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April 28, 2023

REVIEWED

By Mike Buchanan at 1:54 pm, Jun 07, 2023

Ms. Jennifer Nobui, P.G.
Environmental Specialist A
Environmental Bureau
New Mexico Energy, Minerals and Natural Resources Department – Oil Conservation Division
5200 Oakland Avenue N.E. Suite 100
Albuquerque, New Mexico 87113

**Re: 2022 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 2022 Annual Groundwater Monitoring Report: **Content Satisfactory**
1. Continue GW Monitoring and installation per plan for bioventing.
2. Submit 2023 Annual Report by April 1, 2024.

Dear Ms. Nobui:

On behalf of Holly Energy Partners – Operating, L.P. (HEP), TRC Environmental Corporation (TRC) is providing this *2022 Annual Groundwater Monitoring Report*. This report was prepared to summarize the 2022 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. Quarterly groundwater monitoring activities were initiated during the third quarter of 2022.

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 the third and fourth quarters of 2022 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. Thus, quarterly groundwater monitoring commenced at the Site during the third quarter of 2022.

Pending resolution of a power source, a full-scale bioventing system will be installed and activated at the Site during 2023 in accordance with the October 2022 Bioventing Recommendation Report, which was approved by NMOCD on November 28, 2022. Quarterly groundwater monitoring activities will be

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conducted in 2023 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

The third quarter 2022 groundwater monitoring event was conducted on August 16, 2022, and the fourth quarter 2022 groundwater monitoring event was conducted on December 20, 2022. 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.

During each event, monitoring wells MW-01 through MW-05 were purged and sampled using low-flow, low-stress sampling techniques. 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. 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 August 16, 2022, and December 20, 2022. LNAPL was not detected in any of the monitoring wells during



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either event. Fluid level measurement data is presented in Table 1. The locations of the monitoring wells are depicted on Figures 2 through 4.

Groundwater flow was to the south-southeast at a hydraulic gradient of 0.003 feet per foot in both August 2022 and December 2022; this is generally consistent with previous monitoring events conducted at the Site. Between October 2021, the previous monitoring event, and August 2022, Site-wide groundwater elevations decreased by an average of 0.37 feet. Between August and December 2022, Site-wide groundwater elevations decreased by an average of 0.18 feet.

Groundwater Analytical Results

Groundwater samples were analyzed for TPH. 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 2022, May 2021, and October 2021) will serve as a baseline for the evaluation of TPH concentrations in groundwater.

In August 2022, TPH diesel range organics (DRO) was detected above report limits (RLs) in wells MW-01 (original and duplicate samples), MW-02, MW-04, and MW-05 at a maximum concentration of 0.085 milligrams per liter (mg/L) in well MW-01 (duplicate sample). TPH motor oil range organics (MRO) was detected above RLs in well MW-01 (original and duplicate samples) at a concentration of 0.11 mg/L (both samples); this is the first detection of TPH MRO above RLs since monitoring at the Site commenced in November 2020. TPH gasoline range organics (GRO) was not detected above RLs in any well during August 2022.

In December 2022, TPH DRO was detected above RLs in wells MW-01, MW-02 (original sample only), MW-04, and MW-05 at a maximum concentration of 0.095 mg/L in well MW-01. TPH MRO was detected above RLs in wells MW-01 and MW-02 (original and duplicate samples) at a maximum concentration of 0.23 in well MW-02 (original sample). The TPH MRO detection in well MW-02 was the first detection of TPH MRO above RLs since monitoring at the Site commenced in November 2020. TPH GRO was not detected above RLs in any well during December 2022.

From October 2021 (the last event conducted before soil remediation activities were commenced) to December 2022, TPH DRO concentrations increased slightly in wells MW-01 and MW-02, and was stable in wells MW-03, MW-04, and MW-05. The 2022 TPH DRO concentrations were at or below the pre-remediation historical maximum TPH DRO concentrations reported at each well (May 2021). Thus, TPH DRO concentrations are overall stable at the Site and do not indicate any increase following implementation of soil remediation activities in August 2022.

As discussed above, TPH MRO was detected for the first time at the Site in August 2022 in well MW-01 and November 2022 in well MW-02. From October 2021 (the last sampling event conducted before soil remediation activities commenced) to August 2022, the TPH MRO concentration increased from non-detect to just above the RL in well MW-01 (original and duplicate samples). From August to December 2022, TPH MRO concentrations increased slightly in well MW-01 and increased from non-detect to just above the RL



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in well MW-02 (original and duplicate samples). TPH MRO concentrations will be watched closely during 2023 monitoring events.

Groundwater sample analytical data from 2020 to 2022 are presented in Table 2. The 2022 analytical results are presented on Figure 4. Copies of the laboratory analytical reports are included in Attachment C. Groundwater elevation and TPH DRO and MRO concentration plots for wells MW-01 through MW-05 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. The Quality Control Forms are provided in Attachment E.

Investigation Derived Waste Management

The water investigation-derived waste (IDW) generated during the 2022 monitoring activities, including purge and decontamination water, 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 2022 monitoring activities will be characterized, profiled, and transported to an off-Site disposal facility under manifest in 2023.

CONCLUSIONS AND RECOMMENDATIONS

The following conclusions are based on groundwater monitoring results from the third and fourth quarters of 2022:

- In August 2022 and December 2022, groundwater flow was to the south-southeast. This is generally consistent with previous monitoring events conducted at the Site.
- No LNAPL was observed or detected in any well during 2022.
- TPH DRO and/or MRO were detected above RLs in wells MW-01, MW-02, MW-04, and MW-05 during 2022.
- The 2022 groundwater monitoring results indicate stable concentration trends at the Site with the exception of TPH MRO in wells MW-01 and MW-02, which was detected above RLs in 2022 for the first time since groundwater monitoring at the Site commenced in November 2020. TPH MRO concentrations will be watched closely during 2023 groundwater monitoring events.
- Overall, the 2022 groundwater monitoring data supports previous conclusions that groundwater beneath the Site has not been affected by the 2018 HEP release.



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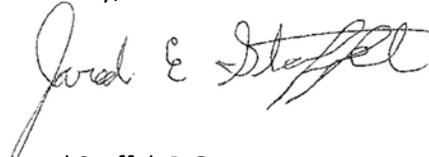
Quarterly groundwater monitoring will continue at the Site during 2023. The first quarter 2023 event was completed on February 15, 2023. A full-scale bioventing system will be installed and activated at the site during 2023 in accordance with the October 2022 Bioventing Recommendation Report. Pending resolution of a power source, it is anticipated that the system will be installed and activated at the site during 2023.

The next Annual Groundwater Monitoring Report summarizing 2023 quarterly groundwater monitoring activities will be submitted to the NMOCD within 120 days from the end of 2023. If installed and activated during 2023, 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 – Groundwater Potentiometric Surface Map – August 2022
Figure 3 – Groundwater Potentiometric Surface Map – December 2022
Figure 4 – Summary of 2022 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 – Analytical Data Quality Control Forms

cc: Mike Bratcher, New Mexico Energy, Minerals, and Natural Resources Department, Artesia, 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
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
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
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
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

Notes:

amsl = above mean sea level.

btoc = below top of casing.

LNAPL = light non-aqueous phase liquid.

ND = not detected.

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	Ethylbenzene	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	--	--
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	--	--
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	--	--
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	--	--
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	--	--

Notes:

COC = constituent of concern.

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).

BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes by EPA Method 8260.

TPH = Total Petroleum Hydrocarbons by EPA Method 8015.

GRO = Gasoline Range Organics.

DRO = Diesel Range Organics.

MRO = Motor Oil Range Organics.

Chloride by EPA Method 300.0.

mg/L = milligrams of COC per Liter of groundwater.

-- = Parameter not analyzed.

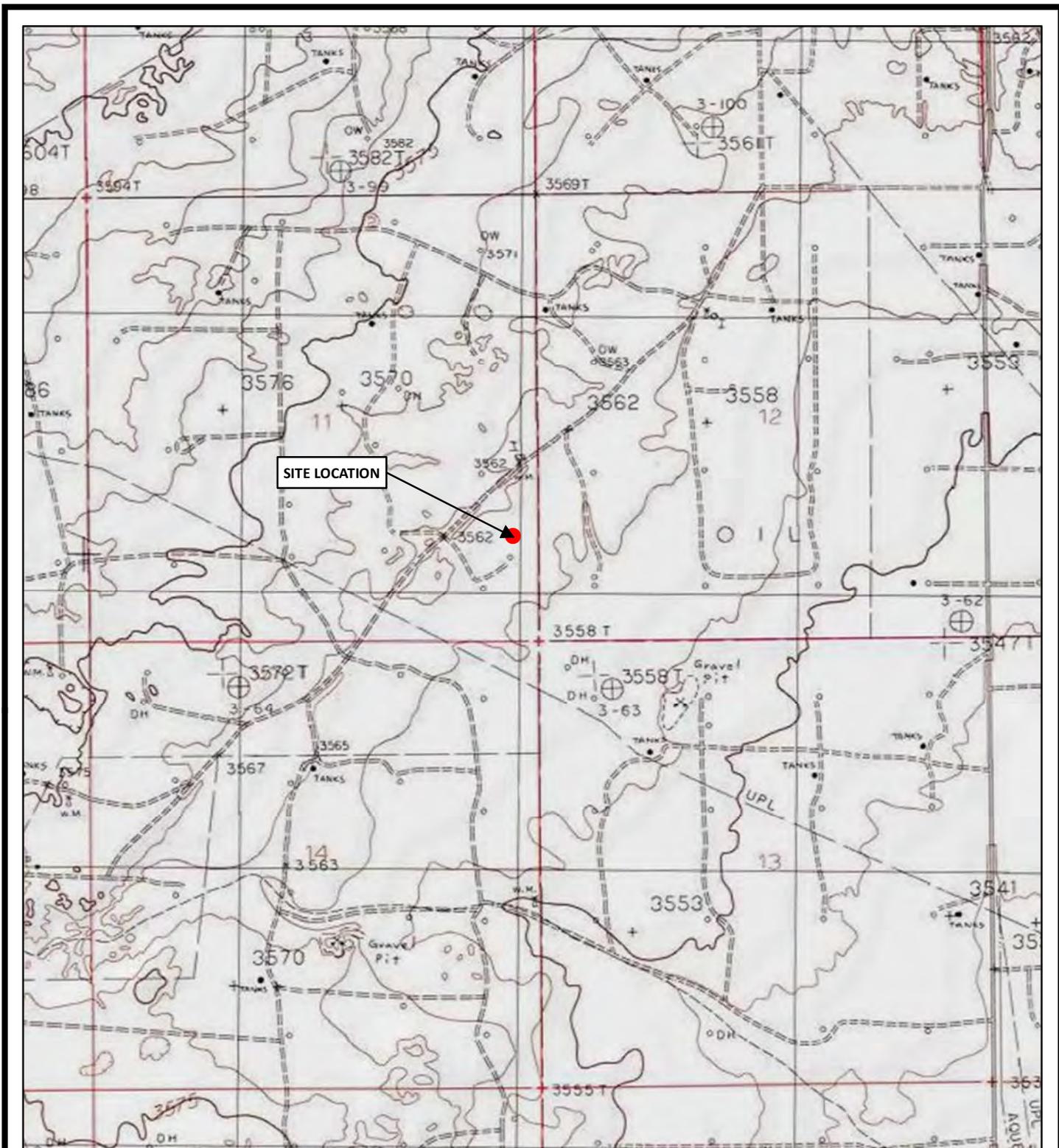
n = Not offered for accreditation.

Dup = Duplicate sample data.

Detected concentrations reported in **bold**.

Gold shading represents concentration above Other Standards for Domestic Water Supply.

FIGURES



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



TRC
 505 EAST HUNTLAND DRIVE
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TRC - GIS

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

TITLE:
SITE LOCATION MAP

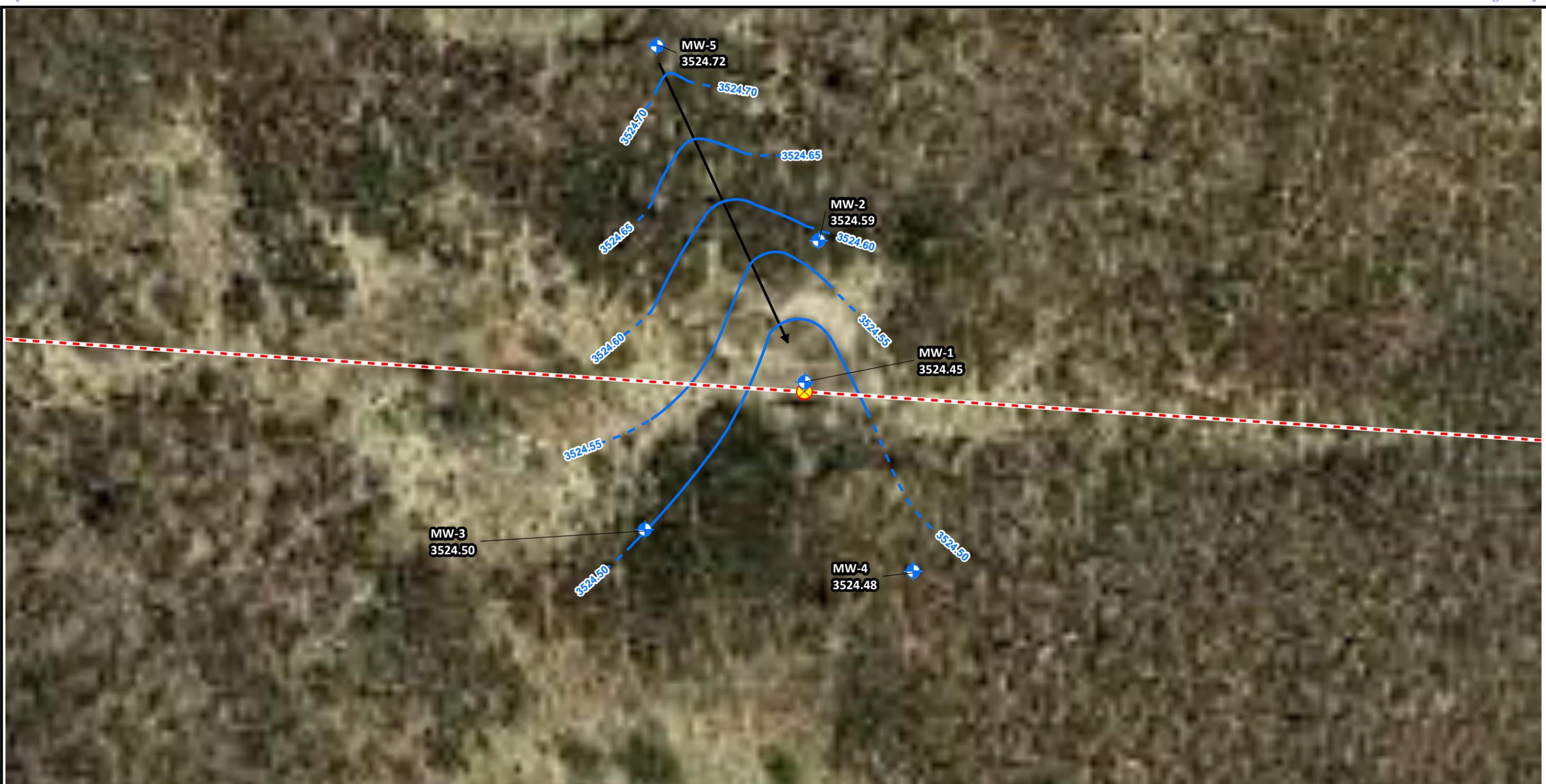
DRAWN BY:	M.JAGOE
CHECKED BY:	RDV
APPROVED BY:	J. STOFFEL
DATE:	JANUARY 2023
PROJ. NO.:	426140
FILE:	497744_1_Site Location Map.mxd

FIGURE 1

TRC - GIS

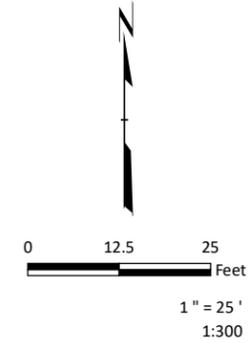
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Map Rotation: 0

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Path: S:\PROJECTS\HOLLY_ENERGY_PARTNERS\466951\mxd\497744_2_GW.mxd



SOURCE: AERIAL IMAGERY - GOOGLE AND THEIR DATA PARTNERS (11/2/2017)

- LEGEND**
- MONITORING WELL
 - 6" GATHERING LINE
 - RELEASE LOCATION
 - POTENTIOMETRIC CONTOUR (DASHED WHERE INFERRED)
 - GROUNDWATER FLOW DIRECTION
 - 3524.50 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

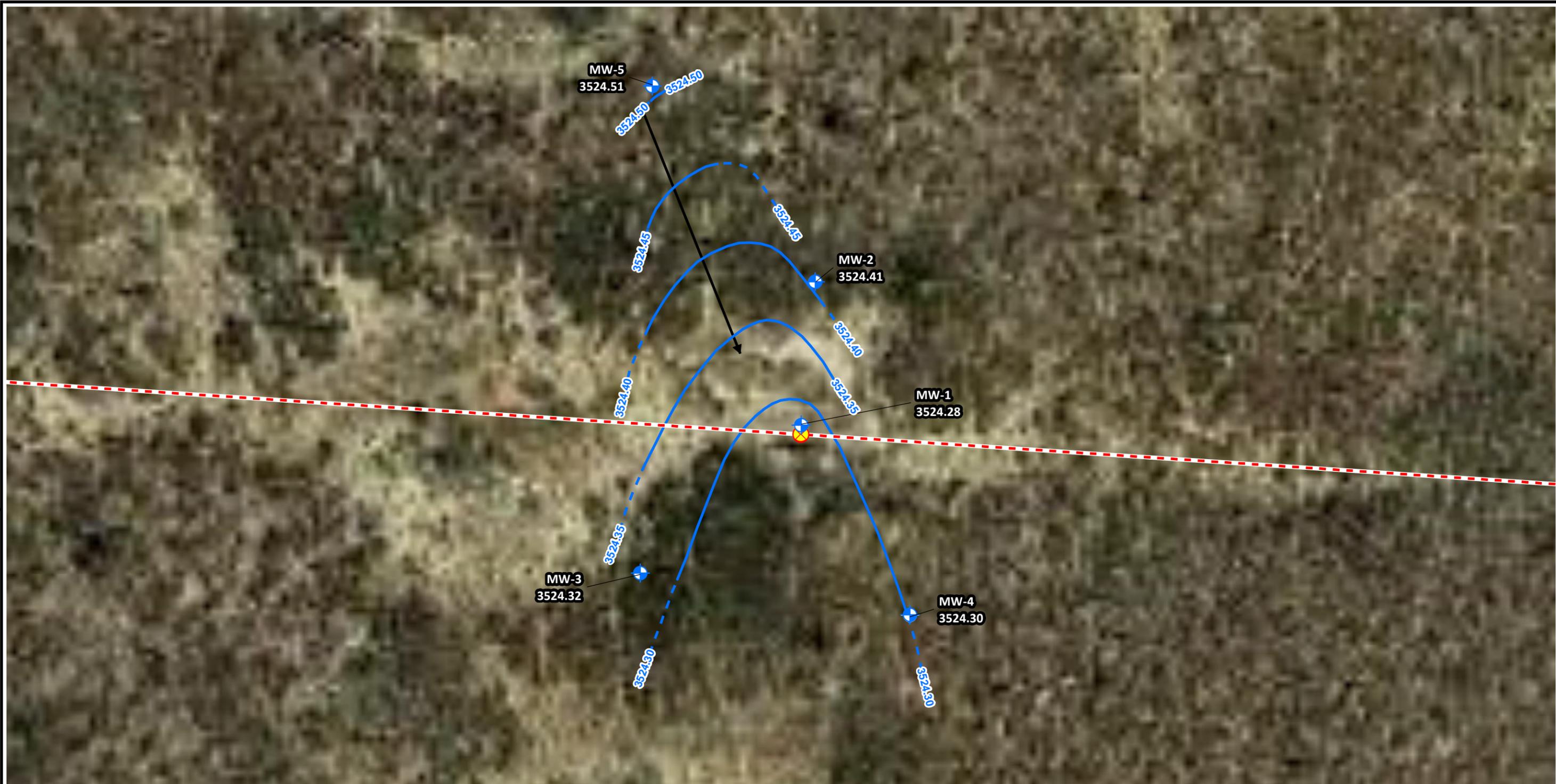


PROJECT:		HOLLY ENERGY PARTNERS - OPERATING, L.P. MONUMENT, LEA COUNTY, NEW MEXICO WTX TO EMSU BATTERY RELEASE SITE	
TITLE:		GROUNDWATER POTENTIOMETRIC SURFACE MAP AUGUST 2022	
DRAWN BY:	M. JAGOE	PROJ NO.:	497744
CHECKED BY:	B. LEE	FIGURE 2	
APPROVED BY:	J. STOFFEL		
DATE:	MARCH 2023		
		505 EAST HUNTLAND DRIVE, SUITE 250 AUSTIN, TX 78752 PHONE: 512.329.6080 WWW.TRCSOLUTIONS.COM	
FILE NO.:	497744_2_GW.mxd		

TRC - GIS

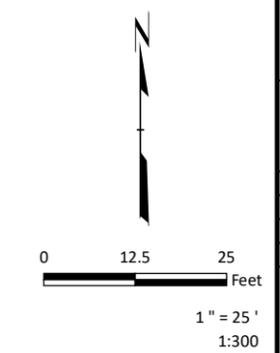
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SOURCE: AERIAL IMAGERY - GOOGLE AND THEIR DATA PARTNERS (11/2/2017)

- LEGEND**
- MONITORING WELL
 - 6" GATHERING LINE
 - RELEASE LOCATION
 - POTENTIOMETRIC CONTOUR (DASHED WHERE INFERRED)
 - GROUNDWATER FLOW DIRECTION
 - 3524.50 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

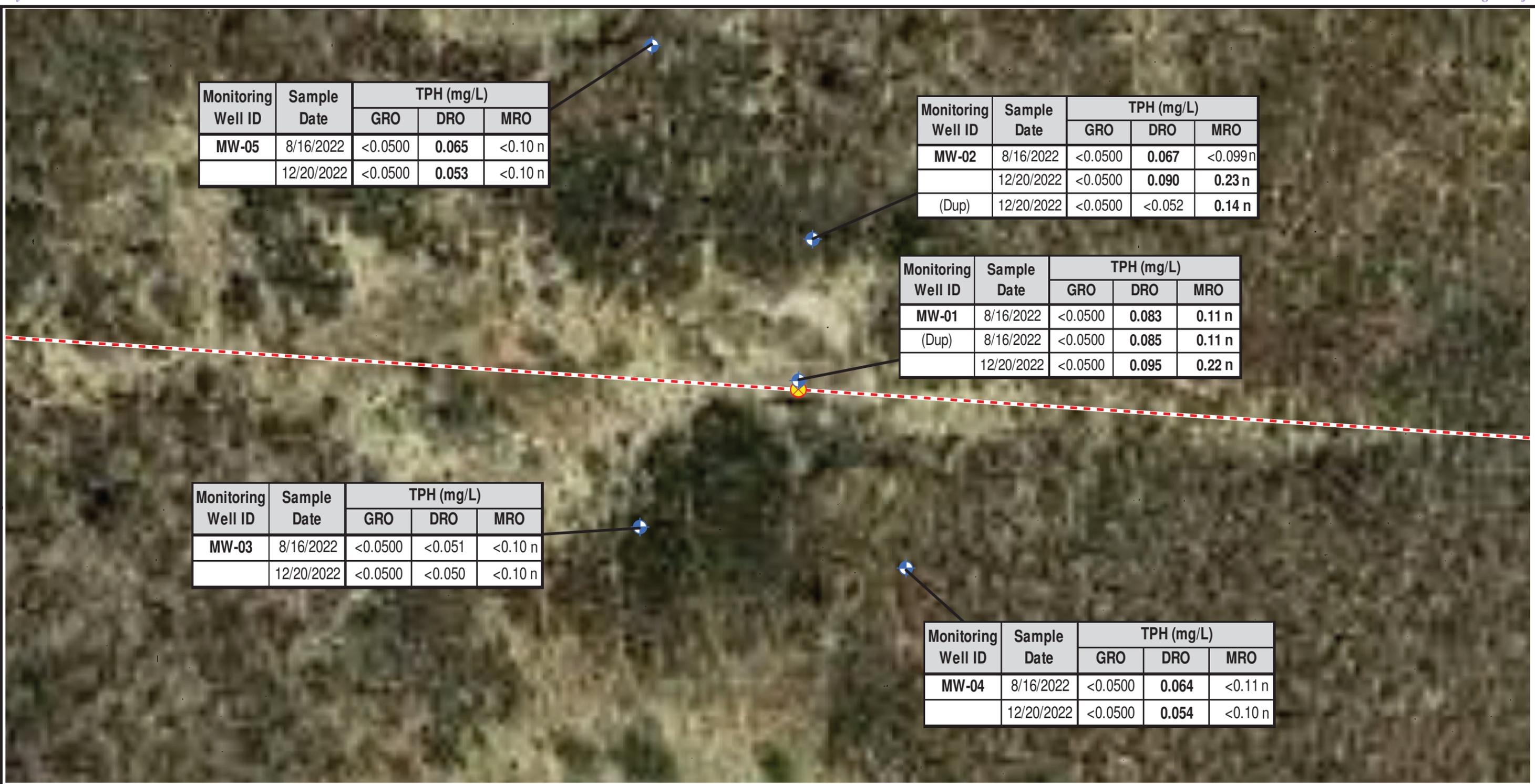


PROJECT:		HOLLY ENERGY PARTNERS - OPERATING, L.P. MONUMENT, LEA COUNTY, NEW MEXICO WTX TO EMSU BATTERY RELEASE SITE	
TITLE:		GROUNDWATER POTENTIOMETRIC SURFACE MAP DECEMBER 2022	
DRAWN BY:	M. JAGOE	PROJ NO.:	497744
CHECKED BY:	B. LEE	FIGURE 3	
APPROVED BY:	J. STOFFEL		
DATE:	MARCH 2023		
		505 EAST HUNTLAND DRIVE, SUITE 250 AUSTIN, TX 78752 PHONE: 512.329.6080 WWW.TRCSOLUTIONS.COM	
FILE NO.:	497744_3_GW.mxd		

TRC - GIS

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

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Monitoring Well ID	Sample Date	TPH (mg/L)		
		GRO	DRO	MRO
MW-05	8/16/2022	<0.0500	0.065	<0.10 n
	12/20/2022	<0.0500	0.053	<0.10 n

Monitoring Well ID	Sample Date	TPH (mg/L)		
		GRO	DRO	MRO
MW-02	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

Monitoring Well ID	Sample Date	TPH (mg/L)			
		GRO	DRO	MRO	
MW-01	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	

Monitoring Well ID	Sample Date	TPH (mg/L)		
		GRO	DRO	MRO
MW-03	8/16/2022	<0.0500	<0.051	<0.10 n
	12/20/2022	<0.0500	<0.050	<0.10 n

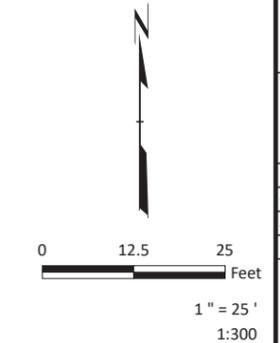
Monitoring Well ID	Sample Date	TPH (mg/L)		
		GRO	DRO	MRO
MW-04	8/16/2022	<0.0500	0.064	<0.11 n
	12/20/2022	<0.0500	0.054	<0.10 n

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.
Detected concentrations reported in bold.

SOURCE: AERIAL IMAGERY - GOOGLE AND THEIR DATA PARTNERS (11/2/2017)



PROJECT: HOLLY ENERGY PARTNERS - OPERATING, L.P. MONUMENT, LEA COUNTY, NEW MEXICO WTX TO EMSU BATTERY RELEASE SITE	
TITLE: SUMMARY OF 2022 GROUNDWATER SAMPLE ANALYTICAL RESULTS	
DRAWN BY: M. JAGOE	PROJ NO.: 497744
CHECKED BY: B. LEE	FIGURE 4
APPROVED BY: J. STOFFEL	
DATE: MARCH 2023	
505 EAST HUNTLAND DRIVE, SUITE 250 AUSTIN, TX 78752 PHONE: 512.329.6080 WWW.TRCSOLUTIONS.COM	
FILE NO.:	497744_4_GW.mxd

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

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ALWAYS hover over the link to preview the actual URL/site and confirm its legitimacy.

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
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Thank you.

Jared Stoffel, P.G.
Project Manager



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Project Manager



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Project Manager



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Sent: Friday, August 12, 2022 1:49 PM
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Cc: Sahba, Arsin; Trevor.baird; Melanie Nolan; Clark, Darija; Gilbert, Bryan; Hoover, Shannon; Helbert, Dana; Varnell, Richard
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



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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)

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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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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)

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Mr. Hensley and Mr. Bratcher,

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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

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Stoffel, Jennifer R.

From: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Sent: Monday, August 15, 2022 12:20 PM
To: Stoffel, Jared
Subject: RE: [EXTERNAL] WTX to EMSU Remediation Plan Addendum, C-108, and Associated Federal Forms (NOY1822242858)

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Hello,

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

Bradford Billings
EMNRD/OCD

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,

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- 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



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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)

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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)

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Jared Stoffel, P.G.
Project Manager



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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>
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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



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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>
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Jared,

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

Cheers,

Chad Hensley • Environmental Science & Specialist

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Sent: Friday, April 1, 2022 2:59 PM

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Jared Stoffel, P.G.
Project Manager



505 E Huntland Dr STE 250 Austin, TX 78752

F: 512 329 8750 | C: 432 238 3003

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Stoffel, Jared

From: Nobui, Jennifer, EMNRD <Jennifer.Nobui@state.nm.us>
Sent: Wednesday, August 17, 2022 1:59 PM
To: Stoffel, Jared; Billings, Bradford, EMNRD; Bratcher, Mike, EMNRD
Cc: Sahba, Arsin; Trevor.baird; Melanie Nolan; Clark, Darija; Gilbert, Bryan; 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)

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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>
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Project Manager



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

Chad Hensley • Environmental Science & Specialist

Environmental Bureau

EMNRD - Oil Conservation Division

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Thank you.

Jared Stoffel, P.G.
Project Manager



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Stoffel, Jared

From: Gilbert, Bryan
Sent: Tuesday, August 23, 2022 5:31 PM
To: Nobui, Jennifer, EMNRD; 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)

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)

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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

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EMNRD/OCD

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Project Manager



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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

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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

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

Chad,

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Jared Stoffel, P.G.
Project Manager



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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>
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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/>



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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)

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Thanks Gilbert for the notification.

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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>
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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

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Project Manager



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Sent: Thursday, April 7, 2022 8:16 AM
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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>
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Cheers,

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

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Cheers,

Chad Hensley • Environmental Science & Specialist

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EMNRD - Oil Conservation Division

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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



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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)

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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



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[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)

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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



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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)

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Hello Jared

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

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



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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)

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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



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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)

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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



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C: 925.699.6184 | F: 512.329.8750
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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)

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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



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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)

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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



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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)

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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



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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)

This is an **EXTERNAL** email. Do not click links or open attachments unless you validate the sender and know the content is safe.

ALWAYS hover over the link to preview the actual URL/site and confirm its legitimacy.

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@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)

This is an **EXTERNAL** email. Do not click links or open attachments unless you validate the sender and know the content is safe.

ALWAYS hover over the link to preview the actual URL/site and confirm its legitimacy.

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)

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

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)

This is an **EXTERNAL** email. Do not click links or open attachments unless you validate the sender and know the content is safe.

ALWAYS hover over the link to preview the actual URL/site and confirm its legitimacy.

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)

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

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](#)

ATTACHMENT B – GROUNDWATER SAMPLING FORMS

NW-1 + Dup-1



Sample Location		Date		8/16/2022		Are non-potable water signs posted at well and storage tanks?	
Client		Site		H&P			
Static Depth to Water (ft)		Sample Collection Time		37.08		1500	
Total Purge Volume (gal)		Purge Method		~10L		Pump	
Total Depth (ft)		Sample Method		49.25		Pump	
Screen Depth Interval (ft)		Water Description		20-50			
Pump Intake Depth (feet)		Sampling Personnel		~43'		PLS	

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
1430	0.810L	0.5L/min	37.17	0.09	6.82	21.71	3.85	86	3.75	272
1433		0.5L/min	37.19	0.11	6.91	21.96	3.86	85	2.41	205
1436			37.19	0.11	6.89	22.20	3.86	84	2.10	190
1439			37.20	0.12	6.83	22.26	3.84	88	2.06	131
1442			37.20	0.12	6.82	23.26	3.83	92	1.88	94
1445			37.20	0.12	6.81	23.27	3.83	92	1.89	92
1448	12L		37.20	0.12	6.82	23.26	3.83	92	2.00	92

* TROUBLE SHOOT PUMP IN HOLE → NEED BIG FILE TO OPEN UP TOP

Initials _____

MW-2



Static Depth to Water (ft) Total Purge Volume (gal) Total Depth (ft) Screen Depth Interval (ft) Pump Intake Depth (feet)		Sample Location		Date		Are non-potable water signs posted at well and storage tanks?	
		38.37		8.16.2022			
		24L		H&P			
		49.45		V&T			
Sample Collection Time		Purge Method		Sample Method		Water Description	
1220		Pump		Pump			
Sampling Personnel							
~43							

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
1146	2L	0.5/Lmin	38.39	1.04	6.78	25.12	3.88	90/43	0.93	850
1155			38.46	.85	6.78	25.12	3.88	90/43	0.93	850
1158			38.41	.06	6.76	25.18	3.86	135/28	0.93	850
1201			38.44		6.76	24.45	3.85	42	0.93	845
1204			38.41		6.77	24.43	3.85	42	0.93	852
1207			38.42	.07	6.76	24.48	3.85	42	0.93	850
1210			38.42	.07	6.77	24.48	3.84	41	0.93	841

Initials _____

Page _____ of _____

MWD-3



Sample Location		Date		Are non-potable water signs posted at well and storage tanks?	
Client		8.16.2022			
Site		W/TX			
Static Depth to Water (ft)	38.31	Sample Collection Time	1320		
Total Purge Volume (gal)	12.5 L	Purge Method	Pump		
Total Depth (ft)	49.61	Sample Method	Pump		
Screen Depth Interval (ft)	30-50	Water Description			
Pump Intake Depth (feet)	~43	Sampling Personnel	RS		

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
1246	2 L	0.52/min	38.39	0.08	6.90	24.10	3.10	100	2.75	565
1253			38.41	0.10	6.80	24.01	3.09	96	1.67	604
1256			38.41	0.10	6.75	24.02	3.10	92	1.58	711
1259			38.42	0.11	6.87	24.05	3.10	86	1.50	880
1302			38.42	0.11	6.87	24.10	3.08	81	1.44	1000
1305			38.42	0.11	6.85	24.23	3.07	73	1.14	720
1308			38.42	0.11	6.85	24.34	3.07	73	1.15	720
1311			38.42	0.11	6.84	24.30	3.08	73	1.14	699

Initials _____

Page _____ of _____

MW-4



		Sample Location Date Client Site		14EP-WTX 8.10.22 14EP WTX		Are non-potable water signs posted at well and storage tanks?	
Static Depth to Water (ft) Total Purge Volume (gal) Total Depth (ft) Screen Depth Interval (ft) Pump Intake Depth (feet)		38.64 13 L 50.28 30.50 ~43		Sample Collection Time Purge Method Sample Method Water Description Sampling Personnel		1410 Pump Pump PWS	

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
1335	25 L	6.5 L/min	38.63	0.04	6.75	28.34	3.98	53	3.41	95.1
1343			38.69		6.86	26.25	3.66	34	1.24	150
1346			38.70		6.92	22.96	3.80	20	0.53	124
1349			38.70		6.86	21.47	3.85	6	0.42	67.9
1352			38.71		6.85	21.38	3.85	5	0.41	64.2
1355			38.71		6.82	21.33	3.86	2	0.40	59.8
1358			38.71		6.81	21.32	3.86	2	0.40	58.7
1401			38.71		6.81	21.32	3.86	2	0.40	58.6

Initials _____

Page _____ of _____

M60-5



Sample Location		HSP - WTX		Are non-potable water signs posted at well and storage tanks?	
Date		16 Aug 2022			
Client		Hovet			
Site		WTX to Euser			
Static Depth to Water (ft)		3865		Sample Collection Time	
Total Purge Volume (gal)		~16 L		Purge Method	
Total Depth (ft)		4996		Sample Method	
Screen Depth Interval (ft)		30-50		Water Description	
Pump Intake Depth (feet)		~43		Sampling Personnel	
				RUS	

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
1042	~3.5	~205 L	38.75	.007	7.65	27.66	3.83	28	3.23	1000
1050	1.5				7.40	23.51	3.84	25	2.01	901
1053			38.75		7.31	23.58	2.47	71	1.62	931
1056			38.75		7.16	23.79	3.85	69	1.52	
1084			38.75	✓	7.08	23.77	3.79	81	2.00	790
1102			38.75							
1105			38.76	.08	6.99	23.66	3.86	70	1.01	1000
1106			38.70	.08	6.99	23.64	3.84	70	0.93	880
1111			38.76	.08	6.98	23.43	3.81	72	1.04	850
1114					6.94	23.38	3.79	74	0.97	646
1117					6.95	23.36	3.78	75	0.96	636

Initials _____

Page _____ of _____



	Sample Location		MW-02	Are non-potable water signs posted at well and storage tanks?
	Date		12/20/22	
	Client		HEP	
	Site		WSTX	
Static Depth to Water (ft)		38.53	Sample Collection Time	1115
Total Purge Volume (gal)		3.5	Purge Method	Sub pump
Total Depth (ft)		49.34	Sample Method	Grab
Screen Depth Interval (ft)			Water Description	Orange tint, no odor
Pump Intake Depth (feet)		~43.94	Sampling Personnel	E. B. Bunting & P. Swan

Time (min)	Volume Purged (# gal)	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
1053	0.25	250	38.69		6.97	16.81	3.81	143	17.13	0.0
1056	0.75	250	38.66		6.75	17.43	3.85	129	13.05	0.0
1059	1.5	250	38.78		6.88	17.84	3.87	127	6.15	1000
1102	2.0	250	38.84		6.81	18.01	3.75	93	4.04	1000
1105	2.5	250	38.94		6.72	19.88	3.78	38	10.69	1000
1108	3.0	250	38.92		6.72	19.61	3.76	57	10.49	0.0
1111	3.5	250	38.84		6.72	19.63	3.74	67	10.07	0.0

Initials CB

Page 1 of 1

ATTACHMENT C – LABORATORY ANALYTICAL REPORTS



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

September 23, 2022

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

Work Order: **HS22081018**

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

Dear Dana Helbert,

ALS Environmental received 8 sample(s) on Aug 18, 2022 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,

A handwritten signature in black ink, appearing to read 'Andy C. Neir'.

Generated By: ANDREW.NEIR
Andy C. Neir

ALS Houston, US

Date: 23-Sep-22

Client: TRC Corporation
Project: HEP WTX to EMSU GW
Work Order: HS22081018

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22081018-01	MW-01	Water		16-Aug-2022 15:00	18-Aug-2022 09:20	<input type="checkbox"/>
HS22081018-02	MW-02	Water		16-Aug-2022 12:20	18-Aug-2022 09:20	<input type="checkbox"/>
HS22081018-03	MW-03	Water		16-Aug-2022 13:20	18-Aug-2022 09:20	<input type="checkbox"/>
HS22081018-04	MW-04	Water		16-Aug-2022 14:10	18-Aug-2022 09:20	<input type="checkbox"/>
HS22081018-05	MW-05	Water		16-Aug-2022 11:25	18-Aug-2022 09:20	<input type="checkbox"/>
HS22081018-06	Duplicate-01	Water		16-Aug-2022 00:00	18-Aug-2022 09:20	<input type="checkbox"/>
HS22081018-07	EB-08-16-22	Water		16-Aug-2022 16:00	18-Aug-2022 09:20	<input type="checkbox"/>
HS22081018-08	Trip Blank-CG-070822-405	Water		16-Aug-2022 00:00	18-Aug-2022 09:20	<input checked="" type="checkbox"/>

ALS Houston, US

Date: 23-Sep-22

Client: TRC Corporation
Project: HEP WTX to EMSU GW
Work Order: HS22081018

CASE NARRATIVE

GC Semivolatiles by Method SW8015M

Batch ID: 182749

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

GC Volatiles by Method SW8015

Batch ID: R415440

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

ALS Houston, US

Date: 23-Sep-22

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: MW-01
 Collection Date: 16-Aug-2022 15:00

ANALYTICAL REPORT

WorkOrder:HS22081018
 Lab ID:HS22081018-01
 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	19-Aug-2022 10:46
Surr: 4-Bromofluorobenzene	99.8		70-123	%REC	1	19-Aug-2022 10:46
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3511 / 23-Aug-2022		Analyst: PPM
TPH (Diesel Range)	0.083		0.052	mg/L	1	25-Aug-2022 07:32
TPH (Oil Range)	0.11	n	0.10	mg/L	1	25-Aug-2022 07:32
Surr: 2-Fluorobiphenyl	81.9		60-135	%REC	1	25-Aug-2022 07:32

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

ALS Houston, US

Date: 23-Sep-22

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: MW-02
 Collection Date: 16-Aug-2022 12:20

ANALYTICAL REPORT

WorkOrder:HS22081018
 Lab ID:HS22081018-02
 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	19-Aug-2022 11:02
Surr: 4-Bromofluorobenzene	98.9		70-123	%REC	1	19-Aug-2022 11:02
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3511 / 23-Aug-2022		Analyst: PPM
TPH (Diesel Range)	0.067		0.049	mg/L	1	25-Aug-2022 08:01
TPH (Oil Range)	ND	n	0.099	mg/L	1	25-Aug-2022 08:01
Surr: 2-Fluorobiphenyl	72.7		60-135	%REC	1	25-Aug-2022 08:01

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

ALS Houston, US

Date: 23-Sep-22

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: MW-03
 Collection Date: 16-Aug-2022 13:20

ANALYTICAL REPORT

WorkOrder:HS22081018
 Lab ID:HS22081018-03
 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	19-Aug-2022 11:17
Surr: 4-Bromofluorobenzene	95.9		70-123	%REC	1	19-Aug-2022 11:17
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3511 / 23-Aug-2022		Analyst: PPM
TPH (Diesel Range)	ND		0.051	mg/L	1	25-Aug-2022 08:30
TPH (Oil Range)	ND	n	0.10	mg/L	1	25-Aug-2022 08:30
Surr: 2-Fluorobiphenyl	74.1		60-135	%REC	1	25-Aug-2022 08:30

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

ALS Houston, US

Date: 23-Sep-22

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: MW-04
 Collection Date: 16-Aug-2022 14:10

ANALYTICAL REPORT

WorkOrder:HS22081018
 Lab ID:HS22081018-04
 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	19-Aug-2022 11:33
Surr: 4-Bromofluorobenzene	100		70-123	%REC	1	19-Aug-2022 11:33
TPH DRO/ORO BY SW8015C		Method:SW8015M			Prep:SW3511 / 23-Aug-2022	Analyst: PPM
TPH (Diesel Range)	0.064		0.053	mg/L	1	25-Aug-2022 09:00
TPH (Oil Range)	ND	n	0.11	mg/L	1	25-Aug-2022 09:00
Surr: 2-Fluorobiphenyl	75.0		60-135	%REC	1	25-Aug-2022 09:00

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

ALS Houston, US

Date: 23-Sep-22

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: MW-05
 Collection Date: 16-Aug-2022 11:25

ANALYTICAL REPORT

WorkOrder:HS22081018
 Lab ID:HS22081018-05
 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	19-Aug-2022 11:49
Surr: 4-Bromofluorobenzene	101		70-123	%REC	1	19-Aug-2022 11:49
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3511 / 23-Aug-2022		Analyst: PPM
TPH (Diesel Range)	0.065		0.051	mg/L	1	25-Aug-2022 09:29
TPH (Oil Range)	ND	n	0.10	mg/L	1	25-Aug-2022 09:29
Surr: 2-Fluorobiphenyl	78.5		60-135	%REC	1	25-Aug-2022 09:29

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

ALS Houston, US

Date: 23-Sep-22

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: Duplicate-01
 Collection Date: 16-Aug-2022 00:00

ANALYTICAL REPORT

WorkOrder:HS22081018
 Lab ID:HS22081018-06
 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	19-Aug-2022 12:05
Surr: 4-Bromofluorobenzene	97.8		70-123	%REC	1	19-Aug-2022 12:05
TPH DRO/ORO BY SW8015C		Method:SW8015M		Prep:SW3511 / 23-Aug-2022		Analyst: PPM
TPH (Diesel Range)	0.085		0.052	mg/L	1	25-Aug-2022 09:58
TPH (Oil Range)	0.11	n	0.10	mg/L	1	25-Aug-2022 09:58
Surr: 2-Fluorobiphenyl	82.4		60-135	%REC	1	25-Aug-2022 09:58

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

ALS Houston, US

Date: 23-Sep-22

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: EB-08-16-22
 Collection Date: 16-Aug-2022 16:00

ANALYTICAL REPORT

WorkOrder:HS22081018
 Lab ID:HS22081018-07
 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	19-Aug-2022 10:30
Surr: 4-Bromofluorobenzene	99.4		70-123	%REC	1	19-Aug-2022 10:30
TPH DRO/ORO BY SW8015C		Method:SW8015M			Prep:SW3511 / 23-Aug-2022	Analyst: PPM
TPH (Diesel Range)	ND		0.054	mg/L	1	25-Aug-2022 10:28
TPH (Oil Range)	ND	n	0.11	mg/L	1	25-Aug-2022 10:28
Surr: 2-Fluorobiphenyl	79.9		60-135	%REC	1	25-Aug-2022 10:28

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

ALS Houston, US

Date: 23-Sep-22

Weight / Prep Log

Client: TRC Corporation
Project: HEP WTX to EMSU GW
WorkOrder: HS22081018

Batch ID: 182749 Start Date: 23 Aug 2022 10:11 End Date: 24 Aug 2022 12:30
Method: SW3511 Prep Code: 3511_DRO

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22081018-01		31.51 (mL)	2 (mL)	0.06347	40 mL Amber
HS22081018-02		33.38 (mL)	2 (mL)	0.05992	40 mL Amber
HS22081018-03		32.55 (mL)	2 (mL)	0.06144	40 mL Amber
HS22081018-04		31.42 (mL)	2 (mL)	0.06365	40 mL Amber
HS22081018-05		32.2 (mL)	2 (mL)	0.06211	40 mL Amber
HS22081018-06		31.5 (mL)	2 (mL)	0.06349	40 mL Amber
HS22081018-07		30.37 (mL)	2 (mL)	0.06585	40 mL Amber

ALS Houston, US

Date: 23-Sep-22

Client: TRC Corporation
Project: HEP WTX to EMSU GW
WorkOrder: HS22081018

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 182749 (0)		Test Name : TPH DRO/ORO BY SW8015C			Matrix: Water	
HS22081018-01	MW-01	16 Aug 2022 15:00		23 Aug 2022 10:11	25 Aug 2022 07:32	1
HS22081018-02	MW-02	16 Aug 2022 12:20		23 Aug 2022 10:11	25 Aug 2022 08:01	1
HS22081018-03	MW-03	16 Aug 2022 13:20		23 Aug 2022 10:11	25 Aug 2022 08:30	1
HS22081018-04	MW-04	16 Aug 2022 14:10		23 Aug 2022 10:11	25 Aug 2022 09:00	1
HS22081018-05	MW-05	16 Aug 2022 11:25		23 Aug 2022 10:11	25 Aug 2022 09:29	1
HS22081018-06	Duplicate-01	16 Aug 2022 00:00		23 Aug 2022 10:11	25 Aug 2022 09:58	1
HS22081018-07	EB-08-16-22	16 Aug 2022 16:00		23 Aug 2022 10:11	25 Aug 2022 10:28	1
Batch ID: R415440 (0)		Test Name : GASOLINE RANGE ORGANICS BY SW8015C			Matrix: Water	
HS22081018-01	MW-01	16 Aug 2022 15:00			19 Aug 2022 10:46	1
HS22081018-02	MW-02	16 Aug 2022 12:20			19 Aug 2022 11:02	1
HS22081018-03	MW-03	16 Aug 2022 13:20			19 Aug 2022 11:17	1
HS22081018-04	MW-04	16 Aug 2022 14:10			19 Aug 2022 11:33	1
HS22081018-05	MW-05	16 Aug 2022 11:25			19 Aug 2022 11:49	1
HS22081018-06	Duplicate-01	16 Aug 2022 00:00			19 Aug 2022 12:05	1
HS22081018-07	EB-08-16-22	16 Aug 2022 16:00			19 Aug 2022 10:30	1

ALS Houston, US

Date: 23-Sep-22

Client: TRC Corporation
Project: HEP WTX to EMSU GW
WorkOrder: HS22081018

QC BATCH REPORT

Batch ID: 182749 (0)	Instrument: FID-16	Method: TPH DRO/ORO BY SW8015C
-------------------------------	---------------------------	---------------------------------------

MBLK	Sample ID: MBLK-182749	Units: mg/L	Analysis Date: 24-Aug-2022 15:52							
Client ID:	Run ID: FID-16_415863	SeqNo: 6819816	PrepDate: 23-Aug-2022 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
TPH (Diesel Range)	ND	0.050								
TPH (Oil Range)	ND	0.10								
Surr: 2-Fluorobiphenyl	0.04699	0.0050	0.06	0	78.3	60 - 135				

LCS	Sample ID: LCS-182749	Units: mg/L	Analysis Date: 24-Aug-2022 16:21							
Client ID:	Run ID: FID-16_415863	SeqNo: 6819817	PrepDate: 23-Aug-2022 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
TPH (Diesel Range)	0.6199	0.050	0.6	0	103	70 - 130				
TPH (Oil Range)	0.6853	0.10	0.6	0	114	70 - 130				
Surr: 2-Fluorobiphenyl	0.06149	0.0050	0.06	0	102	60 - 135				

LCSD	Sample ID: LCSD-182749	Units: mg/L	Analysis Date: 24-Aug-2022 16:51							
Client ID:	Run ID: FID-16_415863	SeqNo: 6819818	PrepDate: 23-Aug-2022 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
TPH (Diesel Range)	0.6167	0.050	0.6	0	103	70 - 130	0.6199	0.531	20	
TPH (Oil Range)	0.6932	0.10	0.6	0	116	70 - 130	0.6853	1.15	20	
Surr: 2-Fluorobiphenyl	0.06177	0.0050	0.06	0	103	60 - 135	0.06149	0.452	20	

The following samples were analyzed in this batch:

HS22081018-01	HS22081018-02	HS22081018-03	HS22081018-04
HS22081018-05	HS22081018-06	HS22081018-07	

ALS Houston, US

Date: 23-Sep-22

Client: TRC Corporation
Project: HEP WTX to EMSU GW
WorkOrder: HS22081018

QC BATCH REPORT

Batch ID: R415440 (0)	Instrument: FID-20	Method: GASOLINE RANGE ORGANICS BY SW8015C								
MBLK	Sample ID: MBLK-220819	Units: mg/L	Analysis Date: 19-Aug-2022 10:15							
Client ID:	Run ID: FID-20_415440	SeqNo: 6810011	PrepDate: DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Gasoline Range Organics	ND	0.0500								
Surr: 4-Bromofluorobenzene	0.09821	0.00500	0.1	0	98.2	70 - 121				

LCS	Sample ID: LCS-220819	Units: mg/L	Analysis Date: 19-Aug-2022 09:43							
Client ID:	Run ID: FID-20_415440	SeqNo: 6810009	PrepDate: DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Gasoline Range Organics	0.8456	0.0500	1	0	84.6	76 - 124				
Surr: 4-Bromofluorobenzene	0.08032	0.00500	0.1	0	80.3	52 - 138				

LCSD	Sample ID: LCSD-220819	Units: mg/L	Analysis Date: 19-Aug-2022 09:59							
Client ID:	Run ID: FID-20_415440	SeqNo: 6810010	PrepDate: DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Gasoline Range Organics	0.907	0.0500	1	0	90.7	76 - 124	0.8456	7.01	20	
Surr: 4-Bromofluorobenzene	0.0862	0.00500	0.1	0	86.2	52 - 138	0.08032	7.05	20	

The following samples were analyzed in this batch:

HS22081018-01	HS22081018-02	HS22081018-03	HS22081018-04
HS22081018-05	HS22081018-06	HS22081018-07	

ALS Houston, US

Date: 23-Sep-22

Client: TRC Corporation
Project: HEP WTX to EMSU GW
WorkOrder: HS22081018

**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 Quantitation 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: 23-Sep-22

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2022	31-Dec-2022
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US

Date: 23-Sep-22

Sample Receipt Checklist

Work Order ID: HS22081018

Date/Time Received: 18-Aug-2022 09:20

Client Name: TRC-AUS

Received by: Nelson D. Dusara

Completed By: /S/ Nilesch D. Ranchod	18-Aug-2022 18:29	Reviewed by: /S/ Dane J. Wacasey	19-Aug-2022 13:48
eSignature	Date/Time	eSignature	Date/Time

Matrices: **Water**

Carrier name: **FedEx Priority Overnight**

- 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
- 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):	4.1C/4.6C UC/C	IR #31
Cooler(s)/Kit(s):	46439	
Date/Time sample(s) sent to storage:	08/18/2022 19:00	
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/> No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/> No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:		
Login Notes:	TB received not listed on chain. Logged on Hold	

Client Contacted:	Date Contacted:	Person Contacted:
Contacted By:	Regarding:	
Comments:		
Corrective Action:		



ALS Laboratory Group
 10450 Stancliff Rd. #210
 Houston, Texas 77099
 (Tel) 281.530.5656
 (Fax) 281.530.5887

Chain of Custody Form

Page _____ of _____

HS22081018

TRC Corporation
 HEP WTX to EMSU



Customer Information		ALS Project Manager: Dane Wacasey	
Purchase Order	497744	Project Information	
Work Order		Project Name	HEP WTX to EMSU
Company Name	TRC Corporation	Project Number	497744
Send Report To	Dana Helbert / Jared Stoffel	Bill To Company	TRC Corporation
Address	505 East Huntland Drive	Invoice Attn.	TRC - AP
	Suite 250	Address	505 East Huntland Drive
City/State/Zip	Austin, TX 78752	City/State/Zip	Austin, TX 78752
Phone	713-306-9550	Phone	512-329-6080
Fax		Fax	
e-Mail Address	dhelbert@trccompanies.com, rstoffel@trccompanies.com	e-Mail Address	apinvoicerequest@trccompanies.com

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-01	8.16.2022	1500	W	Y	6	x	x	x								
2	MW-02	8.16.2022	1220	W	Y	6	x	x	x								
3	MW-03	8.16.2022	1320	W	Y	6	x	x	x								
4	MW-04	8.16.2022	1410	W	Y	6	x	x	x								
5	MW-05	8.16.2022	1125	W	Y	6	x	x	x								
6	Duplicate-01	8.16.2022	--	W	Y	6	x	x	x								
7	EB-08-16-22	8.16.2022	1600	W	Y	6	x	x	x								
8																	
9																	
10																	

Sampler(s): Please Print & Sign *Russell Sebring* *Ross*

Relinquished by: *[Signature]* Date: 8/17/22 Time: 1600

Received by: *[Signature]* Date: 08/18/22 Time: 9:20

Logged by (Laboratory): *[Signature]* Date: _____ Time: _____

Shipment Method: _____

Required Turnaround Time: STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour

Results Due Date: _____

Notes: 46439 4/01 [P23]

Cooler Temp. _____

QC Package: (Check Box Below)

<input checked="" type="checkbox"/>	Level II: Standard QC	TRRP-Checklist
<input type="checkbox"/>	Level III: Std QC + Raw Data	TRRP Level IV
<input type="checkbox"/>	Level IV: SW846 CLP-Like	
<input type="checkbox"/>	Other: _____	

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NAOH 5-Na2S2O3 6-NAHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

 ALS 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887	CUSTODY SEAL		Seal Broken By: <i>SM</i>
	Date: <i>8/18/22</i>	Time: <i>1600</i>	Date: <i>08/18/22</i>
	Name: <i>ALS</i>	Company: <i>ALS</i>	

46439 AS1002



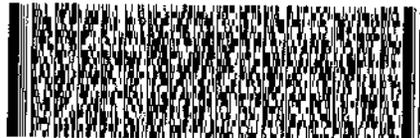
ORIGIN ID: SGRA (575) 391-8777 RODREY ELJARI (GUEST) HOLIDAY INN EXPRESS C/O TRC CORP. 4000 N. LOVINGTON HWY MOBBS, NM 88240 UNITED STATES US	SHIP DATE: 08AUG22 ACTWGT: 1.00 LB MAN CAD: 0221247/CAFE3512 DIRS: 26x14x14 IN
--	---

TO SHIPPING DEPT
 ALS LABORATORY GROUP
 10450 STANCLIFF RD
 SUITE 210
 HOUSTON TX 77099

46439

(281) 530-5656
 REF: HEP WTX TOEMSU - BO 67072 - DW

RMA: 11111111



FedEx
 TRK# 5789 1996 5874

THU - 18 AUG 10:30A
 PRIORITY OVERNIGHT

AB SGRA

77099
 TX-US IAH



423553 08/17 55132/F360/FE30



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

January 03, 2023

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

Work Order: **HS22121291**

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

Dear Dana Helbert,

ALS Environmental received 8 sample(s) on Dec 21, 2022 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: DAYNA.FISHER
Andy C. Neir

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
Project: HEP WTX to EMSU GW
Work Order: HS22121291

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS22121291-01	MW-01	Water		20-Dec-2022 12:05	21-Dec-2022 11:20	<input type="checkbox"/>
HS22121291-02	MW-02	Water		20-Dec-2022 11:15	21-Dec-2022 11:20	<input type="checkbox"/>
HS22121291-03	MW-03	Water		20-Dec-2022 13:05	21-Dec-2022 11:20	<input type="checkbox"/>
HS22121291-04	MW-04	Water		20-Dec-2022 13:30	21-Dec-2022 11:20	<input type="checkbox"/>
HS22121291-05	MW-05	Water		20-Dec-2022 10:35	21-Dec-2022 11:20	<input type="checkbox"/>
HS22121291-06	Duplicate-01	Water		20-Dec-2022 00:00	21-Dec-2022 11:20	<input type="checkbox"/>
HS22121291-07	EB-12-20-22	Water		20-Dec-2022 13:35	21-Dec-2022 11:20	<input type="checkbox"/>
HS22121291-08	Trip Blank-CG-102122-546	Water		20-Dec-2022 00:00	21-Dec-2022 11:20	<input checked="" type="checkbox"/>

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
Project: HEP WTX to EMSU GW
Work Order: HS22121291

CASE NARRATIVE

GC Semivolatiles by Method SW8015M

Batch ID: 187768

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

GC Volatiles by Method SW8015

Batch ID: R424693,R424780

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

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: MW-01
 Collection Date: 20-Dec-2022 12:05

ANALYTICAL REPORT

WorkOrder:HS22121291
 Lab ID:HS22121291-01
 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	23-Dec-2022 18:04
Surr: 4-Bromofluorobenzene	116		70-123	%REC	1	23-Dec-2022 18:04
TPH DRO/ORO BY SW8015C		Method:SW8015M			Prep:SW3511 / 24-Dec-2022	Analyst: SAM
TPH (Diesel Range)	0.095		0.051	mg/L	1	27-Dec-2022 18:03
TPH (Oil Range)	0.22	n	0.10	mg/L	1	27-Dec-2022 18:03
Surr: 2-Fluorobiphenyl	122		60-135	%REC	1	27-Dec-2022 18:03

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

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: MW-02
 Collection Date: 20-Dec-2022 11:15

ANALYTICAL REPORT

WorkOrder:HS22121291
 Lab ID:HS22121291-02
 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	23-Dec-2022 18:18
Surr: 4-Bromofluorobenzene	114		70-123	%REC	1	23-Dec-2022 18:18
TPH DRO/ORO BY SW8015C		Method:SW8015M			Prep:SW3511 / 24-Dec-2022	Analyst: SAM
TPH (Diesel Range)	0.090		0.051	mg/L	1	27-Dec-2022 18:33
TPH (Oil Range)	0.23	n	0.10	mg/L	1	27-Dec-2022 18:33
Surr: 2-Fluorobiphenyl	102		60-135	%REC	1	27-Dec-2022 18:33

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

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: MW-03
 Collection Date: 20-Dec-2022 13:05

ANALYTICAL REPORT

WorkOrder:HS22121291
 Lab ID:HS22121291-03
 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	23-Dec-2022 18:31
Surr: 4-Bromofluorobenzene	114		70-123	%REC	1	23-Dec-2022 18:31
TPH DRO/ORO BY SW8015C		Method:SW8015M			Prep:SW3511 / 24-Dec-2022	Analyst: SAM
TPH (Diesel Range)	ND		0.050	mg/L	1	27-Dec-2022 19:02
TPH (Oil Range)	ND	n	0.10	mg/L	1	27-Dec-2022 19:02
Surr: 2-Fluorobiphenyl	98.5		60-135	%REC	1	27-Dec-2022 19:02

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

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: MW-04
 Collection Date: 20-Dec-2022 13:30

ANALYTICAL REPORT

WorkOrder:HS22121291
 Lab ID:HS22121291-04
 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	23-Dec-2022 18:44
Surr: 4-Bromofluorobenzene	114		70-123	%REC	1	23-Dec-2022 18:44
TPH DRO/ORO BY SW8015C		Method:SW8015M			Prep:SW3511 / 24-Dec-2022	Analyst: SAM
TPH (Diesel Range)	0.054		0.050	mg/L	1	27-Dec-2022 19:32
TPH (Oil Range)	ND	n	0.10	mg/L	1	27-Dec-2022 19:32
Surr: 2-Fluorobiphenyl	106		60-135	%REC	1	27-Dec-2022 19:32

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

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: MW-05
 Collection Date: 20-Dec-2022 10:35

ANALYTICAL REPORT

WorkOrder:HS22121291
 Lab ID:HS22121291-05
 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	23-Dec-2022 18:58
Surr: 4-Bromofluorobenzene	113		70-123	%REC	1	23-Dec-2022 18:58
TPH DRO/ORO BY SW8015C		Method:SW8015M			Prep:SW3511 / 24-Dec-2022	Analyst: SAM
TPH (Diesel Range)	0.053		0.050	mg/L	1	27-Dec-2022 20:01
TPH (Oil Range)	ND	n	0.10	mg/L	1	27-Dec-2022 20:01
Surr: 2-Fluorobiphenyl	104		60-135	%REC	1	27-Dec-2022 20:01

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

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: Duplicate-01
 Collection Date: 20-Dec-2022 00:00

ANALYTICAL REPORT

WorkOrder:HS22121291
 Lab ID:HS22121291-06
 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	23-Dec-2022 19:11
Surr: 4-Bromofluorobenzene	113		70-123	%REC	1	23-Dec-2022 19:11
TPH DRO/ORO BY SW8015C		Method:SW8015M			Prep:SW3511 / 24-Dec-2022	Analyst: SAM
TPH (Diesel Range)	ND		0.052	mg/L	1	27-Dec-2022 20:31
TPH (Oil Range)	0.14	n	0.10	mg/L	1	27-Dec-2022 20:31
Surr: 2-Fluorobiphenyl	99.1		60-135	%REC	1	27-Dec-2022 20:31

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

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
 Project: HEP WTX to EMSU GW
 Sample ID: EB-12-20-22
 Collection Date: 20-Dec-2022 13:35

ANALYTICAL REPORT

WorkOrder:HS22121291
 Lab ID:HS22121291-07
 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	22-Dec-2022 12:26
Surr: 4-Bromofluorobenzene	118		70-123	%REC	1	22-Dec-2022 12:26
TPH DRO/ORO BY SW8015C		Method:SW8015M			Prep:SW3511 / 24-Dec-2022	Analyst: SAM
TPH (Diesel Range)	ND		0.051	mg/L	1	27-Dec-2022 21:00
TPH (Oil Range)	ND	n	0.10	mg/L	1	27-Dec-2022 21:00
Surr: 2-Fluorobiphenyl	99.4		60-135	%REC	1	27-Dec-2022 21:00

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

ALS Houston, US

Date: 03-Jan-23

Weight / Prep Log

Client: TRC Corporation
Project: HEP WTX to EMSU GW
WorkOrder: HS22121291

Batch ID: 187768 Start Date: 24 Dec 2022 09:02 End Date: 24 Dec 2022 12:30
Method: SW3511 Prep Code: 3511_DRO

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS22121291-01		32.38 (mL)	2 (mL)	0.06177	40 mL Amber
HS22121291-02		32.42 (mL)	2 (mL)	0.06169	40 mL Amber
HS22121291-03		32.9 (mL)	2 (mL)	0.06079	40 mL Amber
HS22121291-04		32.98 (mL)	2 (mL)	0.06064	40 mL Amber
HS22121291-05		32.93 (mL)	2 (mL)	0.06073	40 mL Amber
HS22121291-06		31.62 (mL)	2 (mL)	0.06325	40 mL Amber
HS22121291-07		32.64 (mL)	2 (mL)	0.06127	40 mL Amber

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
Project: HEP WTX to EMSU GW
WorkOrder: HS22121291

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 187768 (0)		Test Name : TPH DRO/ORO BY SW8015C			Matrix: Water	
HS22121291-01	MW-01	20 Dec 2022 12:05		24 Dec 2022 09:02	27 Dec 2022 18:03	1
HS22121291-02	MW-02	20 Dec 2022 11:15		24 Dec 2022 09:02	27 Dec 2022 18:33	1
HS22121291-03	MW-03	20 Dec 2022 13:05		24 Dec 2022 09:02	27 Dec 2022 19:02	1
HS22121291-04	MW-04	20 Dec 2022 13:30		24 Dec 2022 09:02	27 Dec 2022 19:32	1
HS22121291-05	MW-05	20 Dec 2022 10:35		24 Dec 2022 09:02	27 Dec 2022 20:01	1
HS22121291-06	Duplicate-01	20 Dec 2022 00:00		24 Dec 2022 09:02	27 Dec 2022 20:31	1
HS22121291-07	EB-12-20-22	20 Dec 2022 13:35		24 Dec 2022 09:02	27 Dec 2022 21:00	1
Batch ID: R424693 (0)		Test Name : GASOLINE RANGE ORGANICS BY SW8015C			Matrix: Water	
HS22121291-07	EB-12-20-22	20 Dec 2022 13:35			22 Dec 2022 12:26	1
Batch ID: R424780 (0)		Test Name : GASOLINE RANGE ORGANICS BY SW8015C			Matrix: Water	
HS22121291-01	MW-01	20 Dec 2022 12:05			23 Dec 2022 18:04	1
HS22121291-02	MW-02	20 Dec 2022 11:15			23 Dec 2022 18:18	1
HS22121291-03	MW-03	20 Dec 2022 13:05			23 Dec 2022 18:31	1
HS22121291-04	MW-04	20 Dec 2022 13:30			23 Dec 2022 18:44	1
HS22121291-05	MW-05	20 Dec 2022 10:35			23 Dec 2022 18:58	1
HS22121291-06	Duplicate-01	20 Dec 2022 00:00			23 Dec 2022 19:11	1

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
Project: HEP WTX to EMSU GW
WorkOrder: HS22121291

QC BATCH REPORT

Batch ID: 187768 (0)	Instrument: FID-16	Method: TPH DRO/ORO BY SW8015C
-------------------------------	---------------------------	---------------------------------------

MBLK	Sample ID: MBLK-187768	Units: mg/L	Analysis Date: 27-Dec-2022 16:35						
Client ID:	Run ID: FID-16_425169	SeqNo: 7059194	PrepDate: 24-Dec-2022 DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
TPH (Diesel Range)	ND	0.050							
TPH (Oil Range)	ND	0.10							
Surr: 2-Fluorobiphenyl	0.04244	0.0050	0.06	0	70.7	60 - 135			

LCS	Sample ID: LCS-187768	Units: mg/L	Analysis Date: 27-Dec-2022 17:04						
Client ID:	Run ID: FID-16_425169	SeqNo: 7059195	PrepDate: 24-Dec-2022 DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
TPH (Diesel Range)	0.5757	0.050	0.6	0	96.0	70 - 130			
TPH (Oil Range)	0.6021	0.10	0.6	0	100	70 - 130			
Surr: 2-Fluorobiphenyl	0.05591	0.0050	0.06	0	93.2	60 - 135			

LCSD	Sample ID: LCSD-187768	Units: mg/L	Analysis Date: 27-Dec-2022 17:34						
Client ID:	Run ID: FID-16_425169	SeqNo: 7059196	PrepDate: 24-Dec-2022 DF: 1						
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
TPH (Diesel Range)	0.5714	0.050	0.6	0	95.2	70 - 130	0.5757	0.753	20
TPH (Oil Range)	0.6185	0.10	0.6	0	103	70 - 130	0.6021	2.69	20
Surr: 2-Fluorobiphenyl	0.05377	0.0050	0.06	0	89.6	60 - 135	0.05591	3.91	20

The following samples were analyzed in this batch:

HS22121291-01	HS22121291-02	HS22121291-03	HS22121291-04
HS22121291-05	HS22121291-06	HS22121291-07	

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
Project: HEP WTX to EMSU GW
WorkOrder: HS22121291

QC BATCH REPORT

Batch ID: R424693 (0)	Instrument: FID-20	Method: GASOLINE RANGE ORGANICS BY SW8015C
--------------------------------	---------------------------	---

MBLK	Sample ID: MBLK-221222	Units: mg/L	Analysis Date: 22-Dec-2022 11:46							
Client ID:	Run ID: FID-20_424693	SeqNo: 7047783	PrepDate: DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Gasoline Range Organics	ND	0.0500								
Surr: 4-Bromofluorobenzene	0.1162	0.00500	0.1	0	116	70 - 121				

LCS	Sample ID: LCS-221222	Units: mg/L	Analysis Date: 22-Dec-2022 11:19							
Client ID:	Run ID: FID-20_424693	SeqNo: 7047781	PrepDate: DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Gasoline Range Organics	1.11	0.0500	1	0	111	76 - 124				
Surr: 4-Bromofluorobenzene	0.1021	0.00500	0.1	0	102	52 - 138				

LCSD	Sample ID: LCSD-221222	Units: mg/L	Analysis Date: 22-Dec-2022 11:32							
Client ID:	Run ID: FID-20_424693	SeqNo: 7047782	PrepDate: DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Gasoline Range Organics	0.933	0.0500	1	0	93.3	76 - 124	1.11	17.3	20	
Surr: 4-Bromofluorobenzene	0.09947	0.00500	0.1	0	99.5	52 - 138	0.1021	2.59	20	

The following samples were analyzed in this batch: HS22121291-07

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
Project: HEP WTX to EMSU GW
WorkOrder: HS22121291

QC BATCH REPORT

Batch ID: R424780 (0)		Instrument: FID-20		Method: GASOLINE RANGE ORGANICS BY SW8015C					
MBLK	Sample ID: MBLK-221223	Units: mg/L			Analysis Date: 23-Dec-2022 16:31				
Client ID:	Run ID: FID-20_424780	SeqNo: 7050016		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	0.1083	0.00500	0.1	0	108	70 - 121			

LCS	Sample ID: LCS-221223	Units: mg/L			Analysis Date: 23-Dec-2022 16:05				
Client ID:	Run ID: FID-20_424780	SeqNo: 7050014		PrepDate:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Gasoline Range Organics	0.9507	0.0500	1	0	95.1	76 - 124			
Surr: 4-Bromofluorobenzene	0.09804	0.00500	0.1	0	98.0	52 - 138			

LCSD	Sample ID: LCSD-221223	Units: mg/L			Analysis Date: 23-Dec-2022 16:18				
Client ID:	Run ID: FID-20_424780	SeqNo: 7050015		PrepDate:			DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Gasoline Range Organics	1.1	0.0500	1	0	110	76 - 124	0.9507	14.6	20
Surr: 4-Bromofluorobenzene	0.1027	0.00500	0.1	0	103	52 - 138	0.09804	4.69	20

The following samples were analyzed in this batch:

HS22121291-01	HS22121291-02	HS22121291-03	HS22121291-04
HS22121291-05	HS22121291-06		

ALS Houston, US

Date: 03-Jan-23

Client: TRC Corporation
Project: HEP WTX to EMSU GW
WorkOrder: HS22121291

**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 Quantitation 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: 03-Jan-23

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

ALS Houston, US

Date: 03-Jan-23

Sample Receipt Checklist

Work Order ID: HS22121291

Date/Time Received: 21-Dec-2022 11:20

Client Name: TRC-AUS

Received by: Malcolm Burleson

Completed By: /S/ Nelson D. Dusara	21-Dec-2022 16:34	Reviewed by: /S/ Andy C. Neir	23-Dec-2022 15:37
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:n/a
- 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):	2.0/1.5 C UC/C	IR 31
Cooler(s)/Kit(s):	RED	
Date/Time sample(s) sent to storage:	12/21/2022 12:00	
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/> No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/> No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
pH adjusted by:		

Login Notes: Trip Blank Received not on COC logged in on Hold.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



ALS Laboratory Group
10450 Stanchiff Rd. #210
Houston, Texas 77099
(Tel) 281.530.5656
(Fax) 281.530.5887

Chain of Custody Form

Page 1 of 1

ALS Laboratory Group
3352 128th Avenue
Holland, Michigan 49424
(Tel) 616.399.6070
(Fax) 616.399.6185

Customer Information		Project Information					Parameter/Method Request for Analysis																					
Purchase Order	186637	Project Name	HEP WTX to EMSU			A	GW - STD TAT																					
Work Order		Project Number	525769.9990.0000			B	8015 GRO W 3x VOA HCL																					
Company Name	TRC Corporation	Bill To Company	TRC Corporation			C	8015 DRO/MRO - 3x VOA Am Neat																					
Send Report To	Jared Stoffel	Invoice Attn.	TRC - AP			D	<p style="text-align: center;">HS22121291</p> <p style="text-align: center;">TRC Corporation HEP WTX to EMSU GW</p> 																					
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	713-306-9550	Phone	512-329-6080			G																						
Fax		Fax				H																						
e-Mail Address	jstoffel@trccompanies.com	e-Mail Address	apinvoiceapproval@trccompanies.com			I																						
						J																						
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles												A	B	C	D	E	F	G	H	I	J	Hold
1	MW-01	12.20.2022	1205	W	y	6												x	x	x								
2	MW-02	12.20.2022	1115	W	y	6												x	x	x								
3	MW-03	12.20.2022	1305	W	y	6	x	x	x																			
4	MW-04	12.20.2022	1330	W	y	6	x	x	x																			
5	MW-05	12.20.2022	1035	W	y	6	x	x	x																			
6	Duplicate-01	12.20.2022	-	W	y	6	x	x	x																			
7	EB-12-20-22	12.20.2022	1335	W	y	6	x	x	x																			
8																												
9																												
10																												
Sampler(s): Please Print & Sign <i>C. Bunting</i>		Shipment Method: <i>Fedex</i>		Required Turnaround Time: <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:																				
Relinquished by: <i>[Signature]</i>		Date: 12/20/22	Time: 1730	Received by:			Notes:																					
Relinquished by:		Date:	Time:	Received by (Laboratory): <i>[Signature]</i>			Cooler Temp. 12.3	QC Package: (Check Box Below)																				
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):			2.006 -0.05c	<input checked="" type="checkbox"/> Level II: Standard QC	TRRP-Checklist																			
Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-6035							<input type="checkbox"/> Level III: Std QC + Raw Data		TRRP Level IV																			
							<input type="checkbox"/> Level IV: SW846 CLP-Like																					
							Other:																					

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.

Big Red

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

Date:
 Name:
 Cont:

CUSTODY SEAL

Date: 12/21/22 Time: 14:00
 Party: Christine Bunting
 JRC

Seal Broken By:
 Date:

12/21/22

HOUSTON TX 77099
 (281) 530-5656 SEP 2022

FedEx
 Express

E

TRK# 3925 1204 9497
 C201-3925 1204 9497

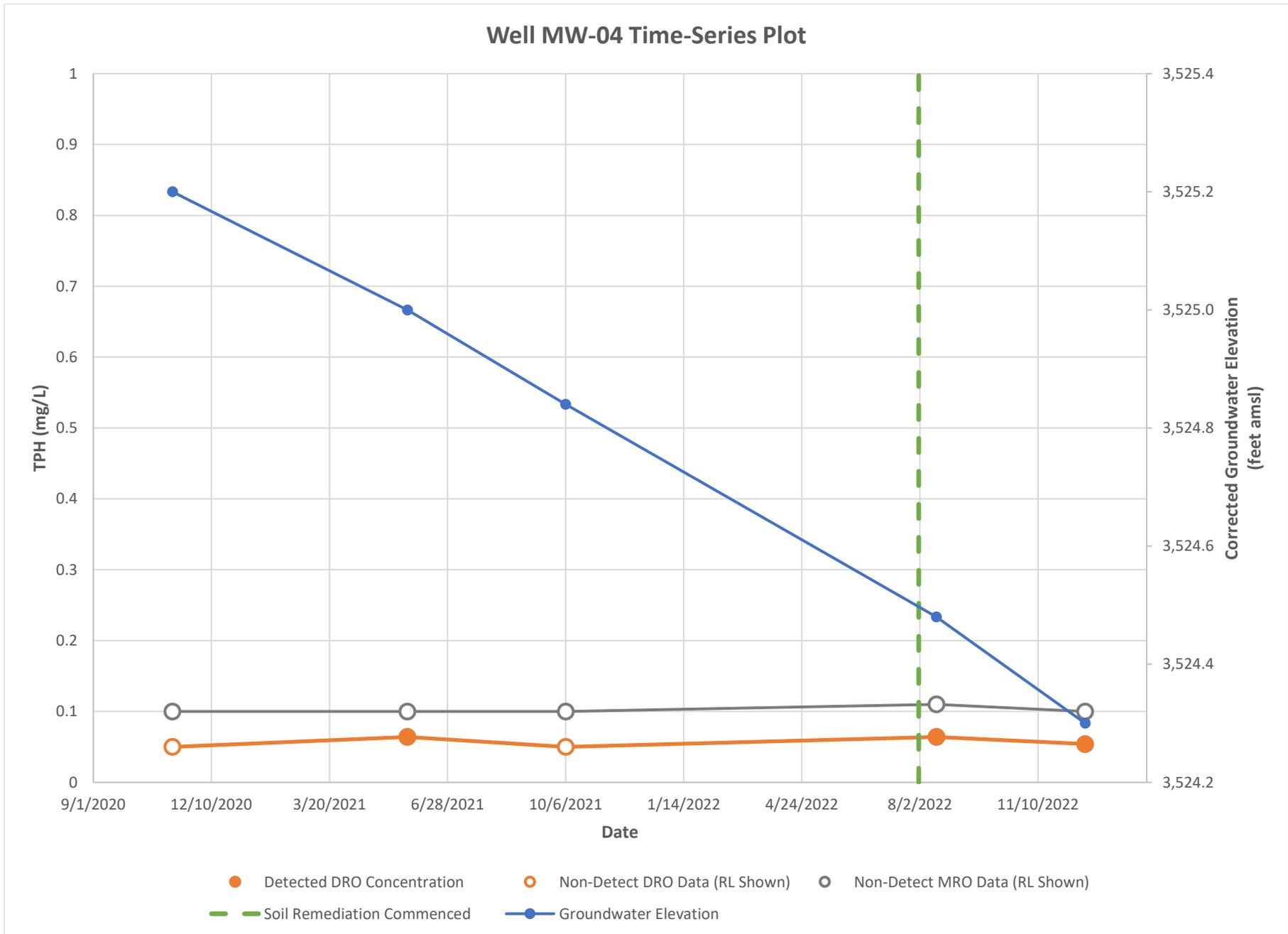
WED - 21 DEC 10:30A
 PRIORITY OVERNIGHT
 AHS
 77099

ATTACHMENT D – GROUNDWATER ELEVATION AND TPH PLOTS











ATTACHMENT E – ANALYTICAL DATA QUALITY CONTROL FORMS



Analytical Data Review Checklist

Site: WTX (Klein Ranch) Location: Southwest of Monument, NM Client Name: HEP Project #: 497744	Laboratory: ALS (Houston, Tx) Lab Report #: HS22081018	QA Reviewer: A. Eljuri / TRC Peer Reviewer: A. Bass / TRC Date: August 31, 2022
Analytical Method(s): TPH GRO by Method SW8015C; TPH DRO/ORO by Method SW8015M	Matrices Sampled: Groundwater, aqueous quality control (QC) sample	Sample Collection Date(s): August 16, 2022
Sampling Objective(s): Analyze groundwater for routine monitoring.		
Sample IDs: Refer to data package sample summary.		

Review Item or Question		Y	N	NA	Comments
Sample Traceability / Chain of Custody					
1	Were COC forms 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			
Sample Preservation and Integrity					
4	Did samples arrive at the laboratory appropriately preserved?	X			TPH GRO was preserved with hydrochloric acid.
	Was the cooler temperature between 0-6°C?	X			
	Was acid used for preservation when required (e.g., aqueous VOC and metals samples)?	X			
	Were soil/sediment VOC samples preserved in the field or collected in EnCore® samplers?			X	
5	Were samples received by the laboratory in an acceptable condition (i.e., no breakages, leaks, etc.)?	X			
6	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.
7	Were sample preparation and analysis holding time requirements met?	X			
8	<u>AIR ONLY:</u> Were canisters received with an acceptable vacuum?				X
	Were the RPDs between the initial and final canister flow controller calibrations <20?				
Data Completeness					
9	Are results reported for all analytical methods requested?	X			
10	Are results reported for all samples submitted for analysis?	X			
11	Were the requested analytical methods used?	X			
12	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.



Analytical Data Review Checklist

Review Item or Question		Y	N	NA	Comments
13	Were soil/sediment results reported on a dry weight basis?			X	
14	If requested, were detected results below the reporting limit (i.e., "J" values) reported?			X	
15	Did we receive the required deliverables (e.g., EDD, Level 4 data, laboratory certification, etc.) in the correct formats?	X			
Sensitivity					
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 parameter(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					
19	Were any 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-08-16-22.
22	Are there any potential false positive results based on questions 19 and/or 21?		X		
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			
26	Are MS/MSD recoveries within QC limits? NOTE: If not performed on a project sample, evaluation is not required. If no, list analytes affected, the MS/MSD recoveries and the sample that was spiked.			X	
27	Are MS/MSD RPDs within QC limits? NOTE: If not performed on a project sample, evaluation is not required. If no, list analytes affected, the RPDs and the sample that was spiked.			X	
28	Are laboratory duplicate RPDs within QC limits? NOTE: If not performed on a project sample, evaluation is not required. If no, list analytes affected, the RPDs and the sample that was prepared/analyzed in duplicate.			X	



Analytical Data Review Checklist

Review Item or Question		Y	N	NA	Comments
29	Are field duplicate RPDs within QC limits? If no, list analytes affected, the RPDs and the associated samples. Field duplicate criteria for groundwater: RPDs <30% when both results >5x the reporting limit (RL). If one of both results < the RL, absolute difference must be < RL.	X			Field duplicate pair Duplicate-01 and MW-1 meet project criteria.
30	<u>ORGANIC ANALYSES ONLY:</u> Are surrogate recoveries within QC limits? If no, list samples, surrogate recoveries and analytes affected.	X			
Laboratory Comments					
31	Did the case narrative describe any analytical anomalies (i.e., problems or unique occurrences)?		X		
32	Were any other potential data quality issues identified? If yes, describe issues.		X		
Do the Data Make Sense?					
33	Do any results look questionable?		X		
34	Has the EDD been compared with the lab report?	X			

Reference: United States Environmental Protection Agency (USEPA) - *National Functional Guidelines for Organic Superfund Methods Data Review* (USEPA, November 2020)

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 = $100\% \times |(A-B)/((A+B)/2)|$
TPH = Total Petroleum Hydrocarbon

Additional Comments: None.



Analytical Data Review Checklist

Site: WTX (Klein Ranch) Location: Southwest of Monument, NM Client Name: HEP Project #: 525769	Laboratory: ALS (Houston, Tx) Lab Report #: HS22121291	QA Reviewer: A. Eljuri / TRC Peer Reviewer: A. Bass / TRC Date: January 17, 2023
Analytical Method(s): TPH GRO by Method SW8015C; TPH DRO/ORO by Method SW8015M	Matrices Sampled: Groundwater, aqueous quality control (QC) sample	Sample Collection Date(s): December 20, 2022
Sampling Objective(s): Analyze groundwater for routine monitoring.		
Sample IDs: Refer to data package sample summary.		

Review Item or Question		Y	N	NA	Comments
Sample Traceability / Chain of Custody					
1	Were COC forms 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			
Sample Preservation and Integrity					
4	Did samples arrive at the laboratory appropriately preserved?	X			TPH GRO was preserved with hydrochloric acid.
	Was the cooler temperature between 0-6°C?	X			
	Was acid used for preservation when required (e.g., aqueous VOC and metals samples)?	X			
	Were soil/sediment VOC samples preserved in the field or collected in EnCore® samplers?			X	
5	Were samples received by the laboratory in an acceptable condition (i.e., no breakages, leaks, etc.)?	X			
6	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. No analyses were performed on the trip blank.
7	Were sample preparation and analysis holding time requirements met?	X			
8	AIR ONLY: Were canisters received with an acceptable vacuum?				X
	Were the RPDs between the initial and final canister flow controller calibrations <20?				
Data Completeness					
9	Are results reported for all analytical methods requested?	X			
10	Are results reported for all samples submitted for analysis?	X			
11	Were the requested analytical methods used?	X			
12	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.



Analytical Data Review Checklist

Review Item or Question		Y	N	NA	Comments
13	Were soil/sediment results reported on a dry weight basis?			X	
14	If requested, were detected results below the reporting limit (i.e., "J" values) reported?			X	
15	Did we receive the required deliverables (e.g., EDD, Level 4 data, laboratory certification, etc.) in the correct formats?	X			
Sensitivity					
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 parameter(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					
19	Were any 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-12-20-22.
22	Are there any potential false positive results based on questions 19 and/or 21?		X		
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			
26	Are MS/MSD recoveries within QC limits? NOTE: If not performed on a project sample, evaluation is not required. If no, list analytes affected, the MS/MSD recoveries and the sample that was spiked.			X	
27	Are MS/MSD RPDs within QC limits? NOTE: If not performed on a project sample, evaluation is not required. If no, list analytes affected, the RPDs and the sample that was spiked.			X	
28	Are laboratory duplicate RPDs within QC limits? NOTE: If not performed on a project sample, evaluation is not required. If no, list analytes affected, the RPDs and the sample that was prepared/analyzed in duplicate.			X	



Analytical Data Review Checklist

Review Item or Question		Y	N	NA	Comments
29	Are field duplicate RPDs within QC limits? If no, list analytes affected, the RPDs and the associated samples. Field duplicate criteria for groundwater: RPDs <30% when both results >5x the reporting limit (RL). If one of both results < the RL, absolute difference must be < RL.	X			Field duplicate pair Duplicate-01 and MW-02 meet project criteria.
30	<u>ORGANIC ANALYSES ONLY:</u> Are surrogate recoveries within QC limits? If no, list samples, surrogate recoveries and analytes affected.	X			
Laboratory Comments					
31	Did the case narrative describe any analytical anomalies (i.e., problems or unique occurrences)?		X		
32	Were any other potential data quality issues identified? If yes, describe issues.		X		
Do the Data Make Sense?					
33	Do any results look questionable?		X		
34	Has the EDD been compared with the lab report?	X			

Reference: United States Environmental Protection Agency (USEPA) - *National Functional Guidelines for Organic Superfund Methods Data Review* (USEPA, November 2020)

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QC = Quality Control
%R = Percent Recovery
RPD = Relative Percent Difference = $100\% \times |(A-B)/((A+B)/2)|$
TPH = Total Petroleum Hydrocarbon

Additional Comments: None.

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
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 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 211840

CONDITIONS

Operator: HOLLY ENERGY PARTNERS - OPERATING, LP 1602 W. Main St. Artesia, NM 88210	OGRID: 282505
	Action Number: 211840
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the 2022 Annual Groundwater Monitoring Report: Content Satisfactory 1. Continue GW Monitoring and installation per plan for bioventing. 2. Submit 2023 Annual Report by April 1, 2024.	6/7/2023