come separately from the Underground Injection group? Pending approval of the injection permits, as needed, we will proceed with field work following the completion of calving season as requested by the landowner. We will notify you when calving season has completed and the landowner has given us permission to access the property. Thank you very much for the approval to proceed and the additional clarification with regards to the injection permitting process.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>
Sent: Tuesday, April 5, 2022 4:42 PM
To: Stoffel, Jared <JStoffel@trccompanies.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria

<mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Jared,

The OCD approves this workplan. Please proceed with the project.

Cheers,

Chad Hensley ● Environmental Science & Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
811 First St. | Artesia, NM 88210
Office: 575.748.1283 | Cell: 575-703-1723
chad.hensley@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Friday, April 1, 2022 2:59 PM
To: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Mr. Hensley and Mr. Bratcher,

Please see the attached addendum to the NMOCD-approved November 12, 2021, *Site Characterization Report and Remediation Workplan* for the WTX to EMSU Battery to Byrd Pump Segment Crude Oil Release Site

(NOY1822242858). Included in the appendices are the requested C-108 form and associated federal underground injection form. Please let us know if you require any additional information. Otherwise we will stand by for NMOCD's approval of the Remediation Workplan Addendum and the authorization to inject.

Thank you.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

Stoffel, Jared

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Thursday, December 15, 2022 1:10 PM
To: Stoffel, Jared; Billings, Bradford, EMNRD; Bratcher, Michael, EMNRD
Cc: Melanie Nolan; Sahba, Arsin; Leik, Jason; Gilbert, Bryan; Clark, Darija; Harimon, Jocelyn, EMNRD
Subject: RE: [EXTERNAL] WTX to EMSU Groundwater Sampling Notification (NOY1822241858)

Hello Jared

Thank you for the notification. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thanks,
Jennifer Nobui

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Thursday, December 15, 2022 11:46 AM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Melanie Nolan <melanie.nolan@hollyenergy.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Clark, Darija <dclark@trccompanies.com>
Subject: [EXTERNAL] WTX to EMSU Groundwater Sampling Notification (NOY1822241858)

Jennifer –

TRC, on the behalf of HEP, will be conducting the 4th quarter groundwater sampling event at the WTX to EMSU site (NOY1822241858) on December 20, 2022. We expect the event duration to be 1 day. Please let me know if you have any questions or concerns. Thank you.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

Stoffel, Jared

From: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Sent: Tuesday, February 21, 2023 9:37 AM
To: Stoffel, Jared; Melanie Nolan; arsin.sahba@hfsinclair.com; jason.leik@hfsinclair.com; Gilbert, Bryan; Clark, Darija
Cc: Nobui, Jennifer, EMNRD; Velez, Nelson, EMNRD
Subject: RE: [EXTERNAL] WTX to EMSU Groundwater Sampling Notification (NOY1822241858)

Correction to the incident number: **NOY1822242858**

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Monday, February 20, 2023 2:43 PM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: FW: [EXTERNAL] WTX to EMSU Groundwater Sampling Notification (NOY1822241858)

fyi

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Monday, February 20, 2023 1:42 PM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Melanie Nolan <melanie.nolan@hollyenergy.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Clark, Darija <dclark@trccompanies.com>
Subject: [EXTERNAL] WTX to EMSU Groundwater Sampling Notification (NOY1822241858)

Jennifer –

TRC, on the behalf of HEP, will be conducting the 1st quarter groundwater sampling event at the WTX to EMSU site (NOY1822241858) on February 22, 2023. We expect the event duration to be 1 day. Please let me know if you have any questions or concerns. Thank you.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From:	Stoffel, Jared
To:	Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD; Buchanan, Michael, EMNRD
Cc:	Leik, Jason; Sahba, Arsin M.; melanie.nolan; Gilbert, Bryan; Clark, Darija
Subject:	FW: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)
Date:	Wednesday, November 1, 2023 12:36:00 PM
Attachments:	image001.png image004.png WTX to EMSU Easement Map_9.28.23.pdf

All,
I wanted to follow up on my previous email regarding the delay in the installation of an electrical power drop at the site. We have continued to work to resolve the Xcel easement with the Byrd property to the east. As of now, there is still no timeline for resolution of the Byrd easement. As we approach November 16, 2023, the target date for installation and activation of the remediation system, we wanted to meet with you to discuss our progress and options moving forward. Please let us know if you have time for a meeting over the next 2 weeks.
Thank you very much.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Wednesday, October 4, 2023 12:17 PM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Clark, Darija <dclark@trccompanies.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Leik, Jason <Jason.Leik@HFSinclair.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

All,

As you are aware, HEP has experienced a delay in the installation of an electrical power drop at the site, which is required to facilitate operation of the planned bioventing remediation system. HEP does not have active power lines or facilities in the area, which is very remote. HEP has been working with Xcel Energy, the local provider, on the power drop. The nearest Xcel line for a power drop is over 0.5 mile to the east and will require that a new electrical line cross two properties to provide service to the site. Thus, Xcel must obtain easements with both property owners before construction of the electrical line can begin. The easement with the Kleins has been obtained, but Xcel is experiencing delays in the executing the easement with the Byrd property to the east of the site.

Once the easements are in place, the electrical infrastructure will be installed, but the Byrd easement is currently pending legal resolution. There is currently no timeline for resolution of the Byrd easement. For reference, a map of the intended easements from the nearest Xcel owned line to the WTX to EMSU Site and the referenced approximate property boundary is attached.

Given the electrical power drop delay, HEP is re-evaluating power options for the bioventing system. We intend to have a path forward for an alternative power source prior to the November 16, 2023, deadline if the power easement issues have not been resolved and will notify you of the path forward accordingly. If an alternative power source is selected and the property owner has provided approval, HEP will begin procurement and system installation. If the access agreement between Xcel and the Byrd estate is resolved prior to the deadline, we will notify you and move forward with installation of the power lines.

The third quarter 2023 groundwater monitoring event was conducted on September 14, 2023. Per recent voicemails left with Mr. Bratcher, 0.02 feet of apparent LNAPL was detected in well MW-1, located near the former release point. The LNAPL was confirmed with a bailer and did not recharge to the well within 5 hours of bailing. LNAPL has not previously been observed at the site to date. Groundwater levels at the site are at historical lows. It is likely that the presence of LNAPL in well MW-1 is associated with low groundwater levels and is not indicative of migrating LNAPL or a recent release (the pipeline is not active). Regardless, HEP will install a sorbent sock in well MW-1 during October 2023 to recover the accumulating LNAPL.

Please let us know if you have any questions, comments, or concerns – I am happy to facilitate a meeting to further discuss powering the system and/or the LNAPL. Thank you.

Jared Stoffel, P.G.
Project Manager

TRC

505 E Huntland Dr STE 250 Austin, TX 78752
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From: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Sent: Monday, August 21, 2023 9:15 AM
To: Stoffel, Jared <JStoffel@trccompanies.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Clark, Darija <dclark@trccompanies.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Leik, Jason <Jason.Leik@HFSinclair.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Jared,

Your request for an extension is approved to November 16, 2023. OCD realizes and appreciates this is a relatively complex project, however, the release is now five years old and OCD requests steps be taken to either move the project along or propose an alternative remediation plan. Electrical hook-ups are made daily in the oil patch and rarely interfere with production needs. The same urgency should apply to this remedial project or an alternative such as solar be considered. Please advise once power connection activities have commenced.

Thank you,

Mike Bratcher ● Incident Supervisor
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave | Artesia, NM 88210
(575) 626-0857 | mike.bratcher@emnrd.nm.gov
http://www.emnrd.nm.gov/ocd

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Friday, August 18, 2023 1:27 PM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Clark, Darija <dclark@trccompanies.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Leik, Jason <Jason.Leik@HFSinclair.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

All,
We respectfully request a 90-day extension from today for installation and activation of the bioventing system (i.e., until November 16, 2023), as we are still working with an electrical service provider to run power to the Site. We have been told that construction of the power drop will begin in late-September and will take approximately 1 week to complete. Assuming this schedule holds, we anticipate activation of the system on or before November 16th. The wells have already been installed, so we anticipate the final system installation and activation promptly following completion of the power drop. Please let me know if you approve this extension request. I am available at your

convenience if you have questions or concerns. Thank you.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Tuesday, April 18, 2023 3:46 PM
To: Stoffel, Jared <JStoffel@trccompanies.com>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Hello Jared

Your request for a 90-day extension has been approved to July 18, 2023. Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Please let us know if you have any questions.

Thanks,
Jennifer Nobui

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Monday, March 27, 2023 3:18 PM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Pearson, Christopher <CPearson@trccompanies.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Velez, Nelson, EMNRD

<Nelson.Velez@emnrd.nm.gov>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Ms. Nobui,

In the October 12, 2022 Remediation and Bioventing Pilot Test Summary and Full-Scale Bioventing System Recommendation Report, which you approved on November 28, 2022, the schedule states that the full-scale bioventing system will be installed and activated within 120 days of NMOCD approval of the report (i.e., by March 28, 2023). We have had delays due to landowner concurrence and access, NMOSE permitting, subcontractor availability, and electrical service. We are requesting a 90-day extension for installation and activation of the bioventing system (i.e., until June 26, 2023). We have made significant progress with the landowner, NMOSE, and drilling subcontractor, and hope to resolve the remaining issues regarding electrical service in the immediate future to allow for activation of the system by this date.

Please let me know if you approve this extension request. I am available at your convenience if you have questions or concerns. Thank you very much!

Jared Stoffel, P.G.
Project Manager

TRC
505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
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From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Tuesday, December 13, 2022 12:48 PM
To: Stoffel, Jared <JStoffel@trccompanies.com>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Pearson, Christopher <CPearson@trccompanies.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Hello Jared

Your Remedial Plan for full scale implementation of the bioventing system has been approved. OCD approved it in the OCD portal on 11/28/22 with APP ID # 150523. But you can use this email as well for final approval. I will also make note of final approval of full scale bioventing system implementation in the Incident Events Notes. Please save this email and include it in the upcoming start up report. Let me know if you have any questions.

Thanks
Jennifer Nobui

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Tuesday, December 13, 2022 9:02 AM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Pearson, Christopher <CPearson@trccompanies.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Understood and noted. Please let me know if there are any other questions, comments, or concerns – otherwise we look forward to hearing back regarding the approval of the full-scale system through the portal. Thank you very much!

Jared Stoffel, P.G.
Project Manager

TRC

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F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Monday, December 12, 2022 3:38 PM
To: Stoffel, Jared <JStoffel@trccompanies.com>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Pearson, Christopher <CPearson@trccompanies.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Thank you Jared for the response below. One quick addition for item #7

7. The proposed bioventing wells should be considered 'remediation wells' and thus **do not** require a C-108 or Class V injection permit approval. **No additional action is required on behalf of HEP with respect to the C-108 or Class V injection permits**.

Please note that each well needs to be named (nomenclature) and tracked individually, each wells' data produced and operating time needs to be tracked and documented just in case EPA contacts you regarding these wells. Please make note of that correction.

Thanks,
Jennifer Nobui

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Monday, December 12, 2022 2:15 PM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Pearson, Christopher <CPearson@trccompanies.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

All,
Thank you very much for meeting with us regarding the WTX to EMSU Remediation and Bioventing Pilot Test Summary and Full-Scale Bioventing System Recommendation Report submitted October 10, 2022. A brief summary of our meeting and path forward is provided below.

1. Soil boring SB-19A results showed no BTEX detected in soil above Closure Criteria. No further action with regards to SB-19A.
2. Remedial excavation was completed in accordance with the April 1, 2022 Work Plan Addendum that was approved by the OCD on April 5, 2022. Affected soil from surface to 4.5' bgs has been removed from the site.
3. Affected soil deeper than 4.5 feet bgs will be addressed during proposed full-scale bioventing.
4. HEP's interpretation of the bioventing pilot test results were supported by OCD as discussed

during the call, including:
   a. pressure propagation shows an effective injection ROI of up to 90 feet; and
   b. the effective injection ROI indicated by the pressure propagation was corroborated by the soil gas results, including oxygen, VOCs, and carbon dioxide.
5. HEP's proposed full-scale bioventing system design was generally consistent with OCD's expectations as discussed during the call.
6. OCD has requested that HEP conduct weekly operations and maintenance (O&M) of the bioventing system for 1 to 2 months following installation and start-up rather than 2-3 weeks proposed by HEP. HEP will evaluate the weekly O&M data after 1 month of operation and will use this data to determine if a second month of weekly O&M is appropriate.
7. The proposed bioventing wells should be considered 'remediation wells' and thus **do not** require a C-108 or Class V injection permit approval. **No additional action is required on behalf of HEP with respect to the C-108 or Class V injection permits**.
8. OCD has requested that confirmation soil borings be proposed for OCD approval once bioventing system data indicate bioventing objectives have been achieved.

Based on our meeting, we anticipate a conditional approval of the October 12, 2022 Remediation and Bioventing Pilot Test Summary and Full-Scale Bioventing System Recommendation Report, thus an additional revision and submittal by HEP to the OCD will not be required. The primary change to the October 2022 report requested by OCD is the additional weekly system O&M following installation and startup (1-2 months rather than 2-3 weeks). HEP does not expect to receive a response or approval of the C-108/Class V permits provided in the October 12, 2022 Remediation and Bioventing Pilot Test Summary and Full-Scale Bioventing System Recommendation Report in order to enact the proposed full-scale bioventing remedy. Please let me know if I've missed or mischaracterized any of our items of discussion.

Again, thank you for taking the time to review the bioventing results and recommendations with us.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
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From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Thursday, December 1, 2022 3:44 PM
To: Stoffel, Jared <JStoffel@trccompanies.com>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Pearson, Christopher <CPearson@trccompanies.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal

Forms (NOY1822242858)

Hello Jared

We are available for a discussion December 6, 2022 Tuesday at 3pm MST. Please send us an evite.

Thanks
Jennifer Nobui

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Thursday, December 1, 2022 2:03 PM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Pearson, Christopher <CPearson@trccompanies.com>; Leik, Jason <Jason.Leik@HFSinclair.com>; Sahba, Arsin <Arsin.Sahba@HFSinclair.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Jennifer –

Thank you for discussing the WTX to EMSU site with me yesterday. As we discussed, we have already completed the excavation, soil boring installation, and bioventing pilot test activities as approved by Chad Hensley on April 5, 2022. The most recently submitted report (submitted on October 12, 2022) documents the excavation, soil boring, and the results of the bioventing pilot test and provides recommendations for the full-scale bioventing system. I've attached the report for reference – I know there have been multiple submissions for this Site, and want to ensure that we both are referencing the same document.

In order to facilitate our additional discussion of what has occurred to date and answer any questions regarding the bioventing pilot test results, we would like to conduct a meeting with you and your team. Our team's availability (cc'd in this email) for this week and next week include:

December 2: any time of day
December 5: After 4 MST
December 6: After 3 MST
December 7: After 2:30 MST
December 9: After 2 MST

Would any of these days and times work for you? If so, I will set up a Teams meeting at your preferred time. Thank you very much!

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
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From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>
Sent: Monday, November 28, 2022 11:12 AM
To: Stoffel, Jared <JStoffel@trccompanies.com>
Cc: Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Hello Jared

I wanted to let you know that the Remediation Plan for the above-referenced site detailing a pilot test for bioventing has been approved with conditions. OCD has approved the proposed excavation activities and the advancement of a soil boring. In addition, OCD has approved the implementation of a pilot test for bioventing. However, please do not proceed with the full scale implementation of the bioventing system until OCD has had the opportunity to review the pilot test data to evaluate effectiveness of a full scale system. Please schedule a meeting with OCD after the pilot test has been completed so we can go over the data.

Also, at this time you are not required to submit a C-108 form or a EPA UDS Sheet. That will need to be addressed once full scale implementation is approved. Please let me know if you have any questions.

Thanks,

Jennifer Nobui, PG ● Environmental Specialist A
Environmental Bureau
EMNRD - Oil Conservation Division
5200 Oakland Avenue N.E Suite 100 | Albuquerque, NM 87113
505.470-3407 | Jennifer.Nobui@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Thursday, October 13, 2022 11:24 AM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Gilbert, Bryan <BGilbert@trccompanies.com>; Billings, Bradford, EMNRD <Bradford.Billings@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Jennifer,

I wanted to provide an update that the report documenting the pilot test and soil remediation activities along with the full-scale bioventing system recommendations has been submitted through the portal. Please let me know if you have any questions that arise during your review. Thank you very much!

Jared Stoffel, P.G.
Project Manager

TRC

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LinkedIn | Twitter | Blog | TRCcompanies.com

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>
Sent: Tuesday, August 23, 2022 5:34 PM
To: Gilbert, Bryan <BGilbert@trccompanies.com>; Stoffel, Jared <JStoffel@trccompanies.com>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Thanks Gilbert for the notification.
Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thanks,
Jennifer Nobui

From: Gilbert, Bryan <BGilbert@trccompanies.com>
Sent: Tuesday, August 23, 2022 4:31 PM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Stoffel, Jared <JStoffel@trccompanies.com>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Good Afternoon Jennifer,

Based on the initial confirmation soil sample analytical results for the excavation performed on August 17 and 18, additional remedial excavation and sampling will be conducted at the site on Thursday, August 25.

Please let me know if you have any questions or concerns.

Thanks!

Bryan Gilbert, P.G.
Austin Office ECW Practice Leader

505 E. Huntland Drive, Suite 250, Austin, TX 78752
C: 925.699.6184 | F: 512.329.8750
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>
Sent: Wednesday, August 17, 2022 1:59 PM
To: Stoffel, Jared <JStoffel@trccompanies.com>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@state.nm.us>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Thank you Jared for the notification.

Please include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Please let us know if you encounter any delays or have any questions.

Thanks,
Jennifer Nobui

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Friday, August 12, 2022 12:49 PM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Sahba, Arsin <Arsin.Sahba@HFSinclair.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Gilbert, Bryan <BGilbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

All,

I would like to follow up on our notification of the pilot test, soil boring activities, remedial excavation activities, and quarterly groundwater sampling activities with an updated timeline. Field activities were projected to be completed by August 12. An updated timeline is provided below.

- Bioventing Pilot Test - Field activities began on August 3, 2022, but the pilot test did not commence until August 9 (Day 1) due to equipment issues and troubleshooting. The pilot test is anticipated to be complete on August 15 (Day 7).
- Soil Boring – Drilling was originally scheduled for August 8. Due to a change in drill rig availability (the drill rig scheduled for the work was not operational), drilling is now scheduled for August 15.
- Quarterly Groundwater Monitoring – Due to the revised bioventing pilot test schedule (the monitoring wells cannot be gauged and sampled during the pilot test), quarterly groundwater monitoring activities are scheduled to begin August 16. This is a slight deviation from the schedule presented in the April 2022 Remediation Work Plan Addendum, which indicated quarterly groundwater monitoring would commence within 90 days of NMOCD approval of the Work Plan (i.e., August 13). Groundwater monitoring activities are expected to take 1 – 2 days.
- Remedial Excavation and Sampling – Due to the revised bioventing pilot test and quarterly groundwater monitoring schedules, remedial excavation and sampling activities are scheduled for August 17 to 19.

Please let me know if you have any questions or concerns. Thank you.

Jared Stoffel, P.G.
Project Manager

TRC
505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Sent: Thursday, August 4, 2022 11:48 AM
To: Stoffel, Jared <JStoffel@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Hi,

Thank you for notification. Please keep this communication and include in allied report(s).

Bradford Billings
EMNRD/OCD

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Monday, August 1, 2022 10:29 AM
To: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

All,
I would like to submit a notification that the pilot test, soil boring activities, remedial excavation activities, and quarterly groundwater sampling activities are all scheduled to begin this week on August 3, 2022. The activities are projected to be completed within 2 weeks. This email is intended to notify you of both the remedial and monitoring activities occurring onsite and the collection of final samples from the remedial excavation during this time period in accordance with NMAC 19.15.29.12 D(1)(a). Please let me know if there are any questions or concerns. Thank you.

Jared Stoffel, P.G.
Project Manager

TRC

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>
Sent: Thursday, April 7, 2022 8:16 AM
To: Stoffel, Jared <JStoffel@trccompanies.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>;

Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Jared,

Good morning. The approval is for UIC and the remediation.

Cheers,

Chad Hensley ● Environmental Science & Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
811 First St. | Artesia, NM 88210
Office: 575.748.1283 | Cell: 575-703-1723
chad.hensley@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Wednesday, April 6, 2022 3:42 PM
To: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Chad,

We would like to clarify if this also includes the approval of the injection permits, or if that come separately from the Underground Injection group? Pending approval of the injection permits, as needed, we will proceed with field work following the completion of calving season as requested by the landowner. We will notify you when calving season has completed and the landowner has given us permission to access the property. Thank you very much for the approval to proceed and the additional clarification with regards to the injection permitting process.

Jared Stoffel, P.G.
Project Manager

TRC

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>
Sent: Tuesday, April 5, 2022 4:42 PM
To: Stoffel, Jared <JStoffel@trccompanies.com>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Jared,

The OCD approves this workplan. Please proceed with the project.

Cheers,

Chad Hensley ● Environmental Science & Specialist
Environmental Bureau
EMNRD - Oil Conservation Division

811 First St. | Artesia, NM 88210
Office: 575.748.1283 | Cell: 575-703-1723
chad.hensley@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Friday, April 1, 2022 2:59 PM
To: Hensley, Chad, EMNRD <Chad.Hensley@state.nm.us>; Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Sahba, Arsin M. <arsin.sahba@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Trevor.baird <Trevor.baird@hollyenergy.com>; mark.shemaria <mark.shemaria@hollyenergy.com>; Clark, Darija <dclark@trccompanies.com>; Helbert, Dana <DHelbert@trccompanies.com>; Hoover, Shannon <SHoover@trccompanies.com>; Varnell, Richard <RVarnell@trccompanies.com>
Subject: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

Mr. Hensley and Mr. Bratcher,

Please see the attached addendum to the NMOCD-approved November 12, 2021, *Site Characterization Report and Remediation Workplan* for the WTX to EMSU Battery to Byrd Pump Segment Crude Oil Release Site (NOY1822242858). Included in the appendices are the requested C-108 form and associated federal underground injection form. Please let us know if you require any additional information. Otherwise we will stand by for NMOCD's approval of the Remediation Workplan Addendum and the authorization to inject.

Thank you.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Hamlet, Robert, EMNRD
To: Stoffel, Jared
Cc: Gilbert, Bryan; Clark, Darija; Leik, Jason; Melanie Nolan; Bratcher, Michael, EMNRD; Buchanan, Michael, EMNRD; Wells, Shelly, EMNRD; Velez, Nelson, EMNRD
Subject: [EXTERNAL] WTX to EMSU 90-Day Extension Request - (NOY1822242858)
Date: Monday, November 20, 2023 10:14:47 AM
Attachments: image003.png

RE: Incident #**NOY1822242858**

Jared,

Your request for an extension to **February 14, 2023** is approved. This will be the **final extension** for this release. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Stoffel, Jared <JStoffel@trccompanies.com>
Sent: Thursday, November 16, 2023 12:29 PM
To: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Gilbert, Bryan <BGilbert@trccompanies.com>; Clark, Darija <dclark@trccompanies.com>; Leik, Jason <Jason.Leik@hollyfrontier.com>; Melanie Nolan <melanie.nolan@hollyenergy.com>; Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Subject: [EXTERNAL] WTX to EMSU 90-Day Extension Request - (NOY1822242858)

Mike-

Thank you for talking with me yesterday afternoon regarding our power issues out at the WTX to EMSU Site. I have attached the summary email I sent in early November 2023 for reference.

Since early November 2023, HEP has determined that the Xcel Energy easement from the east

across the Byrd property is unlikely to be resolved in a timely manner and we are pursuing other options. The energy provider, Xcel Energy, has identified a second line approximately twice as far away to the south, which may be an alternate route for the Xcel Energy easement and electrical power drop to the Site. HEP is working with Xcel to determine if this is a feasible option (it does appear that it may be at least partially on State Trust Lands, which slows the easement process) to provide electrical power to the Site by the end of the first quarter of 2024. If by mid-December 2023, Xcel and HEP have not established a definitive timeline for electrical power to the Site, HEP will approach the Site landowner (Kleins) about alternative methods of power – previously, the Kleins were not enthusiastic about a large footprint for remediation infrastructure and didn't like the idea of a propane tank on their property. We will inform NMOCD of the intended path forward during December 2023. HEP is committed to driving the remediation forward and have targeted system startup during the first quarter of 2024.

HEP respectfully requests a 90-day extension to February 14, 2023. We will continue to update you as we progress through the Xcel Energy electrical power drop or alternative power method. Thank you very much.

Jared Stoffel, P.G.
Project Manager

505 E Huntland Dr STE 250 Austin, TX 78752
F: 512 329 8750 | **C**: 432 238 3003
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Hamlet, Robert, EMNRD
To: Gilbert, Bryan
Cc: Clark, Darija; Stoffel, Jared; Leik, Jason; Melanie Nolan; Bratcher, Michael, EMNRD; Wells, Shelly, EMNRD; Velez, Nelson, EMNRD
Subject: [EXTERNAL] WTX to EMSU (NOY1822242858) - Bioventing System Update
Date: Thursday, February 15, 2024 11:25:53 AM
Attachments: image003.png

Gilbert,

Please include Nelson Velez on any Lea County incidents. He will be the reviewer for this particular incident. Regards

Robert Hamlet ● Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave.| Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us
http://www.emnrd.state.nm.us/OCD/

From: Gilbert, Bryan <BGilbert@trccompanies.com>
Sent: Wednesday, February 14, 2024 5:36 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Cc: Clark, Darija <dclark@trccompanies.com>; Stoffel, Jared <JStoffel@trccompanies.com>; Leik, Jason <Jason.Leik@HollyEnergy.com>; Melanie Nolan <Melanie.Nolan@hollyenergy.com>
Subject: [EXTERNAL] WTX to EMSU (NOY1822242858) - Bioventing System Update

RE: Incident **#NOY1822242858**

All,

We wanted to provide an update on the status of the bioventing system at the WTX to EMSU site. Xcel Energy was unable to procure an easement for an alternate route for a power drop for the proposed bioventing system. With the intention of complying with NMOCD's August 21, 2023, request that an alternative system power source be considered and per HEP's November 16, 2023,

extension request, HEP has switched to a propane-powered system design. The overall operation and capability of the bioventing system will remain consistent with that proposed in the NMOCD-approved October 2022 *Remediation and Bioventing Pilot Test Summary and Full-Scale Bioventing System Recommendation Report* – only the power source for the compressor has changed. HEP has begun procuring the system equipment. Notably, several system components have been installed at the site, including the bioventing wells, propane tank pads, system shed, and additional system fencing. The air compressor has been ordered but has the longest lead time, now estimated by the manufacturer for delivery to the site in mid-April 2024. Upon delivery of the air compressor, the system is anticipated to be operational by the end of the following week.

We will continue to update you through the system installation process. In the meantime, please let us know if you have any questions.

Thank you,

Bryan Gilbert, P.G.
Austin Office ECW Practice Leader

505 E. Huntland Drive, Suite 250, Austin, TX 78752
C: 925.699.6184 | F: 512.329.8750
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ATTACHMENT B – GROUNDWATER SAMPLING FORMS

1100-1145 GW Monitoring Wells

- ✓ MW-4: 38.65 (W), 50.02 (TD)
- MW-2: 38.54 (W), 50.01 (TD)
- ✓ MW-5: 38.89 (W), 49.93 (TD)
- ✓ MW-3: 35.51 (W), 50.19 (TD)
- MW-1: 37.26 (W), 48.72 (TD)

1210 Set up on MW-4

Time	Volume	Flowrate	DTW	PH	Temp.	Conductivity	ORP	DO mg/L	Turb
1235	init	300	38.88	8.46	19.50	3.95	-7	1.09	0 MAX
1238	.25	300	38.86	8.26	19.67	3.94	-12	.73	800
1241	.5	300	38.86	7.95	19.42	3.94	-12	.68	509
1244	.75	300	38.85	7.82	19.39	3.95	-12	.59	339
1247	1.0	300	38.84	7.85	19.47	3.90	-5	.90	341
1250	1.25	300	38.85	7.85	19.40	3.92	3	1.11	800

1255 Sample ~~MW-3~~ (FD) MW-4

1310 Set up on MW-3

Time	Volume	Flowrate	DTW	PH	Temp.	Conductivity	ORP	DO mg/L	Turb
1320	init	300	42.40	7.75	19.27	3.03	34	1.72	0 MAX
1323	25	300	42.72	7.70	19.33	3.03	36	1.69	0
1326	.5	300	42.74	7.63	19.55	3.04	41	1.60	0
1329	.75	300	43.50	7.59	19.49	3.07	49	1.67	800
1332	1.0	300	44.40	7.50	19.44	3.08	55	1.74	800
1335	1.25	300	45.40	7.49	19.58	3.07	57	1.84	800

1345 Sample MW-3

1430 Set up on MW-5

Time	Volume	Flowrate	DTW	PH	Temp.	Conductivity	ORP	DO mg/L	Turb
1435	init.	350	39.18	7.66	18.63	3.99	95	2.26	800
1438	.25	300	39.46	7.41	18.80	4.05	80	1.99	800
1441	.5	300	39.88	7.54	18.91	4.05	78	1.89	0 MAX
1444	.75	300	39.70	7.49	18.94	4.00	77	1.66	0 MAX
1447	1.0	300	39.58	7.42	18.95	4.07	79	1.54	0 MAX
1450	1.25	300	39.43	7.39	18.98	4.03	76	1.44	0 MAX

1505 Sample MW-5

Continue on next page . . . →

Continued from last page . . .

1520 Set up on MW-2.

Time	Volume	Flowrate	DTW	PH	Temp	Conductivity	ORP	DO mg/L	Turb
1530	init.	300	38.77	7.39	18.98	4.09	74	1.15	0 MAX
1533	.25	300	39.18	7.35	19.00	4.06	75	.94	0 MAX
1536	.5	300	39.36	7.29	14.04	4.06	75	.93	0 MAX
1539	.75	300	39.55	7.27	19.05	4.07	75	.97	0 MAX
1542	1.0	300	39.60	7.25	19.05	4.07	75	1.02	0 MAX
1545	1.25	300	39.68	7.23	19.05	4.07	75	1.03	000

1555 Sample [MW-2]

WATER AND PRODUCT LEVEL MONITORING FORM

Technician: P. Shin / E. Schubert Job #/Task #: WTX to EMSU Date: 6/20/23

Site # _____ Project Manager _____ Page 1 of 1

Well #	TOC	Time Gauged	Total Depth (feet)	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Time Sampled	Misc. Well Notes
MW-01		0650	48.33	37.32	—	—		
MW-02		0720	49.46	38.38	—	—		
MW-03		0710	49.58	38.56	—	—		
MW-04		0700	49.27	38.91	—	—		
MW-05		0730	49.92	38.92	—	—		
BV-1 S			14.58					
I			29.02					
D			40.01					
BV-2 S			12.58					
I			30.52					
D			39.67					
BV-3 S			14.08					
I			29.26					
D			42.09					
BV-4			39.72					

FIELD DATA COMPLETE QA/QC COC WELL BOX CONDITION SHEETS

MANIFEST DRUM INVENTORY TRAFFIC CONTROL

TRC

TRC

Sample Location	MW-01
Date	6/20/23
Client	HEP
Site	WTX

Are non-potable water signs posted at well and storage tanks?

Static Depth to Water (ft)	37.25	Sample Collection Time	1019
Total Purge Volume (gal)		Purge Method	
Total Depth (ft)	48.55	Sample Method	Submersible Pump
Screen Depth Interval (ft)		Water Description	Cloudy, no odor
Pump Intake Depth (feet)	Center of water column	Sampling Personnel	PS, ES

Time (min)	Volume Purged (L)	Flow Rate mL/min	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity (u-siemens/cm) mS ± 3%	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <10
1004	Initial	250	37.41		7.67	28.82	4.04	-6	1.72	0.0 over range
1007	0.25		37.43		7.54	26.56	4.30	39	3.30	0.0 "
1010	0.50		37.43		7.48	25.09	4.40	48	5.45	0.0 "
1013	0.75		37.48		7.46	24.90	4.41	45	5.40	0.0 "
1016	1.00		37.48		7.44	24.83	4.42	44	5.33	1000

Initials PS

Page 1 of 1

TRC

Sample Location	MW-02	Are non-potable water signs posted at well and storage tanks?	
Date	6/20/23		
Client	HEP		
Site	WTX		

Static Depth to Water (ft)	38.53	Sample Collection Time	0903
Total Purge Volume (gal)		Purge Method	
Total Depth (ft)	49.34	Sample Method	Submersible Pump
Screen Depth Interval (ft)		Water Description	Cloudy, no odor
Pump Intake Depth (feet)	Center of water column	Sampling Personnel	PS, ES

Time (min)	Volume Purged (L)	Flow Rate ~~L~~ mL/min	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity (u-siemens/cm) mS ± 3%	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <10
0851	Initial	250	38.87		7.62	22.58	4.65	152	2.14	0.0 over range
0854	0.25		38.91		7.55	21.45	4.66	123	~~2.~~ 1.19	0.0 " "
0857	0.50		38.92		7.50	21.38	4.65	106	0.90	0.0 " "
0900	0.75		38.95		7.46	21.22	4.65	94	0.77	0.0 " "

Initials PS

TRC	Sample Location	MW-03	Are non-potable water signs posted at well and storage tanks?
	Date	6/20/23	
	Client	HEP	
	Site	WTX	

Static Depth to Water (ft)	38.56	Sample Collection Time	0733
Total Purge Volume (gal)		Purge Method	
Total Depth (ft)	49.58	Sample Method	Submersible Pump
Screen Depth Interval (ft)		Water Description	Cloudy, no odor, light brown
Pump Intake Depth (feet)	Center of water column	Sampling Personnel	PS, ES

Time (min)	Volume Purged (L)	Flow Rate ~~(L~~/min) mL	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity (u-siemens/cm) ± 3% mS	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <10
0721	Initial	250	39.27		8.61	22.42	3.54	201	2.45	0.0 overrange
0724	0.25		39.19		8.33	22.20	3.56	204	2.18	0.0 "
0727	0.50		39.15		8.06	21.97	3.59	207	2.04	0.0 "
0730	0.75		39.15		7.87	21.70	3.64	205	1.85	0.0 "

Initials PS

TRC

Sample Location	MW-04	Are non-potable water signs posted at well and storage tanks?	
Date	6/20/23		
Client	HEP		
Site	WTX		

Static Depth to Water (ft)	38.91	Sample Collection Time	0939
Total Purge Volume (gal)		Purge Method	
Total Depth (ft)	49.27	Sample Method	Submersible Pump
Screen Depth Interval (ft)		Water Description	Cloudy, no odor
Pump Intake Depth (feet)	Center of water column	Sampling Personnel	PS, ES

Time (min)	Volume Purged (L)	Flow Rate ~~L~~ mL/min	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity (u-siemens/cm) mS ± 3%	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <10
0927	Initial	250	38.90		7.78	25.85	4.59	-35	1.24	0.0 over range
0930			38.92		7.65	22.00	4.68	-25	0.48	575
0933			38.94		7.56	21.73	4.68	-74	0.31	605
0936			38.96		7.51	21.60	4.67	-75	0.28	420

Initials PS

DUP

TRC	Sample Location	MW-05	Are non-potable water signs posted at well and storage tanks?
	Date	6/20/23	
	Client	HEP	
	Site	WTX	

Static Depth to Water (ft)	38.92	Sample Collection Time	0812
Total Purge Volume (gal)		Purge Method	
Total Depth (ft)	49.92	Sample Method	Submersible Pump
Screen Depth Interval (ft)		Water Description	Cloudy, no odor
Pump Intake Depth (feet)	Center of water column	Sampling Personnel	PS, ES

Time (min)	Volume Purged (L)	Flow Rate ~~L~~mL/min	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity (u-siemens/cm) mS ± 3%	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <10
0800	Initial	250	39.17		7.69	21.60	4.70	199	1.79	0.0 over range
0803	0.25		39.22		7.62	21.37	4.72	197	1.43	0.0 "
0806	0.50		39.22		7.53	21.27	4.71	193	1.13	854
0809	0.75		39.23		7.49	21.32	4.71	188	0.94	528

Initials PS

Page 1 of 1

WATER AND PRODUCT LEVEL MONITORING FORM

Technician: R. Nichols M. Bryant Job #/Task #: GW sampling Date: 9/14/23

Site # WTX to ENSU Project Manager S. Stoffel Page ____ of ____

Well #	TOC	Time Gauged	Total Depth (feet)	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Time Sampled	Misc. Well Notes
MW-5		0923	50.02	37.98	—	—		tubing in well
MW-3		0936	49.55	38.71	—	—		tubing in well
MW-4		0942	50.20	39.05	—	—		tubing in well
MW-2		0954	49.42	38.75	—	✓		
MW-1		1002	48.00	37.48	37.46	0.02	1100	bailed to product collected sample, product sticky
MW-01		1457	48.00	37.47	—	—	—	No product

FIELD DATA COMPLETE QA/QC COC WELL BOX CONDITION SHEETS

MANIFEST DRUM INVENTORY TRAFFIC CONTROL

WATER AND PRODUCT LEVEL MONITORING FORM

Technician: R. Nichols M. Bryant Job #/Task #: GW Sampling Date: 9/14/23

Site # WTX to ENSO Project Manager J. Stoffel Page ____ of .

Well #	TOC	Time Gauged	Total Depth (feet)	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Time Sampled	Misc. Well Notes
MW-5		0923	50.02	39.99	—	—		tubing in well
MW-3		0936	49.53	38.71	—	—		tubing in well
MW-4		0942	50.20	39.05	—	—		tubing in well
MW-2		0954	49.42	38.75	—	—		
MW-1		1002	48.00	37.48	37.46	0.02	1100	bailed out product collected sample, product sticky
MW-01		1457	48.00	37.47	—	—	—	No product

FIELD DATA COMPLETE	QA/QC	COC	WELL BOX CONDITION SHEETS
MANIFEST	DRUM INVENTORY	TRAFFIC CONTROL	

TRC

TRC

Sample Location	MW-2/DUP-01
Date	9/14/23
Client	HEP
Site	WTX to EMSU

Are non-potable water signs posted at well and storage tanks?

Static Depth to Water (ft)	38.75	Sample Collection Time	1420
Total Purge Volume (gal)	~~1.62~~	Purge Method	low flow
Total Depth (ft)	49.42	Sample Method	low flow
Screen Depth Interval (ft)		Water Description	Cloudy, No odor
Pump Intake Depth (feet)	45	Sampling Personnel	LM & Chris M. Bryant

Time (min)	Volume Purged (L)	Flow Rate (L/min)	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity (u-siemens/cm) ± 3%	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <10
0	2.5	460 mL/min	39.25	0.05	6.72	21.36	3.92	55	7.56	0.0
3	4	↓	39.20	+0.14	6.63	21.25	3.88	58	3.69	0.0
6	5.5		39.34	+0.04	6.77	20.90	3.90	55	3.07	980
9	7		39.38	+0.01	6.74	20.79	3.89	60	2.72	662
12	8.5	↓	39.39	0	6.71	20.75	3.89	63	2.32	361

Initials _____

Page ____ of ____

TRC

Sample Location	MW-3
Date	9/14/23
Client	HEP
Site	W TX to EMSU

Are non-potable water signs posted at well and storage tanks?

Static Depth to Water (ft)	38.71	Sample Collection Time	
Total Purge Volume (gal)		Purge Method	low flow
Total Depth (ft)	49.55	Sample Method	low flow
Screen Depth Interval (ft)		Water Description	light brown no odor
Pump Intake Depth (feet)	42	Sampling Personnel	RNichols MBryant

Time (min)	Volume Purged (L)	Flow Rate (L/min)	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity (u-siemens/cm) ± 3%	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <10
			40.30							
1233 (0)	3	470 mL/m	~~470 mL/m~~	1.59	6.66	21.96	3.07 mS/cm	110	3.00	889
(3)	4.5	|	40.38	0.08	6.70	21.92	3.07 mS/cm	102	2.61	812
(6)	6	|	40.57	0.19	6.58	21.83	~~3.07~~ 3.05	101	2.37	751
(9)	7.5	|	40.95	0.42	6.54	21.70	3.05	98	2.11	676
(12)	9	↓	41.28	0.33	6.66	21.71	3.04	87	1.99	644

Initials _____

Page ____ of ____

TRC

Sample Location	MW-4
Date	9/14/23
Client	HEP
Site	WTX to EMSU

Are non-potable water signs posted at well and storage tanks?

Static Depth to Water (ft)	38.75	Sample Collection Time	1337
Total Purge Volume (gal)		Purge Method	low flow
Total Depth (ft)	50.20	Sample Method	low flow
Screen Depth Interval (ft)		Water Description	Cloudy no odor
Pump Intake Depth (feet)	42	Sampling Personnel	K. Nichay, M. Bryant

Time (min)	Volume Purged (L)	Flow Rate (L/min)	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity (u-siemens/cm) ± 3%	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <10
(0)	3	470 mL/m	39.09	0	6.74	24.59	3.69	-41	1.57	605
(3)	4.5		39.09		6.73	24.04	3.71	-30	1.48	367
(6)	6		39.09		6.70	24.03	3.70	-26	1.40	342
(9)	7.5		39.09		6.69	23.94	3.68	-21	1.35	308
(12)	9		39.09		6.61	23.73	3.71	-16	1.34	284

Initials _____

Page ____ of ____

TRC

Sample Location	MW-5
Date	9/14/23
Client	HEP
Site	WTX to EMSU

Are non-potable water signs posted at well and storage tanks?

Static Depth to Water (ft)	39.48	Sample Collection Time	1200
Total Purge Volume (gal)	3	Purge Method	low flow
Total Depth (ft)	50.02	Sample Method	low flow
Screen Depth Interval (ft)		Water Description	light brown / clear no odor
Pump Intake Depth (feet)	42	Sampling Personnel	R. Nichols m. Bryant

Time (min)	Volume Purged (L)	Flow Rate (L/min)	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity (u-siemens/cm) ± 3%	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <10
1142 (0)	1	400 mL/min	39.44	+0.04	5.74	22.19	3.85 mS/cm	173	9.87	599
1145 (3)	~2.5		39.48	0.04	5.78	21.47	3.85	166	9.60	574
1148 (6)	4		39.46	+0.02	5.92	21.24	3.85	148	8.46	575
1151 (9)	5.5		39.48	0.02	5.96	21.11	3.85	140	8.45	566
1154 (12)	7	↓	39.49	0.01	5.98	21.10	3.85	135	8.44	561
1157 (15)	8.5	400 mL/min	39.52	0.03	5.99	21.12	3.85	134	8.47	560

Initials _____

Page ____ of ____

WATER AND PRODUCT LEVEL MONITORING FORM

Technician: Robert Nicley Nicholas Ponegan Job #/Task #: Date: 12/13/23

Site # WTX to EMSU Project Manager Jacob Stoffel Page 1 of

Well #	TOC	Time Gauged	Total Depth (feet)	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Time Sampled	Misc. Well Notes
MW-5		720	50.01	39.21			0850	
MW-3		730	49.98	38.81			0940	
MW-4		740	50.25	39.14			1440	
MW-2		750	49.51	38.83			1540	
MW-1		800		37.57	37.56	0.01		

FIELD DATA COMPLETE QA/QC COC WELL BOX CONDITION SHEETS

MANIFEST DRUM INVENTORY TRAFFIC CONTROL

TRC

TRC

Sample Location	MW-1
Date	12/13/23
Client	HEP
Site	EMSU to WTP

Are non-potable water signs posted at well and storage tanks?

Static Depth to Water (ft)	37.57	Sample Collection Time	
Total Purge Volume (gal)		Purge Method	N/A
Total Depth (ft)		Sample Method	
Screen Depth Interval (ft)		Water Description	
Pump Intake Depth (feet)		Sampling Personnel	R. Nicky to M. Donoghy

0.01 LNAPL

Time (min)	Volume Purged (L)	Flow Rate (L/min)	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity (u-siemens/cm) ± 3%	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <10

Initials RW

Page 5 of 5

TRC

Sample Location	MW-2	Are non-potable water signs posted at well and storage tanks?	
Date	12/13/23		
Client	HEP		
Site	ENSU to NTX		

Static Depth to Water (ft)	38.83	Sample Collection Time	
Total Purge Volume (gal)	1.75	Purge Method	low flow
Total Depth (ft)	49.51	Sample Method	low flow
Screen Depth Interval (ft)		Water Description	
Pump Intake Depth (feet)	42.00	Sampling Personnel	R. Nichols N. Ponce-Jones

Horiba Down

Time (min)	Volume Purged (L)	Flow Rate (L/min)	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity (u-siemens/cm) ± 3%	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <10
15	7									

Initials RN

Page 4 of 5

TRC

Sample Location	MW-3	Are non-potable water signs posted at well and storage tanks?	
Date	12/13/23		
Client	HEP		
Site	EMSU btry		

Static Depth to Water (ft)	38.81	Sample Collection Time	0940
Total Purge Volume (gal)		Purge Method	low flow
Total Depth (ft)	49.98	Sample Method	low flow
Screen Depth Interval (ft)		Water Description	clear brown tint
Pump Intake Depth (feet)	43.00	Sampling Personnel	R. Nichols N. Ponsgus

Time (min)	Volume Purged (L)	Flow Rate (L/min)	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity (u-siemens/cm) ± 3%	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <10
0	0	0.35	39.32		6.02	17.22	3.20	139	1.43	1000+
3	1	↓	39.25		6.01	18.58	3.16	108	0.72	1000+
6	2		39.17		6.01	18.62	3.16	85	0.45	1000+
9	3		39.36		6.03	18.80	3.17	68	0.15	924
~~12~~ 15										

Initials RN

TRC

Sample Location	MW-4	Are non-potable water signs posted at well and storage tanks?	
Date	12/13/23		
Client	HEP		
Site	Empire to WTX		

Static Depth to Water (ft)	39.14	Sample Collection Time	
Total Purge Volume (gal)	2	Purge Method	low flow
Total Depth (ft)	50.25	Sample Method	low flow
Screen Depth Interval (ft)		Water Description	clear light brown
Pump Intake Depth (feet)	45.00	Sampling Personnel	R. Pichy N. Dorsey

Time (min)	Volume Purged (L)	Flow Rate (L/min)	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity ~~(u-siemens/cm)~~ ± 3%	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <10
0	0	0.45	39.13		6.15	13.15	3.95	-43	0.52	1000+
3	1.5	"	Horiba		Down					
6	3	"								
9	4.5	"								
12	6	"								
15	7.5	"								

Initials RW

TRC

Sample Location	MW-5	Are non-potable water signs posted at well and storage tanks?
Date	12/13/23	
Client	H&P	
Site	EMSU to WTX	

Static Depth to Water (ft)	39.21	Sample Collection Time	0850
Total Purge Volume (gal)	1.15	Purge Method	low flow
Total Depth (ft)	50.01	Sample Method	low flow
Screen Depth Interval (ft)		Water Description	clear brown tint
Pump Intake Depth (feet)	45.00	Sampling Personnel	R. Nichols P. Lorenzo

Time (min)	Volume Purged (L)	Flow Rate (L/min)	Depth to Water (ft)	Drawdown (ft)	pH (SU) ± 10%	Temp (C) ± 10%	Conductivity (µsiemens/cm) ± 3%	ORP (mV) ± 10%	Dissolved Oxygen (mg/L) ± 10%	Turbidity (NTUs) <5
0	0	0.42	39.31		5.37	17.24	3.95	222	3.54	1000+
3	1.5	↓	39.36		5.67	18.32	3.93	184	2.24	1000+
6	3		39.38		5.69	18.71	3.92	150	1.40	1000+
9	4.5		39.32		5.76	18.34	3.92	135	1.29	819
12										
15										

Initials RW

Page 1 of 5

ATTACHMENT C – LABORATORY ANALYTICAL REPORTS

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

August 17, 2023

Dana Helbert
TRC Corporation
505 East Huntland Drive
Suite 250
Austin, TX 78752

Work Order: **HS23021285**

Laboratory Results for: **HEP WTX to EMSU**

Dear Dana Helbert,

ALS Environmental received 8 sample(s) on Feb 25, 2023 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: ANDREW.NEIR
Andy C. Neir

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Work Order: HS23021285

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23021285-01	MW-1	Groundwater		23-Feb-2023 09:05	25-Feb-2023 10:55	☐
HS23021285-02	MW-2	Groundwater		22-Feb-2023 16:00	25-Feb-2023 10:55	☐
HS23021285-03	MW-3	Groundwater		22-Feb-2023 13:40	25-Feb-2023 10:55	☐
HS23021285-04	MW-4	Groundwater		22-Feb-2023 12:55	25-Feb-2023 10:55	☐
HS23021285-05	MW-5	Groundwater		22-Feb-2023 15:05	25-Feb-2023 10:55	☐
HS23021285-06	EB-1-2-23-23	Water		23-Feb-2023 09:30	25-Feb-2023 10:55	☐
HS23021285-07	Duplicate-1	Groundwater		23-Feb-2023 00:00	25-Feb-2023 10:55	☐
HS23021285-08	Trip Blank	Water	cg-120922-225	22-Feb-2023 00:00	25-Feb-2023 10:55	☑

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation **CASE NARRATIVE**
Project: HEP WTX to EMSU
Work Order: HS23021285

GC Semivolatiles by Method SW8015M

Batch ID: 190217

Sample ID: HS23021250-53MS

- MS and MSD are for an unrelated sample

GC Volatiles by Method SW8015

Batch ID: R428884

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-1
Collection Date: 23-Feb-2023 09:05

ANALYTICAL REPORT
WorkOrder:HS23021285
Lab ID:HS23021285-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	27-Feb-2023 10:51
Surr: 4-Bromofluorobenzene	*81.2*		*70-123*	*%REC*	*1*	*27-Feb-2023 10:51*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 28-Feb-2023		Analyst: SAM
TPH (Diesel Range)	**0.11**		**0.049**	**mg/L**	1	28-Feb-2023 18:57
TPH (Oil Range)	**0.22**	n	**0.098**	**mg/L**	1	28-Feb-2023 18:57
Surr: 2-Fluorobiphenyl	*97.1*		*60-135*	*%REC*	*1*	*28-Feb-2023 18:57*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-2
Collection Date: 22-Feb-2023 16:00

ANALYTICAL REPORT
WorkOrder:HS23021285
Lab ID:HS23021285-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	27-Feb-2023 11:05
Surr: 4-Bromofluorobenzene	*79.2*		*70-123*	*%REC*	*1*	*27-Feb-2023 11:05*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 28-Feb-2023		Analyst: SAM
TPH (Diesel Range)	**0.064**		**0.051**	**mg/L**	1	28-Feb-2023 19:27
TPH (Oil Range)	ND	n	0.10	mg/L	1	28-Feb-2023 19:27
Surr: 2-Fluorobiphenyl	*105*		*60-135*	*%REC*	*1*	*28-Feb-2023 19:27*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-3
Collection Date: 22-Feb-2023 13:40

ANALYTICAL REPORT
WorkOrder:HS23021285
Lab ID:HS23021285-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	27-Feb-2023 11:19
Surr: 4-Bromofluorobenzene	*83.5*		*70-123*	*%REC*	*1*	*27-Feb-2023 11:19*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 28-Feb-2023		Analyst: SAM
TPH (Diesel Range)	**0.079**		**0.055**	**mg/L**	1	28-Feb-2023 19:56
TPH (Oil Range)	**0.31**	n	**0.11**	**mg/L**	1	28-Feb-2023 19:56
Surr: 2-Fluorobiphenyl	*89.9*		*60-135*	*%REC*	*1*	*28-Feb-2023 19:56*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-4
Collection Date: 22-Feb-2023 12:55

ANALYTICAL REPORT
WorkOrder:HS23021285
Lab ID:HS23021285-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	27-Feb-2023 11:32
Surr: 4-Bromofluorobenzene	*79.0*		*70-123*	*%REC*	*1*	*27-Feb-2023 11:32*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 28-Feb-2023		Analyst: SAM
TPH (Diesel Range)	ND		0.049	mg/L	1	28-Feb-2023 20:26
TPH (Oil Range)	ND	n	0.099	mg/L	1	28-Feb-2023 20:26
Surr: 2-Fluorobiphenyl	*92.6*		*60-135*	*%REC*	*1*	*28-Feb-2023 20:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-5
Collection Date: 22-Feb-2023 15:05

ANALYTICAL REPORT
WorkOrder:HS23021285
Lab ID:HS23021285-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	27-Feb-2023 11:46
Surr: 4-Bromofluorobenzene	*83.5*		*70-123*	*%REC*	*1*	*27-Feb-2023 11:46*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 28-Feb-2023		Analyst: SAM
TPH (Diesel Range)	ND		0.052	mg/L	1	28-Feb-2023 20:55
TPH (Oil Range)	ND	n	0.10	mg/L	1	28-Feb-2023 20:55
Surr: 2-Fluorobiphenyl	*87.8*		*60-135*	*%REC*	*1*	*28-Feb-2023 20:55*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: EB-1-2-23-23
Collection Date: 23-Feb-2023 09:30

ANALYTICAL REPORT
WorkOrder:HS23021285
Lab ID:HS23021285-06
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	27-Feb-2023 10:37
Surr: 4-Bromofluorobenzene	*82.7*		*70-123*	*%REC*	*1*	*27-Feb-2023 10:37*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 28-Feb-2023		Analyst: SAM
TPH (Diesel Range)	**0.078**		**0.051**	**mg/L**	1	28-Feb-2023 21:24
TPH (Oil Range)	ND	n	0.10	mg/L	1	28-Feb-2023 21:24
Surr: 2-Fluorobiphenyl	*77.1*		*60-135*	*%REC*	*1*	*28-Feb-2023 21:24*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: Duplicate-1
Collection Date: 23-Feb-2023 00:00

ANALYTICAL REPORT
WorkOrder:HS23021285
Lab ID:HS23021285-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	27-Feb-2023 12:00
Surr: 4-Bromofluorobenzene	*81.9*		*70-123*	*%REC*	*1*	*27-Feb-2023 12:00*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 28-Feb-2023		Analyst: SAM
TPH (Diesel Range)	ND		0.051	mg/L	1	28-Feb-2023 21:54
TPH (Oil Range)	ND	n	0.10	mg/L	1	28-Feb-2023 21:54
Surr: 2-Fluorobiphenyl	*101*		*60-135*	*%REC*	*1*	*28-Feb-2023 21:54*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Aug-23

Weight / Prep Log

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23021285

Batch ID: 190217 **Start Date:** 28 Feb 2023 12:00 **End Date:** 28 Feb 2023 12:00
Method: SW3511 **Prep Code:** 3511_DRO

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23021285-01		33.55 (mL)	2 (mL)	0.05961	40 mL Amber
HS23021285-02		32.42 (mL)	2 (mL)	0.06169	40 mL Amber
HS23021285-03		30.17 (mL)	2 (mL)	0.06629	40 mL Amber
HS23021285-04		33.46 (mL)	2 (mL)	0.05977	40 mL Amber
HS23021285-05		31.74 (mL)	2 (mL)	0.06301	40 mL Amber
HS23021285-06		32.51 (mL)	2 (mL)	0.06152	40 mL Amber
HS23021285-07		32.63 (mL)	2 (mL)	0.06129	40 mL Amber

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23021285

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 190217 (0)	**Test Name :** TPH DRO/ORO BY SW8015C				**Matrix:** Water	
HS23021285-06	EB-1-2-23-23	23 Feb 2023 09:30		28 Feb 2023 12:00	28 Feb 2023 21:24	1
Batch ID: 190217 (0)	**Test Name :** TPH DRO/ORO BY SW8015C				**Matrix:** Groundwater	
HS23021285-01	MW-1	23 Feb 2023 09:05		28 Feb 2023 12:00	28 Feb 2023 18:57	1
HS23021285-02	MW-2	22 Feb 2023 16:00		28 Feb 2023 12:00	28 Feb 2023 19:27	1
HS23021285-03	MW-3	22 Feb 2023 13:40		28 Feb 2023 12:00	28 Feb 2023 19:56	1
HS23021285-04	MW-4	22 Feb 2023 12:55		28 Feb 2023 12:00	28 Feb 2023 20:26	1
HS23021285-05	MW-5	22 Feb 2023 15:05		28 Feb 2023 12:00	28 Feb 2023 20:55	1
HS23021285-07	Duplicate-1	23 Feb 2023 00:00		28 Feb 2023 12:00	28 Feb 2023 21:54	1
Batch ID: R428884 (0)	**Test Name :** GASOLINE RANGE ORGANICS BY SW8015C				**Matrix:** Water	
HS23021285-06	EB-1-2-23-23	23 Feb 2023 09:30			27 Feb 2023 10:37	1
Batch ID: R428884 (0)	**Test Name :** GASOLINE RANGE ORGANICS BY SW8015C				**Matrix:** Groundwater	
HS23021285-01	MW-1	23 Feb 2023 09:05			27 Feb 2023 10:51	1
HS23021285-02	MW-2	22 Feb 2023 16:00			27 Feb 2023 11:05	1
HS23021285-03	MW-3	22 Feb 2023 13:40			27 Feb 2023 11:19	1
HS23021285-04	MW-4	22 Feb 2023 12:55			27 Feb 2023 11:32	1
HS23021285-05	MW-5	22 Feb 2023 15:05			27 Feb 2023 11:46	1
HS23021285-07	Duplicate-1	23 Feb 2023 00:00			27 Feb 2023 12:00	1

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23021285

QC BATCH REPORT

Batch ID: 190217 (0) **Instrument: FID-16** **Method: TPH DRO/ORO BY SW8015C**

MBLK Sample ID: **MBLK-190217** Units: **mg/L** Analysis Date: **28-Feb-2023 13:04**
Client ID: Run ID: **FID-16_429077** SeqNo: **7151709** PrepDate: **28-Feb-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	ND	0.050								
TPH (Oil Range)	ND	0.10								
Surr: 2-Fluorobiphenyl	*0.044*	*0.0050*	*0.06*	*0*	*73.3*	*60 - 135*				

LCS Sample ID: **LCS-190217** Units: **mg/L** Analysis Date: **28-Feb-2023 13:33**
Client ID: Run ID: **FID-16_429077** SeqNo: **7151710** PrepDate: **28-Feb-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	0.5805	0.050	0.6	0	96.7	70 - 130				
TPH (Oil Range)	0.6054	0.10	0.6	0	101	70 - 130				
Surr: 2-Fluorobiphenyl	*0.04594*	*0.0050*	*0.06*	*0*	*76.6*	*60 - 135*				

MS Sample ID: **HS23021250-53MS** Units: **mg/L** Analysis Date: **28-Feb-2023 15:02**
Client ID: Run ID: **FID-16_429077** SeqNo: **7151713** PrepDate: **28-Feb-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	1.238	0.052	0.6238	0.1448	175	70 - 130				S
TPH (Oil Range)	1.967	0.10	0.6238	0.9192	168	70 - 130				S
Surr: 2-Fluorobiphenyl	*0.0869*	*0.0052*	*0.06238*	*0*	*139*	*60 - 135*				S

MSD Sample ID: **HS23021250-53MSD** Units: **mg/L** Analysis Date: **28-Feb-2023 15:31**
Client ID: Run ID: **FID-16_429077** SeqNo: **7151714** PrepDate: **28-Feb-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	1.343	0.052	0.6286	0.1448	191	70 - 130	1.238	8.15	20	S
TPH (Oil Range)	2.337	0.10	0.6286	0.9192	226	70 - 130	1.967	17.2	20	S
Surr: 2-Fluorobiphenyl	*0.08102*	*0.0052*	*0.06286*	*0*	*129*	*60 - 135*	*0.0869*	*7*	*20*	

The following samples were analyzed in this batch: HS23021285-01 HS23021285-02 HS23021285-03 HS23021285-04 HS23021285-05 HS23021285-06 HS23021285-07

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23021285

QC BATCH REPORT

Batch ID: R428884 (0) **Instrument:** FID-20 **Method:** GASOLINE RANGE ORGANICS BY SW8015C

MBLK Sample ID: **MBLK-230227** Units: **mg/L** Analysis Date: **27-Feb-2023 10:23**
Client ID: Run ID: **FID-20_428884** SeqNo: **7147327** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	ND	0.0500								
Surr: 4-Bromofluorobenzene	*0.08233*	*0.00500*	*0.1*	*0*	*82.3*	*70 - 121*				

LCS Sample ID: **LCS-230227** Units: **mg/L** Analysis Date: **27-Feb-2023 09:42**
Client ID: Run ID: **FID-20_428884** SeqNo: **7147325** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.9104	0.0500	1	0	91.0	76 - 124				
Surr: 4-Bromofluorobenzene	*0.08141*	*0.00500*	*0.1*	*0*	*81.4*	*52 - 138*				

LCSD Sample ID: **LCSD-230227** Units: **mg/L** Analysis Date: **27-Feb-2023 09:56**
Client ID: Run ID: **FID-20_428884** SeqNo: **7147326** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.9287	0.0500	1	0	92.9	76 - 124	0.9104	1.98	20	
Surr: 4-Bromofluorobenzene	*0.08126*	*0.00500*	*0.1*	*0*	*81.3*	*52 - 138*	*0.08141*	*0.189*	*20*	

MS Sample ID: **HS23021250-53MS** Units: **mg/L** Analysis Date: **27-Feb-2023 12:55**
Client ID: Run ID: **FID-20_428884** SeqNo: **7147337** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.9118	0.0500	1	0	91.2	70 - 130				
Surr: 4-Bromofluorobenzene	*0.08341*	*0.00500*	*0.1*	*0*	*83.4*	*70 - 123*				

MSD Sample ID: **HS23021250-53MSD** Units: **mg/L** Analysis Date: **27-Feb-2023 13:09**
Client ID: Run ID: **FID-20_428884** SeqNo: **7147338** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.9161	0.0500	1	0	91.6	70 - 130	0.9118	0.465	20	
Surr: 4-Bromofluorobenzene	*0.08039*	*0.00500*	*0.1*	*0*	*80.4*	*70 - 123*	*0.08341*	*3.69*	*20*	

The following samples were analyzed in this batch: HS23021285-01 HS23021285-02 HS23021285-03 HS23021285-04 HS23021285-05 HS23021285-06 HS23021285-07

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: **HS23021285**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

ALS Houston, US Date: 17-Aug-23

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L23-358	31-May-2025
Florida	E87611-38	30-Jun-2024
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352 2023-2024	31-Jul-2024
Louisiana	03087 2023-2024	30-Jun-2024
Maryland	343; 2023-2024	30-Jun-2024
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2023-2024	30-Apr-2024
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-23-31	30-Apr-2024
Utah	TX026932023-14	31-Jul-2024

ALS Houston, US Date: 17-Aug-23

Sample Receipt Checklist

Work Order ID: HS23021285 **Date/Time Received:** 25-Feb-2023 10:55

Client Name: TRC-AUS **Received by:** Corey Grandits

Completed By:	/S/ Corey Grandits	25-Feb-2023 11:26	**Reviewed by:**	/S/ Andy C. Neir	27-Feb-2023 12:12
	eSignature	Date/Time		eSignature	Date/Time

Matrices: W Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:284150
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.9UC/1.4C	IR31	
Cooler(s)/Kit(s):	48375		
Date/Time sample(s) sent to storage:	2/25/23		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Trip Blank received, not listed on COC and was placed on hold

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
South Charleston, WV +1 304 356 3168
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
York, PA +1 717 505 5280

Chain of Custody Form

Page ____ of ____

COC ID: 284150

ALS Project Manager: | ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	C525769	Project Name	HEP WTX to EMSU	A	8015_GRO_W (8015 GRO) - [3xVOA HCl]
Work Order		Project Number	C525769	B	8015_DRO_LVI (8015 DRO/MRO) - [3xVOA Am Nsal]
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C	
Send Report To	Dana Helbert	Invoice Attn	TRC-AP	D	
Address	505 East Huntland Drive Suite 250	Address	505 East Huntland Drive Suite 250	E	
City/State/Zip	Austin TX 78752	City/State/Zip	Austin TX 78752	F	
Phone	(512) 329-6080	Phone	(512) 329-6080	G	
Fax	(512) 329-8750	Fax	(512) 329-8750	H	
e-Mail Address	DHelbert@trccompanies.com	e-Mail Address	apinvoiceapproval@trccompanies.com	I	
				J	

HS23021285
TRC Corporation
HEP WTX to EMSU

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-1	2/23/23	0905	GW	1, 8	6	X	X									
2	MW-2	2/22/23	1600				X	X									
3	MW-3	2/22/23	1340				X	X									
4	MW-4	2/23/23	1255				X	X									
5	MW-5	2/22/23	1505				X	X									
6	EB-1-2-23-23	2/23/23	0930	WATER			X	X									
7	Duplicate-1	2/23/23	~~0~~	GW			X	X									
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Patrick Hall Patrick Hall

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Other ☐ ETD (Wet Days) ☐ 5WD Days ☒ Std Days ☐ 24 Hrs

Results Due Date:

Relinquished by: Patrick Hall Date: 2/24/23 Time: 5:45pm

Relinquished by: Date: Time:

Received by:

Received by (Laboratory): CA 2.25.23 1055

Logged by (Laboratory): Date: Time:

Checked by (Laboratory):

Notes: HEP WTX to EMSU

Cooler ID	Cooler Temp.
483275	1.9°
10271	

QC Package: (Check One Box Below)
☒ Level II Std QC
☐ Level III Std QC+Raw Data
☐ Level IV SW 846 QC
☐ Other
☐ NELAP
☐ EDD/EDT

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.


FedEx
TRK# 0221 6230 2995 2112
SATURDAY 12:00
PRIORITY OVERNIGHT
XO SGRA
77099
TX-US IAH
EXP 02/24

TRC

Analytical Data Review Checklist

Site:	WTX (Klein Ranch)	**Laboratory:**	ALS (Houston, TX)
Location:	Southwest of Monument, NM	**Lab Report #:**	HS23021285
Client Name:	HEP	**Reviewer:**	A. Eljuri
Project #:	525769	**Peer Reviewer:**	L. Denly
		Review Date:	8/17/2023

Analytical Method(s):	**Matrices Sampled:**	**Sample Collection Date(s):**
TPH GRO by Method SW8015C; TPH DRO/ORO by Method SW8015M	Groundwater, aqueous quality control (QC) sample	February 22 and 23, 2023

Sampling Objective(s):

Analyze groundwater for routine monitoring.

Sample IDs (List IDs or attach COC):

Refer to data package sample summary.

Review Item or Question		Y	N	NA	Comments
Chain-of-Custody and Data Completeness					
1	Was COC appropriately completed?	X			
2	Did the laboratory report correct sample IDs?	X			
3	Do the laboratory reported sample collection dates and times agree with the COC forms?	X			
4	Are results reported for all analytical methods requested?	X			The laboratory reported TPH ORO for method SW8015M, which is not offered for accreditation.
5	Are results reported for all samples submitted for analysis?	X			
6	Were the requested analytical methods used?	X			
7	Are results reported for all target analytes, but no additional analytes?	X			TPH ORO instead of TPH MRO per the COC was reported for all samples. The laboratory confirmed TPH ORO and TPH MRO report the same ranges.
8	**SOIL/SEDIMENT ONLY:** Were soil/sediment results reported on a dry weight basis?			X	
9	If requested, were detected results below reporting limit (i.e., "J" values) reported?			X	
10	Did we receive the required deliverables (e.g., EDD, Level 4 data, laboratory certification, etc.) in the correct formats?	X			
Sample Preservation					
11a	Did samples arrive at the laboratory appropriately preserved?	X			
11b	Was the cooler temperature between 0-6°C?	X			
11c	Was acid used for preservation when required (e.g., aqueous VOC and metals samples)?	X			TPH GRO was preserved with hydrochloric acid.
11d	**SOIL/SEDIMENT ONLY:** Were soil/sediment VOC samples preserved in the field or collected in EnCore® samplers?			X	

TRC

Analytical Data Review Checklist

Review Item or Question		Y	N	NA	Comments
12	Were samples received by the laboratory in an acceptable condition (i.e., no breakages, leaks, etc.)?	X			
13	Were any issues noted by the laboratory upon receipt?	X			The cooler included a trip blank, but it was correctly not listed on the COC.
14a	**AIR ONLY:** Were canisters received with an acceptable vacuum?			X	
14b	**AIR ONLY:** Were the RPDs between the initial and final canister flow controller calibrations <20?			X	
Holding Times					
15	Were sample preparation and analysis holding time requirements met?	X			
Reporting Limits					
16	Do the reporting limits meet the project specifications (e.g., QAPP or Work Plan)?	X			All non-detect results had reporting limits below project criteria.
17	Were dilutions performed? If so, note sample(s) and parameters(s) affected and the dilution factor(s).		X		
18	Did the laboratory provide an adequate explanation as to why dilutions were performed?			X	
QC Results					
Blanks					
19	Were target analytes detected in the method blanks? If yes, list contaminants, concentrations detected and associated samples.		X		
20	Does each analytical or preparation batch have its own method blank?	X			
21	Were any target analytes detected in the field blank(s) (e.g., trip blanks, equipment blanks)? If yes, list contaminants, concentrations detected and associated samples (or attach field blank results).	X			TPH DRO was detected in equipment blank EB-1-2-23-23 at 0.078 mg/L.
22	Are there any potential false positive results based on questions 19 and/or 21?	X			TPH DRO in samples MW-1, MW-2, and MW-3 were detected within five times the equipment blank detection; therefore, TPH DRO in samples MW-1, MW-2, and MW-3 may include measurement contributions from inadequate decontamination of field equipment.
Laboratory Control Spikes					
23	Are LCS/LCSD recoveries within QC limits? If no, list analytes affected, the LCS/LCSD recoveries, and the affected samples.	X			
24	Does each analytical or preparation batch have its own LCS?	X			
25	Are LCS/LCSD RPDs within QC limits? If no, list analytes affected, the RPDs, and the affected samples.	X			
Matrix Spikes					
26	Are MS/MSD recoveries within QC limits? If no, list analytes affected, the MS/MSD recoveries and the sample that was spiked.			X	MS/MSDs were performed on a non-project sample; non-project sample MS/MSD results were not evaluated during this review.
27	Are MS/MSD RPDs within QC limits? If no, list analytes affected, the RPDs and the sample that was spiked.			X	

TRC

Analytical Data Review Checklist

	Review Item or Question	Y	N	NA	Comments
Surrogates					
28	**ORGANIC ANALYSES ONLY:** Are surrogate recoveries within QC limits? If no, list samples, surrogate recoveries and analytes affected.	X			
Duplicates	**Note: If not performed on a project sample, evaluation is not required.**				
29	Are laboratory duplicate RPDs within QC limits? If no, list analytes affected, the RPDs and the sample that was prepared/analyzed in duplicate.			X	
30	Were field duplicate criteria met? If no, list analytes affected, the RPD and/or absolute difference (as applicable), and the associated samples.		X		Field duplicate pair Duplicate-1 and MW-1 do not meet project criteria for TPH DRO (AbsD 0.061 mg/L) and TPH ORO (0.122 mg/L); therefore, TPH DRO and TPH ORO in Duplicate-1 and MW-1 may be considered estimated.
Do the Data Make Sense?					
31	Did the case narrative describe any analytical anomalies (i.e., problems or unique occurrences) that have not already been addressed above? If yes, list the comments that have potential impact to sample results (or attach case narrative and highlight the comments that have potential impact to sample results).		X		
32	Were any other potential data quality issues identified? If yes, describe issues.		X		
33	Do any results look questionable? If yes, ASK THE LAB.		X		
34	Has the EDD been compared to the lab report?			X	
Additional Comments:					

Notes:
Reference: EPA Superfund Contract Laboratory Program (CLP) National Functional Guidelines (NFGs) for Data Review (November, 2020)

Abbreviations:
AbsD = Absolute Difference
COC = Chain-of-Custody
DRO = Diesel Range Organics
EDD = Electronic Data Deliverable
GRO = Gasoline Range Organics
LCS/LCSD = Laboratory Control Sample / Laboratory Control Sample Duplicate
MRO = Motor Range Organics
MS/MSD = Matrix Spike / Matrix Spike Duplicate
NELAP = National Environmental Laboratory Accreditation Program
ORO = Oil Range Organics
QAPP = Quality Assurance Project Plan
QC = Quality Control
%R = Percent Recovery
RPD = Relative Percent Difference = 100% x |(A-B)/((A+B)/2)|
TPH = Total Petroleum Hydrocarbon

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

August 17, 2023

Dana Helbert
TRC Corporation
505 East Huntland Drive
Suite 250
Austin, TX 78752

Work Order: **HS23061407**

Laboratory Results for: **HEP WTX to EMSU**

Dear Dana Helbert,

ALS Environmental received 8 sample(s) on Jun 21, 2023 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: ANDREW.NEIR
Andy C. Neir

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Work Order: HS23061407

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23061407-01	MW-1	GW		20-Jun-2023 10:19	21-Jun-2023 09:39	☐
HS23061407-02	MW-2	GW		20-Jun-2023 09:03	21-Jun-2023 09:39	☐
HS23061407-03	MW-3	GW		20-Jun-2023 07:33	21-Jun-2023 09:39	☐
HS23061407-04	MW-4	GW		20-Jun-2023 09:39	21-Jun-2023 09:39	☐
HS23061407-05	MW-5	GW		20-Jun-2023 08:12	21-Jun-2023 09:39	☐
HS23061407-06	EB-06-20-23	Water		20-Jun-2023 08:30	21-Jun-2023 09:39	☐
HS23061407-07	Duplicate-01	GW		20-Jun-2023 00:00	21-Jun-2023 09:39	☐
HS23061407-08	Trip Blank	Water	CG-041923-946	20-Jun-2023 00:00	21-Jun-2023 09:39	☑

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation **CASE NARRATIVE**
Project: HEP WTX to EMSU
Work Order: HS23061407

GC Semivolatiles by Method SW8015M

Batch ID: 196539

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GC Volatiles by Method SW8015

Batch ID: R439514,R439549

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-1
Collection Date: 20-Jun-2023 10:19

ANALYTICAL REPORT
WorkOrder:HS23061407
Lab ID:HS23061407-01
Matrix:GW

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	21-Jun-2023 15:34
Surr: 4-Bromofluorobenzene	*96.0*		*70-123*	*%REC*	*1*	*21-Jun-2023 15:34*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 21-Jun-2023		Analyst: SAM
TPH (Diesel Range)	**0.16**		**0.052**	**mg/L**	1	22-Jun-2023 17:20
TPH (Oil Range)	**0.23**	n	**0.10**	**mg/L**	1	22-Jun-2023 17:20
Surr: 2-Fluorobiphenyl	*94.7*		*60-135*	*%REC*	*1*	*22-Jun-2023 17:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-2
Collection Date: 20-Jun-2023 09:03

ANALYTICAL REPORT
WorkOrder:HS23061407
Lab ID:HS23061407-02
Matrix:GW

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	21-Jun-2023 15:47
Surr: 4-Bromofluorobenzene	*91.7*		*70-123*	*%REC*	*1*	*21-Jun-2023 15:47*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 21-Jun-2023		Analyst: SAM
TPH (Diesel Range)	**0.065**		**0.051**	**mg/L**	1	22-Jun-2023 17:49
TPH (Oil Range)	ND	n	0.10	mg/L	1	22-Jun-2023 17:49
Surr: 2-Fluorobiphenyl	*80.4*		*60-135*	*%REC*	*1*	*22-Jun-2023 17:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-3
Collection Date: 20-Jun-2023 07:33

ANALYTICAL REPORT
WorkOrder:HS23061407
Lab ID:HS23061407-03
Matrix:GW

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	21-Jun-2023 16:01
Surr: 4-Bromofluorobenzene	*92.7*		*70-123*	*%REC*	*1*	*21-Jun-2023 16:01*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 21-Jun-2023		Analyst: SAM
TPH (Diesel Range)	ND		0.052	mg/L	1	22-Jun-2023 18:19
TPH (Oil Range)	**0.13**	n	**0.10**	**mg/L**	1	22-Jun-2023 18:19
Surr: 2-Fluorobiphenyl	*77.1*		*60-135*	*%REC*	*1*	*22-Jun-2023 18:19*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-4
Collection Date: 20-Jun-2023 09:39

ANALYTICAL REPORT
WorkOrder:HS23061407
Lab ID:HS23061407-04
Matrix:GW

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	21-Jun-2023 16:15
Surr: 4-Bromofluorobenzene	*95.6*		*70-123*	*%REC*	*1*	*21-Jun-2023 16:15*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 21-Jun-2023		Analyst: SAM
TPH (Diesel Range)	**0.080**		**0.051**	**mg/L**	1	22-Jun-2023 18:48
TPH (Oil Range)	ND	n	0.10	mg/L	1	22-Jun-2023 18:48
Surr: 2-Fluorobiphenyl	*90.7*		*60-135*	*%REC*	*1*	*22-Jun-2023 18:48*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-5
Collection Date: 20-Jun-2023 08:12

ANALYTICAL REPORT
WorkOrder:HS23061407
Lab ID:HS23061407-05
Matrix:GW

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	21-Jun-2023 16:29
Surr: 4-Bromofluorobenzene	*90.7*		*70-123*	*%REC*	*1*	*21-Jun-2023 16:29*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 21-Jun-2023		Analyst: SAM
TPH (Diesel Range)	**0.066**		**0.052**	**mg/L**	1	22-Jun-2023 19:18
TPH (Oil Range)	ND	n	0.10	mg/L	1	22-Jun-2023 19:18
Surr: 2-Fluorobiphenyl	*82.6*		*60-135*	*%REC*	*1*	*22-Jun-2023 19:18*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: EB-06-20-23
Collection Date: 20-Jun-2023 08:30

ANALYTICAL REPORT
WorkOrder:HS23061407
Lab ID:HS23061407-06
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	21-Jun-2023 15:20
Surr: 4-Bromofluorobenzene	*88.3*		*70-123*	*%REC*	*1*	*21-Jun-2023 15:20*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 21-Jun-2023		Analyst: SAM
TPH (Diesel Range)	ND		0.054	mg/L	1	22-Jun-2023 19:47
TPH (Oil Range)	ND	n	0.11	mg/L	1	22-Jun-2023 19:47
Surr: 2-Fluorobiphenyl	*78.5*		*60-135*	*%REC*	*1*	*22-Jun-2023 19:47*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: Duplicate-01
Collection Date: 20-Jun-2023 00:00

ANALYTICAL REPORT
WorkOrder:HS23061407
Lab ID:HS23061407-07
Matrix:GW

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: PJM
Gasoline Range Organics	ND		0.0500	mg/L	1	21-Jun-2023 18:46
Surr: 4-Bromofluorobenzene	*85.6*		*70-123*	*%REC*	*1*	*21-Jun-2023 18:46*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 21-Jun-2023		Analyst: SAM
TPH (Diesel Range)	**0.065**		**0.052**	**mg/L**	1	22-Jun-2023 20:17
TPH (Oil Range)	ND	n	0.10	mg/L	1	22-Jun-2023 20:17
Surr: 2-Fluorobiphenyl	*74.8*		*60-135*	*%REC*	*1*	*22-Jun-2023 20:17*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 17-Aug-23

Weight / Prep Log

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23061407

Batch ID: 196539 **Start Date:** 21 Jun 2023 12:00 **End Date:** 21 Jun 2023 12:00
Method: SW3511 **Prep Code:** 3511_DRO

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23061407-01		31.7 (mL)	2 (mL)	0.06309	40 mL Amber
HS23061407-02		32.4 (mL)	2 (mL)	0.06173	40 mL Amber
HS23061407-03		31.96 (mL)	2 (mL)	0.06258	40 mL Amber
HS23061407-04		32.52 (mL)	2 (mL)	0.0615	40 mL Amber
HS23061407-05		31.86 (mL)	2 (mL)	0.06277	40 mL Amber
HS23061407-06		30.62 (mL)	2 (mL)	0.06532	40 mL Amber
HS23061407-07		31.75 (mL)	2 (mL)	0.06299	40 mL Amber

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23061407

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 196539 (0)	**Test Name :** TPH DRO/ORO BY SW8015C				**Matrix:** Water	
HS23061407-06	EB-06-20-23	20 Jun 2023 08:30		21 Jun 2023 12:00	22 Jun 2023 19:47	1
Batch ID: 196539 (0)	**Test Name :** TPH DRO/ORO BY SW8015C				**Matrix:** GW	
HS23061407-01	MW-1	20 Jun 2023 10:19		21 Jun 2023 12:00	22 Jun 2023 17:20	1
HS23061407-02	MW-2	20 Jun 2023 09:03		21 Jun 2023 12:00	22 Jun 2023 17:49	1
HS23061407-03	MW-3	20 Jun 2023 07:33		21 Jun 2023 12:00	22 Jun 2023 18:19	1
HS23061407-04	MW-4	20 Jun 2023 09:39		21 Jun 2023 12:00	22 Jun 2023 18:48	1
HS23061407-05	MW-5	20 Jun 2023 08:12		21 Jun 2023 12:00	22 Jun 2023 19:18	1
HS23061407-07	Duplicate-01	20 Jun 2023 00:00		21 Jun 2023 12:00	22 Jun 2023 20:17	1
Batch ID: R439514 (0)	**Test Name :** GASOLINE RANGE ORGANICS BY SW8015C				**Matrix:** Water	
HS23061407-06	EB-06-20-23	20 Jun 2023 08:30			21 Jun 2023 15:20	1
Batch ID: R439514 (0)	**Test Name :** GASOLINE RANGE ORGANICS BY SW8015C				**Matrix:** GW	
HS23061407-01	MW-1	20 Jun 2023 10:19			21 Jun 2023 15:34	1
HS23061407-02	MW-2	20 Jun 2023 09:03			21 Jun 2023 15:47	1
HS23061407-03	MW-3	20 Jun 2023 07:33			21 Jun 2023 16:01	1
HS23061407-04	MW-4	20 Jun 2023 09:39			21 Jun 2023 16:15	1
HS23061407-05	MW-5	20 Jun 2023 08:12			21 Jun 2023 16:29	1
Batch ID: R439549 (0)	**Test Name :** GASOLINE RANGE ORGANICS BY SW8015C				**Matrix:** GW	
HS23061407-07	Duplicate-01	20 Jun 2023 00:00			21 Jun 2023 18:46	1

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23061407

QC BATCH REPORT

Batch ID: 196539 (0) **Instrument: FID-16** **Method: TPH DRO/ORO BY SW8015C**

MBLK Sample ID: **MBLK-196539** Units: **mg/L** Analysis Date: **22-Jun-2023 14:52**
Client ID: Run ID: **FID-16_439711** SeqNo: **7380936** PrepDate: **21-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	ND	0.050								
TPH (Oil Range)	ND	0.10								
Surr: 2-Fluorobiphenyl	*0.04026*	*0.0050*	*0.06*	*0*	*67.1*	*60 - 135*				

LCS Sample ID: **LCS-196539** Units: **mg/L** Analysis Date: **22-Jun-2023 15:21**
Client ID: Run ID: **FID-16_439711** SeqNo: **7380937** PrepDate: **21-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	0.5606	0.050	0.6	0	93.4	70 - 130				
TPH (Oil Range)	0.4971	0.10	0.6	0	82.9	70 - 130				
Surr: 2-Fluorobiphenyl	*0.05076*	*0.0050*	*0.06*	*0*	*84.6*	*60 - 135*				

LCSD Sample ID: **LCSD-196539** Units: **mg/L** Analysis Date: **22-Jun-2023 15:51**
Client ID: Run ID: **FID-16_439711** SeqNo: **7380938** PrepDate: **21-Jun-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	0.6042	0.050	0.6	0	101	70 - 130	0.5606	7.47	20	
TPH (Oil Range)	0.5045	0.10	0.6	0	84.1	70 - 130	0.4971	1.47	20	
Surr: 2-Fluorobiphenyl	*0.05128*	*0.0050*	*0.06*	*0*	*85.5*	*60 - 135*	*0.05076*	*1.03*	*20*	

The following samples were analyzed in this batch: HS23061407-01 HS23061407-02 HS23061407-03 HS23061407-04 HS23061407-05 HS23061407-06 HS23061407-07

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23061407

QC BATCH REPORT

Batch ID: R439514 (0) **Instrument:** FID-20 **Method:** GASOLINE RANGE ORGANICS BY SW8015C

MBLK Sample ID: **MBLK-230621** Units: **mg/L** Analysis Date: **21-Jun-2023 11:00**
Client ID: Run ID: **FID-20_439514** SeqNo: **7376349** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	ND	0.0500								
Surr: 4-Bromofluorobenzene	*0.09165*	*0.00500*	*0.1*	*0*	*91.6*	*70 - 121*				

LCS Sample ID: **LCS-230621** Units: **mg/L** Analysis Date: **21-Jun-2023 10:19**
Client ID: Run ID: **FID-20_439514** SeqNo: **7376347** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.9227	0.0500	1	0	92.3	76 - 124				
Surr: 4-Bromofluorobenzene	*0.08127*	*0.00500*	*0.1*	*0*	*81.3*	*52 - 138*				

LCSD Sample ID: **LCSD-230621** Units: **mg/L** Analysis Date: **21-Jun-2023 10:32**
Client ID: Run ID: **FID-20_439514** SeqNo: **7376348** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8473	0.0500	1	0	84.7	76 - 124	0.9227	8.53	20	
Surr: 4-Bromofluorobenzene	*0.08054*	*0.00500*	*0.1*	*0*	*80.5*	*52 - 138*	*0.08127*	*0.912*	*20*	

The following samples were analyzed in this batch: HS23061407-01 HS23061407-02 HS23061407-03 HS23061407-04 HS23061407-05 HS23061407-06

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23061407

QC BATCH REPORT

Batch ID: R439549 (0) **Instrument:** FID-20 **Method:** GASOLINE RANGE ORGANICS BY SW8015C

MBLK Sample ID: **MBLK-230621** Units: **mg/L** Analysis Date: **21-Jun-2023 18:32**
Client ID: Run ID: **FID-20_439549** SeqNo: **7377458** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	ND	0.0500								
Surr: 4-Bromofluorobenzene	*0.09056*	*0.00500*	*0.1*	*0*	*90.6*	*70 - 121*				

LCS Sample ID: **LCS-230621** Units: **mg/L** Analysis Date: **21-Jun-2023 17:51**
Client ID: Run ID: **FID-20_439549** SeqNo: **7377456** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8362	0.0500	1	0	83.6	76 - 124				
Surr: 4-Bromofluorobenzene	*0.08393*	*0.00500*	*0.1*	*0*	*83.9*	*52 - 138*				

LCSD Sample ID: **LCSD-230621** Units: **mg/L** Analysis Date: **21-Jun-2023 18:05**
Client ID: Run ID: **FID-20_439549** SeqNo: **7377457** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8201	0.0500	1	0	82.0	76 - 124	0.8362	1.94	20	
Surr: 4-Bromofluorobenzene	*0.08172*	*0.00500*	*0.1*	*0*	*81.7*	*52 - 138*	*0.08393*	*2.67*	*20*	

The following samples were analyzed in this batch: HS23061407-07

ALS Houston, US Date: 17-Aug-23

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: **HS23061407**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

ALS Houston, US Date: 17-Aug-23

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L23-358	31-May-2025
Florida	E87611-38	30-Jun-2024
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352 2023-2024	31-Jul-2024
Louisiana	03087 2023-2024	30-Jun-2024
Maryland	343; 2023-2024	30-Jun-2024
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2023-2024	30-Apr-2024
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-23-31	30-Apr-2024
Utah	TX026932023-14	31-Jul-2024

ALS Houston, US Date: 17-Aug-23

Sample Receipt Checklist

Work Order ID: HS23061407 **Date/Time Received:** 21-Jun-2023 09:39

Client Name: TRC-AUS **Received by:** Corey Grandits

Completed By: /S/ Belinda Gomez (eSignature) 21-Jun-2023 12:11 (Date/Time) **Reviewed by:** /S/ Andy C. Neir (eSignature) 21-Jun-2023 16:24 (Date/Time)

Matrices: w Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:297211
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.5uc/1.4c	ir31	
Cooler(s)/Kit(s):	48103		
Date/Time sample(s) sent to storage:	06/21/2023		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: Lab received TB not listed on coc.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

Page ____ of ____

COC ID: 297211

ALS Project Manager: | ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis
Purchase Order	196675	Project Name	HEP WTX to EMSU	A: 8015_GRO_W (8015 GRO) - [3xVOA HCl]
Work Order		Project Number	C525769	B: 8015_DRO_LVI (8015 DRO/MRO) - [3xVOA Am Neat]
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C:
Send Report To	~~Dana Helbert~~ Jared	Invoice Attn	TRC-AP	D: HS23061407
Address	505 East Huntland Drive Suite 250	Address	505 East Huntland Drive Suite 250	E: TRC Corporation F: HEP WTX to EMSU
City/State/Zip	Austin, TX 78752	City/State/Zip	Austin TX 78752	G:
Phone	(512) 329-6080	Phone	(512) 329-6080	H:
Fax	(512) 329-8750	Fax	(512) 329-8750	I:
e-Mail Address	DHelbert@trccompanies.com	e-Mail Address	apinvoiceapproval@trccompanies.com	J:

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-1	6/20/23	1019	GW	1,8	6	X	X									
2	MW-2		0903														
3	MW-3		0733														
4	MW-4		0939														
5	MW-5		0812														
6	EB-06-20-23		0830	W													
7	Duplicate-01			GW													
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Emma Schubert

Shipment Method:

Required Turnaround Time: (Check Box) ☐ STD 10 Wk Days ☐ 5 Wk Days ☒ 2 Wk Days ☐ 24 Hour ☐ Other ____

Results Due Date:

Relinquished by:	Date: 6/20/23	Time: 11:45	Received by:
Relinquished by:	Date:	Time:	Received by (Laboratory): 6.21.23 0935
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

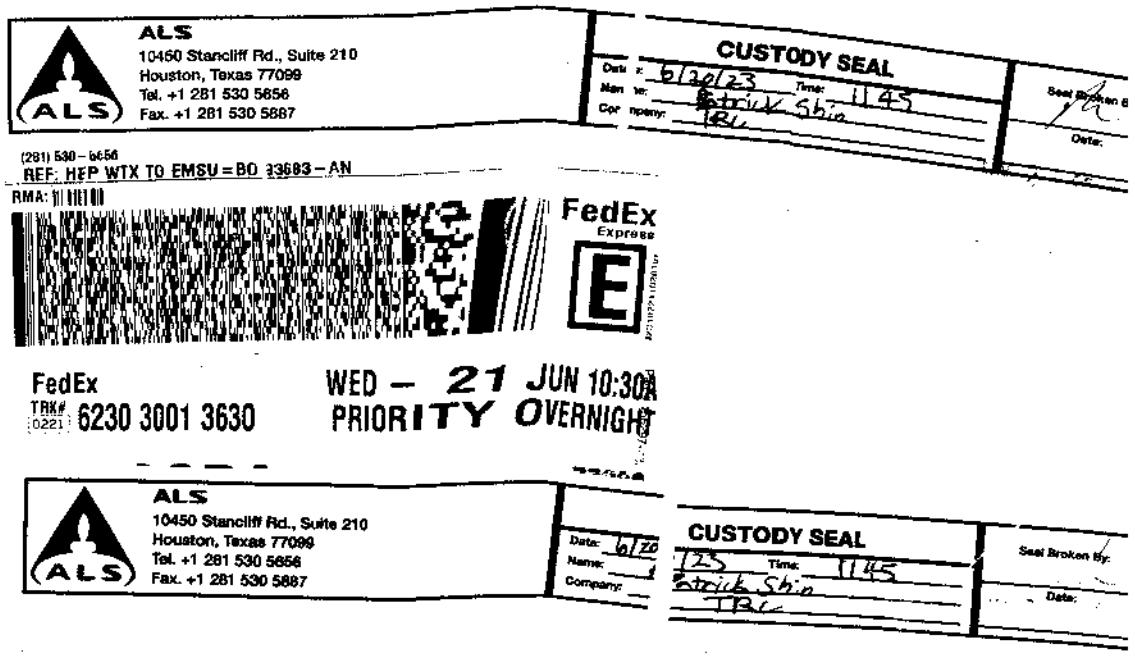
Notes: HEP WTX to EMSU

Cooler ID	Cooler Temp.
4803	1.5°
1831	

QC Package: (Check One Box Below)
☒ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other
☐ TRRP Checklist
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.



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CUSTODY SEAL
Date: 6/20/23 Time: 1145
Name: Patrick Shia
Company: TRL
Seal Broken By:
Date:

(281) 530-5656
REF: HEP WTX TO EMSU=BO 33683-AN
RMA:

FedEx Express

FedEx
TRK# 0221 6230 3001 3630

WED - 21 JUN 10:30A
PRIORITY OVERNIGHT

ALS
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Houston, Texas 77099
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Fax. +1 281 530 5887

CUSTODY SEAL
Time: 1145
Patrick Shia
TRL
Seal Broken By:
Date:

TRC

Analytical Data Review Checklist

Site:	WTX (Klein Ranch)	**Laboratory:**	ALS (Houston, TX)
Location:	Southwest of Monument, NM	**Lab Report #:**	HS23061407
Client Name:	HEP	**Reviewer:**	A. Eljuri
Project #:	525769	**Peer Reviewer:**	L Denly
		Review Date:	8/17/2023

Analytical Method(s):	**Matrices Sampled:**	**Sample Collection Date(s):**
TPH GRO by Method SW8015C; TPH DRO/ORO by Method SW8015M	Groundwater, aqueous quality control (QC) sample	June 20, 2023

Sampling Objective(s):

Analyze groundwater for routine monitoring.

Sample IDs (List IDs or attach COC):

Refer to data package sample summary.

	Review Item or Question	Y	N	NA	Comments
Chain-of-Custody and Data Completeness					
1	Was COC appropriately completed?	X			
2	Did the laboratory report correct sample IDs?	X			
3	Do the laboratory reported sample collection dates and times agree with the COC forms?	X			
4	Are results reported for all analytical methods requested?	X			The laboratory reported TPH ORO for method SW8015M, which is not offered for accreditation.
5	Are results reported for all samples submitted for analysis?	X			
6	Were the requested analytical methods used?	X			
7	Are results reported for all target analytes, but no additional analytes?	X			TPH ORO instead of TPH MRO per the COC was reported for all samples. The laboratory confirmed TPH ORO and TPH MRO report the same ranges.
8	**SOIL/SEDIMENT ONLY:** Were soil/sediment results reported on a dry weight basis?			X	
9	If requested, were detected results below reporting limit (i.e., "J" values) reported?			X	
10	Did we receive the required deliverables (e.g., EDD, Level 4 data, laboratory certification, etc.) in the correct formats?	X			
Sample Preservation					
11a	Did samples arrive at the laboratory appropriately preserved?	X			
11b	Was the cooler temperature between 0-6°C?	X			
11c	Was acid used for preservation when required (e.g., aqueous VOC and metals samples)?	X			TPH GRO was preserved with hydrochloric acid.
11d	**SOIL/SEDIMENT ONLY:** Were soil/sediment VOC samples preserved in the field or collected in EnCore® samplers?			X	

TRC

Analytical Data Review Checklist

Review Item or Question		Y	N	NA	Comments
12	Were samples received by the laboratory in an acceptable condition (i.e., no breakages, leaks, etc.)?	X			
13	Were any issues noted by the laboratory upon receipt?	X			The cooler included a trip blank, but it was correctly not listed on the COC.
14a	**AIR ONLY:** Were canisters received with an acceptable vacuum?			X	
14b	**AIR ONLY:** Were the RPDs between the initial and final canister flow controller calibrations <20?			X	
Holding Times					
15	Were sample preparation and analysis holding time requirements met?	X			
Reporting Limits					
16	Do the reporting limits meet the project specifications (e.g., QAPP or Work Plan)?	X			All non-detect results had reporting limits below project criteria.
17	Were dilutions performed? If so, note sample(s) and parameters(s) affected and the dilution factor(s).		X		
18	Did the laboratory provide an adequate explanation as to why dilutions were performed?			X	
QC Results					
Blanks					
19	Were target analytes detected in the method blanks? If yes, list contaminants, concentrations detected and associated samples.		X		
20	Does each analytical or preparation batch have its own method blank?	X			
21	Were any target analytes detected in the field blank(s) (e.g., trip blanks, equipment blanks)? If yes, list contaminants, concentrations detected and associated samples (or attach field blank results).		X		Equipment blank identified as EB-06-20-23.
22	Are there any potential false positive results based on questions 19 and/or 21?		X		
Laboratory Control Spikes					
23	Are LCS/LCSD recoveries within QC limits? If no, list analytes affected, the LCS/LCSD recoveries, and the affected samples.	X			
24	Does each analytical or preparation batch have its own LCS?	X			
25	Are LCS/LCSD RPDs within QC limits? If no, list analytes affected, the RPDs, and the affected samples.	X			
Matrix Spikes					
26	Are MS/MSD recoveries within QC limits? If no, list analytes affected, the MS/MSD recoveries and the sample that was spiked.			X	
27	Are MS/MSD RPDs within QC limits? If no, list analytes affected, the RPDs and the sample that was spiked.			X	

TRC

Analytical Data Review Checklist

Review Item or Question		Y	N	NA	Comments
Surrogates					
28	**ORGANIC ANALYSES ONLY:** Are surrogate recoveries within QC limits? If no, list samples, surrogate recoveries and analytes affected.	X			
Duplicates	**Note: If not performed on a project sample, evaluation is not required.**				
29	Are laboratory duplicate RPDs within QC limits? If no, list analytes affected, the RPDs and the sample that was prepared/analyzed in duplicate.			X	
30	Were field duplicate criteria met? If no, list analytes affected, the RPD and/or absolute difference (as applicable), and the associated samples.	X			Field duplicate pair Duplicate-01 and MW-5 meet project criteria.
Do the Data Make Sense?					
31	Did the case narrative describe any analytical anomalies (i.e., problems or unique occurrences) that have not already been addressed above? If yes, list the comments that have potential impact to sample results (or attach case narrative and highlight the comments that have potential impact to sample results).		X		
32	Were any other potential data quality issues identified? If yes, describe issues.		X		
33	Do any results look questionable? If yes, ASK THE LAB.		X		
34	Has the EDD been compared to the lab report?			X	
Additional Comments:					

Notes:
Reference: EPA Superfund Contract Laboratory Program (CLP) National Functional Guidelines (NFGs) for Data Review (November, 2020)

Abbreviations:
COC = Chain-of-Custody
DRO = Diesel Range Organics
EDD = Electronic Data Deliverable
GRO = Gasoline Range Organics
LCS/LCSD = Laboratory Control Sample / Laboratory Control Sample Duplicate
MRO = Motor Range Organics
MS/MSD = Matrix Spike / Matrix Spike Duplicate
NELAP = National Environmental Laboratory Accreditation Program
ORO = Oil Range Organics
QAPP = Quality Assurance Project Plan
QC = Quality Control
%R = Percent Recovery
RPD = Relative Percent Difference = 100% x |(A-B)/((A+B)/2)|
TPH = Total Petroleum Hydrocarbon

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September 19, 2023

Dana Helbert
TRC Corporation
505 East Huntland Drive
Suite 250
Austin, TX 78752

Work Order: **HS23090854**

Laboratory Results for: **HEP WTX to EMSU**

Dear Dana Helbert,

ALS Environmental received 7 sample(s) on Sep 15, 2023 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Andy C. Neir

ALS Houston, US Date: 19-Sep-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Work Order: HS23090854

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23090854-01	MW-01	Water		14-Sep-2023 11:00	15-Sep-2023 10:00	☐
HS23090854-02	MW-02	Water		14-Sep-2023 14:20	15-Sep-2023 10:00	☐
HS23090854-03	MW-03	Water		14-Sep-2023 12:47	15-Sep-2023 10:00	☐
HS23090854-04	MW-04	Water		14-Sep-2023 13:37	15-Sep-2023 10:00	☐
HS23090854-05	MW-05	Water		14-Sep-2023 12:00	15-Sep-2023 10:00	☐
HS23090854-06	EB-09-14-23	Water		14-Sep-2023 14:40	15-Sep-2023 10:00	☐
HS23090854-07	Duplicate-01	Water		14-Sep-2023 00:00	15-Sep-2023 10:00	☐

ALS Houston, US Date: 19-Sep-23

Client: TRC Corporation **CASE NARRATIVE**
Project: HEP WTX to EMSU
Work Order: HS23090854

GC Semivolatiles by Method SW8015M

Batch ID: 200486

Sample ID: MW-01 (HS23090854-01)

- The surrogate recoveries could not be determined due to dilution below the calibration range.

GC Volatiles by Method SW8015

Batch ID: R446552

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 19-Sep-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-01
Collection Date: 14-Sep-2023 11:00

ANALYTICAL REPORT
WorkOrder:HS23090854
Lab ID:HS23090854-01
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: TS
Gasoline Range Organics	**0.576**		**0.0500**	**mg/L**	1	15-Sep-2023 17:23
Surr: 4-Bromofluorobenzene	*97.1*		*70-123*	*%REC*	*1*	*15-Sep-2023 17:23*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 15-Sep-2023		Analyst: SAM
TPH (Diesel Range)	**43**		**1.3**	**mg/L**	25	18-Sep-2023 18:34
TPH (Oil Range)	**40**	n	**2.6**	**mg/L**	25	18-Sep-2023 18:34
Surr: 2-Fluorobiphenyl	*0*	*JS*	*60-135*	*%REC*	*25*	*18-Sep-2023 18:34*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 19-Sep-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-02
Collection Date: 14-Sep-2023 14:20

ANALYTICAL REPORT
WorkOrder:HS23090854
Lab ID:HS23090854-02
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: TS
Gasoline Range Organics	**0.425**		**0.0500**	**mg/L**	1	15-Sep-2023 17:36
Surr: 4-Bromofluorobenzene	*92.5*		*70-123*	*%REC*	*1*	*15-Sep-2023 17:36*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 15-Sep-2023		Analyst: SAM
TPH (Diesel Range)	**0.099**		**0.050**	**mg/L**	1	18-Sep-2023 19:04
TPH (Oil Range)	ND	n	0.10	mg/L	1	18-Sep-2023 19:04
Surr: 2-Fluorobiphenyl	*124*		*60-135*	*%REC*	*1*	*18-Sep-2023 19:04*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 19-Sep-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-03
Collection Date: 14-Sep-2023 12:47

ANALYTICAL REPORT
WorkOrder:HS23090854
Lab ID:HS23090854-03
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: TS
Gasoline Range Organics	**0.244**		**0.0500**	**mg/L**	1	15-Sep-2023 17:50
Surr: 4-Bromofluorobenzene	*88.3*		*70-123*	*%REC*	*1*	*15-Sep-2023 17:50*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 15-Sep-2023		Analyst: SAM
TPH (Diesel Range)	ND		0.051	mg/L	1	18-Sep-2023 19:33
TPH (Oil Range)	ND	n	0.10	mg/L	1	18-Sep-2023 19:33
Surr: 2-Fluorobiphenyl	*121*		*60-135*	*%REC*	*1*	*18-Sep-2023 19:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 19-Sep-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-04
Collection Date: 14-Sep-2023 13:37

ANALYTICAL REPORT
WorkOrder:HS23090854
Lab ID:HS23090854-04
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: TS
Gasoline Range Organics	**0.421**		**0.0500**	**mg/L**	1	15-Sep-2023 18:04
Surr: 4-Bromofluorobenzene	*92.9*		*70-123*	*%REC*	*1*	*15-Sep-2023 18:04*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 15-Sep-2023		Analyst: SAM
TPH (Diesel Range)	**0.12**		**0.050**	**mg/L**	1	18-Sep-2023 20:03
TPH (Oil Range)	**0.19**	n	**0.10**	**mg/L**	1	18-Sep-2023 20:03
Surr: 2-Fluorobiphenyl	*125*		*60-135*	*%REC*	*1*	*18-Sep-2023 20:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 19-Sep-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-05
Collection Date: 14-Sep-2023 12:00

ANALYTICAL REPORT
WorkOrder:HS23090854
Lab ID:HS23090854-05
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: TS
Gasoline Range Organics	**0.399**		**0.0500**	**mg/L**	1	15-Sep-2023 18:17
Surr: 4-Bromofluorobenzene	*94.9*		*70-123*	*%REC*	*1*	*15-Sep-2023 18:17*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 15-Sep-2023		Analyst: SAM
TPH (Diesel Range)	**0.11**		**0.050**	**mg/L**	1	18-Sep-2023 20:32
TPH (Oil Range)	ND	n	0.10	mg/L	1	18-Sep-2023 20:32
Surr: 2-Fluorobiphenyl	*125*		*60-135*	*%REC*	*1*	*18-Sep-2023 20:32*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 19-Sep-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: EB-09-14-23
Collection Date: 14-Sep-2023 14:40

ANALYTICAL REPORT
WorkOrder:HS23090854
Lab ID:HS23090854-06
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: TS
Gasoline Range Organics	**0.243**		**0.0500**	**mg/L**	1	15-Sep-2023 18:31
Surr: 4-Bromofluorobenzene	*87.2*		*70-123*	*%REC*	*1*	*15-Sep-2023 18:31*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 15-Sep-2023		Analyst: SAM
TPH (Diesel Range)	ND		0.052	mg/L	1	18-Sep-2023 21:02
TPH (Oil Range)	ND	n	0.10	mg/L	1	18-Sep-2023 21:02
Surr: 2-Fluorobiphenyl	*125*		*60-135*	*%REC*	*1*	*18-Sep-2023 21:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US Date: 19-Sep-23

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: Duplicate-01
Collection Date: 14-Sep-2023 00:00

ANALYTICAL REPORT
WorkOrder:HS23090854
Lab ID:HS23090854-07
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: TS
Gasoline Range Organics	**0.206**		**0.0500**	**mg/L**	1	15-Sep-2023 18:44
Surr: 4-Bromofluorobenzene	*85.0*		*70-123*	*%REC*	*1*	*15-Sep-2023 18:44*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 15-Sep-2023		Analyst: SAM
TPH (Diesel Range)	**0.090**		**0.051**	**mg/L**	1	18-Sep-2023 21:31
TPH (Oil Range)	ND	n	0.10	mg/L	1	18-Sep-2023 21:31
Surr: 2-Fluorobiphenyl	*125*		*60-135*	*%REC*	*1*	*18-Sep-2023 21:31*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Houston, US

Date: 19-Sep-23

Weight / Prep Log

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23090854

Batch ID: 200486 **Start Date:** 15 Sep 2023 14:00 **End Date:** 15 Sep 2023 14:00
Method: SW3511 **Prep Code:** 3511_DRO

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23090854-01		31.83 (mL)	2 (mL)	0.06283	40 mL Amber
HS23090854-02		32.96 (mL)	2 (mL)	0.06068	40 mL Amber
HS23090854-03		32.33 (mL)	2 (mL)	0.06186	40 mL Amber
HS23090854-04		32.83 (mL)	2 (mL)	0.06092	40 mL Amber
HS23090854-05		32.81 (mL)	2 (mL)	0.06096	40 mL Amber
HS23090854-06		32.02 (mL)	2 (mL)	0.06246	40 mL Amber
HS23090854-07		32.33 (mL)	2 (mL)	0.06186	40 mL Amber

ALS Houston, US Date: 19-Sep-23

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23090854

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 200486 (0)	**Test Name :** TPH DRO/ORO BY SW8015C				**Matrix:** Water	
HS23090854-01	MW-01	14 Sep 2023 11:00		15 Sep 2023 14:00	18 Sep 2023 18:34	25
HS23090854-02	MW-02	14 Sep 2023 14:20		15 Sep 2023 14:00	18 Sep 2023 19:04	1
HS23090854-03	MW-03	14 Sep 2023 12:47		15 Sep 2023 14:00	18 Sep 2023 19:33	1
HS23090854-04	MW-04	14 Sep 2023 13:37		15 Sep 2023 14:00	18 Sep 2023 20:03	1
HS23090854-05	MW-05	14 Sep 2023 12:00		15 Sep 2023 14:00	18 Sep 2023 20:32	1
HS23090854-06	EB-09-14-23	14 Sep 2023 14:40		15 Sep 2023 14:00	18 Sep 2023 21:02	1
HS23090854-07	Duplicate-01	14 Sep 2023 00:00		15 Sep 2023 14:00	18 Sep 2023 21:31	1
Batch ID: R446552 (0)	**Test Name :** GASOLINE RANGE ORGANICS BY SW8015C				**Matrix:** Water	
HS23090854-01	MW-01	14 Sep 2023 11:00			15 Sep 2023 17:23	1
HS23090854-02	MW-02	14 Sep 2023 14:20			15 Sep 2023 17:36	1
HS23090854-03	MW-03	14 Sep 2023 12:47			15 Sep 2023 17:50	1
HS23090854-04	MW-04	14 Sep 2023 13:37			15 Sep 2023 18:04	1
HS23090854-05	MW-05	14 Sep 2023 12:00			15 Sep 2023 18:17	1
HS23090854-06	EB-09-14-23	14 Sep 2023 14:40			15 Sep 2023 18:31	1
HS23090854-07	Duplicate-01	14 Sep 2023 00:00			15 Sep 2023 18:44	1

ALS Houston, US Date: 19-Sep-23

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23090854

QC BATCH REPORT

Batch ID: 200486 (0) **Instrument: FID-16** **Method: TPH DRO/ORO BY SW8015C**

MBLK Sample ID: **MBLK-200486** Units: **mg/L** Analysis Date: **18-Sep-2023 17:06**
Client ID: Run ID: **FID-16_446729** SeqNo: **7551466** PrepDate: **15-Sep-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	ND	0.050								
TPH (Oil Range)	ND	0.10								
Surr: 2-Fluorobiphenyl	*0.06381*	*0.0050*	*0.06*	*0*	*106*	*60 - 135*				

LCS Sample ID: **LCS-200486** Units: **mg/L** Analysis Date: **18-Sep-2023 17:36**
Client ID: Run ID: **FID-16_446729** SeqNo: **7551467** PrepDate: **15-Sep-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	0.4886	0.050	0.6	0	81.4	70 - 130				
TPH (Oil Range)	0.6897	0.10	0.6	0	115	70 - 130				
Surr: 2-Fluorobiphenyl	*0.05948*	*0.0050*	*0.06*	*0*	*99.1*	*60 - 135*				

LCSD Sample ID: **LCSD-200486** Units: **mg/L** Analysis Date: **18-Sep-2023 18:05**
Client ID: Run ID: **FID-16_446729** SeqNo: **7551468** PrepDate: **15-Sep-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	0.5183	0.050	0.6	0	86.4	70 - 130	0.4886	5.9	20	
TPH (Oil Range)	0.6592	0.10	0.6	0	110	70 - 130	0.6897	4.53	20	
Surr: 2-Fluorobiphenyl	*0.05792*	*0.0050*	*0.06*	*0*	*96.5*	*60 - 135*	*0.05948*	*2.65*	*20*	

The following samples were analyzed in this batch:

HS23090854-01	HS23090854-02	HS23090854-03	HS23090854-04
HS23090854-05	HS23090854-06	HS23090854-07	

ALS Houston, US Date: 19-Sep-23

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23090854

QC BATCH REPORT

Batch ID: R446552 (0) **Instrument:** FID-20 **Method:** GASOLINE RANGE ORGANICS BY SW8015C

MBLK Sample ID: **MBLK** Units: **mg/L** Analysis Date: **15-Sep-2023 17:09**
Client ID: Run ID: **FID-20_446552** SeqNo: **7547904** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	ND	0.0500								
Surr: 4-Bromofluorobenzene	*0.08526*	*0.00500*	*0.1*	*0*	*85.3*	*70 - 121*				

LCS Sample ID: **LCS-230915** Units: **mg/L** Analysis Date: **15-Sep-2023 16:42**
Client ID: Run ID: **FID-20_446552** SeqNo: **7547902** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.045	0.0500	1	0	104	76 - 124				
Surr: 4-Bromofluorobenzene	*0.09735*	*0.00500*	*0.1*	*0*	*97.3*	*52 - 138*				

LCSD Sample ID: **LCSD-230915** Units: **mg/L** Analysis Date: **15-Sep-2023 16:55**
Client ID: Run ID: **FID-20_446552** SeqNo: **7547903** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.9311	0.0500	1	0	93.1	76 - 124	1.045	11.5	20	
Surr: 4-Bromofluorobenzene	*0.1001*	*0.00500*	*0.1*	*0*	*100*	*52 - 138*	*0.09735*	*2.81*	*20*	

The following samples were analyzed in this batch: HS23090854-01 HS23090854-02 HS23090854-03 HS23090854-04 HS23090854-05 HS23090854-06 HS23090854-07

ALS Houston, US Date: 19-Sep-23

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: **HS23090854**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L23-358	31-May-2025
Florida	E87611-38	30-Jun-2024
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352 2023-2024	31-Jul-2024
Louisiana	03087 2023-2024	30-Jun-2024
Maryland	343; 2023-2024	30-Jun-2024
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2023-2024	30-Apr-2024
Texas	T104704231-23-31	30-Apr-2024
Utah	TX026932023-14	31-Jul-2024

ALS Houston, US Date: 19-Sep-23

Sample Receipt Checklist

Work Order ID: HS23090854 **Date/Time Received:** 15-Sep-2023 10:00

Client Name: TRC-AUS **Received by:** Malcolm Burleson

Completed By: /S/ Malcolm Burleson 15-Sep-2023 12:06 **Reviewed by:** /S/ Nieka.Carson 18-Sep-2023 13:58

eSignature Date/Time eSignature Date/Time

Matrices: water Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:307610
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.6uc 2.5c	ir31	
Cooler(s)/Kit(s):	m. blue		
Date/Time sample(s) sent to storage:	09152023		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
South Charleston, WV +1 304 356 3168
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
York, PA +1 717 505 5280

Chain of Custody Form

Page _____ of _____

COC ID: 307610

ALS Project Manager:		ALS Work Order #:	

Customer Information		Project Information		Parameter/Method Request for Analysis
Purchase Order	[illegible]	Project Name	[illegible]	A [illegible]
Work Order		Project Number	[illegible]	B [illegible]
Company Name	[illegible]	Bill To Company	[illegible]	C
Send Report To	Jared Stone	Invoice Attn	[illegible]	D
Address	[illegible]	Address	[illegible]	E
				F
City/State/Zip	[illegible]	City/State/Zip	[illegible]	G
Phone	[illegible]	Phone	[illegible]	H
Fax	[illegible]	Fax	[illegible]	I
e-Mail Address	[illegible]	e-Mail Address	[illegible]	J

HS23090854

TRC Corporation

HEP WTX to EMSU

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-01	9/14/23	1100	W	HCL	6	X	X									
2	MW-02		1420														
3	MW-03		1247														
4	MW-04		1337														
5	MW-05		1200														
6	EB-09-14-23		1440														
7	Duplicate-01	↓	—	↓	↓	↓	↓	↓									
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Misti Bryant, Misti Bryant

Shipment Method: FedEX

Required Turnaround Time: (Check Box) ☐ ☐ ☒ ☐

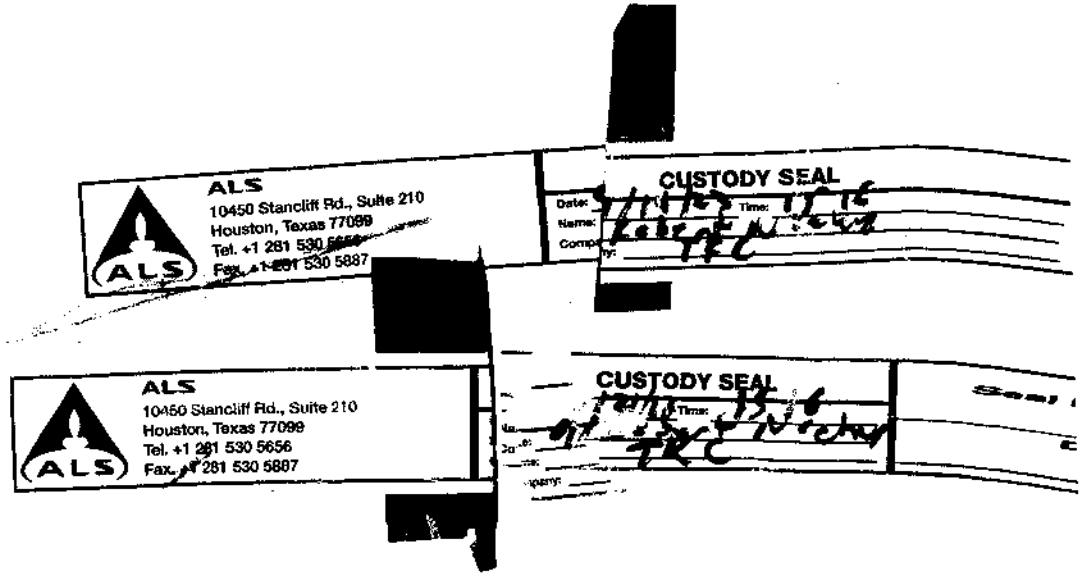
Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes:
Misti Bryant	9/14/23	1534	Robert Nichols	HEP MW to EMSU
Relinquished by: Robert Nichols	Date: 9/14/23	Time: 1540	Received by (Laboratory):	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)
M.Bryant	1.3	☐
	2.6	☐
	-0.1	☐

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.



Analytical Data Review Checklist

Site:	WTX (Klein Ranch)	**Laboratory:**	ALS (Houston, TX)
Location:	Southwest of Monument, NM	**Lab Report #:**	HS23090854
Client Name:	HEP	**Reviewer:**	A. Eljuri
Project #:	525769	**Peer Reviewer:**	L. Denly
		Review Date:	9/21/2023

Analytical Method(s):	**Matrices Sampled:**	**Sample Collection Date(s):**
TPH GRO by Method SW8015C; TPH DRO/ORO by Method SW8015C	Groundwater, aqueous quality control (QC) sample	September 14, 2023

Sampling Objective(s):

Analyze groundwater for routine monitoring.

Sample IDs (List IDs or attach COC):

Refer to data package sample summary.

Review Item or Question		Y	N	NA	Comments
Chain-of-Custody and Data Completeness					
1	Was COC appropriately completed?	X			
2	Did the laboratory report correct sample IDs?	X			
3	Do the laboratory reported sample collection dates and times agree with the COC forms?	X			
4	Are results reported for all analytical methods requested?	X			The laboratory reported TPH ORO for method SW8015C, which is not offered for accreditation.
5	Are results reported for all samples submitted for analysis?	X			
6	Were the requested analytical methods used?	X			
7	Are results reported for all target analytes, but no additional analytes?	X			TPH ORO instead of TPH MRO per the COC was reported for all samples. The laboratory confirmed TPH ORO and TPH MRO report the same ranges.
8	**SOIL/SEDIMENT ONLY:** Were soil/sediment results reported on a dry weight basis?			X	
9	If requested, were detected results below reporting limit (i.e., "J" values) reported?			X	
10	Did we receive the required deliverables (e.g., EDD, Level 4 data, laboratory certification, etc.) in the correct formats?	X			
Sample Preservation					
11a	Did samples arrive at the laboratory appropriately preserved?	X			
11b	Was the cooler temperature between 0-6°C?	X			
11c	Was acid used for preservation when required (e.g., aqueous VOC and metals samples)?	X			TPH GRO was preserved with hydrochloric acid.
11d	**SOIL/SEDIMENT ONLY:** Were soil/sediment VOC samples preserved in the field or collected in EnCore® samplers?			X	

TRC

Analytical Data Review Checklist

Review Item or Question		Y	N	NA	Comments
12	Were samples received by the laboratory in an acceptable condition (i.e., no breakages, leaks, etc.)?	X			
13	Were any issues noted by the laboratory upon receipt?		X		
14a	**AIR ONLY:** Were canisters received with an acceptable vacuum?			X	
14b	**AIR ONLY:** Were the RPDs between the initial and final canister flow controller calibrations <20?			X	
Holding Times					
15	Were sample preparation and analysis holding time requirements met?	X			
Reporting Limits					
16	Do the reporting limits meet the project specifications (e.g., QAPP or Work Plan)?	X			All non-detect results had reporting limits below project criteria.
17	Were dilutions performed? If so, note sample(s) and parameters(s) affected and the dilution factor(s).	X			MW-01: TPH DRO and TPH ORO 25-fold
18	Did the laboratory provide an adequate explanation as to why dilutions were performed?		X		The reason for the dilution noted in Item 17 was not provided.
QC Results					
Blanks					
19	Were target analytes detected in the method blanks? If yes, list contaminants, concentrations detected and associated samples.		X		
20	Does each analytical or preparation batch have its own method blank?	X			
21	Were any target analytes detected in the field blank(s) (e.g., trip blanks, equipment blanks)? If yes, list contaminants, concentrations detected and associated samples (or attach field blank results).	X			In equipment blank EB-09-14-23, TPH GRO was detected at 0.243 mg/L.
22	Are there any potential false positive results based on questions 19 and/or 21?	X			Concentrations of TPH-GRO in samples MW-01, MW-02, MW-03, MW-04, MW-05, and Duplicate-01 were within 10x the concentration in the associated equipment blank; therefore, these samples may include contributions of TPH-GRO from insufficient decontamination of field equipment.
Laboratory Control Spikes					
23	Are LCS/LCSD recoveries within QC limits? If no, list analytes affected, the LCS/LCSD recoveries, and the affected samples.	X			
24	Does each analytical or preparation batch have its own LCS?	X			
25	Are LCS/LCSD RPDs within QC limits? If no, list analytes affected, the RPDs, and the affected samples.	X			

TRC

Analytical Data Review Checklist

Review Item or Question		Y	N	NA	Comments
Matrix Spikes					
26	Are MS/MSD recoveries within QC limits? If no, list analytes affected, the MS/MSD recoveries and the sample that was spiked.			X	
27	Are MS/MSD RPDs within QC limits? If no, list analytes affected, the RPDs and the sample that was spiked.			X	
Surrogates					
28	**ORGANIC ANALYSES ONLY:** Are surrogate recoveries within QC limits? If no, list samples, surrogate recoveries and analytes affected.		X		TPH DRO/ORO surrogate 2-fluorobiphenyl was diluted out (0%R) in the 25-fold dilution of sample MW-01. Qualification of the data is not required on this basis since the dilution factor was ≥10.
Duplicates	**Note: If not performed on a project sample, evaluation is not required.**				
29	Are laboratory duplicate RPDs within QC limits? If no, list analytes affected, the RPDs and the sample that was prepared/analyzed in duplicate.			X	
30	Were field duplicate criteria met? If no, list analytes affected, the RPD and/or absolute difference (as applicable), and the associated samples.		X		Field duplicate pair Duplicate-01 and MW-02 did not meet project criteria for TPH GRO (AbsD 0.219 mg/L). Therefore, TPH GRO in Duplicate-01 and MW-02 may be considered estimated.
Do the Data Make Sense?					
31	Did the case narrative describe any analytical anomalies (i.e., problems or unique occurrences) that have not already been addressed above? If yes, list the comments that have potential impact to sample results (or attach case narrative and highlight the comments that have potential impact to sample results).		X		
32	Were any other potential data quality issues identified? If yes, describe issues.		X		
33	Do any results look questionable? If yes, ASK THE LAB.		X		
34	Has the EDD been compared to the lab report?			X	
Additional Comments: None.					

Notes:
Reference: EPA Superfund Contract Laboratory Program (CLP) National Functional Guidelines (NFGs) for Data Review (November, 2020)

Abbreviations:
COC = Chain-of-Custody
DRO = Diesel Range Organics
EDD = Electronic Data Deliverable
GRO = Gasoline Range Organics
LCS/LCSD = Laboratory Control Sample / Laboratory Control Sample Duplicate
MRO = Motor Range Organics
MS/MSD = Matrix Spike / Matrix Spike Duplicate
NELAP = National Environmental Laboratory Accreditation Program
ORO = Oil Range Organics
QAPP = Quality Assurance Project Plan
QC = Quality Control
%R = Percent Recovery
RPD = Relative Percent Difference = 100% x |(A-B)/((A+B)/2)|
TPH = Total Petroleum Hydrocarbon

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

March 20, 2024

Dana Helbert
TRC Corporation
505 East Huntland Drive
Suite 250
Austin, TX 78752

Work Order: **HS23121099**

Laboratory Results for: **HEP WTX to EMSU**

Dear Dana Helbert,

ALS Environmental received 7 sample(s) on Dec 15, 2023 for the analysis presented in the following report.

This is a REVISED REPORT. Please see the Case Narrative for discussion concerning this revision.

Regards,

Generated By: ANDREW.NEIR
Andy C. Neir

ALS Houston, US Date: 20-Mar-24

Client: TRC Corporation
Project: HEP WTX to EMSU
Work Order: HS23121099

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23121099-01	MW-5	GW		13-Dec-2023 08:50	15-Dec-2023 09:35	☐
HS23121099-02	MW-3	GW		13-Dec-2023 09:40	15-Dec-2023 09:35	☐
HS23121099-03	MW-4	GW		13-Dec-2023 14:40	15-Dec-2023 09:35	☐
HS23121099-04	MW-2	GW		13-Dec-2023 15:40	15-Dec-2023 09:35	☐
HS23121099-05	EB-12-13-23	Water		13-Dec-2023 17:30	15-Dec-2023 09:35	☐
HS23121099-06	Duplicate-01	GW		13-Dec-2023 00:00	15-Dec-2023 09:35	☐
HS23121099-07	Trip Blank	Water	cg-101623-401	13-Dec-2023 00:00	15-Dec-2023 09:35	☑

Revision:1

ALS Houston, US Date: 20-Mar-24

Client: TRC Corporation **CASE NARRATIVE**
Project: HEP WTX to EMSU
Work Order: HS23121099

Work Order Comments

• Login notes: Trip Blank received, not listed on COC and was placed on hold.

Work Order Comments

• FInal report revised to report to the MDL.

GC Semivolatiles by Method SW8015M

Batch ID: 204949

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GC Volatiles by Method SW8015

Batch ID: R454527

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

ALS Houston, US Date: 20-Mar-24

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-5
Collection Date: 13-Dec-2023 08:50

ANALYTICAL REPORT
WorkOrder:HS23121099
Lab ID:HS23121099-01
Matrix:GW

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: FT
Gasoline Range Organics	ND		0.0500	mg/L	1	18-Dec-2023 19:30
Surr: 4-Bromofluorobenzene	*83.5*		*70-123*	*%REC*	*1*	*18-Dec-2023 19:30*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 18-Dec-2023		Analyst: SAM
TPH (Diesel Range)	ND		0.053	mg/L	1	18-Dec-2023 11:06
TPH (Oil Range)	ND	n	0.11	mg/L	1	18-Dec-2023 11:06
Surr: 2-Fluorobiphenyl	*61.9*		*60-135*	*%REC*	*1*	*18-Dec-2023 11:06*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 20-Mar-24

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-3
Collection Date: 13-Dec-2023 09:40

ANALYTICAL REPORT
WorkOrder:HS23121099
Lab ID:HS23121099-02
Matrix:GW

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: FT
Gasoline Range Organics	ND		0.0500	mg/L	1	18-Dec-2023 19:44
Surr: 4-Bromofluorobenzene	*83.7*		*70-123*	*%REC*	*1*	*18-Dec-2023 19:44*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 18-Dec-2023		Analyst: SAM
TPH (Diesel Range)	ND		0.052	mg/L	1	18-Dec-2023 11:35
TPH (Oil Range)	ND	n	0.10	mg/L	1	18-Dec-2023 11:35
Surr: 2-Fluorobiphenyl	*65.6*		*60-135*	*%REC*	*1*	*18-Dec-2023 11:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 20-Mar-24

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-4
Collection Date: 13-Dec-2023 14:40

ANALYTICAL REPORT
WorkOrder:HS23121099
Lab ID:HS23121099-03
Matrix:GW

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: FT
Gasoline Range Organics	ND		0.0500	mg/L	1	18-Dec-2023 19:57
Surr: 4-Bromofluorobenzene	*87.1*		*70-123*	*%REC*	*1*	*18-Dec-2023 19:57*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 18-Dec-2023		Analyst: SAM
TPH (Diesel Range)	**0.17**		**0.055**	**mg/L**	1	18-Dec-2023 12:04
TPH (Oil Range)	**0.54**	**n**	**0.11**	**mg/L**	1	18-Dec-2023 12:04
Surr: 2-Fluorobiphenyl	*70.1*		*60-135*	*%REC*	*1*	*18-Dec-2023 12:04*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 20-Mar-24

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: MW-2
Collection Date: 13-Dec-2023 15:40

ANALYTICAL REPORT
WorkOrder:HS23121099
Lab ID:HS23121099-04
Matrix:GW

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: FT
Gasoline Range Organics	ND		0.0500	mg/L	1	18-Dec-2023 20:11
Surr: 4-Bromofluorobenzene	*82.2*		*70-123*	*%REC*	*1*	*18-Dec-2023 20:11*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 18-Dec-2023		Analyst: SAM
TPH (Diesel Range)	**0.42**		**0.051**	**mg/L**	1	18-Dec-2023 12:34
TPH (Oil Range)	**0.93**	**n**	**0.10**	**mg/L**	1	18-Dec-2023 12:34
Surr: 2-Fluorobiphenyl	*105*		*60-135*	*%REC*	*1*	*18-Dec-2023 12:34*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 20-Mar-24

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: EB-12-13-23
Collection Date: 13-Dec-2023 17:30

ANALYTICAL REPORT
WorkOrder:HS23121099
Lab ID:HS23121099-05
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: FT
Gasoline Range Organics	ND		0.0500	mg/L	1	18-Dec-2023 20:25
Surr: 4-Bromofluorobenzene	*82.0*		*70-123*	*%REC*	*1*	*18-Dec-2023 20:25*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 18-Dec-2023		Analyst: SAM
TPH (Diesel Range)	ND		0.053	mg/L	1	18-Dec-2023 15:59
TPH (Oil Range)	ND	n	0.11	mg/L	1	18-Dec-2023 15:59
Surr: 2-Fluorobiphenyl	*75.2*		*60-135*	*%REC*	*1*	*18-Dec-2023 15:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US Date: 20-Mar-24

Client: TRC Corporation
Project: HEP WTX to EMSU
Sample ID: Duplicate-01
Collection Date: 13-Dec-2023 00:00

ANALYTICAL REPORT
WorkOrder:HS23121099
Lab ID:HS23121099-06
Matrix:GW

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
GASOLINE RANGE ORGANICS BY SW8015C		**Method:SW8015**				Analyst: FT
Gasoline Range Organics	ND		0.0500	mg/L	1	18-Dec-2023 20:39
Surr: 4-Bromofluorobenzene	*85.4*		*70-123*	*%REC*	*1*	*18-Dec-2023 20:39*
TPH DRO/ORO BY SW8015C		**Method:SW8015M**		Prep:SW3511 / 18-Dec-2023		Analyst: SAM
TPH (Diesel Range)	**0.12**		**0.054**	**mg/L**	1	18-Dec-2023 16:28
TPH (Oil Range)	**0.49**	**n**	**0.11**	**mg/L**	1	18-Dec-2023 16:28
Surr: 2-Fluorobiphenyl	*62.5*		*60-135*	*%REC*	*1*	*18-Dec-2023 16:28*

Note: See Qualifiers Page for a list of qualifiers and their explanation. **Revision:** 1

ALS Houston, US

Date: 20-Mar-24

Weight / Prep Log

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23121099

Batch ID: 204949 **Start Date:** 18 Dec 2023 09:08 **End Date:** 18 Dec 2023 09:08
Method: SW3511 **Prep Code:** 3511_DRO

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23121099-01		31.16 (mL)	2 (mL)	0.06418	40 mL Amber
HS23121099-02		31.98 (mL)	2 (mL)	0.06254	40 mL Amber
HS23121099-03		29.83 (mL)	2 (mL)	0.06705	40 mL Amber
HS23121099-04		32.58 (mL)	2 (mL)	0.06139	40 mL Amber
HS23121099-05		31.17 (mL)	2 (mL)	0.06416	40 mL Amber
HS23121099-06		30.72 (mL)	2 (mL)	0.0651	40 mL Amber

Revision: 1

ALS Houston, US Date: 20-Mar-24

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23121099

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 204949 (0)	**Test Name :** TPH DRO/ORO BY SW8015C				**Matrix:** Water	
HS23121099-05	EB-12-13-23	13 Dec 2023 17:30		18 Dec 2023 09:08	18 Dec 2023 15:59	1
Batch ID: 204949 (0)	**Test Name :** TPH DRO/ORO BY SW8015C				**Matrix:** GW	
HS23121099-01	MW-5	13 Dec 2023 08:50		18 Dec 2023 09:08	18 Dec 2023 11:06	1
HS23121099-02	MW-3	13 Dec 2023 09:40		18 Dec 2023 09:08	18 Dec 2023 11:35	1
HS23121099-03	MW-4	13 Dec 2023 14:40		18 Dec 2023 09:08	18 Dec 2023 12:04	1
HS23121099-04	MW-2	13 Dec 2023 15:40		18 Dec 2023 09:08	18 Dec 2023 12:34	1
HS23121099-06	Duplicate-01	13 Dec 2023 00:00		18 Dec 2023 09:08	18 Dec 2023 16:28	1
Batch ID: R454527 (0)	**Test Name :** GASOLINE RANGE ORGANICS BY SW8015C				**Matrix:** Water	
HS23121099-05	EB-12-13-23	13 Dec 2023 17:30			18 Dec 2023 20:25	1
Batch ID: R454527 (0)	**Test Name :** GASOLINE RANGE ORGANICS BY SW8015C				**Matrix:** GW	
HS23121099-01	MW-5	13 Dec 2023 08:50			18 Dec 2023 19:30	1
HS23121099-02	MW-3	13 Dec 2023 09:40			18 Dec 2023 19:44	1
HS23121099-03	MW-4	13 Dec 2023 14:40			18 Dec 2023 19:57	1
HS23121099-04	MW-2	13 Dec 2023 15:40			18 Dec 2023 20:11	1
HS23121099-06	Duplicate-01	13 Dec 2023 00:00			18 Dec 2023 20:39	1

Revision: 1

ALS Houston, US Date: 20-Mar-24

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23121099

QC BATCH REPORT

Batch ID: 204949 (0) **Instrument: FID-16** **Method: TPH DRO/ORO BY SW8015C**

MBLK Sample ID: **MBLK-204949** Units: **mg/L** Analysis Date: **18-Dec-2023 09:38**
Client ID: Run ID: **FID-16_454920** SeqNo: **7744823** PrepDate: **18-Dec-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	ND	0.050								
TPH (Oil Range)	ND	0.10								
Surr: 2-Fluorobiphenyl	*0.03914*	*0.0050*	*0.06*	*0*	*65.2*	*60 - 135*				

LCS Sample ID: **LCS-204949** Units: **mg/L** Analysis Date: **18-Dec-2023 10:07**
Client ID: Run ID: **FID-16_454920** SeqNo: **7744824** PrepDate: **18-Dec-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	0.5063	0.050	0.6	0	84.4	70 - 130				
TPH (Oil Range)	0.6117	0.10	0.6	0	102	70 - 130				
Surr: 2-Fluorobiphenyl	*0.05618*	*0.0050*	*0.06*	*0*	*93.6*	*60 - 135*				

LCSD Sample ID: **LCSD-204949** Units: **mg/L** Analysis Date: **18-Dec-2023 10:36**
Client ID: Run ID: **FID-16_454920** SeqNo: **7744825** PrepDate: **18-Dec-2023** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
TPH (Diesel Range)	0.5253	0.050	0.6	0	87.5	70 - 130	0.5063	3.68	20	
TPH (Oil Range)	0.6891	0.10	0.6	0	115	70 - 130	0.6117	11.9	20	
Surr: 2-Fluorobiphenyl	*0.05718*	*0.0050*	*0.06*	*0*	*95.3*	*60 - 135*	*0.05618*	*1.77*	*20*	

The following samples were analyzed in this batch: HS23121099-01 HS23121099-02 HS23121099-03 HS23121099-04 HS23121099-05 HS23121099-06

Revision: 1

ALS Houston, US Date: 20-Mar-24

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: HS23121099

QC BATCH REPORT

Batch ID: R454527 (0) **Instrument:** FID-20 **Method:** GASOLINE RANGE ORGANICS BY SW8015C

MBLK Sample ID: **MBLK-231218** Units: **mg/L** Analysis Date: **18-Dec-2023 16:30**
Client ID: Run ID: **FID-20_454527** SeqNo: **7736133** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	ND	0.0500								
Surr: 4-Bromofluorobenzene	*0.08565*	*0.00500*	*0.1*	*0*	*85.6*	*70 - 121*				

LCS Sample ID: **LCS-231218** Units: **mg/L** Analysis Date: **18-Dec-2023 16:03**
Client ID: Run ID: **FID-20_454527** SeqNo: **7736131** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8248	0.0500	1	0	82.5	76 - 124				
Surr: 4-Bromofluorobenzene	*0.07735*	*0.00500*	*0.1*	*0*	*77.4*	*52 - 138*				

LCSD Sample ID: **LCSD-231218** Units: **mg/L** Analysis Date: **18-Dec-2023 16:16**
Client ID: Run ID: **FID-20_454527** SeqNo: **7736132** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8158	0.0500	1	0	81.6	76 - 124	0.8248	1.1	20	
Surr: 4-Bromofluorobenzene	*0.09428*	*0.00500*	*0.1*	*0*	*94.3*	*52 - 138*	*0.07735*	*19.7*	*20*	

The following samples were analyzed in this batch: HS23121099-01 HS23121099-02 HS23121099-03 HS23121099-04 HS23121099-05 HS23121099-06

Revision: 1

ALS Houston, US Date: 20-Mar-24

Client: TRC Corporation
Project: HEP WTX to EMSU
WorkOrder: **HS23121099**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	88-00356	27-Mar-2024
California	2919; 2024	30-Apr-2024
Dept of Defense	L22-90-R2	31-Mar-2024
Florida	E87611-38	30-Jun-2024
Illinois	2000322023-11	30-Jun-2024
Kansas	E-10352 2023-2024	31-Jul-2024
Louisiana	03087 2023-2024	30-Jun-2024
Maryland	343; 2023-2024	30-Jun-2024
North Carolina	624 - 2024	31-Dec-2024
North Dakota	R-193 2023-2024	30-Apr-2024
Oklahoma	2023-140	31-Aug-2024
Texas	T104704231-23-32	30-Apr-2024
Utah	TX026932023-14	31-Jul-2024

ALS Houston, US Date: 20-Mar-24

Sample Receipt Checklist

Work Order ID: HS23121099 **Date/Time Received:** 15-Dec-2023 09:35

Client Name: TRC-AUS **Received by:** Corey Grandits

Completed By: /S/ Corey Grandits (eSignature) 16-Dec-2023 11:44 (Date/Time) **Reviewed by:** /S/ Nieka.Carson (eSignature) 18-Dec-2023 10:13 (Date/Time)

Matrices: W Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:304980
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.2UC/3.1C	IR31	
Cooler(s)/Kit(s):	Lg Blue		
Date/Time sample(s) sent to storage:	12/16/23		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Trip Blank received, not listed on COC and was placed on hold.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

Page 1 of 1

COC ID: 304980

ALS Project Manager: | ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis
Purchase Order		Project Name	HEP WTX to EMSU	A
Work Order		Project Number	196675	B
Company Name	TRC Corporation	Bill To Company	TRC Corporation	C
Send Report To	Jared Stoffel	Invoice Attn	TRC AP	D
Address	505 East Huntland Drive	Address	505 East Huntland Drive	E
	Suite 250		Suite 250	F
City/State/Zip	Austin, TX 78752	City/State/Zip	Austin, TX 78752	G
Phone	(512) 329-6080	Phone	(512) 329-6080	H
Fax	(512) 329-6799	Fax	(512) 329-6799	I
e-Mail Address	jstoffel@trcompanies.com	e-Mail Address	apinvoiceapproval@trcompanies.com	J

HS23121099
TRC Corporation
HEP WTX to EMSU

No.	Sample Description	Date	Time	Matrix	Prec.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-5	12/13/23	0850	GW	ucl/NA	6	X	X									
2	MW-3	12/13/23	0940														
3	MW-4	12/13/23	1440														
4	MW-2	12/13/23	1540														
5	~~TB-12-13-23~~																No BTEX
6	EB-12-13-23																
7	Duplicate-01																
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Robert Nichols | Shipment Method: FedEx GN | Required Turnaround Time: (Check Box) | Results Due Date:

Relinquished by: Robert Nichols Date: 12/14/23 Time: 1700 | Received by: LL 12-15-23 0945

Notes: HEP WTX to EMSU

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Cooler ID: LL RUNE 1231 | Cooler Temp: 3.2° | On Exchange (Check One Box Below)

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035

CLF-0.1

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ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 12/14/23 Time: 1436
Name: Robert Nieh
Company: TRC

Seal Broken By:
Date: 12/15/23

LG Bruce

DEC 15 2023

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 12/14/23 Time: 1436
Name: Robert Nieh
Company: TRC

Seal Broken By:
Date: 12/15/23

LG Bruce

Must Deliver Next Business Day
Time and Tempature Sensitive!

LG Bruce

ORIGIN ID:SGRA (815) 222-1322
HOLD FOR: ROBERT NIEHAY/NIKKI DONEG
TRC CORPORATION
5600 MONTANA AVE

EL PASO, TX 79925
UNITED STATES US

SHIP DATE: 04DEC23
ACTWGT: 1.00 LB MAN
CAD: 0221247/CAFE3735
DIMS: 19x16x13 IN

TO SAMPLE RECEIVING
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: HEP WTX TO EMSU=80 97419-AN

RMA:

FedEx Express

RETURNS MON-SAT
FRI - 15 DEC 12:00P
PRIORITY OVERNIGHT

FedEx
TRK# 0221 6862 6799 8089

AB SGRA

77099
TX-US IAH

Analytical Data Review Checklist

Site:	WTX (Klein Ranch)	**Laboratory:**	ALS (Houston, TX)
Location:	Southwest of Monument, NM	**Lab Report #:**	HS23121099
Client Name:	HEP	**Reviewer:**	A. Eljuri
Project #:	584282	**Peer Reviewer:**	L. Denly
		Review Date:	3/18/2024

Analytical Method(s):	**Matrices Sampled:**	**Sample Collection Date(s):**
TPH GRO by Method SW8015C; TPH DRO/ORO by Method SW8015C	Groundwater, aqueous quality control (QC) sample	December 13, 2023

Sampling Objective(s):

Analyze groundwater for routine monitoring.

Sample IDs (List IDs or attach COC):

Refer to data package sample summary.

	Review Item or Question	Y	N	NA	Comments
Chain-of-Custody and Data Completeness					
1	Was COC appropriately completed?		X		The sample time for the equipment blank (EB-12-13-23) was not listed on the COC. It was added to the Sample Summary page as 17:30.
2	Did the laboratory report correct sample IDs?	X			
3	Do the laboratory reported sample collection dates and times agree with the COC forms?		X		See Item 1.
4	Are results reported for all analytical methods requested?	X			The laboratory reported TPH ORO for method SW8015C, which is not offered for accreditation.
5	Are results reported for all samples submitted for analysis?	X			
6	Were the requested analytical methods used?	X			
7	Are results reported for all target analytes, but no additional analytes?	X			TPH ORO instead of TPH MRO per the COC was reported for all samples. The laboratory confirmed TPH ORO and TPH MRO report the same ranges.
8	**SOIL/SEDIMENT ONLY:** Were soil/sediment results reported on a dry weight basis?			X	
9	If requested, were detected results below reporting limit (i.e., "J" values) reported?			X	
10	Did we receive the required deliverables (e.g., EDD, Level 4 data, laboratory certification, etc.) in the correct formats?	X			
Sample Preservation					
11a	Did samples arrive at the laboratory appropriately preserved?	X			
11b	Was the cooler temperature between 0-6°C?	X			
11c	Was acid used for preservation when required (e.g., aqueous VOC and metals samples)?	X			TPH GRO was preserved with hydrochloric acid.
11d	**SOIL/SEDIMENT ONLY:** Were soil/sediment VOC samples preserved in the field or collected in EnCore® samplers?			X	

TRC

Analytical Data Review Checklist

	Review Item or Question	Y	N	NA	Comments
12	Were samples received by the laboratory in an acceptable condition (i.e., no breakages, leaks, etc.)?	X			
13	Were any issues noted by the laboratory upon receipt?	X			The trip blank was provided in the cooler, but it was not required to be analyzed per the COC.
14a	**AIR ONLY:** Were canisters received with an acceptable vacuum?			X	
14b	**AIR ONLY:** Were the RPDs between the initial and final canister flow controller calibrations <20?			X	
Holding Times					
15	Were sample preparation and analysis holding time requirements met?	X			
Reporting Limits					
16	Do the reporting limits meet the project specifications (e.g., QAPP or Work Plan)?	X			All non-detect results had reporting limits below project criteria.
17	Were dilutions performed? If so, note sample(s) and parameters(s) affected and the dilution factor(s).		X		
18	Did the laboratory provide an adequate explanation as to why dilutions were performed?			X	
QC Results					
Blanks					
19	Were target analytes detected in the method blanks? If yes, list contaminants, concentrations detected and associated samples.		X		
20	Does each analytical or preparation batch have its own method blank?	X			
21	Were any target analytes detected in the field blank(s) (e.g., trip blanks, equipment blanks)? If yes, list contaminants, concentrations detected and associated samples (or attach field blank results).		X		
22	Are there any potential false positive results based on questions 19 and/or 21?		X		
Laboratory Control Spikes					
23	Are LCS/LCSD recoveries within QC limits? If no, list analytes affected, the LCS/LCSD recoveries, and the affected samples.	X			
24	Does each analytical or preparation batch have its own LCS?	X			
25	Are LCS/LCSD RPDs within QC limits? If no, list analytes affected, the RPDs, and the affected samples.	X			

TRC

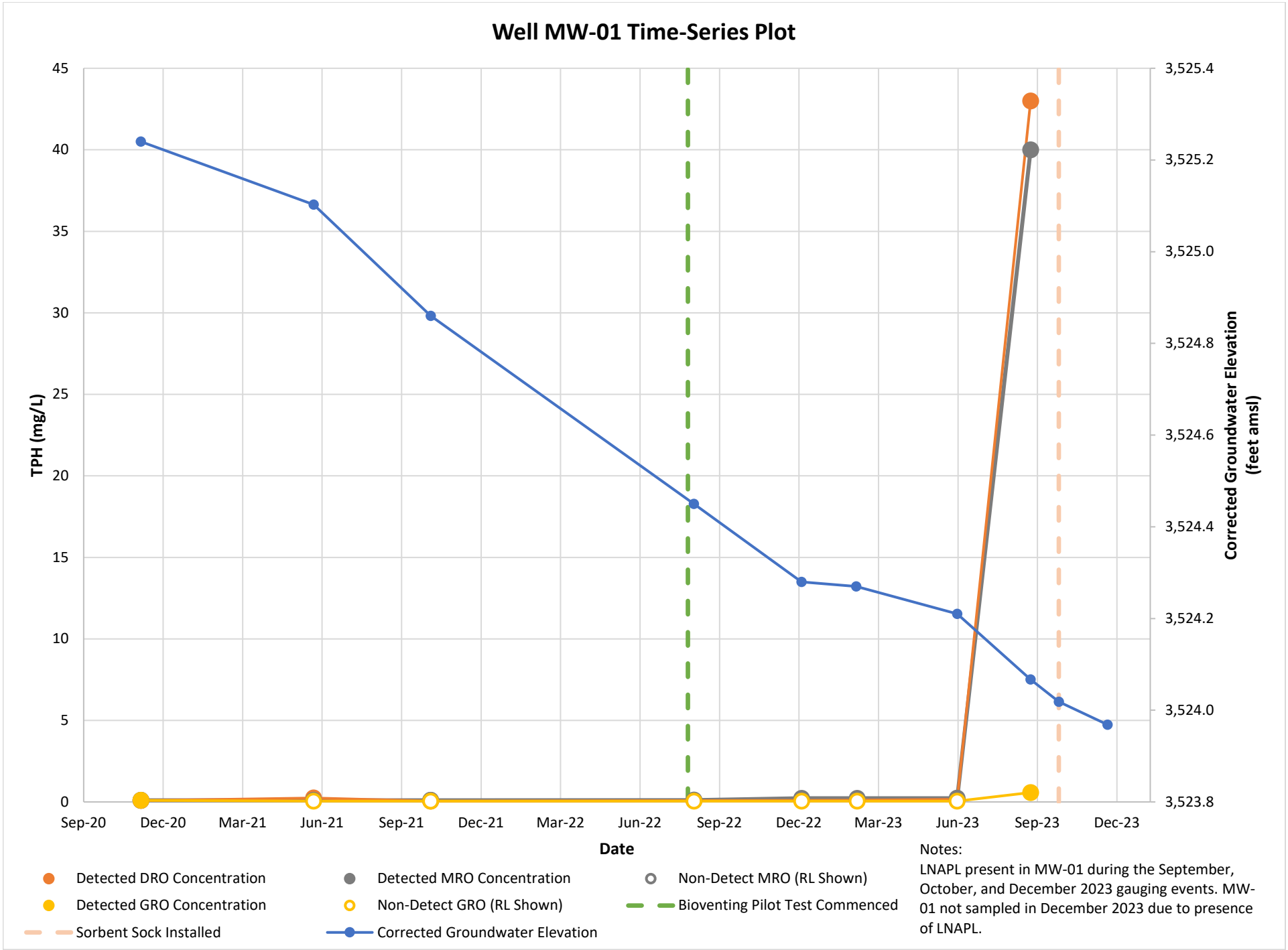
Analytical Data Review Checklist

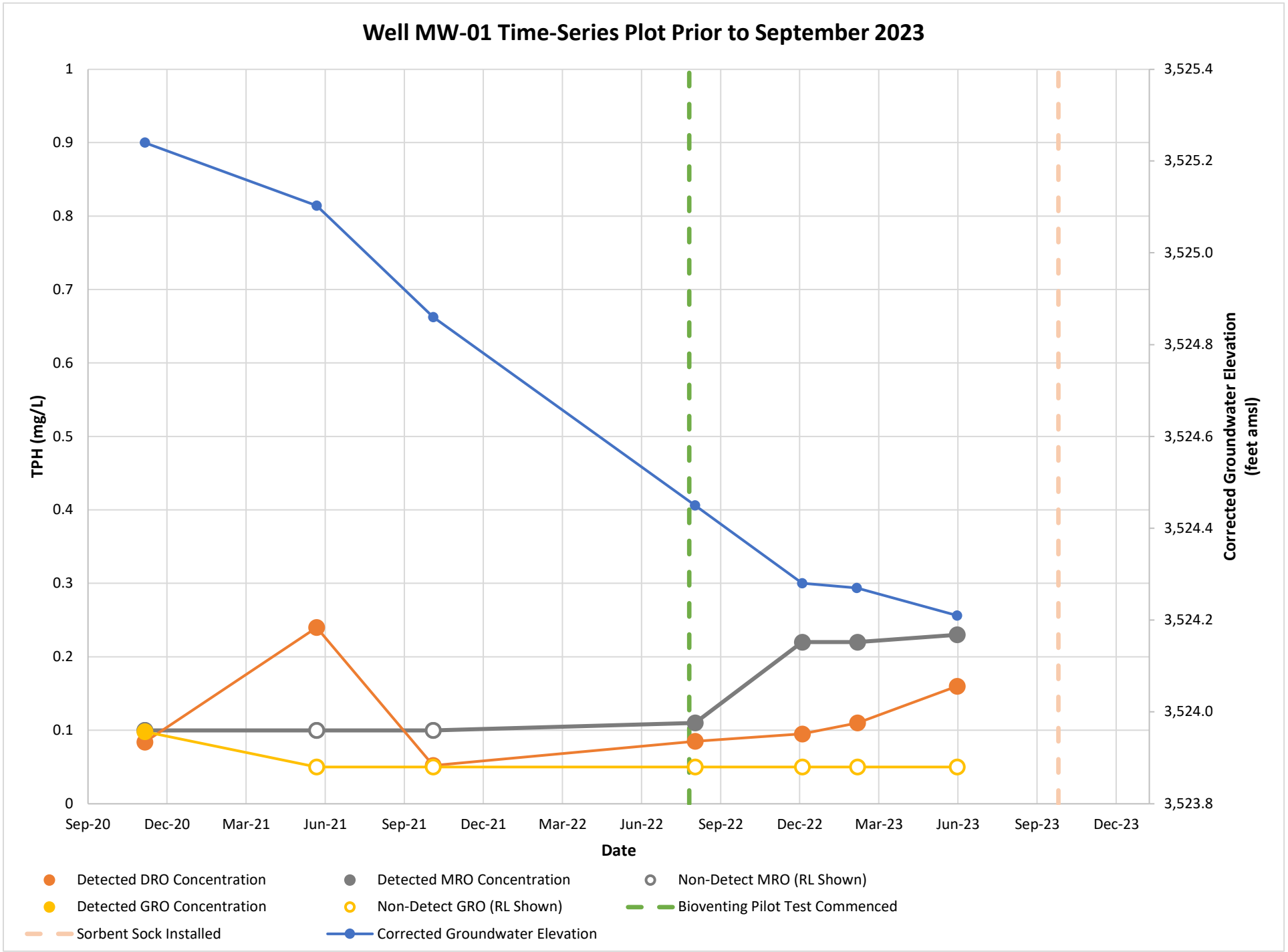
Review Item or Question		Y	N	NA	Comments
Matrix Spikes					
26	Are MS/MSD recoveries within QC limits? If no, list analytes affected, the MS/MSD recoveries and the sample that was spiked.			X	
27	Are MS/MSD RPDs within QC limits? If no, list analytes affected, the RPDs and the sample that was spiked.			X	
Surrogates					
28	**ORGANIC ANALYSES ONLY:** Are surrogate recoveries within QC limits? If no, list samples, surrogate recoveries and analytes affected.	X			
Duplicates	**Note: If not performed on a project sample, evaluation is not required.**				
29	Are laboratory duplicate RPDs within QC limits? If no, list analytes affected, the RPDs and the sample that was prepared/analyzed in duplicate.			X	
30	Were field duplicate criteria met? If no, list analytes affected, the RPD and/or absolute difference (as applicable), and the associated samples.	X			Field duplicate pair Duplicate-01 and MW-4 met project criteria.
Do the Data Make Sense?					
31	Did the case narrative describe any analytical anomalies (i.e., problems or unique occurrences) that have not already been addressed above? If yes, list the comments that have potential impact to sample results (or attach case narrative and highlight the comments that have potential impact to sample results).		X		
32	Were any other potential data quality issues identified? If yes, describe issues.		X		
33	Do any results look questionable? If yes, ASK THE LAB.		X		
34	Has the EDD been compared to the lab report?			X	
Additional Comments: None.					

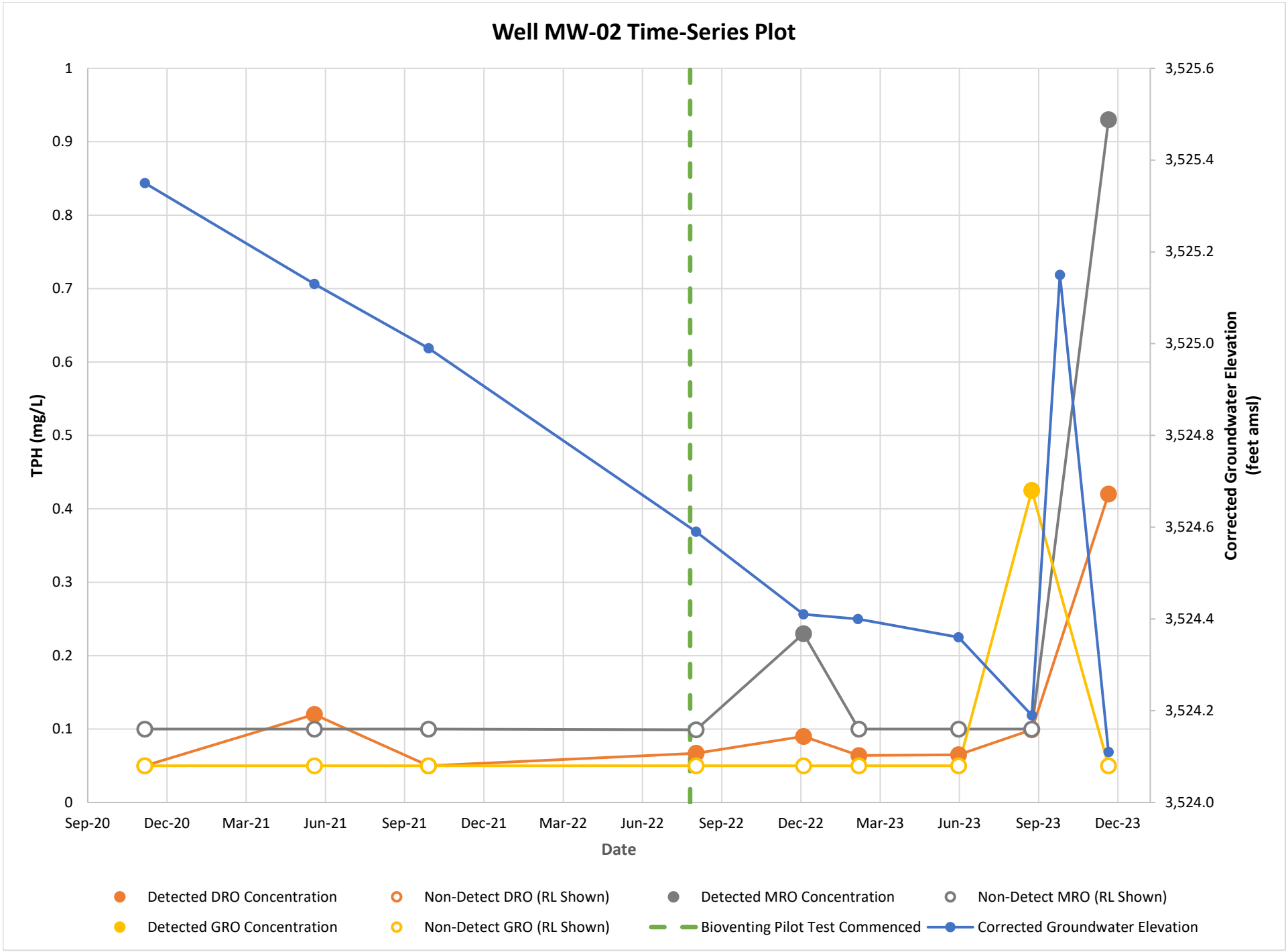
Notes:
Reference: EPA Superfund Contract Laboratory Program (CLP) National Functional Guidelines (NFGs) for Data Review (November, 2020)

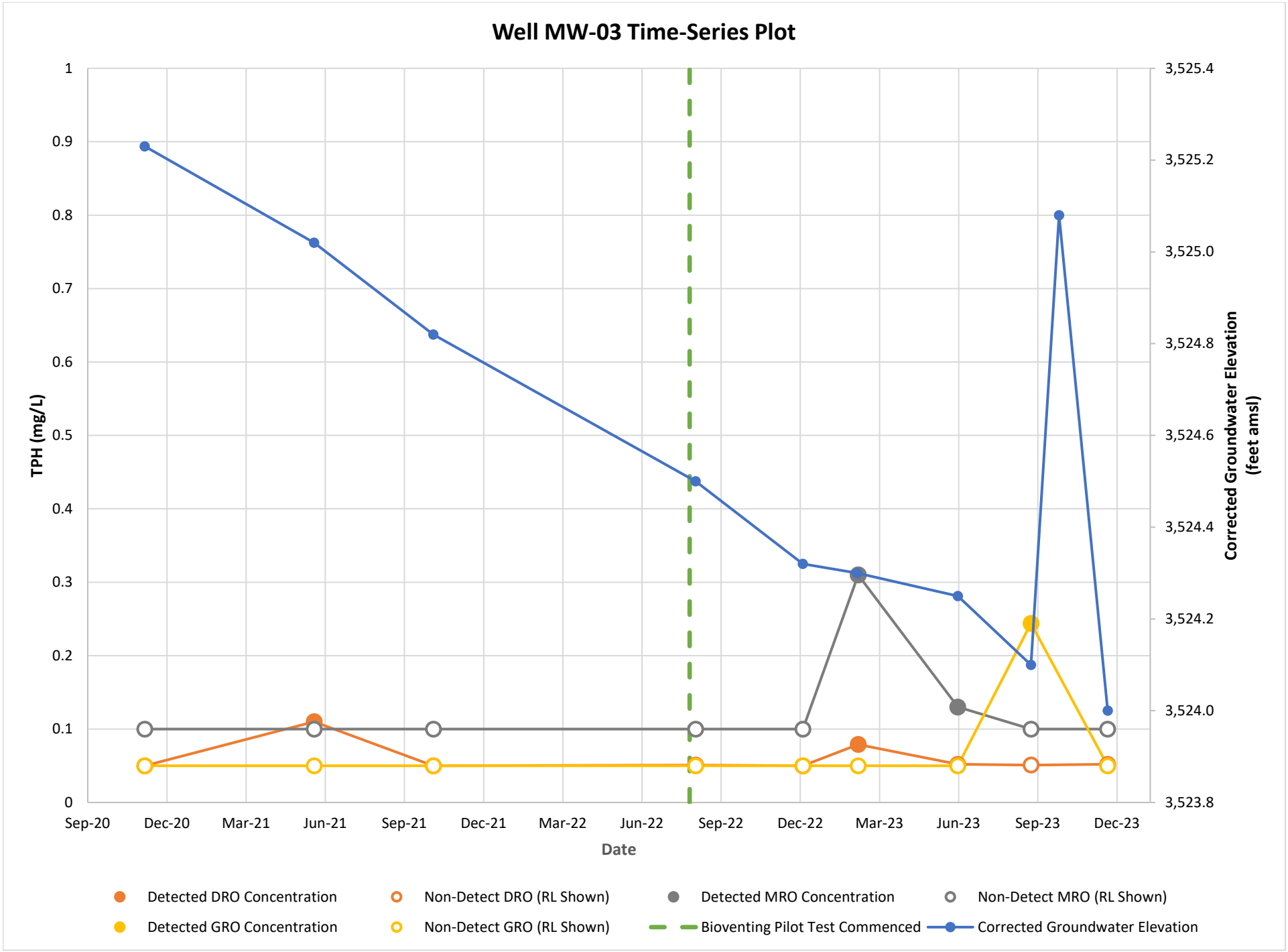
Abbreviations:
COC = Chain-of-Custody
DRO = Diesel Range Organics
EDD = Electronic Data Deliverable
GRO = Gasoline Range Organics
LCS/LCSD = Laboratory Control Sample / Laboratory Control Sample Duplicate
MRO = Motor Range Organics
MS/MSD = Matrix Spike / Matrix Spike Duplicate
NELAP = National Environmental Laboratory Accreditation Program
ORO = Oil Range Organics
QAPP = Quality Assurance Project Plan
QC = Quality Control
%R = Percent Recovery
RPD = Relative Percent Difference = 100% x |(A-B)/((A+B)/2)|
TPH = Total Petroleum Hydrocarbon

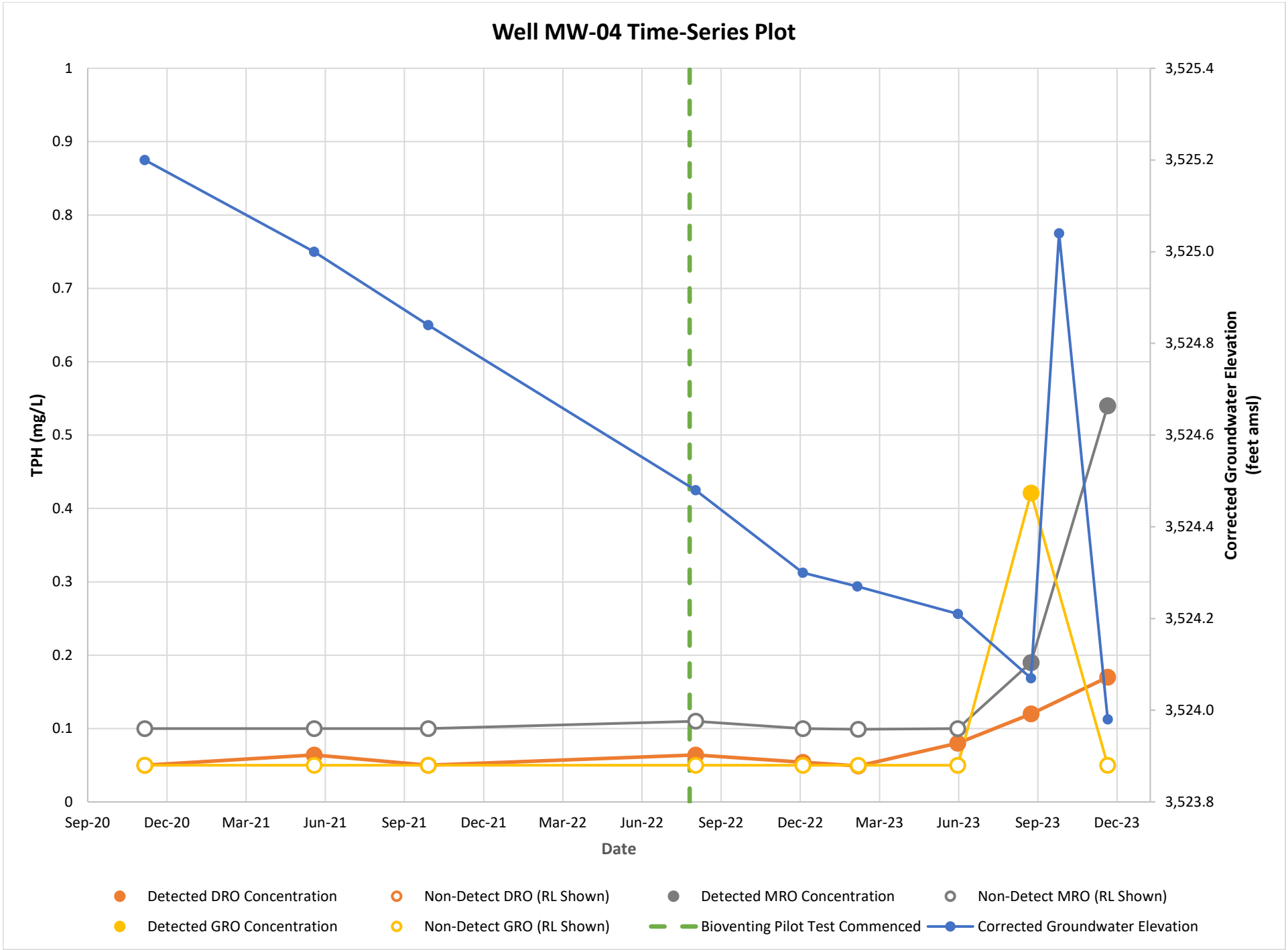
ATTACHMENT D – GROUNDWATER ELEVATION AND TPH PLOTS

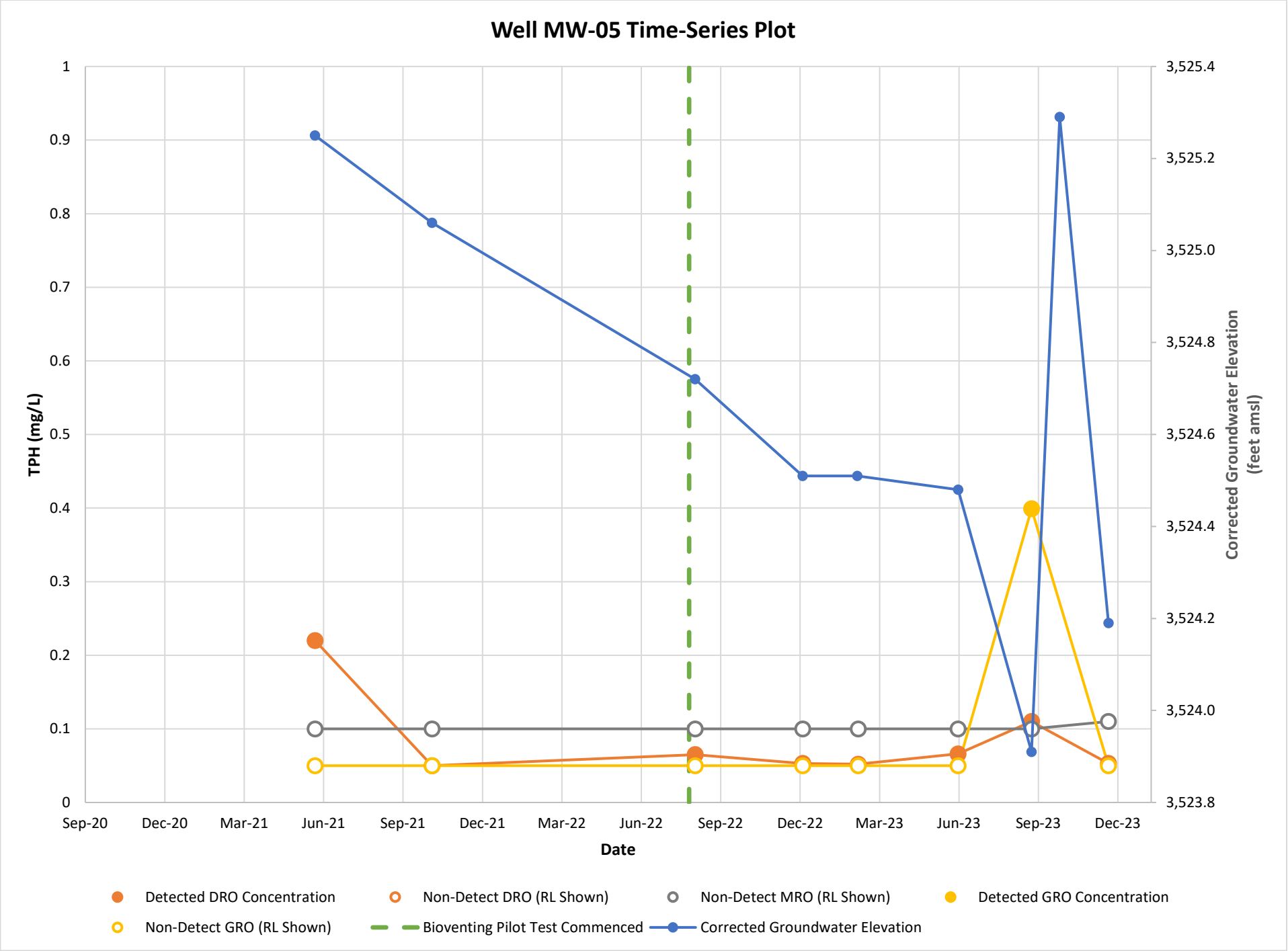

Well MW-01 Time-Series Plot
TPH (mg/L)
Corrected Groundwater Elevation (feet amsl)
Date
45
40
35
30
25
20
15
10
5
0
3,525.4
3,525.2
3,525.0
3,524.8
3,524.6
3,524.4
3,524.2
3,524.0
3,523.8
Sep-20
Dec-20
Mar-21
Jun-21
Sep-21
Dec-21
Mar-22
Jun-22
Sep-22
Dec-22
Mar-23
Jun-23
Sep-23
Dec-23
Detected DRO Concentration
Detected MRO Concentration
Non-Detect MRO (RL Shown)
Detected GRO Concentration
Non-Detect GRO (RL Shown)
Bioventing Pilot Test Commenced
Sorbent Sock Installed
Corrected Groundwater Elevation
Notes:
LNAPL present in MW-01 during the September, October, and December 2023 gauging events. MW-01 not sampled in December 2023 due to presence of LNAPL.

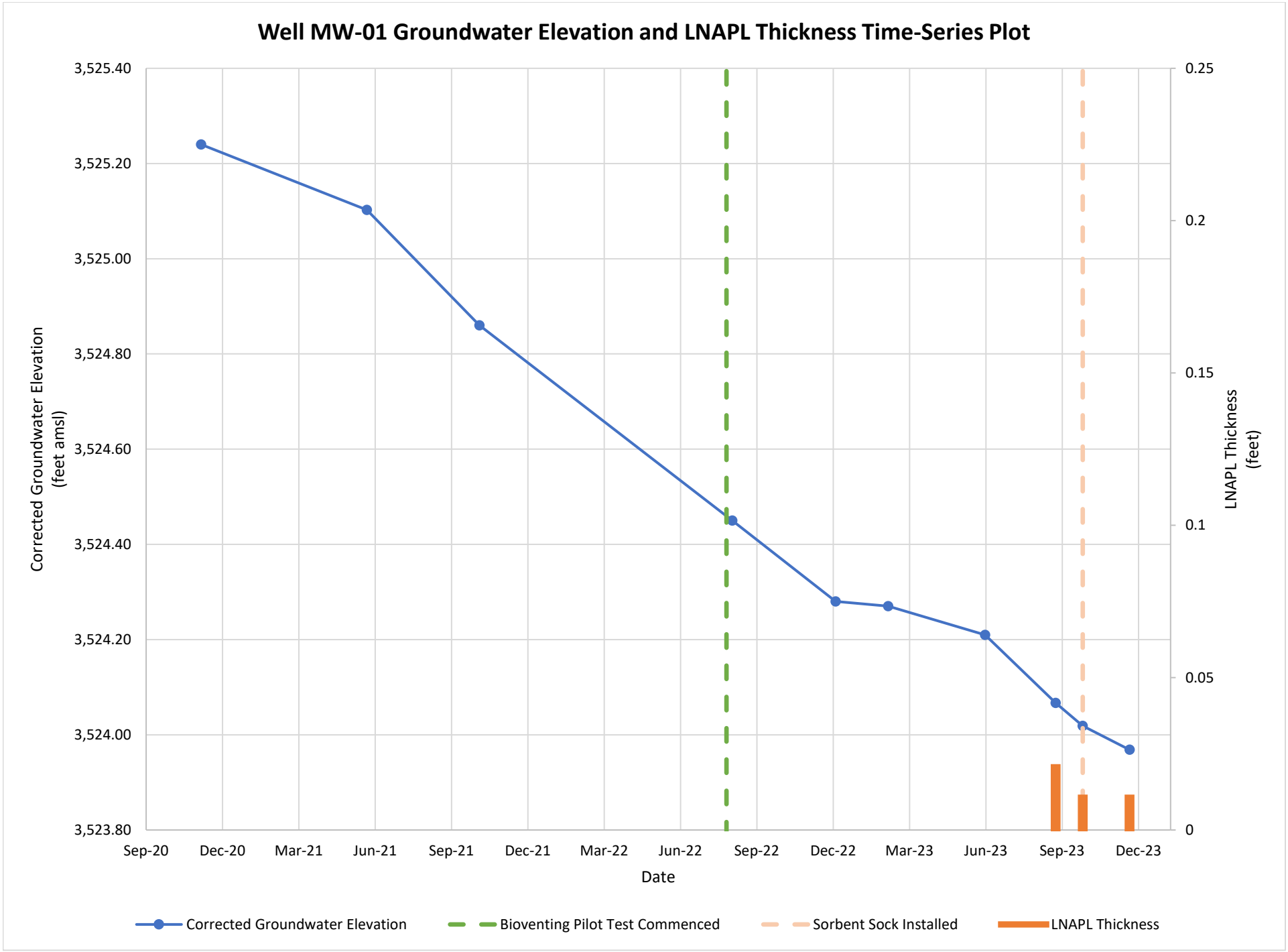



Well MW-02 Time-Series Plot
TPH (mg/L)
Corrected Groundwater Elevation (feet amsl)
Date
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
3,525.6
3,525.4
3,525.2
3,525.0
3,524.8
3,524.6
3,524.4
3,524.2
3,524.0
Sep-20
Dec-20
Mar-21
Jun-21
Sep-21
Dec-21
Mar-22
Jun-22
Sep-22
Dec-22
Mar-23
Jun-23
Sep-23
Dec-23
Detected DRO Concentration
Non-Detect DRO (RL Shown)
Detected MRO Concentration
Non-Detect MRO (RL Shown)
Detected GRO Concentration
Non-Detect GRO (RL Shown)
Bioventing Pilot Test Commenced
Corrected Groundwater Elevation


Well MW-03 Time-Series Plot
TPH (mg/L)
Corrected Groundwater Elevation (feet amsl)
Date
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
3,525.4
3,525.2
3,525.0
3,524.8
3,524.6
3,524.4
3,524.2
3,524.0
3,523.8
Sep-20
Dec-20
Mar-21
Jun-21
Sep-21
Dec-21
Mar-22
Jun-22
Sep-22
Dec-22
Mar-23
Jun-23
Sep-23
Dec-23
Detected DRO Concentration
Non-Detect DRO (RL Shown)
Detected MRO Concentration
Non-Detect MRO (RL Shown)
Detected GRO Concentration
Non-Detect GRO (RL Shown)
Bioventing Pilot Test Commenced
Corrected Groundwater Elevation


Well MW-04 Time-Series Plot
TPH (mg/L)
Corrected Groundwater Elevation (feet amsl)
Date
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
3,525.4
3,525.2
3,525.0
3,524.8
3,524.6
3,524.4
3,524.2
3,524.0
3,523.8
Sep-20
Dec-20
Mar-21
Jun-21
Sep-21
Dec-21
Mar-22
Jun-22
Sep-22
Dec-22
Mar-23
Jun-23
Sep-23
Dec-23
Detected DRO Concentration
Non-Detect DRO (RL Shown)
Detected MRO Concentration
Non-Detect MRO (RL Shown)
Detected GRO Concentration
Non-Detect GRO (RL Shown)
Bioventing Pilot Test Commenced
Corrected Groundwater Elevation


Well MW-05 Time-Series Plot
TPH (mg/L)
Corrected Groundwater Elevation (feet amsl)
Date
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
3,525.4
3,525.2
3,525.0
3,524.8
3,524.6
3,524.4
3,524.2
3,524.0
3,523.8
Sep-20
Dec-20
Mar-21
Jun-21
Sep-21
Dec-21
Mar-22
Jun-22
Sep-22
Dec-22
Mar-23
Jun-23
Sep-23
Dec-23
Detected DRO Concentration
Non-Detect DRO (RL Shown)
Non-Detect MRO (RL Shown)
Detected GRO Concentration
Non-Detect GRO (RL Shown)
Bioventing Pilot Test Commenced
Corrected Groundwater Elevation

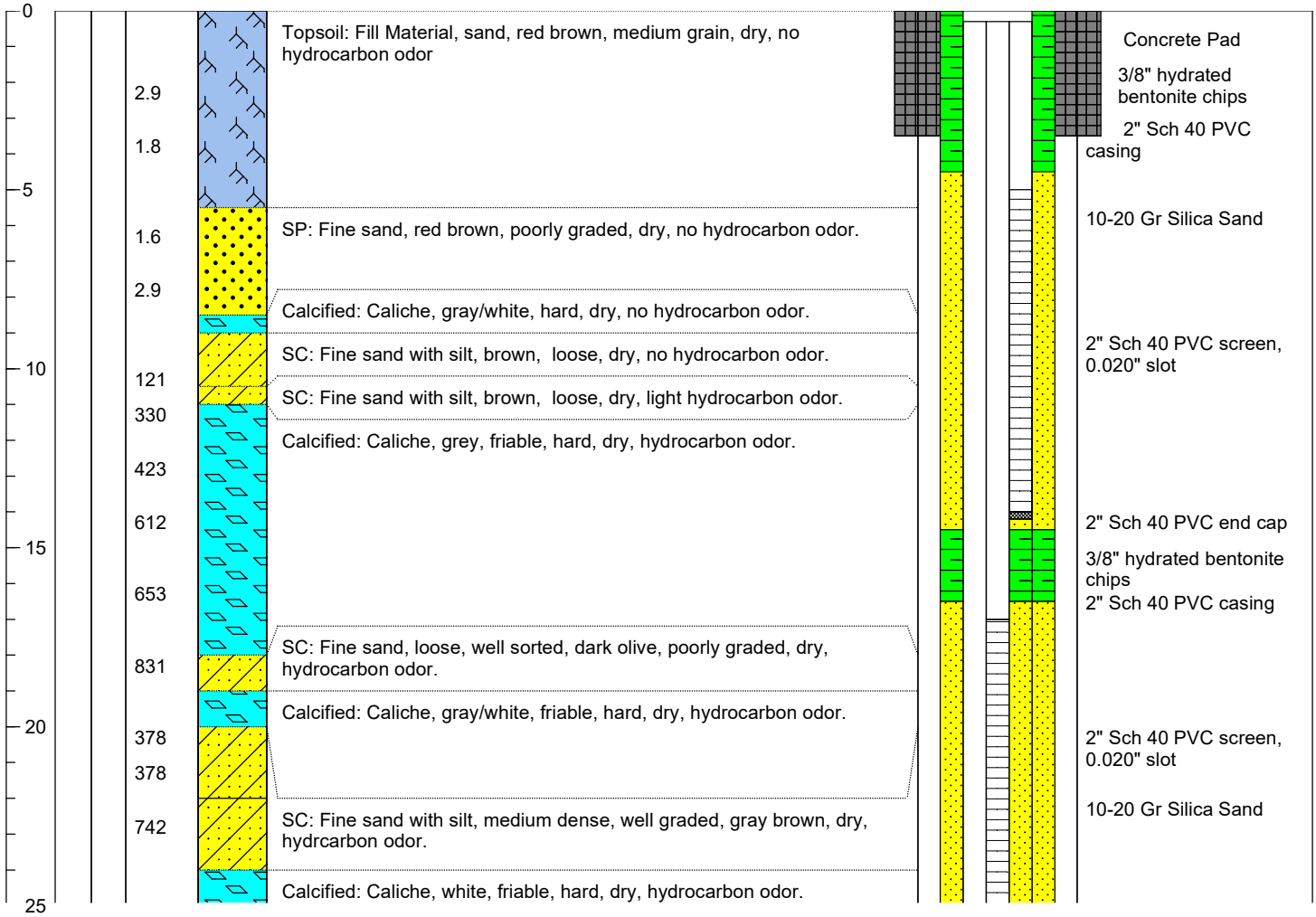

Well MW-01 Groundwater Elevation and LNAPL Thickness Time-Series Plot
Corrected Groundwater Elevation (feet amsl)
3,525.40
3,525.20
3,525.00
3,524.80
3,524.60
3,524.40
3,524.20
3,524.00
3,523.80
LNAPL Thickness (feet)
0.25
0.2
0.15
0.1
0.05
0
Sep-20
Dec-20
Mar-21
Jun-21
Sep-21
Dec-21
Mar-22
Jun-22
Sep-22
Dec-22
Mar-23
Jun-23
Sep-23
Dec-23
Date
Corrected Groundwater Elevation
Bioventing Pilot Test Commenced
Sorbent Sock Installed
LNAPL Thickness

ATTACHMENT E – BIOVENTING BORING AND WELL COMPLETION LOGS

BORING LOG and WELL CONSTRUCTION

BV-1

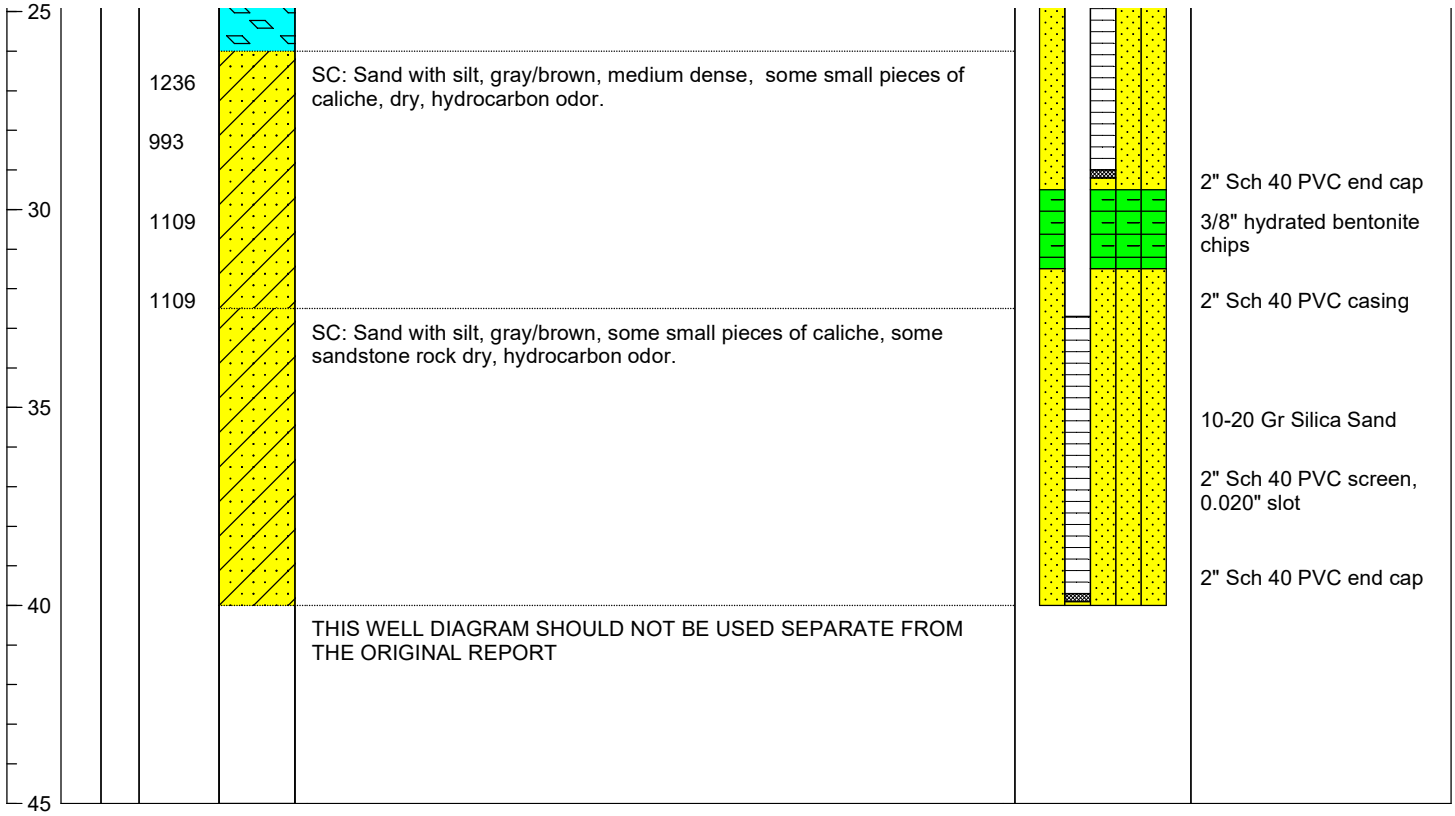
Client: Holly Energy Partners	TRC Project #: 525769
Site: WTX to EMSU Battery to Byrd Pump Segment Crude Oil Release	Start Date: 05/05/2023
Address: Klein Ranch, Monument, NM	Finish Date: 05/05/2023
Project: Bioventing Well Install	Permit #: NA
Drilling Company:Talon LPE / Drilling Crew:J. Miles, C. Rudy	TRC Site Rep.:J. O'Neal
Drilling Method: Hollow Stem Auger	TRC Reviewer: J. Ward
Boring Diameter (in): 10 / Boring Depth (ft bgs):40	X-Y Coord. System:DMS
Sampling Method: Continuous	Latitude: 32°35'2.15"N
Blow Count Method: N/A	Longitude:103°19'3.04"W
Field Screening Parameter: Volatile Organic Compounds	Elevation Datum: Not Surveyed
Meter: MiniRAE 5000 / Units: ppm	Ground Elevation (ft): Not Surveyed
Well Depth (ft bgs): BV-1S: 14.50; BV-1M: 29.20; BV-1D: 39.90	Well Elevation (ft): Not Surveyed
Estimated Casing Length (ft): BV-1S: 5.00; BV-1M: 16.70; BV-1D: 32.40	Well Measuring Point: NA
Screen Length (ft): BV-1S: 9; BV-1M: 12; BV-1D: 7	Depth to Water (ft toc): NA
	Date/Time: NA
Surface Completion:Flush Mount 20" Round Concrete Pad / 10" Steel Cover	
Well Development: NA	



BORING LOG and WELL CONSTRUCTION

BV-1

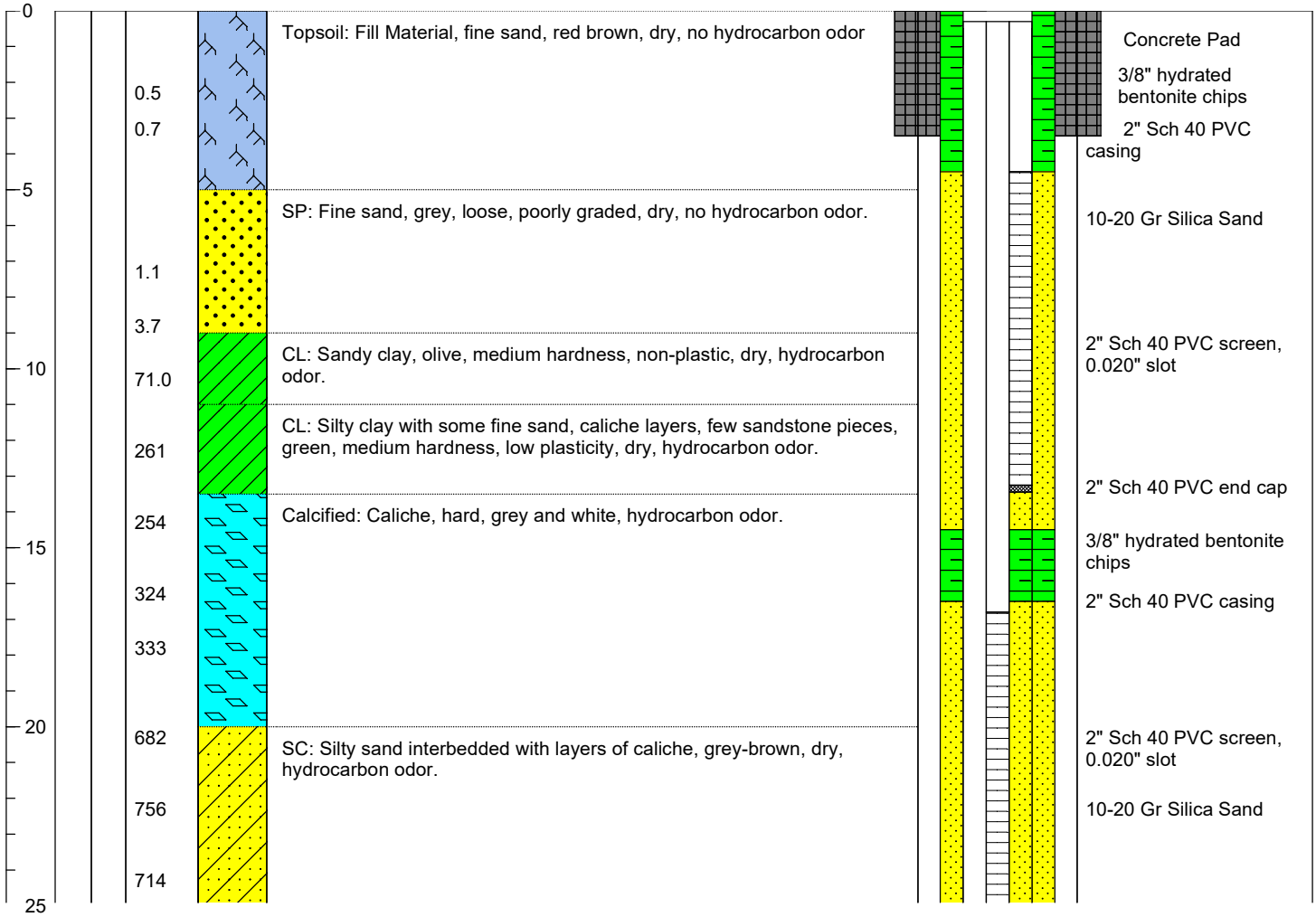
Client: Holly Energy Partners | Site: WTX to EMSU Battery to Byrd Pump Segment Crude Oil Release | Page 2 of 2



BORING LOG and WELL CONSTRUCTION

BV-2

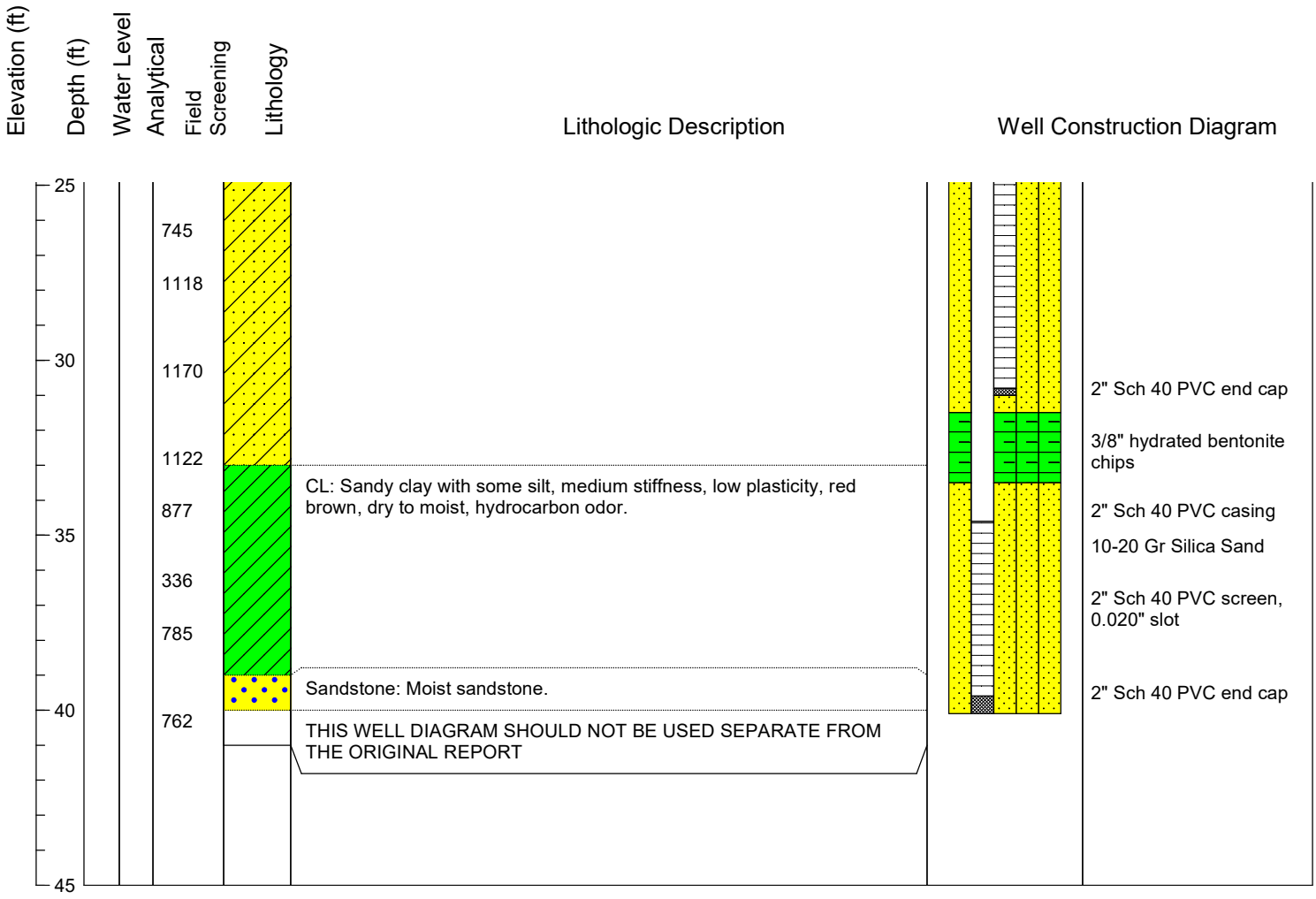
Client: Holly Energy Partners	TRC Project #: 525769
Site: WTX to EMSU Battery to Byrd Pump Segment Crude Oil Release	Start Date: 05/03/2023
Address: Klein Ranch, Monument, NM	Finish Date: 05/03/2023
Project: Bioventing Well Install	Permit #: NA
Drilling Company:Talon LPE / Drilling Crew:J. Miles, C. Rudy	TRC Site Rep.:J. O'Neal
Drilling Method: Hollow Stem Auger	TRC Reviewer: J. Ward
Boring Diameter (in): 10 / Boring Depth (ft bgs):40	X-Y Coord. System:DMS
Sampling Method: Continuous	Latitude: 32°35'2.17"N
Blow Count Method: N/A	Longitude:103°19'2.81"W
Field Screening Parameter: Volatile Organic Compounds	Elevation Datum: Not Surveyed
Meter: MiniRAE 5000 / Units: ppm	Ground Elevation (ft): Not Surveyed
Well Depth (ft bgs): BV-2S: 13.25; BV-2M: 31.00; BV-2D: 40.10	Well Elevation (ft): Not Surveyed
Estimated Casing Length (ft): BV-2S: 3.75; BV-2M: 16.50; BV-2D: 34.30	Well Measuring Point: NA
Screen Length (ft): BV-2S: 9; BV-2M: 14; BV-2D: 5	Depth to Water (ft toc): NA
	Date/Time: NA
Surface Completion:Flush Mount 20" Round Concrete Pad / 10" Steel Cover	
Well Development: NA	



BORING LOG and WELL CONSTRUCTION

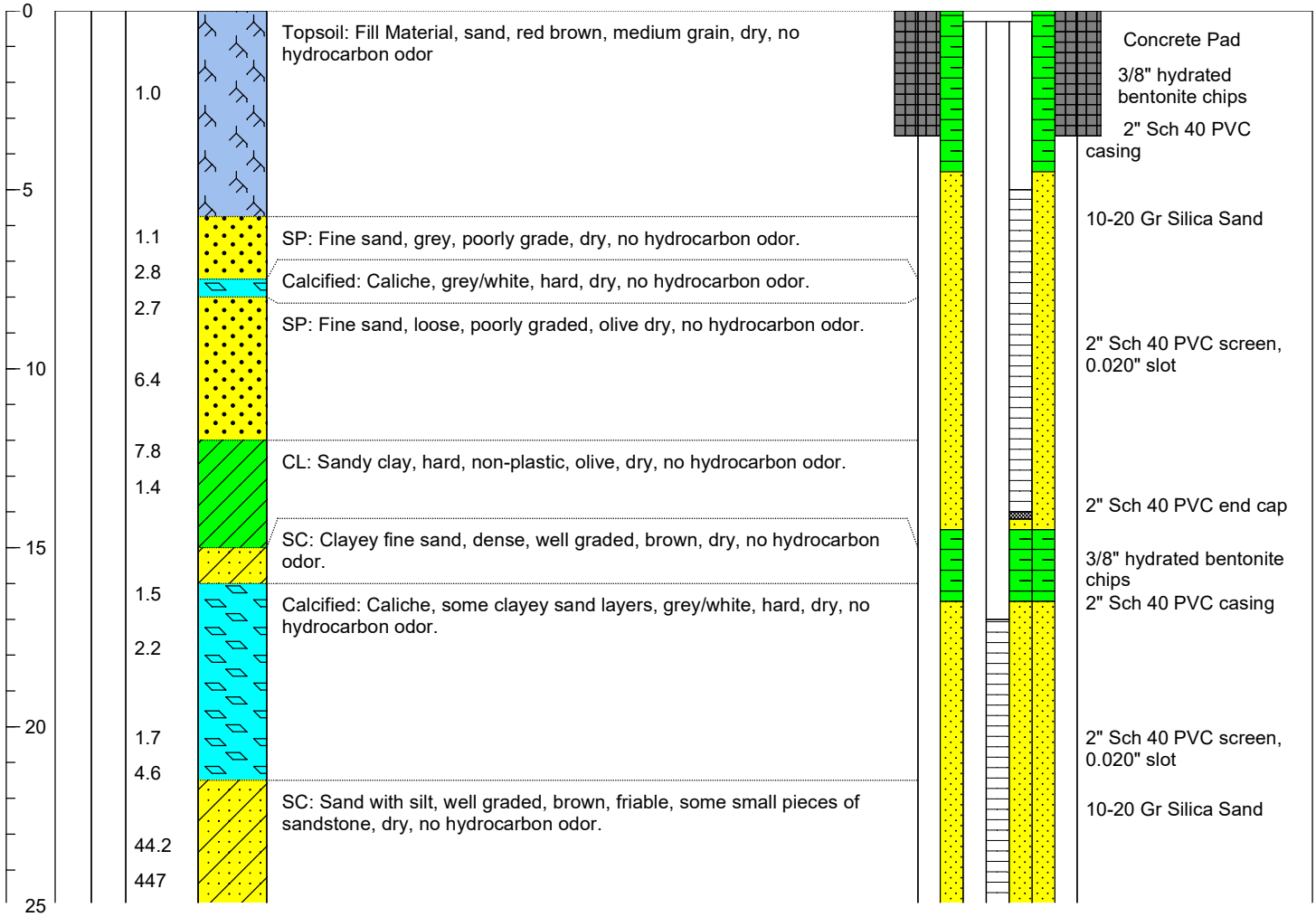
BV-2

Client: Holly Energy Partners | Site: WTX to EMSU Battery to Byrd Pump Segment Crude Oil Release | Page 2 of 2



BORING LOG and WELL CONSTRUCTION — BV-3

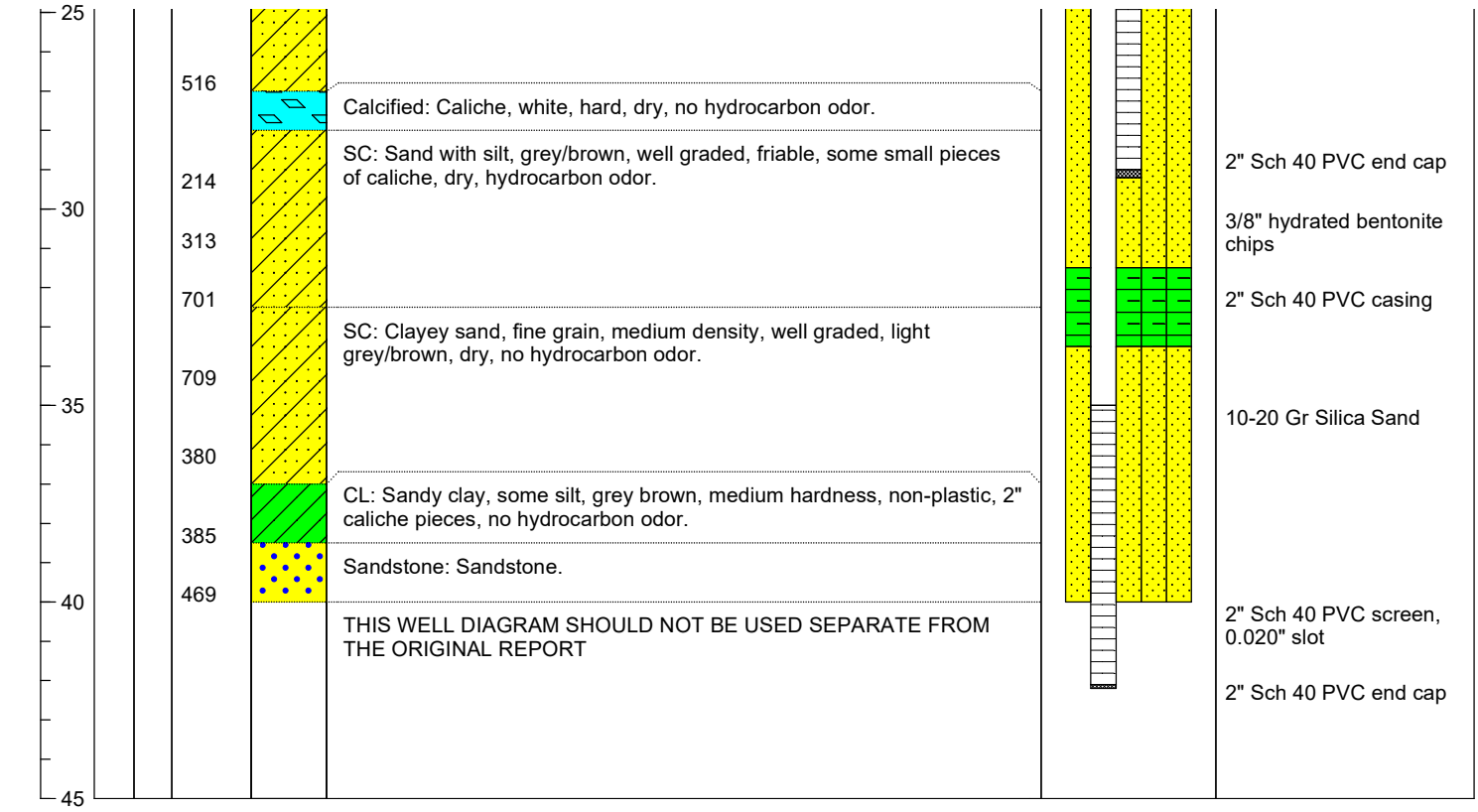
Client: Holly Energy Partners	TRC Project #: 525769
Site: WTX to EMSU Battery to Byrd Pump Segment Crude Oil Release	Start Date: 05/04/2023
Address: Klein Ranch, Monument, NM	Finish Date: 05/05/2023
Project: Bioventing Well Install	Permit #: NA
Drilling Company:Talon LPE — Drilling Crew:J. Miles, C. Rudy	TRC Site Rep.:J. O'Neal
Drilling Method: Hollow Stem Auger	TRC Reviewer: J. Ward
Boring Diameter (in): 10 — Boring Depth (ft bgs):40	X-Y Coord. System:DMS
Sampling Method: Continuous	Latitude: 32°35'1.99"N
Blow Count Method: N/A	Longitude:103°19'2.98"W
Field Screening Parameter: Volatile Organic Compounds	Elevation Datum: Not Surveyed
Meter: MiniRAE 5000 — Units: ppm	Ground Elevation (ft): Not Surveyed
Well Depth (ft bgs): BV-3S: 14.20; BV-3M: 29.20; BV-3D: 42.30	Well Elevation (ft): Not Surveyed
Estimated Casing Length (ft): BV-3S: 4.70; BV-3M: 16.70; BV-3D: 34.80	Well Measuring Point: NA
Screen Length (ft): BV-3S: 9; BV-3M: 12; BV-3D: 7	Depth to Water (ft toc): NA
	Date/Time: NA
Surface Completion:Flush Mount 20" Round Concrete Pad/ 10" Steel Cover	
Well Development: NA	



BORING LOG and WELL CONSTRUCTION

BV-3

Client: Holly Energy Partners | Site: WTX to EMSU Battery to Byrd Pump Segment Crude Oil Release | Page 2 of 2



BORING LOG and WELL CONSTRUCTION

BV-4

Client: Holly Energy Partners	TRC Project #: 525769
Site: WTX to EMSU Battery to Byrd Pump Segment Crude Oil Release	Start Date: 05/03/2023
Address: Klein Ranch, Monument, NM	Finish Date: 05/03/2023
Project: Bioventing Well Install	Permit #: NA
Drilling Company:Talon LPE / Drilling Crew:J. Miles, C. Rudy	TRC Site Rep.:J. O'Neal
Drilling Method: Hollow Stem Auger	TRC Reviewer: J. Ward
Boring Diameter (in): 10 / Boring Depth (ft bgs):40.8	X-Y Coord. System:DMS
Sampling Method: Continuous	Latitude: 32°35'2.06"N
Blow Count Method: N/A	Longitude:103°19'2.03"W
Field Screening Parameter: Volatile Organic Compounds	Elevation Datum: Not Surveyed
Meter: MiniRAE 5000 / Units: ppm	Ground Elevation (ft): Not Surveyed
Well Depth (ft bgs): 39.50	Well Elevation (ft): Not Surveyed
Estimated Casing Length (ft): 28.70	Well Measuring Point: NA
Screen Length (ft): 10	Depth to Water (ft toc): 38.00
	Date/Time: 05/03/23
Surface Completion:Flush Mount 20" Round Concrete Pad / 10" Steel Cover	
Well Development: NA	

Depth (ft)	Water Level	Analytical	Field Screening	Lithology	Lithologic Description	Well Construction Diagram
0			3.1		SC: Sand with silt, loose, well graded, brown, dry, no hydrocarbon odor. Some small roots.	Concrete Pad
			1.2			
5					No recovery.	
			0.8		SC: Fine sand with silt, red brown, well sorted, dry, no hydrocarbon odor.	
					No recovery.	
10			1.0		SC: Fine sand with silt, red brown, well sorted, dry, no hydrocarbon odor.	
			1.4		Sandstone: Sandstone, light grey, dry, no hydrocarbon odor.	
					No recovery.	
15			2.0		SC: Sand with silt, light grey/brown, fine grain, medium dense, dry, no hydrocarbon odor.	3/8" hydrated bentonite chips
			0.7		Sandstone: Sandstone and caliche, hard, dry, light grey, no hydrocarbon odor.	2" Sch 40 PVC casing
			0.7		Calcified: Caliche, hard, light grey, chalky, no hydrocarbon odor.	
20			0.6			
			1.0			
			1.0		SC: Fine sand with silt, brown, loose, dry, no hydrocarbon odor.	
25						

BORING LOG and WELL CONSTRUCTION

BV-4

Client: Holly Energy Partners	Site: WTX to EMSU Battery to Byrd Pump Segment Crude Oil Release	Page 2 of 2

Elevation (ft)	Depth (ft)	Water Level	Analytical	Field Screening	Lithology	Lithologic Description	Well Construction Diagram
25				1.5		Calcified: Caliche interbedded with fine sand, grey/white, hard, dry, no hydrocarbon odor.	
				1.5		SC: Clayey fine sand, brown, friable, medium dense, well graded, some small pieces of caliche, dry, hydrocarbon odor.	10-20 Gr Silica Sand
30				1.0			
				9.8			
				230			
35				646			
		▽		528		CL: Sandy clay, some silt, fine sand, red brown, medium hardness, moist to wet, non-plastic, hydrocarbon odor.	2" Sch 40 PVC screen, 0.020" slot
				9.8			2" Sch 40 PVC end cap
40						THIS WELL DIAGRAM SHOULD NOT BE USED SEPARATE FROM THE ORIGINAL REPORT	
45							

ATTACHMENT F – WASTE MANIFESTS

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
D0035		575-746-8972	023093336 JJK

GENERATOR

5. Generator's Name and Mailing Address
HOLLY ENERGY PARTNERS LP
1602 W MAIN ST
ARTESIA, NM 88240
Generator's Phone:

Generator's Site Address (if different than mailing address)
HOLLY ENERGY PARTNERS LP
MADDOX RD
MONUMENT, NM 88240

6. Transporter 1 Company Name
Wild horse
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
CHARTER WASTE LANDFILL
12035 W MURPHY
ODESSA, TX 79769 (432) 381-4722
Facility's Phone:
U.S. EPA ID Number
H2158

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. PETROLEUM CONTAMINATED SOLIDS APPROVAL # 3412 24 150-4			4	dm	NUTS 4591
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
REPUBLIC SERVICE CUSTOMER # 333915

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Melanie Nolan
Signature: Melanie Nolan
Month: 04 Day: 04 Year:

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Ashley Ivarra
Signature:
Month: 3 Day: 7 Year: 24

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or ~~Operator~~: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month: 4 Day: 12 Year: 24

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: D0035
2. Page 1 of
3. Emergency Response Phone: 575-748-8072
4. Manifest Tracking Number: 023093332 JJK

GENERATOR

5. Generator's Name and Mailing Address: HOLLY ENERGY PARTNERS LP
1602 W MAIN ST
ARTESIA, NM 88240

Generator's Site Address (if different than mailing address): HOLLY ENERGY PARTNERS LP
MADDOX RD
MONUMENT, NM 88240

Generator's Phone:

6. Transporter 1 Company Name: Wild horse — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: CHARTER WASTE LANDFILL
12035 W MURPHY
ODESSA, TX 79769 (432) 381-4722 — U.S. EPA ID Number: H2158

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. HYDROCARBON-CONTAMINATED WATER/GROUNDWATER APPROVAL # 3412 24 1505			5	bbl	CUTS 2061
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information: REPUBLIC SERVICE CUSTOMER # 333915

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Melanie Nolan — Signature: Melanie Nolan — Month: 2 — Day: 29 — Year: 24

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Ashly Warren — Signature: [signature] — Month: 3 — Day: 7 — Year: 24

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month — Day — Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: [illegible] — Signature: [signature] — Month: 3 — Day: 7 — Year: 24

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: D0035
2. Page 1 of
3. Emergency Response Phone: 575-748-8972
4. Manifest Tracking Number: 023093339 JJK

GENERATOR

5. Generator's Name and Mailing Address:
HOLLY ENERGY PARTNERS LP
1602 W MAIN ST
ARTESIA, NM 88240

Generator's Site Address (if different than mailing address):
HOLLY ENERGY PARTNERS LP
MADDOX RD
MONUMENT, NM 88240

Generator's Phone:

6. Transporter 1 Company Name: wild horse
U.S. EPA ID Number:

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
CHARTER WASTE LANDFILL
12035 W MURPHY
ODESSA, TX 79769 (432) 381-4722
U.S. EPA ID Number: H2168

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. EXCAVATED HYDROCARBON CONTAMINATED SOIL. APPROVAL # 3412 24 1507			4		
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
REPUBLIC SERVICE CUSTOMER # 333915

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Melanie Nolan
Signature: Melanie Nolan
Month: 12 Day: 28 Year: 23

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Ashley Juarez
Signature:
Month: 3 Day: 8 Year: 24

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:

Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month: 3 Day: 8 Year: 24

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: D0035
2. Page 1 of
3. Emergency Response Phone: 575-748-8972
4. Manifest Tracking Number: 023093338 JJK

GENERATOR

5. Generator's Name and Mailing Address:
HOLLY ENERGY PARTNERS LP
1602 W MAIN ST
ARTESIA, NM 88240

Generator's Site Address (if different than mailing address):
HOLLY ENERGY PARTNERS LP
MADDOX RD
MONUMENT, NM 88240

Generator's Phone:

6. Transporter 1 Company Name: Wild horse — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
CHARTER WASTE LANDFILL
12035 W MURPHY
ODESSA, TX 79769 (432) 381-4722

U.S. EPA ID Number: H2158

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. EXCAVATED HYDROCARBON CONTAMINATED SOIL APPROVAL # 341224 1507			4		
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
REPUBLIC SERVICE CUSTOMER # 333915

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Melanie Nolan — Signature: Melanie Nolan — Month: 12 Day: 29 Year: 24

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Ashley Juarez — Signature — Month: 3 Day: 8 Year: 24

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name — Signature — Month: 12 Day: 30 Year: 24

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type.

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: [illegible]
2. Page 1 of
3. Emergency Response Phone: 575-748-5872
4. Manifest Tracking Number: 023093333 JJK

GENERATOR

5. Generator's Name and Mailing Address
HOLLY ENERGY PARTNERS LP
1602 W MAIN ST
ARTESIA, NM 88240

Generator's Site Address (if different than mailing address)
HOLLY ENERGY PARTNERS LP
MADDOX RD
MONUMENT, NM 88240

Generator's Phone:

6. Transporter 1 Company Name: Wild horse — U.S. EPA ID Number:

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
CHARTER WASTE LANDFILL
12035 W MURPHY
ODESSA, TX 79769 (432) 381-4722

U.S. EPA ID Number: H2158

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. HYDROCARBON-CONTAMANTED WATER/GROUNDWATER APPROVAL # 3412 24 1506			4		
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
REPUBLIC SERVICE CUSTOMER # 333915

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Melanie Ndan — Signature: Melanie Ndan — Month: 3 — Day: 29 — Year: 24

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Ashly Juarez — Signature: [signature] — Month: 3 — Day: 8 — Year: 24

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month — Day — Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: L Cl — Signature: [signature] — Month: 3 — Day: 18 — Year: 24

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

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 336869

CONDITIONS

Operator: HOLLY ENERGY PARTNERS - OPERATING, LP 1602 W. Main St. Artesia, NM 88210	OGRID: 282505
	Action Number: 336869
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the 2023 Annual Groundwater Monitoring Report for WTX to EMSU Battery to Byrd Pump Segment: Content Satisfactory 1. Continue to conduct groundwater monitoring at the site for all wells on a quarterly basis, as well as gauging LNAPL. 2. Propose an abatement plan to OCD if LNAPL is persistent in wells, as absorbent socks are not considered an abatement method. 3. Submit the 2024 Groundwater Monitoring report with recommendations to OCD for an abatement path forward by May 1, 2025.	6/11/2024