



REMEDIATION WORK PLAN

North Brushy PW Line

Eddy County, New Mexico

Incident Numbers

nAPP2231126594

nAPP2312845934

Prepared For:

WPX Energy Permian, LLC

5315 Buena Vista Dr.

Carlsbad, NM 88220

North Brushy PW Line Remediation Plan is approved to include the following conditions of approval: The excavation will be required to the maximum extent practicable within the pipeline right-of-way for both releases. Once WPX believes it has excavated to the maximum extent practicable, please contact the OCD before moving forward. In the event that a pipeline operator does not allow excavation near and around any pipeline to allow the excavation to take place, the OCD requests a letter from the operator indicating they will accept responsibility and liability for remediation. At this time, the variance request to leave chloride contamination in place between 5' to 38' is not approved. The request to collect sidewall confirmation samples representative of 1000 square feet and no confirmation floor samples is not approved. Based on submitted ground-water lab analyses provided, the OCD has reasonable evidence to believe that groundwater in the areas of concern has been impacted.

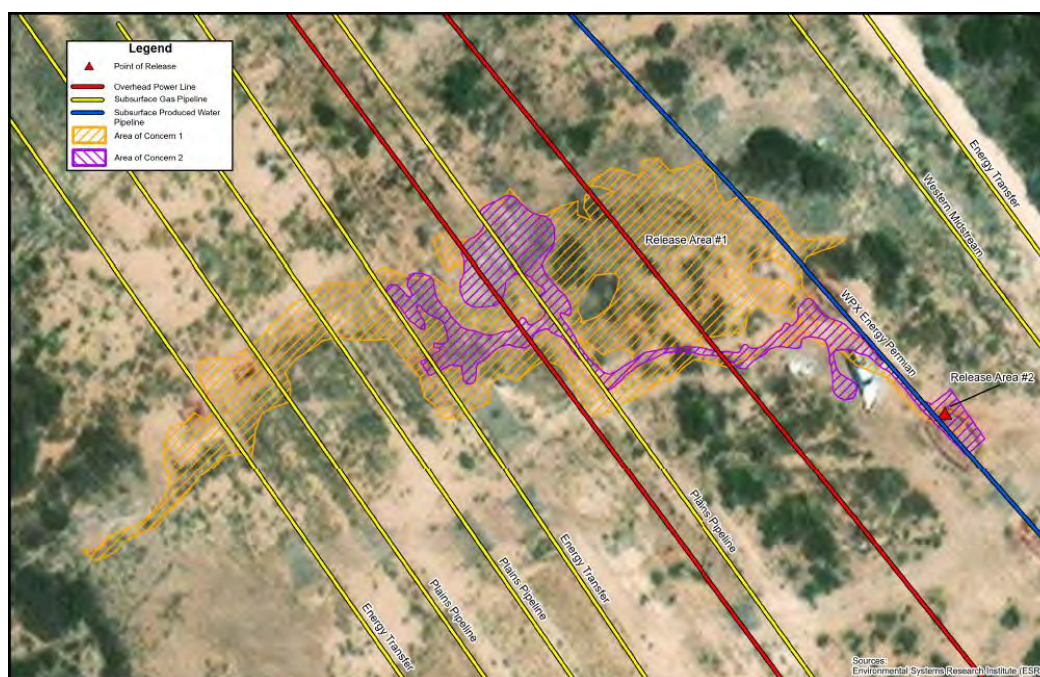
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SYNOPSIS

Etech Environmental & Safety Solutions, Inc. (Etech), on behalf of WPX Energy Permian, LLC (WPX), presents the following Remediation Work Plan (RWP) to provide a detailed evaluation and interpretation for the plume of subsurface impacts associated with two inadvertent releases of produced water at the North Brushy PW Line (Site). WPX respectfully submits this RWP, which summarizes response efforts, soil sampling activities, electrical resistivity imaging (ERI) data in conjunction with observed soil/geological conditions and outlines a proposal for a corrective action plan to rectify environmental impacts.

SITE LOCATION AND RELEASE BACKGROUND

The Site is located in Unit L, Section 12, Township 26 South, Range 29 East, in Eddy County, New Mexico (32.054442°, -103.942938°) and is associated with oil and gas exploration and production operations on Federal Land managed by the Bureau of Land Management (BLM) (**Figure 1 in Appendix A**). The area of the releases overlies an expansive pipeline Right-of-Way (ROW), which includes 5 high pressure gas subsurface lines and 1 produced water line, ranging from 4 to 6 feet below ground surface (bgs). An aerial image of the Site is depicted below:



nAPP2231126594

On October 25, 2022, a failed produced water gathering line was discovered to have released greater than 100 barrels (bbls) of produced water into the pasture, intersecting the adjacent multiple pipeline ROW. The source was stopped, and the poly line was repaired. Due to limited access to the release area, no fluids were able to be recovered. The release footprint was mapped by a third-party environmental consultant using a Global Positioning System (GPS). WPX reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on November 7, 2022, and was subsequently assigned Incident Number nAPP2231126594. **Figure 2 in Appendix A** depicts the observed release footprint, hereafter referred to as Release Area #1.

Due to difficulties accessing the Site, special ROW permitting from BLM for construction of a road and within the release area was required. Devon submitted a sundry request via Form 3160-5 for the proposed work area and BLM issued the following stipulations before conducting mechanical operations: karst potential survey, biology, hydrogeology, and cultural resources review. Once the conditions were met, the BLM approved the commencement of road improvements and access with a cultural monitor present in December of 2022.

nAPP2312845934

On May 3, 2023, the weld of the previously repaired poly line failed, causing 237 bbls of produced water to be released to the same area previously impacted on October 25, 2022. No fluids were recovered. On May 4, 2023, Etech mapped the observed release footprint using a GPS. WPX reported the release to the NMOCd on a Form C-141 on May 8, 2023, and was subsequently assigned Incident Number nAPP2312845934. **Figure 2 in Appendix A** depicts the observed release footprint, hereafter referred to as Release Area #2.

Upon further review, it was estimated that 4,200 bbls of produced water associated with nAPP2231126594 was released based on observations encountered from the release control efforts associated with nAPP2312845934. An updated Form C-141 for nAPP2231126594 is provided with corrected release volume details.

GENERAL TIMELINE SUMMARY

October 25, 2022 – Inadvertent release Incident Number nAPP2231126594 occurred.

November 10, 2022 – Following the request for BLM access to begin impact investigation, BLM required extensive karst and cultural surveys to be conducted for the release area and road improvement area to allow access to the site. This area included approximately 318 acres or 13.863 million square feet.

November 29, 2022 – The karst survey and report was completed.

December 2, 2022 – The karst survey report was submitted to the BLM for review.

January 9, 2023 – The BLM granted access to improve Site access road conditions in preparation of remediation activities.

January 17, 2023 – Extension for Incident Number nAPP2231126594 was filed for April 23, 2023, due to building/improving road to spill location measuring approximately 1.73 miles.

February 16, 2023 – Drilling activities for soil investigation begins.

April 13, 2023 – Extension for Incident Number nAPP2231126594 was filed for July 22, 2023, to conduct additional delineation activities.

May 3, 2023 – Inadvertent release Incident Number nAPP2312845934 occurred and overlapped areas associated with Incident Number nAPP2231126594.

June 6, 2023 – Extensions for Incident Numbers nAPP2231126594 and nAPP2312845934 were filed for October 20, 2023, to reevaluate delineation data collected prior to the new release and to schedule a drilling rig to return to the Site to collect additional data and submit a work plan.

July 13, 2023 – WPX requested an extension of the approved BLM access area to create a clearance to conduct an ERI survey that would assist with planning and proposal of a work plan for the two incidents.

July 24, 2023 – WPX followed up with BLM for an update for access extension for ERI survey.

July 28, 2023 – Additional drilling completed.

August 2, 2023, August 18, 2023, and August 30, 2023 – WPX followed up again with BLM for an update for access extension for ERI survey.

September 14, 2023 – WPX communicated with the BLM via phone call to expedite the review of the access extension. BLM verbally approved the work to non-mechanically clear the area required to conduct the ERI Survey.

September 25, 2023 – ERI field survey completed.

October 11, 2023 – Extension requests for Incident Numbers nAPP2231126594 and nAPP2312845934 were filed for December 19, 2023, due to the delay from the BLM to grant additional pasture access to conduct the ERI survey. The extension request was denied by the NMOCD.

October 20, 2023 – A Soil Characterization Report (SCR) was submitted to the NMOCD for review that included response efforts, soil sampling activities and remediation objectives to assist with developing a formal work plan that would include the ERI survey to assist with interpreting potential subsurface impacts.

October 27, 2023 – ERI survey report completed and submitted to WPX.

March 18, 2024 – The SCR submitted for the incidents was rejected by the NMOCD with the following remarks:

“Remediation plan denied. Remediation plan is not in compliance with 19.15.29.12 NMAC. Delineation of release is incomplete, and the report does not include a scope of work for corrective actions. After three extension approvals, with a final extension date of October 20th, 2023, a complete and accurate report has yet to be submitted. Submit a complete report through the OCD Permitting website by 04/15/2024. Failure to submit a complete remediation plan and/or remediation closure report by 04/15/2024 is subject to compliance and enforcement penalties pursuant to 19.15.5 NMAC.”

SITE CHARACTERIZATION AND CLOSURE CRITERIA

Etech characterized the Site according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC) considering depth to groundwater and the proximity to:

- Any continuously flowing watercourse or any other significant watercourse;
- Any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark);
- An occupied permanent residence, school, hospital, institution or church;
- A spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes;
- Any freshwater well or spring;
- Incorporated municipal boundaries or a defined municipal fresh water well field covered under a municipal ordinance;
- A wetland;
- A subsurface mine;
- An unstable area (i.e. high karst potential); and
- A 100-year floodplain.

The nearest permitted water well with depth to water data was United States Geological Survey (USGS) well 320301103572201, located approximately 0.80 miles southwest of the Site (**Figure 1A** in **Appendix A**). USGS well 320301103572201 has a reported depth of water 120.86 feet below ground surface (bgs) from 1992. Well records for referenced wells are provided in **Appendix B**.

Based on a desktop review, the Site was determined to be within 300 feet of an ephemeral riverine and within a 100-year floodplain. The Site is located in a designated medium karst potential area. Receptor details from the site characterization are included in **Figure 1B** and **Figure 1C** in **Appendix A**.

Based on the results from the desktop review, specifically the proximity to a significant watercourse and 100-year floodplain, the following Closure Criteria was applied:

Constituents of Concern (COCs)	Laboratory Analytical Method	Closure Criteria [†]
Chloride	Environmental Protection Agency (EPA) 300.0	600 milligram per kilogram (mg/kg)
TPH (Total Petroleum Hydrocarbon)	EPA 8015 M/D	100 mg/kg
Benzene	EPA 8021B	10 mg/kg
Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)	EPA 8021B	50 mg/kg

[†]The reclamation standard concentration requirements of 600 mg/kg chloride and 100 mg/kg TPH apply to the top 4 feet of areas to be immediately reclaimed following remediation pursuant to NMAC 19.15.17.13.

SOIL SAMPLING ACTIVITIES

From late-January through July 28, 2023, a third-party environmental consultant and/or Etech conducted delineation activities to assess the Site for the presence or absence of residual soil impacts associated with Release Area #1 and Release Area #2, hereafter referred to as the Area of Concern (AOC). Surface soil samples (SS) were also collected at 0.5-feet bgs in order to define the immediate horizontal periphery of visually identified impacts. Delineation activities were advanced within the AOC via hand auger until refusal and subsequently advanced by heavy equipment (backhoe and/or drill rig), which were driven by field screening soil for volatile organic compounds (VOCs) utilizing a photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. A minimum of two soil samples were collected per delineation soil sampling location, as denoted by borehole (BH) and/or pothole (PH) soil sample nomenclature, representing the highest observed field screening concentrations and the greatest depth. It should be noted that additional advancement in areas previously sampled warranted nomenclature variation such that a "BH" initiated with a hand auger was updated to "PH" whenever continued with a backhoe and reverted to "BH" if further advanced with a drill rig. In such a scenario, further advancement took place within 5 feet of the original delineation location, given the accuracy of the GPS and/or as to avoid sampling "sluff" from a backfilled pothole. Field screening results and soil descriptions are included on soil sampling logs shown in **Appendix C**. The delineation soil sample locations are shown in **Figure 3** in **Appendix A**.

Delineation soil samples were placed directly into lab provided pre-cleaned glass jars, packaged with minimal void space, labeled, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures, to Eurofins Laboratories (Envirotech) in Carlsbad, New Mexico, for analysis of COCs.

All borings were permitted and completed under the OSE regulations and advanced following standard industry practice by Talon LPE.

SOIL LABORATORY SOIL ANALYTICAL RESULTS

Elevated chloride exceedances above the Closure Criteria were identified in all delineation soil samples collected within the AOC from 0.5-foot bgs to 30 feet bgs, characterized by concentrations ranging from 4,600 mg/kg to 13,000 mg/kg, respectively. Benzene and BTEX concentrations in soil were compliant with the Closure Criteria. TPH in soil exceeded the Closure Criteria at BH07 (4 feet bgs) and BH12 (12 feet bgs), at 577 mg/kg and 129 mg/kg, respectively. Laboratory analytical results are summarized in **Table 1**

included in **Appendix E**. The executed chain-of-custody forms and laboratory analytical reports are provided in **Appendix F**. In general, the vertical extent of the AOC was fully delineated to the applicable Closure Criteria with representative clean boundaries ranging from 4 feet bgs to 38 feet bgs (nearest the source).

SUBSURFACE BORING FLUID

During delineation activities, it appeared that unrecovered fluids settled within potential perched water zones present only in portions of the subsurface associated with the AOC, specifically:

- BH13, BH16, BH17^{NC}, and BH21

^{NC} indicates boring not constructed. Additional borings were performed to later develop a cross section of the AOC subsurface and investigate the potential for additional perched water zones, specifically:

- BH14, BH18, BH19, and BH22

Excluding BH17, all borings that encountered fluids/perched groundwater were constructed with a 2-inch inside diameter (ID) Schedule 40 polyvinyl chloride (PVC) casing a screen. The screen was factory-slotted with 0.010-inch slot size. A 5-to-10-foot screen was placed across the water-bearing unit with the bottom screen set just above the total depth (TD) of the well. A 10-20 size silica sand pack was utilized to fill the annular space from the bottom of the screen to approximately 2 feet above the top of screen. The sand pack was overlain by hydrated bentonite chips to the ground surface. The delineation soil sample/well locations are shown in **Figure 4** in **Appendix A**. It should be noted that potential perched water observed was within and around the eastern side of the AOC footprint and not west or southwest.

After allowing to stabilize for at least 24 hours after well completion, the wells were developed by purging a minimum of 10-casing volumes or until the well was purged dry. The casing volume was determined by measuring the depth to water and TD using an oil-water interface probe then multiplying the water column thickness by well inner area.

Due to encountering fluid while drilling and potentially encountering perched groundwater zones, samples were collected and submitted to Eurofins for analysis of bicarbonates, carbonates, total alkalinity, free carbon dioxide, carbon dioxide, cation-anion balance, iron, manganese, and total dissolved solids (TDS) following Standard Method 2320B; chloride, sulfate, nitrite, and nitrate following EPA Method 300.0 Anions; calcium, magnesium, potassium, and sodium following EPA Method 200.7 Metals. Groundwater analytical results would be compared to New Mexico Water Quality Control Commission (NMWQCC) standards set in 20.6.2 NMAC as a method of evaluation. Sampling of the water column was only performed once the well recharged for a minimum of 24 hours post development. Depth to water was also measured below the top of casing before each sampling event and purged before any sample collection by removing at minimum, three casing volumes, or until the well ran dry.

SUBSURFACE LABORATORY WATER ANALYTICAL RESULTS

Elevated concentrations were present in wells (excluding BH18) within and around the AOC on sampled on August 18, 2023:

- BH13^{IR} – TDS (27,400 mg/Liter (L)); Chloride (13,400 mg/L); Iron (1.16 mg/L); Manganese (0.266 mg/L)
- BH14 – TDS (13,200 mg/L); Chloride (5,750 mg/L); Iron (4.36 mg/L); Manganese (0.533 mg/L)
- BH19 – TDS (1,770 mg/L)
- BH21^{IR} – TDS (11,200 mg/L); Chloride (3,690 mg/L)

- BH22 – TDS (1,220 mg/L); Chloride (334 mg/L)

Elevated concentrations were present in wells (excluding BH18) within and around the AOC on sampled on March 26, 2024:

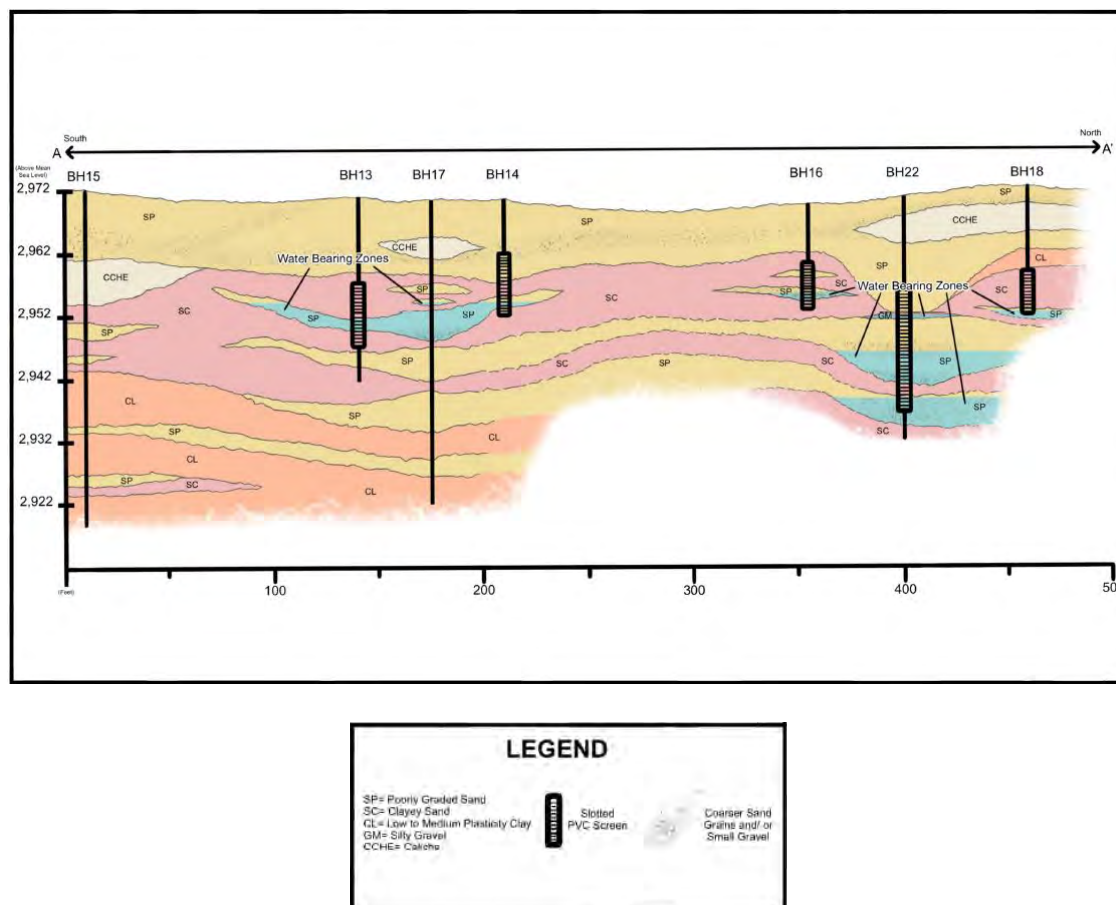
- BH13^{IR} – TDS (16,400 mg/L); Chloride (8,040 mg/L)
- BH19 – TDS (2,330 mg/L); Iron (10.7 mg/L); Manganese (1.11 mg/L)
- BH21^{IR} – TDS (14,300 mg/L); Chloride (4,980 mg/L)
- BH22 – TDS (1,800 mg/L); Chloride (422 mg/L); Iron (18.6 mg/L)

^{IR} indicates boring was inside the AOC.

Laboratory analytical results are summarized in **Table 2** included in **Appendix E**. The executed chain-of-custody forms and laboratory analytical reports are provided in **Appendix F**. Water analysis for BH14 on March 26, 2024, was not conducted due to insufficient volume of fluid required for testing in well post purging.

SUBSURFACE GEOLOGY

Based on soil observations encountered during delineation activities, it was determined that groundwater within the AOC, where the release fluids settled, was held within a lens of poorly graded sand bounded by a clayey sand series. The cross section below illustrates the geological interpretation. The interbedded stratigraphy appears to be indicative of natural depositional features associated with a drainage bed. **Figure 4** in **Appendix A** depicts borings used to illustrate the cross section.



SUBSURFACE WATER AND FLUID RECOVERY

While water was detected in the perched water-bearing zone, it appears to have limited volume and/or recharge potential as the depth of water was stabilized or decreased between well measurement dates. The area where the releases occurred was likely fed by surface water infiltration (rainfall and/or snowfall events) that is temporarily stored within low spots in the more porous poorly graded sand layer on top of the clayey sand. To supplement this determination, between May 15, 2023, and March 25, 2024, Etech purged wells BH13, BH14, and BH21 and recovered approximately 1,500 gallons of fluid via hand bailing and staged onsite inside 275 and/or 550-gallon totes. One new bailer was used and dedicated to each well throughout fluid recovery efforts to avoid cross-contamination. It should be noted that, on May 18, 2023, an effort to recover fluids from subsurface was attempted via hydrovacuum was used to recover fluids from the wells with a 2-inch fitting from the vacuum hose to the 2-inch PVC well top. Fluid recovery via these methods was unsuccessful, likely due to insufficient vacuum and/or low fluid volume in wells.

A log was recorded based on field notes with starting and current TD of groundwater, increased depth to water and water column results over time:

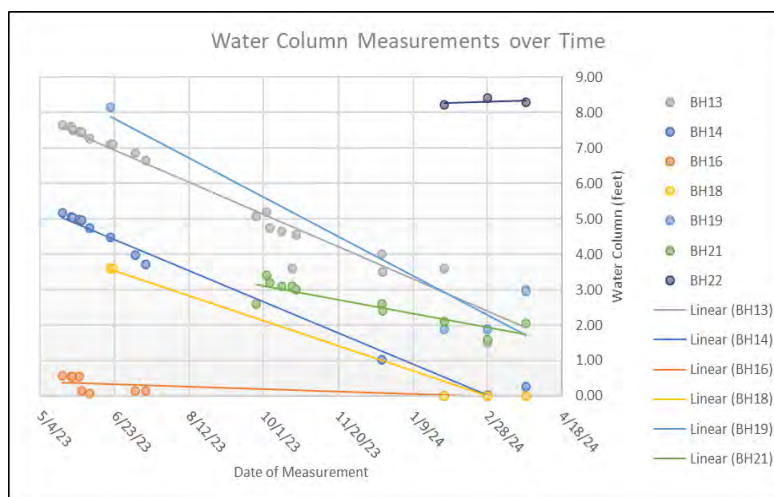
- BH13^P – 16.35^S feet bgs; 21.01^C feet bgs
 - Water column: 7.65^S feet; 2.99^C feet
- BH14^P – 15.00^S feet bgs; 19.90^C feet bgs
 - Water column: 5.17^S feet; 0.27^C feet
- BH16^P – 14.92^S feet bgs; 15.50^C feet bgs
 - Water column: 0.58^S feet; 0.00^C feet
- BH18 – 15.82^S feet bgs; 19.20^C feet bgs
 - Water column: 3.6^S feet; 0.00^C feet
- BH19 – 22.33^S feet bgs; 27.52^C feet bgs
 - Water column: 8.14^S feet; 2.95^C feet
- BH21^P – 18.80^S feet bgs; 19.35^C feet bgs
 - Water column: 2.6^S feet; 2.05^C feet
- BH22 – 19.80^S feet bgs; 19.73^C feet bgs
 - Water column: 8.21^S feet; 8.28^C feet

^S indicates starting depth of groundwater or water column.

^C indicates current depth of groundwater or water column.

^P indicates well was sampled.

A graph depicting the decreasing water column trend over time is shown below:



ELECTRORESISTIVITY SURVEY AND TRUE GROUNDWATER ZONE

During delineation activities, Etech advanced a boring south of the release at BH20 to assist with the regional groundwater determination at the Site. BH20 was advanced to 103 feet bgs without encountering water throughout the drilling process. Subsequently, Etech retained Southwest Geophysical Consulting, LLC. (Southwest Geophysical) to conduct an ERI survey for the purpose of evaluating the probability of impacts reaching the true groundwater table.

Based on the results from the survey, a low resistivity anomaly (discontinuous perched aquifer) was found beneath the surface from 43 feet to 104 feet bgs (interpretation model from the ERI report illustrated below) and further supports drilling findings. The low resistivity value range identified within the survey boundaries may be associated with either an aquifer, layers of moist to saturated halite or clay. When correlating the ERI survey results with nearby soil borings and general Site geology, the low resistivity anomaly coincides with an observed dry clay layer and appears to be the most likely case for the anomaly.

The perched water zone encountered during drilling activities is not clearly displayed in the ERI imaging due to the desired depth of the survey (121 to 164 feet bgs), which required 4-meter electrode spacing and in turn decreased the imagery resolution. However, the ER survey depth and resolution was chosen to provide an overall picture of the subsurface geology and an understanding of location(s) for potential perched zones and/or groundwater. All the delineation soil sampling locations advanced to or beyond 20 feet bgs have been vertically delineated to the Site Closure Criteria, except BH13 which was advanced up to 30 feet bgs, before reaching the depth(s) of the low resistivity anomaly interpreted as clay based on process knowledge of observed soil horizons encountered throughout drilling at the Site. As such, it is inferred that while concentrations of TDS, chloride and/or iron and manganese in the perched water-bearing units appear to be elevated, it does not appear to have impacted the true groundwater table which is beyond 103 feet bgs based on BH20 and subsequent ERI survey investigation. The complete ERI report is provided in **Appendix G**.

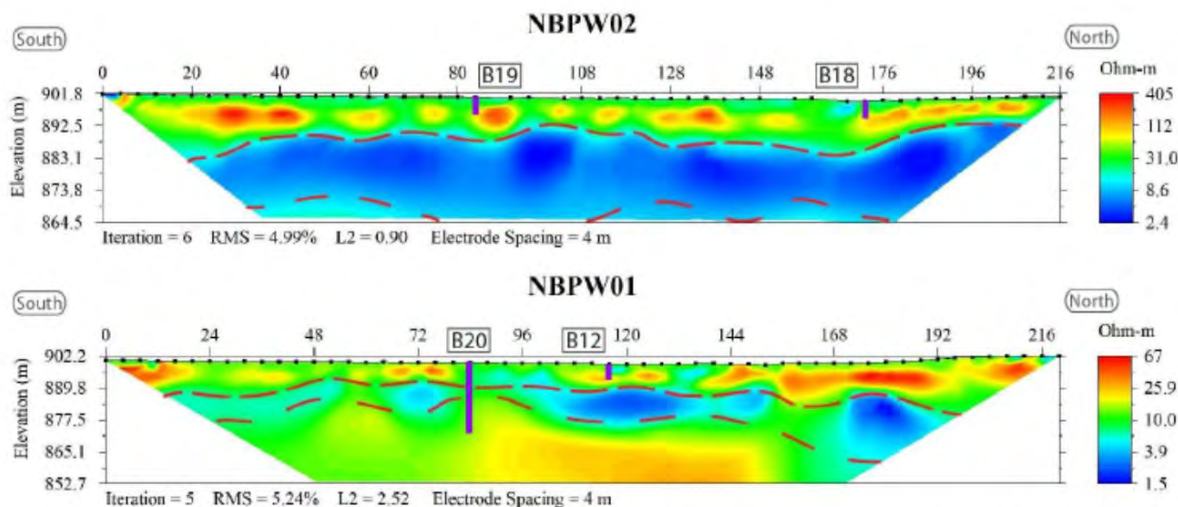


Figure 5: 2D inverted resistivity section. Reds and oranges indicate higher resistivity values. Yellows and greens are medium resistivity values. Blues are low resistivity values. Red dashed line is interpreted as the water table. Vertical purple lines are the boreholes superimposed to the closet location within the resistivity section.

SUMMARY

Based on the results from the soil investigation of the AOC, water data and ERI survey the following details regarding the characterization are presented:

- A thorough investigation of the AOC and surrounding area was conducted to assess karst potential, biology, hydrogeology, and cultural resources prior to conducting mechanical operations in order to mitigate further affliction to the potential sensitive resources within and/or surrounding the Site. The Site was determined to be within 300 feet of an ephemeral riverine and within a 100-year floodplain.
- A ROW containing 5 high pressure gas subsurface lines and 1 produced water line buried at depths ranging from 4 to 6 feet bgs intersect the AOC. In order to remove all residual soil impacts, major deconstruction of the ROW or otherwise engineering a temporary support system to adequately stabilize multiple active high pressure subsurface lines for the duration of excavation activities would present extremely hazardous conditions for personnel, and likelihood for the retracted pipelines to cause a subsequent release by structural collapse, and hazardous chemical release to the atmosphere. Although safety management activities may be planned, the likelihood of these risks are still high as the support systems may fail and/or present new risks with a mechanical excavation advancing below suspended, active pipelines. If WPX were to excavate to Site Closure Criteria, an excavation advanced to depths of the observed clean boundaries would not be possible without devastating other sensitive and protectable areas as the excavation reaches the appropriate depth(s). Depth to groundwater is estimated to be greater than 103 feet bgs based on the dry boring BH20 located at the Site and interpretation of the ERI survey.
- The immediate horizontal periphery has been confirmed with surface soil samples collected surrounding the AOC. Impacts within the AOC are defined and in accordance with the applicable Site Closure Criteria. According to laboratory analytical results, concentrations of COCs exceeding Site Closure Criteria exist up to 38 feet bgs.
- During delineation activities, it appeared that unrecovered fluids settled with potential perched water zones present only in portions of the subsurface associated with the AOC. The area where the releases occurred was likely fed by surface water infiltration (rainfall and/or snowfall events)

that is temporarily stored within the more porous poorly graded sand layer on top of the clayey sand. This interbedded stratigraphy appears to be indicative of natural depositional features associated with a drainage bed.

- A true groundwater zone is estimated to be greater than 103 feet bgs based on a drilled boring, BH20. This finding is consistent with existing regional groundwater data, specifically in reference to USGS well 320301103572201 (approximately 0.8 miles away) which had a reported depth of water 120.86 feet below ground surface (bgs) from 1992. During drilling activities, a series of perched water zones were encountered in which release fluid intermingled. A subsequent ERI survey conducted by Southwest Geophysical identified a discontinuous perched aquifer in the subsurface where the releases occurred, and findings are comparable based on lithologic findings.
- Remediation to date has consisted of removing fluid from the perched water zones via hand bailing. Approximately 1,500 gallons of fluid have been recovered.

Based on the conclusions drawn above, WPX proposes the following remedial corrective actions:

- WPX requests a variance to leave chloride impacts between 5 feet and up to 38 feet bgs in place (18,347 cubic yards), where elevated concentrations are characterized between 11,800 mg/kg to 4,600 mg/kg. The excavation of the AOC will be further advanced to 7 feet bgs and 15 feet bgs within proximity to delineation soil sample locations BH07 and BH12, respectfully, to remove any remaining residual TPH impacts (577mg/kg and 129 mg/kg) identified during delineation activities.
- To accommodate a properly engineered excavation to the anticipated boundaries consistent with delineation laboratory analytical results, the excavation footprint would extend well beyond the extents of the AOC to facilitate the proper safety measures required to excavate to Site Closure Criteria. As a result, unimpacted grounds would be excavated leading to a greater disruption of existing surface vegetation within a wetland riverine environment. In comparison, the proposed excavation would minimize the unnecessary disturbance of unimpacted ground and protect the sensitive environment whilst still removing the greatest impacts to accommodate vegetative growth.
- To minimize soil disturbance in order to mitigate impacts to groundwater and vegetation, WPX requests that a minimum of five feet of impacted soil be excavated or much as possible without compromising the integrity of the pipelines or increasing safety risks for personnel onsite for the proposed excavation area in conjunction with the advancement to remove TPH impacted soil at delineation soil sampling locations BH07 and BH12; any excavation area(s) advanced beyond 5 feet bgs will be backfilled up to 5 feet bgs, where an acceptable physical barrier will be installed on the excavation floor. The physical barrier will mitigate further migration of chloride impacts into the subsurface. The proposed remediation of the AOC is presented on **Figure 6** in **Appendix A**. The excavation will extend laterally until confirmation soil sample results from the sidewalls of the excavation meet Site Closure Criteria and will provide horizontal delineation of the release.
- Due to the size of the anticipated excavation area(s), WPX requests that excavation confirmation sidewall soil samples represent a maximum of 1,000 square feet per soil sample. Soil samples will be submitted to an accredited laboratory for analyses of chloride, TPH and BTEX. WPX requests that no floor confirmation samples be collected as delineation samples between 5 feet bgs and 30 feet bgs within the AOC are characterized between chloride concentrations of 7,690 mg/kg to 4,600 mg/kg.

- WPX will continue to bail residual fluid from the perched water zones and investigate appropriate pump mechanics in an effort to maximize fluid recovery. Fluid will be continued to be removed from the developed wells until the water chemistry matches the baseline provided by water samples collected from BH18, situated outside and upgradient of the release, or until dry, whichever occurs first, at which time, the wells will be plugged and abandoned following appropriate rules and regulations.
- The proposed excavation will likely require third-party operator oversight and additional safety measures near their respective subsurface pipelines before or during excavation activities. WPX and/or the third-party operator may implement additional safety precautions above encroachment guidelines at their company's discretion for the health and safety of on-site personnel and for the structural integrity of utilities. Such restrictions include but are not limited to:
 - i. Shifting the proposed excavation extent(s) to adhere to established buffer zone(s) around one or more utilities.
 - ii. Inducing a change in proposed excavation(s) depth(s) around one or more utilities.
- Upon receipt and review of excavation confirmation soil sample laboratory analytical results, WPX will determine the appropriate measure of corrective actions that will include:
 - i. Documenting the removal of impacted soil and restoration at the Site with a subsequent Closure detailing assessment, sampling activities, and Site restoration activities including, but not limited to backfilling the excavation with clean, locally sourced soil and restored to "as close to its original state as possible."

WPX believes this RWP will meet requirements set forth in NMAC 19.15.29.13 and be protective of human health, the environment and groundwater. As such, WPX respectfully requests approval of this RWP from NMOCD.

If you have any questions or comments, please do not hesitate to contact Joseph Hernandez at (281) 702-2329 or joseph@etechenv.com or Gilbert Moreno at (832) 541-7719 or gilbert@etechenv.com. **Appendix H** provides correspondence email notification receipts associated with the subject releases.

Sincerely,
Etech Environmental and Safety Solutions, Inc.



Gilbert Moreno
Project Geologist



Joseph S. Hernandez
Senior Managing Geologist

cc: Jim Raley, WPX
New Mexico Oil Conservation Division
Bureau of Land Management

Appendices:

Appendix A: Figure 1: Site Map

Figure 1A: Site Characterization – Groundwater

Figure 1B: Site Characterization – Surface Receptors

Figure 1C: Site Characterization – Subsurface Receptors

Figure 2: Area of Concern

Figure 3: Delineation Soil Sample Locations

Figure 4: Monitoring Well Locations and Cross Section Layout

Figure 5: Remediation Area

Appendix B: Referenced Well Records

Appendix C: Soil Sampling Logs

Appendix D: Photographic Log

Appendix E: Tables

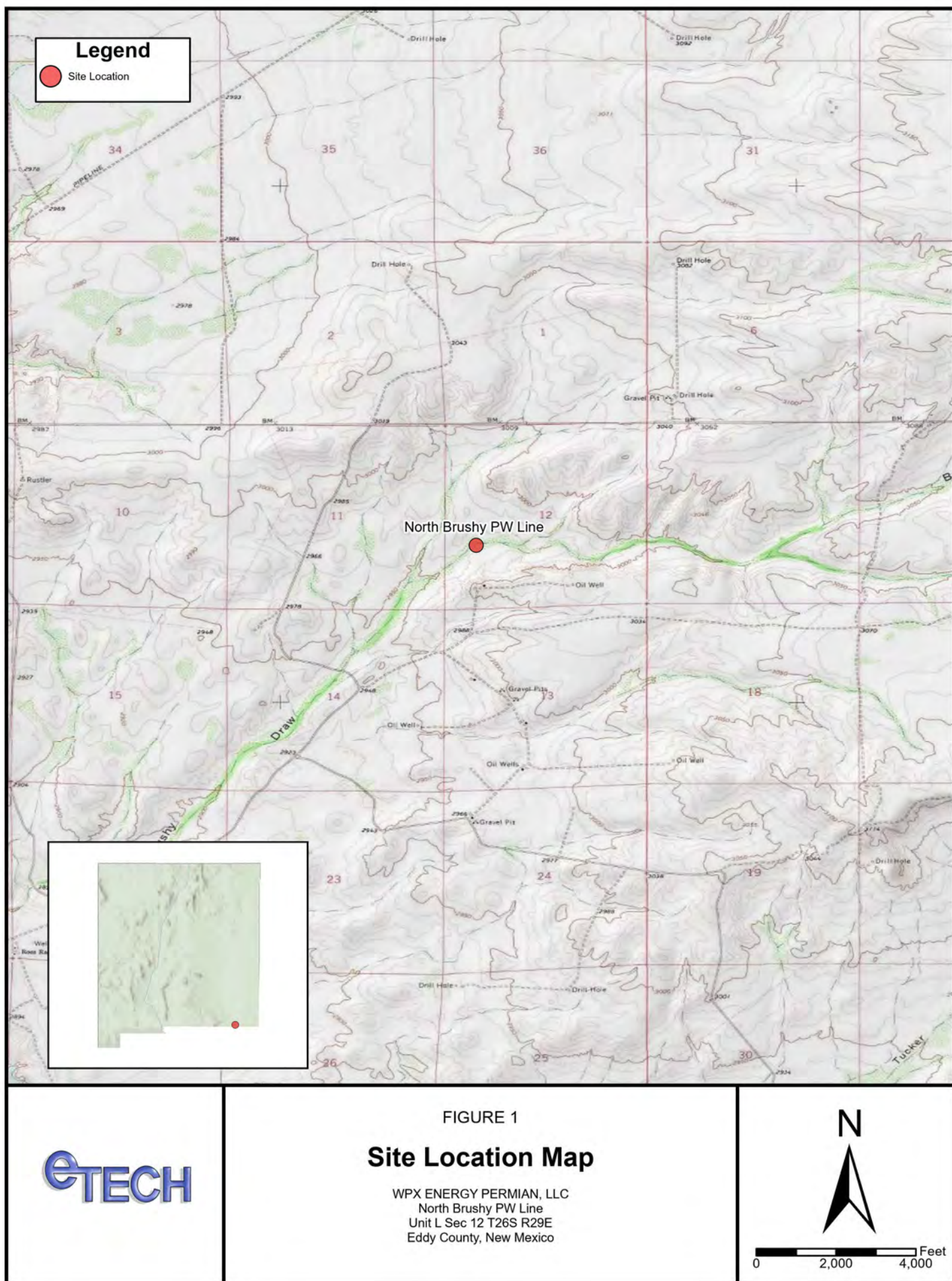
Appendix F: Laboratory Analytical Reports & Chain-of-Custody Documentation

Appendix G: ERI Report

Appendix H: Email Notifications

APPENDIX A

Figures



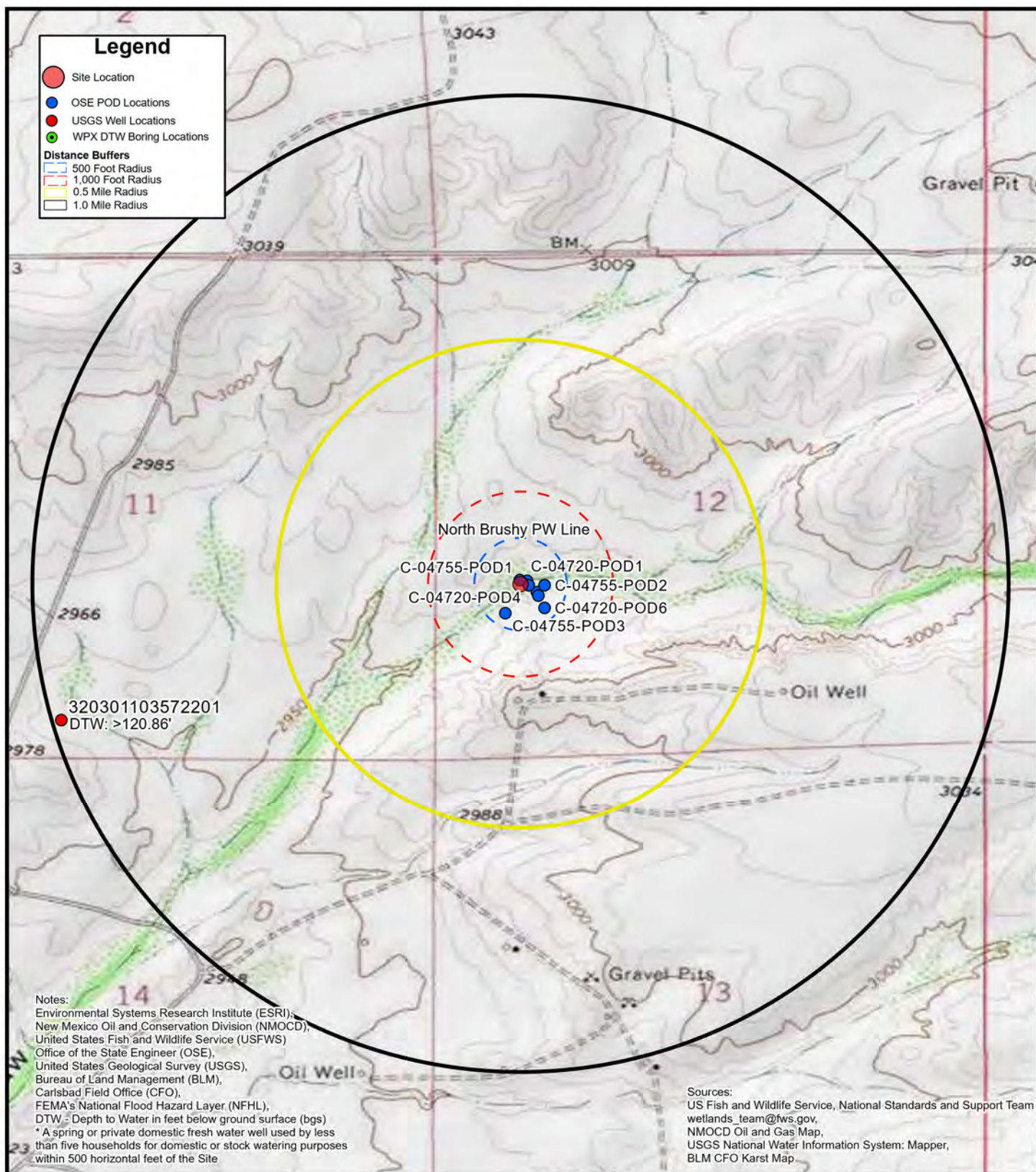


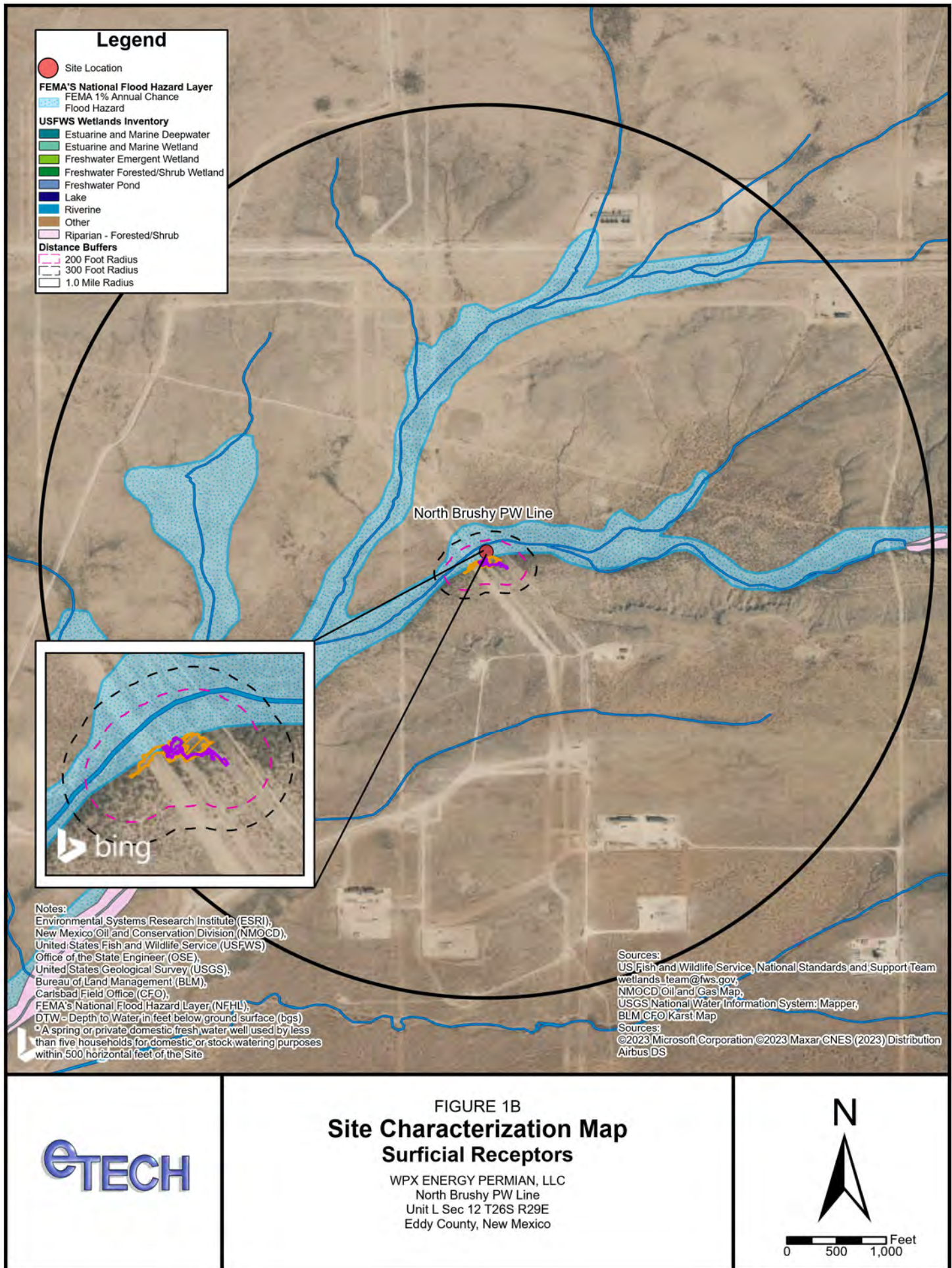
FIGURE 1A
**Site Characterization Map
Groundwater**

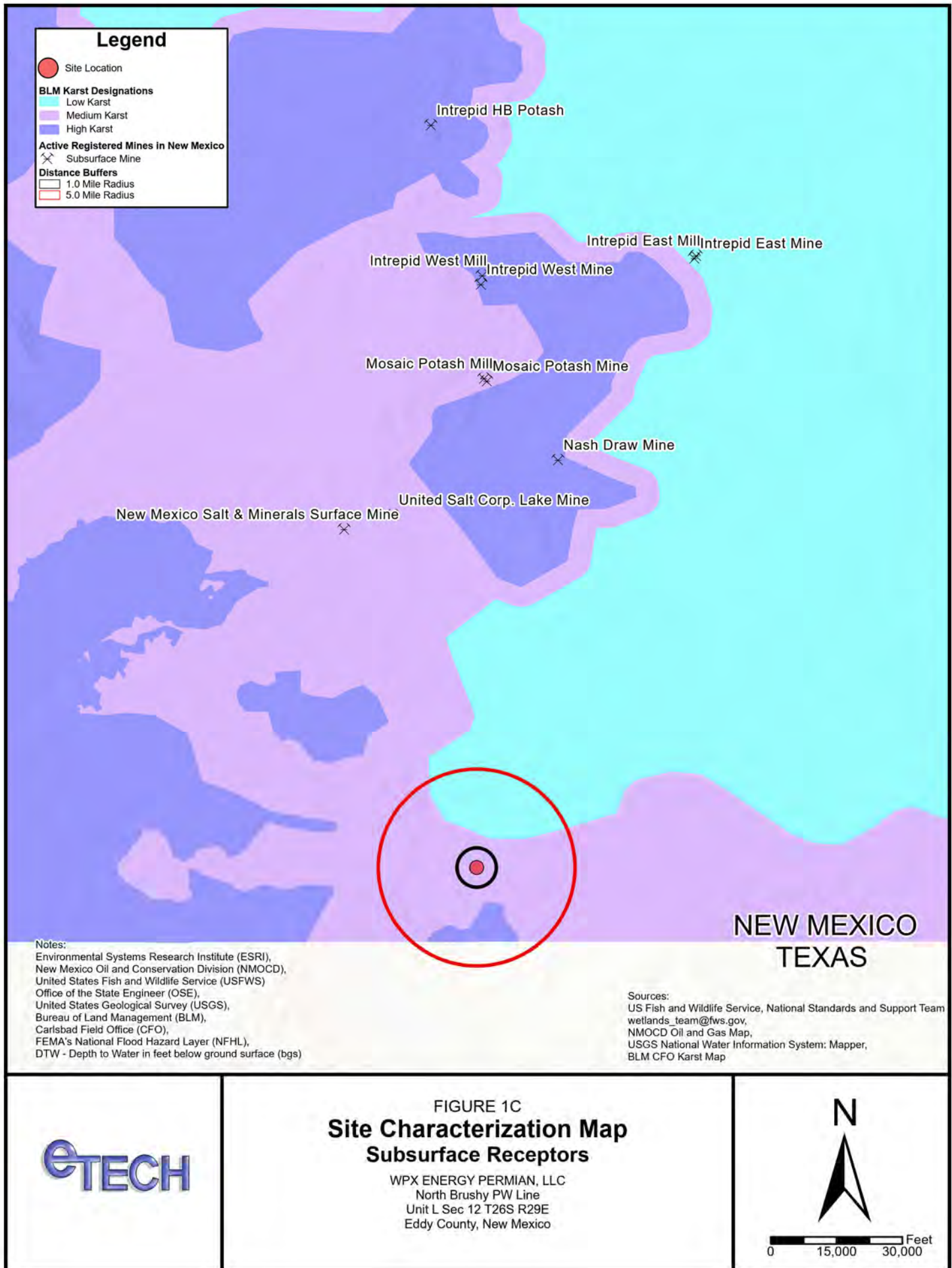
WPX ENERGY PERMIAN, LLC
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Unit L Sec 12 T26S R29E
Eddy County, New Mexico

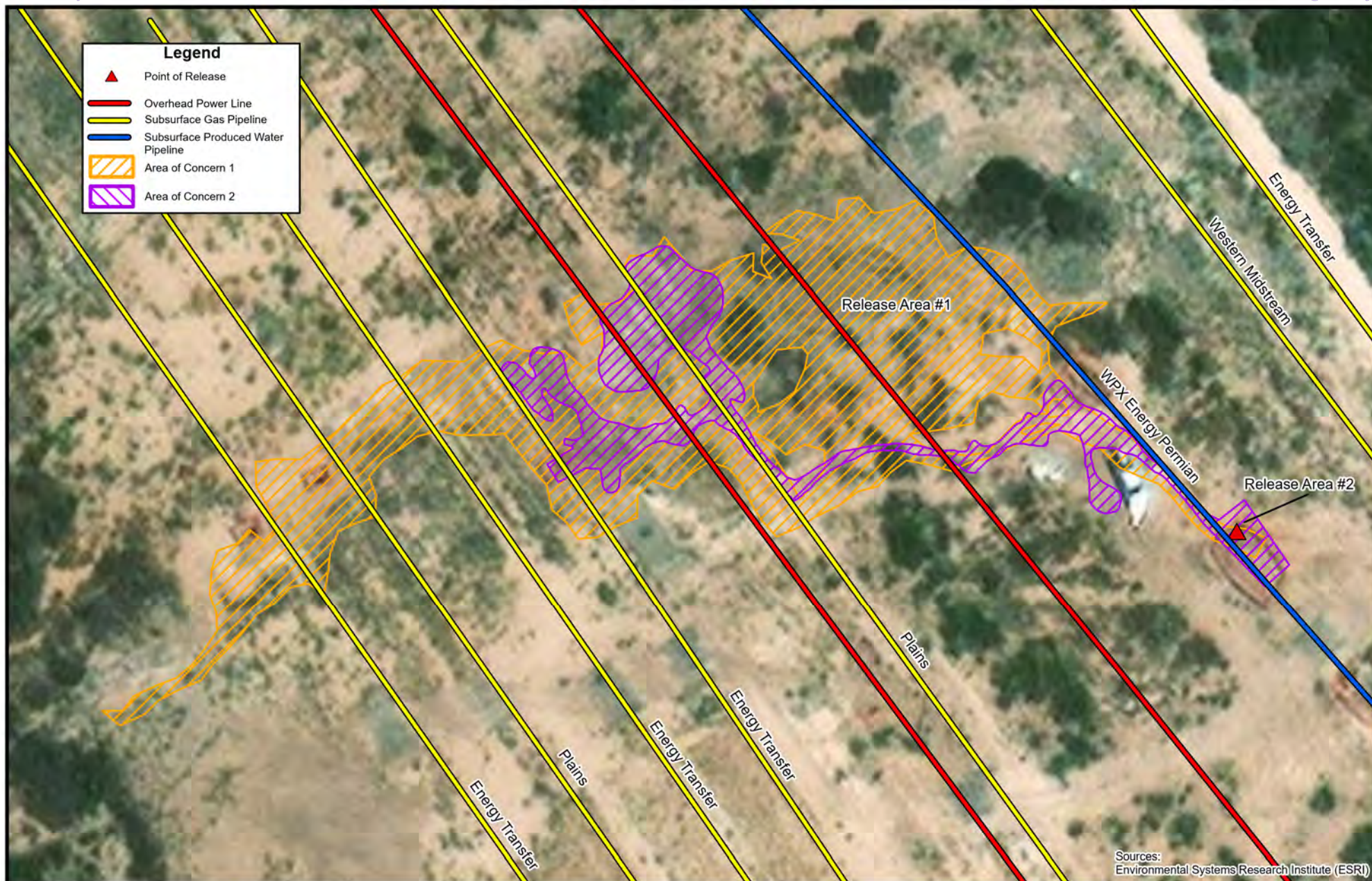


0 500 1,000 Feet

eTECH





**eTECH****FIGURE 2**
Area of Concern

WPX ENERGY PERMIAN, LLC
North Brushy Produced Water Line
Unit L Sec 12 T26S R29E
Eddy County, New Mexico



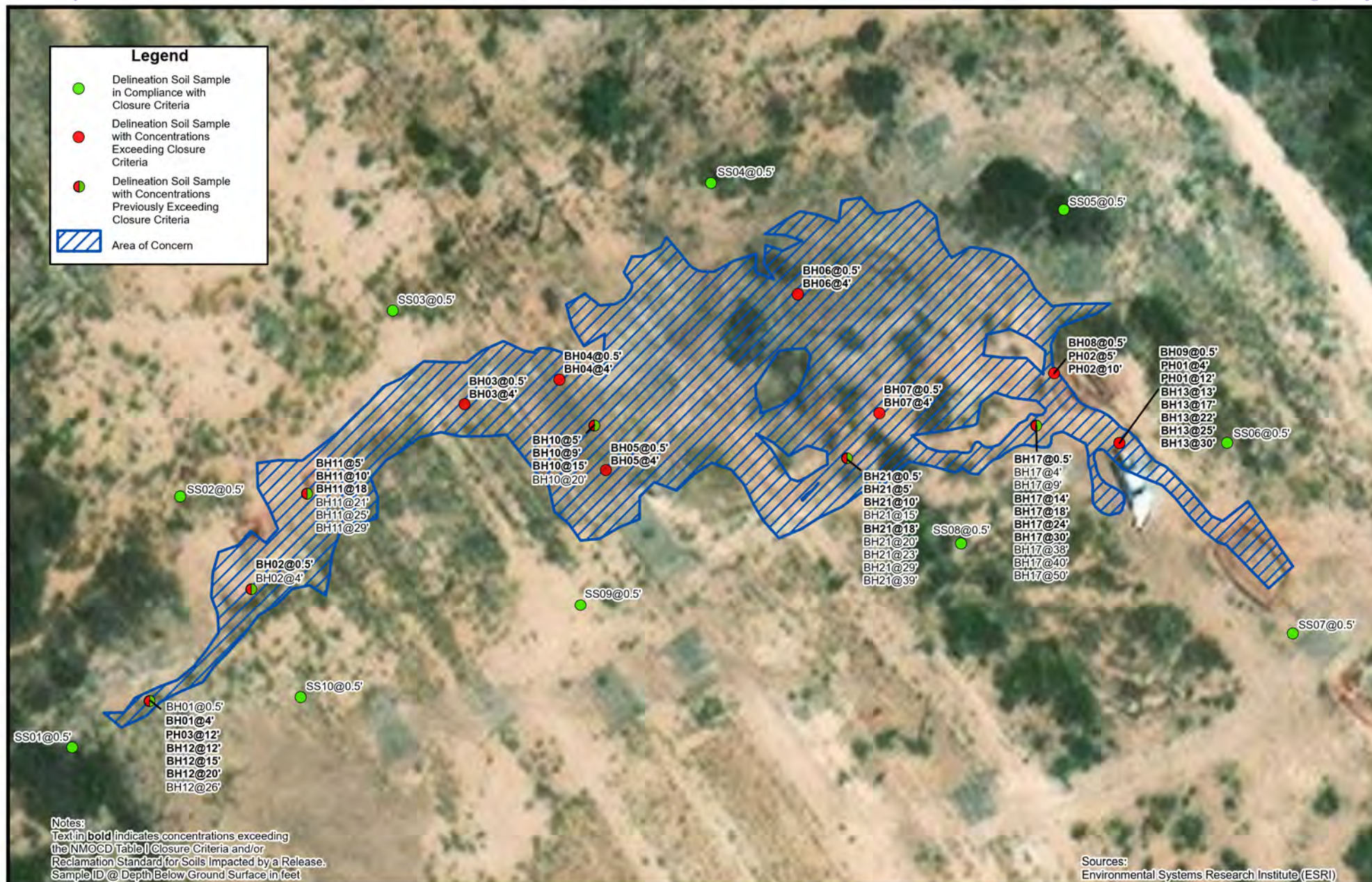


FIGURE 3
Delineation Soil Sample Locations

WPX ENERGY PERMIAN, LLC
North Brushy PW Line
Unit L Sec 12 T26S R29E
Eddy County, New Mexico

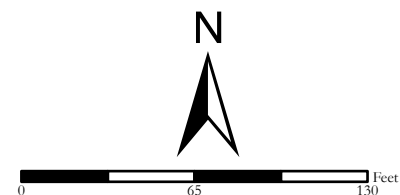


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FIGURE 4
Monitoring Well Locations and Cross Section Layout

WPX ENERGY PERMIAN, LLC
North Brushy PW Line
Unit L Sec 12 T26S R29E
Eddy County, New Mexico



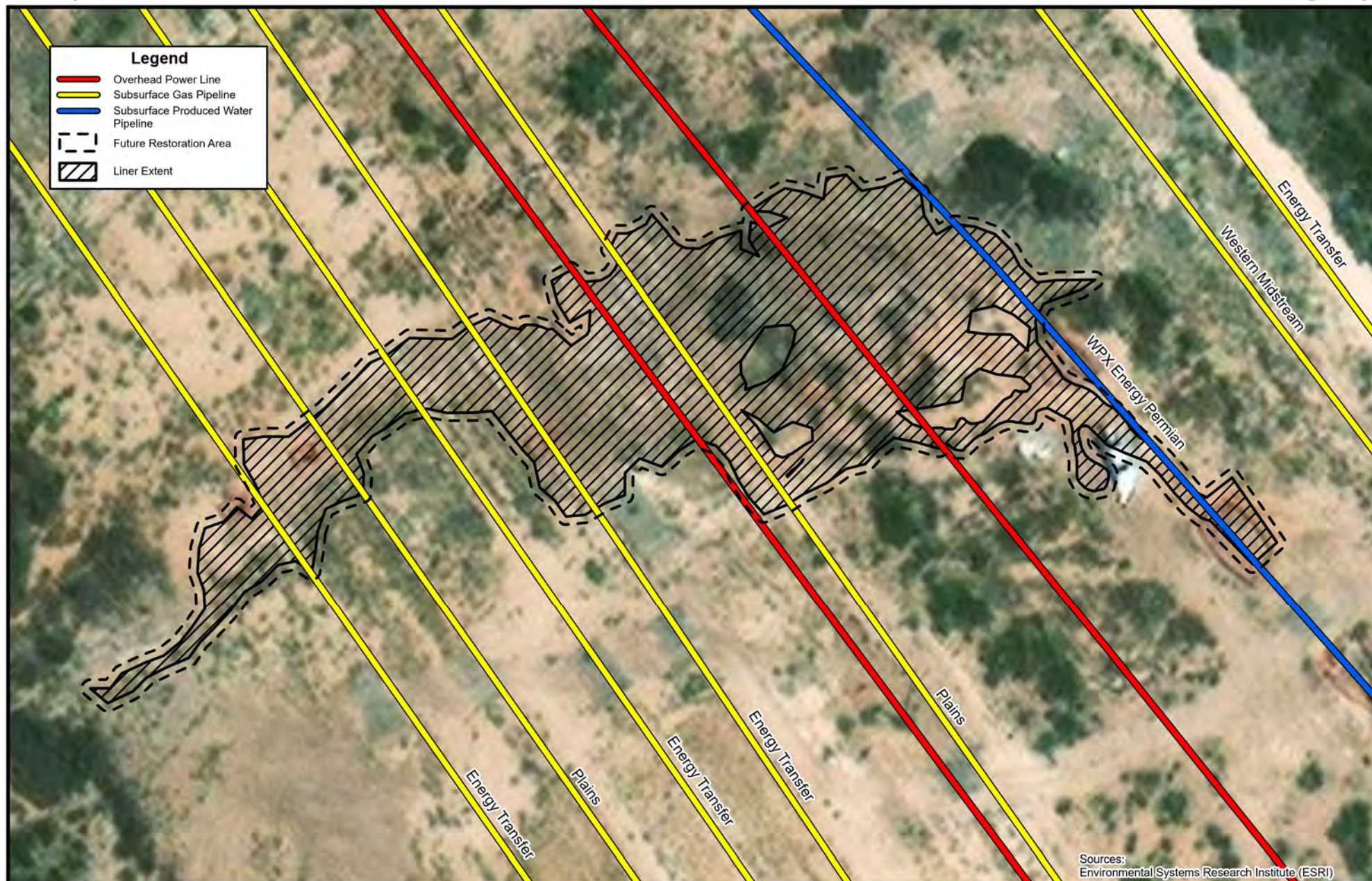
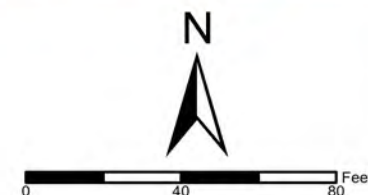
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FIGURE 5
Remediation Area

WPX ENERGY PERMIAN, LLC
North Brushy PW Line
Unit L Sec 12 T26S R29E
Eddy County, New Mexico



APPENDIX B

Referenced Well Records

National Water Information System: Web Interface

USGS Water Resources

Data Category:
Groundwater

Geographic Area:
United States

GO

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Groundwater levels for the Nation

 Important: [Next Generation Monitoring Location Page](#)

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 320301103572201

Minimum number of levels = 1
[Save file of selected sites](#) to local disk for future upload

USGS 320301103572201 26S.29E.16.213241

Eddy County, New Mexico
Latitude 32°03'01", Longitude 103°57'22" NAD27
Land-surface elevation 2,958 feet above NAVD88
The depth of the well is 335 feet below land surface.
This well is completed in the Other aquifers (N9999OTHER) national aquifer.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measur
1949-01-03			D 62610		2831.41	NGVD29	1	Z		
1949-01-03			D 62611		2832.97	NAVD88	1	Z		
1949-01-03			D 72019	125.03			1	Z		
1977-03-09			D 62610		2831.59	NGVD29	1	Z		
1977-03-09			D 62611		2833.15	NAVD88	1	Z		
1977-03-09			D 72019	124.85			1	Z		
1978-01-17			D 62610		2832.82	NGVD29	1	Z		
1978-01-17			D 62611		2834.38	NAVD88	1	Z		
1978-01-17			D 72019	123.62			1	Z		
1987-10-14			D 62610		2834.90	NGVD29	1	Z		
1987-10-14			D 62611		2836.46	NAVD88	1	Z		
1987-10-14			D 72019	121.54			1	Z		
1992-11-03			D 62610		2835.58	NGVD29	1	S		
1992-11-03			D 62611		2837.14	NAVD88	1	S		
1992-11-03			D 72019	120.86			1	S		

Explanation		
Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	62610	Groundwater level above NGVD 1929, feet
Parameter code	62611	Groundwater level above NAVD 1988, feet
Parameter code	72019	Depth to water level, feet below land surface
Referenced vertical datum	NAVD88	North American Vertical Datum of 1988
Referenced vertical datum	NGVD29	National Geodetic Vertical Datum of 1929
Status	1	Static
Method of measurement	S	Steel-tape measurement.
Method of measurement	Z	Other.
Measuring agency		Not determined
Source of measurement		Not determined
Water-level approval status	A	Approved for publication -- Processing and review completed.

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[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)
Title: Groundwater for USA: Water Levels
URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



Page Contact Information: [USGS Water Data Support Team](#)
Page Last Modified: 2023-10-04 11:14:36 EDT
0.27 0.24 nadww01

APPENDIX C

Soil Sampling Logs



Sample Name: BH01/PH03/BH12 Date: 1/25/2023-2/16/2023
 Site Name: North Brushy PW Line
 Incident Number: nAPP2231126594 & nAPP2312845934
 Job Number: 18128

LITHOLOGIC / SOIL SAMPLING LOG

Site Coordinates: 32.054442, -103.942938

Logged By: GM Method: Auger, Backhoe, Sonic
 Hole Diameter: N/A Total Depth: 26'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes
Moist	200	0.1	No	BH01	0.5	0	SP	(0-21') SAND, moist, brown, poorly graded, fine grain, trace silt, trace small caliche gravel, trace organics, yellow orange stain, non-organic odor.
Moist	1,500	0.1	No		1			
Moist	6,600	0.2	No		2.0			
Moist	14,120	2.4	No	BH01	4			@1' No stain, no organics.
						5		@2' Increase in silt.
Moist	4,152	0	No		6			@4' Very fine to fine grain, increased silt.
Moist	2,308	0	No		8			<u>Note:</u> Refusal by hand auger @ 4', BH01 samples submitted 1/25/2023.
						10		@6' Some coarser sand grains, abundant small gravel.
Moist	4,500	0	No	PH03	12			@8' Color change to tan to brown, some coarser sand grains.
Moist	3,192	1.4	No	BH12	12			@11' Color change to light brown.
Moist	7,148	2.3	No	BH12	15	15		<u>Note:</u> Max reach by backhoe @ 12', PH03 Samples submitted 2/7/2023.
								@14' Color change to reddish brown.
								@16' Color change to tan, poorly consolidated, few interbedded dark brown sand laminations.
Moist	5,204	0.7	No	BH12	20	20		
Dry	2,272	1.2	No		21		SC	(21-26') CLAYEY SAND, dry, tan, fine grain, poorly graded, abundant interbedded reddish clay laminations (<1mm), no stain, no odor.
Dry	2,444	1.0	No		23			<u>Note:</u> BH12 samples submitted 2/16/2023.
Dry	780	1.2	No		24			
Dry	<168	1.0	No	BH12	26	25		

Total Depth

								Sample Name: BH02		Date: 1/25/2023	
								Site Name: North Brushy PW Line			
								Incident Number: nAPP2231126594 & nAPP2312845934			
								Job Number: 18128			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: GM		Method: Hand Auger	
Site Coordinates: 32.054442, -103.942938								Hole Diameter: 3"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes			
Moist	1,716	0.3	Yes	BH02	0.5	0	SP	(0-3') SAND, moist, brown, poorly graded, very fine to fine grain, trace silt, yellow orange stain, no odor.			
Moist	6,096	0.5	No		1			@1' No stain.			
Moist	7,148	0.6	No		2	2		@3' Some coarser sand grains, trace small caliche gravel.			
Moist	5,632	0.3	No	BH02	4	4		@4' Refusal by hand auger.			
Total Depth											

								Sample Name: BH03		Date: 1/25/2023	
								Site Name: North Brushy PW Line			
								Incident Number: nAPP2231126594 & nAPP2312845934			
								Job Number: 18128			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: GM		Method: Hand Auger	
Site Coordinates: 32.054442, -103.942938								Hole Diameter: 3"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes			
Moist	9,116	0.2	No	BH03	0.5	0	SP	(0-3') SAND, moist, brown, poorly graded, very fine to fine grain, trace silt, no stain, no odor.			
Moist	4,436	0.1	No		1			@3' Some coarser sand grains, trace small caliche gravel.			
Moist	2,448	0.1	No		2	2					
Moist	8,396	0.3	No	BH03	4	4		@4' Refusal by hand auger.			
Total Depth											

								Sample Name: BH04		Date: 1/25/2023	
								Site Name: North Brushy PW Line			
								Incident Number: nAPP2231126594 & nAPP2312845934			
								Job Number: 18128			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: GM		Method: Hand Auger	
Site Coordinates: 32.054442, -103.942938								Hole Diameter: 3"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes			
Moist	6,204	0.8	Yes	BH04	0.5	0	SP	(0-4') SAND, moist, brown, poorly graded, very fine to fine grain, trace silt, yellow orange stain, no odor.			
Moist	5,724	3.7	No		2	2		@4' Trace small caliche gravel.			
Moist	5,280	2.3	No	BH04	4	4		@4' Refusal by hand auger.			
Total Depth											

								Sample Name: BH05		Date: 1/25/2023	
								Site Name: North Brushy PW Line			
								Incident Number: nAPP2231126594 & nAPP2312845934			
								Job Number: 18128			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: GM		Method: Hand Auger	
Site Coordinates: 32.054442, -103.942938								Hole Diameter: 3"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes			
Moist	12,476	0.3	Yes	BH05	0.5	0	SP	(0-2') SAND, moist, brown, poorly graded, very fine to fine grain, trace silt, yellow orange stain, no odor. @1' No stain. @3' Some coarser sand grains. @4' Trace small caliche gravel. @4' Refusal by hand auger.			
Moist	8,664	0.6	No		2	2					
Moist	12,476	0.6	No	BH05	4	4					
Total Depth											

								Sample Name: BH06		Date: 1/25/2023	
								Site Name: North Brushy PW Line			
								Incident Number: nAPP2231126594 & nAPP2312845934			
								Job Number: 18128			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: GM		Method: Hand Auger	
Site Coordinates: 32.054442, -103.942938								Hole Diameter: 3"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes			
Moist	148	0.4	Yes	BH06	0.5	0	SP	(0-2') SAND, moist, brown, poorly graded, very fine to fine grain, trace silt, yellow orange stain, no odor. @1' No stain. @2' Some silt, trace small caliche gravel. @3' Some coarser sand grains.			
Moist	6,204	0.4	No		2	2					
Moist	6,204	2	No	BH06	4	4		@4' Refusal by hand auger.			
Total Depth											

								Sample Name: BH07		Date: 1/25/2023	
								Site Name: North Brushy PW Line			
								Incident Number: nAPP2231126594 & nAPP2312845934			
								Job Number: 18128			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: GM		Method: Hand Auger	
Site Coordinates: 32.054442, -103.942938								Hole Diameter: 3"		Total Depth: 4'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes			
Moist	2,928	0.4	Yes	BH07	0.5	0	SP	(0-2') SAND, moist, brown, poorly graded, very fine to fine grain, trace silt, yellow orange stain, no odor. @1' No stain. @2' Some silt.			
Moist	8,664	0.9	No		2	2					
Moist	8,664	0.7	No	BH07	4	4		@4' Refusal by hand auger.			
Total Depth											

								Sample Name: BH08/PH02		Date: 1/25/2023-2/7/2023	
								Site Name: North Brushy PW Line			
								Incident Number: nAPP2231126594 & nAPP2312845934			
								Job Number: 18128			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: GM		Method: Auger, Backhoe	
Site Coordinates: 32.054442, -103.942938								Hole Diameter: N/A		Total Depth: 10'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes			
Moist	3532	0.4	Yes	BH08	0.5	0	SP	(0-10') SAND, moist, brown, poorly graded, fine grain, trace silt, trace small caliche gravel, trace organics, yellow orange stain, non-organic odor. <u>Note:</u> Refusal by hand auger @0.5', BH08 sample submitted 1/25/2023. @1' No stain, no organics. @4' Very fine to fine grain, increased silt. @8' Some coarser sand grains, abundant small gravel. <u>Note:</u> PH02 samples submitted 2/7/2023.			
Moist	4,872	0	No	PH02	5	5					
Moist	3,532	0	No	PH02	10	10					
Total Depth											



								Sample Name: BH09/PH01/BH13		Date: 1/25/2023-2/16/2023					
								Site Name: North Brushy PW Line							
								Incident Number: nAPP2231126594 & nAPP2312845934							
								Job Number: 18128							
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: GM		Method: Auger, Backhoe, Sonic					
Site Coordinates: 32.054442, -103.942938								Hole Diameter: N/A		Total Depth: 30'					
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.															
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes							
Moist	1,740	4.9	Yes	BH09	0.5	0	SP	(0-14') SAND, moist, brown, poorly graded, fine grain, trace silt, trace small caliche gravel, trace organics, yellow orange stain, non-organic odor.							
Moist	4,872	0.4	No	PH01	4			<u>Note:</u> Refusal by hand auger @ 0.5', BH09 sample submitted 1/25/2023.							
Moist	10,340	0.2	No		6	5		@1' No stain, no organics.							
Moist	3,832	0	No		8			@4' Very fine to fine grain, increased silt.							
Moist	4,152	0	No		10	10		@8' Color change to tan, some coarser sand grains, abundant small gravel.							
Moist	4,872	0	No	PH01	12			@12' Trace small gravel.							
Moist	6,096	1.6	No	BH13	13		SC	<u>Note:</u> Max reach by backhoe @12', PH01 samples submitted 2/7/2023.							
Moist	5,204	1.3	No		15	15		(14-22') CLAYEY SAND, moist, yellow brown, very fine to fine grain, poorly graded, few thinly bedded white to red clay laminations (<1mm), no stain, no odor.							
Moist	3,192	1.4	No	BH13	17			@17' Color change to pink, clay laminations are now yellow brown, chloride efflorescence present.							
								(22-23') SAND, wet, tan to brown, poorly graded, fine grain, no stain, no odor.							
						20		(23-27') CLAYEY SAND, moist, tan to brown, very fine grain, poorly graded, few interbedded yellow brown sand and reddish, clay laminations (1-3mm), no stain, no odor.							
Wet	4,804	1.0	No	BH13	22		SP	(27-29') SAND, moist, tan to brown, poorly graded, fine grain, no stain, no odor.							
							SC	(29-30') CLAYEY SAND, dry, light brown, very fine grain, poorly graded, few interbedded yellow brown sand and reddish clay laminations (1-3mm), no stain, no odor.							
Moist	1,500	1.1	No	BH13	25	25		<u>Note:</u> BH13 samples submitted 2/16/2023.							
Moist	6,096	1.0	No		27		SP								
Dry	660	1.1	No	BH13	30		SC								
Total Depth															

								Sample Name: BH10		Date: 2/16/2023	
								Site Name: North Brushy PW Line			
								Incident Number: nAPP2231126594 & nAPP2312845934			
								Job Number: 18128			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: GM		Method: Sonic	
Site Coordinates: 32.054442, -103.942938								Hole Diameter: 4.75"		Total Depth: 20'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes			
Moist	19,028	0.1	Yes		0.5	0	SP	(0-5') SAND, moist, brown, poorly graded, very fine to fine grain, yellow orange staining, no odor.			
Moist	14,120	0.6	No	BH10	5	5		@1' No stain.			
Moist	7,148	1	No	BH10	9	10		@5' trace silt.			
Moist	4,436	1	No	BH10	15	15		@10' Some coarser sand grains, abundant tan to white small subround gravel (<1mm).			
Moist	2,444	1.2	No		18		CL	@15' Some silt.			
Moist	<168	1.6	No	BH10	20	20		(18-20') CLAY, moist, grey to orange, medium plasticity, cohesive, interbedded yellow orange fine sand laminations (2-4mm), no stain, no odor.			
Total Depth											

								Sample Name: BH11		Date: 2/16/2023	
								Site Name: North Brushy PW Line			
								Incident Number: nAPP2231126594 & nAPP2312845934			
								Job Number: 18128			
LITHOLOGIC / SOIL SAMPLING LOG								Logged By: GM		Method: Sonic	
Site Coordinates: 32.054442, -103.942938								Hole Diameter: 4.75"		Total Depth: 30'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes			
Moist	2,024	0.6	Yes		0.5	0	SP	(0-10') SAND, moist, brown, poorly graded, very fine to fine grain, trace silt, trace clay, yellow orange staining, no odor.			
Moist	6,096	1	No	BH11	5	5		@1' No stain.			
								@5' Trace small subround gravel, no clay.			
Moist	3,772	1.2	No	BH11	10	10		(10-15') CLAY, moist, grey to reddish, medium plasticity, cohesive, no stain, no odor.			
Moist	1,400	1	No		11		CL	Note: @11' water added to discharge core sample.			
								(15-17') SAND, moist, light brown, poorly graded, very fine to fine grain, no stain, no odor.			
						15		(17-28') CLAY, moist, grey, medium plasticity, cohesive, no stain, no odor.			
Moist	2,448	1.4	No	BH11	18		CL	(28-30') CLAYEY SAND, moist, red, very fine to fine grain, poorly graded, trace silt, no stain, no odor.			
Moist	912	1.9	No		19.5	20					
Moist	<168	1	No	BH11	21						
Moist	<168	1.2	No	BH11	25	25					
							SC				
Moist	<168	0.9	No	BH11	29						
Total Depth											



Sample Name: BH14

Date: 3/14/2023

Site Name: North Brushy PW Line

Incident Number: nAPP2231126594 & nAPP2312845934

Job Number: 18128

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: GM

Method: Sonic

Coordinates: 32.054442, -103.942938

Hole Diameter: 6"

Total Depth: 20'

DTW: 14.8'

Well Construction Materials/ Comments: 2" PVC well set at 20'. PVC screen from 10' to 20'. 10/20 silica sand from 8' to 20'. Hydrated bentonite chips from surface to 8'.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes	Well Completion
Moist						0	SP	(0-16') SAND, moist, brown, poorly graded, fine grain, trace organics, no stain, no odor. @4' Coarser sand grains and subround to subangular caliche gravel, trace silt, no organics. @8' Color change to light brown, no caliche gravel. @10' Some subround to subangular gravel. @10.5' Color change to greyish-tan with dark reddish-brown mottling, trace gravel. @11' Color change to reddish-brown, moderately compacted, trace clay. @12' Color change to light brown, moist, some thinly bedded laminations (<1mm), trace gravel.	2" PVC Well and Riser Hydrated Bentonite Chips (Surface-8')
						5			
						10			
						15		(16-17') CLAYEY SAND, moist, pink to light brown, poorly graded, very fine grain, low plasticity, cohesive, trace to few interbedded yellow-brown sand laminations, no stain, faint odor. (17-18') SAND, wet, tan to light brown, fine grain, poorly graded, trace small subround gravel, no stain, faint odor. (18-20') CLAYEY SAND, moist, pink to light brown, poorly graded, very fine grain, low plasticity, cohesive, trace to few interbedded yellow-brown sand laminations, no stain, faint odor.	Slotted Screen (10-20') 10-20 Silica Sand (8-20')
Moist							SC		
Wet							SP		
Moist							SC		
						20			
Total Depth									

							Sample Name: BH15		Date: 3/27/2023			
							Site Name: North Brushy PW Line					
							Incident Number: nAPP2231126594 & nAPP2312845934					
							Job Number: 18128					
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: GM		Method: Sonic			
Coordinates: 32.054442, -103.942938							Hole Diameter: 6"		Total Depth: 53'			
Comments: Boring was plugged with hydrated bentonite after a 72-hour observation period.												
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes				
Dry						0	SP	(0-6') SAND, dry, brown, very fine to fine grain, poorly graded, trace organics, no stain, no odor.				
								@3' Color change to slightly darker brown, no organics.				
								@6' Some coarse sand, trace subround to subangular gravel, trace silt.				
						5		@9' Abundant gravel.				
								(11-18') CALICHE, dry, white-tan, well graded with silt very fine to fine grain, poorly consolidated, abundant small to large white subround to subangular caliche gravel, few small to large subround gravel, no stain, no odor.				
						10		(18-21') CLAYEY SAND, dry, yellow orange-brown, poorly graded, very fine grain, low plasticity, cohesive, thinly interbedded reddish-brown clay laminations, no stain, no odor.				
							CCHE	(21-23') SAND, moist, tan-light brown, poorly graded, very fine to fine grain, no stain, no odor.				
						15		(23-25') CLAYEY SAND, dry, yellow orange-brown, poorly graded, very fine grain, low plasticity, cohesive, no stain, no odor.				
Moist							SC					
						20						
							SP					
Dry							SC					
						25						

							Sample Name: BH15		Date: 3/27/2023	
							Site Name: North Brushy PW Line			
							Incident Number: nAPP2231126594 & nAPP2312845934			
							Job Number: 18128			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: GM		Method: Sonic	
Coordinates: 32.054442, -103.942938							Hole Diameter: 6"		Total Depth: 53'	
Comments: Boring was plugged with hydrated bentonite after a 72-hour observation period.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes		
Moist						25	SP	(25-26') SAND, moist, tan-light brown, poorly graded, very fine to fine grain, no stain, no odor.		
Dry							SC	(26-27') CLAYEY SAND, dry, yellow orange-brown, poorly graded, very fine grain, low plasticity, cohesive, no stain, no odor.		
							CL	(27-38') CLAY, dry, tan-light brown, medium plasticity, cohesive, thinly interbedded white to tan laminations (<1mm), few yellow-orange sand laminations (1-5cm), no stain, no odor.		
						30		@29' Few white crystalline gypsum inclusions(1-5cm).		
								@33' No gypsum inclusions.		
						35		(38-39') SAND, dry, tan to light brown, poorly graded, very fine to fine grain, abundant thinly bedded yellow sand laminations (<1mm), trace silt, no stain, no odor.		
								(39-46') CLAY, dry, tan-grey, medium plasticity, cohesive, very platy, interbedded yellow-orange sand laminations(1-2mm), no stain, no odor.		
Dry							SP	@44' Color change to faint reddish-brown with grey mottling.		
						40	CL	(46-47') SAND, dry, white-tan, poorly graded, very fine to fine grain, few to some thinly bedded brown laminations(<1mm), trace silt, no stain, no odor.		
						45		(47-49') CLAYEY SAND, dry, light brown, poorly graded, very fine to fine grain, low plasticity, cohesive, abundant thinly bedded tan laminations (<1mm), no stain, no odor.		
							SP			
							SC	(49-53') CLAY, dry, tan-light brown, medium plasticity, cohesive, no stain, no odor.		
							CL	@52' Color change to reddish-brown with tan sand inclusions, moist.		
						55				
Total Depth										



Sample Name: BH16

Date: 3/28/2023

Site Name: North Brushy PW Line

Incident Number: nAPP2231126594 & nAPP2312845934

Job Number: 18128

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: GM

Method: Sonic

Coordinates: 32.054442, -103.942938

Hole Diameter: 4.75"

Total Depth: 16'

DTW: 14.6'

Well Construction Materials/ Comments: 2" PVC well set at 16'. PVC screen from 11' to 16'. 10/20 silica sand from 8' to 16'. Hydrated bentonite chips from surface to 8'.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes	Well Completion
Dry						0	SP	(0-4') SAND, dry, light brown, poorly graded, very fine to fine grain, trace small subround gravel, no stain, no odor.	
						5		@4' Color change to white-tan, some coarser sand grains, abundant small to large subround gravel, trace silt.	
								(10-11') CLAYEY SAND, dry, brown-reddish brown, poorly graded, very fine to fine grain, low plasticity, cohesive, few tan inclusions, no stain, no odor.	
								(11-12') SAND, dry, light brown, poorly graded, very fine to fine grain, no stain, no odor.	
								(12-13') CLAYEY SAND, dry, tan-reddish brown, poorly graded, very fine to fine grain, low plasticity, cohesive, no stain, no odor.	
						10	SC	(13-15') SAND, dry, tan-light brown, poorly graded, fine to coarse grain, abundant small to large subround gravel, trace silt, no stain, no odor.	
Wet								@14' Wet.	
Dry							SP	(15-16') CLAYEY SAND, dry, tan-reddish brown, poorly graded, very fine to fine grain, low plasticity, cohesive, no stain, no odor.	
							SC		
							SP		
						15	SC		
Total Depth									

2" PVC Well and Riser
Hydrated Bentonite Chips (surface-8')Slotted Screen (11-16')
10-20 Silica Sand (8-16')

					Sample Name: BH17		Date: 6/7/2023	
					Site Name: North Brushy PW Line			
					Incident Number: nAPP2231126594 & nAPP2312845934			
					Job Number: 18128			
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: GM		Method: Sonic	
Coordinates: 32.054442, -103.942938					Hole Diameter: 6"		Total Depth: 50'	
Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included. Boring was immediately plugged using hydrated bentonite.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes
Dry	3,744	0.1	No	BH17	0.5	0	SP	(0-7') SAND, dry, dark brown, poorly graded, very fine to fine grain, trace silt, no stain, no odor. @4' Color change to brown.
Dry	200	0.1	No	BH17	4	5		(7-10') CALICHE, dry, tan, well graded with silt, fine to coarse grain, moderate consolidation, abundant small multi colored subround to subangular gravel (1-3mm), no stain, no odor.
							CCHE	(10-13') SAND, dry, light brown, poorly graded, fine to coarse grain, abundant small to large subround to subangular gravel (1-3mm), trace silt, no stain, no odor.
Dry	<168	1.3	No	BH17	9			@12' Color change to tan-light brown, fine grain.
Dry	2,252.0	0.1			10	10	SP	(13-14') CLAYEY SAND, dry, light brown, poorly graded, very fine to fine grain, low plasticity, cohesive, yellow-orange mottling, thinly bedded clay laminations (3cm), no stain, no odor.
Dry	6,064.0	0.3			12			(14-15') SAND, dry, tan, poorly graded, very fine to fine, trace silt, no stain, no odor.
Dry	3,744	0	No	BH17	14		SC	
						15	SP	(15-16') CLAYEY SAND, dry, light brown, poorly graded, very fine to fine grain, low plasticity, cohesive, yellow-orange mottling, thinly bedded clay laminations (3cm), no stain, no odor.
							SC	
Wet	6,064	0.2	No		16			(16-17') SAND, wet, tan-light brown, poorly graded, fine grain, some silt, trace large subround gravel, no stain, no odor.
Wet	912	0.1	No		17		SP	
							SC	
Wet	3,744	0.1	No	BH17	18			(17-18') CLAYEY SAND, dry, light brown, poorly graded, very fine to fine grain, low plasticity, cohesive, yellow-orange mottling, thinly bedded clay laminations (3cm), no stain, no odor.
						20	SP	
Dry	5,592	0	No		22			@17.5' Color change to yellow-orange with abundant orange to brown interbedded laminations (1-2mm).
							SC	
Dry	2,056	0.2	No	BH17	24			(18-22') SAND, wet, light brown, poorly graded, very fine to fine grain, no stain, no odor.
						25	SP	



Sample Name: BH17 Date: 6/7/2023
 Site Name: North Brushy PW Line
 Incident Number: nAPP2231126594 & nAPP2312845934
 Job Number: 18128

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: GM Method: Sonic

Coordinates: 32.054442, -103.942938

Hole Diameter: 6"

Total Depth: 50'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included. Boring was immediately plugged using hydrated bentonite.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes
Moist	552	0.2	No	BH17	26	25	SAA	@21' Some coarser sand grains, abundant small to large subround gravel (1-5mm). (22-24') CLAYEY SAND, moist, light brown, poorly graded, very fine grain, low plasticity, cohesive, yellow-orange mottling, thinly bedded clay laminations (1mm), no stain, no odor.
Moist	1,968	0	No		30	30	SC	(24-30) SAND, moist, light brown, poorly graded, very fine to fine grain, some silt, some small to large subround gravel, no stain, no odor.
							SP	(30-31') CLAYEY SAND, moist, light brown-reddish brown, poorly graded, very fine grain, low plasticity, cohesive, yellow-orange mottling, no stain, no odor.
						35		(31-38') SAND, moist, light brown to brown, poorly graded, some silt, no stain, no odor.
Moist	4,400	0.1	No	BH17	36			@32' Yellow-orange mottling.
Dry	452	0	No		38		CL	(38-40') CLAY, dry, light brown-brown, medium plasticity, cohesive, some yellow-orange mottling, no stain, no odor.
Dry	200	0	No	BH17	40	40	SP	(40-43') SAND, dry, brown, poorly graded, fine grain, trace silt, no stain, no odor.
Dry	<168	0	No		43		CL	(43-50') CLAY, dry, reddish brown-brown, medium plasticity, cohesive, no stain, no odor.
						45		@45' Grey mottling with interbedded sand laminations.
Dry	<168	0	No	BH17	50	50		
Total Depth								



Sample Name: BH18

Date: 06/8/2023

Site Name: North Brushy PW Line

Incident Number: nAPP2231126594 & nAPP2312845934

Job Number: 18128

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: GM

Method: Sonic

Coordinates: 32.054442, -103.942938

Hole Diameter: 6"

Total Depth: 20'

DTW:15.42'

Well Construction Materials/ Comments: 2" PVC well set at 20'. PVC screen from 15' to 20'. 10/20 silica sand from 13' to 20'. Hydrated bentonite chips from surface to 13'.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes	Well Completion
Dry						0	SP	(0-3') SAND, dry, brown-dark brown, poorly graded, very fine to fine, some organics, trace silt, no stain, no odor. @1' Some coarse sand grains, abundant small subround to subangular gravel, trace clay.	
						5	CCHE	(3-6') CALICHE, dry, tan, well graded with silt, very fine to coarse, moderate consolidation, abundant small to large subround to subangular gravel, no stain, no odor.	
						10	SP	(6-10') SAND, dry, light brown-reddish brown, poorly graded, very fine to fine grain, trace silt, no stain, no odor. (10-13') CLAY, dry, light brown-reddish brown, medium plasticity, cohesive, no stain, no odor. (13-17') CLAYEY SAND, dry, tan-light brown, poorly graded, very fine to fine grain, low plasticity, cohesive, interbedded red laminations(<1mm), no stain, no odor.	
						15	CL	(17-20') SAND, wet, tan, poorly graded, very fine to fine grain, trace silt, no stain, no odor.	
							SC		
Wet						20	SP		
Total Depth									

2" PVC Well and Riser

Hydrated Bentonite Chips (surface-13')

Slotted Screen (15-20')

10-20 Silica Sand (13-20')



Sample Name: BH19 Date: 6/8/2023
 Site Name: North Brushy PW Line
 Incident Number: nAPP2231126594 & nAPP2312845934
 Job Number: 18128

LITHOLOGIC / SOIL SAMPLING LOG

Coordinates: 32.054442, -103.942938 Logged By: GM Method: Sonic
 Hole Diameter: 6" Total Depth: 31' DTW:22.3'

Well Construction Materials/ Comments: 2" PVC well set at 31'. PVC screen from 21' to 31'. 10/20 silica sand from 19' to 31'. Hydrated bentonite chips from surface to 19'.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes	Well Completion
Dry						0	SP	(0-7') SAND, dry, dark brown, poorly graded, very fine to fine grain, some organics, trace silt and clay, no stain, no odor. @3' No organics. (7-14') CALICHE, dry, tan, well graded with silt, fine to coarse grain, poorly consolidated, abundant small to large subround to subangular gravel, no stain, no odor. (14-17') CLAYEY SAND, dry, light brown, poorly graded, very fine to fine grain, yellow-orange mottling, low plasticity, cohesive, trace grey clay laminations (<1mm), no stain, no odor. (17-18') SAND, dry, tan to light brown, poorly graded, very fine grain, some yellow-orange mottling, no stain, no odor. (18-19') CLAY, dry, grey, medium plasticity, cohesive, trace yellow-orange sand laminations(<1mm), trace organics, some yellow-orange to reddish mottling, no stain, no odor. (19-20') CLAYEY SAND, tan-light brown, poorly graded, very fine to fine grain, low plasticity, cohesive, yellow-orange mottling, some interbedded reddish-grey clay laminations (1mm-1cm), no stain, no odor. (20-21') SAND, moist, light brown, poorly graded, very fine to fine grain, some yellow-orange mottling, no stain, no odor. (21-23') CLAY, moist, light brown-reddish brown, medium plasticity, cohesive, abundant laminations (<1mm), some sand laminations (1mm-1cm), yellow-orange mottling, no stain, no odor. (23-24') SAND, wet, tan, poorly graded, very fine to fine grain, trace silt, no stain, no odor.	2" PVC Well and Riser Hydrated Bentonite Chips (surface-19')
						5	CCHE		
						10			
						15	SC		
							SP		
							CL		
							SP		
Moist						20			

							Sample Name: BH20		Date: 7/25/2023			
							Site Name: North Brushy PW Line					
							Incident Number: nAPP2231126594 & nAPP2312845934					
							Job Number: 18128					
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: GM		Method: Sonic			
Coordinates: 32.054442, -103.942938							Hole Diameter: 6"		Total Depth: 103'			
Comments: Boring was plugged using hydrated bentonite after a 72-hour observation period.												
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes				
Dry						0	SP	(0-12') SAND, dry, brown, poorly graded, very fine to fine grain, trace silt, no stain, no odor.				
						5		@6' Color change to tan-light brown, trace coarse to small subround gravel, trace laminations (<1mm).				
								@10' Trace interbedded reddish-brown clay laminations(1-5mm), some white crystalline gypsum inclusions.				
						10		(12-14') CLAY, dry, reddish-brown, medium plasticity, cohesive, abundant laminations (<1mm), abundant white crystalline gypsum inclusions, interbedded tan-light brown sand laminations(1-5mm), yellow-orange mottling, no stain, no odor.				
							CL	(14-18') CLAYEY SAND, dry, light brown, poorly graded, very fine to fine grain, low plasticity, cohesive, trace white crystalline gypsum inclusions, no stain, no odor.				
						15	SC	(18-20') CLAY, dry, reddish-brown, medium plasticity, cohesive, abundant laminations (1-3mm), white crystalline gypsum inclusions, abundant interbedded tan sand laminations (1-5mm), no stain, no odor.				
							CL	(20-22') CLAYEY SAND, dry, light brown-yellow orange, poorly graded, very fine to fine grain, low plasticity, cohesive, trace white crystalline gypsum inclusions, some interbedded reddish-brown clay laminations (1-5mm), no stain, no odor.				
						20	SC					
							SP					
						25	CL	(22-24') SAND, dry, tan, poorly graded, very fine to fine grain, yellow-orange mottling, no stain, no odor.				
								@ 23' Fine grain.				
						30	SP	(24-28') CLAY, dry, reddish brown-dark brown, medium plasticity, cohesive, white crystalline gypsum inclusions, abundant laminations (<1mm), some interbedded tan sand laminations (1mm), no stain, no odor.				
	SC											
	SP	@ 26' Color change to tan with yellow-orange mottling.										

							Sample Name: BH20		Date: 7/25/2023			
							Site Name: North Brushy PW Line					
							Incident Number: nAPP2231126594 & nAPP2312845934					
							Job Number: 18128					
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: GM		Method: Sonic			
Coordinates: 32.054442, -103.942938							Hole Diameter: 6"		Total Depth: 103'			
Comments: Boring was plugged using hydrated bentonite after a 72-hour observation period.												
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes				
Dry						35	SC	(28-30') SAND, dry, tan, poorly graded, very fine to fine grain, trace interbedded brown clay laminations (1-5mm), trace silt, no stain, no odor.				
							CL	(30-33') CLAYEY SAND, dry, tan-light brown, poorly graded, very fine to fine, low plasticity, cohesive, some yellow-orange mottling, white crystalline gypsum inclusions, no stain, no odor.				
								@31' Color change to tan with abundant brown laminations, abundant interbedded tan-light brown clay laminations (1-3 mm).				
							SP	(33-34') SAND, dry, tan, poorly graded, very fine to fine grain, no stain, no odor.				
							CL	(34-35') CLAYEY SAND, dry, tan-light brown, poorly graded, fine grain, low plasticity, cohesive, yellow-orange mottling, trace interbedded clay laminations (1-3mm), no stain, no odor.				
							SC	(35-43') CLAY, dry, tan-light brown, medium plasticity, cohesive, abundant laminations (<1mm), abundant yellow-orange silty sand laminations (1-2mm), no stain, no odor.				
							CL	@37' Abundant silt.				
								@40' Color change to grey-tan with yellow-orange and reddish-pink mottling.				
								(43-45') SAND, dry, tan, poorly graded, very fine to fine grain, some yellow-orange laminations (1mm), white crystalline gypsum inclusions, trace silt, no stain, no odor.				
								(45-47') CLAY, dry, grey-tan, medium plasticity, cohesive, abundant laminations (<1mm), some interbedded yellow-orange sand laminations (1-2mm), white crystalline gypsum inclusions, no stain, no odor.				
		(47-51') CLAYEY SAND, dry, light reddish-brown, poorly graded, fine grain, low plasticity, cohesive, abundant yellow-orange laminations (1mm), some white crystalline gypsum inclusions, no stain, no odor.										

							Sample Name: BH20		Date: 7/25/2023	
							Site Name: North Brushy PW Line			
							Incident Number: nAPP2231126594 & nAPP2312845934			
							Job Number: 18128			
LITHOLOGIC / SOIL SAMPLING LOG							Logged By: GM		Method: Sonic	
Coordinates: 32.054442, -103.942938							Hole Diameter: 6"		Total Depth: 103'	
Comments: Boring was plugged using hydrated bentonite after a 72-hour observation period.										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes		
Dry							Gyp	(51-62') CLAY, dry, reddish brown-brown, medium plasticity, cohesive, abundant laminations (<1mm), some interbedded yellow-orange to brown sand laminations (<1mm), large white crystalline gypsum inclusions (1-10mm), no stain, no odor. @55' Abundant grey mottling, increased size of interbedded brown sand laminations (1-2mm). @56', Decreased size of interbedded brown sand laminations (1mm). (62-67') CLAY, dry, light grey-grey, medium plasticity, cohesive, abundant laminations (<1mm), some darker grey mottling, white crystalline gypsum inclusions, no stain, no odor. (67-68') GYPSUM, dry, light grey-grey, large platy like crystalline features, moderate consolidation, no stain, no odor. (68-72') SAND, dry, light brown, poorly graded, very fine to fine grain, trace silt, no stain, no odor. (72-103') CLAY, dry, light grey-grey, medium plasticity, cohesive, abundant laminations (<1mm), some interbedded dark grey crystalline gypsum laminations (1-2 mm), trace interbedded light brown sand laminations (1mm), no stain, no odor. @74' Abundant interbedded white crystalline gypsum laminations (1mm) and inclusions (1-2cm). @81-83' Increased gypsum content, decreased consolidation. @84' Decreased gypsum content, increased consolidation. @89' Increased gypsum content, decreased consolidation. @92' Increased plasticity and cohesiveness. @102' Grey anhydrite boulder, moderate consolidation with conchoidal-like fracturing.		
							SP			
							CL			
Total Depth										



Sample Name: BH21

Date: 7/27/2023

Site Name: North Brushy PW Line

Incident Number: nAPP2231126594 & nAPP2312845934

Job Number: 18128

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: GM

Method: Sonic

Coordinates: 32.054442, -103.942938

Hole Diameter: 6"

Total Depth: 39'

DTW:15.44'

Well Construction Materials/ Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included. 2" PVC well set at 25'. PVC screen from 15' to 25'. 10/20 silica sand from 13' to 39'. Hydrated bentonite chips from surface to 13'.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes	Well Completion
Dry	5,384	0	No	BH21	0.5	0	SP	(0-5') SAND, dry, brown, poorly graded, fine grain, no stain, no odor.	2" PVC Well and Riser Hydrated Bentonite Chips (surface-13')
Dry	8,644	0	No	BH21	5	5	CCHE	(5-7') CALICHE, dry, tan, well graded, very fine to coarse grain, abundant small to large subround to subangular gravel, no stain, no odor.	
							SP	(7-23') SAND, dry, tan-light brown, poorly graded, very fine to fine grain, no stain, no odor.	
								@10' Moist, some silt, some yellow-orange laminations (1mm).	
Dry	6,832	0	No	BH21	10	10		@17-18' Some coarser sand grains, abundant small to large subround gravel.	
Moist	480	0	No		13			@19' Wet, some silt.	
Moist	<168	0	No	BH21	15	15		(23-25') CLAYEY SAND, dry, tan to light brown, poorly graded, very fine grain, low plasticity, cohesive, yellow-orange mottling, no stain, no odor.	
Moist	1,744	0	No	BH21	18				
Wet	1,416	0	No		19				Slotted Screen (15-25') 10-20 Silica Sand (13-39')
Wet	396	0	No		19.5	20			



Sample Name: BH21

Date: 7/27/2023

Site Name: North Brushy PW Line

Incident Number: nAPP2231126594 & nAPP2312845934

Job Number: 18128

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: GM

Method: Sonic

Coordinates: 32.054442, -103.942938

Hole Diameter: 6"

Total Depth: 39'

DTW:15.44'

Well Construction Materials/ Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included. 2" PVC well set at 25'. PVC screen from 15' to 25'. 10/20 silica sand from 13' to 39'. Hydrated bentonite chips from surface to 13'.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes	Well Completion
Moist	<168	0	No	BH21	20	20	SP	(25-29') SAND, dry, tan-light brown, poorly graded, very fine to fine grain, trace silt, no stain, no odor.	Slotted Screen (15-25')
Dry	356	0	No		21				
Dry	<168	0	No		22				10-20 Silica Sand (13-39')
Dry	<168	0	No	BH21	23		SC	@29' Color change to light brown, some coarser sand grains, some small to large subround to subangular gravel.	
						25	SP	(29-30') CLAYEY SAND, dry, yellow-orange, poorly graded, very fine to fine grain, low plasticity, cohesive, light brown mottling, no stain, no odor.	
								(30-32') SAND, moist, yellow-orange, poorly graded, fine grain, reddish brown-brown mottling, trace interbedded grey clay laminations (1-2cm), trace silt, no stain, no odor.	
Dry	168	0	No	BH21	29	30	SC		
							SP		
							SC	(32-39') CLAYEY SAND, dry, light brown, poorly graded, very fine grain, low plasticity, cohesive, yellow-orange mottling and laminations, some interbedded grey clay laminations (1-5cm), no stain, no odor.	
Dry	<168	0	No	BH21	39				

Total Depth



Sample Name: BH22

Date: 7/28/2023

Site Name: North Brushy PW Line

Incident Number: nAPP2231126594 & nAPP2312845934

Job Number: 18128

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: GM

Method: Sonic

Coordinates: 32.054442, -103.942938

Hole Diameter: 6"

Total Depth: 40'

DTW: 17.59'

Well Construction Materials/ Comments: 2" PVC well set at 34'. PVC screen from 14' to 34'. 10/20 silica sand from 12' to 40'. Hydrated bentonite chips from surface to 12'.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (feet bgs)	Depth (feet bgs)	USCS/Rock Symbol	Lithologic Descriptions/Notes	Well Completion
Dry						0	SP	(0-6') SAND, dry, light brown, poorly graded, very fine to fine grain, some small to large subround to subangular gravel, no stain, no odor. @5' Color change to brown-dark brown, some coarser sand grains, abundant small to large subround to subangular caliche gravel.	
						5	CCHE	(6-9') CALICHE, dry, tan, well graded with silt, very fine to fine grain, abundant small to large subround to subangular caliche gravel, moderate consolidation, no stain, no odor. (9-18') SAND, dry, light brown, poorly graded, very fine to fine grain, trace silt, no stain, no odor. @10' Moist, color change to reddish-brown.	
						10	SP	@14' Color change to light brown with reddish-brown laminations and mottling. (18-19') SILTY GRAVEL, wet, light brown, well graded with sand, abundant multi-colored small to coarse subround gravel, no stain, no odor. (19-31') SAND, moist, light brown, poorly graded, very fine to fine grain, trace silt, no stain, no odor. @21' Some coarser sand grains, abundant small to large subround gravel, trace interbedded light brown clay laminations (3-5cm).	
						15			
							GM		
							SP		
						20			
Wet									
Moist									

2" PVC Well and Riser

Hydrated Bentonite Chips (surface-12')

Slotted Screen (14-34')

10-20 Silica Sand (12-40')

APPENDIX D

Photographic Log

**PHOTOGRAPHIC LOG**

WPX Energy Permian, LLC

North Brushy PW Line

nAPP2231126594 & nAPP2312845934

Date & Time: Tue, Oct 25, 2022, 17:29:53 MDT
 Position: +032 054151° / -103 942634° (±16.4ft)
 Altitude: 2952ft (±31.2ft)
 Datum: WGS-84
 Azimuth Bearing: 153° 527E 2720mils True (±13°)
 Elevation Angle: -12.7°
 Horizon Angle: +01.3°
 Zoom: 0.5X
 spill

**Photograph 1****Date: 10/25/2022**

Description: Northwestern view during initial spill response activities of Incident nAPP2231126594.

Date & Time: Tue, Oct 25, 2022, 17:30:53 MDT
 Position: +032 054105° / -103 942690° (±16.4ft)
 Altitude: 2952ft (±31.2ft)
 Datum: WGS-84
 Azimuth Bearing: 153° 527E 2720mils True (±13°)
 Elevation Angle: -12.7°
 Horizon Angle: +01.3°
 Zoom: 0.5X
 spill

**Photograph 2****Date: 10/25/2022**

Description: Southeastern view during initial spill response activities of Incident nAPP2231126594.

**Photograph 3****Date: 05/03/2023**

Description: Northwestern view during initial spill response activities of Incident nAPP2312845934.

Date & Time: Thu, May 04, 2023 at 09:48:02 MDT
 Position: +032 053872° / -103 942374° (±15.6ft)
 Altitude: 3070ft (±10.9ft)
 Datum: WGS-84
 Azimuth Bearing: 081° N81E 085 mils True (±4.2°)
 Elevation Angle: -15.0°
 Horizon Angle: +02.3°
 Zoom: 0.5X
 release extent

**Photograph 4****Date: 05/04/2023**

Description: Northwestern view during initial spill response activities of Incident nAPP2312845934..

**PHOTOGRAPHIC LOG**

WPX Energy Permian, LLC

North Brushy PW Line

nAPP2231126594 & nAPP2312845934

Date & Time: Wed, Jan 25, 2023 at 09:51:55 MST
 Position: +032 053772 / -103 943633 (+19.1ft)
 Altitude: 2960ft (+11.6ft)
 Datum: WGS-84
 Azimuth/Bearing: 088° N08E 0122mils True (+14°)
 Elevation Angle: -22.2°
 Horizon Angle: -10.3°
 Zoom: 0.5X
 BH01

**Photograph 1****Date: 01/25/2023**

Description: Southwester view during delineation activities of BH01..

Date & Time: Wed, Jan 25, 2023 at 10:01:35 MST
 Position: +032 054112 / -103 943284 (+14.9ft)
 Altitude: 2965ft (+9.8ft)
 Datum: WGS-84
 Azimuth/Bearing: 332° N28W 5902mils True (+14°)
 Elevation Angle: -20.4°
 Horizon Angle: -07.5°
 Zoom: 0.5X
 BH03

**Photograph 2****Date: 01/25/2023**

Description: Northwestern view during delineation activities of BH03.

Date & Time: Tue, Feb 07, 2023 at 10:11:15 MST
 Position: +032 050001 / -103 942653 (+38.9ft)
 Altitude: 2977ft (+39.0ft)
 Datum: WGS-84
 Azimuth/Bearing: 102° S17E 2898mils True (+11°)
 Elevation Angle: -04.6°
 Horizon Angle: -02.8°
 Zoom: 0.5X
 PH01

**Photograph 3****Date: 02/07/2023**

Description: Southeastern view during delineation activities of PH01.

Date & Time: Tue, Feb 07, 2023 at 10:07:00 MST
 Position: +032 054118 / -103 943504 (+15.1ft)
 Altitude: 2970ft (+11.6ft)
 Datum: WGS-84
 Azimuth/Bearing: 102° S24E 2773mils True (+12°)
 Elevation Angle: -14.2°
 Horizon Angle: -01.6°
 Zoom: 0.5X
 PH02

**Photograph 4****Date: 02/07/2023**

Description: Southeastern view during delineation activities of PH02.

**PHOTOGRAPHIC LOG**

WPX Energy Permian, LLC

North Brushy PW Line

nAPP2231126594 & nAPP2312845934

Date & Time: Thu, Feb 16, 2023 at 17:29:29 MST
 Position: +032.053901° / -103.942239° (±69.1ft)
 Altitude: 3014ft (±105.0ft)
 Datum: WGS-84
 Azimuth/Bearing: 329° N31W 5849mils True (±13°)
 Elevation Angle: -02.4°
 Horizon Angle: -01.4°
 Zoom: 0.5X
 BH015
 drilling bit

**Photograph 9****Date: 02/16/2023**

Description: Northwestern view during delineation activities of BH01..

Date & Time: Mon, Mar 20, 2023 at 12:42:38 MDT
 Position: +032.053503° / -103.942331° (±3695.3ft)
 Altitude: 3001ft (±10.1ft)
 Datum: WGS-84
 Azimuth/Bearing: 046° N46E 0818mils True (±13°)
 Elevation Angle: -09.5°
 Horizon Angle: -00.3°
 Zoom: 0.5X
 BH15

**Photograph 10****Date: 03/20/2023**

Description: Northeastern view during delineation activities of BH15.

Date & Time: Tue, Jul 25, 2023 at 09:07:19 MDT
 Position: +032.053707° / -103.943425° (±15135.7ft)
 Altitude: 2955ft (±18.8ft)
 Datum: WGS-84
 Azimuth/Bearing: 295° N65W 5244mils True (±13°)
 Elevation Angle: -07.2°
 Horizon Angle: -00.4°
 Zoom: 0.5X
 BH20

**Photograph 11****Date: 07/25/2023**

Description: Southeastern view during drilling activities of BH20.

Date & Time: Thu, Jul 27, 2023 at 12:00:40 MDT
 Position: +032.054710° / -103.942414° (±2077.9ft)
 Altitude: 2952ft (±31.5ft)
 Datum: WGS-84
 Azimuth/Bearing: 313° N47W 5564mils True (±13°)
 Elevation Angle: -08.2°
 Horizon Angle: -00.1°
 Zoom: 0.5X
 BH22

**Photograph 12****Date: 07/27/2023**

Description: Southeastern view during drilling activities of BH22..

APPENDIX E

Tables



Table 1
SOIL SAMPLE ANALYTICAL RESULTS
WPX Energy Permian, LLC
North Brushy PW Line
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria for Soils Impacted by a Release (NMAC 19.15.29)			10	50	NE	NE	NE	100	600
Delineation Soil Samples Analytical Results - nAPP2231126594 & nAPP2312845934									
SS01	01/25/2023	0.5	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	5.76
SS02	01/25/2023	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<4.99
SS03	01/25/2023	0.5	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<4.95
SS04	01/25/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<4.95
SS05	01/25/2023	0.5	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<4.97
SS06	01/25/2023	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	72.5
SS07	01/25/2023	0.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<4.96
SS08	01/25/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	160
SS09	01/25/2023	0.5	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	25.5
SS10	01/25/2023	0.5	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	18.0
BH01	01/25/2023	0.5	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	274
BH01	01/25/2023	4	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	10,800
PH03	02/07/2023	12	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	4,010
BH12	02/16/2023	12	<0.00200	<0.00400	<49.9	129	<49.9	129	3,060
BH12	02/16/2023	15	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	7,490
BH12	02/16/2023	20	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	4,560
BH12	02/16/2023	26	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	348
BH02	01/25/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	13,100
BH02	01/25/2023	4	<0.00201	<0.00402	<49.9	68.3	<49.9	68.3	255
BH03	01/25/2023	0.5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	1,760
BH03	01/25/2023	4	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	6,870
BH04	01/25/2023	0.5	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	7,510
BH04	01/25/2023	4	<0.00199	<0.00398	<50.0	64.0	<50.0	64.0	2,490
BH05	01/25/2023	0.5	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	8,530
BH05	01/25/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	8,900
BH06	01/25/2023	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	8,570
BH06	01/25/2023	4	<0.00200	<0.00399	<49.9	98.6	<49.9	98.6	4,490



Table 1
SOIL SAMPLE ANALYTICAL RESULTS
WPX Energy Permian, LLC
North Brushy PW Line
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria for Soils Impacted by a Release (NMAC 19.15.29)			10	50	NE	NE	NE	100	600
BH07	01/25/2023	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	4,810
BH07	01/25/2023	4	<0.00199	<0.00398	<49.9	577	<49.9	577	2,780
BH08	01/25/2023	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	7,070
PH02	02/07/2023	5	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	4,930
PH02	02/07/2023	10	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	5,590
BH09	01/25/2023	0.5	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	8,660
PH01	02/07/2023	4	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	4,720
PH01	02/07/2023	12	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	6,400
BH13	02/16/2023	13	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	7,570
BH13	02/16/2023	17	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	2,610
BH13	02/16/2023	22	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	4,590
BH13	02/16/2023	25	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	2,060
BH13	02/16/2023	30	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	2,250
BH10	02/16/2023	5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	11,800
BH10	02/16/2023	9	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	8,280
BH10	02/16/2023	15	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	642
BH10	02/16/2023	20	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	521
BH11	02/16/2023	5	<0.00202	<0.00403	<50.0	<50.0	<50.0	<50.0	7,690
BH11	02/16/2023	10	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	4,240
BH11	02/16/2023	18	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	2,210
BH11	02/16/2023	21	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	290
BH11	02/16/2023	25	<0.00200	<0.00401	<49.9	<49.9	<49.9	<49.9	37.1
BH11	02/16/2023	29	<0.00200	0.0262	<49.9	<49.9	<49.9	<49.9	374



Table 1
SOIL SAMPLE ANALYTICAL RESULTS
WPX Energy Permian, LLC
North Brushy PW Line
Eddy County, New Mexico

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table I Closure Criteria for Soils Impacted by a Release (NMAC 19.15.29)			10	50	NE	NE	NE	100	600
BH17	06/07/2023	0.5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	3,750
BH17	06/07/2023	4	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	<20.0
BH17	06/07/2023	9	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	92.0
BH17	06/07/2023	14	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	3,620
BH17	06/07/2023	18	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	2,880
BH17	06/07/2023	24	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	3,530
BH17	06/07/2023	30	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	4,600
BH17	06/07/2023	38	<0.0250	<0.250	<20.0	<25.0	<50.0	<50.0	257
BH17	06/07/2023	40	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	445
BH17	06/07/2023	50	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	35.9
BH21	07/28/2023	0.5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	4,990
BH21	07/28/2023	5	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	7,360
BH21	07/28/2023	10	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	3,360
BH21	07/28/2023	15	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	73.5
BH21	07/28/2023	18	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	2,620
BH21	07/28/2023	20	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	261
BH21	07/28/2023	23	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	30.3
BH21	07/28/2023	29	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	28.3
BH21	07/28/2023	39	<0.0250	<0.0250	<20.0	<25.0	<50.0	<50.0	26.9

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMOCD: New Mexico Oil Conservation Division

NMAC: New Mexico Administrative Code

Text in "grey" represents excavated soil samples

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria and/or Reclamation Standard[†] for Soils Impacted by a Release[†] The reclamation concentration requirements of 600 mg/kg chloride and 100 mg/kg TPH apply to the top 4 feet of areas to be immediately reclaimed following remediation pursuant to NMAC 19.15.17.13.



Table 2
GROUND WATER ANALYTICAL RESULTS
WPX Energy Permian, LLC
North Brushy PW Line
Eddy County, New Mexico

Sample I.D.	Sample Date	Standard Method 2320B: Alkalinity	Bicarbonate (As CaCO ₃)	Carbonate (As CaCO ₃)	Total Alkalinity	Carbon Dioxide, (Free)	Carbon Dioxide	Calc-Anion Balance	Total Dissolved Solids	USEPA Method 800.0: Anions	Chloride	Sulfate	Nitrogen, Nitrate as N	Nitrogen, Nitrite as N	EPA 200.7 Metals	Calcium	Iron	Manganese	Magnesium	Potassium	Sodium
Unit		mg/L	mg/L	mg/L	mg/L	mg/L	%	mg/L		mg/L	mg/L	mg/L	mg/L		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
NMWQCC Standard		NE	NE	NE	NE	NE	NE	1,000.0		250.0	600.0	NE	NE		NE	1.0	0.2	NE	NE	NE	NE
BH13	08/28/2023	191	<4.00	191	48.0	216	7.74	27,400		13,400	266	11.9	<1.00		2,930	1.16	0.266	429	73.5	6,300	
BH13	03/26/2024	186	<4.00	186	58.9	222	-2.91	16,400		8,040	191	14.5	<1.00		1,640	<10.0	<1.00	271	32.5	2,770	
BH14	08/28/2023	219	<4.00	219	43.7	236	6.48	13,200		5,750	181	18.8	3.80		1,720	4.36	0.533	149	51.6	2,290	
BH18	08/28/2023	305	<4.00	305	9.61	277	-9.37	635		80.3	54.2	16.6	1.60		98.5	<0.200	0.0255	8.36	2.26	119	
BH19	08/28/2023	363	<4.00	363	22.9	342	-5.63	1,770		178	554	5.60	0.613		194	<0.200	<0.0200	61.8	1.71	238	
BH19	03/26/2024	4,440	<4.00	4,400	554	4,420	-35.6	2,330		251	915	6.56	<0.100		740	10.7	1.11	87.5	<25.0	298	
BH21	08/28/2023	189	<4.00	189	30.0	197	13.9	11,200		3,690	334	20.9	<0.100		1,650	<0.200	0.0961	288	7.68	1,180	
BH21	03/26/2024	166	<4.00	166	41.8	188	2.74	14,300		4,980	346	16.5	<1.00		1,700	<10.0	<1.00	301	<25.0	1,240	
BH22	08/28/2023	281	<4.00	281	8.86	255	-0.0532	1,220		334	43.1	21.1	1.35		115	<0.200	0.0248	10.2	4.47	295	
BH22	03/26/2024	256	<4.00	256	25.6	251	41.7	1,800		422	35.3	18.0	<0.100		920	18.6	<1.00	26.0	<25.0	253	

Notes:

--- - not analyzed

mg/L: milligrams per liter

NE: Not Established

SM: Standard Method

USEPA: United States Environmental Protection Agency

NMAC: New Mexico Administrative Code

NMWQCC: New Mexico Water Quality Control Commission

Concentrations in **bold** exceed the NMWQCC Standards, 20.6.2 of the NMAC.

APPENDIX F

Laboratory Analytical Reports & Chain-of-Custody Documentation



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Devon Team

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 2/10/2023 11:59:31 AM

JOB DESCRIPTION

North Brushy PW Line

SDG NUMBER 03A1987062

JOB NUMBER

890-3965-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

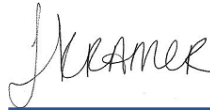
See page two for job notes and contact information.

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Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



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Client: Ensolum
Project/Site: North Brushy PW Line

Laboratory Job ID: 890-3965-1
SDG: 03A1987062

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Definitions/Glossary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Job ID: 890-3965-1

Laboratory: Eurofins Carlsbad

Narrative	
Job Narrative 890-3965-1	

Receipt

The samples were received on 1/26/2023 2:33 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: SS01 (890-3965-1), SS02 (890-3965-2), SS03 (890-3965-3), SS04 (890-3965-4), SS05 (890-3965-5), SS06 (890-3965-6), SS07 (890-3965-7), SS08 (890-3965-8), SS09 (890-3965-9) and SS10 (890-3965-10).

GC VOA

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-45550/5-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-45763 and analytical batch 880-45729 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-45086 and analytical batch 880-45245 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-45084 and 880-45084 and analytical batch 880-45244 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Client Sample ID: SS01

Lab Sample ID: 890-3965-1

Date Collected: 01/25/23 09:00

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 17:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 17:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 17:43	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		02/06/23 08:20	02/06/23 17:43	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 17:43	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		02/06/23 08:20	02/06/23 17:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		70 - 130	02/06/23 08:20	02/06/23 17:43	1
1,4-Difluorobenzene (Surr)	91		70 - 130	02/06/23 08:20	02/06/23 17:43	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			02/07/23 09:28	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/09/23 09:45	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/08/23 10:22	02/08/23 23:52	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/08/23 10:22	02/08/23 23:52	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/08/23 10:22	02/08/23 23:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	02/08/23 10:22	02/08/23 23:52	1
o-Terphenyl	95		70 - 130	02/08/23 10:22	02/08/23 23:52	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.76		5.02		mg/Kg			02/02/23 14:27	1

Client Sample ID: SS02

Lab Sample ID: 890-3965-2

Date Collected: 01/25/23 09:10

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 18:10	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 18:10	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 18:10	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/06/23 08:20	02/06/23 18:10	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 18:10	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/06/23 08:20	02/06/23 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	02/06/23 08:20	02/06/23 18:10	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Client Sample ID: SS02

Lab Sample ID: 890-3965-2

Date Collected: 01/25/23 09:10

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	92		70 - 130	02/06/23 08:20	02/06/23 18:10	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			02/07/23 09:28	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 05:11	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 05:11	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 05:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	83		70 - 130				02/07/23 09:21	02/10/23 05:11	1
o-Terphenyl	89		70 - 130				02/07/23 09:21	02/10/23 05:11	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.99	U	4.99		mg/Kg			02/02/23 14:33	1

Client Sample ID: SS03

Lab Sample ID: 890-3965-3

Date Collected: 01/25/23 09:20

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/06/23 08:20	02/06/23 18:36	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/06/23 08:20	02/06/23 18:36	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/06/23 08:20	02/06/23 18:36	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/06/23 08:20	02/06/23 18:36	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/06/23 08:20	02/06/23 18:36	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/06/23 08:20	02/06/23 18:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		70 - 130	02/06/23 08:20	02/06/23 18:36	1
1,4-Difluorobenzene (Surr)	96		70 - 130	02/06/23 08:20	02/06/23 18:36	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/07/23 09:28	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			02/10/23 10:33	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Client Sample ID: SS03

Lab Sample ID: 890-3965-3

Date Collected: 01/25/23 09:20

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		02/07/23 09:21	02/10/23 05:32	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/07/23 09:21	02/10/23 05:32	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/07/23 09:21	02/10/23 05:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 130				02/07/23 09:21	02/10/23 05:32	1
o-Terphenyl	102		70 - 130				02/07/23 09:21	02/10/23 05:32	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.95	U	4.95		mg/Kg			02/02/23 14:39	1

Client Sample ID: SS04

Lab Sample ID: 890-3965-4

Date Collected: 01/25/23 09:30

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/06/23 08:20	02/06/23 19:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/06/23 08:20	02/06/23 19:02	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/06/23 08:20	02/06/23 19:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/06/23 08:20	02/06/23 19:02	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/06/23 08:20	02/06/23 19:02	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/06/23 08:20	02/06/23 19:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		70 - 130				02/06/23 08:20	02/06/23 19:02	1
1,4-Difluorobenzene (Surr)	93		70 - 130				02/06/23 08:20	02/06/23 19:02	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/07/23 09:28	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/09/23 09:45	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/08/23 10:22	02/09/23 00:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/08/23 10:22	02/09/23 00:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/08/23 10:22	02/09/23 00:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130				02/08/23 10:22	02/09/23 00:13	1
o-Terphenyl	98		70 - 130				02/08/23 10:22	02/09/23 00:13	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Client Sample ID: SS04

Lab Sample ID: 890-3965-4

Date Collected: 01/25/23 09:30

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.95	U	4.95		mg/Kg			02/02/23 14:45	1

Client Sample ID: SS05

Lab Sample ID: 890-3965-5

Date Collected: 01/25/23 09:40

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 19:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 19:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 19:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/06/23 08:20	02/06/23 19:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 19:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/06/23 08:20	02/06/23 19:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		70 - 130				02/06/23 08:20	02/06/23 19:29	1
1,4-Difluorobenzene (Surr)	93		70 - 130				02/06/23 08:20	02/06/23 19:29	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			02/07/23 09:28	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/09/23 09:45	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/08/23 10:22	02/09/23 00:34	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/08/23 10:22	02/09/23 00:34	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/08/23 10:22	02/09/23 00:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	109		70 - 130				02/08/23 10:22	02/09/23 00:34	1
o-Terphenyl	123		70 - 130				02/08/23 10:22	02/09/23 00:34	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.97	U	4.97		mg/Kg			02/02/23 14:51	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Client Sample ID: SS06

Lab Sample ID: 890-3965-6

Date Collected: 01/25/23 09:50

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		02/06/23 08:20	02/06/23 19:56	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/06/23 08:20	02/06/23 19:56	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/06/23 08:20	02/06/23 19:56	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/06/23 08:20	02/06/23 19:56	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/06/23 08:20	02/06/23 19:56	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/06/23 08:20	02/06/23 19:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		70 - 130				02/06/23 08:20	02/06/23 19:56	1
1,4-Difluorobenzene (Surr)	102		70 - 130				02/06/23 08:20	02/06/23 19:56	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			02/07/23 09:28	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/09/23 09:45	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/08/23 10:22	02/09/23 00:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/08/23 10:22	02/09/23 00:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/08/23 10:22	02/09/23 00:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130				02/08/23 10:22	02/09/23 00:54	1
o-Terphenyl	113		70 - 130				02/08/23 10:22	02/09/23 00:54	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	72.5		5.00		mg/Kg			02/02/23 14:57	1

Client Sample ID: SS07

Lab Sample ID: 890-3965-7

Date Collected: 01/25/23 10:00

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		02/06/23 08:20	02/06/23 20:23	1
Toluene	<0.00198	U	0.00198		mg/Kg		02/06/23 08:20	02/06/23 20:23	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		02/06/23 08:20	02/06/23 20:23	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		02/06/23 08:20	02/06/23 20:23	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		02/06/23 08:20	02/06/23 20:23	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		02/06/23 08:20	02/06/23 20:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		70 - 130				02/06/23 08:20	02/06/23 20:23	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Client Sample ID: SS07

Lab Sample ID: 890-3965-7

Date Collected: 01/25/23 10:00

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	96		70 - 130	02/06/23 08:20	02/06/23 20:23	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			02/07/23 09:28	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/09/23 09:45	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/08/23 10:22	02/09/23 01:14	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/08/23 10:22	02/09/23 01:14	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/08/23 10:22	02/09/23 01:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130				02/08/23 10:22	02/09/23 01:14	1
o-Terphenyl	106		70 - 130				02/08/23 10:22	02/09/23 01:14	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<4.96	U	4.96		mg/Kg			02/02/23 15:04	1

Client Sample ID: SS08

Lab Sample ID: 890-3965-8

Date Collected: 01/25/23 10:10

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/06/23 08:20	02/06/23 20:49	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/06/23 08:20	02/06/23 20:49	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/06/23 08:20	02/06/23 20:49	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/06/23 08:20	02/06/23 20:49	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/06/23 08:20	02/06/23 20:49	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/06/23 08:20	02/06/23 20:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		70 - 130	02/06/23 08:20	02/06/23 20:49	1
1,4-Difluorobenzene (Surr)	101		70 - 130	02/06/23 08:20	02/06/23 20:49	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/07/23 09:28	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/09/23 09:45	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Client Sample ID: SS08

Lab Sample ID: 890-3965-8

Date Collected: 01/25/23 10:10

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/08/23 10:22	02/09/23 01:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/08/23 10:22	02/09/23 01:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/08/23 10:22	02/09/23 01:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130				02/08/23 10:22	02/09/23 01:35	1
o-Terphenyl	112		70 - 130				02/08/23 10:22	02/09/23 01:35	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	160		4.98		mg/Kg			02/02/23 10:57	1

Client Sample ID: SS09

Lab Sample ID: 890-3965-9

Date Collected: 01/25/23 10:20

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 21:16	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 21:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 21:16	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/06/23 08:20	02/06/23 21:16	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 21:16	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/06/23 08:20	02/06/23 21:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130				02/06/23 08:20	02/06/23 21:16	1
1,4-Difluorobenzene (Surr)	98		70 - 130				02/06/23 08:20	02/06/23 21:16	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			02/07/23 09:28	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			02/09/23 09:45	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		02/08/23 10:22	02/09/23 01:55	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/08/23 10:22	02/09/23 01:55	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/08/23 10:22	02/09/23 01:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130				02/08/23 10:22	02/09/23 01:55	1
o-Terphenyl	115		70 - 130				02/08/23 10:22	02/09/23 01:55	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Client Sample ID: SS09

Lab Sample ID: 890-3965-9

Date Collected: 01/25/23 10:20

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25.5		4.95		mg/Kg			02/02/23 11:02	1

Client Sample ID: SS10

Lab Sample ID: 890-3965-10

Date Collected: 01/25/23 10:30

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		02/06/23 08:20	02/06/23 21:42	1
Toluene	<0.00202	U	0.00202		mg/Kg		02/06/23 08:20	02/06/23 21:42	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		02/06/23 08:20	02/06/23 21:42	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		02/06/23 08:20	02/06/23 21:42	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		02/06/23 08:20	02/06/23 21:42	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		02/06/23 08:20	02/06/23 21:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130				02/06/23 08:20	02/06/23 21:42	1
1,4-Difluorobenzene (Surr)	95		70 - 130				02/06/23 08:20	02/06/23 21:42	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			02/07/23 09:28	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			02/09/23 09:45	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		02/08/23 10:22	02/09/23 02:15	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/08/23 10:22	02/09/23 02:15	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/08/23 10:22	02/09/23 02:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130				02/08/23 10:22	02/09/23 02:15	1
o-Terphenyl	104		70 - 130				02/08/23 10:22	02/09/23 02:15	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18.0		5.00		mg/Kg			02/02/23 11:07	1

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Surrogate Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	BFB1	DFBZ1				
		(70-130)	(70-130)				
890-3958-A-11-G MS	Matrix Spike	95	101				
890-3958-A-11-H MSD	Matrix Spike Duplicate	95	103				
890-3965-1	SS01	84	91				
890-3965-2	SS02	98	92				
890-3965-3	SS03	96	96				
890-3965-4	SS04	83	93				
890-3965-5	SS05	77	93				
890-3965-6	SS06	100	102				
890-3965-7	SS07	89	96				
890-3965-8	SS08	99	101				
890-3965-9	SS09	98	98				
890-3965-10	SS10	107	95				
LCS 880-45550/1-A	Lab Control Sample	91	111				
LCSD 880-45550/2-A	Lab Control Sample Dup	94	109				
MB 880-45550/5-A	Method Blank	65 S1-	95				
Surrogate Legend							
BFB = 4-Bromofluorobenzene (Surr)							
DFBZ = 1,4-Difluorobenzene (Surr)							

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	1CO1	OTPH1				
		(70-130)	(70-130)				
880-24450-A-14-D MS	Matrix Spike	100	88				
880-24450-A-14-E MSD	Matrix Spike Duplicate	113	102				
890-3961-A-7-D MS	Matrix Spike	109	94				
890-3961-A-7-E MSD	Matrix Spike Duplicate	123	103				
890-3965-1	SS01	91	95				
890-3965-2	SS02	83	89				
890-3965-3	SS03	102	102				
890-3965-4	SS04	94	98				
890-3965-5	SS05	109	123				
890-3965-6	SS06	100	113				
890-3965-7	SS07	99	106				
890-3965-8	SS08	106	112				
890-3965-9	SS09	104	115				
890-3965-10	SS10	95	104				
LCS 880-45658/2-A	Lab Control Sample	105	105				
LCS 880-45763/2-A	Lab Control Sample	120	113				
LCSD 880-45658/3-A	Lab Control Sample Dup	95	98				
LCSD 880-45763/3-A	Lab Control Sample Dup	121	110				
MB 880-45658/1-A	Method Blank	124	126				
MB 880-45763/1-A	Method Blank	136 S1+	139 S1+				
Surrogate Legend							
1CO = 1-Chlorooctane							
OTPH = o-Terphenyl							

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45550/5-A

Matrix: Solid

Analysis Batch: 45543

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45550

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 11:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 11:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 11:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/06/23 08:20	02/06/23 11:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/06/23 08:20	02/06/23 11:34	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/06/23 08:20	02/06/23 11:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	65	S1-	70 - 130	02/06/23 08:20	02/06/23 11:34	1
1,4-Difluorobenzene (Surr)	95		70 - 130	02/06/23 08:20	02/06/23 11:34	1

Lab Sample ID: LCS 880-45550/1-A

Matrix: Solid

Analysis Batch: 45543

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1110		mg/Kg		111	70 - 130
Toluene	0.100	0.1021		mg/Kg		102	70 - 130
Ethylbenzene	0.100	0.09568		mg/Kg		96	70 - 130
m-Xylene & p-Xylene	0.200	0.1836		mg/Kg		92	70 - 130
o-Xylene	0.100	0.09636		mg/Kg		96	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Lab Sample ID: LCSD 880-45550/2-A

Matrix: Solid

Analysis Batch: 45543

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45550

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1173		mg/Kg		117	70 - 130	5	35
Toluene	0.100	0.1075		mg/Kg		108	70 - 130	5	35
Ethylbenzene	0.100	0.09954		mg/Kg		100	70 - 130	4	35
m-Xylene & p-Xylene	0.200	0.1915		mg/Kg		96	70 - 130	4	35
o-Xylene	0.100	0.1010		mg/Kg		101	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 890-3958-A-11-G MS

Matrix: Solid

Analysis Batch: 45543

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45550

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U	0.101	0.1117		mg/Kg		111	70 - 130
Toluene	<0.00202	U	0.101	0.1017		mg/Kg		101	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-3958-A-11-G MS

Matrix: Solid

Analysis Batch: 45543

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45550

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U	0.101	0.1024		mg/Kg		101	70 - 130
m-Xylene & p-Xylene	<0.00403	U	0.202	0.2003		mg/Kg		99	70 - 130
o-Xylene	<0.00202	U	0.101	0.09987		mg/Kg		99	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-3958-A-11-H MSD

Matrix: Solid

Analysis Batch: 45543

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45550

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U	0.0990	0.09848		mg/Kg		99	70 - 130	13	35
Toluene	<0.00202	U	0.0990	0.09369		mg/Kg		95	70 - 130	8	35
Ethylbenzene	<0.00202	U	0.0990	0.08634		mg/Kg		87	70 - 130	17	35
m-Xylene & p-Xylene	<0.00403	U	0.198	0.1696		mg/Kg		86	70 - 130	17	35
o-Xylene	<0.00202	U	0.0990	0.08644		mg/Kg		87	70 - 130	14	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-45658/1-A

Matrix: Solid

Analysis Batch: 45831

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45658

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/09/23 20:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/09/23 20:17	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/09/23 20:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130	02/07/23 09:21	02/09/23 20:17	1
o-Terphenyl	126		70 - 130	02/07/23 09:21	02/09/23 20:17	1

Lab Sample ID: LCS 880-45658/2-A

Matrix: Solid

Analysis Batch: 45831

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45658

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	885.3		mg/Kg		89	70 - 130
Diesel Range Organics (Over C10-C28)	1000	909.8		mg/Kg		91	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-45658/2-A

Matrix: Solid

Analysis Batch: 45831

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45658

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: LCSD 880-45658/3-A

Matrix: Solid

Analysis Batch: 45831

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45658

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	871.4		mg/Kg		87	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	824.8		mg/Kg		82	70 - 130	10	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	98		70 - 130

Lab Sample ID: 890-3961-A-7-D MS

Matrix: Solid

Analysis Batch: 45831

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45658

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	902.9		mg/Kg		88	70 - 130
Diesel Range Organics (Over C10-C28)	97.8		999	867.4		mg/Kg		77	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	109		70 - 130
o-Terphenyl	94		70 - 130

Lab Sample ID: 890-3961-A-7-E MSD

Matrix: Solid

Analysis Batch: 45831

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45658

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1000	1103		mg/Kg		108	70 - 130	20	20
Diesel Range Organics (Over C10-C28)	97.8		1000	952.5		mg/Kg		85	70 - 130	9	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	123		70 - 130
o-Terphenyl	103		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-45763/1-A							Client Sample ID: Method Blank			
Matrix: Solid							Prep Type: Total/NA			
Analysis Batch: 45729							Prep Batch: 45763			
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/08/23 10:22	02/08/23 21:23	1	
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/08/23 10:22	02/08/23 21:23	1	
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/08/23 10:22	02/08/23 21:23	1	
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1-Chlorooctane	136	S1+	70 - 130				02/08/23 10:22	02/08/23 21:23	1	
o-Terphenyl	139	S1+	70 - 130				02/08/23 10:22	02/08/23 21:23	1	

Lab Sample ID: LCS 880-45763/2-A							Client Sample ID: Lab Control Sample			
Matrix: Solid							Prep Type: Total/NA			
Analysis Batch: 45729							Prep Batch: 45763			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Gasoline Range Organics (GRO)-C6-C10			1000	852.5		mg/Kg		85	70 - 130	
Diesel Range Organics (Over C10-C28)			1000	939.4		mg/Kg		94	70 - 130	
Surrogate	LCS %Recovery	LCS Qualifier	Limits							
1-Chlorooctane	120		70 - 130							
o-Terphenyl	113		70 - 130							

Lab Sample ID: LCSD 880-45763/3-A							Client Sample ID: Lab Control Sample Dup			
Matrix: Solid							Prep Type: Total/NA			
Analysis Batch: 45729							Prep Batch: 45763			
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	859.7		mg/Kg		86	70 - 130	1 20
Diesel Range Organics (Over C10-C28)			1000	922.4		mg/Kg		92	70 - 130	2 20
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits							
1-Chlorooctane	121		70 - 130							
o-Terphenyl	110		70 - 130							

Lab Sample ID: 880-24450-A-14-D MS							Client Sample ID: Matrix Spike			
Matrix: Solid							Prep Type: Total/NA			
Analysis Batch: 45729							Prep Batch: 45763			
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	999	684.7	F1	mg/Kg		67	70 - 130	
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	693.6	F1	mg/Kg		67	70 - 130	

QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-24450-A-14-D MS

Matrix: Solid

Analysis Batch: 45729

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45763

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	100		70 - 130
o-Terphenyl	88		70 - 130

Lab Sample ID: 880-24450-A-14-E MSD

Matrix: Solid

Analysis Batch: 45729

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45763

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U F1 F2	999	1045	F2	mg/Kg		103	70 - 130	42	20
Diesel Range Organics (Over C10-C28)	<49.9	U F1	999	806.9		mg/Kg		78	70 - 130	15	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	113		70 - 130								
o-Terphenyl	102		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-45084/1-A

Matrix: Solid

Analysis Batch: 45244

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/02/23 11:02	1

Lab Sample ID: LCS 880-45084/2-A

Matrix: Solid

Analysis Batch: 45244

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	257.6		mg/Kg		103	90 - 110

Lab Sample ID: LCSD 880-45084/3-A

Matrix: Solid

Analysis Batch: 45244

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	258.5		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 880-24126-A-1-B MS

Matrix: Solid

Analysis Batch: 45244

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	312	F1	251	644.9	F1	mg/Kg		133	90 - 110

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-24126-A-1-C MSD

Matrix: Solid

Analysis Batch: 45244

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	312	F1	251	644.5	F1	mg/Kg		133	90 - 110	0	20

Lab Sample ID: MB 880-45086/1-A

Matrix: Solid

Analysis Batch: 45245

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/02/23 08:28	1

Lab Sample ID: LCS 880-45086/2-A

Matrix: Solid

Analysis Batch: 45245

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	274.6		mg/Kg		110	90 - 110

Lab Sample ID: LCSD 880-45086/3-A

Matrix: Solid

Analysis Batch: 45245

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	260.7		mg/Kg		104	90 - 110	5	20

Lab Sample ID: 890-3959-A-64-B MS

Matrix: Solid

Analysis Batch: 45245

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	336	F1	250	693.6	F1	mg/Kg		143	90 - 110

Lab Sample ID: 890-3959-A-64-C MSD

Matrix: Solid

Analysis Batch: 45245

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	336	F1	250	669.2	F1	mg/Kg		133	90 - 110	4	20

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QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

GC VOA

Analysis Batch: 45543

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3965-1	SS01	Total/NA	Solid	8021B	45550
890-3965-2	SS02	Total/NA	Solid	8021B	45550
890-3965-3	SS03	Total/NA	Solid	8021B	45550
890-3965-4	SS04	Total/NA	Solid	8021B	45550
890-3965-5	SS05	Total/NA	Solid	8021B	45550
890-3965-6	SS06	Total/NA	Solid	8021B	45550
890-3965-7	SS07	Total/NA	Solid	8021B	45550
890-3965-8	SS08	Total/NA	Solid	8021B	45550
890-3965-9	SS09	Total/NA	Solid	8021B	45550
890-3965-10	SS10	Total/NA	Solid	8021B	45550
MB 880-45550/5-A	Method Blank	Total/NA	Solid	8021B	45550
LCS 880-45550/1-A	Lab Control Sample	Total/NA	Solid	8021B	45550
LCSD 880-45550/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45550
890-3958-A-11-G MS	Matrix Spike	Total/NA	Solid	8021B	45550
890-3958-A-11-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45550

Prep Batch: 45550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3965-1	SS01	Total/NA	Solid	5035	
890-3965-2	SS02	Total/NA	Solid	5035	
890-3965-3	SS03	Total/NA	Solid	5035	
890-3965-4	SS04	Total/NA	Solid	5035	
890-3965-5	SS05	Total/NA	Solid	5035	
890-3965-6	SS06	Total/NA	Solid	5035	
890-3965-7	SS07	Total/NA	Solid	5035	
890-3965-8	SS08	Total/NA	Solid	5035	
890-3965-9	SS09	Total/NA	Solid	5035	
890-3965-10	SS10	Total/NA	Solid	5035	
MB 880-45550/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45550/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45550/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3958-A-11-G MS	Matrix Spike	Total/NA	Solid	5035	
890-3958-A-11-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 45665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3965-1	SS01	Total/NA	Solid	Total BTEX	
890-3965-2	SS02	Total/NA	Solid	Total BTEX	
890-3965-3	SS03	Total/NA	Solid	Total BTEX	
890-3965-4	SS04	Total/NA	Solid	Total BTEX	
890-3965-5	SS05	Total/NA	Solid	Total BTEX	
890-3965-6	SS06	Total/NA	Solid	Total BTEX	
890-3965-7	SS07	Total/NA	Solid	Total BTEX	
890-3965-8	SS08	Total/NA	Solid	Total BTEX	
890-3965-9	SS09	Total/NA	Solid	Total BTEX	
890-3965-10	SS10	Total/NA	Solid	Total BTEX	

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QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

GC Semi VOA

Prep Batch: 45658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3965-2	SS02	Total/NA	Solid	8015NM Prep	
890-3965-3	SS03	Total/NA	Solid	8015NM Prep	
MB 880-45658/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45658/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3961-A-7-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3961-A-7-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3965-1	SS01	Total/NA	Solid	8015B NM	45763
890-3965-4	SS04	Total/NA	Solid	8015B NM	45763
890-3965-5	SS05	Total/NA	Solid	8015B NM	45763
890-3965-6	SS06	Total/NA	Solid	8015B NM	45763
890-3965-7	SS07	Total/NA	Solid	8015B NM	45763
890-3965-8	SS08	Total/NA	Solid	8015B NM	45763
890-3965-9	SS09	Total/NA	Solid	8015B NM	45763
890-3965-10	SS10	Total/NA	Solid	8015B NM	45763
MB 880-45763/1-A	Method Blank	Total/NA	Solid	8015B NM	45763
LCS 880-45763/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45763
LCSD 880-45763/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45763
880-24450-A-14-D MS	Matrix Spike	Total/NA	Solid	8015B NM	45763
880-24450-A-14-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45763

Prep Batch: 45763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3965-1	SS01	Total/NA	Solid	8015NM Prep	
890-3965-4	SS04	Total/NA	Solid	8015NM Prep	
890-3965-5	SS05	Total/NA	Solid	8015NM Prep	
890-3965-6	SS06	Total/NA	Solid	8015NM Prep	
890-3965-7	SS07	Total/NA	Solid	8015NM Prep	
890-3965-8	SS08	Total/NA	Solid	8015NM Prep	
890-3965-9	SS09	Total/NA	Solid	8015NM Prep	
890-3965-10	SS10	Total/NA	Solid	8015NM Prep	
MB 880-45763/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45763/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45763/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-24450-A-14-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-24450-A-14-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3965-2	SS02	Total/NA	Solid	8015B NM	45658
890-3965-3	SS03	Total/NA	Solid	8015B NM	45658
MB 880-45658/1-A	Method Blank	Total/NA	Solid	8015B NM	45658
LCS 880-45658/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45658
LCSD 880-45658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45658
890-3961-A-7-D MS	Matrix Spike	Total/NA	Solid	8015B NM	45658
890-3961-A-7-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45658

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QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

GC Semi VOA

Analysis Batch: 45862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3965-1	SS01	Total/NA	Solid	8015 NM	
890-3965-2	SS02	Total/NA	Solid	8015 NM	
890-3965-3	SS03	Total/NA	Solid	8015 NM	
890-3965-4	SS04	Total/NA	Solid	8015 NM	
890-3965-5	SS05	Total/NA	Solid	8015 NM	
890-3965-6	SS06	Total/NA	Solid	8015 NM	
890-3965-7	SS07	Total/NA	Solid	8015 NM	
890-3965-8	SS08	Total/NA	Solid	8015 NM	
890-3965-9	SS09	Total/NA	Solid	8015 NM	
890-3965-10	SS10	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 45084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3965-1	SS01	Soluble	Solid	DI Leach	
890-3965-2	SS02	Soluble	Solid	DI Leach	
890-3965-3	SS03	Soluble	Solid	DI Leach	
890-3965-4	SS04	Soluble	Solid	DI Leach	
890-3965-5	SS05	Soluble	Solid	DI Leach	
890-3965-6	SS06	Soluble	Solid	DI Leach	
890-3965-7	SS07	Soluble	Solid	DI Leach	
MB 880-45084/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-45084/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-45084/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-24126-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-24126-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 45086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3965-8	SS08	Soluble	Solid	DI Leach	
890-3965-9	SS09	Soluble	Solid	DI Leach	
890-3965-10	SS10	Soluble	Solid	DI Leach	
MB 880-45086/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-45086/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-45086/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3959-A-64-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3959-A-64-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 45244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3965-1	SS01	Soluble	Solid	300.0	45084
890-3965-2	SS02	Soluble	Solid	300.0	45084
890-3965-3	SS03	Soluble	Solid	300.0	45084
890-3965-4	SS04	Soluble	Solid	300.0	45084
890-3965-5	SS05	Soluble	Solid	300.0	45084
890-3965-6	SS06	Soluble	Solid	300.0	45084
890-3965-7	SS07	Soluble	Solid	300.0	45084
MB 880-45084/1-A	Method Blank	Soluble	Solid	300.0	45084
LCS 880-45084/2-A	Lab Control Sample	Soluble	Solid	300.0	45084
LCSD 880-45084/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	45084

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QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

HPLC/IC (Continued)

Analysis Batch: 45244 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-24126-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	45084
880-24126-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	45084

Analysis Batch: 45245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3965-8	SS08	Soluble	Solid	300.0	45086
890-3965-9	SS09	Soluble	Solid	300.0	45086
890-3965-10	SS10	Soluble	Solid	300.0	45086
MB 880-45086/1-A	Method Blank	Soluble	Solid	300.0	45086
LCS 880-45086/2-A	Lab Control Sample	Soluble	Solid	300.0	45086
LCSD 880-45086/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	45086
890-3959-A-64-B MS	Matrix Spike	Soluble	Solid	300.0	45086
890-3959-A-64-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	45086

Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Client Sample ID: SS01

Date Collected: 01/25/23 09:00

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3965-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	45550	02/06/23 08:20	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45543	02/06/23 17:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45665	02/07/23 09:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			45862	02/09/23 09:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45763	02/08/23 10:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45729	02/08/23 23:52	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	45084	01/30/23 16:00	KS	EET MID
Soluble	Analysis	300.0		1			45244	02/02/23 14:27	CH	EET MID

Client Sample ID: SS02

Date Collected: 01/25/23 09:10

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3965-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45550	02/06/23 08:20	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45543	02/06/23 18:10	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45665	02/07/23 09:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			45862	02/10/23 10:33	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 05:11	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	45084	01/30/23 16:00	KS	EET MID
Soluble	Analysis	300.0		1			45244	02/02/23 14:33	CH	EET MID

Client Sample ID: SS03

Date Collected: 01/25/23 09:20

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3965-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	45550	02/06/23 08:20	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45543	02/06/23 18:36	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45665	02/07/23 09:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			45862	02/10/23 10:33	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 05:32	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	45084	01/30/23 16:00	KS	EET MID
Soluble	Analysis	300.0		1			45244	02/02/23 14:39	CH	EET MID

Client Sample ID: SS04

Date Collected: 01/25/23 09:30

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3965-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	45550	02/06/23 08:20	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45543	02/06/23 19:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45665	02/07/23 09:28	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Client Sample ID: SS04

Date Collected: 01/25/23 09:30

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3965-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			45862	02/09/23 09:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45763	02/08/23 10:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45729	02/09/23 00:13	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	45084	01/30/23 16:00	KS	EET MID
Soluble	Analysis	300.0		1			45244	02/02/23 14:45	CH	EET MID

Client Sample ID: SS05

Date Collected: 01/25/23 09:40

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3965-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	45550	02/06/23 08:20	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45543	02/06/23 19:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45665	02/07/23 09:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			45862	02/09/23 09:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45763	02/08/23 10:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45729	02/09/23 00:34	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	45084	01/30/23 16:00	KS	EET MID
Soluble	Analysis	300.0		1			45244	02/02/23 14:51	CH	EET MID

Client Sample ID: SS06

Date Collected: 01/25/23 09:50

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3965-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	45550	02/06/23 08:20	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45543	02/06/23 19:56	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45665	02/07/23 09:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			45862	02/09/23 09:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45763	02/08/23 10:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45729	02/09/23 00:54	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	45084	01/30/23 16:00	KS	EET MID
Soluble	Analysis	300.0		1			45244	02/02/23 14:57	CH	EET MID

Client Sample ID: SS07

Date Collected: 01/25/23 10:00

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3965-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	45550	02/06/23 08:20	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45543	02/06/23 20:23	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45665	02/07/23 09:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			45862	02/09/23 09:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45763	02/08/23 10:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45729	02/09/23 01:14	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Client Sample ID: SS07

Lab Sample ID: 890-3965-7

Date Collected: 01/25/23 10:00

Matrix: Solid

Date Received: 01/26/23 14:33

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	45084	01/30/23 16:00	KS	EET MID
Soluble	Analysis	300.0		1			45244	02/02/23 15:04	CH	EET MID

Client Sample ID: SS08

Lab Sample ID: 890-3965-8

Date Collected: 01/25/23 10:10

Matrix: Solid

Date Received: 01/26/23 14:33

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	45550	02/06/23 08:20	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45543	02/06/23 20:49	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45665	02/07/23 09:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			45862	02/09/23 09:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45763	02/08/23 10:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45729	02/09/23 01:35	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	45086	01/30/23 16:02	KS	EET MID
Soluble	Analysis	300.0		1			45245	02/02/23 10:57	CH	EET MID

Client Sample ID: SS09

Lab Sample ID: 890-3965-9

Date Collected: 01/25/23 10:20

Matrix: Solid

Date Received: 01/26/23 14:33

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45550	02/06/23 08:20	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45543	02/06/23 21:16	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45665	02/07/23 09:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			45862	02/09/23 09:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	45763	02/08/23 10:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45729	02/09/23 01:55	AJ	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	45086	01/30/23 16:02	KS	EET MID
Soluble	Analysis	300.0		1			45245	02/02/23 11:02	CH	EET MID

Client Sample ID: SS10

Lab Sample ID: 890-3965-10

Date Collected: 01/25/23 10:30

Matrix: Solid

Date Received: 01/26/23 14:33

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	45550	02/06/23 08:20	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45543	02/06/23 21:42	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45665	02/07/23 09:28	SM	EET MID
Total/NA	Analysis	8015 NM		1			45862	02/09/23 09:45	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	45763	02/08/23 10:22	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45729	02/09/23 02:15	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	45086	01/30/23 16:02	KS	EET MID
Soluble	Analysis	300.0		1			45245	02/02/23 11:07	CH	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:
ASTM = ASTM International
EPA = US Environmental Protection Agency
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3965-1
SDG: 03A1987062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3965-1	SS01	Solid	01/25/23 09:00	01/26/23 14:33	0.5'
890-3965-2	SS02	Solid	01/25/23 09:10	01/26/23 14:33	0.5'
890-3965-3	SS03	Solid	01/25/23 09:20	01/26/23 14:33	0.5'
890-3965-4	SS04	Solid	01/25/23 09:30	01/26/23 14:33	0.5'
890-3965-5	SS05	Solid	01/25/23 09:40	01/26/23 14:33	0.5'
890-3965-6	SS06	Solid	01/25/23 09:50	01/26/23 14:33	0.5'
890-3965-7	SS07	Solid	01/25/23 10:00	01/26/23 14:33	0.5'
890-3965-8	SS08	Solid	01/25/23 10:10	01/26/23 14:33	0.5'
890-3965-9	SS09	Solid	01/25/23 10:20	01/26/23 14:33	0.5'
890-3965-10	SS10	Solid	01/25/23 10:30	01/26/23 14:33	0.5'

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Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

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Project Manager:	Gilbert Moreno	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	832-541-7719	Email:	gmoreno@Ensolum.com, jim.raley@cdvn.com

Work Order Comments	
Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other: _____	

Project Name:	North Brushy PW Line	Turn Around	☒ Routine ☐ Rush	Pres. Code	
Project Number:	03A1987062	Due Date:	5 Day TAT		
Project Location:	Eddy, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Gilbert Moreno				
CC #:	9001900347				
SAMPLE RECEIPT	Temp Blank: ☒ Yes ☒ No	Wet Ice: ☒ Yes ☒ No			
Samples Received Intact:	☒ Yes ☒ No	Thermometer ID:	TAM-007		
Cooler Custody Seals:	☒ Yes ☒ No	Correction Factor:	-0.3		
Sample Custody Seals:	☒ Yes ☒ No	Temperature Reading:	1.8		
Total Containers:		Corrected Temperature:	1.8		

Sample Identification		Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLOR	TPH (g)	BTEX																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Total 200.7 / 6010		200.8 / 6020:		8RCRA 13PPM Texas 11		Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn					
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010:		8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U		Hg: 1631 / 245.1 / 7470 / 7471					
Relinquished by: (Signature)		Received by: (Signature)		Date/Time		Relinquished by: (Signature)		Received by: (Signature)		Date/Time	
1 <i>Gilbert Moreno</i>		1 <i>Amelia Stief</i>		1-26-23 14:33		4					
3						6					
5											

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3965-1

SDG Number: 03A1987062

Login Number: 3965

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3965-1

SDG Number: 03A1987062

Login Number: 3965

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 01/30/23 09:34 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Devon Team

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 2/10/2023 11:58:57 AM

JOB DESCRIPTION

North Brushy PW Line

SDG NUMBER 03A1987062

JOB NUMBER

890-3964-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

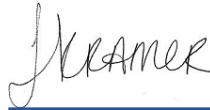


Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
2/10/2023 11:58:57 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: North Brushy PW Line

Laboratory Job ID: 890-3964-1
SDG: 03A1987062

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Definitions/Glossary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Job ID: 890-3964-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-3964-1

Receipt

The samples were received on 1/26/2023 2:33 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: BH01 (890-3964-1), BH02 (890-3964-2), BH03 (890-3964-3), BH04 (890-3964-4), BH05 (890-3964-5), BH06 (890-3964-6), BH07 (890-3964-7), BH08 (890-3964-8) and BH09 (890-3964-9).

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-45078 and 880-45078 and analytical batch 880-45243 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-45086 and analytical batch 880-45245 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Client Sample ID: BH01

Lab Sample ID: 890-3964-1

Date Collected: 01/25/23 10:40

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U F1	0.00202		mg/Kg		02/06/23 13:17	02/07/23 15:28	1
Toluene	<0.00202	U F1	0.00202		mg/Kg		02/06/23 13:17	02/07/23 15:28	1
Ethylbenzene	<0.00202	U F1	0.00202		mg/Kg		02/06/23 13:17	02/07/23 15:28	1
m-Xylene & p-Xylene	<0.00403	U F1	0.00403		mg/Kg		02/06/23 13:17	02/07/23 15:28	1
o-Xylene	<0.00202	U F1	0.00202		mg/Kg		02/06/23 13:17	02/07/23 15:28	1
Xylenes, Total	<0.00403	U F1	0.00403		mg/Kg		02/06/23 13:17	02/07/23 15:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130	02/06/23 13:17	02/07/23 15:28	1
1,4-Difluorobenzene (Surr)	84		70 - 130	02/06/23 13:17	02/07/23 15:28	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			02/08/23 11:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/10/23 01:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/10/23 01:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/10/23 01:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130	02/07/23 09:21	02/10/23 01:27	1
o-Terphenyl	91		70 - 130	02/07/23 09:21	02/10/23 01:27	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	274		4.96		mg/Kg			02/02/23 09:36	1

Client Sample ID: BH02

Lab Sample ID: 890-3964-2

Date Collected: 01/25/23 10:50

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/06/23 13:17	02/07/23 15:55	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/06/23 13:17	02/07/23 15:55	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/06/23 13:17	02/07/23 15:55	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/06/23 13:17	02/07/23 15:55	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/06/23 13:17	02/07/23 15:55	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/06/23 13:17	02/07/23 15:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		70 - 130	02/06/23 13:17	02/07/23 15:55	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Client Sample ID: BH02

Lab Sample ID: 890-3964-2

Date Collected: 01/25/23 10:50

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	91		70 - 130	02/06/23 13:17	02/07/23 15:55	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/08/23 11:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 02:12	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 02:12	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 02:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130				02/07/23 09:21	02/10/23 02:12	1
o-Terphenyl	90		70 - 130				02/07/23 09:21	02/10/23 02:12	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13100		100		mg/Kg			02/02/23 09:54	20

Client Sample ID: BH03

Lab Sample ID: 890-3964-3

Date Collected: 01/25/23 11:00

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		02/06/23 13:17	02/07/23 16:21	1
Toluene	<0.00198	U	0.00198		mg/Kg		02/06/23 13:17	02/07/23 16:21	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		02/06/23 13:17	02/07/23 16:21	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		02/06/23 13:17	02/07/23 16:21	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		02/06/23 13:17	02/07/23 16:21	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		02/06/23 13:17	02/07/23 16:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		70 - 130				02/06/23 13:17	02/07/23 16:21	1
1,4-Difluorobenzene (Surr)	97		70 - 130				02/06/23 13:17	02/07/23 16:21	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			02/08/23 11:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/10/23 10:33	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Client Sample ID: BH03

Lab Sample ID: 890-3964-3

Date Collected: 01/25/23 11:00

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 02:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 02:35	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 02:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130				02/07/23 09:21	02/10/23 02:35	1
o-Terphenyl	92		70 - 130				02/07/23 09:21	02/10/23 02:35	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1760		25.0		mg/Kg			02/02/23 10:01	5

Client Sample ID: BH04

Lab Sample ID: 890-3964-4

Date Collected: 01/25/23 11:10

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 16:48	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 16:48	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 16:48	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/06/23 13:17	02/07/23 16:48	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 16:48	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/06/23 13:17	02/07/23 16:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		70 - 130				02/06/23 13:17	02/07/23 16:48	1
1,4-Difluorobenzene (Surr)	101		70 - 130				02/06/23 13:17	02/07/23 16:48	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			02/08/23 11:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/10/23 02:57	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/10/23 02:57	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/10/23 02:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	96		70 - 130				02/07/23 09:21	02/10/23 02:57	1
o-Terphenyl	99		70 - 130				02/07/23 09:21	02/10/23 02:57	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Client Sample ID: BH04

Lab Sample ID: 890-3964-4

Date Collected: 01/25/23 11:10

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7510		49.5		mg/Kg			02/02/23 10:07	10

Client Sample ID: BH05

Lab Sample ID: 890-3964-5

Date Collected: 01/25/23 11:20

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		02/06/23 13:17	02/07/23 21:13	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/06/23 13:17	02/07/23 21:13	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/06/23 13:17	02/07/23 21:13	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/06/23 13:17	02/07/23 21:13	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/06/23 13:17	02/07/23 21:13	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/06/23 13:17	02/07/23 21:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130				02/06/23 13:17	02/07/23 21:13	1
1,4-Difluorobenzene (Surr)	95		70 - 130				02/06/23 13:17	02/07/23 21:13	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			02/08/23 11:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 03:19	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 03:19	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 03:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130				02/07/23 09:21	02/10/23 03:19	1
o-Terphenyl	103		70 - 130				02/07/23 09:21	02/10/23 03:19	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8530		49.5		mg/Kg			02/02/23 10:13	10

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Client Sample ID: BH06

Lab Sample ID: 890-3964-6

Date Collected: 01/25/23 11:30

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 21:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 21:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 21:40	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		02/06/23 13:17	02/07/23 21:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 21:40	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		02/06/23 13:17	02/07/23 21:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130				02/06/23 13:17	02/07/23 21:40	1
1,4-Difluorobenzene (Surr)	99		70 - 130				02/06/23 13:17	02/07/23 21:40	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			02/08/23 11:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/10/23 03:42	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/10/23 03:42	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/10/23 03:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130				02/07/23 09:21	02/10/23 03:42	1
o-Terphenyl	89		70 - 130				02/07/23 09:21	02/10/23 03:42	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8570		49.7		mg/Kg			02/02/23 10:19	10

Client Sample ID: BH07

Lab Sample ID: 890-3964-7

Date Collected: 01/25/23 11:40

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/06/23 13:17	02/07/23 22:07	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/06/23 13:17	02/07/23 22:07	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/06/23 13:17	02/07/23 22:07	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/06/23 13:17	02/07/23 22:07	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/06/23 13:17	02/07/23 22:07	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/06/23 13:17	02/07/23 22:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130				02/06/23 13:17	02/07/23 22:07	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Client Sample ID: BH07

Lab Sample ID: 890-3964-7

Date Collected: 01/25/23 11:40

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	98		70 - 130	02/06/23 13:17	02/07/23 22:07	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/08/23 11:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 04:05	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 04:05	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 04:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	82		70 - 130				02/07/23 09:21	02/10/23 04:05	1
o-Terphenyl	88		70 - 130				02/07/23 09:21	02/10/23 04:05	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4810		50.0		mg/Kg			02/02/23 10:25	10

Client Sample ID: BH08

Lab Sample ID: 890-3964-8

Date Collected: 01/25/23 11:50

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/06/23 13:17	02/07/23 22:33	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/06/23 13:17	02/07/23 22:33	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/06/23 13:17	02/07/23 22:33	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/06/23 13:17	02/07/23 22:33	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/06/23 13:17	02/07/23 22:33	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/06/23 13:17	02/07/23 22:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130				02/06/23 13:17	02/07/23 22:33	1
1,4-Difluorobenzene (Surr)	99		70 - 130				02/06/23 13:17	02/07/23 22:33	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/08/23 11:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/10/23 10:33	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Client Sample ID: BH08

Lab Sample ID: 890-3964-8

Date Collected: 01/25/23 11:50

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/10/23 04:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/10/23 04:27	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/10/23 04:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130				02/07/23 09:21	02/10/23 04:27	1
o-Terphenyl	92		70 - 130				02/07/23 09:21	02/10/23 04:27	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7070		49.6		mg/Kg			02/02/23 10:31	10

Client Sample ID: BH09

Lab Sample ID: 890-3964-9

Date Collected: 01/25/23 12:00

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 0.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 23:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 23:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 23:00	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/06/23 13:17	02/07/23 23:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 23:00	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/06/23 13:17	02/07/23 23:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	110		70 - 130				02/06/23 13:17	02/07/23 23:00	1
1,4-Difluorobenzene (Surr)	90		70 - 130				02/06/23 13:17	02/07/23 23:00	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			02/08/23 11:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		02/07/23 09:21	02/10/23 04:49	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/07/23 09:21	02/10/23 04:49	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/07/23 09:21	02/10/23 04:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130				02/07/23 09:21	02/10/23 04:49	1
o-Terphenyl	97		70 - 130				02/07/23 09:21	02/10/23 04:49	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Client Sample ID: BH09
Date Collected: 01/25/23 12:00
Date Received: 01/26/23 14:33
Sample Depth: 0.5'

Lab Sample ID: 890-3964-9
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8660		100		mg/Kg			02/02/23 10:43	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Surrogate Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1	DFBZ1
		(70-130)	(70-130)
880-24295-A-20-D MSD	Matrix Spike Duplicate	85	90
890-3964-1	BH01	85	84
890-3964-1 MS	BH01	0 S1-	0 S1-
890-3964-2	BH02	91	91
890-3964-3	BH03	97	97
890-3964-4	BH04	104	101
890-3964-5	BH05	105	95
890-3964-6	BH06	113	99
890-3964-7	BH07	111	98
890-3964-8	BH08	110	99
890-3964-9	BH09	110	90
LCS 880-45605/1-A	Lab Control Sample	87	90
LCS 880-45701/1-A	Lab Control Sample	102	99
LCSD 880-45605/2-A	Lab Control Sample Dup	104	102
LCSD 880-45701/2-A	Lab Control Sample Dup	109	106
MB 880-45605/5-A	Method Blank	70	87
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1	OTPH1
		(70-130)	(70-130)
890-3961-A-7-D MS	Matrix Spike	109	94
890-3961-A-7-E MSD	Matrix Spike Duplicate	123	103
890-3964-1	BH01	84	91
890-3964-2	BH02	82	90
890-3964-3	BH03	85	92
890-3964-4	BH04	96	99
890-3964-5	BH05	100	103
890-3964-6	BH06	82	89
890-3964-7	BH07	82	88
890-3964-8	BH08	85	92
890-3964-9	BH09	94	97
LCS 880-45658/2-A	Lab Control Sample	105	105
LCSD 880-45658/3-A	Lab Control Sample Dup	95	98
MB 880-45658/1-A	Method Blank	124	126
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45605/5-A

Matrix: Solid

Analysis Batch: 45647

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45605

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 15:02	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 15:02	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 15:02	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/06/23 13:17	02/07/23 15:02	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/06/23 13:17	02/07/23 15:02	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/06/23 13:17	02/07/23 15:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	70		70 - 130	02/06/23 13:17	02/07/23 15:02	1
1,4-Difluorobenzene (Surr)	87		70 - 130	02/06/23 13:17	02/07/23 15:02	1

Lab Sample ID: LCS 880-45605/1-A

Matrix: Solid

Analysis Batch: 45647

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45605

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09023		mg/Kg		90	70 - 130
Toluene	0.100	0.08757		mg/Kg		88	70 - 130
Ethylbenzene	0.100	0.08803		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	0.200	0.1672		mg/Kg		84	70 - 130
o-Xylene	0.100	0.08513		mg/Kg		85	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

Lab Sample ID: LCSD 880-45605/2-A

Matrix: Solid

Analysis Batch: 45647

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45605

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1189		mg/Kg		119	70 - 130	27	35
Toluene	0.100	0.1144		mg/Kg		114	70 - 130	27	35
Ethylbenzene	0.100	0.1125		mg/Kg		113	70 - 130	24	35
m-Xylene & p-Xylene	0.200	0.2197		mg/Kg		110	70 - 130	27	35
o-Xylene	0.100	0.1074		mg/Kg		107	70 - 130	23	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	102		70 - 130

Lab Sample ID: 890-3964-1 MS

Matrix: Solid

Analysis Batch: 45647

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 45605

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00202	U F1	0.101	<0.00202	U F1	mg/Kg		0	70 - 130
Toluene	<0.00202	U F1	0.101	<0.00202	U F1	mg/Kg		0	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-3964-1 MS

Matrix: Solid

Analysis Batch: 45647

Client Sample ID: BH01

Prep Type: Total/NA

Prep Batch: 45605

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Ethylbenzene	<0.00202	U F1	0.101	<0.00202	U F1	mg/Kg		0	70 - 130	
m-Xylene & p-Xylene	<0.00403	U F1	0.202	<0.00404	U F1	mg/Kg		0	70 - 130	
o-Xylene	<0.00202	U F1	0.101	<0.00202	U F1	mg/Kg		0	70 - 130	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	0	S1-	70 - 130
1,4-Difluorobenzene (Surr)	0	S1-	70 - 130

Lab Sample ID: LCS 880-45701/1-A

Matrix: Solid

Analysis Batch: 45647

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45701

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec	Limits
		Result	Qualifier					
Benzene	0.100	0.09865		mg/Kg		99	70 - 130	
Toluene	0.100	0.1028		mg/Kg		103	70 - 130	
Ethylbenzene	0.100	0.1034		mg/Kg		103	70 - 130	
m-Xylene & p-Xylene	0.200	0.2026		mg/Kg		101	70 - 130	
o-Xylene	0.100	0.1052		mg/Kg		105	70 - 130	

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	102		70 - 130
1,4-Difluorobenzene (Surr)	99		70 - 130

Lab Sample ID: LCSD 880-45701/2-A

Matrix: Solid

Analysis Batch: 45647

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45701

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	Limits	RPD	
		Result	Qualifier						RPD	Limit
Benzene	0.100	0.09512		mg/Kg		95	70 - 130		4	35
Toluene	0.100	0.09897		mg/Kg		99	70 - 130		4	35
Ethylbenzene	0.100	0.09794		mg/Kg		98	70 - 130		5	35
m-Xylene & p-Xylene	0.200	0.1919		mg/Kg		96	70 - 130		5	35
o-Xylene	0.100	0.09964		mg/Kg		100	70 - 130		5	35

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	106		70 - 130

Lab Sample ID: 880-24295-A-20-D MSD

Matrix: Solid

Analysis Batch: 45647

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45701

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	
	Result	Qualifier		Result	Qualifier						RPD	Limit
Benzene	<0.00198	U F2 F1	0.100	0.05345	F1 F2	mg/Kg		53	70 - 130		64	35
Toluene	<0.00198	U F2 F1	0.100	0.04746	F1 F2	mg/Kg		47	70 - 130		66	35
Ethylbenzene	<0.00198	U F2 F1	0.100	0.04996	F1 F2	mg/Kg		50	70 - 130		62	35
m-Xylene & p-Xylene	<0.00396	U F2 F1	0.201	0.1010	F1 F2	mg/Kg		50	70 - 130		59	35
o-Xylene	<0.00198	U F2 F1	0.100	0.05396	F1 F2	mg/Kg		54	70 - 130		57	35

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	85		70 - 130
1,4-Difluorobenzene (Surr)	90		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-45658/1-A
Matrix: Solid
Analysis Batch: 45831

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 45658

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/09/23 20:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/09/23 20:17	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/09/23 20:17	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	124		70 - 130	02/07/23 09:21	02/09/23 20:17	1
o-Terphenyl	126		70 - 130	02/07/23 09:21	02/09/23 20:17	1

Lab Sample ID: LCS 880-45658/2-A
Matrix: Solid
Analysis Batch: 45831

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 45658

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	885.3		mg/Kg		89	70 - 130
Diesel Range Organics (Over C10-C28)	1000	909.8		mg/Kg		91	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	105		70 - 130
o-Terphenyl	105		70 - 130

Lab Sample ID: LCSD 880-45658/3-A
Matrix: Solid
Analysis Batch: 45831

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 45658

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	871.4		mg/Kg		87	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	824.8		mg/Kg		82	70 - 130	10	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	95		70 - 130
o-Terphenyl	98		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-3961-A-7-D MS

Matrix: Solid

Analysis Batch: 45831

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45658

	Sample	Sample	Spike	MS	MS				%Rec		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	902.9		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)	97.8		999	867.4		mg/Kg		77	70 - 130		
Surrogate	MS %Recovery	MS Qualifier	Limits								
1-Chlorooctane	109		70 - 130								
o-Terphenyl	94		70 - 130								

Lab Sample ID: 890-3961-A-7-E MSD

Matrix: Solid

Analysis Batch: 45831

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45658

	Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1000	1103		mg/Kg		108	70 - 130	20	20
Diesel Range Organics (Over C10-C28)	97.8		1000	952.5		mg/Kg		85	70 - 130	9	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
1-Chlorooctane	123		70 - 130								
o-Terphenyl	103		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-45078/1-A

Matrix: Solid

Analysis Batch: 45243

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	<5.00	U	5.00		mg/Kg			02/01/23 13:13	1

Lab Sample ID: LCS 880-45078/2-A

Matrix: Solid

Analysis Batch: 45243

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec
							Limits
Chloride	250	252.0		mg/Kg		101	90 - 110

Lab Sample ID: LCSD 880-45078/3-A

Matrix: Solid

Analysis Batch: 45243

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

				Spike	LCSD	LCSD				%Rec	RPD	
Analyte				Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limits
Chloride				250	252.0		mg/Kg		101	90 - 110	0	20

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-3962-A-56-B MS

Matrix: Solid

Analysis Batch: 45243

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	<5.01	U	251	258.2		mg/Kg		103	90 - 110		

Lab Sample ID: 890-3962-A-56-C MSD

Matrix: Solid

Analysis Batch: 45243

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<5.01	U	251	258.9		mg/Kg		103	90 - 110	0	20

Lab Sample ID: 890-3963-A-6-B MS

Matrix: Solid

Analysis Batch: 45243

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	4490	F1	2490	7880	F1	mg/Kg		137	90 - 110		

Lab Sample ID: 890-3963-A-6-C MSD

Matrix: Solid

Analysis Batch: 45243

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	4490	F1	2490	7889	F1	mg/Kg		137	90 - 110	0	20

Lab Sample ID: MB 880-45086/1-A

Matrix: Solid

Analysis Batch: 45245

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/02/23 08:28	1

Lab Sample ID: LCS 880-45086/2-A

Matrix: Solid

Analysis Batch: 45245

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	250	274.6		mg/Kg		110	90 - 110		

Lab Sample ID: LCSD 880-45086/3-A

Matrix: Solid

Analysis Batch: 45245

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	260.7		mg/Kg		104	90 - 110	5	20

Lab Sample ID: 890-3959-A-64-B MS

Matrix: Solid

Analysis Batch: 45245

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	336	F1	250	693.6	F1	mg/Kg		143	90 - 110		

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 890-3959-A-64-C MSD					Client Sample ID: Matrix Spike Duplicate							
Matrix: Solid					Prep Type: Soluble							
Analysis Batch: 45245												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride	336	F1	250	669.2	F1	mg/Kg		133	90 - 110	4	20	

QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

GC VOA

Prep Batch: 45605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3964-1	BH01	Total/NA	Solid	5035	
890-3964-2	BH02	Total/NA	Solid	5035	
890-3964-3	BH03	Total/NA	Solid	5035	
890-3964-4	BH04	Total/NA	Solid	5035	
890-3964-5	BH05	Total/NA	Solid	5035	
890-3964-6	BH06	Total/NA	Solid	5035	
890-3964-7	BH07	Total/NA	Solid	5035	
890-3964-8	BH08	Total/NA	Solid	5035	
890-3964-9	BH09	Total/NA	Solid	5035	
MB 880-45605/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45605/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45605/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3964-1 MS	BH01	Total/NA	Solid	5035	

Analysis Batch: 45647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3964-1	BH01	Total/NA	Solid	8021B	45605
890-3964-2	BH02	Total/NA	Solid	8021B	45605
890-3964-3	BH03	Total/NA	Solid	8021B	45605
890-3964-4	BH04	Total/NA	Solid	8021B	45605
890-3964-5	BH05	Total/NA	Solid	8021B	45605
890-3964-6	BH06	Total/NA	Solid	8021B	45605
890-3964-7	BH07	Total/NA	Solid	8021B	45605
890-3964-8	BH08	Total/NA	Solid	8021B	45605
890-3964-9	BH09	Total/NA	Solid	8021B	45605
MB 880-45605/5-A	Method Blank	Total/NA	Solid	8021B	45605
LCS 880-45605/1-A	Lab Control Sample	Total/NA	Solid	8021B	45605
LCS 880-45701/1-A	Lab Control Sample	Total/NA	Solid	8021B	45701
LCSD 880-45605/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45605
LCSD 880-45701/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45701
880-24295-A-20-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45701
890-3964-1 MS	BH01	Total/NA	Solid	8021B	45605

Prep Batch: 45701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-45701/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45701/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-24295-A-20-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 45776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3964-1	BH01	Total/NA	Solid	Total BTEX	
890-3964-2	BH02	Total/NA	Solid	Total BTEX	
890-3964-3	BH03	Total/NA	Solid	Total BTEX	
890-3964-4	BH04	Total/NA	Solid	Total BTEX	
890-3964-5	BH05	Total/NA	Solid	Total BTEX	
890-3964-6	BH06	Total/NA	Solid	Total BTEX	
890-3964-7	BH07	Total/NA	Solid	Total BTEX	
890-3964-8	BH08	Total/NA	Solid	Total BTEX	
890-3964-9	BH09	Total/NA	Solid	Total BTEX	

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QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

GC Semi VOA

Prep Batch: 45658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3964-1	BH01	Total/NA	Solid	8015NM Prep	
890-3964-2	BH02	Total/NA	Solid	8015NM Prep	
890-3964-3	BH03	Total/NA	Solid	8015NM Prep	
890-3964-4	BH04	Total/NA	Solid	8015NM Prep	
890-3964-5	BH05	Total/NA	Solid	8015NM Prep	
890-3964-6	BH06	Total/NA	Solid	8015NM Prep	
890-3964-7	BH07	Total/NA	Solid	8015NM Prep	
890-3964-8	BH08	Total/NA	Solid	8015NM Prep	
890-3964-9	BH09	Total/NA	Solid	8015NM Prep	
MB 880-45658/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45658/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3961-A-7-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3961-A-7-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3964-1	BH01	Total/NA	Solid	8015B NM	45658
890-3964-2	BH02	Total/NA	Solid	8015B NM	45658
890-3964-3	BH03	Total/NA	Solid	8015B NM	45658
890-3964-4	BH04	Total/NA	Solid	8015B NM	45658
890-3964-5	BH05	Total/NA	Solid	8015B NM	45658
890-3964-6	BH06	Total/NA	Solid	8015B NM	45658
890-3964-7	BH07	Total/NA	Solid	8015B NM	45658
890-3964-8	BH08	Total/NA	Solid	8015B NM	45658
890-3964-9	BH09	Total/NA	Solid	8015B NM	45658
MB 880-45658/1-A	Method Blank	Total/NA	Solid	8015B NM	45658
LCS 880-45658/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45658
LCSD 880-45658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45658
890-3961-A-7-D MS	Matrix Spike	Total/NA	Solid	8015B NM	45658
890-3961-A-7-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45658

Analysis Batch: 45970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3964-1	BH01	Total/NA	Solid	8015 NM	
890-3964-2	BH02	Total/NA	Solid	8015 NM	
890-3964-3	BH03	Total/NA	Solid	8015 NM	
890-3964-4	BH04	Total/NA	Solid	8015 NM	
890-3964-5	BH05	Total/NA	Solid	8015 NM	
890-3964-6	BH06	Total/NA	Solid	8015 NM	
890-3964-7	BH07	Total/NA	Solid	8015 NM	
890-3964-8	BH08	Total/NA	Solid	8015 NM	
890-3964-9	BH09	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 45078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3964-1	BH01	Soluble	Solid	DI Leach	
890-3964-2	BH02	Soluble	Solid	DI Leach	
890-3964-3	BH03	Soluble	Solid	DI Leach	

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QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

HPLC/IC (Continued)

Leach Batch: 45078 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3964-4	BH04	Soluble	Solid	DI Leach	
890-3964-5	BH05	Soluble	Solid	DI Leach	
890-3964-6	BH06	Soluble	Solid	DI Leach	
890-3964-7	BH07	Soluble	Solid	DI Leach	
890-3964-8	BH08	Soluble	Solid	DI Leach	
MB 880-45078/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-45078/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-45078/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3962-A-56-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3962-A-56-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-3963-A-6-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3963-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 45086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3964-9	BH09	Soluble	Solid	DI Leach	
MB 880-45086/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-45086/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-45086/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3959-A-64-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-3959-A-64-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 45243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3964-1	BH01	Soluble	Solid	300.0	45078
890-3964-2	BH02	Soluble	Solid	300.0	45078
890-3964-3	BH03	Soluble	Solid	300.0	45078
890-3964-4	BH04	Soluble	Solid	300.0	45078
890-3964-5	BH05	Soluble	Solid	300.0	45078
890-3964-6	BH06	Soluble	Solid	300.0	45078
890-3964-7	BH07	Soluble	Solid	300.0	45078
890-3964-8	BH08	Soluble	Solid	300.0	45078
MB 880-45078/1-A	Method Blank	Soluble	Solid	300.0	45078
LCS 880-45078/2-A	Lab Control Sample	Soluble	Solid	300.0	45078
LCSD 880-45078/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	45078
890-3962-A-56-B MS	Matrix Spike	Soluble	Solid	300.0	45078
890-3962-A-56-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	45078
890-3963-A-6-B MS	Matrix Spike	Soluble	Solid	300.0	45078
890-3963-A-6-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	45078

Analysis Batch: 45245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3964-9	BH09	Soluble	Solid	300.0	45086
MB 880-45086/1-A	Method Blank	Soluble	Solid	300.0	45086
LCS 880-45086/2-A	Lab Control Sample	Soluble	Solid	300.0	45086
LCSD 880-45086/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	45086
890-3959-A-64-B MS	Matrix Spike	Soluble	Solid	300.0	45086
890-3959-A-64-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	45086

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Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Client Sample ID: BH01

Date Collected: 01/25/23 10:40

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3964-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.96 g	5 mL	45605	02/06/23 13:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45647	02/07/23 15:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45776	02/08/23 11:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45970	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 01:27	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		1			45243	02/02/23 09:36	CH	EET MID

Client Sample ID: BH02

Date Collected: 01/25/23 10:50

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3964-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	45605	02/06/23 13:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45647	02/07/23 15:55	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45776	02/08/23 11:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45970	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 02:12	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		20			45243	02/02/23 09:54	CH	EET MID

Client Sample ID: BH03

Date Collected: 01/25/23 11:00

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3964-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	45605	02/06/23 13:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45647	02/07/23 16:21	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45776	02/08/23 11:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45970	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 02:35	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		5			45243	02/02/23 10:01	CH	EET MID

Client Sample ID: BH04

Date Collected: 01/25/23 11:10

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3964-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45605	02/06/23 13:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45647	02/07/23 16:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45776	02/08/23 11:09	AJ	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Client Sample ID: BH04

Date Collected: 01/25/23 11:10

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3964-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			45970	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 02:57	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		10			45243	02/02/23 10:07	CH	EET MID

Client Sample ID: BH05

Date Collected: 01/25/23 11:20

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3964-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	45605	02/06/23 13:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45647	02/07/23 21:13	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45776	02/08/23 11:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45970	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 03:19	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		10			45243	02/02/23 10:13	CH	EET MID

Client Sample ID: BH06

Date Collected: 01/25/23 11:30

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3964-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	45605	02/06/23 13:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45647	02/07/23 21:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45776	02/08/23 11:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45970	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 03:42	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		10			45243	02/02/23 10:19	CH	EET MID

Client Sample ID: BH07

Date Collected: 01/25/23 11:40

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3964-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	45605	02/06/23 13:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45647	02/07/23 22:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45776	02/08/23 11:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45970	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 04:05	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Client Sample ID: BH07
Date Collected: 01/25/23 11:40
Date Received: 01/26/23 14:33

Lab Sample ID: 890-3964-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		10			45243	02/02/23 10:25	CH	EET MID

Client Sample ID: BH08
Date Collected: 01/25/23 11:50
Date Received: 01/26/23 14:33

Lab Sample ID: 890-3964-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	45605	02/06/23 13:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45647	02/07/23 22:33	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45776	02/08/23 11:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45970	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 04:27	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		10			45243	02/02/23 10:31	CH	EET MID

Client Sample ID: BH09
Date Collected: 01/25/23 12:00
Date Received: 01/26/23 14:33

Lab Sample ID: 890-3964-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45605	02/06/23 13:17	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45647	02/07/23 23:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45776	02/08/23 11:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45970	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.05 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 04:49	SM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	45086	01/30/23 16:02	KS	EET MID
Soluble	Analysis	300.0		20	0 mL	1.0 mL	45245	02/02/23 10:43	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:
ASTM = ASTM International
EPA = US Environmental Protection Agency
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3964-1
SDG: 03A1987062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3964-1	BH01	Solid	01/25/23 10:40	01/26/23 14:33	0.5'
890-3964-2	BH02	Solid	01/25/23 10:50	01/26/23 14:33	0.5'
890-3964-3	BH03	Solid	01/25/23 11:00	01/26/23 14:33	0.5'
890-3964-4	BH04	Solid	01/25/23 11:10	01/26/23 14:33	0.5'
890-3964-5	BH05	Solid	01/25/23 11:20	01/26/23 14:33	0.5'
890-3964-6	BH06	Solid	01/25/23 11:30	01/26/23 14:33	0.5'
890-3964-7	BH07	Solid	01/25/23 11:40	01/26/23 14:33	0.5'
890-3964-8	BH08	Solid	01/25/23 11:50	01/26/23 14:33	0.5'
890-3964-9	BH09	Solid	01/25/23 12:00	01/26/23 14:33	0.5'

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

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Project Manager:	Gilbert Moreno	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	W/PX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	832-541-7719	Email:	gmorano@Ensolum.com, jim.raley@cdvn.com

Work Order Comments	
Program: UST/PST	☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:	
Reporting: Level II	☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

Project Name:	North Brushy PW Line	Turn Around	☒ Routine ☐ Rush	Pres. Code	
Project Number:	03A1987062	Due Date:	5 Day TAT		
Project Location:	Eddy, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Gilbert Moreno				
CC #:	9001900347				
SAMPLE RECEIPT	Temp Blank: ☒ Yes ☒ No	Wet Ice:	☒ Yes ☒ No		
Samples Received Intact:	☒ Yes ☒ No	Thermometer ID:	10-002		
Cooler Custody Seals:	☒ Yes ☒ No	Correction Factor:	1.2		
Sample Custody Seals:	☒ Yes ☒ No	Temperature Reading:	1.2		
Total Containers:	Corrected Temperature:	1.1			



890-3964 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	ANALYSIS REQUEST															
							CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)													
BH01	S	01.25.23	10:40	0.5'	Grab/	1	X	X	X													
BH02	S	01.25.23	10:50	0.5'	Grab/	1	X	X	X													
BH03	S	01.25.23	11:00	0.5'	Grab/	1	X	X	X													
BH04	S	01.25.23	11:10	0.5'	Grab/	1	X	X	X													
BH05	S	01.25.23	11:20	0.5'	Grab/	1	X	X	X													
BH06	S	01.25.23	11:30	0.5'	Grab/	1	X	X	X													
BH07	S	01.25.23	11:40	0.5'	Grab/	1	X	X	X													
BH08	S	01.25.23	11:50	0.5'	Grab/	1	X	X	X													
BH09	S	01.25.23	12:00	0.5'	Grab/	1	X	X	X													

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM	Texas 11	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO ₂	Na	Sr	Ti	Sn	U	V	Zn
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010:	8RCRA	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	Ti	U											

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>C. Garcia</i>	<i>Aracela Gutierrez</i>	1-21-23 14:23			
3		4			
5		6			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3964-1

SDG Number: 03A1987062

Login Number: 3964

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3964-1

SDG Number: 03A1987062

Login Number: 3964

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 01/30/23 09:34 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Devon Team

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 2/10/2023 11:58:17 AM

JOB DESCRIPTION

North Brushy PW Line

SDG NUMBER 03A1987062

JOB NUMBER

890-3963-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

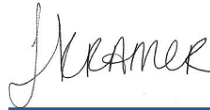
See page two for job notes and contact information.

Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
2/10/2023 11:58:17 AM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: North Brushy PW Line

Laboratory Job ID: 890-3963-1
SDG: 03A1987062

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Definitions/Glossary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Job ID: 890-3963-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-3963-1

Receipt

The samples were received on 1/26/2023 2:33 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: BH01 (890-3963-1), BH02 (890-3963-2), BH03 (890-3963-3), BH04 (890-3963-4), BH05 (890-3963-5), BH06 (890-3963-6) and BH07 (890-3963-7).

GC VOA

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-45398 and analytical batch 880-45308 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (880-24120-A-2-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: Surrogate recovery for the following sample was outside control limits: (MB 880-45527/5-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-45078 and 880-45078 and analytical batch 880-45243 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Client Sample ID: BH01

Lab Sample ID: 890-3963-1

Date Collected: 01/25/23 12:10

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 4'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *- *1	0.00200		mg/Kg		02/03/23 12:58	02/05/23 06:59	1
Toluene	<0.00200	U *- *1	0.00200		mg/Kg		02/03/23 12:58	02/05/23 06:59	1
Ethylbenzene	<0.00200	U *- *1	0.00200		mg/Kg		02/03/23 12:58	02/05/23 06:59	1
m-Xylene & p-Xylene	<0.00399	U *- *1	0.00399		mg/Kg		02/03/23 12:58	02/05/23 06:59	1
o-Xylene	<0.00200	U *- *1	0.00200		mg/Kg		02/03/23 12:58	02/05/23 06:59	1
Xylenes, Total	<0.00399	U *- *1	0.00399		mg/Kg		02/03/23 12:58	02/05/23 06:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	119		70 - 130	02/03/23 12:58	02/05/23 06:59	1
1,4-Difluorobenzene (Surr)	112		70 - 130	02/03/23 12:58	02/05/23 06:59	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			02/06/23 12:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/09/23 22:52	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/09/23 22:52	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/09/23 22:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	106		70 - 130	02/07/23 09:21	02/09/23 22:52	1
o-Terphenyl	104		70 - 130	02/07/23 09:21	02/09/23 22:52	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	10800		100		mg/Kg			02/02/23 08:40	20

Client Sample ID: BH02

Lab Sample ID: 890-3963-2

Date Collected: 01/25/23 12:20

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 4'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *- *1	0.00201		mg/Kg		02/03/23 12:58	02/05/23 07:19	1
Toluene	<0.00201	U *- *1	0.00201		mg/Kg		02/03/23 12:58	02/05/23 07:19	1
Ethylbenzene	<0.00201	U *- *1	0.00201		mg/Kg		02/03/23 12:58	02/05/23 07:19	1
m-Xylene & p-Xylene	<0.00402	U *- *1	0.00402		mg/Kg		02/03/23 12:58	02/05/23 07:19	1
o-Xylene	<0.00201	U *- *1	0.00201		mg/Kg		02/03/23 12:58	02/05/23 07:19	1
Xylenes, Total	<0.00402	U *- *1	0.00402		mg/Kg		02/03/23 12:58	02/05/23 07:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	02/03/23 12:58	02/05/23 07:19	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Client Sample ID: BH02

Lab Sample ID: 890-3963-2

Date Collected: 01/25/23 12:20

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 4'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	111		70 - 130	02/03/23 12:58	02/05/23 07:19	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			02/06/23 12:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	68.3		49.9		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/09/23 23:14	1
Diesel Range Organics (Over C10-C28)	68.3		49.9		mg/Kg		02/07/23 09:21	02/09/23 23:14	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/09/23 23:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130				02/07/23 09:21	02/09/23 23:14	1
o-Terphenyl	92		70 - 130				02/07/23 09:21	02/09/23 23:14	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	255		4.99		mg/Kg			02/02/23 08:46	1

Client Sample ID: BH03

Lab Sample ID: 890-3963-3

Date Collected: 01/25/23 12:30

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 4'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U * *1	0.00200		mg/Kg		02/03/23 12:58	02/05/23 07:39	1
Toluene	<0.00200	U * *1	0.00200		mg/Kg		02/03/23 12:58	02/05/23 07:39	1
Ethylbenzene	<0.00200	U * *1	0.00200		mg/Kg		02/03/23 12:58	02/05/23 07:39	1
m-Xylene & p-Xylene	<0.00401	U * *1	0.00401		mg/Kg		02/03/23 12:58	02/05/23 07:39	1
o-Xylene	<0.00200	U * *1	0.00200		mg/Kg		02/03/23 12:58	02/05/23 07:39	1
Xylenes, Total	<0.00401	U * *1	0.00401		mg/Kg		02/03/23 12:58	02/05/23 07:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	115		70 - 130	02/03/23 12:58	02/05/23 07:39	1
1,4-Difluorobenzene (Surr)	112		70 - 130	02/03/23 12:58	02/05/23 07:39	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			02/06/23 12:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/10/23 10:33	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Client Sample ID: BH03

Lab Sample ID: 890-3963-3

Date Collected: 01/25/23 12:30

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 4'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/09/23 23:36	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/09/23 23:36	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/09/23 23:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	108		70 - 130				02/07/23 09:21	02/09/23 23:36	1
o-Terphenyl	107		70 - 130				02/07/23 09:21	02/09/23 23:36	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6870		49.5		mg/Kg			02/02/23 08:52	10

Client Sample ID: BH04

Lab Sample ID: 890-3963-4

Date Collected: 01/25/23 12:40

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 4'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *- *1	0.00199		mg/Kg		02/03/23 12:58	02/05/23 08:00	1
Toluene	<0.00199	U *- *1	0.00199		mg/Kg		02/03/23 12:58	02/05/23 08:00	1
Ethylbenzene	<0.00199	U *- *1	0.00199		mg/Kg		02/03/23 12:58	02/05/23 08:00	1
m-Xylene & p-Xylene	<0.00398	U *- *1	0.00398		mg/Kg		02/03/23 12:58	02/05/23 08:00	1
o-Xylene	<0.00199	U *- *1	0.00199		mg/Kg		02/03/23 12:58	02/05/23 08:00	1
Xylenes, Total	<0.00398	U *- *1	0.00398		mg/Kg		02/03/23 12:58	02/05/23 08:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130				02/03/23 12:58	02/05/23 08:00	1
1,4-Difluorobenzene (Surr)	101		70 - 130				02/03/23 12:58	02/05/23 08:00	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/06/23 12:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	64.0		50.0		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/09/23 23:58	1
Diesel Range Organics (Over C10-C28)	64.0		50.0		mg/Kg		02/07/23 09:21	02/09/23 23:58	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/09/23 23:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130				02/07/23 09:21	02/09/23 23:58	1
o-Terphenyl	94		70 - 130				02/07/23 09:21	02/09/23 23:58	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Client Sample ID: BH04

Lab Sample ID: 890-3963-4

Date Collected: 01/25/23 12:40

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 4'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2490		25.3		mg/Kg			02/02/23 08:59	5

Client Sample ID: BH05

Lab Sample ID: 890-3963-5

Date Collected: 01/25/23 12:50

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 4'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *- *1	0.00199		mg/Kg		02/03/23 12:58	02/05/23 08:20	1
Toluene	<0.00199	U *- *1	0.00199		mg/Kg		02/03/23 12:58	02/05/23 08:20	1
Ethylbenzene	<0.00199	U *- *1	0.00199		mg/Kg		02/03/23 12:58	02/05/23 08:20	1
m-Xylene & p-Xylene	<0.00398	U *- *1	0.00398		mg/Kg		02/03/23 12:58	02/05/23 08:20	1
o-Xylene	<0.00199	U *- *1	0.00199		mg/Kg		02/03/23 12:58	02/05/23 08:20	1
Xylenes, Total	<0.00398	U *- *1	0.00398		mg/Kg		02/03/23 12:58	02/05/23 08:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	118		70 - 130				02/03/23 12:58	02/05/23 08:20	1
1,4-Difluorobenzene (Surr)	114		70 - 130				02/03/23 12:58	02/05/23 08:20	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/06/23 12:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 00:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 00:20	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 00:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130				02/07/23 09:21	02/10/23 00:20	1
o-Terphenyl	93		70 - 130				02/07/23 09:21	02/10/23 00:20	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8900		50.4		mg/Kg			02/02/23 09:05	10

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Client Sample ID: BH06

Lab Sample ID: 890-3963-6

Date Collected: 01/25/23 13:00

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 4'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *- *1	0.00200		mg/Kg		02/03/23 12:58	02/05/23 08:41	1
Toluene	<0.00200	U *- *1	0.00200		mg/Kg		02/03/23 12:58	02/05/23 08:41	1
Ethylbenzene	<0.00200	U *- *1	0.00200		mg/Kg		02/03/23 12:58	02/05/23 08:41	1
m-Xylene & p-Xylene	<0.00399	U *- *1	0.00399		mg/Kg		02/03/23 12:58	02/05/23 08:41	1
o-Xylene	<0.00200	U *- *1	0.00200		mg/Kg		02/03/23 12:58	02/05/23 08:41	1
Xylenes, Total	<0.00399	U *- *1	0.00399		mg/Kg		02/03/23 12:58	02/05/23 08:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130	02/03/23 12:58	02/05/23 08:41	1
1,4-Difluorobenzene (Surr)	93		70 - 130	02/03/23 12:58	02/05/23 08:41	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			02/06/23 12:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	98.6		49.9		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 00:43	1
Diesel Range Organics (Over C10-C28)	98.6		49.9		mg/Kg		02/07/23 09:21	02/10/23 00:43	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 00:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	89		70 - 130	02/07/23 09:21	02/10/23 00:43	1
o-Terphenyl	94		70 - 130	02/07/23 09:21	02/10/23 00:43	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4490	F1	49.7		mg/Kg			02/02/23 09:11	10

Client Sample ID: BH07

Lab Sample ID: 890-3963-7

Date Collected: 01/25/23 13:10

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 4'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/05/23 10:08	02/05/23 15:28	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/05/23 10:08	02/05/23 15:28	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/05/23 10:08	02/05/23 15:28	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/05/23 10:08	02/05/23 15:28	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/05/23 10:08	02/05/23 15:28	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/05/23 10:08	02/05/23 15:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		70 - 130	02/05/23 10:08	02/05/23 15:28	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Client Sample ID: BH07

Lab Sample ID: 890-3963-7

Date Collected: 01/25/23 13:10

Matrix: Solid

Date Received: 01/26/23 14:33

Sample Depth: 4'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	96		70 - 130	02/05/23 10:08	02/05/23 15:28	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/06/23 12:09	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	577		49.9		mg/Kg			02/10/23 10:33	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 01:04	1
Diesel Range Organics (Over C10-C28)	577		49.9		mg/Kg		02/07/23 09:21	02/10/23 01:04	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/07/23 09:21	02/10/23 01:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	97		70 - 130				02/07/23 09:21	02/10/23 01:04	1
o-Terphenyl	104		70 - 130				02/07/23 09:21	02/10/23 01:04	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2780		25.3		mg/Kg			02/02/23 09:30	5

Surrogate Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	BFB1	DFBZ1				
		(70-130)	(70-130)				
880-24120-A-2-C MS	Matrix Spike	105	109				
880-24120-A-2-D MSD	Matrix Spike Duplicate	111	109				
890-3960-A-1-E MS	Matrix Spike	95	108				
890-3960-A-1-F MSD	Matrix Spike Duplicate	74	95				
890-3963-1	BH01	119	112				
890-3963-2	BH02	115	111				
890-3963-3	BH03	115	112				
890-3963-4	BH04	102	101				
890-3963-5	BH05	118	114				
890-3963-6	BH06	128	93				
890-3963-7	BH07	85	96				
LCS 880-45398/1-A	Lab Control Sample	110	111				
LCS 880-45527/1-A	Lab Control Sample	96	106				
LCSD 880-45398/2-A	Lab Control Sample Dup	106	110				
LCSD 880-45527/2-A	Lab Control Sample Dup	81	99				
MB 880-45349/5-A	Method Blank	105	108				
MB 880-45398/5-A	Method Blank	108	107				
MB 880-45527/5-A	Method Blank	64 S1-	95				
Surrogate Legend							
BFB = 4-Bromofluorobenzene (Surr)							
DFBZ = 1,4-Difluorobenzene (Surr)							

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
Lab Sample ID	Client Sample ID	1CO1	OTPH1				
		(70-130)	(70-130)				
890-3961-A-7-D MS	Matrix Spike	109	94				
890-3961-A-7-E MSD	Matrix Spike Duplicate	123	103				
890-3963-1	BH01	106	104				
890-3963-2	BH02	86	92				
890-3963-3	BH03	108	107				
890-3963-4	BH04	86	94				
890-3963-5	BH05	85	93				
890-3963-6	BH06	89	94				
890-3963-7	BH07	97	104				
LCS 880-45658/2-A	Lab Control Sample	105	105				
LCSD 880-45658/3-A	Lab Control Sample Dup	95	98				
MB 880-45658/1-A	Method Blank	124	126				
Surrogate Legend							
1CO = 1-Chlorooctane							
OTPH = o-Terphenyl							

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-45349/5-A

Matrix: Solid

Analysis Batch: 45308

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45349

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/03/23 10:32	02/04/23 13:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/03/23 10:32	02/04/23 13:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/03/23 10:32	02/04/23 13:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/03/23 10:32	02/04/23 13:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/03/23 10:32	02/04/23 13:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/03/23 10:32	02/04/23 13:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	105		70 - 130	02/03/23 10:32	02/04/23 13:00	1
1,4-Difluorobenzene (Surr)	108		70 - 130	02/03/23 10:32	02/04/23 13:00	1

Lab Sample ID: MB 880-45398/5-A

Matrix: Solid

Analysis Batch: 45308

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45398

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/03/23 12:58	02/05/23 00:35	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/03/23 12:58	02/05/23 00:35	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/03/23 12:58	02/05/23 00:35	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/03/23 12:58	02/05/23 00:35	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/03/23 12:58	02/05/23 00:35	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/03/23 12:58	02/05/23 00:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	108		70 - 130	02/03/23 12:58	02/05/23 00:35	1
1,4-Difluorobenzene (Surr)	107		70 - 130	02/03/23 12:58	02/05/23 00:35	1

Lab Sample ID: LCS 880-45398/1-A

Matrix: Solid

Analysis Batch: 45308

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45398

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.04056	*-	mg/Kg		41	70 - 130
Toluene	0.100	0.04277	*-	mg/Kg		43	70 - 130
Ethylbenzene	0.100	0.04505	*-	mg/Kg		45	70 - 130
m-Xylene & p-Xylene	0.200	0.09694	*-	mg/Kg		48	70 - 130
o-Xylene	0.100	0.05225	*-	mg/Kg		52	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	110		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Lab Sample ID: LCSD 880-45398/2-A

Matrix: Solid

Analysis Batch: 45308

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45398

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.07962	*1	mg/Kg		80	70 - 130	65	35

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-45398/2-A

Matrix: Solid

Analysis Batch: 45308

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45398

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits			
Toluene	0.100	0.07926	*1	mg/Kg		79	70 - 130		60	35
Ethylbenzene	0.100	0.08008	*1	mg/Kg		80	70 - 130		56	35
m-Xylene & p-Xylene	0.200	0.1690	*1	mg/Kg		85	70 - 130		54	35
o-Xylene	0.100	0.08502	*1	mg/Kg		85	70 - 130		48	35

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: 880-24120-A-2-C MS

Matrix: Solid

Analysis Batch: 45308

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45398

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Benzene	<0.00198	U *- *1	0.0990	0.08419		mg/Kg		85	70 - 130	
Toluene	<0.00198	U *- *1	0.0990	0.07613		mg/Kg		77	70 - 130	
Ethylbenzene	<0.00198	U *- *1	0.0990	0.06992		mg/Kg		71	70 - 130	
m-Xylene & p-Xylene	<0.00396	U *- *1	0.198	0.1521		mg/Kg		77	70 - 130	
o-Xylene	<0.00198	U *- *1	0.0990	0.07369		mg/Kg		74	70 - 130	

Surrogate	MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: 880-24120-A-2-D MSD

Matrix: Solid

Analysis Batch: 45308

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45398

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits			
Benzene	<0.00198	U *- *1	0.0996	0.08984		mg/Kg		90	70 - 130		6	35
Toluene	<0.00198	U *- *1	0.0996	0.08505		mg/Kg		85	70 - 130		11	35
Ethylbenzene	<0.00198	U *- *1	0.0996	0.07616		mg/Kg		76	70 - 130		9	35
m-Xylene & p-Xylene	<0.00396	U *- *1	0.199	0.1649		mg/Kg		83	70 - 130		8	35
o-Xylene	<0.00198	U *- *1	0.0996	0.07830		mg/Kg		79	70 - 130		6	35

Surrogate	MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	111		70 - 130
1,4-Difluorobenzene (Surr)	109		70 - 130

Lab Sample ID: MB 880-45527/5-A

Matrix: Solid

Analysis Batch: 45526

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45527

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	<0.00200	U	0.00200		mg/Kg		02/05/23 10:08	02/05/23 13:43	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/05/23 10:08	02/05/23 13:43	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/05/23 10:08	02/05/23 13:43	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/05/23 10:08	02/05/23 13:43	1

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 880-45527/5-A

Matrix: Solid

Analysis Batch: 45526

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45527

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/05/23 10:08	02/05/23 13:43	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/05/23 10:08	02/05/23 13:43	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	64	S1-	70 - 130				02/05/23 10:08	02/05/23 13:43	1
1,4-Difluorobenzene (Surr)	95		70 - 130				02/05/23 10:08	02/05/23 13:43	1

Lab Sample ID: LCS 880-45527/1-A

Matrix: Solid

Analysis Batch: 45526

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45527

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.08150		mg/Kg		82	70 - 130
Toluene	0.100	0.07937		mg/Kg		79	70 - 130
Ethylbenzene	0.100	0.07973		mg/Kg		80	70 - 130
m-Xylene & p-Xylene	0.200	0.1583		mg/Kg		79	70 - 130
o-Xylene	0.100	0.08259		mg/Kg		83	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene (Surr)	96		70 - 130				
1,4-Difluorobenzene (Surr)	106		70 - 130				

Lab Sample ID: LCSD 880-45527/2-A

Matrix: Solid

Analysis Batch: 45526

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45527

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.08638		mg/Kg		86	70 - 130	6	35
Toluene	0.100	0.08534		mg/Kg		85	70 - 130	7	35
Ethylbenzene	0.100	0.08349		mg/Kg		83	70 - 130	5	35
m-Xylene & p-Xylene	0.200	0.1640		mg/Kg		82	70 - 130	4	35
o-Xylene	0.100	0.08479		mg/Kg		85	70 - 130	3	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene (Surr)	81		70 - 130						
1,4-Difluorobenzene (Surr)	99		70 - 130						

Lab Sample ID: 890-3960-A-1-E MS

Matrix: Solid

Analysis Batch: 45526

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45527

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.100	0.1228		mg/Kg		123	70 - 130
Toluene	<0.00201	U	0.100	0.1122		mg/Kg		112	70 - 130
Ethylbenzene	<0.00201	U	0.100	0.1024		mg/Kg		102	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2174		mg/Kg		108	70 - 130
o-Xylene	<0.00201	U	0.100	0.1085		mg/Kg		108	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-3960-A-1-E MS

Matrix: Solid

Analysis Batch: 45526

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45527

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		70 - 130
1,4-Difluorobenzene (Surr)	108		70 - 130

Lab Sample ID: 890-3960-A-1-F MSD

Matrix: Solid

Analysis Batch: 45526

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45527

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0990	0.09271		mg/Kg		94	70 - 130	28	35
Toluene	<0.00201	U	0.0990	0.08533		mg/Kg		86	70 - 130	27	35
Ethylbenzene	<0.00201	U	0.0990	0.08423		mg/Kg		85	70 - 130	19	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1637		mg/Kg		83	70 - 130	28	35
o-Xylene	<0.00201	U	0.0990	0.08138		mg/Kg		82	70 - 130	29	35

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	74		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-45658/1-A

Matrix: Solid

Analysis Batch: 45831

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45658

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/09/23 20:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/09/23 20:17	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/07/23 09:21	02/09/23 20:17	1

	MB	MB							
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1-Chlorooctane	124		70 - 130	02/07/23 09:21	02/09/23 20:17	1			
o-Terphenyl	126		70 - 130	02/07/23 09:21	02/09/23 20:17	1			

Lab Sample ID: LCS 880-45658/2-A

Matrix: Solid

Analysis Batch: 45831

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45658

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	885.3		mg/Kg		89	70 - 130
Diesel Range Organics (Over C10-C28)	1000	909.8		mg/Kg		91	70 - 130

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	105		70 - 130
o-Terphenyl	105		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCSD 880-45658/3-A

Matrix: Solid

Analysis Batch: 45831

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45658

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	871.4		mg/Kg		87	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	824.8		mg/Kg		82	70 - 130	10	20
		LCSD %Recovery	LCSD Qualifier						
Surrogate			Limits						
1-Chlorooctane		95	70 - 130						
o-Terphenyl		98	70 - 130						

Lab Sample ID: 890-3961-A-7-D MS

Matrix: Solid

Analysis Batch: 45831

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45658

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	902.9		mg/Kg		88	70 - 130		
Diesel Range Organics (Over C10-C28)	97.8		999	867.4		mg/Kg		77	70 - 130		
		MS %Recovery	MS Qualifier								
Surrogate			Limits								
1-Chlorooctane		109	70 - 130								
o-Terphenyl		94	70 - 130								

Lab Sample ID: 890-3961-A-7-E MSD

Matrix: Solid

Analysis Batch: 45831

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45658

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	1000	1103		mg/Kg		108	70 - 130	20	20
Diesel Range Organics (Over C10-C28)	97.8		1000	952.5		mg/Kg		85	70 - 130	9	20
		MSD %Recovery	MSD Qualifier								
Surrogate			Limits								
1-Chlorooctane		123	70 - 130								
o-Terphenyl		103	70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-45078/1-A

Matrix: Solid

Analysis Batch: 45243

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/01/23 13:13	1

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-45078/2-A				Client Sample ID: Lab Control Sample							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 45243											
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	252.0		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-45078/3-A				Client Sample ID: Lab Control Sample Dup							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 45243											
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	252.0		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 890-3963-6 MS				Client Sample ID: BH06							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 45243											
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	4490	F1	2490	7880	F1	mg/Kg		137	90 - 110		

Lab Sample ID: 890-3963-6 MSD				Client Sample ID: BH06							
Matrix: Solid				Prep Type: Soluble							
Analysis Batch: 45243											
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	4490	F1	2490	7889	F1	mg/Kg		137	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

GC VOA

Analysis Batch: 45308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3963-1	BH01	Total/NA	Solid	8021B	45398
890-3963-2	BH02	Total/NA	Solid	8021B	45398
890-3963-3	BH03	Total/NA	Solid	8021B	45398
890-3963-4	BH04	Total/NA	Solid	8021B	45398
890-3963-5	BH05	Total/NA	Solid	8021B	45398
890-3963-6	BH06	Total/NA	Solid	8021B	45398
MB 880-45349/5-A	Method Blank	Total/NA	Solid	8021B	45349
MB 880-45398/5-A	Method Blank	Total/NA	Solid	8021B	45398
LCS 880-45398/1-A	Lab Control Sample	Total/NA	Solid	8021B	45398
LCSD 880-45398/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45398
880-24120-A-2-C MS	Matrix Spike	Total/NA	Solid	8021B	45398
880-24120-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45398

Prep Batch: 45349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-45349/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 45398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3963-1	BH01	Total/NA	Solid	5035	
890-3963-2	BH02	Total/NA	Solid	5035	
890-3963-3	BH03	Total/NA	Solid	5035	
890-3963-4	BH04	Total/NA	Solid	5035	
890-3963-5	BH05	Total/NA	Solid	5035	
890-3963-6	BH06	Total/NA	Solid	5035	
MB 880-45398/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45398/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45398/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-24120-A-2-C MS	Matrix Spike	Total/NA	Solid	5035	
880-24120-A-2-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 45526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3963-7	BH07	Total/NA	Solid	8021B	45527
MB 880-45527/5-A	Method Blank	Total/NA	Solid	8021B	45527
LCS 880-45527/1-A	Lab Control Sample	Total/NA	Solid	8021B	45527
LCSD 880-45527/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	45527
890-3960-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	45527
890-3960-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	45527

Prep Batch: 45527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3963-7	BH07	Total/NA	Solid	5035	
MB 880-45527/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-45527/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-45527/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-3960-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-3960-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

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QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

GC VOA

Analysis Batch: 45594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3963-1	BH01	Total/NA	Solid	Total BTEX	
890-3963-2	BH02	Total/NA	Solid	Total BTEX	
890-3963-3	BH03	Total/NA	Solid	Total BTEX	
890-3963-4	BH04	Total/NA	Solid	Total BTEX	
890-3963-5	BH05	Total/NA	Solid	Total BTEX	
890-3963-6	BH06	Total/NA	Solid	Total BTEX	
890-3963-7	BH07	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 45658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3963-1	BH01	Total/NA	Solid	8015NM Prep	
890-3963-2	BH02	Total/NA	Solid	8015NM Prep	
890-3963-3	BH03	Total/NA	Solid	8015NM Prep	
890-3963-4	BH04	Total/NA	Solid	8015NM Prep	
890-3963-5	BH05	Total/NA	Solid	8015NM Prep	
890-3963-6	BH06	Total/NA	Solid	8015NM Prep	
890-3963-7	BH07	Total/NA	Solid	8015NM Prep	
MB 880-45658/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45658/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-3961-A-7-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-3961-A-7-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 45831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3963-1	BH01	Total/NA	Solid	8015B NM	45658
890-3963-2	BH02	Total/NA	Solid	8015B NM	45658
890-3963-3	BH03	Total/NA	Solid	8015B NM	45658
890-3963-4	BH04	Total/NA	Solid	8015B NM	45658
890-3963-5	BH05	Total/NA	Solid	8015B NM	45658
890-3963-6	BH06	Total/NA	Solid	8015B NM	45658
890-3963-7	BH07	Total/NA	Solid	8015B NM	45658
MB 880-45658/1-A	Method Blank	Total/NA	Solid	8015B NM	45658
LCS 880-45658/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45658
LCSD 880-45658/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45658
890-3961-A-7-D MS	Matrix Spike	Total/NA	Solid	8015B NM	45658
890-3961-A-7-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45658

Analysis Batch: 45969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3963-1	BH01	Total/NA	Solid	8015 NM	
890-3963-2	BH02	Total/NA	Solid	8015 NM	
890-3963-3	BH03	Total/NA	Solid	8015 NM	
890-3963-4	BH04	Total/NA	Solid	8015 NM	
890-3963-5	BH05	Total/NA	Solid	8015 NM	
890-3963-6	BH06	Total/NA	Solid	8015 NM	
890-3963-7	BH07	Total/NA	Solid	8015 NM	

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QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

HPLC/IC

Leach Batch: 45078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3963-1	BH01	Soluble	Solid	DI Leach	
890-3963-2	BH02	Soluble	Solid	DI Leach	
890-3963-3	BH03	Soluble	Solid	DI Leach	
890-3963-4	BH04	Soluble	Solid	DI Leach	
890-3963-5	BH05	Soluble	Solid	DI Leach	
890-3963-6	BH06	Soluble	Solid	DI Leach	
890-3963-7	BH07	Soluble	Solid	DI Leach	
MB 880-45078/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-45078/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-45078/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-3963-6 MS	BH06	Soluble	Solid	DI Leach	
890-3963-6 MSD	BH06	Soluble	Solid	DI Leach	

Analysis Batch: 45243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-3963-1	BH01	Soluble	Solid	300.0	45078
890-3963-2	BH02	Soluble	Solid	300.0	45078
890-3963-3	BH03	Soluble	Solid	300.0	45078
890-3963-4	BH04	Soluble	Solid	300.0	45078
890-3963-5	BH05	Soluble	Solid	300.0	45078
890-3963-6	BH06	Soluble	Solid	300.0	45078
890-3963-7	BH07	Soluble	Solid	300.0	45078
MB 880-45078/1-A	Method Blank	Soluble	Solid	300.0	45078
LCS 880-45078/2-A	Lab Control Sample	Soluble	Solid	300.0	45078
LCSD 880-45078/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	45078
890-3963-6 MS	BH06	Soluble	Solid	300.0	45078
890-3963-6 MSD	BH06	Soluble	Solid	300.0	45078

Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Client Sample ID: BH01

Date Collected: 01/25/23 12:10

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3963-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45398	02/03/23 12:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45308	02/05/23 06:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45594	02/06/23 12:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45969	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/09/23 22:52	SM	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		20			45243	02/02/23 08:40	CH	EET MID

Client Sample ID: BH02

Date Collected: 01/25/23 12:20

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3963-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	45398	02/03/23 12:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45308	02/05/23 07:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45594	02/06/23 12:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45969	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/09/23 23:14	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		1			45243	02/02/23 08:46	CH	EET MID

Client Sample ID: BH03

Date Collected: 01/25/23 12:30

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3963-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	45398	02/03/23 12:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45308	02/05/23 07:39	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45594	02/06/23 12:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45969	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/09/23 23:36	SM	EET MID
Soluble	Leach	DI Leach			5.05 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		10			45243	02/02/23 08:52	CH	EET MID

Client Sample ID: BH04

Date Collected: 01/25/23 12:40

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3963-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	45398	02/03/23 12:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45308	02/05/23 08:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45594	02/06/23 12:09	AJ	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Client Sample ID: BH04

Date Collected: 01/25/23 12:40

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3963-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			45969	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/09/23 23:58	SM	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		5			45243	02/02/23 08:59	CH	EET MID

Client Sample ID: BH05

Date Collected: 01/25/23 12:50

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3963-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	45398	02/03/23 12:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45308	02/05/23 08:20	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45594	02/06/23 12:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45969	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 00:20	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		10			45243	02/02/23 09:05	CH	EET MID

Client Sample ID: BH06

Date Collected: 01/25/23 13:00

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3963-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	45398	02/03/23 12:58	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45308	02/05/23 08:41	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45594	02/06/23 12:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45969	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 00:43	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		10			45243	02/02/23 09:11	CH	EET MID

Client Sample ID: BH07

Date Collected: 01/25/23 13:10

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3963-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	45527	02/05/23 10:08	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	45526	02/05/23 15:28	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			45594	02/06/23 12:09	AJ	EET MID
Total/NA	Analysis	8015 NM		1			45969	02/10/23 10:33	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45658	02/07/23 09:21	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	45831	02/10/23 01:04	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Client Sample ID: BH07

Date Collected: 01/25/23 13:10

Date Received: 01/26/23 14:33

Lab Sample ID: 890-3963-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.95 g	50 mL	45078	01/30/23 15:51	KS	EET MID
Soluble	Analysis	300.0		5			45243	02/02/23 09:30	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

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Method Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-3963-1
SDG: 03A1987062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-3963-1	BH01	Solid	01/25/23 12:10	01/26/23 14:33	4'
890-3963-2	BH02	Solid	01/25/23 12:20	01/26/23 14:33	4'
890-3963-3	BH03	Solid	01/25/23 12:30	01/26/23 14:33	4'
890-3963-4	BH04	Solid	01/25/23 12:40	01/26/23 14:33	4'
890-3963-5	BH05	Solid	01/25/23 12:50	01/26/23 14:33	4'
890-3963-6	BH06	Solid	01/25/23 13:00	01/26/23 14:33	4'
890-3963-7	BH07	Solid	01/25/23 13:10	01/26/23 14:33	4'

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Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334

www.xenco.com Page 1 of 1

Work Order Comments	
Program: UST/PST	☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:	
Reporting: Level II	☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

[illegible]

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and sub-contractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$86.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Carling</i>	<i>Divendrasingh</i>	1-26-23 1433			

Printed Date: 08/25/2020 Row: 20/20

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3963-1

SDG Number: 03A1987062

Login Number: 3963

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3963-1

SDG Number: 03A1987062

Login Number: 3963

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 01/30/23 09:34 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Devon Team

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 2/13/2023 7:39:09 PM

JOB DESCRIPTION

NORTH BRUSHY PW LINE

SDG NUMBER 03A1987062

JOB NUMBER

890-4053-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
2/13/2023 7:39:09 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Laboratory Job ID: 890-4053-1
SDG: 03A1987062

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Definitions/Glossary

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Job ID: 890-4053-1

Laboratory: Eurofins Carlsbad

Narrative

**Job Narrative
890-4053-1**

Receipt

The samples were received on 2/7/2023 4:03 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

Receipt Exceptions

The following were received and analyzed from an unpreserved bulk soil jar: PH01 (890-4053-1), PH01 (890-4053-2), PH02 (890-4053-3), PH02 (890-4053-4) and PH03 (890-4053-5).

GC VOA

Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-46016 and analytical batch 880-46059 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: Surrogate recovery for the following sample was outside control limits: PH01 (890-4053-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH01 (890-4053-1), PH01 (890-4053-2), PH02 (890-4053-3), PH02 (890-4053-4), PH03 (890-4053-5), (890-4049-A-1-B), (890-4049-A-1-C MS) and (890-4049-A-1-D MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD_NM: LCS biased low. Since only an acceptable LCS or LCSD is required per the method, the data has been qualified and reported.(LCS 880-45928/2-A)

Method 8015MOD_NM: Spike compounds were inadvertently omitted during the extraction process for the matrix spike/matrix spike duplicate (MS/MSD); therefore, matrix spike recoveries are unavailable for preparation batch 880-45928 and analytical batch 880-46064. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-45902 and analytical batch 880-45920 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Client Sample ID: PH01

Lab Sample ID: 890-4053-1

Date Collected: 02/07/23 09:00

Matrix: Solid

Date Received: 02/07/23 16:03

Sample Depth: 4

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/10/23 14:55	02/11/23 22:38	1
Toluene	<0.00199	U *	0.00199		mg/Kg		02/10/23 14:55	02/11/23 22:38	1
Ethylbenzene	<0.00199	U *	0.00199		mg/Kg		02/10/23 14:55	02/11/23 22:38	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/10/23 14:55	02/11/23 22:38	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/10/23 14:55	02/11/23 22:38	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/10/23 14:55	02/11/23 22:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	131	S1+	70 - 130	02/10/23 14:55	02/11/23 22:38	1
1,4-Difluorobenzene (Surr)	106		70 - 130	02/10/23 14:55	02/11/23 22:38	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/13/23 19:39	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/13/23 17:59	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U * *1	49.9		mg/Kg		02/09/23 17:25	02/12/23 17:42	1
Diesel Range Organics (Over C10-C28)	<49.9	U * *1	49.9		mg/Kg		02/09/23 17:25	02/12/23 17:42	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/09/23 17:25	02/12/23 17:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	1	S1-	70 - 130	02/09/23 17:25	02/12/23 17:42	1
o-Terphenyl	0.8	S1-	70 - 130	02/09/23 17:25	02/12/23 17:42	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4720		49.7		mg/Kg			02/09/23 20:22	10

Client Sample ID: PH01

Lab Sample ID: 890-4053-2

Date Collected: 02/07/23 09:30

Matrix: Solid

Date Received: 02/07/23 16:03

Sample Depth: 12

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:55	02/11/23 22:59	1
Toluene	<0.00200	U *	0.00200		mg/Kg		02/10/23 14:55	02/11/23 22:59	1
Ethylbenzene	<0.00200	U *	0.00200		mg/Kg		02/10/23 14:55	02/11/23 22:59	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		02/10/23 14:55	02/11/23 22:59	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:55	02/11/23 22:59	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		02/10/23 14:55	02/11/23 22:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	120		70 - 130	02/10/23 14:55	02/11/23 22:59	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Client Sample ID: PH01

Lab Sample ID: 890-4053-2

Date Collected: 02/07/23 09:30

Matrix: Solid

Date Received: 02/07/23 16:03

Sample Depth: 12

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	105		70 - 130	02/10/23 14:55	02/11/23 22:59	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			02/13/23 19:39	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/13/23 17:59	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *- *1	50.0		mg/Kg		02/09/23 17:25	02/12/23 18:04	1
Diesel Range Organics (Over C10-C28)	<50.0	U *- *1	50.0		mg/Kg		02/09/23 17:25	02/12/23 18:04	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/09/23 17:25	02/12/23 18:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	1	S1-	70 - 130				02/09/23 17:25	02/12/23 18:04	1
o-Terphenyl	0.6	S1-	70 - 130				02/09/23 17:25	02/12/23 18:04	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6400		50.4		mg/Kg			02/09/23 20:28	10

Client Sample ID: PH02

Lab Sample ID: 890-4053-3

Date Collected: 02/07/23 10:00

Matrix: Solid

Date Received: 02/07/23 16:03

Sample Depth: 5

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		02/10/23 14:55	02/11/23 23:19	1
Toluene	<0.00198	U *-	0.00198		mg/Kg		02/10/23 14:55	02/11/23 23:19	1
Ethylbenzene	<0.00198	U *-	0.00198		mg/Kg		02/10/23 14:55	02/11/23 23:19	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		02/10/23 14:55	02/11/23 23:19	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		02/10/23 14:55	02/11/23 23:19	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		02/10/23 14:55	02/11/23 23:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	127		70 - 130	02/10/23 14:55	02/11/23 23:19	1
1,4-Difluorobenzene (Surr)	103		70 - 130	02/10/23 14:55	02/11/23 23:19	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			02/13/23 19:39	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/13/23 17:59	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Client Sample ID: PH02

Lab Sample ID: 890-4053-3

Date Collected: 02/07/23 10:00

Matrix: Solid

Date Received: 02/07/23 16:03

Sample Depth: 5

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *- *1	49.9		mg/Kg		02/09/23 17:25	02/12/23 18:26	1
Diesel Range Organics (Over C10-C28)	<49.9	U *- *1	49.9		mg/Kg		02/09/23 17:25	02/12/23 18:26	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/09/23 17:25	02/12/23 18:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	1	S1-	70 - 130				02/09/23 17:25	02/12/23 18:26	1
o-Terphenyl	0.6	S1-	70 - 130				02/09/23 17:25	02/12/23 18:26	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4930		49.9		mg/Kg			02/09/23 20:34	10

Client Sample ID: PH02

Lab Sample ID: 890-4053-4

Date Collected: 02/07/23 10:30

Matrix: Solid

Date Received: 02/07/23 16:03

Sample Depth: 10

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		02/10/23 14:55	02/11/23 23:40	1
Toluene	<0.00201	U *-	0.00201		mg/Kg		02/10/23 14:55	02/11/23 23:40	1
Ethylbenzene	<0.00201	U *-	0.00201		mg/Kg		02/10/23 14:55	02/11/23 23:40	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/10/23 14:55	02/11/23 23:40	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/10/23 14:55	02/11/23 23:40	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/10/23 14:55	02/11/23 23:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	128		70 - 130				02/10/23 14:55	02/11/23 23:40	1
1,4-Difluorobenzene (Surr)	107		70 - 130				02/10/23 14:55	02/11/23 23:40	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			02/13/23 19:39	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/13/23 17:59	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *- *1	49.9		mg/Kg		02/09/23 17:25	02/12/23 18:47	1
Diesel Range Organics (Over C10-C28)	<49.9	U *- *1	49.9		mg/Kg		02/09/23 17:25	02/12/23 18:47	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/09/23 17:25	02/12/23 18:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	0.6	S1-	70 - 130				02/09/23 17:25	02/12/23 18:47	1
o-Terphenyl	0.3	S1-	70 - 130				02/09/23 17:25	02/12/23 18:47	1

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Client Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Client Sample ID: PH02

Lab Sample ID: 890-4053-4

Date Collected: 02/07/23 10:30

Matrix: Solid

Date Received: 02/07/23 16:03

Sample Depth: 10

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5590		49.6		mg/Kg			02/09/23 20:40	10

Client Sample ID: PH03

Lab Sample ID: 890-4053-5

Date Collected: 02/07/23 11:00

Matrix: Solid

Date Received: 02/07/23 16:03

Sample Depth: 12

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		02/10/23 14:55	02/12/23 00:00	1
Toluene	<0.00201	U *-	0.00201		mg/Kg		02/10/23 14:55	02/12/23 00:00	1
Ethylbenzene	<0.00201	U *-	0.00201		mg/Kg		02/10/23 14:55	02/12/23 00:00	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		02/10/23 14:55	02/12/23 00:00	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/10/23 14:55	02/12/23 00:00	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		02/10/23 14:55	02/12/23 00:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	122		70 - 130				02/10/23 14:55	02/12/23 00:00	1
1,4-Difluorobenzene (Surr)	109		70 - 130				02/10/23 14:55	02/12/23 00:00	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			02/13/23 19:39	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/13/23 17:59	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *- *1	50.0		mg/Kg		02/09/23 17:25	02/12/23 19:09	1
Diesel Range Organics (Over C10-C28)	<50.0	U *- *1	50.0		mg/Kg		02/09/23 17:25	02/12/23 19:09	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/09/23 17:25	02/12/23 19:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	0.08	S1-	70 - 130				02/09/23 17:25	02/12/23 19:09	1
o-Terphenyl	0.5	S1-	70 - 130				02/09/23 17:25	02/12/23 19:09	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4010		49.6		mg/Kg			02/09/23 20:47	10

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Surrogate Summary

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-4047-A-1-C MS	Matrix Spike	113	112
890-4047-A-1-D MSD	Matrix Spike Duplicate	109	112
890-4053-1	PH01	131 S1+	106
890-4053-2	PH01	120	105
890-4053-3	PH02	127	103
890-4053-4	PH02	128	107
890-4053-5	PH03	122	109
LCS 880-46016/1-A	Lab Control Sample	108	110
LCSD 880-46016/2-A	Lab Control Sample Dup	114	110
MB 880-46016/5-A	Method Blank	111	105
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4049-A-1-C MS	Matrix Spike	2 S1-	0.4 S1-
890-4049-A-1-D MSD	Matrix Spike Duplicate	2 S1-	0.6 S1-
890-4053-1	PH01	1 S1-	0.8 S1-
890-4053-2	PH01	1 S1-	0.6 S1-
890-4053-3	PH02	1 S1-	0.6 S1-
890-4053-4	PH02	0.6 S1-	0.3 S1-
890-4053-5	PH03	0.08 S1-	0.5 S1-
LCS 880-45928/2-A	Lab Control Sample	81	83
LCSD 880-45928/3-A	Lab Control Sample Dup	93	100
MB 880-45928/1-A	Method Blank	87	105
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-46016/5-A

Matrix: Solid

Analysis Batch: 46059

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 46016

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:55	02/11/23 16:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:55	02/11/23 16:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:55	02/11/23 16:15	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/10/23 14:55	02/11/23 16:15	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/10/23 14:55	02/11/23 16:15	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/10/23 14:55	02/11/23 16:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		70 - 130	02/10/23 14:55	02/11/23 16:15	1
1,4-Difluorobenzene (Surr)	105		70 - 130	02/10/23 14:55	02/11/23 16:15	1

Lab Sample ID: LCS 880-46016/1-A

Matrix: Solid

Analysis Batch: 46059

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 46016

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.07008		mg/Kg		70	70 - 130
Toluene	0.100	0.06866	*-	mg/Kg		69	70 - 130
Ethylbenzene	0.100	0.06746	*-	mg/Kg		67	70 - 130
m-Xylene & p-Xylene	0.200	0.1444		mg/Kg		72	70 - 130
o-Xylene	0.100	0.07197		mg/Kg		72	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: LCSD 880-46016/2-A

Matrix: Solid

Analysis Batch: 46059

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 46016

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.07747		mg/Kg		77	70 - 130	10	35
Toluene	0.100	0.07237		mg/Kg		72	70 - 130	5	35
Ethylbenzene	0.100	0.07187		mg/Kg		72	70 - 130	6	35
m-Xylene & p-Xylene	0.200	0.1528		mg/Kg		76	70 - 130	6	35
o-Xylene	0.100	0.07577		mg/Kg		76	70 - 130	5	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	114		70 - 130
1,4-Difluorobenzene (Surr)	110		70 - 130

Lab Sample ID: 890-4047-A-1-C MS

Matrix: Solid

Analysis Batch: 46059

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 46016

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U	0.0990	0.1079		mg/Kg		109	70 - 130
Toluene	<0.00201	U *-	0.0990	0.1062		mg/Kg		107	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-4047-A-1-C MS

Matrix: Solid

Analysis Batch: 46059

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 46016

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U *-	0.0990	0.1065		mg/Kg		108	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.198	0.2259		mg/Kg		114	70 - 130
o-Xylene	<0.00201	U	0.0990	0.1081		mg/Kg		109	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Lab Sample ID: 890-4047-A-1-D MSD

Matrix: Solid

Analysis Batch: 46059

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 46016

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0998	0.1140		mg/Kg		114	70 - 130	6	35
Toluene	<0.00201	U *-	0.0998	0.1074		mg/Kg		108	70 - 130	1	35
Ethylbenzene	<0.00201	U *-	0.0998	0.1067		mg/Kg		107	70 - 130	0	35
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2247		mg/Kg		113	70 - 130	1	35
o-Xylene	<0.00201	U	0.0998	0.1069		mg/Kg		107	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	112		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-45928/1-A

Matrix: Solid

Analysis Batch: 46064

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 45928

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/09/23 17:25	02/12/23 09:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/09/23 17:25	02/12/23 09:21	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/09/23 17:25	02/12/23 09:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	87		70 - 130	02/09/23 17:25	02/12/23 09:21	1
o-Terphenyl	105		70 - 130	02/09/23 17:25	02/12/23 09:21	1

Lab Sample ID: LCS 880-45928/2-A

Matrix: Solid

Analysis Batch: 46064

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45928

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	628.6	*-	mg/Kg		63	70 - 130
Diesel Range Organics (Over C10-C28)	1000	649.0	*-	mg/Kg		65	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-45928/2-A

Matrix: Solid

Analysis Batch: 46064

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 45928

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	81		70 - 130
o-Terphenyl	83		70 - 130

Lab Sample ID: LCSD 880-45928/3-A

Matrix: Solid

Analysis Batch: 46064

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 45928

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	886.7	*1	mg/Kg		89	70 - 130	34	20
Diesel Range Organics (Over C10-C28)	1000	848.7	*1	mg/Kg		85	70 - 130	27	20
Surrogate	%Recovery	LCSD	LCSD Qualifier	Limits					
1-Chlorooctane	93			70 - 130					
o-Terphenyl	100			70 - 130					

Lab Sample ID: 890-4049-A-1-C MS

Matrix: Solid

Analysis Batch: 46064

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 45928

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1 *- *1	998	<49.9	U F1	mg/Kg		0	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U F1 *- *1	998	<49.9	U F1	mg/Kg		0.2	70 - 130		
Surrogate	%Recovery	MS	MS Qualifier	Limits							
1-Chlorooctane	2	S1-		70 - 130							
o-Terphenyl	0.4	S1-		70 - 130							

Lab Sample ID: 890-4049-A-1-D MSD

Matrix: Solid

Analysis Batch: 46064

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 45928

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1 *- *1	997	<49.9	U F1	mg/Kg		1	70 - 130	NC	20
Diesel Range Organics (Over C10-C28)	<50.0	U F1 *- *1	997	<49.9	U F1	mg/Kg		0.3	70 - 130	3	20
Surrogate	%Recovery	MSD	MSD Qualifier	Limits							
1-Chlorooctane	2	S1-		70 - 130							
o-Terphenyl	0.6	S1-		70 - 130							

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QC Sample Results

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-45902/1-A Matrix: Solid Analysis Batch: 45920										Client Sample ID: Method Blank Prep Type: Soluble	
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac		
Chloride	<5.00	U	5.00		mg/Kg			02/09/23 17:42	1		
Lab Sample ID: LCS 880-45902/2-A Matrix: Solid Analysis Batch: 45920										Client Sample ID: Lab Control Sample Prep Type: Soluble	
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	232.7		mg/Kg		93	90 - 110		
Lab Sample ID: LCSD 880-45902/3-A Matrix: Solid Analysis Batch: 45920										Client Sample ID: Lab Control Sample Dup Prep Type: Soluble	
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride			250	232.8		mg/Kg		93	90 - 110	0	20
Lab Sample ID: 890-4051-A-1-B MS Matrix: Solid Analysis Batch: 45920										Client Sample ID: Matrix Spike Prep Type: Soluble	
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	6.83	F1	249	220.1	F1	mg/Kg		86	90 - 110		
Lab Sample ID: 890-4051-A-1-C MSD Matrix: Solid Analysis Batch: 45920										Client Sample ID: Matrix Spike Duplicate Prep Type: Soluble	
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	6.83	F1	249	220.2	F1	mg/Kg		86	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

GC VOA

Prep Batch: 46016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4053-1	PH01	Total/NA	Solid	5035	
890-4053-2	PH01	Total/NA	Solid	5035	
890-4053-3	PH02	Total/NA	Solid	5035	
890-4053-4	PH02	Total/NA	Solid	5035	
890-4053-5	PH03	Total/NA	Solid	5035	
MB 880-46016/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-46016/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-46016/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4047-A-1-C MS	Matrix Spike	Total/NA	Solid	5035	
890-4047-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 46059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4053-1	PH01	Total/NA	Solid	8021B	46016
890-4053-2	PH01	Total/NA	Solid	8021B	46016
890-4053-3	PH02	Total/NA	Solid	8021B	46016
890-4053-4	PH02	Total/NA	Solid	8021B	46016
890-4053-5	PH03	Total/NA	Solid	8021B	46016
MB 880-46016/5-A	Method Blank	Total/NA	Solid	8021B	46016
LCS 880-46016/1-A	Lab Control Sample	Total/NA	Solid	8021B	46016
LCSD 880-46016/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	46016
890-4047-A-1-C MS	Matrix Spike	Total/NA	Solid	8021B	46016
890-4047-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	46016

Analysis Batch: 46245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4053-1	PH01	Total/NA	Solid	Total BTEX	
890-4053-2	PH01	Total/NA	Solid	Total BTEX	
890-4053-3	PH02	Total/NA	Solid	Total BTEX	
890-4053-4	PH02	Total/NA	Solid	Total BTEX	
890-4053-5	PH03	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 45928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4053-1	PH01	Total/NA	Solid	8015NM Prep	
890-4053-2	PH01	Total/NA	Solid	8015NM Prep	
890-4053-3	PH02	Total/NA	Solid	8015NM Prep	
890-4053-4	PH02	Total/NA	Solid	8015NM Prep	
890-4053-5	PH03	Total/NA	Solid	8015NM Prep	
MB 880-45928/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-45928/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-45928/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4049-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4049-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 46064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4053-1	PH01	Total/NA	Solid	8015B NM	45928
890-4053-2	PH01	Total/NA	Solid	8015B NM	45928

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

GC Semi VOA (Continued)

Analysis Batch: 46064 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4053-3	PH02	Total/NA	Solid	8015B NM	45928
890-4053-4	PH02	Total/NA	Solid	8015B NM	45928
890-4053-5	PH03	Total/NA	Solid	8015B NM	45928
MB 880-45928/1-A	Method Blank	Total/NA	Solid	8015B NM	45928
LCS 880-45928/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	45928
LCSD 880-45928/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	45928
890-4049-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	45928
890-4049-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	45928

Analysis Batch: 46212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4053-1	PH01	Total/NA	Solid	8015 NM	
890-4053-2	PH01	Total/NA	Solid	8015 NM	
890-4053-3	PH02	Total/NA	Solid	8015 NM	
890-4053-4	PH02	Total/NA	Solid	8015 NM	
890-4053-5	PH03	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 45902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4053-1	PH01	Soluble	Solid	DI Leach	
890-4053-2	PH01	Soluble	Solid	DI Leach	
890-4053-3	PH02	Soluble	Solid	DI Leach	
890-4053-4	PH02	Soluble	Solid	DI Leach	
890-4053-5	PH03	Soluble	Solid	DI Leach	
MB 880-45902/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-45902/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-45902/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4051-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4051-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 45920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4053-1	PH01	Soluble	Solid	300.0	45902
890-4053-2	PH01	Soluble	Solid	300.0	45902
890-4053-3	PH02	Soluble	Solid	300.0	45902
890-4053-4	PH02	Soluble	Solid	300.0	45902
890-4053-5	PH03	Soluble	Solid	300.0	45902
MB 880-45902/1-A	Method Blank	Soluble	Solid	300.0	45902
LCS 880-45902/2-A	Lab Control Sample	Soluble	Solid	300.0	45902
LCSD 880-45902/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	45902
890-4051-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	45902
890-4051-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	45902

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Client Sample ID: PH01

Lab Sample ID: 890-4053-1

Date Collected: 02/07/23 09:00

Matrix: Solid

Date Received: 02/07/23 16:03

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	46016	02/10/23 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46059	02/11/23 22:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46245	02/13/23 19:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			46212	02/13/23 17:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	45928	02/09/23 17:25	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46064	02/12/23 17:42	SM	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	45902	02/09/23 14:14	KS	EET MID
Soluble	Analysis	300.0		10			45920	02/09/23 20:22	CH	EET MID

Client Sample ID: PH01

Lab Sample ID: 890-4053-2

Date Collected: 02/07/23 09:30

Matrix: Solid

Date Received: 02/07/23 16:03

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	46016	02/10/23 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46059	02/11/23 22:59	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46245	02/13/23 19:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			46212	02/13/23 17:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45928	02/09/23 17:25	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46064	02/12/23 18:04	SM	EET MID
Soluble	Leach	DI Leach			4.96 g	50 mL	45902	02/09/23 14:14	KS	EET MID
Soluble	Analysis	300.0		10			45920	02/09/23 20:28	CH	EET MID

Client Sample ID: PH02

Lab Sample ID: 890-4053-3

Date Collected: 02/07/23 10:00

Matrix: Solid

Date Received: 02/07/23 16:03

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	46016	02/10/23 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46059	02/11/23 23:19	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46245	02/13/23 19:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			46212	02/13/23 17:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45928	02/09/23 17:25	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46064	02/12/23 18:26	SM	EET MID
Soluble	Leach	DI Leach			5.01 g	50 mL	45902	02/09/23 14:14	KS	EET MID
Soluble	Analysis	300.0		10			45920	02/09/23 20:34	CH	EET MID

Client Sample ID: PH02

Lab Sample ID: 890-4053-4

Date Collected: 02/07/23 10:30

Matrix: Solid

Date Received: 02/07/23 16:03

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	46016	02/10/23 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46059	02/11/23 23:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46245	02/13/23 19:39	SM	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Client Sample ID: PH02
Date Collected: 02/07/23 10:30
Date Received: 02/07/23 16:03

Lab Sample ID: 890-4053-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			46212	02/13/23 17:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	45928	02/09/23 17:25	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46064	02/12/23 18:47	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	45902	02/09/23 14:14	KS	EET MID
Soluble	Analysis	300.0		10			45920	02/09/23 20:40	CH	EET MID

Client Sample ID: PH03
Date Collected: 02/07/23 11:00
Date Received: 02/07/23 16:03

Lab Sample ID: 890-4053-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	46016	02/10/23 14:55	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46059	02/12/23 00:00	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			46245	02/13/23 19:39	SM	EET MID
Total/NA	Analysis	8015 NM		1			46212	02/13/23 17:59	SM	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	45928	02/09/23 17:25	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46064	02/12/23 19:09	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	45902	02/09/23 14:14	KS	EET MID
Soluble	Analysis	300.0		10			45920	02/09/23 20:47	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
- 2
- 3
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Method Summary

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: NORTH BRUSHY PW LINE

Job ID: 890-4053-1
SDG: 03A1987062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4053-1	PH01	Solid	02/07/23 09:00	02/07/23 16:03	4
890-4053-2	PH01	Solid	02/07/23 09:30	02/07/23 16:03	12
890-4053-3	PH02	Solid	02/07/23 10:00	02/07/23 16:03	5
890-4053-4	PH02	Solid	02/07/23 10:30	02/07/23 16:03	10
890-4053-5	PH03	Solid	02/07/23 11:00	02/07/23 16:03	12

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Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 958-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page _____ of _____

Project Manager:	Gilbert Moreno	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	832-541-7719	Email:	gmorano@Ensolum.com, jim.raley@dyn.com

Work Order Comments	
Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other:	

Project Name:	North Brushy PW Line	Turn Around	☒ Routine ☐ Rush	Prep. Code	
Project Number:	03A1987062	Due Date:	5 Day TAT		
Project Location:	Eddy, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Gilbert Moreno	Wet Ice:	☒ Yes ☐ No		
CC #:	9001900347	Thermometer ID:	THM007		
SAMPLE RECEIPT	Temp Blank: ☒ Yes ☐ No	Correction Factor:	-0.2		
Samples Received Intact:	Yes ☒ No ☐ N/A	Temperature Reading:	1.2		
Cooler Custody Seals:	Yes ☐ No ☒ N/A	Corrected Temperature:	1.2		
Sample Custody Seals:	Yes ☐ No ☒ N/A				
Total Containers:					

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	ANALYSIS REQUEST										Preservative Codes
							CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021)								
PH01	S	2.7.23	9:00	4'	Grab/	1	X	X	X								None: NO DI Water: H ₂ O
PH01	S	2.7.23	9:30	12'	Grab/	1	X	X	X								Cool: Cool MeOH: Me
PH02	S	2.7.23	10:00	5'	Grab/	1	X	X	X								HCL: HC HNO ₃ : HN
PH02	S	2.7.23	10:30	10'	Grab/	1	X	X	X								H ₂ SO ₄ : H ₂ NaOH: Na
PH03	S	2.7.23	11:00	12'	Grab/	1	X	X	X								H ₃ PO ₄ : HP NaHSO ₄ : NABIS
																	Na ₂ S ₂ O ₃ : NaSO ₃
																	Zn Acetate+NaOH: Zn
																	NaOH+Ascorbic Acid: SAPC

Total 200.7 / 6010		200.8 / 6020:		8RCRA 13PPM Texas 11		Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn	
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U		Hg: 1631 / 245.1 / 7470 / 7471			
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.							
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time		
1 <i>Cabrun</i>	<i>Joe Alf</i>	2.7.23 1403					
3		1603					
5							

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4053-1

SDG Number: 03A1987062

Login Number: 4053

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4053-1

SDG Number: 03A1987062

Login Number: 4053

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 02/09/23 12:36 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Devon Team

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 2/24/2023 2:12:57 PM

JOB DESCRIPTION

North Brushy PW Line

SDG NUMBER 03A1987062

JOB NUMBER

890-4145-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Eurofins Carlsbad**Job Notes**

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated
2/24/2023 2:12:57 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: North Brushy PW Line

Laboratory Job ID: 890-4145-1
SDG: 03A1987062

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Definitions/Glossary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Job ID: 890-4145-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-4145-1

Receipt

The samples were received on 2/17/2023 4:06 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.2°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: BH12 (890-4145-1), BH12 (890-4145-2), BH12 (890-4145-3) and BH12 (890-4145-4).

GC VOA

Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-46948 and analytical batch 880-46925 recovered outside control limits for the following analytes: Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene.

Method 8021B: Surrogate recovery for the following samples were outside control limits: BH12 (890-4145-1), BH12 (890-4145-2), BH12 (890-4145-3), BH12 (890-4145-4), (CCV 880-46925/20), (CCV 880-46925/33), (CCV 880-46925/51), (LCS 880-46948/1-A), (LCSD 880-46948/2-A), (880-25049-A-1-I), (880-25049-A-1-J MS) and (880-25049-A-1-K MSD). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Client Sample ID: BH12

Lab Sample ID: 890-4145-1

Date Collected: 02/16/23 10:40

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 12'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U **	0.00200		mg/Kg		02/22/23 14:24	02/23/23 03:48	1
Toluene	<0.00200	U **	0.00200		mg/Kg		02/22/23 14:24	02/23/23 03:48	1
Ethylbenzene	<0.00200	U **	0.00200		mg/Kg		02/22/23 14:24	02/23/23 03:48	1
m-Xylene & p-Xylene	<0.00400	U **	0.00400		mg/Kg		02/22/23 14:24	02/23/23 03:48	1
o-Xylene	<0.00200	U **	0.00200		mg/Kg		02/22/23 14:24	02/23/23 03:48	1
Xylenes, Total	<0.00400	U **	0.00400		mg/Kg		02/22/23 14:24	02/23/23 03:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	199	S1+	70 - 130	02/22/23 14:24	02/23/23 03:48	1
1,4-Difluorobenzene (Surr)	82		70 - 130	02/22/23 14:24	02/23/23 03:48	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00400	U	0.00400		mg/Kg			02/23/23 12:26	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	129		49.9		mg/Kg			02/24/23 13:40	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/24/23 01:17	1
Diesel Range Organics (Over C10-C28)	129		49.9		mg/Kg		02/23/23 17:02	02/24/23 01:17	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/24/23 01:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130	02/23/23 17:02	02/24/23 01:17	1
o-Terphenyl	90		70 - 130	02/23/23 17:02	02/24/23 01:17	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3060		24.9		mg/Kg			02/23/23 00:30	5

Client Sample ID: BH12

Lab Sample ID: 890-4145-2

Date Collected: 02/16/23 10:50

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 15'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U **	0.00201		mg/Kg		02/22/23 14:24	02/23/23 04:14	1
Toluene	<0.00201	U **	0.00201		mg/Kg		02/22/23 14:24	02/23/23 04:14	1
Ethylbenzene	<0.00201	U **	0.00201		mg/Kg		02/22/23 14:24	02/23/23 04:14	1
m-Xylene & p-Xylene	<0.00402	U **	0.00402		mg/Kg		02/22/23 14:24	02/23/23 04:14	1
o-Xylene	<0.00201	U **	0.00201		mg/Kg		02/22/23 14:24	02/23/23 04:14	1
Xylenes, Total	<0.00402	U **	0.00402		mg/Kg		02/22/23 14:24	02/23/23 04:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	224	S1+	70 - 130	02/22/23 14:24	02/23/23 04:14	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Client Sample ID: BH12

Lab Sample ID: 890-4145-2

Date Collected: 02/16/23 10:50

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 15'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	74		70 - 130	02/22/23 14:24	02/23/23 04:14	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			02/23/23 12:26	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			02/24/23 13:40	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		02/23/23 17:02	02/24/23 01:39	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/23/23 17:02	02/24/23 01:39	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/23/23 17:02	02/24/23 01:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130				02/23/23 17:02	02/24/23 01:39	1
o-Terphenyl	88		70 - 130				02/23/23 17:02	02/24/23 01:39	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7490		50.3		mg/Kg			02/23/23 00:49	10

Client Sample ID: BH12

Lab Sample ID: 890-4145-3

Date Collected: 02/16/23 11:00

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 20'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U *+	0.00202		mg/Kg		02/22/23 14:24	02/23/23 04:40	1
Toluene	<0.00202	U *+	0.00202		mg/Kg		02/22/23 14:24	02/23/23 04:40	1
Ethylbenzene	<0.00202	U *+	0.00202		mg/Kg		02/22/23 14:24	02/23/23 04:40	1
m-Xylene & p-Xylene	<0.00404	U *+	0.00404		mg/Kg		02/22/23 14:24	02/23/23 04:40	1
o-Xylene	<0.00202	U *+	0.00202		mg/Kg		02/22/23 14:24	02/23/23 04:40	1
Xylenes, Total	<0.00404	U *+	0.00404		mg/Kg		02/22/23 14:24	02/23/23 04:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	198	S1+	70 - 130				02/22/23 14:24	02/23/23 04:40	1
1,4-Difluorobenzene (Surr)	81		70 - 130				02/22/23 14:24	02/23/23 04:40	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			02/23/23 12:26	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/24/23 13:40	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Client Sample ID: BH12

Lab Sample ID: 890-4145-3

Date Collected: 02/16/23 11:00

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 20'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/24/23 02:23	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/24/23 02:23	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/24/23 02:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	99		70 - 130				02/23/23 17:02	02/24/23 02:23	1
o-Terphenyl	101		70 - 130				02/23/23 17:02	02/24/23 02:23	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4560		50.0		mg/Kg			02/23/23 00:55	10

Client Sample ID: BH12

Lab Sample ID: 890-4145-4

Date Collected: 02/16/23 11:10

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 26'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U +	0.00199		mg/Kg		02/22/23 14:24	02/23/23 05:07	1
Toluene	<0.00199	U +	0.00199		mg/Kg		02/22/23 14:24	02/23/23 05:07	1
Ethylbenzene	<0.00199	U +	0.00199		mg/Kg		02/22/23 14:24	02/23/23 05:07	1
m-Xylene & p-Xylene	<0.00398	U +	0.00398		mg/Kg		02/22/23 14:24	02/23/23 05:07	1
o-Xylene	<0.00199	U +	0.00199		mg/Kg		02/22/23 14:24	02/23/23 05:07	1
Xylenes, Total	<0.00398	U +	0.00398		mg/Kg		02/22/23 14:24	02/23/23 05:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	192	S1+	70 - 130				02/22/23 14:24	02/23/23 05:07	1
1,4-Difluorobenzene (Surr)	66	S1-	70 - 130				02/22/23 14:24	02/23/23 05:07	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/23/23 12:26	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/24/23 13:40	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/23/23 17:02	02/24/23 02:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/23/23 17:02	02/24/23 02:45	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/23/23 17:02	02/24/23 02:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 130				02/23/23 17:02	02/24/23 02:45	1
o-Terphenyl	101		70 - 130				02/23/23 17:02	02/24/23 02:45	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Client Sample ID: BH12
Date Collected: 02/16/23 11:10
Date Received: 02/17/23 16:06
Sample Depth: 26'

Lab Sample ID: 890-4145-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	348		4.98		mg/Kg			02/23/23 01:01	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Surrogate Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-25049-A-1-J MS	Matrix Spike	180 S1+	81
880-25049-A-1-K MSD	Matrix Spike Duplicate	187 S1+	80
890-4145-1	BH12	199 S1+	82
890-4145-2	BH12	224 S1+	74
890-4145-3	BH12	198 S1+	81
890-4145-4	BH12	192 S1+	66 S1-
LCS 880-46948/1-A	Lab Control Sample	199 S1+	83
LCSD 880-46948/2-A	Lab Control Sample Dup	197 S1+	82
MB 880-46866/5-A	Method Blank	113	75
MB 880-46948/5-A	Method Blank	125	71
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4137-A-1-D MS	Matrix Spike	108	102
890-4137-A-1-E MSD	Matrix Spike Duplicate	102	97
890-4145-1	BH12	86	90
890-4145-2	BH12	84	88
890-4145-3	BH12	99	101
890-4145-4	BH12	104	101
LCS 880-47116/2-A	Lab Control Sample	111	109
LCSD 880-47116/3-A	Lab Control Sample Dup	102	103
MB 880-47116/1-A	Method Blank	135 S1+	138 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-46866/5-A

Matrix: Solid

Analysis Batch: 46925

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 46866

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/21/23 14:31	02/22/23 11:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/21/23 14:31	02/22/23 11:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/21/23 14:31	02/22/23 11:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/21/23 14:31	02/22/23 11:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/21/23 14:31	02/22/23 11:37	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/21/23 14:31	02/22/23 11:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	02/21/23 14:31	02/22/23 11:37	1
1,4-Difluorobenzene (Surr)	75		70 - 130	02/21/23 14:31	02/22/23 11:37	1

Lab Sample ID: MB 880-46948/5-A

Matrix: Solid

Analysis Batch: 46925

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 46948

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/22/23 14:24	02/23/23 01:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/22/23 14:24	02/23/23 01:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/22/23 14:24	02/23/23 01:12	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/22/23 14:24	02/23/23 01:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/22/23 14:24	02/23/23 01:12	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/22/23 14:24	02/23/23 01:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	125		70 - 130	02/22/23 14:24	02/23/23 01:12	1
1,4-Difluorobenzene (Surr)	71		70 - 130	02/22/23 14:24	02/23/23 01:12	1

Lab Sample ID: LCS 880-46948/1-A

Matrix: Solid

Analysis Batch: 46925

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 46948

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1279		mg/Kg		128	70 - 130
Toluene	0.100	0.1292		mg/Kg		129	70 - 130
Ethylbenzene	0.100	0.1268		mg/Kg		127	70 - 130
m-Xylene & p-Xylene	0.200	0.2592		mg/Kg		130	70 - 130
o-Xylene	0.100	0.1242		mg/Kg		124	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	199	S1+	70 - 130
1,4-Difluorobenzene (Surr)	83		70 - 130

Lab Sample ID: LCSD 880-46948/2-A

Matrix: Solid

Analysis Batch: 46925

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 46948

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1457	*+	mg/Kg		146	70 - 130	13	35

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-46948/2-A						Client Sample ID: Lab Control Sample Dup					
Matrix: Solid						Prep Type: Total/NA					
Analysis Batch: 46925						Prep Batch: 46948					
				Spike	LCSD	LCSD			%Rec		RPD
Analyte				Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD
Toluene				0.100	0.1491	*+	mg/Kg		149	70 - 130	14
Ethylbenzene				0.100	0.1497	*+	mg/Kg		150	70 - 130	17
m-Xylene & p-Xylene				0.200	0.3065	*+	mg/Kg		153	70 - 130	17
o-Xylene				0.100	0.1486	*+	mg/Kg		149	70 - 130	18
					LCSD	LCSD					
Surrogate					%Recovery	Qualifier	Limits				
4-Bromofluorobenzene (Surr)					197	S1+	70 - 130				
1,4-Difluorobenzene (Surr)					82		70 - 130				

Lab Sample ID: 880-25049-A-1-J MS				Client Sample ID: Matrix Spike							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 46925				Prep Batch: 46948							
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U *	0.101	0.1225		mg/Kg		122	70 - 130		
Toluene	<0.00198	U *	0.101	0.1220		mg/Kg		121	70 - 130		
Ethylbenzene	<0.00198	U *	0.101	0.1226		mg/Kg		122	70 - 130		
m-Xylene & p-Xylene	<0.00396	U *	0.202	0.2506		mg/Kg		124	70 - 130		
o-Xylene	<0.00198	U *	0.101	0.1188		mg/Kg		118	70 - 130		
		MS	MS								
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	180	S1+	70 - 130								
1,4-Difluorobenzene (Surr)	81		70 - 130								

Lab Sample ID: 880-25049-A-1-K MSD				Client Sample ID: Matrix Spike Duplicate							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 46925				Prep Batch: 46948							
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00198	U *	0.0992	0.1275		mg/Kg		129	70 - 130	4	35
Toluene	<0.00198	U *	0.0992	0.1178		mg/Kg		119	70 - 130	4	35
Ethylbenzene	<0.00198	U *	0.0992	0.1169		mg/Kg		118	70 - 130	5	35
m-Xylene & p-Xylene	<0.00396	U *	0.198	0.2401		mg/Kg		121	70 - 130	4	35
o-Xylene	<0.00198	U *	0.0992	0.1168		mg/Kg		118	70 - 130	2	35
		MSD	MSD								
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	187	S1+	70 - 130								
1,4-Difluorobenzene (Surr)	80		70 - 130								

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-47116/1-A				Client Sample ID: Method Blank							
Matrix: Solid				Prep Type: Total/NA							
Analysis Batch: 46992				Prep Batch: 47116							
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/23/23 17:02	02/23/23 20:30	1		

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-47116/1-A
Matrix: Solid
Analysis Batch: 46992

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 47116

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/23/23 17:02	02/23/23 20:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/23/23 17:02	02/23/23 20:30	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
1-Chlorooctane	135	S1+	70 - 130				02/23/23 17:02	02/23/23 20:30	1
o-Terphenyl	138	S1+	70 - 130				02/23/23 17:02	02/23/23 20:30	1

Lab Sample ID: LCS 880-47116/2-A
Matrix: Solid
Analysis Batch: 46992

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	1000	935.8		mg/Kg		94	70 - 130		
Diesel Range Organics (Over C10-C28)	1000	1034		mg/Kg		103	70 - 130		
Surrogate		LCS	LCS				Limits		
		%Recovery	Qualifier						
1-Chlorooctane		111					70 - 130		
o-Terphenyl		109					70 - 130		

Lab Sample ID: LCSD 880-47116/3-A
Matrix: Solid
Analysis Batch: 46992

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 47116

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	849.0		mg/Kg		85	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	1000	922.0		mg/Kg		92	70 - 130	11	20
Surrogate		LCSD	LCSD				Limits		
		%Recovery	Qualifier						
1-Chlorooctane		102					70 - 130		
o-Terphenyl		103					70 - 130		

Lab Sample ID: 890-4137-A-1-D MS
Matrix: Solid
Analysis Batch: 46992

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47116

Analyte	Sample	Sample	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
	Result	Qualifier									
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1000	1169		mg/Kg		114	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	1000	934.3		mg/Kg		93	70 - 130		
Surrogate	MS	MS	Limits								
	%Recovery	Qualifier									
1-Chlorooctane	108		70 - 130								
o-Terphenyl	102		70 - 130								

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-4137-A-1-E MSD

Matrix: Solid

Analysis Batch: 46992

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47116

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1000	1116		mg/Kg		108	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.8	U	1000	897.5		mg/Kg		90	70 - 130	4	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	102		70 - 130								
o-Terphenyl	97		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46848/1-A

Matrix: Solid

Analysis Batch: 46984

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/22/23 22:21	1

Lab Sample ID: LCS 880-46848/2-A

Matrix: Solid

Analysis Batch: 46984

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	232.9		mg/Kg		93	90 - 110

Lab Sample ID: LCSD 880-46848/3-A

Matrix: Solid

Analysis Batch: 46984

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	232.7		mg/Kg		93	90 - 110	0	20

Lab Sample ID: 890-4135-A-1-B MS

Matrix: Solid

Analysis Batch: 46984

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	<5.02	U	251	240.6		mg/Kg		95	90 - 110

Lab Sample ID: 890-4135-A-1-C MSD

Matrix: Solid

Analysis Batch: 46984

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	<5.02	U	251	240.8		mg/Kg		95	90 - 110	0	20

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-4144-A-4-B MS										Client Sample ID: Matrix Spike			
Matrix: Solid										Prep Type: Soluble			
Analysis Batch: 46984													
	Sample	Sample	Spike	MS	MS				%Rec				
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits				
Chloride	2060		1240	3404		mg/Kg		108	90 - 110				

Lab Sample ID: 890-4144-A-4-C MSD										Client Sample ID: Matrix Spike Duplicate			
Matrix: Solid										Prep Type: Soluble			
Analysis Batch: 46984													
	Sample	Sample	Spike	MSD	MSD				%Rec			RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD		Limit	
Chloride	2060		1240	3396		mg/Kg		108	90 - 110	0		20	

QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

GC VOA

Prep Batch: 46866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-46866/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 46925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4145-1	BH12	Total/NA	Solid	8021B	46948
890-4145-2	BH12	Total/NA	Solid	8021B	46948
890-4145-3	BH12	Total/NA	Solid	8021B	46948
890-4145-4	BH12	Total/NA	Solid	8021B	46948
MB 880-46866/5-A	Method Blank	Total/NA	Solid	8021B	46866
MB 880-46948/5-A	Method Blank	Total/NA	Solid	8021B	46948
LCS 880-46948/1-A	Lab Control Sample	Total/NA	Solid	8021B	46948
LCSD 880-46948/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	46948
880-25049-A-1-J MS	Matrix Spike	Total/NA	Solid	8021B	46948
880-25049-A-1-K MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	46948

Prep Batch: 46948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4145-1	BH12	Total/NA	Solid	5035	
890-4145-2	BH12	Total/NA	Solid	5035	
890-4145-3	BH12	Total/NA	Solid	5035	
890-4145-4	BH12	Total/NA	Solid	5035	
MB 880-46948/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-46948/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-46948/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-25049-A-1-J MS	Matrix Spike	Total/NA	Solid	5035	
880-25049-A-1-K MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 47063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4145-1	BH12	Total/NA	Solid	Total BTEX	
890-4145-2	BH12	Total/NA	Solid	Total BTEX	
890-4145-3	BH12	Total/NA	Solid	Total BTEX	
890-4145-4	BH12	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 46992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4145-1	BH12	Total/NA	Solid	8015B NM	47116
890-4145-2	BH12	Total/NA	Solid	8015B NM	47116
890-4145-3	BH12	Total/NA	Solid	8015B NM	47116
890-4145-4	BH12	Total/NA	Solid	8015B NM	47116
MB 880-47116/1-A	Method Blank	Total/NA	Solid	8015B NM	47116
LCS 880-47116/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47116
LCSD 880-47116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47116
890-4137-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	47116
890-4137-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	47116

Prep Batch: 47116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4145-1	BH12	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

GC Semi VOA (Continued)

Prep Batch: 47116 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4145-2	BH12	Total/NA	Solid	8015NM Prep	
890-4145-3	BH12	Total/NA	Solid	8015NM Prep	
890-4145-4	BH12	Total/NA	Solid	8015NM Prep	
MB 880-47116/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47116/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4137-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4137-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47182

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4145-1	BH12	Total/NA	Solid	8015 NM	
890-4145-2	BH12	Total/NA	Solid	8015 NM	
890-4145-3	BH12	Total/NA	Solid	8015 NM	
890-4145-4	BH12	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 46848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4145-1	BH12	Soluble	Solid	DI Leach	
890-4145-2	BH12	Soluble	Solid	DI Leach	
890-4145-3	BH12	Soluble	Solid	DI Leach	
890-4145-4	BH12	Soluble	Solid	DI Leach	
MB 880-46848/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46848/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46848/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4135-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4135-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-4144-A-4-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4144-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 46984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4145-1	BH12	Soluble	Solid	300.0	46848
890-4145-2	BH12	Soluble	Solid	300.0	46848
890-4145-3	BH12	Soluble	Solid	300.0	46848
890-4145-4	BH12	Soluble	Solid	300.0	46848
MB 880-46848/1-A	Method Blank	Soluble	Solid	300.0	46848
LCS 880-46848/2-A	Lab Control Sample	Soluble	Solid	300.0	46848
LCSD 880-46848/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46848
890-4135-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	46848
890-4135-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	46848
890-4144-A-4-B MS	Matrix Spike	Soluble	Solid	300.0	46848
890-4144-A-4-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	46848

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Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Client Sample ID: BH12

Lab Sample ID: 890-4145-1

Date Collected: 02/16/23 10:40

Matrix: Solid

Date Received: 02/17/23 16:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.00 g	5 mL	46948	02/22/23 14:24	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46925	02/23/23 03:48	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47063	02/23/23 12:26	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47182	02/24/23 13:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	47116	02/23/23 17:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46992	02/24/23 01:17	AJ	EET MID
Soluble	Leach	DI Leach			5.03 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		5			46984	02/23/23 00:30	CH	EET MID

Client Sample ID: BH12

Lab Sample ID: 890-4145-2

Date Collected: 02/16/23 10:50

Matrix: Solid

Date Received: 02/17/23 16:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	46948	02/22/23 14:24	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46925	02/23/23 04:14	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47063	02/23/23 12:26	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47182	02/24/23 13:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	47116	02/23/23 17:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46992	02/24/23 01:39	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		10			46984	02/23/23 00:49	CH	EET MID

Client Sample ID: BH12

Lab Sample ID: 890-4145-3

Date Collected: 02/16/23 11:00

Matrix: Solid

Date Received: 02/17/23 16:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	46948	02/22/23 14:24	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46925	02/23/23 04:40	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47063	02/23/23 12:26	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47182	02/24/23 13:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	47116	02/23/23 17:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46992	02/24/23 02:23	AJ	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		10			46984	02/23/23 00:55	CH	EET MID

Client Sample ID: BH12

Lab Sample ID: 890-4145-4

Date Collected: 02/16/23 11:10

Matrix: Solid

Date Received: 02/17/23 16:06

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	46948	02/22/23 14:24	EL	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	46925	02/23/23 05:07	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47063	02/23/23 12:26	AJ	EET MID

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Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Client Sample ID: BH12

Date Collected: 02/16/23 11:10

Date Received: 02/17/23 16:06

Lab Sample ID: 890-4145-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			47182	02/24/23 13:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	47116	02/23/23 17:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46992	02/24/23 02:45	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		1			46984	02/23/23 01:01	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
- 2
- 3
- 4
- 5
- 6
- 7
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- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4145-1
SDG: 03A1987062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4145-1	BH12	Solid	02/16/23 10:40	02/17/23 16:06	12'
890-4145-2	BH12	Solid	02/16/23 10:50	02/17/23 16:06	15'
890-4145-3	BH12	Solid	02/16/23 11:00	02/17/23 16:06	20'
890-4145-4	BH12	Solid	02/16/23 11:10	02/17/23 16:06	26'

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- 14



Environment Testing
Xenco

Chain of Custody

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Work Order No: _____

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Project Manager:	Gilbert Moreno	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	832-541-7719	Email:	gmorreno@Ensolum.com, jim.raley@dvn.com

Work Order Comments	
Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project:	
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other: _____	

Project Name:	North Brushy PW Line	Turn Around	☒ Routine ☐ Rush	Pres. Code	ANALYSIS REQUEST																Preservative Codes																		
Project Number:	03A1987062	Due Date:	5 Day TAT		 890-4145 Chain of Custody																None: NO DI Water: H ₂ O Cool: Cool MeOH: Me HCL: HC HNO ₃ : HN H ₂ SO ₄ : H ₂ NaOH: Na H ₃ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ S ₂ O ₃ : NaSO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC																		
Project Location:	Eddy, NM																																						
Sampler's Name:	Gilbert Moreno																																						
CC #:	9001900347																																						
SAMPLE RECEIPT				Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No																																
Samples Received Intact:				☒ Yes ☐ No	Thermometer ID:	Wm 001																																	
Cooler Custody Seals:				☒ Yes ☐ No	Correction Factor:	-0.2																																	
Sample Custody Seals:				☒ Yes ☐ No	Temperature Reading:	0.4																																	
Total Containers:				Corrected Temperature:				0.2																															
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters																Sample Comments															
BH12		S	02.16.23	10:40	12'	Grab/	1	CHLORIDES (EPA: 300.0)																Incident ID															
BH12		S	02.16.23	10:50	15'	Grab/	1	TPH (8015)																nAPP2231126594															
BH12		S	02.16.23	11:00	20'	Grab/	1	BTEX (8021)																															
BH12		S	02.16.23	11:10	26'	Grab/	1																																

Total 200.7 / 6010 200.8 / 6020:		8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn			
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471			
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		2-17-23 1600			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4145-1

SDG Number: 03A1987062

Login Number: 4145

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4145-1

SDG Number: 03A1987062

Login Number: 4145

List Number: 2

Creator: Teel, Brianna

List Source: Eurofins Midland

List Creation: 02/21/23 11:18 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Devon Team

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 2/27/2023 4:29:39 PM

JOB DESCRIPTION

North Brushy PW Line

SDG NUMBER 03A1987062

JOB NUMBER

890-4144-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad**Job Notes**

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

Generated
2/27/2023 4:29:39 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: North Brushy PW Line

Laboratory Job ID: 890-4144-1
SDG: 03A1987062

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Definitions/Glossary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Job ID: 890-4144-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4144-1

Receipt

The samples were received on 2/17/2023 4:06 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.2°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: BH13 (890-4144-1), BH13 (890-4144-2), BH13 (890-4144-3), BH13 (890-4144-4) and BH13 (890-4144-5).

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-47145 and analytical batch 880-47140 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (MB 880-47117/1-A). Evidence of matrix interferences is not obvious.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Client Sample ID: BH13

Lab Sample ID: 890-4144-1

Date Collected: 02/16/23 11:20

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 13'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/24/23 09:38	02/24/23 19:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/24/23 09:38	02/24/23 19:02	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/24/23 09:38	02/24/23 19:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/24/23 09:38	02/24/23 19:02	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/24/23 09:38	02/24/23 19:02	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/24/23 09:38	02/24/23 19:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130	02/24/23 09:38	02/24/23 19:02	1
1,4-Difluorobenzene (Surr)	109		70 - 130	02/24/23 09:38	02/24/23 19:02	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/27/23 16:41	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/24/23 13:21	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/23/23 17:07	02/24/23 03:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/23/23 17:07	02/24/23 03:51	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/23/23 17:07	02/24/23 03:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	85		70 - 130	02/23/23 17:07	02/24/23 03:51	1
o-Terphenyl	98		70 - 130	02/23/23 17:07	02/24/23 03:51	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7570		50.3		mg/Kg			02/22/23 23:47	10

Client Sample ID: BH13

Lab Sample ID: 890-4144-2

Date Collected: 02/16/23 11:30

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 17'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/24/23 09:38	02/24/23 19:22	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/24/23 09:38	02/24/23 19:22	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/24/23 09:38	02/24/23 19:22	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		02/24/23 09:38	02/24/23 19:22	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/24/23 09:38	02/24/23 19:22	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		02/24/23 09:38	02/24/23 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130	02/24/23 09:38	02/24/23 19:22	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Client Sample ID: BH13

Lab Sample ID: 890-4144-2

Date Collected: 02/16/23 11:30

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 17'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	110		70 - 130	02/24/23 09:38	02/24/23 19:22	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			02/27/23 16:41	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/24/23 13:21	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/23/23 17:07	02/24/23 04:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/23/23 17:07	02/24/23 04:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/23/23 17:07	02/24/23 04:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130				02/23/23 17:07	02/24/23 04:13	1
o-Terphenyl	97		70 - 130				02/23/23 17:07	02/24/23 04:13	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2610		25.1		mg/Kg			02/22/23 23:53	5

Client Sample ID: BH13

Lab Sample ID: 890-4144-3

Date Collected: 02/16/23 11:40

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 22'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/24/23 09:38	02/24/23 19:43	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/24/23 09:38	02/24/23 19:43	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/24/23 09:38	02/24/23 19:43	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		02/24/23 09:38	02/24/23 19:43	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/24/23 09:38	02/24/23 19:43	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		02/24/23 09:38	02/24/23 19:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	114		70 - 130				02/24/23 09:38	02/24/23 19:43	1
1,4-Difluorobenzene (Surr)	107		70 - 130				02/24/23 09:38	02/24/23 19:43	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/27/23 16:41	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			02/24/23 13:21	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Client Sample ID: BH13

Lab Sample ID: 890-4144-3

Date Collected: 02/16/23 11:40

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 22'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		02/23/23 17:07	02/24/23 04:36	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		02/23/23 17:07	02/24/23 04:36	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		02/23/23 17:07	02/24/23 04:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	94		70 - 130				02/23/23 17:07	02/24/23 04:36	1
o-Terphenyl	110		70 - 130				02/23/23 17:07	02/24/23 04:36	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4590		49.8		mg/Kg			02/23/23 00:00	10

Client Sample ID: BH13

Lab Sample ID: 890-4144-4

Date Collected: 02/16/23 11:50

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 25'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/24/23 09:38	02/24/23 20:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/24/23 09:38	02/24/23 20:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/24/23 09:38	02/24/23 20:03	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		02/24/23 09:38	02/24/23 20:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/24/23 09:38	02/24/23 20:03	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		02/24/23 09:38	02/24/23 20:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	113		70 - 130				02/24/23 09:38	02/24/23 20:03	1
1,4-Difluorobenzene (Surr)	110		70 - 130				02/24/23 09:38	02/24/23 20:03	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			02/27/23 16:41	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/24/23 13:21	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/23/23 17:07	02/24/23 04:58	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/23/23 17:07	02/24/23 04:58	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/23/23 17:07	02/24/23 04:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130				02/23/23 17:07	02/24/23 04:58	1
o-Terphenyl	113		70 - 130				02/23/23 17:07	02/24/23 04:58	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Client Sample ID: BH13

Lab Sample ID: 890-4144-4

Date Collected: 02/16/23 11:50

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 25'

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2060		24.8		mg/Kg			02/23/23 00:06	5

Client Sample ID: BH13

Lab Sample ID: 890-4144-5

Date Collected: 02/16/23 12:00

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 30'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		02/24/23 09:38	02/24/23 20:24	1
Toluene	<0.00198	U	0.00198		mg/Kg		02/24/23 09:38	02/24/23 20:24	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		02/24/23 09:38	02/24/23 20:24	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		02/24/23 09:38	02/24/23 20:24	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		02/24/23 09:38	02/24/23 20:24	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		02/24/23 09:38	02/24/23 20:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	116		70 - 130				02/24/23 09:38	02/24/23 20:24	1
1,4-Difluorobenzene (Surr)	108		70 - 130				02/24/23 09:38	02/24/23 20:24	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			02/27/23 16:41	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/24/23 13:21	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/23/23 17:07	02/24/23 05:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/23/23 17:07	02/24/23 05:20	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/23/23 17:07	02/24/23 05:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130				02/23/23 17:07	02/24/23 05:20	1
o-Terphenyl	105		70 - 130				02/23/23 17:07	02/24/23 05:20	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2250		24.8		mg/Kg			02/23/23 00:24	5

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Surrogate Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-4144-1	BH13	113	109
890-4144-2	BH13	114	110
890-4144-3	BH13	114	107
890-4144-4	BH13	113	110
890-4144-5	BH13	116	108
890-4176-A-1-F MS	Matrix Spike	110	110
890-4176-A-1-G MSD	Matrix Spike Duplicate	91	97
LCS 880-47145/1-A	Lab Control Sample	105	113
LCSD 880-47145/2-A	Lab Control Sample Dup	109	114
MB 880-47145/5-A	Method Blank	107	103

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4138-A-1-D MS	Matrix Spike	99	97
890-4138-A-1-E MSD	Matrix Spike Duplicate	101	100
890-4144-1	BH13	85	98
890-4144-2	BH13	86	97
890-4144-3	BH13	94	110
890-4144-4	BH13	100	113
890-4144-5	BH13	93	105
LCS 880-47117/2-A	Lab Control Sample	97	104
LCSD 880-47117/3-A	Lab Control Sample Dup	95	103
MB 880-47117/1-A	Method Blank	132 S1+	155 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-47145/5-A

Matrix: Solid

Analysis Batch: 47140

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/24/23 09:38	02/24/23 13:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/24/23 09:38	02/24/23 13:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/24/23 09:38	02/24/23 13:39	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/24/23 09:38	02/24/23 13:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/24/23 09:38	02/24/23 13:39	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/24/23 09:38	02/24/23 13:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		70 - 130	02/24/23 09:38	02/24/23 13:39	1
1,4-Difluorobenzene (Surr)	103		70 - 130	02/24/23 09:38	02/24/23 13:39	1

Lab Sample ID: LCS 880-47145/1-A

Matrix: Solid

Analysis Batch: 47140

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1052		mg/Kg		105	70 - 130
Toluene	0.100	0.1026		mg/Kg		103	70 - 130
Ethylbenzene	0.100	0.1063		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	0.200	0.2265		mg/Kg		113	70 - 130
o-Xylene	0.100	0.1103		mg/Kg		110	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	105		70 - 130
1,4-Difluorobenzene (Surr)	113		70 - 130

Lab Sample ID: LCSD 880-47145/2-A

Matrix: Solid

Analysis Batch: 47140

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47145

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1112		mg/Kg		111	70 - 130	6	35
Toluene	0.100	0.1085		mg/Kg		108	70 - 130	6	35
Ethylbenzene	0.100	0.1143		mg/Kg		114	70 - 130	7	35
m-Xylene & p-Xylene	0.200	0.2444		mg/Kg		122	70 - 130	8	35
o-Xylene	0.100	0.1181		mg/Kg		118	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	114		70 - 130

Lab Sample ID: 890-4176-A-1-F MS

Matrix: Solid

Analysis Batch: 47140

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47145

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F2 F1	0.100	0.09966		mg/Kg		99	70 - 130
Toluene	<0.00201	U	0.100	0.1008		mg/Kg		100	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-4176-A-1-F MS

Matrix: Solid

Analysis Batch: 47140

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47145

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.100	0.1064		mg/Kg		106	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.201	0.2271		mg/Kg		113	70 - 130
o-Xylene	<0.00201	U	0.100	0.1082		mg/Kg		107	70 - 130
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene (Surr)	110		70 - 130						
1,4-Difluorobenzene (Surr)	110		70 - 130						

Lab Sample ID: 890-4176-A-1-G MSD

Matrix: Solid

Analysis Batch: 47140

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47145

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F2 F1	0.0990	0.06350	F2 F1	mg/Kg		64	70 - 130	44	35
Toluene	<0.00201	U	0.0990	0.07320		mg/Kg		74	70 - 130	32	35
Ethylbenzene	<0.00201	U	0.0990	0.08077		mg/Kg		82	70 - 130	27	35
m-Xylene & p-Xylene	<0.00402	U	0.198	0.1666		mg/Kg		84	70 - 130	31	35
o-Xylene	<0.00201	U	0.0990	0.07791		mg/Kg		78	70 - 130	33	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	91		70 - 130								
1,4-Difluorobenzene (Surr)	97		70 - 130								

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-47117/1-A

Matrix: Solid

Analysis Batch: 46994

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47117

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/23/23 17:07	02/23/23 20:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/23/23 17:07	02/23/23 20:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/23/23 17:07	02/23/23 20:30	1
Surrogate	MB %Recovery	MB Qualifier	Limits						
1-Chlorooctane	132	S1+	70 - 130						
o-Terphenyl	155	S1+	70 - 130						

Lab Sample ID: LCS 880-47117/2-A

Matrix: Solid

Analysis Batch: 46994

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47117

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1169		mg/Kg		117	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1008		mg/Kg		101	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-47117/2-A

Matrix: Solid

Analysis Batch: 46994

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47117

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	97		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: LCSD 880-47117/3-A

Matrix: Solid

Analysis Batch: 46994

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47117

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	1067		mg/Kg		107	70 - 130	9	20
Diesel Range Organics (Over C10-C28)	1000	999.2		mg/Kg		100	70 - 130	1	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	95		70 - 130
o-Terphenyl	103		70 - 130

Lab Sample ID: 890-4138-A-1-D MS

Matrix: Solid

Analysis Batch: 46994

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47117

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1000	969.6		mg/Kg		92	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	1000	936.4		mg/Kg		92	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	99		70 - 130
o-Terphenyl	97		70 - 130

Lab Sample ID: 890-4138-A-1-E MSD

Matrix: Solid

Analysis Batch: 46994

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47117

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1000	997.9		mg/Kg		95	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.8	U	1000	967.7		mg/Kg		95	70 - 130	3	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	101		70 - 130
o-Terphenyl	100		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46848/1-A

Matrix: Solid

Analysis Batch: 46984

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/22/23 22:21	1

Lab Sample ID: LCS 880-46848/2-A

Matrix: Solid

Analysis Batch: 46984

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	232.9		mg/Kg		93	90 - 110

Lab Sample ID: LCSD 880-46848/3-A

Matrix: Solid

Analysis Batch: 46984

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	232.7		mg/Kg		93	90 - 110	0	20

Lab Sample ID: 890-4144-4 MS

Matrix: Solid

Analysis Batch: 46984

Client Sample ID: BH13

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	2060		1240	3404		mg/Kg		108	90 - 110

Lab Sample ID: 890-4144-4 MSD

Matrix: Solid

Analysis Batch: 46984

Client Sample ID: BH13

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	2060		1240	3396		mg/Kg		108	90 - 110	0	20

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QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

GC VOA

Analysis Batch: 47140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4144-1	BH13	Total/NA	Solid	8021B	47145
890-4144-2	BH13	Total/NA	Solid	8021B	47145
890-4144-3	BH13	Total/NA	Solid	8021B	47145
890-4144-4	BH13	Total/NA	Solid	8021B	47145
890-4144-5	BH13	Total/NA	Solid	8021B	47145
MB 880-47145/5-A	Method Blank	Total/NA	Solid	8021B	47145
LCS 880-47145/1-A	Lab Control Sample	Total/NA	Solid	8021B	47145
LCSD 880-47145/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	47145
890-4176-A-1-F MS	Matrix Spike	Total/NA	Solid	8021B	47145
890-4176-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	47145

Prep Batch: 47145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4144-1	BH13	Total/NA	Solid	5035	
890-4144-2	BH13	Total/NA	Solid	5035	
890-4144-3	BH13	Total/NA	Solid	5035	
890-4144-4	BH13	Total/NA	Solid	5035	
890-4144-5	BH13	Total/NA	Solid	5035	
MB 880-47145/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-47145/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-47145/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-4176-A-1-F MS	Matrix Spike	Total/NA	Solid	5035	
890-4176-A-1-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 47359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4144-1	BH13	Total/NA	Solid	Total BTEX	
890-4144-2	BH13	Total/NA	Solid	Total BTEX	
890-4144-3	BH13	Total/NA	Solid	Total BTEX	
890-4144-4	BH13	Total/NA	Solid	Total BTEX	
890-4144-5	BH13	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 46994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4144-1	BH13	Total/NA	Solid	8015B NM	47117
890-4144-2	BH13	Total/NA	Solid	8015B NM	47117
890-4144-3	BH13	Total/NA	Solid	8015B NM	47117
890-4144-4	BH13	Total/NA	Solid	8015B NM	47117
890-4144-5	BH13	Total/NA	Solid	8015B NM	47117
MB 880-47117/1-A	Method Blank	Total/NA	Solid	8015B NM	47117
LCS 880-47117/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47117
LCSD 880-47117/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47117
890-4138-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	47117
890-4138-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	47117

Prep Batch: 47117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4144-1	BH13	Total/NA	Solid	8015NM Prep	
890-4144-2	BH13	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

GC Semi VOA (Continued)

Prep Batch: 47117 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4144-3	BH13	Total/NA	Solid	8015NM Prep	
890-4144-4	BH13	Total/NA	Solid	8015NM Prep	
890-4144-5	BH13	Total/NA	Solid	8015NM Prep	
MB 880-47117/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47117/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47117/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4138-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4138-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4144-1	BH13	Total/NA	Solid	8015 NM	
890-4144-2	BH13	Total/NA	Solid	8015 NM	
890-4144-3	BH13	Total/NA	Solid	8015 NM	
890-4144-4	BH13	Total/NA	Solid	8015 NM	
890-4144-5	BH13	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 46848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4144-1	BH13	Soluble	Solid	DI Leach	
890-4144-2	BH13	Soluble	Solid	DI Leach	
890-4144-3	BH13	Soluble	Solid	DI Leach	
890-4144-4	BH13	Soluble	Solid	DI Leach	
890-4144-5	BH13	Soluble	Solid	DI Leach	
MB 880-46848/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46848/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46848/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4144-4 MS	BH13	Soluble	Solid	DI Leach	
890-4144-4 MSD	BH13	Soluble	Solid	DI Leach	

Analysis Batch: 46984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4144-1	BH13	Soluble	Solid	300.0	46848
890-4144-2	BH13	Soluble	Solid	300.0	46848
890-4144-3	BH13	Soluble	Solid	300.0	46848
890-4144-4	BH13	Soluble	Solid	300.0	46848
890-4144-5	BH13	Soluble	Solid	300.0	46848
MB 880-46848/1-A	Method Blank	Soluble	Solid	300.0	46848
LCS 880-46848/2-A	Lab Control Sample	Soluble	Solid	300.0	46848
LCSD 880-46848/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46848
890-4144-4 MS	BH13	Soluble	Solid	300.0	46848
890-4144-4 MSD	BH13	Soluble	Solid	300.0	46848

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Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Client Sample ID: BH13

Date Collected: 02/16/23 11:20

Date Received: 02/17/23 16:06

Lab Sample ID: 890-4144-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	47145	02/24/23 09:38	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47140	02/24/23 19:02	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47359	02/27/23 16:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			47172	02/24/23 13:21	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47117	02/23/23 17:07	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46994	02/24/23 03:51	AJ	EET MID
Soluble	Leach	DI Leach			4.97 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		10			46984	02/22/23 23:47	CH	EET MID

Client Sample ID: BH13

Date Collected: 02/16/23 11:30

Date Received: 02/17/23 16:06

Lab Sample ID: 890-4144-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	47145	02/24/23 09:38	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47140	02/24/23 19:22	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47359	02/27/23 16:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			47172	02/24/23 13:21	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	47117	02/23/23 17:07	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46994	02/24/23 04:13	AJ	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		5			46984	02/22/23 23:53	CH	EET MID

Client Sample ID: BH13

Date Collected: 02/16/23 11:40

Date Received: 02/17/23 16:06

Lab Sample ID: 890-4144-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	47145	02/24/23 09:38	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47140	02/24/23 19:43	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47359	02/27/23 16:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			47172	02/24/23 13:21	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.04 g	10 mL	47117	02/23/23 17:07	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46994	02/24/23 04:36	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		10			46984	02/23/23 00:00	CH	EET MID

Client Sample ID: BH13

Date Collected: 02/16/23 11:50

Date Received: 02/17/23 16:06

Lab Sample ID: 890-4144-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.99 g	5 mL	47145	02/24/23 09:38	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47140	02/24/23 20:03	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47359	02/27/23 16:41	SM	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Client Sample ID: BH13

Date Collected: 02/16/23 11:50

Date Received: 02/17/23 16:06

Lab Sample ID: 890-4144-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			47172	02/24/23 13:21	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	47117	02/23/23 17:07	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46994	02/24/23 04:58	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		5			46984	02/23/23 00:06	CH	EET MID

Client Sample ID: BH13

Date Collected: 02/16/23 12:00

Date Received: 02/17/23 16:06

Lab Sample ID: 890-4144-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	47145	02/24/23 09:38	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47140	02/24/23 20:24	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47359	02/27/23 16:41	SM	EET MID
Total/NA	Analysis	8015 NM		1			47172	02/24/23 13:21	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	47117	02/23/23 17:07	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46994	02/24/23 05:20	AJ	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	46848	02/21/23 13:16	KS	EET MID
Soluble	Analysis	300.0		5			46984	02/23/23 00:24	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
- 2
- 3
- 4
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Method Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4144-1
SDG: 03A1987062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4144-1	BH13	Solid	02/16/23 11:20	02/17/23 16:06	13'
890-4144-2	BH13	Solid	02/16/23 11:30	02/17/23 16:06	17'
890-4144-3	BH13	Solid	02/16/23 11:40	02/17/23 16:06	22'
890-4144-4	BH13	Solid	02/16/23 11:50	02/17/23 16:06	25'
890-4144-5	BH13	Solid	02/16/23 12:00	02/17/23 16:06	30'

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Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1286
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Gilbert Moreno	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	832-541-7719	Email:	gmoreno@Ensolum.com, jim.raley@dyn.com

Work Order Comments	
Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	Deliverables: EDD ☐ ADAPT ☐ Other:

Project Name:	North Brushy PW Line	Turn Around	☒ Routine ☐ Rush	Pres. Code	
Project Number:	03A1987062	Due Date:	5 Day TAT		
Project Location:	Eddy, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Gilbert Moreno	Wet Ice:	☒ Yes ☐ No		
CC #:	9001900347	Thermometer ID:	1240057		
SAMPLE RECEIPT	Temp Blank:	Yes	No		
Samples Received Intact:	Yes	No	N/A		
Cooler Custody Seals:	Yes	No	N/A		
Sample Custody Seals:	Yes	No	N/A		
Total Containers:	Corrected Temperature:				



Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHLOR	TPH (8	BTEX	Sample Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245, 1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	01.17.23 1604			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4144-1

SDG Number: 03A1987062

Login Number: 4144

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4144-1

SDG Number: 03A1987062

Login Number: 4144

List Number: 2

Creator: Teel, Brianna

List Source: Eurofins Midland

List Creation: 02/21/23 11:18 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Devon Team

Ensolum

601 N. Marienfeld St.

Suite 400

Midland, Texas 79701

Generated 2/28/2023 3:59:36 PM

JOB DESCRIPTION

North Brushy PW Line

SDG NUMBER 03A1987062

JOB NUMBER

890-4149-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
2/28/2023 3:59:36 PM

Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Client: Ensolum
Project/Site: North Brushy PW Line

Laboratory Job ID: 890-4149-1
SDG: 03A1987062

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Definitions/Glossary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Qualifiers

GC VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Job ID: 890-4149-1

Laboratory: Eurofins Carlsbad

Narrative

**Job Narrative
890-4149-1**

Receipt

The samples were received on 2/17/2023 4:06 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.2°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: BH10 (890-4149-1), BH10 (890-4149-2), BH10 (890-4149-3) and BH10 (890-4149-4).

GC VOA

Method 8021B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 880-47012 and analytical batch 880-47064 recovered outside control limits for the following analytes: Benzene, Toluene, Ethylbenzene, m-Xylene & p-Xylene and o-Xylene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-47012 and analytical batch 880-47064 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-47146 and analytical batch 880-47130 was outside the upper control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-46850 and analytical batch 880-47079 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Client Sample ID: BH10

Lab Sample ID: 890-4149-1

Date Collected: 02/16/23 09:00

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U **	0.00199		mg/Kg		02/23/23 13:30	02/24/23 00:25	1
Toluene	<0.00199	U **	0.00199		mg/Kg		02/23/23 13:30	02/24/23 00:25	1
Ethylbenzene	<0.00199	U **	0.00199		mg/Kg		02/23/23 13:30	02/24/23 00:25	1
m-Xylene & p-Xylene	<0.00398	U **	0.00398		mg/Kg		02/23/23 13:30	02/24/23 00:25	1
o-Xylene	<0.00199	U **	0.00199		mg/Kg		02/23/23 13:30	02/24/23 00:25	1
Xylenes, Total	<0.00398	U **	0.00398		mg/Kg		02/23/23 13:30	02/24/23 00:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	213	S1+	70 - 130	02/23/23 13:30	02/24/23 00:25	1
1,4-Difluorobenzene (Surr)	66	S1-	70 - 130	02/23/23 13:30	02/24/23 00:25	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/28/23 16:48	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/24/23 13:40	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/24/23 04:36	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/24/23 04:36	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/24/23 04:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	86		70 - 130	02/23/23 17:02	02/24/23 04:36	1
o-Terphenyl	91		70 - 130	02/23/23 17:02	02/24/23 04:36	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11800	F1	99.6		mg/Kg			02/23/23 14:33	20

Client Sample ID: BH10

Lab Sample ID: 890-4149-2

Date Collected: 02/16/23 09:10

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 9'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U **	0.00199		mg/Kg		02/23/23 13:30	02/24/23 00:51	1
Toluene	<0.00199	U **	0.00199		mg/Kg		02/23/23 13:30	02/24/23 00:51	1
Ethylbenzene	<0.00199	U **	0.00199		mg/Kg		02/23/23 13:30	02/24/23 00:51	1
m-Xylene & p-Xylene	<0.00398	U **	0.00398		mg/Kg		02/23/23 13:30	02/24/23 00:51	1
o-Xylene	<0.00199	U **	0.00199		mg/Kg		02/23/23 13:30	02/24/23 00:51	1
Xylenes, Total	<0.00398	U **	0.00398		mg/Kg		02/23/23 13:30	02/24/23 00:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	276	S1+	70 - 130	02/23/23 13:30	02/24/23 00:51	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Client Sample ID: BH10

Lab Sample ID: 890-4149-2

Date Collected: 02/16/23 09:10

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 9'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	98		70 - 130	02/23/23 13:30	02/24/23 00:51	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/28/23 16:48	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/24/23 13:40	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/24/23 04:58	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/24/23 04:58	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/23/23 17:02	02/24/23 04:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	80		70 - 130				02/23/23 17:02	02/24/23 04:58	1
o-Terphenyl	85		70 - 130				02/23/23 17:02	02/24/23 04:58	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8280		50.5		mg/Kg			02/23/23 14:51	10

Client Sample ID: BH10

Lab Sample ID: 890-4149-3

Date Collected: 02/16/23 09:20

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 15'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *	0.00199		mg/Kg		02/23/23 13:30	02/24/23 01:17	1
Toluene	<0.00199	U *	0.00199		mg/Kg		02/23/23 13:30	02/24/23 01:17	1
Ethylbenzene	<0.00199	U *	0.00199		mg/Kg		02/23/23 13:30	02/24/23 01:17	1
m-Xylene & p-Xylene	<0.00398	U *	0.00398		mg/Kg		02/23/23 13:30	02/24/23 01:17	1
o-Xylene	<0.00199	U *	0.00199		mg/Kg		02/23/23 13:30	02/24/23 01:17	1
Xylenes, Total	<0.00398	U *	0.00398		mg/Kg		02/23/23 13:30	02/24/23 01:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	207	S1+	70 - 130	02/23/23 13:30	02/24/23 01:17	1
1,4-Difluorobenzene (Surr)	64	S1-	70 - 130	02/23/23 13:30	02/24/23 01:17	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			02/28/23 16:48	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			02/24/23 13:40	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Client Sample ID: BH10

Lab Sample ID: 890-4149-3

Date Collected: 02/16/23 09:20

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 15'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		02/24/23 09:54	02/24/23 05:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		02/24/23 09:54	02/24/23 05:20	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		02/24/23 09:54	02/24/23 05:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	100		70 - 130				02/24/23 09:54	02/24/23 05:20	1
o-Terphenyl	102		70 - 130				02/24/23 09:54	02/24/23 05:20	1

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	642		4.96		mg/Kg			02/23/23 14:57	1

Client Sample ID: BH10

Lab Sample ID: 890-4149-4

Date Collected: 02/16/23 09:30

Matrix: Solid

Date Received: 02/17/23 16:06

Sample Depth: 20'

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U **	0.00201		mg/Kg		02/23/23 13:30	02/24/23 01:44	1
Toluene	<0.00201	U **	0.00201		mg/Kg		02/23/23 13:30	02/24/23 01:44	1
Ethylbenzene	<0.00201	U **	0.00201		mg/Kg		02/23/23 13:30	02/24/23 01:44	1
m-Xylene & p-Xylene	<0.00402	U **	0.00402		mg/Kg		02/23/23 13:30	02/24/23 01:44	1
o-Xylene	<0.00201	U **	0.00201		mg/Kg		02/23/23 13:30	02/24/23 01:44	1
Xylenes, Total	<0.00402	U **	0.00402		mg/Kg		02/23/23 13:30	02/24/23 01:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	198	S1+	70 - 130				02/23/23 13:30	02/24/23 01:44	1
1,4-Difluorobenzene (Surr)	80		70 - 130				02/23/23 13:30	02/24/23 01:44	1

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			02/28/23 16:48	1

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			02/24/23 13:40	1

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/24/23 09:54	02/24/23 05:41	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/24/23 09:54	02/24/23 05:41	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/24/23 09:54	02/24/23 05:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	84		70 - 130				02/24/23 09:54	02/24/23 05:41	1
o-Terphenyl	92		70 - 130				02/24/23 09:54	02/24/23 05:41	1

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Client Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Client Sample ID: BH10
Date Collected: 02/16/23 09:30
Date Received: 02/17/23 16:06
Sample Depth: 20'

Lab Sample ID: 890-4149-4
Matrix: Solid

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	521		5.00		mg/Kg			02/23/23 15:41	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Surrogate Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
880-25104-A-2-B MS	Matrix Spike	215 S1+	82
880-25104-A-2-C MSD	Matrix Spike Duplicate	235 S1+	76
890-4149-1	BH10	213 S1+	66 S1-
890-4149-2	BH10	276 S1+	98
890-4149-3	BH10	207 S1+	64 S1-
890-4149-4	BH10	198 S1+	80
LCS 880-47012/1-A	Lab Control Sample	227 S1+	72
LCSD 880-47012/2-A	Lab Control Sample Dup	229 S1+	81
MB 880-47012/5-A	Method Blank	151 S1+	67 S1-
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-4137-A-1-D MS	Matrix Spike	108	102
890-4137-A-1-E MSD	Matrix Spike Duplicate	102	97
890-4147-A-1-G MS	Matrix Spike	118	99
890-4147-A-1-H MSD	Matrix Spike Duplicate	115	99
890-4149-1	BH10	86	91
890-4149-2	BH10	80	85
890-4149-3	BH10	100	102
890-4149-4	BH10	84	92
LCS 880-47116/2-A	Lab Control Sample	111	109
LCS 880-47146/2-A	Lab Control Sample	111	99
LCSD 880-47116/3-A	Lab Control Sample Dup	102	103
LCSD 880-47146/3-A	Lab Control Sample Dup	114	104
MB 880-47116/1-A	Method Blank	135 S1+	138 S1+
MB 880-47146/1-A	Method Blank	139 S1+	134 S1+
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-47012/5-A

Matrix: Solid

Analysis Batch: 47064

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47012

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/23/23 11:00	02/23/23 15:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/23/23 11:00	02/23/23 15:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/23/23 11:00	02/23/23 15:38	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		02/23/23 11:00	02/23/23 15:38	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/23/23 11:00	02/23/23 15:38	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		02/23/23 11:00	02/23/23 15:38	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	151	S1+	70 - 130	02/23/23 11:00	02/23/23 15:38	1
1,4-Difluorobenzene (Surr)	67	S1-	70 - 130	02/23/23 11:00	02/23/23 15:38	1

Lab Sample ID: LCS 880-47012/1-A

Matrix: Solid

Analysis Batch: 47064

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47012

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1735	*+	mg/Kg		174	70 - 130
Toluene	0.100	0.1746	*+	mg/Kg		175	70 - 130
Ethylbenzene	0.100	0.1732	*+	mg/Kg		173	70 - 130
m-Xylene & p-Xylene	0.200	0.3532	*+	mg/Kg		177	70 - 130
o-Xylene	0.100	0.1600	*+	mg/Kg		160	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	227	S1+	70 - 130
1,4-Difluorobenzene (Surr)	72		70 - 130

Lab Sample ID: LCSD 880-47012/2-A

Matrix: Solid

Analysis Batch: 47064

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47012

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1387	*+	mg/Kg		139	70 - 130	22	35
Toluene	0.100	0.1457	*+	mg/Kg		146	70 - 130	18	35
Ethylbenzene	0.100	0.1526	*+	mg/Kg		153	70 - 130	13	35
m-Xylene & p-Xylene	0.200	0.3120	*+	mg/Kg		156	70 - 130	12	35
o-Xylene	0.100	0.1487	*+	mg/Kg		149	70 - 130	7	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	229	S1+	70 - 130
1,4-Difluorobenzene (Surr)	81		70 - 130

Lab Sample ID: 880-25104-A-2-B MS

Matrix: Solid

Analysis Batch: 47064

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47012

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00199	U ** F1	0.101	0.1519	F1	mg/Kg		151	70 - 130
Toluene	<0.00199	U ** F1	0.101	0.1448	F1	mg/Kg		144	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 880-25104-A-2-B MS

Matrix: Solid

Analysis Batch: 47064

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47012

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Ethylbenzene	<0.00199	U *+ F1	0.101	0.1386	F1	mg/Kg		138	70 - 130	
m-Xylene & p-Xylene	<0.00398	U *+ F1	0.201	0.2810	F1	mg/Kg		140	70 - 130	
o-Xylene	<0.00199	U *+ F1	0.101	0.1275		mg/Kg		127	70 - 130	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	215	S1+	70 - 130
1,4-Difluorobenzene (Surr)	82		70 - 130

Lab Sample ID: 880-25104-A-2-C MSD

Matrix: Solid

Analysis Batch: 47064

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47012

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits		RPD	Limit
Benzene	<0.00199	U *+ F1	0.0990	0.1597	F1	mg/Kg		161	70 - 130		5	35
Toluene	<0.00199	U *+ F1	0.0990	0.1509	F1	mg/Kg		152	70 - 130		4	35
Ethylbenzene	<0.00199	U *+ F1	0.0990	0.1499	F1	mg/Kg		151	70 - 130		8	35
m-Xylene & p-Xylene	<0.00398	U *+ F1	0.198	0.3011	F1	mg/Kg		152	70 - 130		7	35
o-Xylene	<0.00199	U *+ F1	0.0990	0.1474	F1	mg/Kg		149	70 - 130		14	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	235	S1+	70 - 130
1,4-Difluorobenzene (Surr)	76		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-47116/1-A

Matrix: Solid

Analysis Batch: 46992

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47116

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/23/23 17:02	02/23/23 20:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/23/23 17:02	02/23/23 20:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/23/23 17:02	02/23/23 20:30	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1-Chlorooctane	135	S1+	70 - 130	02/23/23 17:02	02/23/23 20:30	1
o-Terphenyl	138	S1+	70 - 130	02/23/23 17:02	02/23/23 20:30	1

Lab Sample ID: LCS 880-47116/2-A

Matrix: Solid

Analysis Batch: 46992

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47116

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Gasoline Range Organics (GRO)-C6-C10	1000	935.8		mg/Kg		94	70 - 130	
Diesel Range Organics (Over C10-C28)	1000	1034		mg/Kg		103	70 - 130	

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-47116/2-A

Matrix: Solid

Analysis Batch: 46992

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47116

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	111		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: LCSD 880-47116/3-A

Matrix: Solid

Analysis Batch: 46992

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47116

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	849.0		mg/Kg		85	70 - 130	10	20
Diesel Range Organics (Over C10-C28)	1000	922.0		mg/Kg		92	70 - 130	11	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	103		70 - 130

Lab Sample ID: 890-4137-A-1-D MS

Matrix: Solid

Analysis Batch: 46992

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47116

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1000	1169		mg/Kg		114	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	1000	934.3		mg/Kg		93	70 - 130		

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	108		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: 890-4137-A-1-E MSD

Matrix: Solid

Analysis Batch: 46992

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47116

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	1000	1116		mg/Kg		108	70 - 130	5	20
Diesel Range Organics (Over C10-C28)	<49.8	U	1000	897.5		mg/Kg		90	70 - 130	4	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	97		70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 880-47146/1-A

Matrix: Solid

Analysis Batch: 47130

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 47146

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		02/24/23 08:14	02/24/23 08:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		02/24/23 08:14	02/24/23 08:40	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		02/24/23 08:14	02/24/23 08:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	139	S1+	70 - 130				02/24/23 08:14	02/24/23 08:40	1
o-Terphenyl	134	S1+	70 - 130				02/24/23 08:14	02/24/23 08:40	1

Lab Sample ID: LCS 880-47146/2-A

Matrix: Solid

Analysis Batch: 47130

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 47146

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	915.9		mg/Kg		92	70 - 130
Diesel Range Organics (Over C10-C28)	1000	925.7		mg/Kg		93	70 - 130
Surrogate	%Recovery	Qualifier	Limits				
1-Chlorooctane	111		70 - 130				
o-Terphenyl	99		70 - 130				

Lab Sample ID: LCSD 880-47146/3-A

Matrix: Solid

Analysis Batch: 47130

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 47146

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	972.6		mg/Kg		97	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	1000	957.1		mg/Kg		96	70 - 130	3	20
Surrogate	%Recovery	Qualifier	Limits						
1-Chlorooctane	114		70 - 130						
o-Terphenyl	104		70 - 130						

Lab Sample ID: 890-4147-A-1-G MS

Matrix: Solid

Analysis Batch: 47130

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47146

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	997	1106		mg/Kg		111	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	997	942.9		mg/Kg		92	70 - 130

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-4147-A-1-G MS

Matrix: Solid

Analysis Batch: 47130

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 47146

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	118		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: 890-4147-A-1-H MSD

Matrix: Solid

Analysis Batch: 47130

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 47146

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	1077		mg/Kg		108	70 - 130	3	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	938.5		mg/Kg		92	70 - 130	0	20
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1-Chlorooctane	115		70 - 130								
o-Terphenyl	99		70 - 130								

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-46850/1-A

Matrix: Solid

Analysis Batch: 47079

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			02/23/23 12:48	1

Lab Sample ID: LCS 880-46850/2-A

Matrix: Solid

Analysis Batch: 47079

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	237.9		mg/Kg		95	90 - 110

Lab Sample ID: LCSD 880-46850/3-A

Matrix: Solid

Analysis Batch: 47079

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	238.3		mg/Kg		95	90 - 110	0	20

Lab Sample ID: 890-4149-1 MS

Matrix: Solid

Analysis Batch: 47079

Client Sample ID: BH10

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	11800	F1	4980	17700	F1	mg/Kg		118	90 - 110

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QC Sample Results

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-4149-1 MSD					Client Sample ID: BH10							
Matrix: Solid					Prep Type: Soluble							
Analysis Batch: 47079												
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chloride	11800	F1	4980	18280	F1	mg/Kg		130	90 - 110	3	20	

QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

GC VOA

Prep Batch: 47012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4149-1	BH10	Total/NA	Solid	5035	
890-4149-2	BH10	Total/NA	Solid	5035	
890-4149-3	BH10	Total/NA	Solid	5035	
890-4149-4	BH10	Total/NA	Solid	5035	
MB 880-47012/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-47012/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-47012/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-25104-A-2-B MS	Matrix Spike	Total/NA	Solid	5035	
880-25104-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 47064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4149-1	BH10	Total/NA	Solid	8021B	47012
890-4149-2	BH10	Total/NA	Solid	8021B	47012
890-4149-3	BH10	Total/NA	Solid	8021B	47012
890-4149-4	BH10	Total/NA	Solid	8021B	47012
MB 880-47012/5-A	Method Blank	Total/NA	Solid	8021B	47012
LCS 880-47012/1-A	Lab Control Sample	Total/NA	Solid	8021B	47012
LCSD 880-47012/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	47012
880-25104-A-2-B MS	Matrix Spike	Total/NA	Solid	8021B	47012
880-25104-A-2-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	47012

Analysis Batch: 47484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4149-1	BH10	Total/NA	Solid	Total BTEX	
890-4149-2	BH10	Total/NA	Solid	Total BTEX	
890-4149-3	BH10	Total/NA	Solid	Total BTEX	
890-4149-4	BH10	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 46992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4149-1	BH10	Total/NA	Solid	8015B NM	47116
890-4149-2	BH10	Total/NA	Solid	8015B NM	47116
890-4149-3	BH10	Total/NA	Solid	8015B NM	47146
890-4149-4	BH10	Total/NA	Solid	8015B NM	47146
MB 880-47116/1-A	Method Blank	Total/NA	Solid	8015B NM	47116
LCS 880-47116/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47116
LCSD 880-47116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47116
890-4137-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	47116
890-4137-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	47116

Prep Batch: 47116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4149-1	BH10	Total/NA	Solid	8015NM Prep	
890-4149-2	BH10	Total/NA	Solid	8015NM Prep	
MB 880-47116/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47116/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47116/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4137-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

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QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

GC Semi VOA (Continued)

Prep Batch: 47116 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4137-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-47146/1-A	Method Blank	Total/NA	Solid	8015B NM	47146
LCS 880-47146/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47146
LCSD 880-47146/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47146
890-4147-A-1-G MS	Matrix Spike	Total/NA	Solid	8015B NM	47146
890-4147-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	47146

Prep Batch: 47146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4149-3	BH10	Total/NA	Solid	8015NM Prep	
890-4149-4	BH10	Total/NA	Solid	8015NM Prep	
MB 880-47146/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47146/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47146/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-4147-A-1-G MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-4147-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4149-1	BH10	Total/NA	Solid	8015 NM	
890-4149-2	BH10	Total/NA	Solid	8015 NM	
890-4149-3	BH10	Total/NA	Solid	8015 NM	
890-4149-4	BH10	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 46850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4149-1	BH10	Soluble	Solid	DI Leach	
890-4149-2	BH10	Soluble	Solid	DI Leach	
890-4149-3	BH10	Soluble	Solid	DI Leach	
890-4149-4	BH10	Soluble	Solid	DI Leach	
MB 880-46850/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-46850/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-46850/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-4149-1 MS	BH10	Soluble	Solid	DI Leach	
890-4149-1 MSD	BH10	Soluble	Solid	DI Leach	

Analysis Batch: 47079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4149-1	BH10	Soluble	Solid	300.0	46850
890-4149-2	BH10	Soluble	Solid	300.0	46850
890-4149-3	BH10	Soluble	Solid	300.0	46850
890-4149-4	BH10	Soluble	Solid	300.0	46850
MB 880-46850/1-A	Method Blank	Soluble	Solid	300.0	46850
LCS 880-46850/2-A	Lab Control Sample	Soluble	Solid	300.0	46850
LCSD 880-46850/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	46850
890-4149-1 MS	BH10	Soluble	Solid	300.0	46850

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QC Association Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

HPLC/IC (Continued)

Analysis Batch: 47079 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4149-1 MSD	BH10	Soluble	Solid	300.0	46850

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Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Client Sample ID: BH10

Date Collected: 02/16/23 09:00

Date Received: 02/17/23 16:06

Lab Sample ID: 890-4149-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	47012	02/23/23 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47064	02/24/23 00:25	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			47484	02/28/23 16:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47184	02/24/23 13:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	47116	02/23/23 17:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46992	02/24/23 04:36	AJ	EET MID
Soluble	Leach	DI Leach			5.02 g	50 mL	46850	02/22/23 10:00	KS	EET MID
Soluble	Analysis	300.0		20			47079	02/23/23 14:33	CH	EET MID

Client Sample ID: BH10

Date Collected: 02/16/23 09:10

Date Received: 02/17/23 16:06

Lab Sample ID: 890-4149-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.02 g	5 mL	47012	02/23/23 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47064	02/24/23 00:51	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			47484	02/28/23 16:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47184	02/24/23 13:40	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	47116	02/23/23 17:02	AM	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46992	02/24/23 04:58	AJ	EET MID
Soluble	Leach	DI Leach			4.95 g	50 mL	46850	02/22/23 10:00	KS	EET MID
Soluble	Analysis	300.0		10			47079	02/23/23 14:51	CH	EET MID

Client Sample ID: BH10

Date Collected: 02/16/23 09:20

Date Received: 02/17/23 16:06

Lab Sample ID: 890-4149-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.03 g	5 mL	47012	02/23/23 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47064	02/24/23 01:17	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			47484	02/28/23 16:48	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47184	02/24/23 13:40	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46992	02/24/23 05:20	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.03 g	10 mL	47146	02/24/23 09:54	AM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	46850	02/22/23 10:00	KS	EET MID
Soluble	Analysis	300.0		1			47079	02/23/23 14:57	CH	EET MID

Client Sample ID: BH10

Date Collected: 02/16/23 09:30

Date Received: 02/17/23 16:06

Lab Sample ID: 890-4149-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.98 g	5 mL	47012	02/23/23 13:30	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47064	02/24/23 01:44	AJ	EET MID
Total/NA	Analysis	Total BTEX		1			47484	02/28/23 16:48	AJ	EET MID

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Client Sample ID: BH10

Date Collected: 02/16/23 09:30

Date Received: 02/17/23 16:06

Lab Sample ID: 890-4149-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1			47184	02/24/23 13:40	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	46992	02/24/23 05:41	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47146	02/24/23 09:54	AM	EET MID
Soluble	Leach	DI Leach			5 g	50 mL	46850	02/22/23 10:00	KS	EET MID
Soluble	Analysis	300.0		1			47079	02/23/23 15:41	CH	EET MID

Laboratory References:
EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

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Method Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EET MID
Total BTEX	Total BTEX Calculation	TAL SOP	EET MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EET MID
300.0	Anions, Ion Chromatography	EPA	EET MID
5035	Closed System Purge and Trap	SW846	EET MID
8015NM Prep	Microextraction	SW846	EET MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EET MID

Protocol References:

- ASTM = ASTM International
- EPA = US Environmental Protection Agency
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: North Brushy PW Line

Job ID: 890-4149-1
SDG: 03A1987062

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4149-1	BH10	Solid	02/16/23 09:00	02/17/23 16:06	5'
890-4149-2	BH10	Solid	02/16/23 09:10	02/17/23 16:06	9'
890-4149-3	BH10	Solid	02/16/23 09:20	02/17/23 16:06	15'
890-4149-4	BH10	Solid	02/16/23 09:30	02/17/23 16:06	20'

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Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Gilbert Moreno	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	832-541-7719	Email:	gmorano@Ensolum.com, jim.raley@odvn.com

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐	
State of Project: _____	
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other: _____	

Project Name:	North Brushy PW Line	Turn Around	☒ Routine ☐ Rush	Pres. Code	
Project Number:	03A1987062	Due Date:	5 Day TAT		
Project Location:	Eddy, NM	TAT starts the day received by the lab, if received by 4:30pm			
Sampler's Name:	Gilbert Moreno				
CC #:	9001900347				
SAMPLE RECEIPT	Temp Blank: ☒ Yes ☒ No	Well loc. ☒ Yes ☒ No			
Samples Received Intact:	☒ Yes ☒ No	Thermometer ID: 110003			
Cooler Custody Seals:	☒ Yes ☒ No	Correction Factor: -0.2			
Sample Custody Seals:	☒ Yes ☒ No	Temperature Reading: -0.4			
Total Containers:		Corrected Temperature: 0.2			



890-41 49 Chain of Custody

Sample Identification							Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	CHLOR	TPH (80	BTEX (6	Sample Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
BH10		S	02.16.23	9:00	5'	Grab/	1	X	X	X																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																</

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM	Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed		8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		02.17.23 16:06			

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4149-1

SDG Number: 03A1987062

Login Number: 4149

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	N/A	Refer to Job Narrative for details.
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4149-1

SDG Number: 03A1987062

Login Number: 4149

List Number: 2

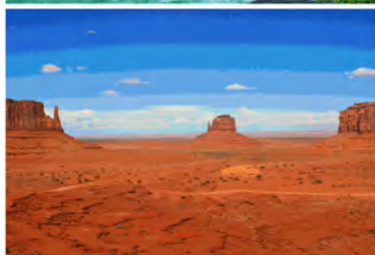
Creator: Kramer, Jessica

List Source: Eurofins Midland

List Creation: 02/22/23 08:24 AM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Report to:
Gilbert Moreno



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

WPX Energy - Carlsbad

Project Name: North Brushy PW Line

Work Order: E306080

Job Number: 01058-0007

Received: 6/9/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
6/15/23

5796 U.S. Hwy 64
Farmington, NM 87401

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Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
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Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 6/15/23

Gilbert Moreno
5315 Buena Vista Dr
Carlsbad, NM 88220



Project Name: North Brushy PW Line
Workorder: E306080
Date Received: 6/9/2023 6:00:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/9/2023 6:00:00AM, under the Project Name: North Brushy PW Line.

The analytical test results summarized in this report with the Project Name: North Brushy PW Line apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

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Sample Summary

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/15/23 13:20

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH17 0.5'	E306080-01A	Soil	06/07/23	06/09/23	Glass Jar, 4 oz.
BH17 4'	E306080-02A	Soil	06/07/23	06/09/23	Glass Jar, 4 oz.
BH17 9'	E306080-03A	Soil	06/07/23	06/09/23	Glass Jar, 4 oz.
BH17 14'	E306080-04A	Soil	06/07/23	06/09/23	Glass Jar, 4 oz.
BH17 18'	E306080-05A	Soil	06/07/23	06/09/23	Glass Jar, 4 oz.
BH17 24'	E306080-06A	Soil	06/07/23	06/09/23	Glass Jar, 4 oz.
BH17 30'	E306080-07A	Soil	06/07/23	06/09/23	Glass Jar, 4 oz.



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
6/15/2023 1:20:48PM

BH17 0.5'

E306080-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2323073	
Benzene	ND	0.0250	1	06/09/23	06/13/23	
Ethylbenzene	ND	0.0250	1	06/09/23	06/13/23	
Toluene	ND	0.0250	1	06/09/23	06/13/23	
o-Xylene	ND	0.0250	1	06/09/23	06/13/23	
p,m-Xylene	ND	0.0500	1	06/09/23	06/13/23	
Total Xylenes	ND	0.0250	1	06/09/23	06/13/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	95.1 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2323073	
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/09/23	06/13/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	89.8 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KM		Batch: 2323076	
Diesel Range Organics (C10-C28)	ND	25.0	1	06/09/23	06/09/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/09/23	06/09/23	
<i>Surrogate: n-Nonane</i>						
	69.5 %	50-200		06/09/23	06/09/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: BA		Batch: 2324008	
Chloride	3750	40.0	2	06/12/23	06/14/23	



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
6/15/2023 1:20:48PM

BH17 4'

E306080-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2323073
Benzene	ND	0.0250	1	06/09/23	06/13/23	
Ethylbenzene	ND	0.0250	1	06/09/23	06/13/23	
Toluene	ND	0.0250	1	06/09/23	06/13/23	
o-Xylene	ND	0.0250	1	06/09/23	06/13/23	
p,m-Xylene	ND	0.0500	1	06/09/23	06/13/23	
Total Xylenes	ND	0.0250	1	06/09/23	06/13/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	91.6 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2323073
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/09/23	06/13/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.1 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KM		Batch: 2323076
Diesel Range Organics (C10-C28)	ND	25.0	1	06/09/23	06/09/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/09/23	06/09/23	
<i>Surrogate: n-Nonane</i>						
	70.0 %	50-200		06/09/23	06/09/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2324008
Chloride	ND	20.0	1	06/12/23	06/14/23	



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
6/15/2023 1:20:48PM

BH17 9'

E306080-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2323073	
Benzene	ND	0.0250	1	06/09/23	06/13/23	
Ethylbenzene	ND	0.0250	1	06/09/23	06/13/23	
Toluene	ND	0.0250	1	06/09/23	06/13/23	
o-Xylene	ND	0.0250	1	06/09/23	06/13/23	
p,m-Xylene	ND	0.0500	1	06/09/23	06/13/23	
Total Xylenes	ND	0.0250	1	06/09/23	06/13/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>	<i>92.1 %</i>	<i>70-130</i>		<i>06/09/23</i>	<i>06/13/23</i>	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2323073	
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/09/23	06/13/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>	<i>94.8 %</i>	<i>70-130</i>		<i>06/09/23</i>	<i>06/13/23</i>	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM		Batch: 2323076	
Diesel Range Organics (C10-C28)	ND	25.0	1	06/09/23	06/09/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/09/23	06/09/23	
<i>Surrogate: n-Nonane</i>	<i>72.5 %</i>	<i>50-200</i>		<i>06/09/23</i>	<i>06/09/23</i>	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2324008	
Chloride	92.0	20.0	1	06/12/23	06/14/23	



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
6/15/2023 1:20:48PM

BH17 14'

E306080-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2323073
Benzene	ND	0.0250	1	06/09/23	06/13/23	
Ethylbenzene	ND	0.0250	1	06/09/23	06/13/23	
Toluene	ND	0.0250	1	06/09/23	06/13/23	
o-Xylene	ND	0.0250	1	06/09/23	06/13/23	
p,m-Xylene	ND	0.0500	1	06/09/23	06/13/23	
Total Xylenes	ND	0.0250	1	06/09/23	06/13/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.0 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2323073
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/09/23	06/13/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	91.9 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KM		Batch: 2323076
Diesel Range Organics (C10-C28)	ND	25.0	1	06/09/23	06/09/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/09/23	06/09/23	
<i>Surrogate: n-Nonane</i>						
	68.4 %	50-200		06/09/23	06/09/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2324008
Chloride	3620	40.0	2	06/12/23	06/14/23	



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
6/15/2023 1:20:48PM

BH17 18'

E306080-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2323073
Benzene	ND	0.0250	1	06/09/23	06/13/23	
Ethylbenzene	ND	0.0250	1	06/09/23	06/13/23	
Toluene	ND	0.0250	1	06/09/23	06/13/23	
o-Xylene	ND	0.0250	1	06/09/23	06/13/23	
p,m-Xylene	ND	0.0500	1	06/09/23	06/13/23	
Total Xylenes	ND	0.0250	1	06/09/23	06/13/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	91.4 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2323073
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/09/23	06/13/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	92.9 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KM		Batch: 2323076
Diesel Range Organics (C10-C28)	ND	25.0	1	06/09/23	06/09/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/09/23	06/09/23	
<i>Surrogate: n-Nonane</i>						
	69.0 %	50-200		06/09/23	06/09/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2324008
Chloride	2880	40.0	2	06/12/23	06/14/23	



Sample Data

WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220	Project Name: North Brushy PW Line Project Number: 01058-0007 Project Manager: Gilbert Moreno	Reported: 6/15/2023 1:20:48PM
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BH17 24'

E306080-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2323073	
Benzene	ND	0.0250	1	06/09/23	06/13/23	
Ethylbenzene	ND	0.0250	1	06/09/23	06/13/23	
Toluene	ND	0.0250	1	06/09/23	06/13/23	
o-Xylene	ND	0.0250	1	06/09/23	06/13/23	
p,m-Xylene	ND	0.0500	1	06/09/23	06/13/23	
Total Xylenes	ND	0.0250	1	06/09/23	06/13/23	
Surrogate: 4-Bromochlorobenzene-PID	92.8 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2323073	
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/09/23	06/13/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	94.8 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM		Batch: 2323076	
Diesel Range Organics (C10-C28)	ND	25.0	1	06/09/23	06/09/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/09/23	06/09/23	
Surrogate: n-Nonane	69.8 %	50-200		06/09/23	06/09/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2324008	
Chloride	3530	40.0	2	06/12/23	06/14/23	



Sample Data

WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220	Project Name: North Brushy PW Line Project Number: 01058-0007 Project Manager: Gilbert Moreno	Reported: 6/15/2023 1:20:48PM
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BH17 30'

E306080-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B	mg/kg	mg/kg	Analyst: SL		Batch: 2323073	
Benzene	ND	0.0250	1	06/09/23	06/13/23	
Ethylbenzene	ND	0.0250	1	06/09/23	06/13/23	
Toluene	ND	0.0250	1	06/09/23	06/13/23	
o-Xylene	ND	0.0250	1	06/09/23	06/13/23	
p,m-Xylene	ND	0.0500	1	06/09/23	06/13/23	
Total Xylenes	ND	0.0250	1	06/09/23	06/13/23	
Surrogate: 4-Bromochlorobenzene-PID		93.4 %	70-130	06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - GRO	mg/kg	mg/kg	Analyst: SL		Batch: 2323073	
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/09/23	06/13/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID		92.5 %	70-130	06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO	mg/kg	mg/kg	Analyst: KM		Batch: 2323076	
Diesel Range Organics (C10-C28)	ND	25.0	1	06/09/23	06/09/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/09/23	06/09/23	
Surrogate: n-Nonane		66.0 %	50-200	06/09/23	06/09/23	
Anions by EPA 300.0/9056A	mg/kg	mg/kg	Analyst: BA		Batch: 2324008	
Chloride	4600	40.0	2	06/12/23	06/14/23	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:20:48PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2323073-BLK1) Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	6.99		8.00		87.4	70-130			

LCS (2323073-BS1) Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	4.58	0.0250	5.00		91.5	70-130			
Ethylbenzene	4.57	0.0250	5.00		91.3	70-130			
Toluene	4.71	0.0250	5.00		94.2	70-130			
o-Xylene	4.70	0.0250	5.00		93.9	70-130			
p,m-Xylene	9.25	0.0500	10.0		92.5	70-130			
Total Xylenes	13.9	0.0250	15.0		93.0	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.45		8.00		93.2	70-130			

Matrix Spike (2323073-MS1) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	4.68	0.0250	5.00	ND	93.5	54-133			
Ethylbenzene	4.63	0.0250	5.00	ND	92.7	61-133			
Toluene	4.78	0.0250	5.00	ND	95.7	61-130			
o-Xylene	4.75	0.0250	5.00	ND	95.1	63-131			
p,m-Xylene	9.43	0.0500	10.0	ND	94.3	63-131			
Total Xylenes	14.2	0.0250	15.0	ND	94.5	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.41		8.00		92.7	70-130			

Matrix Spike Dup (2323073-MSD1) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	4.99	0.0250	5.00	ND	99.7	54-133	6.42	20	
Ethylbenzene	4.95	0.0250	5.00	ND	99.1	61-133	6.67	20	
Toluene	5.10	0.0250	5.00	ND	102	61-130	6.42	20	
o-Xylene	5.07	0.0250	5.00	ND	101	63-131	6.49	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	6.65	20	
Total Xylenes	15.1	0.0250	15.0	ND	101	63-131	6.60	20	
Surrogate: 4-Bromochlorobenzene-PID	7.51		8.00		93.8	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:20:48PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2323073-BLK1) Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.39		8.00		92.4	70-130			

LCS (2323073-BS2) Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	47.4	20.0	50.0		94.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.41		8.00		92.7	70-130			

Matrix Spike (2323073-MS2) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	46.1	20.0	50.0	ND	92.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.43		8.00		92.9	70-130			

Matrix Spike Dup (2323073-MSD2) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	46.2	20.0	50.0	ND	92.4	70-130	0.213	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.54		8.00		94.3	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:20:48PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2323076-BLK1)					Prepared: 06/09/23 Analyzed: 06/09/23				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	36.5		50.0		73.1	50-200			

LCS (2323076-BS1)					Prepared: 06/09/23 Analyzed: 06/09/23				
Diesel Range Organics (C10-C28)	248	25.0	250		99.2	38-132			
Surrogate: n-Nonane	36.1		50.0		72.2	50-200			

Matrix Spike (2323076-MS1)					Source: E306077-04		Prepared: 06/09/23 Analyzed: 06/10/23		
Diesel Range Organics (C10-C28)	6630	1250	250	6590	18.3	38-132			M4
Surrogate: n-Nonane	46.6		50.0		93.1	50-200			

Matrix Spike Dup (2323076-MSD1)					Source: E306077-04		Prepared: 06/09/23 Analyzed: 06/10/23		
Diesel Range Organics (C10-C28)	6020	1250	250	6590	NR	38-132	9.70	20	M4
Surrogate: n-Nonane	45.9		50.0		91.8	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:20:48PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2324008-BLK1)					Prepared: 06/12/23 Analyzed: 06/14/23				
Chloride	ND	20.0							
LCS (2324008-BS1)					Prepared: 06/12/23 Analyzed: 06/14/23				
Chloride	267	20.0	250		107	90-110			
Matrix Spike (2324008-MS1)					Source: E306078-01		Prepared: 06/12/23 Analyzed: 06/14/23		
Chloride	378	40.0	250	128	99.8	80-120			
Matrix Spike Dup (2324008-MSD1)					Source: E306078-01		Prepared: 06/12/23 Analyzed: 06/14/23		
Chloride	408	40.0	250	128	112	80-120	7.53	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/15/23 13:20

- M4Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- NDAnalyte NOT DETECTED at or above the reporting limit
- NRNot Reported
- RPDRelative Percent Difference
- DNIDid Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Client: WPX Energy Permian, LLC.	Bill To	Lab Use Only		TAT			EPA Program					
Project: North Brushy PW Line		Attention: Jim Raley	Lab WO#	Job Number	1D	2D	3D	Standard	CWA	SDWA		
Project Manager: Gilbert Moreno		Address: 5315 Buena Vista Dr.	E306080	01058-0007				5 day TAT				
Address: 13000 W County Rd 100		City, State, Zip: Carlsbad, NM, 88220	Analysis and Method									
City, State, Zip: Odessa, TX, 79765		Phone: 575-885-7502	Depth (ft.)	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	TDS	BGDOC NM	GDOC TX	State
Phone: 832-541-7719		Email: jim.raley@dmn.com										
Email: Devon-team@etechnv.com	WBS/WO: MM-155117.AL.RNM											
Collected by: Gilbert Moreno	Incident ID: nAPP2231126594, nAPP2312845934											

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	Depth (ft.)	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	TDS	BGDOC NM	GDOC TX	Remarks
11:00	6.7.23	S	1	BH17	1	0.5'							X		
11:10	6.7.23	S	1	BH17	2	4'							X		
11:20	6.7.23	S	1	BH17	3	9'							X		
11:30	6.7.23	S	1	BH17	4	14'							X		
11:40	6.7.23	S	1	BH17	5	18'							X		
11:50	6.7.23	S	1	BH17	6	24'							X		
13:20	6.7.23	S	1	BH17	7	30'							X		

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: GM

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only Received on ice: ☒ Y ☐ N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
<i>Calvin</i>	6.8.23	08:00	<i>Michelle Gonzales</i>	6-8-23	0800	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
<i>Michelle Gonzales</i>	6-8-23	1715	<i>Alfonso</i>	6-8-23	1830	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	
<i>Alfonso</i>	6-9-23	0100	<i>Carthman</i>	6/9/23	6:00	

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



envirotech

Envirotech Analytical Laboratory

Printed: 6/9/2023 1:37:56PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	06/09/23 06:00	Work Order ID:	E306080
Phone:	(539) 573-4018	Date Logged In:	06/08/23 16:44	Logged In By:	Caitlin Mars
Email:	devon-team@ensolum.com	Due Date:	06/15/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? No
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/Resolution

Sample Jars were mislabeled as BH13 ,
Gilbert verified that samples are BH17 .

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

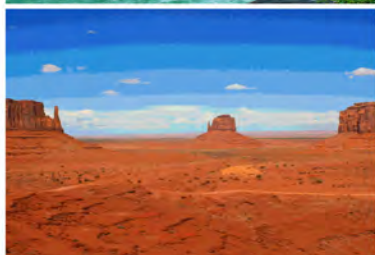
Date



envirotech Inc.

Report to:

Gilbert Moreno



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

WPX Energy - Carlsbad

Project Name: North Brushy PW Line

Work Order: E306081

Job Number: 01058-0007

Received: 6/9/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
6/15/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 6/15/23

Gilbert Moreno
5315 Buena Vista Dr
Carlsbad, NM 88220



Project Name: North Brushy PW Line
Workorder: E306081
Date Received: 6/9/2023 6:00:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/9/2023 6:00:00AM, under the Project Name: North Brushy PW Line.

The analytical test results summarized in this report with the Project Name: North Brushy PW Line apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
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Cell: 775-287-1762
whinchman@envirotech-inc.com

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Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/15/23 13:33

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH17 38'	E306081-01A	Soil	06/07/23	06/09/23	Glass Jar, 4 oz.



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
6/15/2023 1:33:45PM

BH17 38'

E306081-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2323073	
Benzene	ND	0.0250	1	06/09/23	06/13/23	
Ethylbenzene	ND	0.0250	1	06/09/23	06/13/23	
Toluene	ND	0.0250	1	06/09/23	06/13/23	
o-Xylene	ND	0.0250	1	06/09/23	06/13/23	
p,m-Xylene	ND	0.0500	1	06/09/23	06/13/23	
Total Xylenes	ND	0.0250	1	06/09/23	06/13/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	94.2 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2323073	
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/09/23	06/13/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	91.9 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KM		Batch: 2323076	
Diesel Range Organics (C10-C28)	ND	25.0	1	06/09/23	06/10/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/09/23	06/10/23	
<i>Surrogate: n-Nonane</i>						
	70.9 %	50-200		06/09/23	06/10/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: BA		Batch: 2324007	
Chloride	257	20.0	1	06/12/23	06/14/23	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:33:45PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2323073-BLK1) Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	6.99		8.00		87.4	70-130			

LCS (2323073-BS1) Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	4.58	0.0250	5.00		91.5	70-130			
Ethylbenzene	4.57	0.0250	5.00		91.3	70-130			
Toluene	4.71	0.0250	5.00		94.2	70-130			
o-Xylene	4.70	0.0250	5.00		93.9	70-130			
p,m-Xylene	9.25	0.0500	10.0		92.5	70-130			
Total Xylenes	13.9	0.0250	15.0		93.0	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.45		8.00		93.2	70-130			

Matrix Spike (2323073-MS1) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	4.68	0.0250	5.00	ND	93.5	54-133			
Ethylbenzene	4.63	0.0250	5.00	ND	92.7	61-133			
Toluene	4.78	0.0250	5.00	ND	95.7	61-130			
o-Xylene	4.75	0.0250	5.00	ND	95.1	63-131			
p,m-Xylene	9.43	0.0500	10.0	ND	94.3	63-131			
Total Xylenes	14.2	0.0250	15.0	ND	94.5	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.41		8.00		92.7	70-130			

Matrix Spike Dup (2323073-MSD1) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	4.99	0.0250	5.00	ND	99.7	54-133	6.42	20	
Ethylbenzene	4.95	0.0250	5.00	ND	99.1	61-133	6.67	20	
Toluene	5.10	0.0250	5.00	ND	102	61-130	6.42	20	
o-Xylene	5.07	0.0250	5.00	ND	101	63-131	6.49	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	6.65	20	
Total Xylenes	15.1	0.0250	15.0	ND	101	63-131	6.60	20	
Surrogate: 4-Bromochlorobenzene-PID	7.51		8.00		93.8	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:33:45PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2323073-BLK1) Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.39		8.00		92.4	70-130			

LCS (2323073-BS2) Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	47.4	20.0	50.0		94.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.41		8.00		92.7	70-130			

Matrix Spike (2323073-MS2) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	46.1	20.0	50.0	ND	92.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.43		8.00		92.9	70-130			

Matrix Spike Dup (2323073-MSD2) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	46.2	20.0	50.0	ND	92.4	70-130	0.213	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.54		8.00		94.3	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:33:45PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2323076-BLK1) Prepared: 06/09/23 Analyzed: 06/09/23

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	36.5		50.0		73.1	50-200			

LCS (2323076-BS1) Prepared: 06/09/23 Analyzed: 06/09/23

Diesel Range Organics (C10-C28)	248	25.0	250		99.2	38-132			
Surrogate: n-Nonane	36.1		50.0		72.2	50-200			

Matrix Spike (2323076-MS1) Source: E306077-04 Prepared: 06/09/23 Analyzed: 06/10/23

Diesel Range Organics (C10-C28)	6630	1250	250	6590	18.3	38-132			M4
Surrogate: n-Nonane	46.6		50.0		93.1	50-200			

Matrix Spike Dup (2323076-MSD1) Source: E306077-04 Prepared: 06/09/23 Analyzed: 06/10/23

Diesel Range Organics (C10-C28)	6020	1250	250	6590	NR	38-132	9.70	20	M4
Surrogate: n-Nonane	45.9		50.0		91.8	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:33:45PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2324007-BLK1)					Prepared: 06/12/23 Analyzed: 06/14/23				
Chloride	ND	20.0							
LCS (2324007-BS1)					Prepared: 06/12/23 Analyzed: 06/14/23				
Chloride	263	20.0	250		105	90-110			
Matrix Spike (2324007-MS1)					Source: E306057-01		Prepared: 06/12/23 Analyzed: 06/14/23		
Chloride	1680	20.0	250	1390	114	80-120			
Matrix Spike Dup (2324007-MSD1)					Source: E306057-01		Prepared: 06/12/23 Analyzed: 06/14/23		
Chloride	1890	20.0	250	1390	198	80-120	11.8	20	M2

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/15/23 13:33

- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Project Information

Chain of Custody

Page 1 of 1

Client: WPX Energy Permian, LLC.				Bill To		Lab Use Only				TAT				EPA Program																
Project: North Brushy PW Line				Attention: Jim Raley		Lab WO# E306081		Job Number 9058-0007		1D	2D	3D	Standard	CWA	SDWA															
Project Manager: Gilbert Moreno				Address: 5315 Buena Vista Dr.		E306081		9058-0007					5 day TAT																	
Address: 13000 W County Rd 100				City, State, Zip: Carlsbad, NM, 88220		Analysis and Method								RCRA																
City, State, Zip: Odessa, TX, 79765				Phone: 575-885-7502																										
Phone: 832-541-7719				Email: jim.raley@dv.com																										
Email: Devon-team@etechenv.com				WBS/WO: MM-155117.AL.RNM																										
Collected by: Gilbert Moreno				Incident ID: nAPP2231126594, nAPP2312845934																										
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	Depth (ft.)	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	TDS	BGDOC NM	GDOC TX	Remarks															
13:30	6.7.23	S	1	BH17	1	38'							X																	
Additional Instructions:																														
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: GM										Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 5 °C on subsequent days.																				
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Lab Use Only																						
		6.8.23	08:00			6-8-23	0800	Received on ice: ☒ Y / ☐ N																						
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	T1 T2 T3																						
		6-8-23	1715			6-8-23	1830																							
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	AVG Temp °C																						
		6-9-23	0100			6/9/23	6:00	4																						
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other						Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA																								
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																														



Envirotech Analytical Laboratory

Printed: 6/9/2023 2:36:59PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	06/09/23 06:00	Work Order ID:	E306081
Phone:	(539) 573-4018	Date Logged In:	06/08/23 16:46	Logged In By:	Caitlin Mars
Email:	devon-team@ensolum.com	Due Date:	06/15/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/Resolution

Sample jars were mislabeled as BH13,
Gilbert verified that samples are BH17.

Sample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: na

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

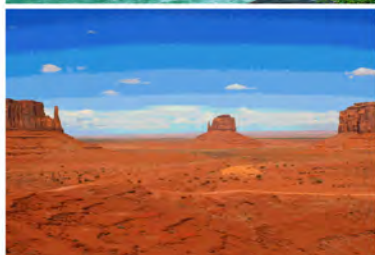
Date



envirotech Inc.

Report to:

Gilbert Moreno



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

WPX Energy - Carlsbad

Project Name: North Brushy PW Line

Work Order: E306082

Job Number: 01058-0007

Received: 6/9/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
6/15/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 6/15/23

Gilbert Moreno
5315 Buena Vista Dr
Carlsbad, NM 88220



Project Name: North Brushy PW Line
Workorder: E306082
Date Received: 6/9/2023 6:00:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/9/2023 6:00:00AM, under the Project Name: North Brushy PW Line.

The analytical test results summarized in this report with the Project Name: North Brushy PW Line apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
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Technical Representative
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Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/15/23 13:32

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH17 40'	E306082-01A	Soil	06/07/23	06/09/23	Glass Jar, 4 oz.



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
6/15/2023 1:32:09PM

BH17 40'

E306082-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg		Analyst: SL		Batch: 2323073
Benzene	ND	0.0250	1	06/09/23	06/13/23	
Ethylbenzene	ND	0.0250	1	06/09/23	06/13/23	
Toluene	ND	0.0250	1	06/09/23	06/13/23	
o-Xylene	ND	0.0250	1	06/09/23	06/13/23	
p,m-Xylene	ND	0.0500	1	06/09/23	06/13/23	
Total Xylenes	ND	0.0250	1	06/09/23	06/13/23	
Surrogate: 4-Bromochlorobenzene-PID	94.0 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: SL		Batch: 2323073
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/09/23	06/13/23	
Surrogate: 1-Chloro-4-fluorobenzene-FID	92.5 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KM		Batch: 2323076
Diesel Range Organics (C10-C28)	ND	25.0	1	06/09/23	06/10/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/09/23	06/10/23	
Surrogate: n-Nonane	74.2 %	50-200		06/09/23	06/10/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2324007
Chloride	445	20.0	1	06/12/23	06/14/23	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:32:09PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2323073-BLK1) Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	6.99		8.00		87.4	70-130			

LCS (2323073-BS1) Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	4.58	0.0250	5.00		91.5	70-130			
Ethylbenzene	4.57	0.0250	5.00		91.3	70-130			
Toluene	4.71	0.0250	5.00		94.2	70-130			
o-Xylene	4.70	0.0250	5.00		93.9	70-130			
p,m-Xylene	9.25	0.0500	10.0		92.5	70-130			
Total Xylenes	13.9	0.0250	15.0		93.0	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.45		8.00		93.2	70-130			

Matrix Spike (2323073-MS1) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	4.68	0.0250	5.00	ND	93.5	54-133			
Ethylbenzene	4.63	0.0250	5.00	ND	92.7	61-133			
Toluene	4.78	0.0250	5.00	ND	95.7	61-130			
o-Xylene	4.75	0.0250	5.00	ND	95.1	63-131			
p,m-Xylene	9.43	0.0500	10.0	ND	94.3	63-131			
Total Xylenes	14.2	0.0250	15.0	ND	94.5	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.41		8.00		92.7	70-130			

Matrix Spike Dup (2323073-MSD1) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	4.99	0.0250	5.00	ND	99.7	54-133	6.42	20	
Ethylbenzene	4.95	0.0250	5.00	ND	99.1	61-133	6.67	20	
Toluene	5.10	0.0250	5.00	ND	102	61-130	6.42	20	
o-Xylene	5.07	0.0250	5.00	ND	101	63-131	6.49	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	6.65	20	
Total Xylenes	15.1	0.0250	15.0	ND	101	63-131	6.60	20	
Surrogate: 4-Bromochlorobenzene-PID	7.51		8.00		93.8	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:32:09PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2323073-BLK1) Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.39		8.00		92.4	70-130			

LCS (2323073-BS2) Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	47.4	20.0	50.0		94.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.41		8.00		92.7	70-130			

Matrix Spike (2323073-MS2) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	46.1	20.0	50.0	ND	92.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.43		8.00		92.9	70-130			

Matrix Spike Dup (2323073-MSD2) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	46.2	20.0	50.0	ND	92.4	70-130	0.213	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.54		8.00		94.3	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:32:09PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2323076-BLK1)					Prepared: 06/09/23 Analyzed: 06/09/23				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	36.5		50.0		73.1	50-200			

LCS (2323076-BS1)					Prepared: 06/09/23 Analyzed: 06/09/23				
Diesel Range Organics (C10-C28)	248	25.0	250		99.2	38-132			
Surrogate: n-Nonane	36.1		50.0		72.2	50-200			

Matrix Spike (2323076-MS1)					Source: E306077-04		Prepared: 06/09/23 Analyzed: 06/10/23		
Diesel Range Organics (C10-C28)	6630	1250	250	6590	18.3	38-132			M4
Surrogate: n-Nonane	46.6		50.0		93.1	50-200			

Matrix Spike Dup (2323076-MSD1)					Source: E306077-04		Prepared: 06/09/23 Analyzed: 06/10/23		
Diesel Range Organics (C10-C28)	6020	1250	250	6590	NR	38-132	9.70	20	M4
Surrogate: n-Nonane	45.9		50.0		91.8	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:32:09PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2324007-BLK1)					Prepared: 06/12/23 Analyzed: 06/14/23				
Chloride	ND	20.0							
LCS (2324007-BS1)					Prepared: 06/12/23 Analyzed: 06/14/23				
Chloride	263	20.0	250		105	90-110			
Matrix Spike (2324007-MS1)					Source: E306057-01		Prepared: 06/12/23 Analyzed: 06/14/23		
Chloride	1680	20.0	250	1390	114	80-120			
Matrix Spike Dup (2324007-MSD1)					Source: E306057-01		Prepared: 06/12/23 Analyzed: 06/14/23		
Chloride	1890	20.0	250	1390	198	80-120	11.8	20	M2

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/15/23 13:32

- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Page 11 of 12

Envirotech Analytical Laboratory

Printed: 6/9/2023 3:30:14PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	06/09/23 06:00	Work Order ID:	E306082
Phone:	(539) 573-4018	Date Logged In:	06/08/23 16:48	Logged In By:	Caitlin Mars
Email:	devon-team@ensolum.com	Due Date:	06/15/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client InstructionComments/Resolution

Sample jars were mislabeled as BH13, Gilbert verified that samples are BH17.

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:
Gilbert Moreno



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

WPX Energy - Carlsbad

Project Name: North Brushy PW Line

Work Order: E306083

Job Number: 01058-0007

Received: 6/9/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
6/15/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 6/15/23

Gilbert Moreno
5315 Buena Vista Dr
Carlsbad, NM 88220



Project Name: North Brushy PW Line
Workorder: E306083
Date Received: 6/9/2023 6:00:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/9/2023 6:00:00AM, under the Project Name: North Brushy PW Line.

The analytical test results summarized in this report with the Project Name: North Brushy PW Line apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
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Technical Representative/Client Services
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ljjarboe@envirotech-inc.com

West Texas Midland/Odessa Area
Rayny Hagan
Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/15/23 13:29

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH17 50'	E306083-01A	Soil	06/07/23	06/09/23	Glass Jar, 4 oz.



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
6/15/2023 1:29:20PM

BH17 50'

E306083-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: SL		Batch: 2323073	
Benzene	ND	0.0250	1	06/09/23	06/13/23	
Ethylbenzene	ND	0.0250	1	06/09/23	06/13/23	
Toluene	ND	0.0250	1	06/09/23	06/13/23	
o-Xylene	ND	0.0250	1	06/09/23	06/13/23	
p,m-Xylene	ND	0.0500	1	06/09/23	06/13/23	
Total Xylenes	ND	0.0250	1	06/09/23	06/13/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	92.8 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: SL		Batch: 2323073	
Gasoline Range Organics (C6-C10)	ND	20.0	1	06/09/23	06/13/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	94.8 %	70-130		06/09/23	06/13/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KM		Batch: 2323076	
Diesel Range Organics (C10-C28)	ND	25.0	1	06/09/23	06/10/23	
Oil Range Organics (C28-C36)	ND	50.0	1	06/09/23	06/10/23	
<i>Surrogate: n-Nonane</i>						
	72.7 %	50-200		06/09/23	06/10/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: BA		Batch: 2324007	
Chloride	35.9	20.0	1	06/12/23	06/14/23	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:29:20PM

Volatile Organics by EPA 8021B

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2323073-BLK1)Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	6.99		8.00		87.4	70-130			

LCS (2323073-BS1)Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	4.58	0.0250	5.00		91.5	70-130			
Ethylbenzene	4.57	0.0250	5.00		91.3	70-130			
Toluene	4.71	0.0250	5.00		94.2	70-130			
o-Xylene	4.70	0.0250	5.00		93.9	70-130			
p,m-Xylene	9.25	0.0500	10.0		92.5	70-130			
Total Xylenes	13.9	0.0250	15.0		93.0	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.45		8.00		93.2	70-130			

Matrix Spike (2323073-MS1)Source: E306079-01Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	4.68	0.0250	5.00	ND	93.5	54-133			
Ethylbenzene	4.63	0.0250	5.00	ND	92.7	61-133			
Toluene	4.78	0.0250	5.00	ND	95.7	61-130			
o-Xylene	4.75	0.0250	5.00	ND	95.1	63-131			
p,m-Xylene	9.43	0.0500	10.0	ND	94.3	63-131			
Total Xylenes	14.2	0.0250	15.0	ND	94.5	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.41		8.00		92.7	70-130			

Matrix Spike Dup (2323073-MSD1)Source: E306079-01Prepared: 06/08/23 Analyzed: 06/12/23

Benzene	4.99	0.0250	5.00	ND	99.7	54-133	6.42	20	
Ethylbenzene	4.95	0.0250	5.00	ND	99.1	61-133	6.67	20	
Toluene	5.10	0.0250	5.00	ND	102	61-130	6.42	20	
o-Xylene	5.07	0.0250	5.00	ND	101	63-131	6.49	20	
p,m-Xylene	10.1	0.0500	10.0	ND	101	63-131	6.65	20	
Total Xylenes	15.1	0.0250	15.0	ND	101	63-131	6.60	20	
Surrogate: 4-Bromochlorobenzene-PID	7.51		8.00		93.8	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:29:20PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: SL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2323073-BLK1) Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.39		8.00		92.4	70-130			

LCS (2323073-BS2) Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	47.4	20.0	50.0		94.8	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.41		8.00		92.7	70-130			

Matrix Spike (2323073-MS2) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	46.1	20.0	50.0	ND	92.3	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.43		8.00		92.9	70-130			

Matrix Spike Dup (2323073-MSD2) Source: E306079-01 Prepared: 06/08/23 Analyzed: 06/12/23

Gasoline Range Organics (C6-C10)	46.2	20.0	50.0	ND	92.4	70-130	0.213	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.54		8.00		94.3	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:29:20PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2323076-BLK1)					Prepared: 06/09/23 Analyzed: 06/09/23				
Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	36.5		50.0		73.1	50-200			

LCS (2323076-BS1)					Prepared: 06/09/23 Analyzed: 06/09/23				
Diesel Range Organics (C10-C28)	248	25.0	250		99.2	38-132			
Surrogate: n-Nonane	36.1		50.0		72.2	50-200			

Matrix Spike (2323076-MS1)					Source: E306077-04		Prepared: 06/09/23 Analyzed: 06/10/23		
Diesel Range Organics (C10-C28)	6630	1250	250	6590	18.3	38-132			M4
Surrogate: n-Nonane	46.6		50.0		93.1	50-200			

Matrix Spike Dup (2323076-MSD1)					Source: E306077-04		Prepared: 06/09/23 Analyzed: 06/10/23		
Diesel Range Organics (C10-C28)	6020	1250	250	6590	NR	38-132	9.70	20	M4
Surrogate: n-Nonane	45.9		50.0		91.8	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/15/2023 1:29:20PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2324007-BLK1)					Prepared: 06/12/23 Analyzed: 06/14/23				
Chloride	ND	20.0							
LCS (2324007-BS1)					Prepared: 06/12/23 Analyzed: 06/14/23				
Chloride	263	20.0	250		105	90-110			
Matrix Spike (2324007-MS1)					Source: E306057-01		Prepared: 06/12/23 Analyzed: 06/14/23		
Chloride	1680	20.0	250	1390	114	80-120			
Matrix Spike Dup (2324007-MSD1)					Source: E306057-01		Prepared: 06/12/23 Analyzed: 06/14/23		
Chloride	1890	20.0	250	1390	198	80-120	11.8	20	M2

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/15/23 13:29

- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



[Handwritten signature]

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: GM

Relinquished by: (Signature) <i>Enforing</i>	Date <i>6-8-23</i>	Time <i>09:00</i>	Received by: (Signature) <i>Micelle Cenzala</i>	Date <i>6-8-23</i>	Time <i>0800</i>
Relinquished by: (Signature) <i>Micelle Cenzala</i>	Date <i>6-8-23</i>	Time <i>1715</i>	Received by: (Signature) <i>Andrew</i>	Date <i>6-8-23</i>	Time <i>1830</i>
Relinquished by: (Signature) <i>Andrew</i>	Date <i>6-9-23</i>	Time <i>0100</i>	Received by: (Signature) <i>Enforing</i>	Date <i>6/9/23</i>	Time <i>6:00</i>

AVG Temp °C 4

Container Type: **g** - glass, **p** - poly/plastic, **ag** - amber glass, **v** - VOA



Page 11 of 12

Envirotech Analytical Laboratory

Printed: 6/9/2023 3:34:42PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	06/09/23 06:00	Work Order ID:	E306083
Phone:	(539) 573-4018	Date Logged In:	06/08/23 16:49	Logged In By:	Caitlin Mars
Email:	devon-team@ensolum.com	Due Date:	06/15/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client InstructionComments/Resolution

Sample jars were mislabeled as BH13, Gilbert verified that samples are BH17.

Signature of client authorizing changes to the COC or sample disposition.

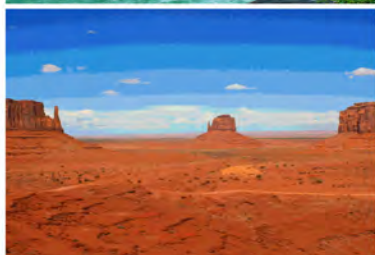
Date



envirotech Inc.

Report to:

Gilbert Moreno



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

WPX Energy - Carlsbad

Project Name: North Brushy PW Line

Work Order: E307178

Job Number: 01058-0007

Received: 7/31/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
8/3/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 8/3/23

Gilbert Moreno
5315 Buena Vista Dr
Carlsbad, NM 88220



Project Name: North Brushy PW Line
Workorder: E307178
Date Received: 7/31/2023 7:15:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/31/2023 7:15:00AM, under the Project Name: North Brushy PW Line.

The analytical test results summarized in this report with the Project Name: North Brushy PW Line apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

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Sample Summary

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	08/03/23 15:38

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH21 0.5'	E307178-01A	Soil	07/28/23	07/31/23	Glass Jar, 2 oz.
BH21 5'	E307178-02A	Soil	07/28/23	07/31/23	Glass Jar, 2 oz.
BH21 10'	E307178-03A	Soil	07/28/23	07/31/23	Glass Jar, 2 oz.
BH21 15'	E307178-04A	Soil	07/28/23	07/31/23	Glass Jar, 2 oz.
BH21 20'	E307178-05A	Soil	07/28/23	07/31/23	Glass Jar, 2 oz.
BH21 23'	E307178-06A	Soil	07/28/23	07/31/23	Glass Jar, 2 oz.
BH21 29'	E307178-07A	Soil	07/28/23	07/31/23	Glass Jar, 2 oz.
BH21 39'	E307178-08A	Soil	07/28/23	07/31/23	Glass Jar, 2 oz.



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
8/3/2023 3:38:44PM

BH21 0.5'

E307178-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Benzene	ND	0.0250	1	07/31/23	07/31/23	
Ethylbenzene	ND	0.0250	1	07/31/23	07/31/23	
Toluene	ND	0.0250	1	07/31/23	07/31/23	
o-Xylene	ND	0.0250	1	07/31/23	07/31/23	
p,m-Xylene	ND	0.0500	1	07/31/23	07/31/23	
Total Xylenes	ND	0.0250	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene	105 %	70-130		07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4	95.9 %	70-130		07/31/23	07/31/23	
Surrogate: Toluene-d8	103 %	70-130		07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene	105 %	70-130		07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4	95.9 %	70-130		07/31/23	07/31/23	
Surrogate: Toluene-d8	103 %	70-130		07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KM		Batch: 2331016
Diesel Range Organics (C10-C28)	ND	25.0	1	07/31/23	08/03/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/31/23	08/03/23	
Surrogate: n-Nonane	85.0 %	50-200		07/31/23	08/03/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2331011
Chloride	4990	100	5	07/31/23	07/31/23	



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
8/3/2023 3:38:44PM

BH21 5'

E307178-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Benzene	ND	0.0250	1	07/31/23	07/31/23	
Ethylbenzene	ND	0.0250	1	07/31/23	07/31/23	
Toluene	ND	0.0250	1	07/31/23	07/31/23	
o-Xylene	ND	0.0250	1	07/31/23	07/31/23	
p,m-Xylene	ND	0.0500	1	07/31/23	07/31/23	
Total Xylenes	ND	0.0250	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		105 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		95.1 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		104 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		105 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		95.1 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		104 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KM		Batch: 2331016
Diesel Range Organics (C10-C28)	ND	25.0	1	07/31/23	08/03/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/31/23	08/03/23	
Surrogate: n-Nonane		91.5 %	50-200	07/31/23	08/03/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2331011
Chloride	7360	200	10	07/31/23	07/31/23	



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
8/3/2023 3:38:44PM

BH21 10'

E307178-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Benzene	ND	0.0250	1	07/31/23	07/31/23	
Ethylbenzene	ND	0.0250	1	07/31/23	07/31/23	
Toluene	ND	0.0250	1	07/31/23	07/31/23	
o-Xylene	ND	0.0250	1	07/31/23	07/31/23	
p,m-Xylene	ND	0.0500	1	07/31/23	07/31/23	
Total Xylenes	ND	0.0250	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		109 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		97.6 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		102 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		109 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		97.6 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		102 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KM		Batch: 2331016
Diesel Range Organics (C10-C28)	ND	25.0	1	07/31/23	08/03/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/31/23	08/03/23	
Surrogate: n-Nonane		83.9 %	50-200	07/31/23	08/03/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2331011
Chloride	3360	40.0	2	07/31/23	07/31/23	



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
8/3/2023 3:38:44PM

BH21 15'

E307178-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Benzene	ND	0.0250	1	07/31/23	07/31/23	
Ethylbenzene	ND	0.0250	1	07/31/23	07/31/23	
Toluene	ND	0.0250	1	07/31/23	07/31/23	
o-Xylene	ND	0.0250	1	07/31/23	07/31/23	
p,m-Xylene	ND	0.0500	1	07/31/23	07/31/23	
Total Xylenes	ND	0.0250	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		105 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		95.5 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		102 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		105 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		95.5 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		102 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KM		Batch: 2331016
Diesel Range Organics (C10-C28)	ND	25.0	1	07/31/23	08/03/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/31/23	08/03/23	
Surrogate: n-Nonane		93.2 %	50-200	07/31/23	08/03/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2331011
Chloride	73.5	20.0	1	07/31/23	07/31/23	



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
8/3/2023 3:38:44PM

BH21 20'

E307178-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Benzene	ND	0.0250	1	07/31/23	07/31/23	
Ethylbenzene	ND	0.0250	1	07/31/23	07/31/23	
Toluene	ND	0.0250	1	07/31/23	07/31/23	
o-Xylene	ND	0.0250	1	07/31/23	07/31/23	
p,m-Xylene	ND	0.0500	1	07/31/23	07/31/23	
Total Xylenes	ND	0.0250	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		106 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		96.7 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		101 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		106 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		96.7 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		101 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KM		Batch: 2331016
Diesel Range Organics (C10-C28)	ND	25.0	1	07/31/23	08/03/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/31/23	08/03/23	
Surrogate: n-Nonane		94.2 %	50-200	07/31/23	08/03/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2331011
Chloride	261	20.0	1	07/31/23	07/31/23	



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
8/3/2023 3:38:44PM

BH21 23'

E307178-06

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Benzene	ND	0.0250	1	07/31/23	07/31/23	
Ethylbenzene	ND	0.0250	1	07/31/23	07/31/23	
Toluene	ND	0.0250	1	07/31/23	07/31/23	
o-Xylene	ND	0.0250	1	07/31/23	07/31/23	
p,m-Xylene	ND	0.0500	1	07/31/23	07/31/23	
Total Xylenes	ND	0.0250	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		105 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		99.8 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		101 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		105 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		99.8 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		101 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KM		Batch: 2331016
Diesel Range Organics (C10-C28)	ND	25.0	1	07/31/23	08/03/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/31/23	08/03/23	
Surrogate: n-Nonane		99.5 %	50-200	07/31/23	08/03/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2331011
Chloride	30.3	20.0	1	07/31/23	07/31/23	



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
8/3/2023 3:38:44PM

BH21 29'

E307178-07

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Benzene	ND	0.0250	1	07/31/23	07/31/23	
Ethylbenzene	ND	0.0250	1	07/31/23	07/31/23	
Toluene	ND	0.0250	1	07/31/23	07/31/23	
o-Xylene	ND	0.0250	1	07/31/23	07/31/23	
p,m-Xylene	ND	0.0500	1	07/31/23	07/31/23	
Total Xylenes	ND	0.0250	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		108 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		97.4 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		101 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		108 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		97.4 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		101 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KM		Batch: 2331016
Diesel Range Organics (C10-C28)	ND	25.0	1	07/31/23	08/03/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/31/23	08/03/23	
Surrogate: n-Nonane		103 %	50-200	07/31/23	08/03/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2331011
Chloride	28.3	20.0	1	07/31/23	07/31/23	



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
8/3/2023 3:38:44PM

BH21 39'

E307178-08

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Benzene	ND	0.0250	1	07/31/23	07/31/23	
Ethylbenzene	ND	0.0250	1	07/31/23	07/31/23	
Toluene	ND	0.0250	1	07/31/23	07/31/23	
o-Xylene	ND	0.0250	1	07/31/23	07/31/23	
p,m-Xylene	ND	0.0500	1	07/31/23	07/31/23	
Total Xylenes	ND	0.0250	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		106 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		93.9 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		103 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2331003
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/31/23	07/31/23	
Surrogate: Bromofluorobenzene		106 %	70-130	07/31/23	07/31/23	
Surrogate: 1,2-Dichloroethane-d4		93.9 %	70-130	07/31/23	07/31/23	
Surrogate: Toluene-d8		103 %	70-130	07/31/23	07/31/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KM		Batch: 2331016
Diesel Range Organics (C10-C28)	ND	25.0	1	07/31/23	08/03/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/31/23	08/03/23	
Surrogate: n-Nonane		104 %	50-200	07/31/23	08/03/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: BA		Batch: 2331011
Chloride	26.9	20.0	1	07/31/23	07/31/23	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/3/2023 3:38:44PM

Volatile Organic Compounds by EPA 8260B

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2331003-BLK1) Prepared: 07/31/23 Analyzed: 07/31/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	0.519		0.500		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.476		0.500		95.2	70-130			
Surrogate: Toluene-d8	0.520		0.500		104	70-130			

LCS (2331003-BS1) Prepared: 07/31/23 Analyzed: 07/31/23

Benzene	2.60	0.0250	2.50		104	70-130			
Ethylbenzene	2.51	0.0250	2.50		100	70-130			
Toluene	2.61	0.0250	2.50		104	70-130			
o-Xylene	2.71	0.0250	2.50		109	70-130			
p,m-Xylene	5.37	0.0500	5.00		107	70-130			
Total Xylenes	8.09	0.0250	7.50		108	70-130			
Surrogate: Bromofluorobenzene	0.527		0.500		105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.479		0.500		95.7	70-130			
Surrogate: Toluene-d8	0.522		0.500		104	70-130			

Matrix Spike (2331003-MS1) Source: E307178-07 Prepared: 07/31/23 Analyzed: 08/01/23

Benzene	2.68	0.0250	2.50	ND	107	48-131			
Ethylbenzene	2.57	0.0250	2.50	ND	103	45-135			
Toluene	2.61	0.0250	2.50	ND	104	48-130			
o-Xylene	2.82	0.0250	2.50	ND	113	43-135			
p,m-Xylene	5.59	0.0500	5.00	ND	112	43-135			
Total Xylenes	8.41	0.0250	7.50	ND	112	43-135			
Surrogate: Bromofluorobenzene	0.524		0.500		105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.485		0.500		96.9	70-130			
Surrogate: Toluene-d8	0.506		0.500		101	70-130			

Matrix Spike Dup (2331003-MSD1) Source: E307178-07 Prepared: 07/31/23 Analyzed: 08/01/23

Benzene	2.68	0.0250	2.50	ND	107	48-131	0.243	23	
Ethylbenzene	2.60	0.0250	2.50	ND	104	45-135	0.890	27	
Toluene	2.70	0.0250	2.50	ND	108	48-130	3.47	24	
o-Xylene	2.77	0.0250	2.50	ND	111	43-135	1.75	27	
p,m-Xylene	5.50	0.0500	5.00	ND	110	43-135	1.67	27	
Total Xylenes	8.27	0.0250	7.50	ND	110	43-135	1.70	27	
Surrogate: Bromofluorobenzene	0.529		0.500		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.481		0.500		96.1	70-130			
Surrogate: Toluene-d8	0.517		0.500		103	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/3/2023 3:38:44PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2331003-BLK1) Prepared: 07/31/23 Analyzed: 07/31/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.519		0.500		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.476		0.500		95.2	70-130			
Surrogate: Toluene-d8	0.520		0.500		104	70-130			

LCS (2331003-BS2) Prepared: 07/31/23 Analyzed: 08/01/23

Gasoline Range Organics (C6-C10)	64.0	20.0	50.0		128	70-130			
Surrogate: Bromofluorobenzene	0.529		0.500		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.464		0.500		92.8	70-130			
Surrogate: Toluene-d8	0.533		0.500		107	70-130			

Matrix Spike (2331003-MS2) Source: E307178-07 Prepared: 07/31/23 Analyzed: 08/01/23

Gasoline Range Organics (C6-C10)	61.6	20.0	50.0	ND	123	70-130			
Surrogate: Bromofluorobenzene	0.517		0.500		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.485		0.500		97.0	70-130			
Surrogate: Toluene-d8	0.522		0.500		104	70-130			

Matrix Spike Dup (2331003-MSD2) Source: E307178-07 Prepared: 07/31/23 Analyzed: 08/01/23

Gasoline Range Organics (C6-C10)	64.0	20.0	50.0	ND	128	70-130	3.87	20	
Surrogate: Bromofluorobenzene	0.530		0.500		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.462		0.500		92.4	70-130			
Surrogate: Toluene-d8	0.519		0.500		104	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/3/2023 3:38:44PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2331016-BLK1) Prepared: 07/31/23 Analyzed: 08/02/23

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	50.8		50.0		102	50-200			

LCS (2331016-BS1) Prepared: 07/31/23 Analyzed: 08/02/23

Diesel Range Organics (C10-C28)	280	25.0	250		112	38-132			
Surrogate: n-Nonane	51.7		50.0		103	50-200			

Matrix Spike (2331016-MS1) Source: E307182-03 Prepared: 07/31/23 Analyzed: 08/02/23

Diesel Range Organics (C10-C28)	290	25.0	250	ND	116	38-132			
Surrogate: n-Nonane	47.1		50.0		94.3	50-200			

Matrix Spike Dup (2331016-MSD1) Source: E307182-03 Prepared: 07/31/23 Analyzed: 08/02/23

Diesel Range Organics (C10-C28)	278	25.0	250	ND	111	38-132	4.15	20	
Surrogate: n-Nonane	44.3		50.0		88.7	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/3/2023 3:38:44PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2331011-BLK1)					Prepared: 07/31/23 Analyzed: 07/31/23				
Chloride	ND	20.0							
LCS (2331011-BS1)					Prepared: 07/31/23 Analyzed: 07/31/23				
Chloride	264	20.0	250		105	90-110			
Matrix Spike (2331011-MS1)					Source: E307177-01		Prepared: 07/31/23 Analyzed: 07/31/23		
Chloride	358	200	250	ND	143	80-120			M5
Matrix Spike Dup (2331011-MSD1)					Source: E307177-01		Prepared: 07/31/23 Analyzed: 07/31/23		
Chloride	282	200	250	ND	113	80-120	23.7	20	R2

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	08/03/23 15:38

- M5 The analysis of the MS sample required a dilution such that the spike recovery calculation does not provide useful information. The accociated LCS spike recovery was acceptable.
- R2 The RPD exceeded the acceptance limit.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Project Information

Chain of Custody

Client: WPX Energy Permian LLC.	Bill To	Lab Use Only	TAT	EPA Program
Project: North Brushy PW Line	Attention: Jim Raley	Lab WO#	1D 2D 3D	CWA SDWA
Project Manager: Gilbert Moreno	Address: 5315 Buena Vista Dr.	Job Number	Standard	
Address: 13000 W County Rd 100	City, State, Zip: Carlsbad, NM, 88220	E307178 01058-0007	5 day TAT	
City, State, Zip: Odessa, TX, 79765	Phone: 575-885-7502	Analysis and Method		
Phone: (832) 541-7719	Email: jim.raley@dv.com	RCRA		
Email: Devon-team@etechnv.com	WBS: MM-155117.AL.RNM	State		
Collected by: Edyte Konan	Incident ID: nAPP2231126594/ nAPP23128459	NM CO UT AZ TX		

Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number	Depth (ft.)	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	BGDOC	NM	GDOC	TX	Remarks
8:00	7/28/2023	S	1	BH21	1	0.5'						X				
8:10	7/28/2023	S	1	BH21	2	5'						X				
8:20	7/28/2023	S	1	BH21	3	10'						X				
8:30	7/28/2023	S	1	BH21	4	15'						X				
8:40	7/28/2023	S	1	BH21	5	20'						X				
8:50	7/28/2023	S	1	BH21	6	23'						X				
9:00	7/28/2023	S	1	BH21	7	29'						X				
9:10	7/28/2023	S	1	BH21	8	39'						X				

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by:

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only
<i>[Signature]</i>	07/28/2023	10:00	<i>Michelle Eungels</i>	7-28-23	1000	Received on ice: ☒ Y / N
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	T1 T2 T3
<i>Michelle Eungels</i>	7-28-23	1700	<i>Aldon mgs</i>	7-28-23	1730	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	AVG Temp °C
<i>Aldon mgs</i>	7-29-23	2400	<i>Caitlin Mann</i>	7/31/23	7:15	4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



envirotech

Envirotech Analytical Laboratory

Printed: 7/31/2023 9:05:57AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	07/31/23 07:15	Work Order ID:	E307178
Phone:	(539) 573-4018	Date Logged In:	07/28/23 15:54	Logged In By:	Caitlin Mars
Email:	devon-team@ensolum.com	Due Date:	08/04/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

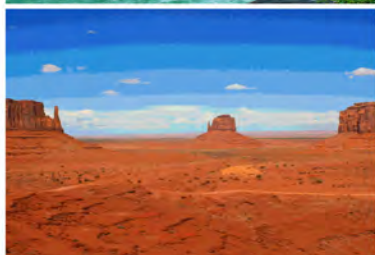
Date



envirotech Inc.

Report to:

Gilbert Moreno



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

WPX Energy - Carlsbad

Project Name: North Brushy PW Line

Work Order: E307179

Job Number: 01058-0007

Received: 7/31/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
8/4/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 8/4/23

Gilbert Moreno
5315 Buena Vista Dr
Carlsbad, NM 88220



Project Name: North Brushy PW Line
Workorder: E307179
Date Received: 7/31/2023 7:15:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 7/31/2023 7:15:00AM, under the Project Name: North Brushy PW Line.

The analytical test results summarized in this report with the Project Name: North Brushy PW Line apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

Raina Schwanz
Laboratory Administrator
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Rayny Hagan
Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	08/04/23 15:24

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH21 18'	E307179-01A	Soil	07/28/23	07/31/23	Glass Jar, 2 oz.



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
8/4/2023 3:24:02PM

BH21 18'

E307179-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organics by EPA 8021B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2331002	
Benzene	ND	0.0250	1	07/31/23	08/01/23	
Ethylbenzene	ND	0.0250	1	07/31/23	08/01/23	
Toluene	ND	0.0250	1	07/31/23	08/01/23	
o-Xylene	ND	0.0250	1	07/31/23	08/01/23	
p,m-Xylene	ND	0.0500	1	07/31/23	08/01/23	
Total Xylenes	ND	0.0250	1	07/31/23	08/01/23	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>						
	96.3 %	70-130		07/31/23	08/01/23	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2331002	
Gasoline Range Organics (C6-C10)	ND	20.0	1	07/31/23	08/01/23	
<i>Surrogate: 1-Chloro-4-fluorobenzene-FID</i>						
	85.4 %	70-130		07/31/23	08/01/23	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KM		Batch: 2331016	
Diesel Range Organics (C10-C28)	ND	25.0	1	07/31/23	08/03/23	
Oil Range Organics (C28-C36)	ND	50.0	1	07/31/23	08/03/23	
<i>Surrogate: n-Nonane</i>						
	97.5 %	50-200		07/31/23	08/03/23	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: BA		Batch: 2331051	
Chloride	2620	20.0	1	08/02/23	08/04/23	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/4/2023 3:24:02PM

Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2331002-BLK1)

Prepared: 07/31/23 Analyzed: 07/31/23

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: 4-Bromochlorobenzene-PID	7.73		8.00		96.6	70-130			

LCS (2331002-BS1)

Prepared: 07/31/23 Analyzed: 07/31/23

Benzene	5.19	0.0250	5.00		104	70-130			
Ethylbenzene	5.16	0.0250	5.00		103	70-130			
Toluene	5.23	0.0250	5.00		105	70-130			
o-Xylene	5.17	0.0250	5.00		103	70-130			
p,m-Xylene	10.5	0.0500	10.0		105	70-130			
Total Xylenes	15.7	0.0250	15.0		105	70-130			
Surrogate: 4-Bromochlorobenzene-PID	7.87		8.00		98.4	70-130			

Matrix Spike (2331002-MS1)

Source: E307174-02

Prepared: 07/31/23 Analyzed: 07/31/23

Benzene	5.03	0.0250	5.00	ND	101	54-133			
Ethylbenzene	4.99	0.0250	5.00	ND	99.7	61-133			
Toluene	5.06	0.0250	5.00	ND	101	61-130			
o-Xylene	4.99	0.0250	5.00	ND	99.8	63-131			
p,m-Xylene	10.2	0.0500	10.0	ND	102	63-131			
Total Xylenes	15.1	0.0250	15.0	ND	101	63-131			
Surrogate: 4-Bromochlorobenzene-PID	7.79		8.00		97.4	70-130			

Matrix Spike Dup (2331002-MSD1)

Source: E307174-02

Prepared: 07/31/23 Analyzed: 07/31/23

Benzene	4.94	0.0250	5.00	ND	98.7	54-133	1.82	20	
Ethylbenzene	4.91	0.0250	5.00	ND	98.2	61-133	1.54	20	
Toluene	4.98	0.0250	5.00	ND	99.5	61-130	1.55	20	
o-Xylene	4.93	0.0250	5.00	ND	98.5	63-131	1.32	20	
p,m-Xylene	10.0	0.0500	10.0	ND	100	63-131	1.31	20	
Total Xylenes	14.9	0.0250	15.0	ND	99.7	63-131	1.32	20	
Surrogate: 4-Bromochlorobenzene-PID	7.89		8.00		98.6	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/4/2023 3:24:02PM

Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2331002-BLK1) Prepared: 07/31/23 Analyzed: 07/31/23

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.48		8.00		93.5	70-130			

LCS (2331002-BS2) Prepared: 07/31/23 Analyzed: 08/01/23

Gasoline Range Organics (C6-C10)	52.8	20.0	50.0		106	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.17		8.00		89.6	70-130			

Matrix Spike (2331002-MS2) Source: E307174-02 Prepared: 07/31/23 Analyzed: 07/31/23

Gasoline Range Organics (C6-C10)	54.7	20.0	50.0	ND	109	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.44		8.00		93.0	70-130			

Matrix Spike Dup (2331002-MSD2) Source: E307174-02 Prepared: 07/31/23 Analyzed: 07/31/23

Gasoline Range Organics (C6-C10)	55.1	20.0	50.0	ND	110	70-130	0.677	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	7.58		8.00		94.7	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/4/2023 3:24:02PM

Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KM

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2331016-BLK1) Prepared: 07/31/23 Analyzed: 08/02/23

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: n-Nonane	50.8		50.0		102	50-200			

LCS (2331016-BS1) Prepared: 07/31/23 Analyzed: 08/02/23

Diesel Range Organics (C10-C28)	280	25.0	250		112	38-132			
Surrogate: n-Nonane	51.7		50.0		103	50-200			

Matrix Spike (2331016-MS1) Source: E307182-03 Prepared: 07/31/23 Analyzed: 08/02/23

Diesel Range Organics (C10-C28)	290	25.0	250	ND	116	38-132			
Surrogate: n-Nonane	47.1		50.0		94.3	50-200			

Matrix Spike Dup (2331016-MSD1) Source: E307182-03 Prepared: 07/31/23 Analyzed: 08/02/23

Diesel Range Organics (C10-C28)	278	25.0	250	ND	111	38-132	4.15	20	
Surrogate: n-Nonane	44.3		50.0		88.7	50-200			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/4/2023 3:24:02PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	

Blank (2331051-BLK1)					Prepared: 08/02/23 Analyzed: 08/04/23				
Chloride	ND	20.0							
LCS (2331051-BS1)					Prepared: 08/02/23 Analyzed: 08/04/23				
Chloride	252	20.0	250		101	90-110			
Matrix Spike (2331051-MS1)					Source: E307179-01		Prepared: 08/02/23 Analyzed: 08/04/23		
Chloride	3030	20.0	250	2620	162	80-120			M2
Matrix Spike Dup (2331051-MSD1)					Source: E307179-01		Prepared: 08/02/23 Analyzed: 08/04/23		
Chloride	3250	20.0	250	2620	248	80-120	6.90	20	M2

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	08/04/23 15:24

- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Client: WPX Energy Permian LLC.	Bill To		Lab Use Only				TAT				EPA Program						
Project: North Brushy PW Line	Attention: Jim Raley		Lab WO#		Job Number		1D	2D	3D	Standard	CWA	SDWA					
Project Manager: Gilbert Moreno	Address: 5315 Buena Vista Dr.		E 307179		6/058-0007					5 day TAT							
Address: 13000 W County Rd 100	City, State, Zip: Carlsbad, NM, 88220		Analysis and Method										RCRA				
City, State, Zip_Odessa,TX, 79765	Phone: 575-885-7502		t.) o/DRO/ORO by 8021 8260 6010 300.0 NM TX														
Phone: (832) 541-7719	Email: jim.raley@dvn.com											State					
Email: Devon-team@etechenv.com	WBS: MM-155117.AL.RNM											NM	CO	UT	AZ	TX	
Collected by: Edyte Konan	Incident ID: nAPP2231126594/ nAPP23128459																

[illegible]

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: _____

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature) <i>[Signature]</i>	Date 07/28/2023	Time 10:00	Received by: (Signature) <i>Michelle Gungor</i>	Date 7-28-23	Time 1000	Lab Use Only Received on ice: ☒ Y / ☐ N T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>
Relinquished by: (Signature) <i>Michelle Gungor</i>	Date 7-28-23	Time 1700	Received by: (Signature) <i>Mike M</i>	Date 7-28-23	Time 1730	
Relinquished by: (Signature) <i>Mike M</i>	Date 7-29-23	Time 2400	Received by: (Signature) <i>Antia Man</i>	Date 7/31/23	Time 7:15	
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other _____						Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Envirotech Analytical Laboratory

Printed: 7/31/2023 9:14:49AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	07/31/23 07:15	Work Order ID:	E307179
Phone:	(539) 573-4018	Date Logged In:	07/28/23 15:55	Logged In By:	Caitlin Mars
Email:	devon-team@ensolum.com	Due Date:	08/04/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Report to:

Gilbert Moreno



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

WPX Energy - Carlsbad

Project Name: North Brushy PW Line

Work Order: E306064

Job Number: 01058-0007

Received: 6/8/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
6/14/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 6/14/23

Gilbert Moreno
5315 Buena Vista Dr
Carlsbad, NM 88220



Project Name: North Brushy PW Line
Workorder: E306064
Date Received: 6/8/2023 8:30:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/8/2023 8:30:00AM, under the Project Name: North Brushy PW Line.

The analytical test results summarized in this report with the Project Name: North Brushy PW Line apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
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Sample Summary

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/14/23 14:55

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH13	E306064-01A	Aqueous	06/06/23	06/08/23	Poly 500mL
	E306064-01B	Aqueous	06/06/23	06/08/23	Poly 500mL



Sample Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/14/2023 2:55:02PM

BH13

E306064-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C	mg/L	mg/L	Analyst: RAS			Batch: 2324009
Total Dissolved Solids	61500	50.0	1	06/12/23	06/13/23	
Anions by EPA 300.0/9056A	mg/L	mg/L	Analyst: BA			Batch: 2324014
Chloride	46600	2000	1000	06/12/23	06/13/23	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/14/2023 2:55:02PM

Wet Chem/Gravimetric by SM2540C

Analyst: RAS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2324009-BLK1)					Prepared: 06/12/23 Analyzed: 06/14/23				
Total Dissolved Solids	ND	10.0							
LCS (2324009-BS1)					Prepared: 06/12/23 Analyzed: 06/14/23				
Total Dissolved Solids	101	10.0	100		101	55-134			
Duplicate (2324009-DUP1)					Source: E306064-01		Prepared: 06/12/23 Analyzed: 06/13/23		
Total Dissolved Solids	62900	50.0		61500			2.25	5	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/14/2023 2:55:02PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2324014-BLK1)					Prepared: 06/12/23 Analyzed: 06/13/23				
Chloride	ND	2.00							
LCS (2324014-BS1)					Prepared: 06/12/23 Analyzed: 06/13/23				
Chloride	25.3	2.00	25.0		101	90-110			
LCS Dup (2324014-BSD1)					Prepared: 06/12/23 Analyzed: 06/13/23				
Chloride	25.5	2.00	25.0		102	90-110	0.846	20	

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/14/23 14:55

- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Client: WPX Energy Permian, LLC.				Bill To				Lab Use Only				TAT				EPA Program					
Project: North Brushy PW Line				Attention: Jim Raley				Lab WO#				1D	2D	3D	Standard	CWA	SDWA				
Project Manager: Gilbert Moreno				Address: 5315 Buena Vista Dr.				Job Number							5 day TAT						
Address: 13000 W County Rd 100				City, State, Zip: Carlsbad, NM, 88220				Analysis and Method								RCRA					
City, State, Zip: Odessa, TX, 79765				Phone: 575-885-7502				Depth (ft.)	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	TDS	BGDOC NM	GDOC TX	State				
Phone: 832-541-7719				Email: jim.raley@dmv.com													NM	CO	UT	AZ	TX
Email: Devon-team@etechenv.com				WBS/WO: MM-155117.AL.RNM													x				
Collected by: Gilbert Moreno				Incident ID:														Remarks			
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number																
8:45	6.6.23	A	1	BH13	1							X									
8:45	6.6.23	A	1	BH13	2								X								
Additional Instructions:																					
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: GM																					
Relinquished by: (Signature)						Received by: (Signature)						Lab Use Only									
Date: 6.7.23 Time: 07:30						Date: 6-7-23 Time: 730						Received on ice: (Y) / N									
Relinquished by: (Signature)						Received by: (Signature)						T1 T2 T3									
Date: 6-7-23 Time: 1630						Date: 6-7-23 Time: 1730															
Relinquished by: (Signature)						Received by: (Signature)						AVG Temp °C 4									
Date: 6-8-23 Time: 0100						Date: 6/8/23 Time: 8:30															
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other																					
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA																					
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																					



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Client: WPX Energy Permian, LLC.				Bill To				Lab Use Only				TAT				EPA Program								
Project: North Brushy PW Line				Attention: Jim Raley				Lab WO#		Job Number		1D	2D	3D	Standard	CWA	SDWA							
Project Manager: Gilbert Moreno				Address: 5315 Buena Vista Dr.				E 304064		0058-0057					5 day TAT									
Address: 13000 W County Rd 100				City, State, Zip: Carlsbad, NM, 88220				Analysis and Method										RCRA						
City, State, Zip: Odessa, TX, 79765				Phone: 575-885-7502				Depth (ft.)	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	TDS	BGDOC	NM	TX	GDOC	State					
Phone: 832-541-7719				Email: jim.raley@dv.com															NM	CO	UT	AZ	TX	
Email: Devon-team@etechenv.com				WBS/VO: MM-155117.AL.RNM															x					
Collected by: Gilbert Moreno				Incident ID:																Remarks				
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number																			
8:45	6.6.23	A	21	BH13	1																			
8:45	6.6.23	A	1	BH13	2																			
Cubino																		Gilbert						
																		Confirmed that						
																		"BH13" sample						
																		is one sample						
																		with two						
																		containers.						
																		6/8/23 AM						

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: GM

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 5 °C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Lab Use Only Received on ice: (Y) / N		
<i>Cubino</i>	6-7-23	07:30	<i>Michelle Camys</i>	6-7-23	7:30			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time			
<i>Michelle Camys</i>	6-7-23	16:30	<i>Allen mss</i>	6-7-23	17:30	T1	T2	T3
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	AVG Temp °C		
<i>Allen mss</i>	6-8-23	01:00	<i>Caitlin Man</i>	6/8/23	8:30	4		

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.



envirotech

Envirotech Analytical Laboratory

Printed: 6/8/2023 1:11:22PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	06/08/23 08:30	Work Order ID:	E306064
Phone:	(539) 573-4018	Date Logged In:	06/08/23 08:36	Logged In By:	Caitlin Mars
Email:	devon-team@ensolum.com	Due Date:	06/14/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? No
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: Courier**Comments/Resolution****Sample Turn Around Time (TAT)**

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

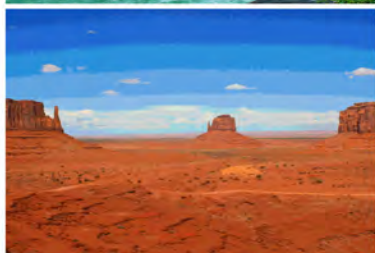
Date



envirotech Inc.

Report to:

Gilbert Moreno



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

WPX Energy - Carlsbad

Project Name: North Brushy PW Line

Work Order: E306166

Job Number: 01058-0007

Received: 6/21/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
6/27/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
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Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
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Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 6/27/23

Gilbert Moreno
5315 Buena Vista Dr
Carlsbad, NM 88220



Project Name: North Brushy PW Line
Workorder: E306166
Date Received: 6/21/2023 10:00:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/21/2023 10:00:00AM, under the Project Name: North Brushy PW Line.

The analytical test results summarized in this report with the Project Name: North Brushy PW Line apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
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West Texas Midland/Odessa Area
Rayny Hagan
Technical Representative
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Sample Summary

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/27/23 13:38

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH13	E306166-01A	Aqueous	06/20/23	06/21/23	Poly 500mL
	E306166-01B	Aqueous	06/20/23	06/21/23	Poly 250mL; HNO3
	E306166-01C	Aqueous	06/20/23	06/21/23	VOA Vial, 40mL; HCl
	E306166-01D	Aqueous	06/20/23	06/21/23	VOA Vial, 40mL; HCl
	E306166-01E	Aqueous	06/20/23	06/21/23	VOA Vial, 40mL; HCl



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
6/27/2023 1:38:20PM

BH13

E306166-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	ug/L	ug/L	Analyst: IY		Batch: 2326012	
Benzene	ND	1.00	1	06/26/23	06/26/23	
Ethylbenzene	ND	1.00	1	06/26/23	06/26/23	
Toluene	ND	1.00	1	06/26/23	06/26/23	
o-Xylene	ND	1.00	1	06/26/23	06/26/23	
p,m-Xylene	ND	2.00	1	06/26/23	06/26/23	
Total Xylenes	ND	1.00	1	06/26/23	06/26/23	
Surrogate: Bromofluorobenzene	103 %	70-130		06/26/23	06/26/23	
Surrogate: 1,2-Dichloroethane-d4	101 %	70-130		06/26/23	06/26/23	
Surrogate: Toluene-d8	98.7 %	70-130		06/26/23	06/26/23	
Wet Chem/Gravimetric by SM2540C						
	mg/L	mg/L	Analyst: RAS		Batch: 2325053	
Total Dissolved Solids	52900	50.0	1	06/22/23	06/23/23	
Wet Chemistry by 9040C/4500H+B						
	pH Units	pH Units	Analyst: BA		Batch: 2325065	
pH @25°C	6.62		1	06/22/23 14:02	06/22/23 14:49	H5
Wet Chemistry by SM2320B						
	mg/L	mg/L	Analyst: KH		Batch: 2326002	
Total Alkalinity (as CaCO3 at pH 4.5)	194	10.0	1	06/26/23	06/26/23	
Wet Chemistry by 9050A/2510B						
	uS/cm	uS/cm	Analyst: BA		Batch: 2325060	
Specific Conductance (@ 25 C)	72000	10.0	1	06/22/23	06/22/23	
Dissolved Metals by EPA 6010C						
	mg/L	mg/L	Analyst: RKS		Batch: 2326005	
Calcium	6720	100	100	06/26/23	06/26/23	
Iron	ND	200	100	06/26/23	06/26/23	
Magnesium	820	100	100	06/26/23	06/26/23	
Potassium	ND	100	100	06/26/23	06/26/23	
Sodium	12900	200	100	06/26/23	06/26/23	
Sodium Absorption Ratio (CALC)	39.5		1	06/27/23	06/27/23	



Sample Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported: 6/27/2023 1:38:20PM
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	

BH13

E306166-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Anions by EPA 300.0/9056A	mg/L	mg/L	Analyst: BA		Batch: 2325054	
Fluoride	ND	250	1000	06/21/23	06/21/23	
Chloride	33800	2000	1000	06/21/23	06/21/23	
Nitrite-N	ND	250	1000	06/21/23 16:26	06/21/23 19:16	
Nitrate-N	ND	250	1000	06/21/23 16:26	06/21/23 19:16	
o-Phosphate-P	ND	250	1000	06/21/23 16:26	06/21/23 19:16	
Sulfate	ND	2000	1000	06/21/23	06/21/23	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:38:20PM

Volatile Organic Compounds by EPA 8260B

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	ug/L	ug/L	ug/L	ug/L	%	%	%	%	

Blank (2326012-BLK1)

Prepared: 06/26/23 Analyzed: 06/26/23

Benzene	ND	1.00							
Ethylbenzene	ND	1.00							
Toluene	ND	1.00							
o-Xylene	ND	1.00							
p,m-Xylene	ND	2.00							
Total Xylenes	ND	1.00							
Surrogate: Bromofluorobenzene	10.3		10.0		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	9.82		10.0		98.2	70-130			
Surrogate: Toluene-d8	9.89		10.0		98.9	70-130			

LCS (2326012-BS1)

Prepared: 06/26/23 Analyzed: 06/26/23

Benzene	49.4	1.00	50.0		98.7	70-130			
Ethylbenzene	47.9	1.00	50.0		95.7	80-120			
Toluene	48.3	1.00	50.0		96.5	80-120			
o-Xylene	50.5	1.00	50.0		101	70-130			
p,m-Xylene	99.9	2.00	100		99.9	70-130			
Total Xylenes	150	1.00	150		100	70-130			
Surrogate: Bromofluorobenzene	10.0		10.0		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	9.74		10.0		97.4	70-130			
Surrogate: Toluene-d8	9.87		10.0		98.7	70-130			

LCS Dup (2326012-BSD1)

Prepared: 06/26/23 Analyzed: 06/26/23

Benzene	48.5	1.00	50.0		97.0	70-130	1.74	20	
Ethylbenzene	47.1	1.00	50.0		94.3	80-120	1.54	20	
Toluene	47.3	1.00	50.0		94.6	80-120	2.01	20	
o-Xylene	49.8	1.00	50.0		99.6	70-130	1.32	20	
p,m-Xylene	98.3	2.00	100		98.3	70-130	1.58	20	
Total Xylenes	148	1.00	150		98.8	70-130	1.49	20	
Surrogate: Bromofluorobenzene	10.3		10.0		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	10.1		10.0		101	70-130			
Surrogate: Toluene-d8	9.90		10.0		99.0	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:38:20PM

Wet Chem/Gravimetric by SM2540C

Analyst: RAS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2325053-BLK1)					Prepared: 06/22/23 Analyzed: 06/23/23				
Total Dissolved Solids	ND	10.0							
LCS (2325053-BS1)					Prepared: 06/22/23 Analyzed: 06/23/23				
Total Dissolved Solids	87.0	10.0	100		87.0	55-134			
Duplicate (2325053-DUP1)					Source: E306166-01		Prepared: 06/22/23 Analyzed: 06/23/23		
Total Dissolved Solids	52600	10.0		52900		0.635	5		



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:38:20PM

Wet Chemistry by 9040C/4500H+B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	pH Units	pH Units	pH Units	pH Units	%	%	%	%	

LCS (2325065-BS1)	Prepared: 06/22/23 Analyzed: 06/22/23								
pH	7.91		8.00		99.5	98.75-101.25			
Duplicate (2325065-DUP1)	Source: E306166-01 Prepared: 06/22/23 Analyzed: 06/22/23								
pH	6.62			6.62		0.00	20		



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:38:20PM

Wet Chemistry by SM2320B

Analyst: KH

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

LCS (2326002-BS1)					Prepared: 06/26/23 Analyzed: 06/26/23				
Total Alkalinity (as CaCO3 at pH 4.5)	241	10.0	250		96.4	70-130			
Duplicate (2326002-DUP1)					Source: E306169-01		Prepared: 06/26/23 Analyzed: 06/26/23		
Total Alkalinity (as CaCO3 at pH 4.5)	536	10.0		530			1.13	20	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:38:20PM

Wet Chemistry by 9050A/2510B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	uS/cm	uS/cm	uS/cm	uS/cm	%	%	%	%	

Blank (2325060-BLK1)	Prepared: 06/22/23 Analyzed: 06/22/23								
Specific Conductance (@ 25 C)	ND	10.0							
LCS (2325060-BS1)	Prepared: 06/22/23 Analyzed: 06/22/23								
Specific Conductance (@ 25 C)	1400	10.0	1410		98.9	98-102			
Duplicate (2325060-DUP1)	Source: E306166-01 Prepared: 06/22/23 Analyzed: 06/22/23								
Specific Conductance (@ 25 C)	73400	10.0		72000			1.93	20	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:38:20PM

Dissolved Metals by EPA 6010C

Analyst: RKS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2326005-BLK1)

Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	ND	1.00
Iron	ND	2.00
Magnesium	ND	1.00
Potassium	ND	1.00
Sodium	ND	2.00

LCS (2326005-BS1)

Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	55.0	1.00	50.0	110	80-120
Iron	110	2.00	100	110	80-120
Magnesium	54.5	1.00	50.0	109	80-120
Potassium	5.43	1.00	5.00	109	80-120
Sodium	19.6	2.00	20.0	98.2	80-120

Matrix Spike (2326005-MS1)

Source: E306151-01

Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	562	10.0	500	39.7	104	75-125
Iron	1070	20.0	1000	ND	107	75-125
Magnesium	545	10.0	500	25.5	104	75-125
Potassium	286	10.0	50.0	212	146	75-125
Sodium	1910	20.0	200	1630	139	75-125

M4
M4

Matrix Spike Dup (2326005-MSD1)

Source: E306151-01

Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	565	10.0	500	39.7	105	75-125	0.444	20
Iron	1070	20.0	1000	ND	107	75-125	0.0937	20
Magnesium	534	10.0	500	25.5	102	75-125	2.02	20
Potassium	280	10.0	50.0	212	135	75-125	2.02	20
Sodium	1860	20.0	200	1630	112	75-125	2.87	20

M4



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:38:20PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2325054-BLK1) Prepared: 06/21/23 Analyzed: 06/21/23

Fluoride	ND	0.250
Chloride	ND	2.00
Nitrite-N	ND	0.250
Nitrate-N	ND	0.250
o-Phosphate-P	ND	0.250
Sulfate	ND	2.00

LCS (2325054-BS1) Prepared: 06/21/23 Analyzed: 06/21/23

Fluoride	2.66	0.250	2.50	106	90-110
Chloride	25.1	2.00	25.0	100	90-110
Nitrite-N	2.59	0.250	2.50	104	90-110
Nitrate-N	2.64	0.250	2.50	106	90-110
o-Phosphate-P	12.8	0.250	12.5	103	90-110
Sulfate	25.6	2.00	25.0	103	90-110

LCS Dup (2325054-BSD1) Prepared: 06/21/23 Analyzed: 06/21/23

Fluoride	2.66	0.250	2.50	106	90-110	0.0301	20
Chloride	25.1	2.00	25.0	100	90-110	0.0275	20
Nitrite-N	2.59	0.250	2.50	103	90-110	0.251	20
Nitrate-N	2.64	0.250	2.50	106	90-110	0.0227	20
o-Phosphate-P	12.9	0.250	12.5	103	90-110	0.199	20
Sulfate	25.7	2.00	25.0	103	90-110	0.0990	20

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/27/23 13:38

- H5 pH is specified to be performed in the field within 15 minutes of sampling. The sample analysis was performed as quickly as possible.
- M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



[illegible]

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by: GM

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature) <i>Calvin</i>	Date 6-20-23	Time 1515	Received by: (Signature) <i>Nichelle Camp</i>	Date 6-20-23	Time 1515	Lab Use Only Received on ice: ☒ Y ☐ N
Relinquished by: (Signature) <i>Nichelle Camp</i>	Date 6-20-23	Time 1700	Received by: (Signature) <i>Mike Russo</i>	Date 6-20-23	Time 1700	
Relinquished by: (Signature) <i>Mike Russo</i>	Date 6-20-23	Time 2230	Received by: (Signature) <i>Calvin</i>	Date 6/21/23	Time 1000	T1 _____ T2 _____ T3 _____
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other						AVG Temp °C <u>4</u>
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA						

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Envirotech Analytical Laboratory

Printed: 6/21/2023 1:18:45PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	06/21/23 10:00	Work Order ID:	E306166
Phone:	(539) 573-4018	Date Logged In:	06/21/23 13:10	Logged In By:	Alexa Michaels
Email:	devon-team@ensolum.com	Due Date:	06/27/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? No
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: Courier**Comments/Resolution****Sample Turn Around Time (TAT)**

6. Did the COC indicate standard TAT, or Expedited TAT? No

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? Yes
15. Are VOC samples collected in VOA Vials? Yes
16. Is the head space less than 6-8 mm (pea sized or less)? Yes
17. Was a trip blank (TB) included for VOC analyses? No
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? Yes
22. Are sample(s) correctly preserved? Yes
24. Is lab filtration required and/or requested for dissolved metals? Yes

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.

Project Information

Chain of Custody

Page 1 of 1

Client: WPX Energy Permian, LLC.				Bill To				Lab Use Only				TAT				EPA Program												
Project: North Brushy PW Line				Attention: Jim Raley				Lab WO#		Job Number		1D	2D	3D	Standard	CWA	SDWA											
Project Manager: Gilbert Moreno				Address: 5315 Buena Vista Dr.				E3061666		0058-0007																		
Address: 13000 W County Rd 100				City, State, Zip: Carlsbad, NM, 88220				Analysis and Method										RCRA										
City, State, Zip: Odessa, TX, 79765				Phone: 575-885-7502				Depth (ft.)	TPH GRO/DRO/ORO by 8015	BTX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	TDS	Cation/Anion	BGDOC NM	TX	GDOC										
Phone: 832-541-7719				Email: jim.raley@dv.com															State									
Email: Devon-team@etechenv.com				WBS/WO: MM-155117.AL.RNM															<table border="1"> <tr> <td>NM</td> <td>CO</td> <td>UT</td> <td>AZ</td> <td>TX</td> </tr> <tr> <td>x</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>									
NM	CO	UT	AZ	TX																								
x																												
Collected by: Gilbert Moreno				Incident ID: nAPP2231126594																								
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number												Remarks											
7:50	6.20.23	A	15	BH13	1												Client Confirmed all Containers are for one Sample. 6622/23 CM											
8:00	6.20.23	A	1	BH13	2																							
Additional Instructions:																												
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.												Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.																
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	Lab Use Only																				
<i>Calvin</i>		6.20.23	1515	<i>Michelle Gump</i>		6-20-23	1515	Received on ice: ☒ Y ☐ N																				
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	T1 _____ T2 _____ T3 _____																				
<i>Michelle Gump</i>		6-20-23	1700	<i>Andrew Russo</i>		6-20-23	1700																					
Relinquished by: (Signature)		Date	Time	Received by: (Signature)		Date	Time	AVG Temp °C																				
<i>Andrew Russo</i>		6-20-23	2230	<i>Calvin</i>		6/21/23	1000	4																				
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other												Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA																
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																												



envirotech

Report to:
Gilbert Moreno



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

WPX Energy - Carlsbad

Project Name: North Brushy PW Line

Work Order: E306169

Job Number: 01058-0007

Received: 6/21/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
6/27/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 6/27/23

Gilbert Moreno
5315 Buena Vista Dr
Carlsbad, NM 88220



Project Name: North Brushy PW Line
Workorder: E306169
Date Received: 6/21/2023 10:00:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/21/2023 10:00:00AM, under the Project Name: North Brushy PW Line.

The analytical test results summarized in this report with the Project Name: North Brushy PW Line apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
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Cell: 775-287-1762
whinchman@envirotech-inc.com

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Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/27/23 13:30

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH14	E306169-01A	Aqueous	06/20/23	06/21/23	Poly 500mL
	E306169-01B	Aqueous	06/20/23	06/21/23	Poly 250mL
	E306169-01C	Aqueous	06/20/23	06/21/23	VOA Vial, 40mL; HCl
	E306169-01D	Aqueous	06/20/23	06/21/23	VOA Vial, 40mL; HCl
	E306169-01E	Aqueous	06/20/23	06/21/23	VOA Vial, 40mL; HCl



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
6/27/2023 1:30:53PM

BH14
E306169-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	ug/L	ug/L		Analyst: IY		Batch: 2326012
Benzene	ND	1.00	1	06/26/23	06/26/23	G1
Ethylbenzene	ND	1.00	1	06/26/23	06/26/23	
Toluene	ND	1.00	1	06/26/23	06/26/23	
o-Xylene	ND	1.00	1	06/26/23	06/26/23	
p,m-Xylene	ND	2.00	1	06/26/23	06/26/23	
Total Xylenes	ND	1.00	1	06/26/23	06/26/23	
Surrogate: Bromofluorobenzene	101 %	70-130		06/26/23	06/26/23	
Surrogate: 1,2-Dichloroethane-d4	95.7 %	70-130		06/26/23	06/26/23	
Surrogate: Toluene-d8	101 %	70-130		06/26/23	06/26/23	
Wet Chem/Gravimetric by SM2540C						
	mg/L	mg/L		Analyst: RAS		Batch: 2325053
Total Dissolved Solids	8740	50.0	1	06/22/23	06/23/23	
Wet Chemistry by 9040C/4500H+B						
	pH Units	pH Units		Analyst: BA		Batch: 2325065
pH @25°C	6.95		1	06/22/23 14:02	06/22/23 14:49	H5
Wet Chemistry by SM2320B						
	mg/L	mg/L		Analyst: KH		Batch: 2326002
Total Alkalinity (as CaCO3 at pH 4.5)	530	10.0	1	06/26/23	06/26/23	
Bicarbonate Alkalinity (as CaCO3)	530		1	06/26/23	06/26/23	
Hydroxide Alkalinity (as CaCO3)	0.00		1	06/26/23	06/26/23	
Carbonate Alkalinity (as CaCO3)	0.00		1	06/26/23	06/26/23	
Wet Chemistry by 9050A/2510B						
	uS/cm	uS/cm		Analyst: BA		Batch: 2325060
Specific Conductance (@ 25 C)	13000	10.0	1	06/22/23	06/22/23	



Sample Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported: 6/27/2023 1:30:53PM
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	

BH14

E306169-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Dissolved Metals by EPA 6010C	mg/L	mg/L	Analyst: RKS		Batch: 2326005	
Calcium	1390	10.0	10	06/26/23	06/26/23	
Iron	ND	20.0	10	06/26/23	06/26/23	
Magnesium	112	10.0	10	06/26/23	06/26/23	
Potassium	56.5	10.0	10	06/26/23	06/26/23	
Sodium	1760	20.0	10	06/26/23	06/26/23	
Sodium Absorption Ratio (CALC)	12.2		1	06/27/23	06/27/23	
Anions by EPA 300.0/9056A	mg/L	mg/L	Analyst: BA		Batch: 2325054	
Fluoride	ND	25.0	100	06/21/23	06/21/23	
Chloride	4660	200	100	06/21/23	06/21/23	
Nitrite-N	ND	25.0	100	06/21/23 16:26	06/21/23 19:55	
Nitrate-N	ND	25.0	100	06/21/23 16:26	06/21/23 19:55	
o-Phosphate-P	ND	25.0	100	06/21/23 16:26	06/21/23 19:55	
Sulfate	214	200	100	06/21/23	06/21/23	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:30:53PM

Volatile Organic Compounds by EPA 8260B

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	ug/L	ug/L	ug/L	ug/L	%	%	%	%	

Blank (2326012-BLK1) Prepared: 06/26/23 Analyzed: 06/26/23

Benzene	ND	1.00							
Ethylbenzene	ND	1.00							
Toluene	ND	1.00							
o-Xylene	ND	1.00							
p,m-Xylene	ND	2.00							
Total Xylenes	ND	1.00							
Surrogate: Bromofluorobenzene	10.3		10.0		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	9.82		10.0		98.2	70-130			
Surrogate: Toluene-d8	9.89		10.0		98.9	70-130			

LCS (2326012-BS1) Prepared: 06/26/23 Analyzed: 06/26/23

Benzene	49.4	1.00	50.0		98.7	70-130			
Ethylbenzene	47.9	1.00	50.0		95.7	80-120			
Toluene	48.3	1.00	50.0		96.5	80-120			
o-Xylene	50.5	1.00	50.0		101	70-130			
p,m-Xylene	99.9	2.00	100		99.9	70-130			
Total Xylenes	150	1.00	150		100	70-130			
Surrogate: Bromofluorobenzene	10.0		10.0		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	9.74		10.0		97.4	70-130			
Surrogate: Toluene-d8	9.87		10.0		98.7	70-130			

LCS Dup (2326012-BSD1) Prepared: 06/26/23 Analyzed: 06/26/23

Benzene	48.5	1.00	50.0		97.0	70-130	1.74	20	
Ethylbenzene	47.1	1.00	50.0		94.3	80-120	1.54	20	
Toluene	47.3	1.00	50.0		94.6	80-120	2.01	20	
o-Xylene	49.8	1.00	50.0		99.6	70-130	1.32	20	
p,m-Xylene	98.3	2.00	100		98.3	70-130	1.58	20	
Total Xylenes	148	1.00	150		98.8	70-130	1.49	20	
Surrogate: Bromofluorobenzene	10.3		10.0		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	10.1		10.0		101	70-130			
Surrogate: Toluene-d8	9.90		10.0		99.0	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:30:53PM

Wet Chem/Gravimetric by SM2540C

Analyst: RAS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2325053-BLK1)					Prepared: 06/22/23 Analyzed: 06/23/23				
Total Dissolved Solids	ND	10.0							
LCS (2325053-BS1)					Prepared: 06/22/23 Analyzed: 06/23/23				
Total Dissolved Solids	87.0	10.0	100		87.0	55-134			
Duplicate (2325053-DUP1)					Source: E306166-01		Prepared: 06/22/23 Analyzed: 06/23/23		
Total Dissolved Solids	52600	10.0		52900		0.635	5		



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:30:53PM

Wet Chemistry by 9040C/4500H+B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	pH Units	pH Units	pH Units	pH Units	%	%	%	%	

LCS (2325065-BS1)	Prepared: 06/22/23 Analyzed: 06/22/23								
pH	7.91		8.00		99.5	98.75-101.25			
Duplicate (2325065-DUP1)	Source: E306166-01 Prepared: 06/22/23 Analyzed: 06/22/23								
pH	6.62			6.62		0.00	20		



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:30:53PM

Wet Chemistry by SM2320B

Analyst: KH

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

LCS (2326002-BS1)	Prepared: 06/26/23 Analyzed: 06/26/23								
Total Alkalinity (as CaCO3 at pH 4.5)	241	10.0	250		96.4	70-130			
Duplicate (2326002-DUP1)	Source: E306169-01 Prepared: 06/26/23 Analyzed: 06/26/23								
Total Alkalinity (as CaCO3 at pH 4.5)	536	10.0		530			1.13	20	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:30:53PM

Wet Chemistry by 9050A/2510B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	uS/cm	uS/cm	uS/cm	uS/cm	%	%	%	%	

Blank (2325060-BLK1)					Prepared: 06/22/23 Analyzed: 06/22/23				
Specific Conductance (@ 25 C)	ND	10.0							
LCS (2325060-BS1)					Prepared: 06/22/23 Analyzed: 06/22/23				
Specific Conductance (@ 25 C)	1400	10.0	1410		98.9	98-102			
Duplicate (2325060-DUP1)					Source: E306166-01 Prepared: 06/22/23 Analyzed: 06/22/23				
Specific Conductance (@ 25 C)	73400	10.0		72000			1.93	20	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:30:53PM

Dissolved Metals by EPA 6010C

Analyst: RKS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2326005-BLK1) Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	ND	1.00
Iron	ND	2.00
Magnesium	ND	1.00
Potassium	ND	1.00
Sodium	ND	2.00

LCS (2326005-BS1) Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	55.0	1.00	50.0	110	80-120
Iron	110	2.00	100	110	80-120
Magnesium	54.5	1.00	50.0	109	80-120
Potassium	5.43	1.00	5.00	109	80-120
Sodium	19.6	2.00	20.0	98.2	80-120

Matrix Spike (2326005-MS1) Source: E306151-01 Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	562	10.0	500	39.7	104	75-125	
Iron	1070	20.0	1000	ND	107	75-125	
Magnesium	545	10.0	500	25.5	104	75-125	
Potassium	286	10.0	50.0	212	146	75-125	M4
Sodium	1910	20.0	200	1630	139	75-125	M4

Matrix Spike Dup (2326005-MSD1) Source: E306151-01 Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	565	10.0	500	39.7	105	75-125	0.444	20	
Iron	1070	20.0	1000	ND	107	75-125	0.0937	20	
Magnesium	534	10.0	500	25.5	102	75-125	2.02	20	
Potassium	280	10.0	50.0	212	135	75-125	2.02	20	M4
Sodium	1860	20.0	200	1630	112	75-125	2.87	20	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:30:53PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2325054-BLK1)

Prepared: 06/21/23 Analyzed: 06/21/23

Fluoride	ND	0.250
Chloride	ND	2.00
Nitrite-N	ND	0.250
Nitrate-N	ND	0.250
o-Phosphate-P	ND	0.250
Sulfate	ND	2.00

LCS (2325054-BS1)

Prepared: 06/21/23 Analyzed: 06/21/23

Fluoride	2.66	0.250	2.50	106	90-110
Chloride	25.1	2.00	25.0	100	90-110
Nitrite-N	2.59	0.250	2.50	104	90-110
Nitrate-N	2.64	0.250	2.50	106	90-110
o-Phosphate-P	12.8	0.250	12.5	103	90-110
Sulfate	25.6	2.00	25.0	103	90-110

LCS Dup (2325054-BSD1)

Prepared: 06/21/23 Analyzed: 06/21/23

Fluoride	2.66	0.250	2.50	106	90-110	0.0301	20
Chloride	25.1	2.00	25.0	100	90-110	0.0275	20
Nitrite-N	2.59	0.250	2.50	103	90-110	0.251	20
Nitrate-N	2.64	0.250	2.50	106	90-110	0.0227	20
o-Phosphate-P	12.9	0.250	12.5	103	90-110	0.199	20
Sulfate	25.7	2.00	25.0	103	90-110	0.0990	20

QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/27/23 13:30

- G1 pH >2. Sample had a pH of 4.5.
- H5 pH is specified to be performed in the field within 15 minutes of sampling. The sample analysis was performed as quickly as possible.
- M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



[illegible]

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: GM

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature) <i>C. B. B.</i>	Date 6-20-23	Time 1515	Received by: (Signature) <i>M. C. B.</i>	Date 6-20-23	Time 1515	Lab Use Only Received on ice: ☒ Y ☐ N	
Relinquished by: (Signature) <i>M. C. B.</i>	Date 6-20-23	Time 1700	Received by: (Signature) <i>M. C. B.</i>	Date 6-20-23	Time 1700		
Relinquished by: (Signature) <i>M. C. B.</i>	Date 6-20-23	Time 2230	Received by: (Signature) <i>M. C. B.</i>	Date 6/21/23	Time 1600	T1 _____ T2 _____ T3 _____ AVG Temp °C <u>4</u>	
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other						Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA	

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Envirotech Analytical Laboratory

Printed: 6/21/2023 1:31:39PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	06/21/23 10:00	Work Order ID:	E306169
Phone:	(539) 573-4018	Date Logged In:	06/21/23 13:29	Logged In By:	Alexa Michaels
Email:	devon-team@ensolum.com	Due Date:	06/27/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? No
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: Courier**Comments/Resolution****Sample Turn Around Time (TAT)**

6. Did the COC indicate standard TAT, or Expedited TAT? No

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? Yes
15. Are VOC samples collected in VOA Vials? Yes
16. Is the head space less than 6-8 mm (pea sized or less)? Yes
17. Was a trip blank (TB) included for VOC analyses? No
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? Yes
22. Are sample(s) correctly preserved? Yes
24. Is lab filtration required and/or requested for dissolved metals? Yes

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.



Report to:
Gilbert Moreno



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

WPX Energy - Carlsbad

Project Name: North Brushy PW Line

Work Order: E306190

Job Number: 01058-0007

Received: 6/23/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
6/29/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 6/29/23

Gilbert Moreno
5315 Buena Vista Dr
Carlsbad, NM 88220



Project Name: North Brushy PW Line
Workorder: E306190
Date Received: 6/23/2023 7:30:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/23/2023 7:30:00AM, under the Project Name: North Brushy PW Line.

The analytical test results summarized in this report with the Project Name: North Brushy PW Line apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
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Cell: 775-287-1762
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Sample Summary

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/29/23 14:47

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH18	E306190-01A	Aqueous	06/22/23	06/23/23	Poly 500mL
	E306190-01B	Aqueous	06/22/23	06/23/23	Poly 250mL
	E306190-01C	Aqueous	06/22/23	06/23/23	VOA Vial, 40mL; HCl
	E306190-01D	Aqueous	06/22/23	06/23/23	VOA Vial, 40mL; HCl
	E306190-01E	Aqueous	06/22/23	06/23/23	VOA Vial, 40mL; HCl



Sample Data

WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220	Project Name: North Brushy PW Line Project Number: 01058-0007 Project Manager: Gilbert Moreno	Reported: 6/29/2023 2:47:36PM
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BH18

E306190-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	ug/L	ug/L		Analyst: IY		Batch: 2326012
Benzene	ND	1.00	1	06/26/23	06/26/23	G1
Ethylbenzene	ND	1.00	1	06/26/23	06/26/23	
Toluene	ND	1.00	1	06/26/23	06/26/23	
o-Xylene	ND	1.00	1	06/26/23	06/26/23	
p,m-Xylene	ND	2.00	1	06/26/23	06/26/23	
Total Xylenes	ND	1.00	1	06/26/23	06/26/23	
Surrogate: Bromofluorobenzene	102 %	70-130		06/26/23	06/26/23	
Surrogate: 1,2-Dichloroethane-d4	99.5 %	70-130		06/26/23	06/26/23	
Surrogate: Toluene-d8	99.3 %	70-130		06/26/23	06/26/23	
Wet Chem/Gravimetric by SM2540C						
	mg/L	mg/L		Analyst: RAS		Batch: 2325053
Total Dissolved Solids	875	10.0	1	06/23/23	06/23/23	
Wet Chemistry by 9040C/4500H+B						
	pH Units	pH Units		Analyst: BA		Batch: 2326067
pH @25°C	7.89		1	06/29/23 10:39	06/29/23 14:00	H5
Wet Chemistry by SM2320B						
	mg/L	mg/L		Analyst: KH		Batch: 2326002
Total Alkalinity (as CaCO3 at pH 4.5)	454	10.0	1	06/26/23	06/26/23	
Wet Chemistry by 9050A/2510B						
	uS/cm	uS/cm		Analyst: RAS		Batch: 2326052
Specific Conductance (@ 25 C)	1150	10.0	1	06/29/23	06/29/23	
Dissolved Metals by EPA 6010C						
	mg/L	mg/L		Analyst: RKS		Batch: 2326005
Calcium	41.0	1.00	1	06/26/23	06/26/23	
Iron	ND	2.00	1	06/26/23	06/26/23	
Magnesium	4.28	1.00	1	06/26/23	06/26/23	
Potassium	3.24	1.00	1	06/26/23	06/26/23	
Sodium	262	2.00	1	06/26/23	06/26/23	
Sodium Absorption Ratio (CALC)	10.4		1	06/27/23	06/27/23	



Sample Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported: 6/29/2023 2:47:36PM
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	

BH18

E306190-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Anions by EPA 300.0/9056A	mg/L	mg/L	Analyst: RAS		Batch: 2325063	
Fluoride	3.26	0.250	1	06/22/23	06/23/23	
Chloride	113	2.00	1	06/22/23	06/23/23	
Nitrite-N	ND	0.250	1	06/22/23 12:33	06/23/23 10:34	
Nitrate-N	18.3	0.250	1	06/22/23 12:33	06/23/23 10:34	
o-Phosphate-P	ND	0.250	1	06/22/23 12:33	06/23/23 10:34	
Sulfate	60.6	2.00	1	06/22/23	06/23/23	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/29/2023 2:47:36PM

Volatile Organic Compounds by EPA 8260B

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	ug/L	ug/L	ug/L	ug/L	%	%	%	%	

Blank (2326012-BLK1) Prepared: 06/26/23 Analyzed: 06/26/23

Benzene	ND	1.00							
Ethylbenzene	ND	1.00							
Toluene	ND	1.00							
o-Xylene	ND	1.00							
p,m-Xylene	ND	2.00							
Total Xylenes	ND	1.00							
Surrogate: Bromofluorobenzene	10.3		10.0		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	9.82		10.0		98.2	70-130			
Surrogate: Toluene-d8	9.89		10.0		98.9	70-130			

LCS (2326012-BS1) Prepared: 06/26/23 Analyzed: 06/26/23

Benzene	49.4	1.00	50.0		98.7	70-130			
Ethylbenzene	47.9	1.00	50.0		95.7	80-120			
Toluene	48.3	1.00	50.0		96.5	80-120			
o-Xylene	50.5	1.00	50.0		101	70-130			
p,m-Xylene	99.9	2.00	100		99.9	70-130			
Total Xylenes	150	1.00	150		100	70-130			
Surrogate: Bromofluorobenzene	10.0		10.0		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	9.74		10.0		97.4	70-130			
Surrogate: Toluene-d8	9.87		10.0		98.7	70-130			

LCS Dup (2326012-BSD1) Prepared: 06/26/23 Analyzed: 06/26/23

Benzene	48.5	1.00	50.0		97.0	70-130	1.74	20	
Ethylbenzene	47.1	1.00	50.0		94.3	80-120	1.54	20	
Toluene	47.3	1.00	50.0		94.6	80-120	2.01	20	
o-Xylene	49.8	1.00	50.0		99.6	70-130	1.32	20	
p,m-Xylene	98.3	2.00	100		98.3	70-130	1.58	20	
Total Xylenes	148	1.00	150		98.8	70-130	1.49	20	
Surrogate: Bromofluorobenzene	10.3		10.0		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	10.1		10.0		101	70-130			
Surrogate: Toluene-d8	9.90		10.0		99.0	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/29/2023 2:47:36PM

Wet Chem/Gravimetric by SM2540C

Analyst: RAS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2325053-BLK1)					Prepared: 06/22/23 Analyzed: 06/23/23				
Total Dissolved Solids	ND	10.0							
LCS (2325053-BS1)					Prepared: 06/22/23 Analyzed: 06/23/23				
Total Dissolved Solids	87.0	10.0	100		87.0	55-134			
Duplicate (2325053-DUP1)					Source: E306166-01 Prepared: 06/22/23 Analyzed: 06/23/23				
Total Dissolved Solids	52600	10.0		52900		0.635	5		



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/29/2023 2:47:36PM

Wet Chemistry by 9040C/4500H+B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	pH Units	pH Units	pH Units	pH Units	%	%	%	%	

LCS (2326067-BS1)	Prepared: 06/29/23 Analyzed: 06/29/23								
pH	7.96		8.00		99.8	98.75-101.25			
Duplicate (2326067-DUP1)	Source: E306190-01 Prepared: 06/29/23 Analyzed: 06/29/23								
pH	7.85			7.89		0.508	20		



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/29/2023 2:47:36PM

Wet Chemistry by SM2320B

Analyst: KH

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

LCS (2326002-BS1)					Prepared: 06/26/23 Analyzed: 06/26/23				
Total Alkalinity (as CaCO3 at pH 4.5)	241	10.0	250		96.4	70-130			
Duplicate (2326002-DUP1)					Source: E306169-01		Prepared: 06/26/23 Analyzed: 06/26/23		
Total Alkalinity (as CaCO3 at pH 4.5)	536	10.0		530			1.13	20	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/29/2023 2:47:36PM

Wet Chemistry by 9050A/2510B

Analyst: RAS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	uS/cm	uS/cm	uS/cm	uS/cm	%	%	%	%	

Blank (2326052-BLK1)	Prepared: 06/29/23 Analyzed: 06/29/23								
Specific Conductance (@ 25 C)	ND	10.0							
LCS (2326052-BS1)	Prepared: 06/29/23 Analyzed: 06/29/23								
Specific Conductance (@ 25 C)	1390	10.0	1410		98.2	98-102			
Duplicate (2326052-DUP1)	Source: E306190-01 Prepared: 06/29/23 Analyzed: 06/29/23								
Specific Conductance (@ 25 C)	1210	10.0		1150			4.57	20	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/29/2023 2:47:36PM

Dissolved Metals by EPA 6010C

Analyst: RKS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2326005-BLK1) Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	ND	1.00
Iron	ND	2.00
Magnesium	ND	1.00
Potassium	ND	1.00
Sodium	ND	2.00

LCS (2326005-BS1) Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	55.0	1.00	50.0	110	80-120
Iron	110	2.00	100	110	80-120
Magnesium	54.5	1.00	50.0	109	80-120
Potassium	5.43	1.00	5.00	109	80-120
Sodium	19.6	2.00	20.0	98.2	80-120

Matrix Spike (2326005-MS1) Source: E306151-01 Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	562	10.0	500	39.7	104	75-125	
Iron	1070	20.0	1000	ND	107	75-125	
Magnesium	545	10.0	500	25.5	104	75-125	
Potassium	286	10.0	50.0	212	146	75-125	M4
Sodium	1910	20.0	200	1630	139	75-125	M4

Matrix Spike Dup (2326005-MSD1) Source: E306151-01 Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	565	10.0	500	39.7	105	75-125	0.444	20	
Iron	1070	20.0	1000	ND	107	75-125	0.0937	20	
Magnesium	534	10.0	500	25.5	102	75-125	2.02	20	
Potassium	280	10.0	50.0	212	135	75-125	2.02	20	M4
Sodium	1860	20.0	200	1630	112	75-125	2.87	20	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/29/2023 2:47:36PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2325063-BLK1) Prepared: 06/22/23 Analyzed: 06/22/23

Fluoride	ND	0.250
Chloride	ND	2.00
Nitrite-N	ND	0.250
Nitrate-N	ND	0.250
o-Phosphate-P	ND	0.250
Sulfate	ND	2.00

LCS (2325063-BS1) Prepared: 06/22/23 Analyzed: 06/23/23

Fluoride	2.56	0.250	2.50	103	90-110
Chloride	24.5	2.00	25.0	98.0	90-110
Nitrite-N	2.64	0.250	2.50	105	90-110
Nitrate-N	2.53	0.250	2.50	101	90-110
o-Phosphate-P	12.4	0.250	12.5	99.1	90-110
Sulfate	24.6	2.00	25.0	98.2	90-110

LCS Dup (2325063-BSD1) Prepared: 06/22/23 Analyzed: 06/23/23

Fluoride	2.59	0.250	2.50	104	90-110	1.09	20
Chloride	24.6	2.00	25.0	98.5	90-110	0.557	20
Nitrite-N	2.64	0.250	2.50	105	90-110	0.0152	20
Nitrate-N	2.53	0.250	2.50	101	90-110	0.150	20
o-Phosphate-P	12.5	0.250	12.5	100	90-110	1.06	20
Sulfate	24.7	2.00	25.0	98.9	90-110	0.719	20

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/29/23 14:47

- G1

pH >2. Sample had a pH of 5.5.
- H5

pH is specified to be performed in the field within 15 minutes of sampling. The sample analysis was performed as quickly as possible.
- M4

Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- ND

Analyte NOT DETECTED at or above the reporting limit
- NR

Not Reported
- RPD

Relative Percent Difference
- DNI

Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Client: WPX Energy Permian, LLC.						Bill To							Lab Use Only								TAT				EPA Program			
Project: North Brushy PW Line						Attention: Jim Raley							Lab WO# E30690				Job Number Q0580007				1D	2D	3D	Standard		CWA	SDWA	
Project Manager: Gilbert Moreno						Address: 5315 Buena Vista Dr.															5 Day TAT							
Address: 13000 W County Rd 100						City, State, Zip: Carlsbad, NM, 88220							Analysis and Method												RCRA			
City, State, Zip_Odessa,TX, 79765						Phone: 575-885-7502							Depth(ft.)	TPH GRO/DRO/ORO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	TDS	Cation/Anion	BGDOC NM	GDOC TX	State					
Phone: 832-541-7719						Email: jim.raley@dv.com																	NM	CO	UT	AZ	TX	
Email: Devon-team@etechenv.com						WBS/WO: MM-155117.AL.RNM																	x					
Collected by: Gilbert Moreno						Incident ID: nAPP2231126594																	Remarks					
Time Sampled	Date Sampled	Matrix	No. of Containers	Sample ID	Lab Number																							
8:00	6.22.23	A	5	BH18	/			X			X	X	X															
Additional Instructions:																												
I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Relinquished by: (Signature) Date Time Received by: (Signature) Date Time <i>Gilbert Moreno</i> 6.22.23 1300 <i>Michele Engade</i> 6.22.23 1300 Received on ice: Y/N <i>Michele Engade</i> 6.22.23 1730 <i>Andrew Messo</i> 6.22.23 1845 Relinquished by: (Signature) Date Time Received by: (Signature) Date Time <i>Andrew Messo</i> 6.23.23 2400 <i>Cathy Man</i> 6/23/23 7:30 AVG Temp °C 4																Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.												
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA																												
Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.																												

Envirotech Analytical Laboratory

Printed: 6/23/2023 8:44:38AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	06/23/23 07:30	Work Order ID:	E306190
Phone:	(539) 573-4018	Date Logged In:	06/23/23 08:42	Logged In By:	Caitlin Mars
Email:	devon-team@ensolum.com	Due Date:	06/29/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? Yes
15. Are VOC samples collected in VOA Vials? Yes
16. Is the head space less than 6-8 mm (pea sized or less)? Yes
17. Was a trip blank (TB) included for VOC analyses? No
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? Yes
22. Are sample(s) correctly preserved? Yes
24. Is lab filtration required and/or requested for dissolved metals? Yes

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

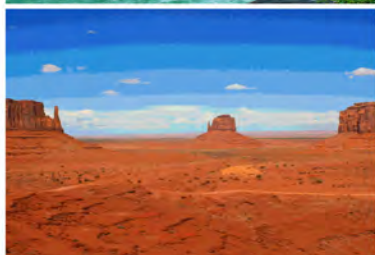
Date



envirotech Inc.

Report to:

Gilbert Moreno



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

WPX Energy - Carlsbad

Project Name: North Brushy PW Line

Work Order: E306167

Job Number: 01058-0007

Received: 6/21/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
6/27/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 6/27/23

Gilbert Moreno
5315 Buena Vista Dr
Carlsbad, NM 88220



Project Name: North Brushy PW Line
Workorder: E306167
Date Received: 6/21/2023 10:00:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 6/21/2023 10:00:00AM, under the Project Name: North Brushy PW Line.

The analytical test results summarized in this report with the Project Name: North Brushy PW Line apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
Office: 505-632-1881
Cell: 775-287-1762
whinchman@envirotech-inc.com

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Rayny Hagan
Technical Representative
Office: 505-421-LABS(5227)

Envirotech Web Address: www.envirotech-inc.com

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Sample Summary

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/27/23 13:28

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH19	E306167-01A	Aqueous	06/20/23	06/21/23	Poly 500mL
	E306167-01B	Aqueous	06/20/23	06/21/23	Poly 250mL
	E306167-01C	Aqueous	06/20/23	06/21/23	VOA Vial, 40mL; HCl
	E306167-01D	Aqueous	06/20/23	06/21/23	VOA Vial, 40mL; HCl
	E306167-01E	Aqueous	06/20/23	06/21/23	VOA Vial, 40mL; HCl



Sample Data

WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220	Project Name: North Brushy PW Line Project Number: 01058-0007 Project Manager: Gilbert Moreno	Reported: 6/27/2023 1:28:39PM
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BH19

E306167-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	ug/L	ug/L		Analyst: IY		Batch: 2326012
Benzene	ND	1.00	1	06/26/23	06/26/23	G1
Ethylbenzene	ND	1.00	1	06/26/23	06/26/23	
Toluene	ND	1.00	1	06/26/23	06/26/23	
o-Xylene	ND	1.00	1	06/26/23	06/26/23	
p,m-Xylene	ND	2.00	1	06/26/23	06/26/23	
Total Xylenes	ND	1.00	1	06/26/23	06/26/23	
Surrogate: Bromofluorobenzene	102 %	70-130		06/26/23	06/26/23	
Surrogate: 1,2-Dichloroethane-d4	96.9 %	70-130		06/26/23	06/26/23	
Surrogate: Toluene-d8	100 %	70-130		06/26/23	06/26/23	
Wet Chem/Gravimetric by SM2540C						
	mg/L	mg/L		Analyst: RAS		Batch: 2325053
Total Dissolved Solids	1370	10.0	1	06/22/23	06/23/23	
Wet Chemistry by 9040C/4500H+B						
	pH Units	pH Units		Analyst: BA		Batch: 2325065
pH @25°C	7.30		1	06/22/23 14:02	06/22/23 14:49	H5
Wet Chemistry by SM2320B						
	mg/L	mg/L		Analyst: KH		Batch: 2326002
Total Alkalinity (as CaCO3 at pH 4.5)	1940	10.0	1	06/26/23	06/26/23	
Bicarbonate Alkalinity (as CaCO3)	1940		1	06/26/23	06/26/23	
Hydroxide Alkalinity (as CaCO3)	0.00		1	06/26/23	06/26/23	
Carbonate Alkalinity (as CaCO3)	0.00		1	06/26/23	06/26/23	
Wet Chemistry by 9050A/2510B						
	uS/cm	uS/cm		Analyst: BA		Batch: 2325060
Specific Conductance (@ 25 C)	2800	10.0	1	06/22/23	06/22/23	



Sample Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported: 6/27/2023 1:28:39PM
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	

BH19

E306167-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Dissolved Metals by EPA 6010C	mg/L	mg/L	Analyst: RKS		Batch: 2326005	
Calcium	269	1.00	1	06/26/23	06/26/23	
Iron	ND	2.00	1	06/26/23	06/26/23	
Magnesium	87.3	1.00	1	06/26/23	06/26/23	
Potassium	3.84	1.00	1	06/26/23	06/26/23	
Sodium	301	2.00	1	06/26/23	06/26/23	
Sodium Absorption Ratio (CALC)	4.08		1	06/27/23	06/27/23	
Anions by EPA 300.0/9056A	mg/L	mg/L	Analyst: BA		Batch: 2325054	
Fluoride	4.82	2.50	10	06/21/23	06/21/23	
Chloride	339	20.0	10	06/21/23	06/21/23	
Nitrite-N	ND	2.50	10	06/21/23 16:26	06/21/23 19:36	
Nitrate-N	4.08	2.50	10	06/21/23 16:26	06/21/23 19:36	
o-Phosphate-P	ND	2.50	10	06/21/23 16:26	06/21/23 19:36	
Sulfate	783	20.0	10	06/21/23	06/21/23	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:28:39PM

Volatile Organic Compounds by EPA 8260B

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	ug/L	ug/L	ug/L	ug/L	%	%	%	%	

Blank (2326012-BLK1) Prepared: 06/26/23 Analyzed: 06/26/23

Benzene	ND	1.00							
Ethylbenzene	ND	1.00							
Toluene	ND	1.00							
o-Xylene	ND	1.00							
p,m-Xylene	ND	2.00							
Total Xylenes	ND	1.00							
Surrogate: Bromofluorobenzene	10.3		10.0		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	9.82		10.0		98.2	70-130			
Surrogate: Toluene-d8	9.89		10.0		98.9	70-130			

LCS (2326012-BS1) Prepared: 06/26/23 Analyzed: 06/26/23

Benzene	49.4	1.00	50.0		98.7	70-130			
Ethylbenzene	47.9	1.00	50.0		95.7	80-120			
Toluene	48.3	1.00	50.0		96.5	80-120			
o-Xylene	50.5	1.00	50.0		101	70-130			
p,m-Xylene	99.9	2.00	100		99.9	70-130			
Total Xylenes	150	1.00	150		100	70-130			
Surrogate: Bromofluorobenzene	10.0		10.0		100	70-130			
Surrogate: 1,2-Dichloroethane-d4	9.74		10.0		97.4	70-130			
Surrogate: Toluene-d8	9.87		10.0		98.7	70-130			

LCS Dup (2326012-BSD1) Prepared: 06/26/23 Analyzed: 06/26/23

Benzene	48.5	1.00	50.0		97.0	70-130	1.74	20	
Ethylbenzene	47.1	1.00	50.0		94.3	80-120	1.54	20	
Toluene	47.3	1.00	50.0		94.6	80-120	2.01	20	
o-Xylene	49.8	1.00	50.0		99.6	70-130	1.32	20	
p,m-Xylene	98.3	2.00	100		98.3	70-130	1.58	20	
Total Xylenes	148	1.00	150		98.8	70-130	1.49	20	
Surrogate: Bromofluorobenzene	10.3		10.0		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	10.1		10.0		101	70-130			
Surrogate: Toluene-d8	9.90		10.0		99.0	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:28:39PM

Wet Chem/Gravimetric by SM2540C

Analyst: RAS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2325053-BLK1)					Prepared: 06/22/23 Analyzed: 06/23/23				
Total Dissolved Solids	ND	10.0							
LCS (2325053-BS1)					Prepared: 06/22/23 Analyzed: 06/23/23				
Total Dissolved Solids	87.0	10.0	100		87.0	55-134			
Duplicate (2325053-DUP1)					Source: E306166-01 Prepared: 06/22/23 Analyzed: 06/23/23				
Total Dissolved Solids	52600	10.0		52900		0.635	5		



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:28:39PM

Wet Chemistry by 9040C/4500H+B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	pH Units	pH Units	pH Units	pH Units	%	%	%	%	

LCS (2325065-BS1)	Prepared: 06/22/23 Analyzed: 06/22/23								
pH	7.91		8.00		99.5	98.75-101.25			
Duplicate (2325065-DUP1)	Source: E306166-01 Prepared: 06/22/23 Analyzed: 06/22/23								
pH	6.62			6.62		0.00	20		



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:28:39PM

Wet Chemistry by SM2320B

Analyst: KH

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

LCS (2326002-BS1)					Prepared: 06/26/23 Analyzed: 06/26/23				
Total Alkalinity (as CaCO3 at pH 4.5)	241	10.0	250		96.4	70-130			
Duplicate (2326002-DUP1)					Source: E306169-01		Prepared: 06/26/23 Analyzed: 06/26/23		
Total Alkalinity (as CaCO3 at pH 4.5)	536	10.0		530			1.13	20	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:28:39PM

Wet Chemistry by 9050A/2510B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	uS/cm	uS/cm	uS/cm	uS/cm	%	%	%	%	

Blank (2325060-BLK1)					Prepared: 06/22/23 Analyzed: 06/22/23				
Specific Conductance (@ 25 C)	ND	10.0							
LCS (2325060-BS1)					Prepared: 06/22/23 Analyzed: 06/22/23				
Specific Conductance (@ 25 C)	1400	10.0	1410		98.9	98-102			
Duplicate (2325060-DUP1)					Source: E306166-01 Prepared: 06/22/23 Analyzed: 06/22/23				
Specific Conductance (@ 25 C)	73400	10.0		72000			1.93	20	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:28:39PM

Dissolved Metals by EPA 6010C

Analyst: RKS

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2326005-BLK1)

Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	ND	1.00
Iron	ND	2.00
Magnesium	ND	1.00
Potassium	ND	1.00
Sodium	ND	2.00

LCS (2326005-BS1)

Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	55.0	1.00	50.0	110	80-120
Iron	110	2.00	100	110	80-120
Magnesium	54.5	1.00	50.0	109	80-120
Potassium	5.43	1.00	5.00	109	80-120
Sodium	19.6	2.00	20.0	98.2	80-120

Matrix Spike (2326005-MS1)

Source: E306151-01

Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	562	10.0	500	39.7	104	75-125
Iron	1070	20.0	1000	ND	107	75-125
Magnesium	545	10.0	500	25.5	104	75-125
Potassium	286	10.0	50.0	212	146	75-125
Sodium	1910	20.0	200	1630	139	75-125

M4
M4

Matrix Spike Dup (2326005-MSD1)

Source: E306151-01

Prepared: 06/26/23 Analyzed: 06/26/23

Calcium	565	10.0	500	39.7	105	75-125	0.444	20
Iron	1070	20.0	1000	ND	107	75-125	0.0937	20
Magnesium	534	10.0	500	25.5	102	75-125	2.02	20
Potassium	280	10.0	50.0	212	135	75-125	2.02	20
Sodium	1860	20.0	200	1630	112	75-125	2.87	20

M4



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	6/27/2023 1:28:39PM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2325054-BLK1) Prepared: 06/21/23 Analyzed: 06/21/23

Fluoride	ND	0.250
Chloride	ND	2.00
Nitrite-N	ND	0.250
Nitrate-N	ND	0.250
o-Phosphate-P	ND	0.250
Sulfate	ND	2.00

LCS (2325054-BS1) Prepared: 06/21/23 Analyzed: 06/21/23

Fluoride	2.66	0.250	2.50	106	90-110
Chloride	25.1	2.00	25.0	100	90-110
Nitrite-N	2.59	0.250	2.50	104	90-110
Nitrate-N	2.64	0.250	2.50	106	90-110
o-Phosphate-P	12.8	0.250	12.5	103	90-110
Sulfate	25.6	2.00	25.0	103	90-110

LCS Dup (2325054-BSD1) Prepared: 06/21/23 Analyzed: 06/21/23

Fluoride	2.66	0.250	2.50	106	90-110	0.0301	20
Chloride	25.1	2.00	25.0	100	90-110	0.0275	20
Nitrite-N	2.59	0.250	2.50	103	90-110	0.251	20
Nitrate-N	2.64	0.250	2.50	106	90-110	0.0227	20
o-Phosphate-P	12.9	0.250	12.5	103	90-110	0.199	20
Sulfate	25.7	2.00	25.0	103	90-110	0.0990	20

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	06/27/23 13:28

- G1 pH >2. Sample had a pH of 4.5.
- H5 pH is specified to be performed in the field within 15 minutes of sampling. The sample analysis was performed as quickly as possible.
- M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



[illegible]

Envirotech Analytical Laboratory

Printed: 6/21/2023 1:27:11PM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	06/21/23 10:00	Work Order ID:	E306167
Phone:	(539) 573-4018	Date Logged In:	06/21/23 13:21	Logged In By:	Alexa Michaels
Email:	devon-team@ensolum.com	Due Date:	06/27/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? No
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? No

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? Yes
15. Are VOC samples collected in VOA Vials? Yes
16. Is the head space less than 6-8 mm (pea sized or less)? Yes
17. Was a trip blank (TB) included for VOC analyses? No
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? Yes
22. Are sample(s) correctly preserved? Yes
24. Is lab filtration required and/or requested for dissolved metals? Yes

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date

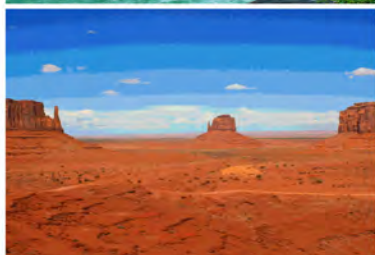


envirotech Inc.



Report to:

Gilbert Moreno



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

WPX Energy - Carlsbad

Project Name: North Brushy PW Line

Work Order: E308026

Job Number: 01058-0007

Received: 8/4/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
8/11/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 8/11/23

Gilbert Moreno
5315 Buena Vista Dr
Carlsbad, NM 88220



Project Name: North Brushy PW Line
Workorder: E308026
Date Received: 8/4/2023 8:00:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 8/4/2023 8:00:00AM, under the Project Name: North Brushy PW Line.

The analytical test results summarized in this report with the Project Name: North Brushy PW Line apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
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Sample Summary

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	08/11/23 10:26

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH21	E308026-01A	Aqueous	08/03/23	08/04/23	Poly 500mL
	E308026-01B	Aqueous	08/03/23	08/04/23	Poly 500mL
	E308026-01C	Aqueous	08/03/23	08/04/23	VOA Vial, 40mL; HCl
	E308026-01D	Aqueous	08/03/23	08/04/23	VOA Vial, 40mL; HCl
	E308026-01E	Aqueous	08/03/23	08/04/23	VOA Vial, 40mL; HCl



Sample Data

WPX Energy - Carlsbad
5315 Buena Vista Dr
Carlsbad NM, 88220

Project Name: North Brushy PW Line
Project Number: 01058-0007
Project Manager: Gilbert Moreno

Reported:
8/11/2023 10:26:18AM

BH21

E308026-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C						
	mg/L	mg/L		Analyst: KF		Batch: 2332019
Total Dissolved Solids	3350	10.0	1	08/07/23	08/07/23	
Wet Chemistry by 9040C/4500H+B						
	pH Units	pH Units		Analyst: BA		Batch: 2332024
pH @25°C	7.37		1	08/08/23 08:24	08/08/23 10:31	H5
Wet Chemistry by SM2320B						
	mg/L	mg/L		Analyst: KH		Batch: 2332057
Total Alkalinity (as CaCO ₃ at pH 4.5)	1960	10.0	1	08/09/23	08/10/23	
Wet Chemistry by 9050A/2510B						
	uS/cm	uS/cm		Analyst: KF		Batch: 2332033
Specific Conductance (@ 25 C)	5090	10.0	1	08/08/23	08/08/23	
Volatile Organics by EPA 8021B						
	ug/L	ug/L		Analyst: IY		Batch: 2332036
Benzene	ND	1.00	1	08/08/23	08/08/23	
Ethylbenzene	ND	1.00	1	08/08/23	08/08/23	
Toluene	ND	1.00	1	08/08/23	08/08/23	
o-Xylene	ND	1.00	1	08/08/23	08/08/23	
p,m-Xylene	ND	2.00	1	08/08/23	08/08/23	
Total Xylenes	ND	1.00	1	08/08/23	08/08/23	
Surrogate: 4-Bromochlorobenzene-PID	97.6 %	70-130		08/08/23	08/08/23	
Dissolved Metals by EPA 6010C						
	mg/L	mg/L		Analyst: JL		Batch: 2332025
Calcium	6560	20.0	20	08/08/23	08/08/23	
Iron	503	40.0	20	08/08/23	08/08/23	
Magnesium	303	20.0	20	08/08/23	08/08/23	
Potassium	55.2	20.0	20	08/08/23	08/08/23	
Sodium	341	40.0	20	08/08/23	08/08/23	
Sodium Absorption Ratio (CALC)	1.12		1	08/09/23	08/09/23	



Sample Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported: 8/11/2023 10:26:18AM
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	

BH21

E308026-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Anions by EPA 300.0/9056A	mg/L	mg/L	Analyst: BA		Batch: 2331091	
Fluoride	ND	5.00	20	08/04/23	08/08/23	
Chloride	1380	40.0	20	08/04/23	08/08/23	
Nitrite-N	ND	5.00	20	08/04/23 14:14	08/08/23 11:00	G1
Nitrate-N	13.2	5.00	20	08/04/23 14:14	08/08/23 11:00	G1
o-Phosphate-P	ND	5.00	20	08/04/23 14:14	08/08/23 11:00	G1
Sulfate	230	40.0	20	08/04/23	08/08/23	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:26:18AM

Wet Chem/Gravimetric by SM2540C

Analyst: KF

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2332019-BLK1)					Prepared: 08/07/23 Analyzed: 08/07/23				
Total Dissolved Solids	ND	10.0							
LCS (2332019-BS1)					Prepared: 08/07/23 Analyzed: 08/07/23				
Total Dissolved Solids	101	10.0	100		101	55-134			
Duplicate (2332019-DUP1)					Source: E308026-01		Prepared: 08/07/23 Analyzed: 08/07/23		
Total Dissolved Solids	3220	10.0		3350			4.05	5	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:26:18AM

Wet Chemistry by 9040C/4500H+B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	pH Units	pH Units	pH Units	pH Units	%	%	%	%	

LCS (2332024-BS1)	Prepared: 08/08/23 Analyzed: 08/08/23								
pH	8.06		8.00		100	98.75-101.25			
Duplicate (2332024-DUP1)	Source: E308026-01 Prepared: 08/08/23 Analyzed: 08/08/23								
pH	7.37			7.37		0.00	20		



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:26:18AM

Wet Chemistry by SM2320B

Analyst: KH

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

LCS (2332057-BS1)					Prepared: 08/09/23 Analyzed: 08/10/23				
Total Alkalinity (as CaCO3 at pH 4.5)	256	10.0	250		102	70-130			
Duplicate (2332057-DUP1)					Source: E307105-01		Prepared: 08/09/23 Analyzed: 08/10/23		
Total Alkalinity (as CaCO3 at pH 4.5)	77.0	10.0		79.0			2.56	20	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:26:18AM

Wet Chemistry by 9050A/2510B

Analyst: KF

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	uS/cm	uS/cm	uS/cm	uS/cm	%	%	%	%	

Blank (2332033-BLK1)					Prepared: 08/08/23 Analyzed: 08/08/23				
Specific Conductance (@ 25 C)	ND	10.0							
LCS (2332033-BS1)					Prepared: 08/08/23 Analyzed: 08/08/23				
Specific Conductance (@ 25 C)	1410	10.0	1410		100	98-102			
Duplicate (2332033-DUP1)					Source: E308026-01		Prepared: 08/08/23 Analyzed: 08/08/23		
Specific Conductance (@ 25 C)	5080	10.0		5090			0.197	20	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:26:18AM

Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	ug/L	ug/L	ug/L	ug/L	%	%	%	%	

Blank (2332036-BLK1) Prepared: 08/09/23 Analyzed: 08/09/23

Benzene	ND	1.00							
Ethylbenzene	ND	1.00							
Toluene	ND	1.00							
o-Xylene	ND	1.00							
p,m-Xylene	ND	2.00							
Total Xylenes	ND	1.00							
Surrogate: 4-Bromochlorobenzene-PID	154		160		96.5	70-130			

LCS (2332036-BS1) Prepared: 08/08/23 Analyzed: 08/08/23

Benzene	96.1	1.00	100		96.1	70-130			
Ethylbenzene	93.2	1.00	100		93.2	70-130			
Toluene	96.4	1.00	100		96.4	70-130			
o-Xylene	96.4	1.00	100		96.4	70-130			
p,m-Xylene	193	2.00	200		96.5	70-130			
Total Xylenes	289	1.00	300		96.4	70-130			
Surrogate: 4-Bromochlorobenzene-PID	155		160		97.0	70-130			

Matrix Spike (2332036-MS1) Source: E308026-01 Prepared: 08/08/23 Analyzed: 08/08/23

Benzene	462	5.00	500	ND	92.4	54-133			
Ethylbenzene	449	5.00	500	ND	89.7	61-133			
Toluene	464	5.00	500	ND	92.8	61-130			
o-Xylene	467	5.00	500	ND	93.4	63-131			
p,m-Xylene	930	10.0	1000	ND	93.0	63-131			
Total Xylenes	1400	5.00	1500	ND	93.1	63-131			
Surrogate: 4-Bromochlorobenzene-PID	780		800		97.6	70-130			

Matrix Spike Dup (2332036-MSD1) Source: E308026-01 Prepared: 08/08/23 Analyzed: 08/08/23

Benzene	477	5.00	500	ND	95.5	54-133	3.26	20	
Ethylbenzene	463	5.00	500	ND	92.6	61-133	3.10	20	
Toluene	479	5.00	500	ND	95.8	61-130	3.21	20	
o-Xylene	480	5.00	500	ND	96.1	63-131	2.85	20	
p,m-Xylene	959	10.0	1000	ND	95.9	63-131	3.03	20	
Total Xylenes	1440	5.00	1500	ND	95.9	63-131	2.97	20	
Surrogate: 4-Bromochlorobenzene-PID	778		800		97.2	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:26:18AM

Dissolved Metals by EPA 6010C

Analyst: JL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2332025-BLK1)

Prepared: 08/08/23 Analyzed: 08/08/23

Calcium	ND	1.00
Iron	ND	2.00
Magnesium	ND	1.00
Potassium	ND	1.00
Sodium	ND	2.00

LCS (2332025-BS1)

Prepared: 08/08/23 Analyzed: 08/08/23

Calcium	51.4	1.00	50.0	103	80-120
Iron	103	2.00	100	103	80-120
Magnesium	52.6	1.00	50.0	105	80-120
Potassium	5.13	1.00	5.00	103	80-120
Sodium	19.1	2.00	20.0	95.3	80-120

Matrix Spike (2332025-MS1)

Source: E308026-01

Prepared: 08/08/23 Analyzed: 08/08/23

Calcium	6970	20.0	50.0	6560	812	75-125	M4
Iron	617	40.0	100	503	114	75-125	
Magnesium	351	20.0	50.0	303	96.4	75-125	
Potassium	62.1	20.0	5.00	55.2	139	75-125	M4
Sodium	354	40.0	20.0	341	62.0	75-125	M4

Matrix Spike Dup (2332025-MSD1)

Source: E308026-01

Prepared: 08/08/23 Analyzed: 08/08/23

Calcium	7250	20.0	50.0	6560	NR	75-125	3.99	20	M4
Iron	571	40.0	100	503	68.2	75-125	7.74	20	M2
Magnesium	359	20.0	50.0	303	112	75-125	2.25	20	
Potassium	59.0	20.0	5.00	55.2	76.0	75-125	5.19	20	
Sodium	375	40.0	20.0	341	168	75-125	5.82	20	M4



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:26:18AM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2331091-BLK1) Prepared: 08/04/23 Analyzed: 08/08/23

Fluoride	ND	0.250
Chloride	ND	2.00
Nitrite-N	ND	0.250
Nitrate-N	ND	0.250
o-Phosphate-P	ND	0.250
Sulfate	ND	2.00

LCS (2331091-BS1) Prepared: 08/04/23 Analyzed: 08/08/23

Fluoride	2.59	0.250	2.50	104	90-110
Chloride	24.3	2.00	25.0	97.2	90-110
Nitrite-N	2.58	0.250	2.50	103	90-110
Nitrate-N	2.50	0.250	2.50	100	90-110
o-Phosphate-P	12.3	0.250	12.5	98.2	90-110
Sulfate	24.3	2.00	25.0	97.4	90-110

LCS Dup (2331091-BSD1) Prepared: 08/04/23 Analyzed: 08/08/23

Fluoride	2.59	0.250	2.50	104	90-110	0.0579	20
Chloride	24.3	2.00	25.0	97.2	90-110	0.0267	20
Nitrite-N	2.58	0.250	2.50	103	90-110	0.233	20
Nitrate-N	2.51	0.250	2.50	100	90-110	0.0319	20
o-Phosphate-P	12.2	0.250	12.5	97.9	90-110	0.226	20
Sulfate	24.3	2.00	25.0	97.4	90-110	0.00247	20

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	08/11/23 10:26

G1	Samples recieved on Friday August 4th were loaded onto instrument within holding time but due to instrument failure were not ran within holding time over weekend.
H5	pH is specified to be performed in the field within 15 minutes of sampling. The sample analysis was performed as quickly as possible.
M2	Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
M4	Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
DNI	Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



[illegible]

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: GM

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature) <i>C. King</i>	Date 8.3.23	Time 14:00	Received by: (Signature) <i>Michelle Cuzco</i>	Date 8-3-23	Time 1345	Lab Use Only Received on ice: ☒ Y / N
Relinquished by: (Signature) <i>Michelle Cuzco</i>	Date 8-3-23	Time 1700	Received by: (Signature) <i>Kygn R Hall</i>	Date 8-3-23	Time 1700	
Relinquished by: (Signature) <i>Kygn R Hall</i>	Date 8-3-23	Time 2300	Received by: (Signature) <i>Caitlin Marr</i>	Date 8/4/23	Time 8:00	AVG Temp °C 4
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other				Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA		

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Envirotech Analytical Laboratory

Printed: 8/4/2023 8:38:17AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	08/04/23 08:00	Work Order ID:	E308026
Phone:	(539) 573-4018	Date Logged In:	08/04/23 08:34	Logged In By:	Caitlin Mars
Email:	devon-team@ensolum.com	Due Date:	08/10/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C? Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? Yes
15. Are VOC samples collected in VOA Vials? Yes
16. Is the head space less than 6-8 mm (pea sized or less)? Yes
17. Was a trip blank (TB) included for VOC analyses? No
18. Are non-VOC samples collected in the correct containers? No
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? Yes
22. Are sample(s) correctly preserved? Yes
24. Is lab filtration required and/or requested for dissolved metals? Yes

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

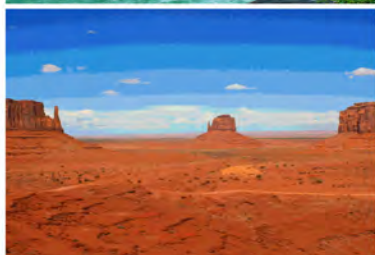
Date



envirotech Inc.

Report to:

Gilbert Moreno



envirotech

Practical Solutions for a Better Tomorrow

Analytical Report

WPX Energy - Carlsbad

Project Name: North Brushy PW Line

Work Order: E308027

Job Number: 01058-0007

Received: 8/4/2023

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
8/11/23

5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.

Date Reported: 8/11/23

Gilbert Moreno
5315 Buena Vista Dr
Carlsbad, NM 88220



Project Name: North Brushy PW Line
Workorder: E308027
Date Received: 8/4/2023 8:00:00AM

Gilbert Moreno,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 8/4/2023 8:00:00AM, under the Project Name: North Brushy PW Line.

The analytical test results summarized in this report with the Project Name: North Brushy PW Line apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

Walter Hinchman
Laboratory Director
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Cell: 775-287-1762
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Sample Summary

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	08/11/23 10:28

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
BH22	E308027-01A	Aqueous	08/03/23	08/04/23	Poly 500mL
	E308027-01B	Aqueous	08/03/23	08/04/23	Poly 500mL
	E308027-01C	Aqueous	08/03/23	08/04/23	VOA Vial, 40mL; HCl
	E308027-01D	Aqueous	08/03/23	08/04/23	VOA Vial, 40mL; HCl
	E308027-01E	Aqueous	08/03/23	08/04/23	VOA Vial, 40mL; HCl



Sample Data

WPX Energy - Carlsbad 5315 Buena Vista Dr Carlsbad NM, 88220	Project Name: North Brushy PW Line Project Number: 01058-0007 Project Manager: Gilbert Moreno	Reported: 8/11/2023 10:28:36AM
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BH22

E308027-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Wet Chem/Gravimetric by SM2540C	mg/L	mg/L	Analyst: KF			Batch: 2332019
Total Dissolved Solids	1560	10.0	1	08/07/23	08/07/23	
Wet Chemistry by 9040C/4500H+B	pH Units	pH Units	Analyst: BA			Batch: 2332024
pH @25°C	7.51		1	08/08/23 08:24	08/08/23 10:31	H5
Wet Chemistry by SM2320B	mg/L	mg/L	Analyst: KH			Batch: 2332057
Total Alkalinity (as CaCO ₃ at pH 4.5)	494	10.0	1	08/09/23	08/10/23	
Wet Chemistry by 9050A/2510B	uS/cm	uS/cm	Analyst: KF			Batch: 2332033
Specific Conductance (@ 25 C)	2800	10.0	1	08/08/23	08/08/23	
Volatile Organics by EPA 8021B	ug/L	ug/L	Analyst: IY			Batch: 2332036
Benzene	ND	1.00	1	08/08/23	08/08/23	
Ethylbenzene	ND	1.00	1	08/08/23	08/08/23	
Toluene	ND	1.00	1	08/08/23	08/08/23	
o-Xylene	ND	1.00	1	08/08/23	08/08/23	
p,m-Xylene	ND	2.00	1	08/08/23	08/08/23	
Total Xylenes	ND	1.00	1	08/08/23	08/08/23	
Surrogate: 4-Bromochlorobenzene-PID	98.4 %	70-130		08/08/23	08/08/23	
Dissolved Metals by EPA 6010C	mg/L	mg/L	Analyst: JL			Batch: 2332025
Calcium	9090	100	100	08/08/23	08/08/23	
Iron	613	200	100	08/08/23	08/08/23	
Magnesium	300	100	100	08/08/23	08/08/23	
Potassium	ND	100	100	08/08/23	08/08/23	
Sodium	372	200	100	08/08/23	08/08/23	
Sodium Absorption Ratio (CALC)	1.05		1	08/10/23	08/10/23	



Sample Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported: 8/11/2023 10:28:36AM
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	

BH22

E308027-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Anions by EPA 300.0/9056A	mg/L	mg/L	Analyst: BA		Batch: 2331091	
Fluoride	4.30	1.25	5	08/04/23	08/08/23	
Chloride	591	10.0	5	08/04/23	08/08/23	
Nitrite-N	ND	1.25	5	08/04/23 14:14	08/08/23 11:19	G1
Nitrate-N	27.2	1.25	5	08/04/23 14:14	08/08/23 11:19	G1
o-Phosphate-P	ND	1.25	5	08/04/23 14:14	08/08/23 11:19	G1
Sulfate	73.7	10.0	5	08/04/23	08/08/23	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:28:36AM

Wet Chem/Gravimetric by SM2540C

Analyst: KF

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2332019-BLK1)					Prepared: 08/07/23 Analyzed: 08/07/23				
Total Dissolved Solids	ND	10.0							
LCS (2332019-BS1)					Prepared: 08/07/23 Analyzed: 08/07/23				
Total Dissolved Solids	101	10.0	100		101	55-134			
Duplicate (2332019-DUP1)					Source: E308026-01		Prepared: 08/07/23 Analyzed: 08/07/23		
Total Dissolved Solids	3220	10.0		3350			4.05	5	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:28:36AM

Wet Chemistry by 9040C/4500H+B

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	pH Units	pH Units	pH Units	pH Units	%	%	%	%	

LCS (2332024-BS1)	Prepared: 08/08/23 Analyzed: 08/08/23								
pH	8.06		8.00		100	98.75-101.25			
Duplicate (2332024-DUP1)	Source: E308026-01 Prepared: 08/08/23 Analyzed: 08/08/23								
pH	7.37			7.37		0.00	20		



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:28:36AM

Wet Chemistry by SM2320B

Analyst: KH

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

LCS (2332057-BS1)					Prepared: 08/09/23 Analyzed: 08/10/23				
Total Alkalinity (as CaCO3 at pH 4.5)	256	10.0	250		102	70-130			
Duplicate (2332057-DUP1)					Source: E307105-01		Prepared: 08/09/23 Analyzed: 08/10/23		
Total Alkalinity (as CaCO3 at pH 4.5)	77.0	10.0		79.0			2.56	20	



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:28:36AM

Wet Chemistry by 9050A/2510B

Analyst: KF

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	uS/cm	uS/cm	uS/cm	uS/cm	%	%	%	%	

Blank (2332033-BLK1)					Prepared: 08/08/23 Analyzed: 08/08/23				
Specific Conductance (@ 25 C)	ND	10.0							
LCS (2332033-BS1)					Prepared: 08/08/23 Analyzed: 08/08/23				
Specific Conductance (@ 25 C)	1410	10.0	1410		100	98-102			
Duplicate (2332033-DUP1)					Source: E308026-01 Prepared: 08/08/23 Analyzed: 08/08/23				
Specific Conductance (@ 25 C)	5080	10.0		5090		0.197	20		



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:28:36AM

Volatile Organics by EPA 8021B

Analyst: IY

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	ug/L	ug/L	ug/L	ug/L	%	%	%	%	

Blank (2332036-BLK1) Prepared: 08/09/23 Analyzed: 08/09/23

Benzene	ND	1.00							
Ethylbenzene	ND	1.00							
Toluene	ND	1.00							
o-Xylene	ND	1.00							
p,m-Xylene	ND	2.00							
Total Xylenes	ND	1.00							
Surrogate: 4-Bromochlorobenzene-PID	154		160		96.5	70-130			

LCS (2332036-BS1) Prepared: 08/08/23 Analyzed: 08/08/23

Benzene	96.1	1.00	100		96.1	70-130			
Ethylbenzene	93.2	1.00	100		93.2	70-130			
Toluene	96.4	1.00	100		96.4	70-130			
o-Xylene	96.4	1.00	100		96.4	70-130			
p,m-Xylene	193	2.00	200		96.5	70-130			
Total Xylenes	289	1.00	300		96.4	70-130			
Surrogate: 4-Bromochlorobenzene-PID	155		160		97.0	70-130			

Matrix Spike (2332036-MS1) Source: E308026-01 Prepared: 08/08/23 Analyzed: 08/08/23

Benzene	462	5.00	500	ND	92.4	54-133			
Ethylbenzene	449	5.00	500	ND	89.7	61-133			
Toluene	464	5.00	500	ND	92.8	61-130			
o-Xylene	467	5.00	500	ND	93.4	63-131			
p,m-Xylene	930	10.0	1000	ND	93.0	63-131			
Total Xylenes	1400	5.00	1500	ND	93.1	63-131			
Surrogate: 4-Bromochlorobenzene-PID	780		800		97.6	70-130			

Matrix Spike Dup (2332036-MSD1) Source: E308026-01 Prepared: 08/08/23 Analyzed: 08/08/23

Benzene	477	5.00	500	ND	95.5	54-133	3.26	20	
Ethylbenzene	463	5.00	500	ND	92.6	61-133	3.10	20	
Toluene	479	5.00	500	ND	95.8	61-130	3.21	20	
o-Xylene	480	5.00	500	ND	96.1	63-131	2.85	20	
p,m-Xylene	959	10.0	1000	ND	95.9	63-131	3.03	20	
Total Xylenes	1440	5.00	1500	ND	95.9	63-131	2.97	20	
Surrogate: 4-Bromochlorobenzene-PID	778		800		97.2	70-130			



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:28:36AM

Dissolved Metals by EPA 6010C

Analyst: JL

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2332025-BLK1)

Prepared: 08/08/23 Analyzed: 08/08/23

Calcium	ND	1.00
Iron	ND	2.00
Magnesium	ND	1.00
Potassium	ND	1.00
Sodium	ND	2.00

LCS (2332025-BS1)

Prepared: 08/08/23 Analyzed: 08/08/23

Calcium	51.4	1.00	50.0	103	80-120
Iron	103	2.00	100	103	80-120
Magnesium	52.6	1.00	50.0	105	80-120
Potassium	5.13	1.00	5.00	103	80-120
Sodium	19.1	2.00	20.0	95.3	80-120

Matrix Spike (2332025-MS1)

Source: E308026-01

Prepared: 08/08/23 Analyzed: 08/08/23

Calcium	6970	20.0	50.0	6560	812	75-125	M4
Iron	617	40.0	100	503	114	75-125	
Magnesium	351	20.0	50.0	303	96.4	75-125	
Potassium	62.1	20.0	5.00	55.2	139	75-125	M4
Sodium	354	40.0	20.0	341	62.0	75-125	M4

Matrix Spike Dup (2332025-MSD1)

Source: E308026-01

Prepared: 08/08/23 Analyzed: 08/08/23

Calcium	7250	20.0	50.0	6560	NR	75-125	3.99	20	M4
Iron	571	40.0	100	503	68.2	75-125	7.74	20	M2
Magnesium	359	20.0	50.0	303	112	75-125	2.25	20	
Potassium	59.0	20.0	5.00	55.2	76.0	75-125	5.19	20	
Sodium	375	40.0	20.0	341	168	75-125	5.82	20	M4



QC Summary Data

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	Reported:
5315 Buena Vista Dr	Project Number:	01058-0007	
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	8/11/2023 10:28:36AM

Anions by EPA 300.0/9056A

Analyst: BA

Analyte	Result	Reporting Limit	Spike Level	Source Result	Rec	Rec Limits	RPD	RPD Limit	Notes
	mg/L	mg/L	mg/L	mg/L	%	%	%	%	

Blank (2331091-BLK1) Prepared: 08/04/23 Analyzed: 08/08/23

Fluoride	ND	0.250
Chloride	ND	2.00
Nitrite-N	ND	0.250
Nitrate-N	ND	0.250
o-Phosphate-P	ND	0.250
Sulfate	ND	2.00

LCS (2331091-BS1) Prepared: 08/04/23 Analyzed: 08/08/23

Fluoride	2.59	0.250	2.50	104	90-110
Chloride	24.3	2.00	25.0	97.2	90-110
Nitrite-N	2.58	0.250	2.50	103	90-110
Nitrate-N	2.50	0.250	2.50	100	90-110
o-Phosphate-P	12.3	0.250	12.5	98.2	90-110
Sulfate	24.3	2.00	25.0	97.4	90-110

LCS Dup (2331091-BSD1) Prepared: 08/04/23 Analyzed: 08/08/23

Fluoride	2.59	0.250	2.50	104	90-110	0.0579	20
Chloride	24.3	2.00	25.0	97.2	90-110	0.0267	20
Nitrite-N	2.58	0.250	2.50	103	90-110	0.233	20
Nitrate-N	2.51	0.250	2.50	100	90-110	0.0319	20
o-Phosphate-P	12.2	0.250	12.5	97.9	90-110	0.226	20
Sulfate	24.3	2.00	25.0	97.4	90-110	0.00247	20

QC Summary Report Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures.
Therefore, hand calculated values may differ slightly.



Definitions and Notes

WPX Energy - Carlsbad	Project Name:	North Brushy PW Line	
5315 Buena Vista Dr	Project Number:	01058-0007	Reported:
Carlsbad NM, 88220	Project Manager:	Gilbert Moreno	08/11/23 10:28

- G1 Samples recieved on Friday August 4th were loaded onto instrument within holding time but due to instrument failure were not ran within holding time over weekend.
- H5 pH is specified to be performed in the field within 15 minutes of sampling. The sample analysis was performed as quickly as possible.
- M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
- M4 Matrix spike recovery value is suspect since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS spike recovery was acceptable.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- RPD Relative Percent Difference
- DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.

Project Information

Chain of Custody

[illegible]

Additional Instructions:

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action.

Sampled by: GM

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6 °C on subsequent days.

Relinquished by: (Signature) <i>[Signature]</i>	Date 8.3.23	Time 14:00	Received by: (Signature) <i>Michelle Gungala</i>	Date 8-3-23	Time 1345	Lab Use Only Received on ice: ☒ Y / ☐ N
Relinquished by: (Signature) <i>Michelle Gungala</i>	Date 8-3-23	Time 1700	Received by: (Signature) <i>Kylin R. Hall</i>	Date 8/3/23	Time 1700	
Relinquished by: (Signature) <i>Kylin R. Hall</i>	Date 8-3-23	Time 1300	Received by: (Signature) <i>Caitlin Marr</i>	Date 8/4/23	Time 8:00	AVG Temp °C 4
Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other				Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA		

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

Envirotech Analytical Laboratory

Printed: 8/4/2023 8:43:48AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	WPX Energy - Carlsbad	Date Received:	08/04/23 08:00	Work Order ID:	E308027
Phone:	(539) 573-4018	Date Logged In:	08/04/23 08:41	Logged In By:	Caitlin Mars
Email:	devon-team@ensolum.com	Due Date:	08/10/23 17:00 (4 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Note: Analysis, such as pH which should be conducted in the field, i.e., 15 minute hold time, are not included in this discussion.

Carrier: CourierComments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes

Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling

13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? Yes
15. Are VOC samples collected in VOA Vials? Yes
16. Is the head space less than 6-8 mm (pea sized or less)? Yes
17. Was a trip blank (TB) included for VOC analyses? No
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
 - Sample ID? Yes
 - Date/Time Collected? Yes
 - Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? Yes
22. Are sample(s) correctly preserved? Yes
24. Is lab filtration required and/or requested for dissolved metals? Yes

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: NA

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Gilbert Moreno
Etech Environmental & Safety Solutions
PO BOX 62228
Midland, Texas 79711

Generated 10/2/2023 5:43:51 PM Revision 1

JOB DESCRIPTION

North Brushy PW Line

JOB NUMBER

890-5167-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Authorized for release by
Jessica Kramer, Project Manager
Jessica.Kramer@et.eurofinsus.com
(432)704-5440

Generated
10/2/2023 5:43:51 PM
Revision 1

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Laboratory Job ID: 890-5167-1

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Definitions/Glossary

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

Eurofins Carlsbad

Definitions/Glossary

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Job ID: 890-5167-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-5167-1

REVISION

The report being provided is a revision of the original report sent on 9/15/2023. The report (revision 1) is being revised due to Per client email, lead and iron missing on some samples on final report.

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 8/28/2023 1:56 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.2°C

HPLC/IC

Method 300_ORGFM_28D: The instrument blank/CCB for analytical batch 860-119245 contained Chloride greater than the reporting limit (RL), and were not reanalyzed because associated sample(s) results were greater than 10X the value found in the instrument blank/CCB. The data have been qualified and reported.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-119245 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recovery was within acceptance limits.

Method 300_ORGFM_28D: The matrix spike (MS) recoveries for analytical batch 860-119245 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300_ORGFM_28D: The following sample was diluted to bring the concentration of target analytes within the calibration range: BH13 (890-5167-1). Elevated reporting limits (RLs) are provided.

Method 300_ORGFM_28D: The instrument blank/CCB for analytical batch 860-119774 contained Chloride greater than the method detection limit (MDL), and were not reanalyzed because associated sample(s) results were greater than 10X the value found in the instrument blank/CCB. The data have been reported.

Method 300_ORGFM_28D: The following samples were diluted to bring the concentration of target analytes within the calibration range: BH13 (890-5167-1) and BH14 (890-5167-2). Elevated reporting limits (RLs) are provided.

Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-120418 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample / laboratory control sample duplicate(LCS/LCSD) recovery was within acceptance limits.

Method 300_ORGFMS: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 860-119246 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) recovery is within acceptance limits.

Case Narrative

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Job ID: 890-5167-1 (Continued)

Laboratory: Eurofins Carlsbad (Continued)

Method 300_ORGFMS: The matrix spike duplicate (MSD) recoveries for analytical batch 860-120419 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

Method 200.7: Due to the high concentration of Calcium and Magnesium, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 860-119461 and analytical batch 860-119617 could not be evaluated for accuracy and precision. The associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) met acceptance criteria.

Method 200.7: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-119461 and analytical batch 860-119617 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 200.7: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-119461 and analytical batch 860-119721 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 200.7: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 860-121166 and analytical batch 860-121465 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 200.7: Due to the high concentration of Calcium, the matrix spike (MS) for preparation batch 860-121166 and analytical batch 860-121465 could not be evaluated for accuracy. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Client Sample ID: BH13

Lab Sample ID: 890-5167-1

Date Collected: 08/28/23 10:00

Matrix: Water

Date Received: 08/28/23 13:56

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	11.9		1.00		mg/L			08/29/23 20:52	10
Nitrite as N	<1.00	U	1.00		mg/L			08/29/23 20:52	10
Fluoride	<5.00	U	5.00		mg/L			08/29/23 20:52	10
Sulfate	266		5.00		mg/L			08/29/23 20:52	10

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13400		50.0		mg/L			09/01/23 02:08	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	6300		25.0		mg/L		08/30/23 11:30	08/31/23 12:33	50
Potassium	73.5		0.500		mg/L		08/30/23 11:30	08/30/23 22:02	1
Calcium	2930		10.0		mg/L		08/30/23 11:30	08/30/23 22:20	50
Iron	1.16		0.200		mg/L		08/30/23 11:30	08/30/23 22:02	1
Magnesium	429		10.0		mg/L		08/30/23 11:30	08/30/23 22:20	50
Manganese	0.266		0.0200		mg/L		08/30/23 11:30	08/30/23 22:02	1
SiO2	106		1.07		mg/L		08/30/23 11:30	08/30/23 22:02	1
Lead	<0.0100	U	0.0100		mg/L		08/30/23 11:30	08/30/23 22:02	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ca	2930		0.200		mg/L			09/01/23 13:13	1
Mg	429		0.400		mg/L			09/01/23 13:13	1
Hardness as calcium carbonate	9080		0.400		mg/L			09/01/23 13:13	1
Calcium hardness as calcium carbonate	7320		0.200		mg/L			09/01/23 13:13	1
Magnesium hardness as calcium carbonate	1770		0.400		mg/L			09/01/23 13:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anion/Cation Balance (SM 1030E)	7.74				%			08/30/23 19:38	1
Alkalinity (SM 2320B)	191		4.00		mg/L			09/01/23 13:03	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.00	U	4.00		mg/L			09/01/23 13:03	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	191		4.00		mg/L			09/01/23 13:03	1
Total Dissolved Solids (SM 2540C)	27400		200		mg/L			08/31/23 10:12	1
Carbon dioxide (SM 4500 CO2 D)	216		1.25		mg/L			09/01/23 17:29	1
Carbon Dioxide, Free (SM 4500 CO2 D)	48.0		0.370		mg/L			09/01/23 17:29	1
pH (SM 4500 H+ B)	6.9	HF			SU			09/01/23 18:05	1
Temperature (SM 4500 H+ B)	15.1	HF			Degrees C			09/01/23 18:05	1

Client Sample ID: BH14

Lab Sample ID: 890-5167-2

Date Collected: 08/28/23 10:20

Matrix: Water

Date Received: 08/28/23 13:56

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	18.8		0.100		mg/L			08/30/23 09:38	1

Eurofins Carlsbad

Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Client Sample ID: BH14

Lab Sample ID: 890-5167-2

Date Collected: 08/28/23 10:20

Matrix: Water

Date Received: 08/28/23 13:56

Method: EPA 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	3.80		0.100		mg/L			08/30/23 09:38	1
Fluoride	0.897		0.500		mg/L			08/30/23 09:38	1
Sulfate	181		0.500		mg/L			08/30/23 09:38	1

Method: EPA 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5750		50.0		mg/L			09/01/23 01:51	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	2290		25.0		mg/L		08/30/23 11:30	08/31/23 12:35	50
Potassium	51.6		0.500		mg/L		08/30/23 11:30	08/30/23 22:06	1
Calcium	1720		10.0		mg/L		08/30/23 11:30	08/30/23 22:24	50
Iron	4.36		0.200		mg/L		08/30/23 11:30	08/30/23 22:06	1
Magnesium	149		10.0		mg/L		08/30/23 11:30	08/30/23 22:24	50
Manganese	0.533		0.0200		mg/L		08/30/23 11:30	08/30/23 22:06	1
SiO2	84.5		1.07		mg/L		08/30/23 11:30	08/30/23 22:06	1
Lead	<0.0100	U	0.0100		mg/L		08/30/23 11:30	08/30/23 22:06	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ca	1720		0.200		mg/L			09/01/23 13:13	1
Mg	149		0.400		mg/L			09/01/23 13:13	1
Hardness as calcium carbonate	4910		0.400		mg/L			09/01/23 13:13	1
Calcium hardness as calcium carbonate	4290		0.200		mg/L			09/01/23 13:13	1
Magnesium hardness as calcium carbonate	614		0.400		mg/L			09/01/23 13:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anion/Cation Balance (SM 1030E)	6.48				%			08/30/23 19:38	1
Alkalinity (SM 2320B)	219		4.00		mg/L			09/01/23 13:12	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.00	U	4.00		mg/L			09/01/23 13:12	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	219		4.00		mg/L			09/01/23 13:12	1
Total Dissolved Solids (SM 2540C)	13200		100		mg/L			08/31/23 10:12	1
Carbon dioxide (SM 4500 CO2 D)	236		1.25		mg/L			09/01/23 17:29	1
Carbon Dioxide, Free (SM 4500 CO2 D)	43.7		0.370		mg/L			09/01/23 17:29	1
pH (SM 4500 H+ B)	7.0	HF			SU			09/01/23 18:08	1
Temperature (SM 4500 H+ B)	15.3	HF			Degrees C			09/01/23 18:08	1

Client Sample ID: BH18

Lab Sample ID: 890-5167-3

Date Collected: 08/28/23 10:40

Matrix: Water

Date Received: 08/28/23 13:56

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	16.6		0.100		mg/L			08/30/23 09:47	1
Nitrite as N	1.60		0.100		mg/L			08/30/23 09:47	1

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Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Client Sample ID: BH18

Lab Sample ID: 890-5167-3

Date Collected: 08/28/23 10:40

Matrix: Water

Date Received: 08/28/23 13:56

Method: EPA 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	80.3		0.500		mg/L			08/30/23 09:47	1
Fluoride	2.23		0.500		mg/L			08/30/23 09:47	1
Sulfate	54.2		0.500		mg/L			08/30/23 09:47	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	119		0.500		mg/L		09/12/23 10:30	09/13/23 13:22	1
Potassium	2.26		0.500		mg/L		09/12/23 10:30	09/13/23 13:22	1
SiO2	65.3		1.07		mg/L		09/12/23 10:30	09/13/23 13:22	1
Calcium	98.5		10.0		mg/L		09/12/23 10:30	09/13/23 13:22	50
Magnesium	8.36		0.200		mg/L		09/12/23 10:30	09/13/23 13:22	1
Lead	<0.0100	U	0.0100		mg/L		09/12/23 10:30	09/13/23 13:22	1
Manganese	0.0225		0.0200		mg/L		09/12/23 10:30	09/13/23 13:22	1
Iron	<0.200	U	0.200		mg/L		09/12/23 10:30	09/13/23 13:22	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ca	975		0.200		mg/L			09/01/23 13:13	1
Mg	16.4		0.400		mg/L			09/01/23 13:13	1
Hardness as calcium carbonate	2500		0.400		mg/L			09/01/23 13:13	1
Calcium hardness as calcium carbonate	2430		0.200		mg/L			09/01/23 13:13	1
Magnesium hardness as calcium carbonate	67.5		0.400		mg/L			09/01/23 13:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anion/Cation Balance (SM 1030E)	-9.37				%			08/30/23 19:38	1
Alkalinity (SM 2320B)	305		4.00		mg/L			09/01/23 13:29	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.00	U	4.00		mg/L			09/01/23 13:29	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	305		4.00		mg/L			09/01/23 13:29	1
Total Dissolved Solids (SM 2540C)	635		10.0		mg/L			08/31/23 10:12	1
Carbon dioxide (SM 4500 CO2 D)	277		1.25		mg/L			09/01/23 17:29	1
Carbon Dioxide, Free (SM 4500 CO2 D)	9.61		0.370		mg/L			09/01/23 17:29	1
pH (SM 4500 H+ B)	7.8	HF			SU			09/01/23 18:09	1
Temperature (SM 4500 H+ B)	14.9	HF			Degrees C			09/01/23 18:09	1

Client Sample ID: BH19

Lab Sample ID: 890-5167-4

Date Collected: 08/28/23 11:00

Matrix: Water

Date Received: 08/28/23 13:56

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	5.60		0.100		mg/L			08/30/23 09:55	1
Nitrite as N	0.613		0.100		mg/L			08/30/23 09:55	1
Chloride	178		0.500		mg/L			08/30/23 09:55	1
Fluoride	4.13		0.500		mg/L			08/30/23 09:55	1
Sulfate	554		5.00		mg/L			08/30/23 12:27	10

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Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Client Sample ID: BH19

Lab Sample ID: 890-5167-4

Date Collected: 08/28/23 11:00

Matrix: Water

Date Received: 08/28/23 13:56

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	238		25.0		mg/L		09/12/23 10:30	09/13/23 13:36	50
Potassium	1.71		0.500		mg/L		09/12/23 10:30	09/13/23 13:25	1
SiO2	111		1.07		mg/L		09/12/23 10:30	09/13/23 13:25	1
Calcium	194		10.0		mg/L		09/12/23 10:30	09/13/23 13:36	50
Magnesium	61.8		0.200		mg/L		09/12/23 10:30	09/13/23 13:25	1
Lead	<0.0100	U	0.0100		mg/L		09/12/23 10:30	09/13/23 13:25	1
Manganese	<0.0200	U	0.0200		mg/L		09/12/23 10:30	09/13/23 13:25	1
Iron	<0.200	U	0.200		mg/L		09/12/23 10:30	09/13/23 13:25	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ca	830		0.200		mg/L			09/01/23 13:13	1
Mg	75.0		0.400		mg/L			09/01/23 13:13	1
Hardness as calcium carbonate	2380		0.400		mg/L			09/01/23 13:13	1
Calcium hardness as calcium carbonate	2070		0.200		mg/L			09/01/23 13:13	1
Magnesium hardness as calcium carbonate	309		0.400		mg/L			09/01/23 13:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anion/Cation Balance (SM 1030E)	-5.63				%			08/30/23 19:38	1
Alkalinity (SM 2320B)	363		4.00		mg/L			09/01/23 13:38	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.00	U	4.00		mg/L			09/01/23 13:38	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	363		4.00		mg/L			09/01/23 13:38	1
Total Dissolved Solids (SM 2540C)	1770		20.0		mg/L			08/31/23 10:12	1
Carbon dioxide (SM 4500 CO2 D)	342		1.25		mg/L			09/01/23 17:29	1
Carbon Dioxide, Free (SM 4500 CO2 D)	22.9		0.370		mg/L			09/01/23 17:29	1
pH (SM 4500 H+ B)	7.5	HF			SU			09/01/23 18:12	1
Temperature (SM 4500 H+ B)	15.0	HF			Degrees C			09/01/23 18:12	1

Client Sample ID: BH21

Lab Sample ID: 890-5167-5

Date Collected: 08/28/23 11:20

Matrix: Water

Date Received: 08/28/23 13:56

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	20.9		0.100		mg/L			08/30/23 10:04	1
Nitrite as N	<0.100	U	0.100		mg/L			08/30/23 10:04	1
Chloride	3690		5.00		mg/L			08/30/23 12:35	10
Fluoride	1.93		0.500		mg/L			08/30/23 10:04	1
Sulfate	334		0.500		mg/L			08/30/23 10:04	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	1180		25.0		mg/L		09/12/23 10:30	09/13/23 13:39	50
Potassium	7.68		0.500		mg/L		09/12/23 10:30	09/13/23 13:29	1
SiO2	82.6		1.07		mg/L		09/12/23 10:30	09/13/23 13:29	1
Calcium	1650		10.0		mg/L		09/12/23 10:30	09/13/23 13:39	50

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Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Client Sample ID: BH21

Lab Sample ID: 890-5167-5

Date Collected: 08/28/23 11:20

Matrix: Water

Date Received: 08/28/23 13:56

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	288		10.0		mg/L		09/12/23 10:30	09/13/23 13:39	50
Lead	<0.0100	U	0.0100		mg/L		09/12/23 10:30	09/13/23 13:29	1
Manganese	0.0961		0.0200		mg/L		09/12/23 10:30	09/13/23 13:29	1
Iron	<0.200	U	0.200		mg/L		09/12/23 10:30	09/13/23 13:29	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ca	2350		0.200		mg/L			09/01/23 13:13	1
Mg	246		0.400		mg/L			09/01/23 13:13	1
Hardness as calcium carbonate	6880		0.400		mg/L			09/01/23 13:13	1
Calcium hardness as calcium carbonate	5870		0.200		mg/L			09/01/23 13:13	1
Magnesium hardness as calcium carbonate	1010		0.400		mg/L			09/01/23 13:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anion/Cation Balance (SM 1030E)	13.9				%			08/30/23 19:38	1
Alkalinity (SM 2320B)	189		4.00		mg/L			09/01/23 13:46	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.00	U	4.00		mg/L			09/01/23 13:46	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	189		4.00		mg/L			09/01/23 13:46	1
Total Dissolved Solids (SM 2540C)	11200		100		mg/L			08/31/23 10:12	1
Carbon dioxide (SM 4500 CO2 D)	197		1.25		mg/L			09/01/23 17:29	1
Carbon Dioxide, Free (SM 4500 CO2 D)	30.0		0.370		mg/L			09/01/23 17:29	1
pH (SM 4500 H+ B)	7.1	HF			SU			09/01/23 18:14	1
Temperature (SM 4500 H+ B)	15.8	HF			Degrees C			09/01/23 18:14	1

Client Sample ID: BH22

Lab Sample ID: 890-5167-6

Date Collected: 08/28/23 11:40

Matrix: Water

Date Received: 08/28/23 13:56

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	21.1		0.100		mg/L			08/30/23 10:12	1
Nitrite as N	1.35		0.100		mg/L			08/30/23 10:12	1
Chloride	334		0.500		mg/L			08/30/23 10:12	1
Fluoride	3.26		0.500		mg/L			08/30/23 10:12	1
Sulfate	43.1		0.500		mg/L			08/30/23 10:12	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	295		25.0		mg/L		09/12/23 10:30	09/13/23 14:04	50
Potassium	4.47		0.500		mg/L		09/12/23 10:30	09/13/23 14:01	1
SiO2	55.2		1.07		mg/L		09/12/23 10:30	09/13/23 14:01	1
Calcium	115		10.0		mg/L		09/12/23 10:30	09/13/23 14:04	50
Magnesium	10.2		0.200		mg/L		09/12/23 10:30	09/13/23 14:01	1
Lead	<0.0100	U	0.0100		mg/L		09/12/23 10:30	09/13/23 14:01	1
Manganese	0.0248		0.0200		mg/L		09/12/23 10:30	09/13/23 14:01	1
Iron	<0.200	U	0.200		mg/L		09/12/23 10:30	09/13/23 14:01	1

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Client Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Client Sample ID: BH22

Lab Sample ID: 890-5167-6

Date Collected: 08/28/23 11:40

Matrix: Water

Date Received: 08/28/23 13:56

Method: SM 2340B - Total Hardness (as CaCO3) by calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ca	1940		0.200		mg/L			09/01/23 13:13	1
Mg	25.9		0.400		mg/L			09/01/23 13:13	1
Hardness as calcium carbonate	4950		0.400		mg/L			09/01/23 13:13	1
Calcium hardness as calcium carbonate	4840		0.200		mg/L			09/01/23 13:13	1
Magnesium hardness as calcium carbonate	107		0.400		mg/L			09/01/23 13:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anion/Cation Balance (SM 1030E)	-0.0532				%			08/30/23 19:38	1
Alkalinity (SM 2320B)	281		4.00		mg/L			09/01/23 13:55	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	<4.00	U	4.00		mg/L			09/01/23 13:55	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	281		4.00		mg/L			09/01/23 13:55	1
Total Dissolved Solids (SM 2540C)	1220		20.0		mg/L			08/31/23 10:12	1
Carbon dioxide (SM 4500 CO2 D)	255		1.25		mg/L			09/01/23 17:29	1
Carbon Dioxide, Free (SM 4500 CO2 D)	8.86		0.370		mg/L			09/01/23 17:29	1
pH (SM 4500 H+ B)	7.8	HF			SU			09/01/23 18:15	1
Temperature (SM 4500 H+ B)	16.3	HF			Degrees C			09/01/23 18:15	1

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 860-119245/156

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.500	U	0.500		mg/L			08/30/23 11:20	1
Fluoride	<0.500	U	0.500		mg/L			08/30/23 11:20	1
Sulfate	<0.500	U	0.500		mg/L			08/30/23 11:20	1

Lab Sample ID: MB 860-119245/3

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.500	U	0.500		mg/L			08/29/23 09:42	1
Fluoride	<0.500	U	0.500		mg/L			08/29/23 09:42	1
Sulfate	<0.500	U	0.500		mg/L			08/29/23 09:42	1

Lab Sample ID: MB 860-119245/40

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.500	U	0.500		mg/L			08/29/23 16:14	1
Fluoride	<0.500	U	0.500		mg/L			08/29/23 16:14	1
Sulfate	<0.500	U	0.500		mg/L			08/29/23 16:14	1

Lab Sample ID: LCS 860-119245/157

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.571		mg/L		96	90 - 110
Fluoride	10.0	9.830		mg/L		98	90 - 110
Sulfate	10.0	9.545		mg/L		95	90 - 110

Lab Sample ID: LCS 860-119245/41

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.777		mg/L		98	90 - 110
Fluoride	10.0	10.14		mg/L		101	90 - 110
Sulfate	10.0	9.785		mg/L		98	90 - 110

Lab Sample ID: LCSD 860-119245/158

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.550		mg/L		95	90 - 110	0	20
Fluoride	10.0	9.829		mg/L		98	90 - 110	0	20
Sulfate	10.0	9.545		mg/L		95	90 - 110	0	20

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 860-119245/42

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.760		mg/L		98	90 - 110	0	20
Fluoride	10.0	10.13		mg/L		101	90 - 110	0	20
Sulfate	10.0	9.814		mg/L		98	90 - 110	0	20

Lab Sample ID: LLCS 860-119245/7

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	0.500	0.4720	J	mg/L		94	50 - 150		
Fluoride	0.500	0.4999	J	mg/L		100	50 - 150		
Sulfate	0.500	0.2606	J	mg/L		52	50 - 150		

Lab Sample ID: 860-56136-A-1 MS

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	54.1	^2	10.0	61.90	4	mg/L		78	90 - 110		
Fluoride	<0.500	U	10.0	10.19		mg/L		100	90 - 110		
Sulfate	7.17		10.0	17.07		mg/L		99	90 - 110		

Lab Sample ID: 860-56136-A-1 MSD

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	54.1	^2	10.0	61.06	4	mg/L		69	90 - 110	1	15
Fluoride	<0.500	U	10.0	10.20		mg/L		100	90 - 110	0	15
Sulfate	7.17		10.0	17.00		mg/L		98	90 - 110	0	15

Lab Sample ID: 870-20135-G-1 MS

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	107		10.0	115.6	4	mg/L		83	90 - 110		
Fluoride	0.585		10.0	10.58		mg/L		100	90 - 110		
Sulfate	74.7		10.0	83.68	4	mg/L		89	90 - 110		

Lab Sample ID: 870-20135-G-1 MSD

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	107		10.0	117.0	4	mg/L		98	90 - 110	1	15
Fluoride	0.585		10.0	10.66		mg/L		101	90 - 110	1	15
Sulfate	74.7		10.0	84.81	4	mg/L		101	90 - 110	1	15

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 880-32623-I-2 MS

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	31.3		10.0	40.63		mg/L		94	90 - 110
Fluoride	<0.500	U	10.0	10.43		mg/L		103	90 - 110
Sulfate	43.9		10.0	53.51	4	mg/L		96	90 - 110

Lab Sample ID: 880-32623-I-2 MSD

Matrix: Water

Analysis Batch: 119245

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	31.3		10.0	40.55		mg/L		93	90 - 110	0	15
Fluoride	<0.500	U	10.0	10.43		mg/L		103	90 - 110	0	15
Sulfate	43.9		10.0	53.49	4	mg/L		96	90 - 110	0	15

Lab Sample ID: MB 860-119246/156

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<0.100	U	0.100		mg/L			08/30/23 11:20	1
Nitrite as N	<0.100	U	0.100		mg/L			08/30/23 11:20	1

Lab Sample ID: MB 860-119246/3

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<0.100	U	0.100		mg/L			08/29/23 09:42	1
Nitrite as N	<0.100	U	0.100		mg/L			08/29/23 09:42	1

Lab Sample ID: MB 860-119246/40

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<0.100	U	0.100		mg/L			08/29/23 16:14	1
Nitrite as N	<0.100	U	0.100		mg/L			08/29/23 16:14	1

Lab Sample ID: LCS 860-119246/157

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	10.0	9.851		mg/L		99	80 - 120
Nitrite as N	10.0	9.425		mg/L		94	80 - 120

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 860-119246/41

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	10.0	10.06		mg/L		101	80 - 120
Nitrite as N	10.0	9.736		mg/L		97	80 - 120

Lab Sample ID: LCSD 860-119246/158

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	10.0	9.860		mg/L		99	80 - 120	0	20
Nitrite as N	10.0	9.464		mg/L		95	80 - 120	0	20

Lab Sample ID: LCSD 860-119246/42

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	10.0	10.05		mg/L		101	80 - 120	0	20
Nitrite as N	10.0	9.742		mg/L		97	80 - 120	0	20

Lab Sample ID: LLCS 860-119246/6

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	0.100	0.1030		mg/L		103	50 - 150
Nitrite as N	0.100	0.08165	J	mg/L		82	50 - 150

Lab Sample ID: 860-56136-A-1 MS

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	0.489		10.0	10.48		mg/L		100	80 - 120
Nitrite as N	0.960	F1	2.50	2.089	F1	mg/L		45	80 - 120

Lab Sample ID: 860-56136-A-1 MSD

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	0.489		10.0	10.48		mg/L		100	80 - 120	0	15
Nitrite as N	0.960	F1	2.50	2.075	F1	mg/L		45	80 - 120	1	15

Lab Sample ID: 870-20135-G-1 MS

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	0.103		10.0	9.894		mg/L		98	80 - 120
Nitrite as N	0.845	F2 F1	2.50	3.250		mg/L		96	80 - 120

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 870-20135-G-1 MSD

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	0.103		10.0	10.01		mg/L		99	80 - 120	1	15
Nitrite as N	0.845	F2 F1	2.50	2.088	F2 F1	mg/L		50	80 - 120	44	15

Lab Sample ID: 880-32623-I-2 MS

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Nitrate as N	<0.100	U	10.0	10.07		mg/L		101	80 - 120		
Nitrite as N	<0.100	U	2.50	2.394		mg/L		96	80 - 120		

Lab Sample ID: 880-32623-I-2 MSD

Matrix: Water

Analysis Batch: 119246

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	<0.100	U	10.0	10.06		mg/L		101	80 - 120	0	15
Nitrite as N	<0.100	U	2.50	2.388		mg/L		96	80 - 120	0	15

Lab Sample ID: MB 860-119774/3

Matrix: Water

Analysis Batch: 119774

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.500	U	0.500		mg/L			08/31/23 22:05	1
Fluoride	<0.500	U	0.500		mg/L			08/31/23 22:05	1
Sulfate	<0.500	U	0.500		mg/L			08/31/23 22:05	1

Lab Sample ID: LCS 860-119774/4

Matrix: Water

Analysis Batch: 119774

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	10.0	9.666		mg/L		97	90 - 110		
Fluoride	10.0	10.08		mg/L		101	90 - 110		

Lab Sample ID: LCSD 860-119774/5

Matrix: Water

Analysis Batch: 119774

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.672		mg/L		97	90 - 110	0	20
Fluoride	10.0	10.10		mg/L		101	90 - 110	0	20

Lab Sample ID: LLCS 860-119774/7

Matrix: Water

Analysis Batch: 119774

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	0.500	0.5648		mg/L		113	50 - 150		

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LLCS 860-119774/7

Matrix: Water

Analysis Batch: 119774

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.500	0.4207	J	mg/L		84	50 - 150
Sulfate	0.500	0.3203	J	mg/L		64	50 - 150

Lab Sample ID: 890-5183-A-2 MS

Matrix: Water

Analysis Batch: 119774

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	11.9		10.0	22.08		mg/L		102	90 - 110
Fluoride	<0.500	U	10.0	10.23		mg/L		102	90 - 110
Sulfate	<0.500	U *+	10.0	10.87		mg/L		106	90 - 110

Lab Sample ID: 890-5183-A-2 MSD

Matrix: Water

Analysis Batch: 119774

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	11.9		10.0	22.11		mg/L		102	90 - 110	0	15
Fluoride	<0.500	U	10.0	10.25		mg/L		102	90 - 110	0	15
Sulfate	<0.500	U *+	10.0	10.90		mg/L		106	90 - 110	0	15

Lab Sample ID: MB 860-120418/91

Matrix: Water

Analysis Batch: 120418

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<0.500	U	0.500		mg/L			09/07/23 06:08	1
Fluoride	<0.500	U	0.500		mg/L			09/07/23 06:08	1
Sulfate	<0.500	U	0.500		mg/L			09/07/23 06:08	1

Lab Sample ID: LCS 860-120418/92

Matrix: Water

Analysis Batch: 120418

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	10.0	9.764		mg/L		98	90 - 110
Fluoride	10.0	10.09		mg/L		101	90 - 110
Sulfate	10.0	9.845		mg/L		98	90 - 110

Lab Sample ID: LCSD 860-120418/93

Matrix: Water

Analysis Batch: 120418

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	10.0	9.736		mg/L		97	90 - 110	0	20
Fluoride	10.0	10.13		mg/L		101	90 - 110	0	20
Sulfate	10.0	9.844		mg/L		98	90 - 110	0	20

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 870-20250-A-1 MS

Matrix: Water

Analysis Batch: 120418

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	84.9		10.0	93.40	4	mg/L		85	90 - 110
Fluoride	<0.500	U	10.0	10.56		mg/L		102	90 - 110
Sulfate	53.9		10.0	61.05	4	mg/L		72	90 - 110

Lab Sample ID: 870-20250-A-1 MSD

Matrix: Water

Analysis Batch: 120418

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	84.9		10.0	93.45	4	mg/L		86	90 - 110	0	15
Fluoride	<0.500	U	10.0	10.61		mg/L		102	90 - 110	1	15
Sulfate	53.9		10.0	62.02	4	mg/L		81	90 - 110	2	15

Lab Sample ID: MB 860-120419/91

Matrix: Water

Analysis Batch: 120419

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	<0.100	U	0.100		mg/L			09/07/23 06:08	1
Nitrite as N	<0.100	U	0.100		mg/L			09/07/23 06:08	1

Lab Sample ID: LCS 860-120419/92

Matrix: Water

Analysis Batch: 120419

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	10.0	10.10		mg/L		101	80 - 120
Nitrite as N	10.0	9.611		mg/L		96	80 - 120

Lab Sample ID: LCSD 860-120419/93

Matrix: Water

Analysis Batch: 120419

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	10.0	10.09		mg/L		101	80 - 120	0	20
Nitrite as N	10.0	9.633		mg/L		96	80 - 120	0	20

Lab Sample ID: 870-20250-A-1 MS

Matrix: Water

Analysis Batch: 120419

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	0.867		10.0	10.93		mg/L		101	80 - 120
Nitrite as N	<0.100	U F2	2.50	2.302		mg/L		92	80 - 120

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 870-20250-A-1 MSD

Matrix: Water

Analysis Batch: 120419

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate as N	0.867		10.0	10.94		mg/L		101	80 - 120	0	15
Nitrite as N	<0.100	U F2	2.50	2.847	F2	mg/L		114	80 - 120	21	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 860-119461/1-A

Matrix: Water

Analysis Batch: 119617

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 119461

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	<0.500	U	0.500		mg/L		08/30/23 11:30	08/30/23 20:44	1
Potassium	<0.500	U	0.500		mg/L		08/30/23 11:30	08/30/23 20:44	1
Calcium	<0.200	U	0.200		mg/L		08/30/23 11:30	08/30/23 20:44	1
Magnesium	<0.200	U	0.200		mg/L		08/30/23 11:30	08/30/23 20:44	1
Manganese	<0.0200	U	0.0200		mg/L		08/30/23 11:30	08/30/23 20:44	1
SiO2	<1.07	U	1.07		mg/L		08/30/23 11:30	08/30/23 20:44	1
Iron	<0.200	U	0.200		mg/L		08/30/23 11:30	08/30/23 20:44	1
Lead	<0.0100	U	0.0100		mg/L		08/30/23 11:30	08/30/23 20:44	1

Lab Sample ID: MB 860-119461/1-A

Matrix: Water

Analysis Batch: 119721

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 119461

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	<0.500	U	0.500		mg/L		08/30/23 11:30	08/31/23 12:12	1
Lead	<0.0100	U	0.0100		mg/L		08/30/23 11:30	08/31/23 12:12	1

Lab Sample ID: LCS 860-119461/2-A

Matrix: Water

Analysis Batch: 119617

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 119461

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	25.0	25.20		mg/L		101	85 - 115
Potassium	10.0	10.10		mg/L		101	85 - 115
Calcium	25.0	25.20		mg/L		101	85 - 115
Magnesium	25.0	24.80		mg/L		99	85 - 115
Manganese	1.00	1.050		mg/L		105	85 - 115
SiO2	21.4	21.61		mg/L		101	85 - 115
Iron	5.00	5.100		mg/L		102	85 - 115
Lead	1.00	0.9990		mg/L		100	85 - 115

Lab Sample ID: LCS 860-119461/2-A

Matrix: Water

Analysis Batch: 119721

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 119461

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	25.0	23.10		mg/L		92	85 - 115
Lead	1.00	0.9360		mg/L		94	85 - 115

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 860-119461/3-A

Matrix: Water

Analysis Batch: 119617

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 119461

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	25.0	25.30		mg/L		101	85 - 115	0	20
Potassium	10.0	10.00		mg/L		100	85 - 115	1	20
Calcium	25.0	25.40		mg/L		102	85 - 115	1	20
Magnesium	25.0	25.00		mg/L		100	85 - 115	1	20
Manganese	1.00	1.050		mg/L		105	85 - 115	0	20
SiO2	21.4	21.61		mg/L		101	85 - 115	0	20
Iron	5.00	5.130		mg/L		103	85 - 115	1	20
Lead	1.00	1.010		mg/L		101	85 - 115	1	20

Lab Sample ID: LCSD 860-119461/3-A

Matrix: Water

Analysis Batch: 119721

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 119461

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	25.0	23.10		mg/L		92	85 - 115	0	20
Lead	1.00	0.9370		mg/L		94	85 - 115	0	20

Lab Sample ID: LLCS 860-119461/4-A

Matrix: Water

Analysis Batch: 119721

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 119461

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	0.500	0.3940	J	mg/L		79	50 - 150		
Lead	0.0100	0.01130		mg/L		113	50 - 150		

Lab Sample ID: 890-5167-I-4-A MS

Matrix: Water

Analysis Batch: 119617

Client Sample ID: 890-5167-I-4-A MS

Prep Type: Total Recoverable

Prep Batch: 119461

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Potassium	5.47		10.0	17.70		mg/L		122	70 - 130		
Calcium	821	E	25.0	867.0	E 4	mg/L		184	70 - 130		
Magnesium	75.0		25.0	102.0	E	mg/L		108	70 - 130		
Manganese	0.956		1.00	2.060		mg/L		110	70 - 130		
SiO2	186		21.4	267.5	4	mg/L		379	70 - 130		
Iron	12.7	F1	5.00	24.70	F1	mg/L		240	70 - 130		
Lead	0.0114		1.00	0.9890		mg/L		98	70 - 130		

Lab Sample ID: 890-5167-I-4-A MS ^50

Matrix: Water

Analysis Batch: 119721

Client Sample ID: 890-5167-I-4-A MS ^50

Prep Type: Total Recoverable

Prep Batch: 119461

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	297	^2	25.0	248.5	4	mg/L		-192	70 - 130		
Lead	<0.500	U	1.00	1.270		mg/L		127	70 - 130		

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 860-121166/1-A

Matrix: Water

Analysis Batch: 121465

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 121166

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	<0.500	U	0.500		mg/L		09/12/23 10:30	09/13/23 10:54	1
Potassium	<0.500	U	0.500		mg/L		09/12/23 10:30	09/13/23 10:54	1
Calcium	<0.200	U	0.200		mg/L		09/12/23 10:30	09/13/23 10:54	1
Magnesium	<0.200	U	0.200		mg/L		09/12/23 10:30	09/13/23 10:54	1
Manganese	<0.0200	U	0.0200		mg/L		09/12/23 10:30	09/13/23 10:54	1
SiO2	<1.07	U	1.07		mg/L		09/12/23 10:30	09/13/23 10:54	1
Iron	<0.200	U	0.200		mg/L		09/12/23 10:30	09/13/23 10:54	1
Lead	<0.0100	U	0.0100		mg/L		09/12/23 10:30	09/13/23 10:54	1

Lab Sample ID: LCS 860-121166/2-A

Matrix: Water

Analysis Batch: 121465

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 121166

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	25.0	25.20		mg/L		101	85 - 115
Potassium	10.0	9.930		mg/L		99	85 - 115
Calcium	25.0	25.60		mg/L		102	85 - 115
Magnesium	25.0	25.20		mg/L		101	85 - 115
Manganese	1.00	1.070		mg/L		107	85 - 115
SiO2	21.4	21.83		mg/L		102	85 - 115
Iron	5.00	5.130		mg/L		103	85 - 115
Lead	1.00	1.030		mg/L		103	85 - 115

Lab Sample ID: LCSD 860-121166/3-A

Matrix: Water

Analysis Batch: 121465

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 121166

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	25.0	25.30		mg/L		101	85 - 115	0	20
Potassium	10.0	10.00		mg/L		100	85 - 115	1	20
Calcium	25.0	25.60		mg/L		102	85 - 115	0	20
Magnesium	25.0	25.30		mg/L		101	85 - 115	0	20
Manganese	1.00	1.070		mg/L		107	85 - 115	0	20
SiO2	21.4	22.04		mg/L		103	85 - 115	1	20
Iron	5.00	5.160		mg/L		103	85 - 115	1	20
Lead	1.00	1.030		mg/L		103	85 - 115	0	20

Lab Sample ID: LLCS 860-121166/4-A

Matrix: Water

Analysis Batch: 121465

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 121166

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	0.500	0.5320		mg/L		106	50 - 150
Potassium	0.500	0.4810	J	mg/L		96	50 - 150
Calcium	0.200	0.2230		mg/L		112	50 - 150
Magnesium	0.200	0.2390		mg/L		120	50 - 150
Manganese	0.0200	0.01980	J	mg/L		99	50 - 150
SiO2	1.07	1.149		mg/L		107	50 - 150
Iron	0.200	0.2220		mg/L		111	50 - 150

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LLCS 860-121166/4-A
Matrix: Water
Analysis Batch: 121465

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 121166

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	0.0100	0.009940	J	mg/L		99	50 - 150

Lab Sample ID: 860-56847-F-1-A MS
Matrix: Water
Analysis Batch: 121465

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 121166

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	11.0		25.0	36.60		mg/L		102	70 - 130
Potassium	4.76		10.0	14.90		mg/L		101	70 - 130
Calcium	77.6		25.0	103.0	E	mg/L		102	70 - 130
Magnesium	18.7		25.0	43.90		mg/L		101	70 - 130
Manganese	1.58		1.00	2.600		mg/L		102	70 - 130
SiO2	15.2		21.4	37.45		mg/L		104	70 - 130
Iron	3.82		5.00	9.000		mg/L		104	70 - 130
Lead	0.0378		1.00	1.060		mg/L		102	70 - 130

Lab Sample ID: 860-56901-A-6-B MS ^50
Matrix: Water
Analysis Batch: 121465

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 121166

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	2180		25.0	2215	4	mg/L		140	70 - 130
Potassium	<25.0	U F1	10.0	28.05	F1	mg/L		62	70 - 130
Calcium	174		25.0	201.0	4	mg/L		108	70 - 130
Magnesium	34.9		25.0	61.50		mg/L		106	70 - 130
Manganese	<1.00	U	1.00	2.040		mg/L		109	70 - 130
SiO2	<53.5	U	21.4	73.51		mg/L		117	70 - 130
Iron	<10.0	U	5.00	<10.0	U	mg/L		114	70 - 130
Lead	<0.500	U	1.00	1.090		mg/L		109	70 - 130

Lab Sample ID: 860-56901-A-6-C MSD ^50
Matrix: Water
Analysis Batch: 121465

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 121166

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Sodium	2180		25.0	2175	4	mg/L		-20	70 - 130	2	20
Potassium	<25.0	U F1	10.0	26.90	F1	mg/L		51	70 - 130	4	20
Calcium	174		25.0	198.5	4	mg/L		98	70 - 130	1	20
Magnesium	34.9		25.0	61.50		mg/L		106	70 - 130	0	20
Manganese	<1.00	U	1.00	2.040		mg/L		109	70 - 130	0	20
SiO2	<53.5	U	21.4	73.51		mg/L		117	70 - 130	0	20
Iron	<10.0	U	5.00	<10.0	U	mg/L		114	70 - 130	0	20
Lead	<0.500	U	1.00	0.9950		mg/L		100	70 - 130	9	20

Lab Sample ID: 870-20080-X-7-E MSD
Matrix: Water
Analysis Batch: 119617

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 119461

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Sodium	30.7	+	25.0	56.30		mg/L		102	70 - 130	1	20

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 870-20080-X-7-E MSD

Matrix: Water

Analysis Batch: 119617

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 119461

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Potassium	6.92	*+	10.0	17.00		mg/L		101	70 - 130	2	20
Calcium	30.3		25.0	55.70		mg/L		102	70 - 130	2	20
Magnesium	8.16		25.0	33.20		mg/L		100	70 - 130	2	20
Manganese	0.0731		1.00	1.120		mg/L		105	70 - 130	2	20
SiO2	7.10		21.4	29.32		mg/L		104	70 - 130	1	20
Iron	<0.200	U	5.00	5.200		mg/L		104	70 - 130	2	20
Lead	<0.0100	U	1.00	1.000		mg/L		100	70 - 130	2	20

Lab Sample ID: 870-20080-X-7-E MSD

Matrix: Water

Analysis Batch: 119721

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Prep Batch: 119461

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	28.1		25.0	51.80		mg/L		95	70 - 130	2	20
Lead	<0.0100	U	1.00	0.9390		mg/L		93	70 - 130	2	20

Lab Sample ID: MB 860-120638/20-B

Matrix: Water

Analysis Batch: 121465

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 121166

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	<0.500	U	0.500		mg/L		09/12/23 10:30	09/13/23 13:11	1
Potassium	<0.500	U	0.500		mg/L		09/12/23 10:30	09/13/23 13:11	1
Calcium	<0.200	U	0.200		mg/L		09/12/23 10:30	09/13/23 13:11	1
Magnesium	<0.200	U	0.200		mg/L		09/12/23 10:30	09/13/23 13:11	1
Manganese	<0.0200	U	0.0200		mg/L		09/12/23 10:30	09/13/23 13:11	1
SiO2	<1.07	U	1.07		mg/L		09/12/23 10:30	09/13/23 13:11	1
Iron	<0.200	U	0.200		mg/L		09/12/23 10:30	09/13/23 13:11	1
Lead	<0.0100	U	0.0100		mg/L		09/12/23 10:30	09/13/23 13:11	1

Lab Sample ID: LCS 860-120638/21-B

Matrix: Water

Analysis Batch: 121465

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Prep Batch: 121166

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	25.0	25.80		mg/L		103	85 - 115
Potassium	10.0	10.30		mg/L		103	85 - 115
Calcium	25.0	26.00		mg/L		104	85 - 115
Magnesium	25.0	25.60		mg/L		102	85 - 115
Manganese	1.00	1.080		mg/L		108	85 - 115
SiO2	21.4	22.04		mg/L		103	85 - 115
Iron	5.00	5.220		mg/L		104	85 - 115
Lead	1.00	1.050		mg/L		105	85 - 115

Lab Sample ID: LCSD 860-120638/22-B

Matrix: Water

Analysis Batch: 121465

Client Sample ID: Lab Control Sample Dup

Prep Type: Dissolved

Prep Batch: 121166

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	25.0	25.70		mg/L		103	85 - 115	0	20

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 860-120638/22-B

Matrix: Water

Analysis Batch: 121465

Client Sample ID: Lab Control Sample Dup

Prep Type: Dissolved

Prep Batch: 121166

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Potassium	10.0	10.30		mg/L		103	85 - 115	0	20
Calcium	25.0	26.00		mg/L		104	85 - 115	0	20
Magnesium	25.0	25.60		mg/L		102	85 - 115	0	20
Manganese	1.00	1.080		mg/L		108	85 - 115	0	20
SiO2	21.4	22.26		mg/L		104	85 - 115	1	20
Iron	5.00	5.230		mg/L		105	85 - 115	0	20
Lead	1.00	1.050		mg/L		105	85 - 115	0	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 860-119920/3

Matrix: Water

Analysis Batch: 119920

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	<4.00	U	4.00		mg/L			09/01/23 11:09	1
Carbonate Alkalinity as CaCO3	<4.00	U	4.00		mg/L			09/01/23 11:09	1
Bicarbonate Alkalinity as CaCO3	<4.00	U	4.00		mg/L			09/01/23 11:09	1

Lab Sample ID: LCS 860-119920/4

Matrix: Water

Analysis Batch: 119920

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	250	243.9		mg/L		98	85 - 115

Lab Sample ID: LCSD 860-119920/5

Matrix: Water

Analysis Batch: 119920

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity	250	246.8		mg/L		99	85 - 115	1	20

Lab Sample ID: 890-5167-2 DU

Matrix: Water

Analysis Batch: 119920

Client Sample ID: BH14

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	219		216.4		mg/L		1	20
Carbonate Alkalinity as CaCO3	<4.00	U	<4.00	U	mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	219		216.4		mg/L		1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 860-119637/1

Matrix: Water

Analysis Batch: 119637

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<5.00	U	5.00		mg/L			08/31/23 10:12	1

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QC Sample Results

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 860-119637/2

Matrix: Water

Analysis Batch: 119637

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1001		mg/L		100	80 - 120

Lab Sample ID: LCSD 860-119637/3

Matrix: Water

Analysis Batch: 119637

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1006		mg/L		101	80 - 120	0	10

Lab Sample ID: LLCS 860-119637/4

Matrix: Water

Analysis Batch: 119637

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	5.00	5.500		mg/L		110	50 - 150

Lab Sample ID: 860-56232-A-1 DU

Matrix: Water

Analysis Batch: 119637

Client Sample ID: Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	737		736.0		mg/L		0.1	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 890-5167-3 DU

Matrix: Water

Analysis Batch: 119995

Client Sample ID: BH18

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	HF	7.8		SU		0.5	20
Temperature	14.9	HF	14.8		Degrees C		0.7	20

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QC Association Summary

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

HPLC/IC

Analysis Batch: 119245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-1	BH13	Total/NA	Water	300.0	
890-5167-2	BH14	Total/NA	Water	300.0	
890-5167-3	BH18	Total/NA	Water	300.0	
890-5167-4	BH19	Total/NA	Water	300.0	
890-5167-4	BH19	Total/NA	Water	300.0	
890-5167-5	BH21	Total/NA	Water	300.0	
890-5167-5	BH21	Total/NA	Water	300.0	
890-5167-6	BH22	Total/NA	Water	300.0	
MB 860-119245/156	Method Blank	Total/NA	Water	300.0	
MB 860-119245/3	Method Blank	Total/NA	Water	300.0	
MB 860-119245/40	Method Blank	Total/NA	Water	300.0	
LCS 860-119245/157	Lab Control Sample	Total/NA	Water	300.0	
LCS 860-119245/41	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-119245/158	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 860-119245/42	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-119245/7	Lab Control Sample	Total/NA	Water	300.0	
860-56136-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
860-56136-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
870-20135-G-1 MS	Matrix Spike	Total/NA	Water	300.0	
870-20135-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
880-32623-I-2 MS	Matrix Spike	Total/NA	Water	300.0	
880-32623-I-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 119246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-1	BH13	Total/NA	Water	300.0	
890-5167-2	BH14	Total/NA	Water	300.0	
890-5167-3	BH18	Total/NA	Water	300.0	
890-5167-4	BH19	Total/NA	Water	300.0	
890-5167-5	BH21	Total/NA	Water	300.0	
890-5167-6	BH22	Total/NA	Water	300.0	
MB 860-119246/156	Method Blank	Total/NA	Water	300.0	
MB 860-119246/3	Method Blank	Total/NA	Water	300.0	
MB 860-119246/40	Method Blank	Total/NA	Water	300.0	
LCS 860-119246/157	Lab Control Sample	Total/NA	Water	300.0	
LCS 860-119246/41	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-119246/158	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 860-119246/42	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-119246/6	Lab Control Sample	Total/NA	Water	300.0	
860-56136-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
860-56136-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
870-20135-G-1 MS	Matrix Spike	Total/NA	Water	300.0	
870-20135-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
880-32623-I-2 MS	Matrix Spike	Total/NA	Water	300.0	
880-32623-I-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 119774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-1 - DL	BH13	Total/NA	Water	300.0	
890-5167-2 - DL	BH14	Total/NA	Water	300.0	
MB 860-119774/3	Method Blank	Total/NA	Water	300.0	

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QC Association Summary

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

HPLC/IC (Continued)

Analysis Batch: 119774 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 860-119774/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-119774/5	Lab Control Sample Dup	Total/NA	Water	300.0	
LLCS 860-119774/7	Lab Control Sample	Total/NA	Water	300.0	
890-5183-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
890-5183-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 120418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 860-120418/91	Method Blank	Total/NA	Water	300.0	
LCS 860-120418/92	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-120418/93	Lab Control Sample Dup	Total/NA	Water	300.0	
870-20250-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
870-20250-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 120419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 860-120419/91	Method Blank	Total/NA	Water	300.0	
LCS 860-120419/92	Lab Control Sample	Total/NA	Water	300.0	
LCSD 860-120419/93	Lab Control Sample Dup	Total/NA	Water	300.0	
870-20250-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
870-20250-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 119461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-1	BH13	Total Recoverable	Water	200.7	
890-5167-2	BH14	Total Recoverable	Water	200.7	
MB 860-119461/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 860-119461/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
LCSD 860-119461/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7	
LLCS 860-119461/4-A	Lab Control Sample	Total Recoverable	Water	200.7	
870-20080-X-7-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7	
890-5167-I-4-A MS	890-5167-I-4-A MS	Total Recoverable	Water	200.7	
890-5167-I-4-A MS ^50	890-5167-I-4-A MS ^50	Total Recoverable	Water	200.7	

Analysis Batch: 119617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-1	BH13	Total Recoverable	Water	200.7 Rev 4.4	119461
890-5167-1	BH13	Total Recoverable	Water	200.7 Rev 4.4	119461
890-5167-2	BH14	Total Recoverable	Water	200.7 Rev 4.4	119461
890-5167-2	BH14	Total Recoverable	Water	200.7 Rev 4.4	119461
MB 860-119461/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	119461
LCS 860-119461/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	119461
LCSD 860-119461/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7 Rev 4.4	119461
870-20080-X-7-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	119461
890-5167-I-4-A MS	890-5167-I-4-A MS	Total Recoverable	Water	200.7 Rev 4.4	119461

Analysis Batch: 119721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-1	BH13	Total Recoverable	Water	200.7 Rev 4.4	119461

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QC Association Summary

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Metals (Continued)

Analysis Batch: 119721 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-2	BH14	Total Recoverable	Water	200.7 Rev 4.4	119461
MB 860-119461/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	119461
LCS 860-119461/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	119461
LCSD 860-119461/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7 Rev 4.4	119461
LLCS 860-119461/4-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	119461
870-20080-X-7-E MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	119461
890-5167-I-4-A MS ^50	890-5167-I-4-A MS ^50	Total Recoverable	Water	200.7 Rev 4.4	119461

Analysis Batch: 119896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-1	BH13	Total/NA	Water	SM 2340B	
890-5167-2	BH14	Total/NA	Water	SM 2340B	
890-5167-3	BH18	Total/NA	Water	SM 2340B	
890-5167-4	BH19	Total/NA	Water	SM 2340B	
890-5167-5	BH21	Total/NA	Water	SM 2340B	
890-5167-6	BH22	Total/NA	Water	SM 2340B	

Filtration Batch: 120638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-3	BH18	Dissolved	Water	Filtration	
890-5167-4	BH19	Dissolved	Water	Filtration	
890-5167-5	BH21	Dissolved	Water	Filtration	
890-5167-6	BH22	Dissolved	Water	Filtration	
MB 860-120638/20-B	Method Blank	Dissolved	Water	Filtration	
LCS 860-120638/21-B	Lab Control Sample	Dissolved	Water	Filtration	
LCSD 860-120638/22-B	Lab Control Sample Dup	Dissolved	Water	Filtration	

Prep Batch: 121166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-3	BH18	Dissolved	Water	200.7	120638
890-5167-4	BH19	Dissolved	Water	200.7	120638
890-5167-5	BH21	Dissolved	Water	200.7	120638
890-5167-6	BH22	Dissolved	Water	200.7	120638
MB 860-120638/20-B	Method Blank	Dissolved	Water	200.7	120638
MB 860-121166/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 860-120638/21-B	Lab Control Sample	Dissolved	Water	200.7	120638
LCS 860-121166/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
LCSD 860-120638/22-B	Lab Control Sample Dup	Dissolved	Water	200.7	120638
LCSD 860-121166/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7	
LLCS 860-121166/4-A	Lab Control Sample	Total Recoverable	Water	200.7	
860-56847-F-1-A MS	Matrix Spike	Total Recoverable	Water	200.7	
860-56901-A-6-B MS ^50	Matrix Spike	Total Recoverable	Water	200.7	
860-56901-A-6-C MSD ^50	Matrix Spike Duplicate	Total Recoverable	Water	200.7	

Analysis Batch: 121465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-3	BH18	Dissolved	Water	200.7 Rev 4.4	121166
890-5167-3	BH18	Dissolved	Water	200.7 Rev 4.4	121166
890-5167-4	BH19	Dissolved	Water	200.7 Rev 4.4	121166
890-5167-4	BH19	Dissolved	Water	200.7 Rev 4.4	121166
890-5167-5	BH21	Dissolved	Water	200.7 Rev 4.4	121166

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QC Association Summary

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Metals (Continued)

Analysis Batch: 121465 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-5	BH21	Dissolved	Water	200.7 Rev 4.4	121166
890-5167-6	BH22	Dissolved	Water	200.7 Rev 4.4	121166
890-5167-6	BH22	Dissolved	Water	200.7 Rev 4.4	121166
MB 860-120638/20-B	Method Blank	Dissolved	Water	200.7 Rev 4.4	121166
MB 860-121166/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	121166
LCS 860-120638/21-B	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	121166
LCS 860-121166/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	121166
LCSD 860-120638/22-B	Lab Control Sample Dup	Dissolved	Water	200.7 Rev 4.4	121166
LCSD 860-121166/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7 Rev 4.4	121166
LLCS 860-121166/4-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	121166
860-56847-F-1-A MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	121166
860-56901-A-6-B MS ^50	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	121166
860-56901-A-6-C MSD ^50	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	121166

General Chemistry

Analysis Batch: 119185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-1	BH13	Total/NA	Water	SM 4500 CO2 D	
890-5167-2	BH14	Total/NA	Water	SM 4500 CO2 D	
890-5167-3	BH18	Total/NA	Water	SM 4500 CO2 D	
890-5167-4	BH19	Total/NA	Water	SM 4500 CO2 D	
890-5167-5	BH21	Total/NA	Water	SM 4500 CO2 D	
890-5167-6	BH22	Total/NA	Water	SM 4500 CO2 D	

Analysis Batch: 119559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-1	BH13	Total/NA	Water	SM 1030E	
890-5167-2	BH14	Total/NA	Water	SM 1030E	
890-5167-3	BH18	Total/NA	Water	SM 1030E	
890-5167-4	BH19	Total/NA	Water	SM 1030E	
890-5167-5	BH21	Total/NA	Water	SM 1030E	
890-5167-6	BH22	Total/NA	Water	SM 1030E	

Analysis Batch: 119637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-1	BH13	Total/NA	Water	SM 2540C	
890-5167-2	BH14	Total/NA	Water	SM 2540C	
890-5167-3	BH18	Total/NA	Water	SM 2540C	
890-5167-4	BH19	Total/NA	Water	SM 2540C	
890-5167-5	BH21	Total/NA	Water	SM 2540C	
890-5167-6	BH22	Total/NA	Water	SM 2540C	
MB 860-119637/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 860-119637/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 860-119637/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
LLCS 860-119637/4	Lab Control Sample	Total/NA	Water	SM 2540C	
860-56232-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 119920

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-1	BH13	Total/NA	Water	SM 2320B	

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QC Association Summary

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

General Chemistry (Continued)

Analysis Batch: 119920 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-2	BH14	Total/NA	Water	SM 2320B	
890-5167-3	BH18	Total/NA	Water	SM 2320B	
890-5167-4	BH19	Total/NA	Water	SM 2320B	
890-5167-5	BH21	Total/NA	Water	SM 2320B	
890-5167-6	BH22	Total/NA	Water	SM 2320B	
MB 860-119920/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 860-119920/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 860-119920/5	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
890-5167-2 DU	BH14	Total/NA	Water	SM 2320B	

Analysis Batch: 119995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-5167-1	BH13	Total/NA	Water	SM 4500 H+ B	
890-5167-2	BH14	Total/NA	Water	SM 4500 H+ B	
890-5167-3	BH18	Total/NA	Water	SM 4500 H+ B	
890-5167-4	BH19	Total/NA	Water	SM 4500 H+ B	
890-5167-5	BH21	Total/NA	Water	SM 4500 H+ B	
890-5167-6	BH22	Total/NA	Water	SM 4500 H+ B	
890-5167-3 DU	BH18	Total/NA	Water	SM 4500 H+ B	

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Lab Chronicle

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Client Sample ID: BH13

Lab Sample ID: 890-5167-1

Date Collected: 08/28/23 10:00

Matrix: Water

Date Received: 08/28/23 13:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0	DL	100			119774	09/01/23 02:08	WP	EET HOU
Total/NA	Analysis	300.0		10	0 mL	1.0 mL	119245	08/29/23 20:52	A1S	EET HOU
Total/NA	Analysis	300.0		10	0 mL	1.0 mL	119246	08/29/23 20:52	A1S	EET HOU
Total Recoverable	Prep	200.7			50 mL	50 mL	119461	08/30/23 11:30	MD	EET HOU
Total Recoverable	Analysis	200.7 Rev 4.4		1			119617	08/30/23 22:02	JDM	EET HOU
Total Recoverable	Prep	200.7			50 mL	50 mL	119461	08/30/23 11:30	MD	EET HOU
Total Recoverable	Analysis	200.7 Rev 4.4		50			119617	08/30/23 22:20	JDM	EET HOU
Total Recoverable	Prep	200.7			50 mL	50 mL	119461	08/30/23 11:30	MD	EET HOU
Total Recoverable	Analysis	200.7 Rev 4.4		50			119721	08/31/23 12:33	JDM	EET HOU
Total/NA	Analysis	SM 2340B		1			119896	09/01/23 13:13	JDM	EET HOU
Total/NA	Analysis	SM 1030E		1			119559	08/30/23 19:38	MC	EET HOU
Total/NA	Analysis	SM 2320B		1			119920	09/01/23 13:03	TL	EET HOU
Total/NA	Analysis	SM 2540C		1	5 mL	200 mL	119637	08/31/23 10:12	OH	EET HOU
Total/NA	Analysis	SM 4500 CO2 D		1			119185	09/01/23 17:29	MC	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			119995	09/01/23 18:05	TL	EET HOU

Client Sample ID: BH14

Lab Sample ID: 890-5167-2

Date Collected: 08/28/23 10:20

Matrix: Water

Date Received: 08/28/23 13:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0	DL	100			119774	09/01/23 01:51	WP	EET HOU
Total/NA	Analysis	300.0		1	0 mL	1.0 mL	119245	08/30/23 09:38	A1S	EET HOU
Total/NA	Analysis	300.0		1	0 mL	1.0 mL	119246	08/30/23 09:38	A1S	EET HOU
Total Recoverable	Prep	200.7			50 mL	50 mL	119461	08/30/23 11:30	MD	EET HOU
Total Recoverable	Analysis	200.7 Rev 4.4		1			119617	08/30/23 22:06	JDM	EET HOU
Total Recoverable	Prep	200.7			50 mL	50 mL	119461	08/30/23 11:30	MD	EET HOU
Total Recoverable	Analysis	200.7 Rev 4.4		50			119617	08/30/23 22:24	JDM	EET HOU
Total Recoverable	Prep	200.7			50 mL	50 mL	119461	08/30/23 11:30	MD	EET HOU
Total Recoverable	Analysis	200.7 Rev 4.4		50			119721	08/31/23 12:35	JDM	EET HOU
Total/NA	Analysis	SM 2340B		1			119896	09/01/23 13:13	JDM	EET HOU
Total/NA	Analysis	SM 1030E		1			119559	08/30/23 19:38	MC	EET HOU
Total/NA	Analysis	SM 2320B		1			119920	09/01/23 13:12	TL	EET HOU
Total/NA	Analysis	SM 2540C		1	10 mL	200 mL	119637	08/31/23 10:12	OH	EET HOU
Total/NA	Analysis	SM 4500 CO2 D		1			119185	09/01/23 17:29	MC	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			119995	09/01/23 18:08	TL	EET HOU

Client Sample ID: BH18

Lab Sample ID: 890-5167-3

Date Collected: 08/28/23 10:40

Matrix: Water

Date Received: 08/28/23 13:56

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	0 mL	1.0 mL	119245	08/30/23 09:47	A1S	EET HOU

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Lab Chronicle

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Client Sample ID: BH18

Date Collected: 08/28/23 10:40

Date Received: 08/28/23 13:56

Lab Sample ID: 890-5167-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	0 mL	1.0 mL	119246	08/30/23 09:47	A1S	EET HOU
Dissolved	Filtration	Filtration			250 mL	250 mL	120638	09/07/23 22:43	AGR	EET HOU
Dissolved	Prep	200.7			50 mL	50 mL	121166	09/12/23 10:30	MD	EET HOU
Dissolved	Analysis	200.7 Rev 4.4		1			121465	09/13/23 13:22	JDM	EET HOU
Dissolved	Filtration	Filtration			250 mL	250 mL	120638	09/07/23 22:43	AGR	EET HOU
Dissolved	Prep	200.7			50 mL	50 mL	121166	09/12/23 10:30	MD	EET HOU
Dissolved	Analysis	200.7 Rev 4.4		50			121465	09/13/23 13:32	JDM	EET HOU
Total/NA	Analysis	SM 2340B		1			119896	09/01/23 13:13	JDM	EET HOU
Total/NA	Analysis	SM 1030E		1			119559	08/30/23 19:38	MC	EET HOU
Total/NA	Analysis	SM 2320B		1			119920	09/01/23 13:29	TL	EET HOU
Total/NA	Analysis	SM 2540C		1	100 mL	200 mL	119637	08/31/23 10:12	OH	EET HOU
Total/NA	Analysis	SM 4500 CO2 D		1			119185	09/01/23 17:29	MC	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			119995	09/01/23 18:09	TL	EET HOU

Client Sample ID: BH19

Date Collected: 08/28/23 11:00

Date Received: 08/28/23 13:56

Lab Sample ID: 890-5167-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	0 mL	1.0 mL	119245	08/30/23 09:55	A1S	EET HOU
Total/NA	Analysis	300.0		1	0 mL	1.0 mL	119246	08/30/23 09:55	A1S	EET HOU
Total/NA	Analysis	300.0		10	0 mL	1.0 mL	119245	08/30/23 12:27	A1S	EET HOU
Dissolved	Filtration	Filtration			250 mL	250 mL	120638	09/07/23 22:43	AGR	EET HOU
Dissolved	Prep	200.7			50 mL	50 mL	121166	09/12/23 10:30	MD	EET HOU
Dissolved	Analysis	200.7 Rev 4.4		1			121465	09/13/23 13:25	JDM	EET HOU
Dissolved	Filtration	Filtration			250 mL	250 mL	120638	09/07/23 22:43	AGR	EET HOU
Dissolved	Prep	200.7			50 mL	50 mL	121166	09/12/23 10:30	MD	EET HOU
Dissolved	Analysis	200.7 Rev 4.4		50			121465	09/13/23 13:36	JDM	EET HOU
Total/NA	Analysis	SM 2340B		1			119896	09/01/23 13:13	JDM	EET HOU
Total/NA	Analysis	SM 1030E		1			119559	08/30/23 19:38	MC	EET HOU
Total/NA	Analysis	SM 2320B		1			119920	09/01/23 13:38	TL	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	119637	08/31/23 10:12	OH	EET HOU
Total/NA	Analysis	SM 4500 CO2 D		1			119185	09/01/23 17:29	MC	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			119995	09/01/23 18:12	TL	EET HOU

Client Sample ID: BH21

Date Collected: 08/28/23 11:20

Date Received: 08/28/23 13:56

Lab Sample ID: 890-5167-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	0 mL	1.0 mL	119245	08/30/23 10:04	A1S	EET HOU
Total/NA	Analysis	300.0		1	0 mL	1.0 mL	119246	08/30/23 10:04	A1S	EET HOU
Total/NA	Analysis	300.0		10	0 mL	1.0 mL	119245	08/30/23 12:35	A1S	EET HOU

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Lab Chronicle

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Client Sample ID: BH21

Date Collected: 08/28/23 11:20

Date Received: 08/28/23 13:56

Lab Sample ID: 890-5167-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			250 mL	250 mL	120638	09/07/23 22:43	AGR	EET HOU
Dissolved	Prep	200.7			50 mL	50 mL	121166	09/12/23 10:30	MD	EET HOU
Dissolved	Analysis	200.7 Rev 4.4		1			121465	09/13/23 13:29	JDM	EET HOU
Dissolved	Filtration	Filtration			250 mL	250 mL	120638	09/07/23 22:43	AGR	EET HOU
Dissolved	Prep	200.7			50 mL	50 mL	121166	09/12/23 10:30	MD	EET HOU
Dissolved	Analysis	200.7 Rev 4.4		50			121465	09/13/23 13:39	JDM	EET HOU
Total/NA	Analysis	SM 2340B		1			119896	09/01/23 13:13	JDM	EET HOU
Total/NA	Analysis	SM 1030E		1			119559	08/30/23 19:38	MC	EET HOU
Total/NA	Analysis	SM 2320B		1			119920	09/01/23 13:46	TL	EET HOU
Total/NA	Analysis	SM 2540C		1	10 mL	200 mL	119637	08/31/23 10:12	OH	EET HOU
Total/NA	Analysis	SM 4500 CO2 D		1			119185	09/01/23 17:29	MC	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			119995	09/01/23 18:14	TL	EET HOU

Client Sample ID: BH22

Date Collected: 08/28/23 11:40

Date Received: 08/28/23 13:56

Lab Sample ID: 890-5167-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	0 mL	1.0 mL	119245	08/30/23 10:12	A1S	EET HOU
Total/NA	Analysis	300.0		1	0 mL	1.0 mL	119246	08/30/23 10:12	A1S	EET HOU
Dissolved	Filtration	Filtration			250 mL	250 mL	120638	09/07/23 22:43	AGR	EET HOU
Dissolved	Prep	200.7			50 mL	50 mL	121166	09/12/23 10:30	MD	EET HOU
Dissolved	Analysis	200.7 Rev 4.4		1			121465	09/13/23 14:01	JDM	EET HOU
Dissolved	Filtration	Filtration			250 mL	250 mL	120638	09/07/23 22:43	AGR	EET HOU
Dissolved	Prep	200.7			50 mL	50 mL	121166	09/12/23 10:30	MD	EET HOU
Dissolved	Analysis	200.7 Rev 4.4		50			121465	09/13/23 14:04	JDM	EET HOU
Total/NA	Analysis	SM 2340B		1			119896	09/01/23 13:13	JDM	EET HOU
Total/NA	Analysis	SM 1030E		1			119559	08/30/23 19:38	MC	EET HOU
Total/NA	Analysis	SM 2320B		1			119920	09/01/23 13:55	TL	EET HOU
Total/NA	Analysis	SM 2540C		1	50 mL	200 mL	119637	08/31/23 10:12	OH	EET HOU
Total/NA	Analysis	SM 4500 CO2 D		1			119185	09/01/23 17:29	MC	EET HOU
Total/NA	Analysis	SM 4500 H+ B		1			119995	09/01/23 18:15	TL	EET HOU

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

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Accreditation/Certification Summary

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704215-23-53	06-30-24
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
SM 1030E		Water	Anion/Cation Balance
SM 2320B		Water	Bicarbonate Alkalinity as CaCO3
SM 2320B		Water	Carbonate Alkalinity as CaCO3
SM 2340B		Water	Ca
SM 2340B		Water	Calcium hardness as calcium carbonate
SM 2340B		Water	Magnesium hardness as calcium carbonate
SM 2340B		Water	Mg
SM 4500 CO2 D		Water	Carbon dioxide
SM 4500 CO2 D		Water	Carbon Dioxide, Free
SM 4500 H+ B		Water	Temperature

Method Summary

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET HOU
200.7 Rev 4.4	Metals (ICP)	EPA	EET HOU
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	EET HOU
SM 1030E	Cation Anion Balance	SM	EET HOU
SM 2320B	Alkalinity	SM	EET HOU
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET HOU
SM 4500 CO2 D	Carbon Dioxide and Forms of Alkalinity by Calculation	SM	EET HOU
SM 4500 H+ B	pH	SM	EET HOU
200.7	Preparation, Total Recoverable Metals	EPA	EET HOU
Filtration	Sample Filtration	None	EET HOU

Protocol References:

- EPA = US Environmental Protection Agency
- None = None
- SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

- EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Sample Summary

Client: Etech Environmental & Safety Solutions
Project/Site: North Brushy PW Line

Job ID: 890-5167-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
890-5167-1	BH13	Water	08/28/23 10:00	08/28/23 13:56
890-5167-2	BH14	Water	08/28/23 10:20	08/28/23 13:56
890-5167-3	BH18	Water	08/28/23 10:40	08/28/23 13:56
890-5167-4	BH19	Water	08/28/23 11:00	08/28/23 13:56
890-5167-5	BH21	Water	08/28/23 11:20	08/28/23 13:56
890-5167-6	BH22	Water	08/28/23 11:40	08/28/23 13:56

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13



Environment Testing

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No:

Page 1 of 1
www.xenco.com

Project Manager:	Gilbert Moreno		Bill to: (if different)	Jim Raley
Company Name:	ETech Environmental and Water Company Name:			WPP
Address:	13000 W County Rd 100		Address:	5315 Buena Vista Dr.
City, State ZIP:	Odessa, TX 79765		City, State ZIP:	Corlsbad, NH, 88220
Phone:	(832) 541-7119	Email:	beven-team@etechenv.com	

Program:

State of P

Reporting

Deliverab

890-5167 Chain of Custody

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/ ☐

Project Name:		Turn Around		ANALYSIS REQUEST										Preservative Codes																			
Project Number:	Project Location:	Due Date:	☒ Routine ☐ Rush	Pres. Code																													
Sample's Name:	PO #:	TAT starts the day received by the lab, if received by 4:30pm																															
Eddie Herman																																	
SAMPLE RECEIPT		Temp Blank: ☒ Yes ☒ No	Wet/Sec: ☒ Yes ☒ No																														
Samples Received Intact:	☒ Yes ☒ No	Thermometer ID: TW0007																															
Cooler Custody Seals:	Yes No N/A	Correction Factor: -0.2																															
Sample Custody Seals:	Yes No N/A	Temperature Reading: 5.4																															
Total Containers:		Corrected Temperature: 5.2																															
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters																										
BH13		08/28/23	10:00				X	Bicarbonate (As CaCO_3)	X	Carbonate (As CaCO_3)	X	Total Alkalinity	X	Carbon Dioxide (Free)	X	Carbon Dioxide	X	Cation-Anion Balance	X	Iron	X	Manganese	X	Total Dissolved Solids	X	Chloride	X	Sulfate	X	Nitrogen/Nitrite as N	X	Nitrogen/Nitrate as N	X
BH14		08/28/23	10:20				X		X		X			X		X			X														
BH18		08/28/23	10:40				X		X		X			X		X			X														
BH19		08/28/23	11:00				X		X		X			X		X			X														
BH21		08/28/23	11:20				X		X		X			X		X			X														
BH22		08/28/23	11:40				X		X		X			X		X			X														
Sample Comments																																	
		None: NO DI Water: H ₂ O Cool: Cool MeOH: Me HCL: HC HNO ₃ : HN H ₂ SO ₄ : H ₂ NaOH: Na H ₃ PO ₄ : HP NaHSO ₄ : NABIS Na ₂ S ₂ O ₃ : NaSO ₃ Zn Acetate+NaOH: Zn NaOH+Ascorbic Acid: SAPC																															

Total 200.7 / 6010	200.8 / 6020:	8RCRA	13PPM	Texas	11	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO ₂	Na	Sr	Tl	Sn	U	V	Zn
Circle Method(s) and Metal(s) to be analyzed		TC1P	/SPLP	6010	:	8RCRA	5b	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Mn	Mo	Ni	Se	Ag	Tl	U											
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xeno. Its affiliates and subcontractors, it assigns standard terms and conditions of service. Eurofins Xeno will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xeno. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xeno, but not analyzed. These terms will be enforced unless previously negotiated.																																	
Hg: 1631 / 245.1 / 7470 / 7471																																	

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1 1	See up	8-28-23 1356			
3			4		
5			6		



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Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page 2 of 2

Project Manager:	Gilbert Herenu	Bill to: (if different)	Jim Riley
Company Name:	eElect Environmental Auds	Company Name:	WEX
Address:	1100 W County Rd 100	Address:	5315 Bevenna Vista Dr.
City, State ZIP:	Odessa TX 79765	City, State ZIP:	Carlsbad NH, 38220
Phone:	(832) 541-7719	Email:	Devon-team@electrevenue.com

Work Order Comments				
Program:	UST/PST ☐	PRP ☐	Brownfields ☐	RRC ☐ Superfund ☐
State of Project:				
Reporting:	Level II ☐	Level III ☐	PST/UST ☐	TRRP ☐ Level IV ☐
Deliverables:	EDD ☐	Adapt ☐	Other: _____	

[illegible][illegible]

Total 200.7 / 6010		200.8 / 6020:		8RCRA 13PPM Texas 11		Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO ₂ Na Sr Ti Sn U V Zn	
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010 : 8RCRA		Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U		Hg: 1631 / 245.1 / 7470 / 7471	
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Revised Date 08/25/2020 Rev. 2020.2

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1089 N Canal St
Carlsbad, NM 88220
Phone: 575-988-3199 Fax 575-988-3199

Chain of Custody Record



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[illegible]

Login Sample Receipt Checklist

Client: Etech Environmental & Safety Solutions

Job Number: 890-5167-1

Login Number: 5167

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Etech Environmental & Safety Solutions

Job Number: 890-5167-1

Login Number: 5167

List Number: 2

Creator: Baker, Jeremiah

List Source: Eurofins Houston

List Creation: 08/29/23 02:16 PM

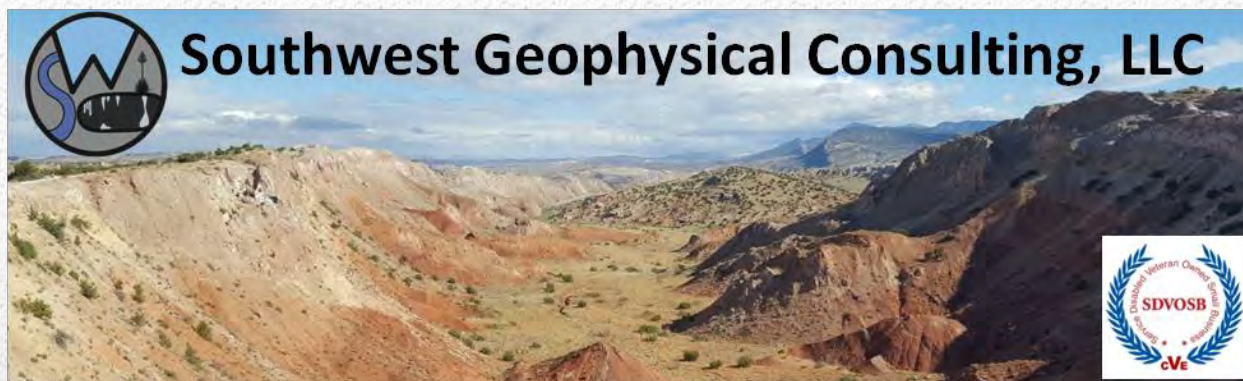
Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
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Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

APPENDIX G

ERI Report

P.O. Box 62228 Midland • TX • 79711 • Tel: 432-563-2200 • Fax: 432-563-2213





2D Electrical Resistivity Imaging Report North Brushy PW Line Spill Eddy County, New Mexico

Prepared For:
eTech Environmental & Safety Solutions, Inc
13000 West County Road 100
Odessa, TX 79765

October 27, 2023

ETEC-003-20230626

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1.0 INTRODUCTION

This report was commissioned by eTech Environmental and Safety Solutions Inc. (hereinafter referred to as "the client"), on June 26, 2023, for the purpose of determining the depth of the water table, as well as determining the existence of any voids, within an area near the North Brushy PW Line Spill (hereinafter termed "NBPW") centered at N 32.054153° W 103.942658° using electrical resistivity imaging.

1.1 Goals of this Study

To provide the client with the depth to the water table or perched aquifers, as well as the location and depth of any voids, within an area near the North Brushy PW Line Spill selected by the client using electrical resistivity imaging for the purpose of determining any impact to the water table.

1.2 Summary of Findings

A possible discontinuous perched aquifer is interpreted to be approximately 13 – 15 meters (43 – 49 feet) beneath the surface based on the resistivity survey. This low resistivity anomaly can also be interpreted as a stratigraphic clay layer. Drilling is required to confirm or refute this interpretation. No anomalies consistent with air- or water-filled voids were found within the NBPW survey. Additionally, the lack of surface karst features does not mean the area isn't karstified and subsurface karst features may exist outside of the areas investigated. Caution should be exercised during any drilling operations. Employing a Bureau of Land Management approved karst monitor on site during drilling operations should be considered. See section **3.0 RESULTS** and **4.0 DISCUSSION** for more information.

1.3 Affected Environment

The NBPW project site is located in evaporite karst terrain, a landform that is characterized by underground drainage through solutionally enlarged conduits. Evaporite karst terrain may contain sinkholes, sinking streams, caves, and springs. Sinkholes leading to underground drainages and voids are common. These karst features, as well as occasional fissures and discontinuities in the bedrock, provide the primary sources for rapid recharge of the groundwater aquifers of the region.

Karst features are delicate resources that are often of geological, hydrological, biological, and archeological importance, and should be protected. The three primary concerns in these types of terrain are environmental issues, worker safety, and infrastructure integrity.

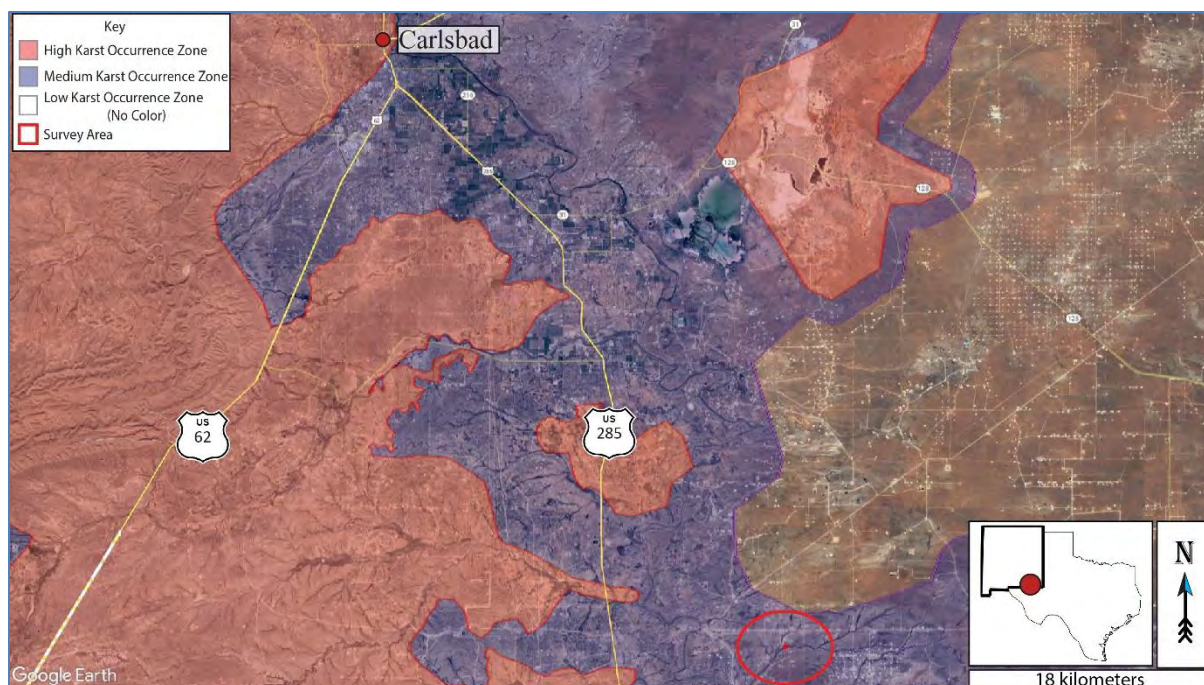


Figure 1: Karst occurrence zone overview. Background image credit: Google Earth. Image date: December 21, 2019. Image datum: WGS-84.

The Bureau of Land Management (BLM) categorizes all areas within the Carlsbad Field Office (CFO) zone of responsibility as having either low, medium, or high cave potential based on geology, occurrence of known caves, density of karst features, and potential impacts to freshwater aquifers^[1]. The New Mexico State Land office also recognizes these categories. This project occurs within a **MEDIUM** karst occurrence zone^[2] (MKOZ, **Figure 1**).

A medium karst occurrence zone is defined as an area in known soluble rock types that may have a shallow insoluble overburden. These areas may contain isolated karst features such as caves and sinkholes. Groundwater recharge may not be wholly dependent on karst features, but the karst features still provide the most rapid aquifer recharge in response to surface runoff^[1].

1.4 Limitations of Report

This report should be read in full. No responsibility is accepted for the use of any part of this report in any other context or for any other purpose or by third parties. This report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

This report has been prepared for the use of eTech Environmental & Safety Solutions, Inc., in accordance with generally accepted consulting practices. Every effort has been made to ensure the information in this report is accurate as of the time of its writing. This report has not been prepared for use by parties other than the client, their contracting party, and their respective consulting advisors. It may not contain sufficient information for the purposes of other parties or for other uses.

This report was prepared upon completion of the associated fieldwork using a standard template prepared by Southwest Geophysical Consulting and is based on information collected prior to fieldwork, conditions encountered on site, and data collected during the fieldwork and reviewed at the time of preparation. Southwest Geophysical Consulting disclaims responsibility for any changes that might have occurred at the site after this time. The interpreted results, locations, and depths noted in this report (if applicable) should be taken as an interpretation only and no decision should be based solely on this information. Physical verification of geophysical results using geotechnical methods should be considered.

To the best of our knowledge, information contained in this report is accurate at the date of issue; however, conditions on the site can change in a limited time and, therefore, the information in this report shall not be used beyond three years past the date of the survey (see section **2.3 Description of Survey**).

2.0 LOCATION AND DESCRIPTION OF STUDY AREA

2.1 Description of Site

The site is located 48.6 kilometers (30.2 miles) south-southeast of Carlsbad, New Mexico, south of Pipeline Road and north of Whitehorn Road, and within the SW quarter section of section 12 of NM T26S R29E^[3] (**Figure 1** and **Figure 2**). The region has flat terrain with gypsite soils and small outcrops of sandstone. Karstification can occur within the gypsite soils and underlying gypsum bedrock^[4]. This area is within the Chihuahuan Desert Thornscrub as defined by the Southwestern Regional ReGAP Vegetation map^[5] and the vegetation consists mostly of areas of grass, sparse creosote, and sparse yucca. The survey site is located within a BLM-CFO designated MKOZ^[2] (**Figure 1**), and is entirely within BLM-CFO managed land^[6] (**Figure 2**).



Figure 2: Land ownership^[6] and PLSS^[3] overview. Background image credit: Google Earth. Image date: December 21, 2019. Image datum: WGS-84.

2.2 Local Geology

The survey site for the NBPW project is located at an elevation of 905 meters (2,969 feet), ± 2 meters (6.6 feet), within an area underlain by the Permian Dewey Lake (Pdl) and Rustler Formations (Pru). The area is mantled by thin gypsiferous soils and Quaternary alluvium (Qal)^[7] between 0 and 6 meters in depth (**Figure 3**).

The Dewey Lake Formation is composed of calcite-cemented, hematite-stained quartz sand grains^[8] and occasional gypsum lenses and can, in favorable conditions, form cavernous porosity within 30 meters of the top of the Rustler^[9]. The Dewey Lake Formation is also known to be highly fractured near areas of heavy halite dissolution such as Nash Draw (approximately 30 kilometers north), and these fractures can act as hydrologic conduits.



Figure 3: Geology overview. Geology map credit: The Digital Geologic Map of New Mexico in ARC/INFO Format^[10]. Background image credit: Google Earth. Image date: December 21, 2019. Image datum: WGS-84.

The Rustler Formation is an evaporite facies and is composed mainly of thin siltstones and sandstones interbedded with claystones, dolomite and gypsum^[8], and contains both karst-forming strata (the Forty-niner and Tamarisk Members) and two shallow aquifers (the Magenta and Culebra Dolomite Members). The Forty-niner and Tamarisk Members are known to have highly developed karst features, including large voids and solution-enlarged fractures^[8].

2.3 Description of Survey

For this survey, an Advanced Geosciences Inc. (AGI) SuperSting™ Wifi R8 with a multi-electrode switchbox, a 56-electrode array of 40-centimeter-long electrodes, and a tablet controller were used to image the subsurface. This survey consisted of two resistivity lines in a dipole-dipole strong-gradient configuration laid out south-southeast to north-northwest with 4-meter spacing, resulting in 220-meter-long arrays (**Figure 4**, **Table 1**, and **APPENDIX 7.2**). A preconfigured command file was used to run the data collection (DDSG56). This electrode configuration provided a depth of investigation of 37 to 50 meters (121 to 164 feet) and a near-surface resolution of 2 meters (6.6 feet). A Leica GS18 GPS was used to record electrode locations and elevations. On this survey, the estimated horizontal error mean was 7 centimeters (2.8 inches) and the estimated vertical error mean was 12 cm (4.7 inches).

APPENDIX 7.2 provides a detailed list of each electrode number, location in latitude/longitude (decimal degree format), and elevation in meters. EarthImager™ 2D software was used to download and process the data and to provide the model used to make our interpretations (**Table 2**). A typical starting model was used for the data processing due to the two-layer model of the geology in the area; specifically, generally high-resistivity gypsum and dolomite at the surface and low-resistivity saturated gypsum and dolomite bedrock at depth. The starting model used was “Average Apparent Resistivity.” A default inversion setting of “Conductive Earth” was used due to the low resistivity values in the area as a result of the presence of saline groundwater. The inversion had a minimum apparent resistivity set to 0.1 Ohm-meters (Ohm-m or Ω -m) and a max apparent resistivity set to 100,000 Ω -m (**Table 2**).

All field work, including setup, stow, and travel, was completed by Garrett Jorgensen Olague and Roman Velasquez on September 25, 2023.

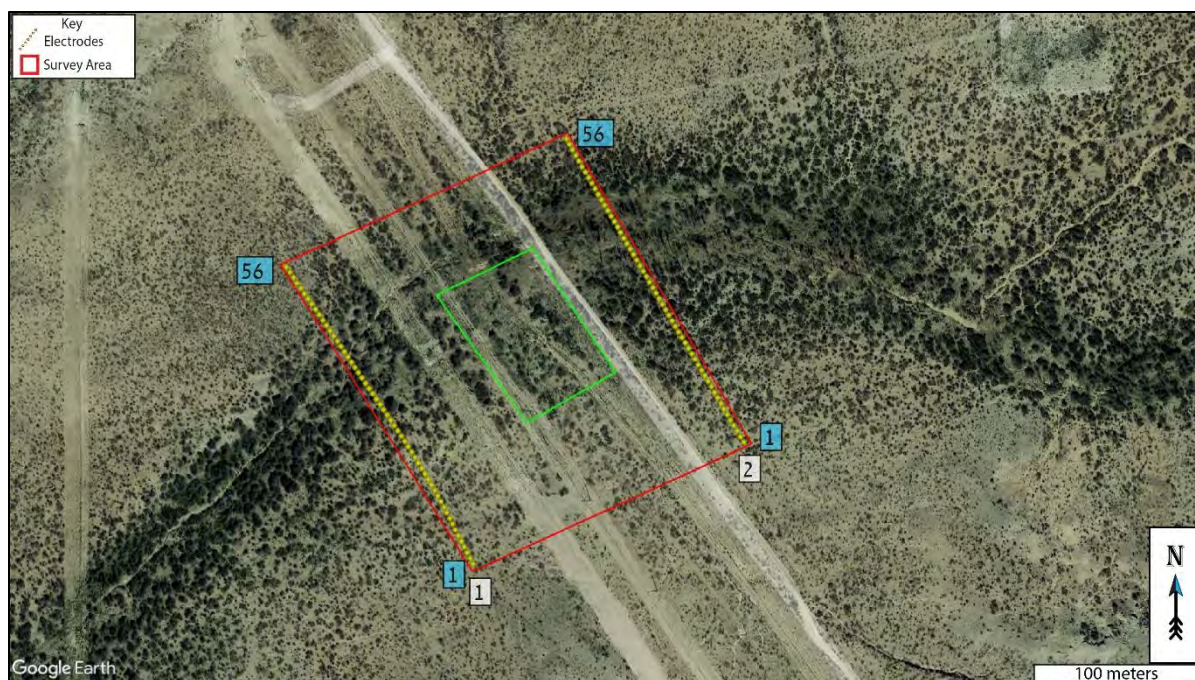


Figure 4: Survey overview. Two survey lines (denoted with white numbers) were conducted with 56 electrodes each at 4-meter spacing (yellow dots denoted with blue numbers). Background image credit: Google Earth. Image date: December 21, 2019. Image datum: WGS-84.

3.0 RESULTS

Electrical resistivity tomography forms images of the subsurface by causing a current to flow through the rock and soil and then measuring the resistance of these materials as the current flows through them. This measurement is taken many times and the resulting data, once processed, is used to produce a model of the subsurface (**Figure 5**). This model is produced using "non-unique" solutions, which means that there are many models and interpretations which will satisfy the data. Using experience and knowledge of the local geology, a high-confidence model can be established and used to develop an accurate understanding of what lies below the surface. This survey was conducted with the express purpose of locating subsurface voids and does not purport to find paleokarst (old, non-active karst features that have been filled in with sand and sediment) or nascent karst features below the resolution limit of the survey.

The results of this study indicate a three-layered geologic system with resistivities between 1.5 and 400 Ohm-m (**Figure 5**). Line NBPW01 transitions from approximately 400 Ohm-m to less than 3 Ohm-m at approximately 13 meters (43 feet) beneath the surface, then back up to approximately 50 Ohm-m at a depth of 24 meters (81 feet). Line NBPW02 transitions from approximately 60 Ohm-m to less than 3 Ohm-m at approximately 15 meters (49 feet) beneath the surface and then returns to approximately 50 Ohm-m at a depth of 32 meters (104 feet).

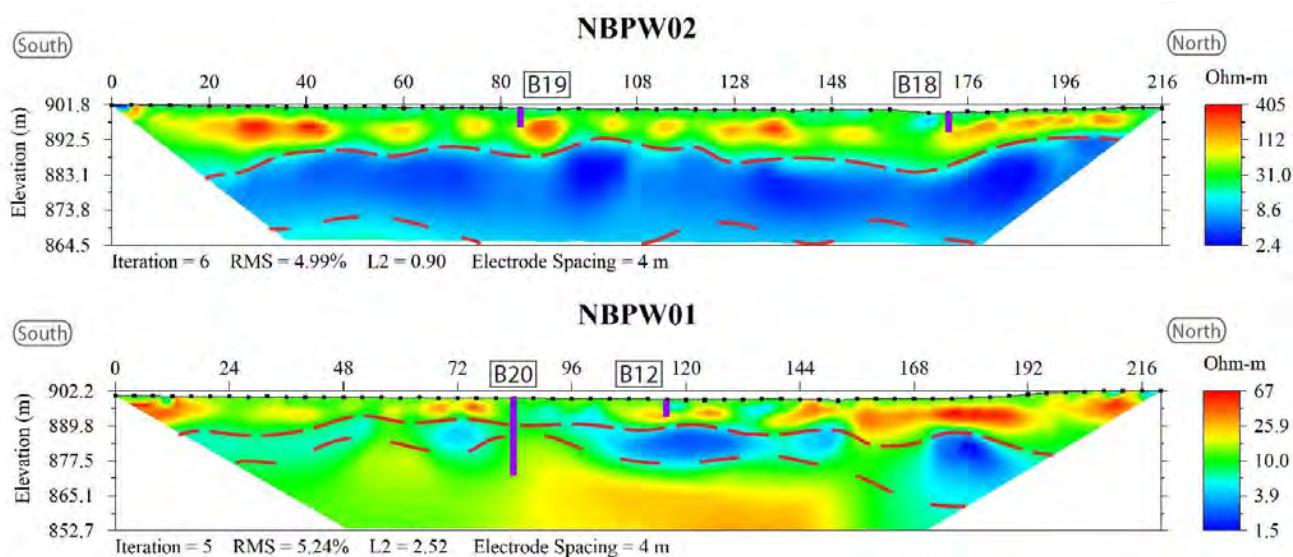


Figure 5: 2D inverted resistivity section. Reds and oranges indicate higher resistivity values. Yellows and greens are medium resistivity values. Blues are low resistivity values. Red dashed line is interpreted as the water table. Vertical purple lines are the boreholes superimposed to the closet location within the resistivity section.

4.0 DISCUSSION

The NBPW survey area has a horizontal, low-resistivity anomaly that is interpreted as a discontinuous perched aquifer between 13 – 30 meters (43 to 104 feet) beneath the surface (**Figure 6**). Resistivities within these boundaries drop to 1.5 – 15 Ohm-m, which is consistent with either a saturated medium (aquifer) or layers of either clays or moist to saturated halite. Higher resistivity values (between 35 and 600 Ohm-m) are interpreted as dry to slightly moist gypsum and clay-rich sandstone bedrock.

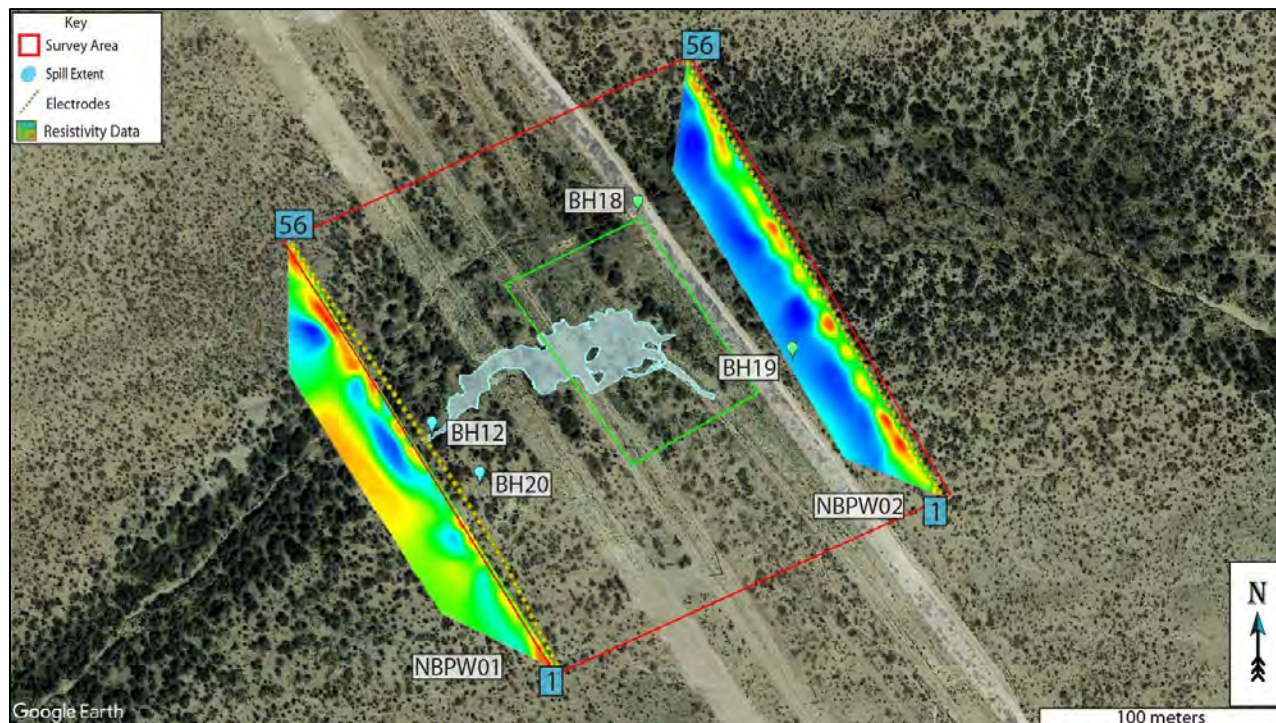


Figure 6: Interpretation. Colored trapezoids are 2D inverted resistivity lines. Green polygon is the area of interest. Blue and green placemarks are borehole locations. Background image credit: Google Earth. Image date: December 21, 2019. Image datum: WGS-84.

The lowest resistivity zone (1.5 Ohm-m) within the survey is directly beneath the downstream portion of the release footprint. This indicates the possibility that the fluids from the release made their way into the subsurface at this location. Borehole BH12 is the closest geotechnical investigation to this location; however, it does not reach deep enough to confirm or refute this interpretation (**Figure 5**). BH12 was drilled to a depth of 8 meters (26) feet, 5 meters (16 feet) shy of the top of this anomaly.

No high-resistivity anomalies consistent with voids or other karst features were interpreted within the two resistivity lines.

Please note that the project site is within karst terrain, and small air- or sediment-filled voids and/or brecciated zones and solutionally enlarged fractures that are below the resolution limit of the survey (1.5 – 2.0 meters) may exist; these may be encountered during remediation, and if so, should be evaluated by a karst specialist prior to continued work. Employing a BLM-CFO approved karst monitor on site during activities in this area should be considered.

5.0 RECOMMENDATIONS

5.1 Summary

- The water table underneath the project area is interpreted to start at a depth of 13 – 15 meters (43 to 49 feet) and is considered to be a discontinuous perched aquifer.
- Drilling is required to confirm or refute this interpretation.
- There is a possibility of encountering small voids during drilling and remediation due to the nature of the voids and fractures in this area.
- When drilling or conducting any remediation activities in this area, employing a BLM-CFO approved karst monitor on site should be considered.

5.2 Best Practices

This area is prone to rapid karst formation and warrants careful planning and engineering to mitigate karst-forming processes that could be accelerated by poor planning and considerations. Proper practices following karst guidelines should be implemented during all phases of remediation.

Mitigation measures for any karst features revealed during excavation or drilling shall be approved by the Bureau of Land Management – Carlsbad Field Office and follow the Natural Resources Conservation Service Conservation Practice Standard for Karst Sinkhole Treatment, Code 527, or the Bureau of Land Management Cave and Karst Management Handbook, H-8380-1.

Vigilance during remediation is paramount. If voids are encountered during excavation, contact the Bureau of Land Management Karst Division at (575) 234-5972, the New Mexico State Land Office Surface Resources Division at (505) 827-5768, or a BLM-CFO-approved karst contractor and request an on-site investigation from a karst expert if one is not already on site. A karst consultant can generally be available in Eddy County within five hours.

Approved karst monitors should have karst feature identification training, at least two years of supervised experience identifying karst features, wilderness first aid training, SRT training, confined space training, gas monitor training, and a minimum of SPAR cave rescue training through NCRC. They should have with them the proper gear and be prepared both physically and mentally to enter a collapse feature within minutes to perform a rescue if needed. Monitoring services with qualified karst monitors, as well as cave surveys and geophysical surveys, are available from Southwest Geophysical Consulting.

Under no circumstances should an untrained, inexperienced person enter a cave, pit, sinkhole, or collapse feature. All field employees of Southwest Geophysical Consulting have extensive caving experience and the ability to determine whether entry into a karst feature is safe or presents a hazard. In the event it is necessary to enter a karst feature, Southwest Geophysical Consulting can provide these services on request.

Cave and karst resource inventory reports, karst feature investigations, and geophysical reports commissioned at the request of the land manager should be submitted to:

BLM-CFO: blm_nm_karst@blm.gov

Cave and karst resource inventory reports for the NMSLO should be submitted to the respective project manager.

6.0 REFERENCES

- 1 Goodbar, J. R. Vol. BLM Management Handbook H-8380-1 (ed Carlsbad Field Office) 59 (Bureau of Land Management, Denver, CO, 2015).
- 2 Rybacki, K. (Bureau of Land Management - Carlsbad Field Office, 2020).
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- 4 Decker, D. D., Goodbar, J. R., Jorgensen, G. L. & Brent, E. L. Karst Hazards in the Burton Flats, Southeast New Mexico. *Unpublished* (2022).
- 5 Whitehead, W. & Flynn, C. *Plant Utilization in Southeastern New Mexico: Botany, Ethnobotany, and Archaeology*. (Bureau of Land Management, Carlsbad Field Office, 2017).
- 6 NMSLO. Digital overlay (KML) of the surface land ownership in New Mexico (New Mexico State Land Office, Santa Fe, NM, 2016).
- 7 Scholle, P. A. *Geologic Map of New Mexico*. (2003).
- 8 Austin, G. S. *Geology and mineral deposits of Ochoan rocks in Delaware Basin and adjacent areas*. Vol. Circular 159 (New Mexico Bureau of Mines and Mineral Resources, 1978).
- 9 Powers, D. W., Lambert, S. J., Shaffer, S.-E., Hill, L. R. & Weart, W. D. Geological Characterization Report, Waste Isolation Pilot Plant (WIPP) Site, Southeastern New Mexico. 726 (Sandia Laboratories, Albuquerque, NM, 1978).
- 10 Green, G. N. & Jones, G. E. *The Digital Geologic Map of New Mexico in ARC/INFO Format*, <<https://mrdata.usgs.gov/geology/state/state.php?state=NM>> (1997).

7.0 APPENDICES

7.1 Glossary of Terms

ACEC	Area of Critical Environmental Concern
AGI	Advanced Geosciences Inc.
BLM-CFO	Bureau of Land Management - Carlsbad Field Office
brecciated	Fractured rock caused by faulting or collapse.
caprock-collapse sinkhole	Collapse of roof-spanning rock into a cave or void.
cave	Natural opening at the surface large enough for a person to enter.
cover-collapse sinkhole	Collapse of roof-spanning soil or clay ground cover into a subsurface void.
ERI	Electrical Resistivity Imaging
GPS	Global Positioning System
grike	A solutionally enlarged, vertical, or sub-vertical joint or fracture.
(H)	High confidence modifier for a PKF. This is typically reserved for a feature that is definitely karst but has not been confirmed in the field.
HKOZ	High Karst Occurrence Zone
InSAR	Interferometric Synthetic Aperture Radar. A method by which radar signals from satellites are processed to determine the amount and rate of subsidence of an area as well as whether the area is actively subsiding.
karst	A landscape containing solutional features such as caves, sinkholes, swallets, and springs.
(L)	Low confidence modifier for a PKF. This is typically a feature that cannot be ruled out as karst but is most likely NOT karst related. This modifier may also be used for pseudokarst features.
LED	Locally enclosed depression. A natural depression on the surface that collects rainwater. Some contain swallets and/or caves, others do not.
(M)	Medium confidence modifier for PKF. This is an ambiguous feature that can't be positively identified as karst without a field visit (e.g., burrows, abandoned unlined wells, solution tubes, pseudokarst).
MKOZ	Medium Karst Occurrence Zone
NCRC	National Cave Rescue Commission
NKF	Non-karst feature. Used for features originally identified as PKF that have been subsequently identified in the field as non-karst related. This term may also be used for pseudokarst features.
NMSLO	New Mexico State Land Office
Ohm-m	Ohm-meter, a unit of measurement for resistivity. Sometimes abbreviated Ω -m.

paleokarst	Previously formed karst features that have been filled in by erosion and/or deposition of minerals.
Pat	Permian Artesia Group
Pc	Permian Capitan Formation
Pcs	Permian Castile Formation
Pdl	Permian Dewey Lake Formation
PKF	Possible karst feature. This term is reserved for features identified in satellite or aerial imagery that have NOT been visited in the field. Further modifiers include (H) for high confidence, (M) for medium confidence, and (L) for low confidence. These confidence levels are based on field experience.
PLSS	Public Land Survey System
Pqg	Permian Queen/Greyburg Formation
Pru	Permian Rustler Formation
pseudokarst	Karst-like features (sinkholes, conduits, voids etc.) that are not formed by dissolution. These types of features include soil piping, lava tubes, and some cover-collapse and suffosion sinkholes.
Psl	Permian Salado Formation
Psr	Permian Seven Rivers Formation
Pt	Permian Tansill Formation
Py	Permian Yates Formation
Qal	Quaternary alluvium
Qp	Quaternary piedmont deposits
Qpl	Quaternary playa lake deposits
RKF	Recognized karst feature. This term is reserved for karst features that have been physically verified in the field.
SKF	Surface Karst Feature
SPAR	Small Party Assisted Rescue
suffosion sinkhole	Raveling of soil into a pre-existing void or fracture.
swallet	A natural opening in the surface, too small for a person, that drains water to an aquifer. Some are "open," meaning a void can be seen below; some are "closed," meaning they are full of sediment.
SWG	Southwest Geophysical Consulting, LLC
UTM	Universal Transverse Mercator (projected coordinates)
(V)	Field verified modifier for a PKF. This indicates that the feature has been visited by a qualified karst professional in the field and fully identified
WGS	World Geodetic System (geographic coordinates)

7.2 Electrode Data

Please see accompanying data files in **NBPW_Electrode_Points.xlsx** and **NBPW_Electrode_Points.kmz** within file **ETEC-003-20230626_NBPW_Data_Files.kmz** for detailed information on each electrode location.

Table 1: Survey Line Data Table. The .kmz file contains all the points for the survey line listed in the file name. These data are available in the accompanying files **NBPW_Electrode_Points.xlsx** and **ETEC-003-20230626_NBPW_Data_Files.kmz**.

File Name:	Completed By:	Date:
NBPW01.kmz	Garrett Jorgensen – Senior Field Geologist Roman Velasquez – Field Technician	09/25/2023
NBPW02.kmz		

Raw data files (.stg files for EarthImager™ 2D) and processed data (.trn files, terrain files for surface correction in EarthImager™ 2D and .out files, the processed .stg files) are available upon request.

Table 2: Software Information and Settings

Software Name:	EarthImager™ 2D
Version:	2.4.4.649
Starting Model:	Average Apparent Resistivity
Default Inversion Settings:	Surface
Changes to Default Inversion Settings:	Max Apparent Resistivity = 100 kΩ-m Min Apparent Resistivity = 0.1 Ω-m

8.0 ATTESTATION

David D. Decker, PhD, PG, CPG

Chief Executive Officer, Principal Geologist

Southwest Geophysical Consulting, LLC

5117 Fairfax Dr. NW

Albuquerque, NM 87114

dave@swgeophys.com

(505) 585-2550

CERTIFICATE OF AUTHOR

I, David D. Decker, a Licensed Professional Geologist and a Certified Professional Geologist, do certify that:

- I am currently employed as a consulting geologist in the specialty of caves and karst with an office address of 5117 Fairfax Dr. NW, Albuquerque, NM, USA, 87114.
- I graduated with a Master of Science in Applied Physics with a specialization in Sensor Systems from the Naval Post Graduate School in Monterey, California, in 2003, and a Doctor of Philosophy in Earth and Planetary Sciences from the University of New Mexico, Albuquerque, New Mexico, in 2018.
- I am a Licensed Professional Geologist in the State of Texas, USA (PG-15242) and have been since 2021. I am a Certified Professional Geologist through the American Institute of Professional Geologists (CPG-12123) and have been since 2021.
- I have been employed as a geologist continuously since 2016. I was previously employed as a Fire Controlman, Naval Flight Officer, and Aerospace Engineering Duty Officer in the U.S. Navy and operated, maintained, and installed various sensor systems including magnetic, electromagnetic, radar, communications, and acoustic systems in various capacities from 1986 through 2010.
- I have been involved in various aspects of cave and karst studies continuously since 1985, including exploration, mapping, and scientific studies.
- I have read the definition of “qualified karst professional” set out in the ASTM Standard (currently in review). I meet the definition of “qualified professional” for the purposes of ASTM E-1527.
- I am responsible for the content, compilation, and editing of all sections of report number ETEC-003-20230626 entitled, “2D Electrical Resistivity Imaging Report, North Brushy PW Line Spill, Eddy County, New Mexico.” I or a duly authorized and qualified representative of Southwest Geophysical Consulting, LLC, have personally visited this site on the date or dates mentioned in section **2.3 Description of Survey**.

- I have no prior involvement nor monetary interest in the described property or project, save for my fee for conducting this investigation and providing the report.

Dated in Albuquerque, New Mexico, October 27, 2023.



David D. Decker
PhD, CPG-12123



APPENDIX H

Email Notifications

Erick Herrera

From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Thursday, January 19, 2023 10:13 AM
To: Erick Herrera
Cc: Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD
Subject: RE: [EXTERNAL] WPX Site Sampling Activity Update (1/23 - 1/27)

[**EXTERNAL EMAIL**]

Erick,

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.

JH

Jocelyn Harimon • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
[http:// www.emnrd.nm.gov](http://www.emnrd.nm.gov)



From: Erick Herrera <eherrera@ensolum.com>
Sent: Thursday, January 19, 2023 8:49 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; 'CFO_Spill, BLM_NM' <blm_nm_cfo_spill@blm.gov>
Cc: Raley, Jim <jim.raley@dvn.com>; Devon Team <Devon-Team@ensolum.com>
Subject: [EXTERNAL] WPX Site Sampling Activity Update (1/23 - 1/27)

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

Good Morning,

WPX anticipates conducting confirmation soil sampling activities at the following sites between January 23 – January 27, 2023:

Site Name: North Brushy PW Line
Incident Number: nAPP2231126594

Thank you,

Erick Herrera

From: Joseph Hernandez
Sent: Wednesday, February 1, 2023 8:14 PM
To: ocd.enviro@state.nm.us
Cc: 'CFO_Spill, BLM_NM'; Devon Team; Raley, Jim
Subject: WPX Site Sampling Activity Update (2/6 - 2/10)

All,

WPX anticipates conducting confirmation soil sampling activities at the following sites between February 6 – February 10, 2023:

Site Name: North Brushy PW Line
Incident Number: nAPP2231126594

Site Name: RDX 16-4
API: 30-015-39750
Incident Number: nAPP2223636403

Thank you,



Joseph S. Hernandez
Senior Geologist
281-702-2329
Ensolum, LLC
in f t

Erick Herrera

From: Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
Sent: Wednesday, July 19, 2023 4:55 PM
To: Erick Herrera
Cc: Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD
Subject: RE: [EXTERNAL] WPX Site Sampling Activity Updates (7/24-7/28)

Good afternoon Erick,

The OCD has received your notification. 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.

Thank you,

Shelly

[Shelly Wells](#) * Environmental Specialist-Advanced
Administrative Permitting Program
EMNRD-Oil Conservation Division
1220 S. St. Francis Drive | Santa Fe, NM 87505
(505)469-7520 | Shelly.Wells@emnrd.nm.gov
<http://www.emnrd.state.nm.us/OCD/>

From: Erick Herrera <erick@etechenv.com>
Sent: Wednesday, July 19, 2023 3:36 PM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; blm_nm_cfo_spill@blm.gov
Cc: Raley, Jim <jim.ralej@dmn.com>; Devon-Team <Devon-Team@etechenv.com>
Subject: [EXTERNAL] WPX Site Sampling Activity Updates (7/24-7/28)

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

Good afternoon,

WPX anticipates conducting confirmation soil sampling activities at the following sites between July 24 through July 28, 2023:

Proposed Date: July 24, 2023, July 25, 2023, July 26, 2023, July 27, 2023, July 28, 2023,
Proposed Timeframe: 0800 – 1700 hrs.
Site Name: RDX 9-4
Incident Number: nAB1803254347
API: 30-015-40180

Proposed Dates: July 24, 2023, July 25, 2023, July 26, 2023, July 27, 2023, July 28, 2023,
Proposed Timeframe: 0800 – 1700 hrs.
Site Name: North Brushy PW Line
Incident Numbers: nAPP2231126594 & nAPP2312845934

Thank you,

Erick Herrera
Staff Geologist



Work: (432) 305-6416
Cell: (281) 777-4152

Erick Herrera

From: Raley, Jim <Jim.Raley@dvn.com>
Sent: Thursday, July 6, 2023 1:34 PM
To: Hamlet, Robert, EMNRD
Cc: Bratcher, Michael, EMNRD; Nobui, Jennifer, EMNRD; Harimon, Jocelyn, EMNRD; Devon-Team
Subject: RE: [EXTERNAL] (Final Extension) - WPX - North Brushy Pipeline - NAPP2231126594, nAPP2312845934

Robert,

On April 13th, 2023 you granted a final extension of July 22, 2023 for incident# NAPP2231126594. However on May 5th, 2023 we had an additional release nAPP2312845934 that basically covered much of the same footprint of the previous spill.

With this new release we had to reevaluate some of our previous data, and are in the process of scheduling a rig to collect the additional information needed to submit a workplan.

With these complications in mind, WPX Energy respectfully asks for a 90 day extension for both incidents (nAPP2231126594, nAPP2312845934) to October 20th, 2023. We plan on addressing both releases in the same workplan.

Jim Raley | Environmental Professional - Permian Basin
5315 Buena Vista Dr., Carlsbad, NM 88220
C: (575)689-7597 | jim.raley@dvn.com



From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: Thursday, April 13, 2023 9:20 AM
To: Raley, Jim <Jim.Raley@dvn.com>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: [EXTERNAL] (Final Extension) - WPX - North Brushy Pipeline - NAPP2231126594

RE: Incident #NAPP2231126594

Jim,

Your request for an extension to **July 22nd, 2023** is approved. This will be the **final extension** for this release. Please include this e-mail correspondence in the remediation and/or closure report.

Robert Hamlet • Environmental Specialist - Advanced
Environmental Bureau
EMNRD - Oil Conservation Division
506 W. Texas Ave. | Artesia, NM 88210
575.909.0302 | robert.hamlet@state.nm.us

<http://www.emnrd.state.nm.us/OCD/>



From: Raley, Jim <Jim.Raley@dvn.com>
Sent: Thursday, April 13, 2023 9:02 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: RE: [EXTERNAL] (Extension Approval) North Brushy Pipeline nAPP2231126594

Robert,
WPX Energy is requesting a 90 day extension on incident nAPP2231126594 to July 22nd, 2023. From our original correspondence we had requested an extension, due to the difficulties we had getting into the site. It required special ROW permitting from BLM and construction of a road. We have currently drilled two rounds of delineation boreholes and need additional time to delineate the site for submission of a remediation plan. The spill area lays above several large transmission lines and requires special care, which has slowed the delineation process considerably.

Jim Raley | Environmental Professional - Permian Basin
5315 Buena Vista Dr., Carlsbad, NM 88220
C: (575)689-7597 | jim.rale@dvn.com



From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: Tuesday, January 17, 2023 9:14 AM
To: Raley, Jim <Jim.Raley@dvn.com>
Cc: Devon-Team <Devon-Team@ensolum.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: [EXTERNAL] (Extension Approval) North Brushy Pipeline nAPP2231126594

RE: Incident #NAPP2231126594

Jim,

Your request for an extension to **April 23rd, 2023** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

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



From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Sent: Tuesday, January 17, 2023 8:25 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Subject: FW: [EXTERNAL] Extension Request North Brushy Pipeline nAPP2231126594

Jocelyn Harimon • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
[http:// www.emnrd.nm.gov](http://www.emnrd.nm.gov)



From: Raley, Jim <Jim.Raley@dvn.com>
Sent: Tuesday, January 17, 2023 8:05 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Devon-Team <Devon-Team@ensolum.com>
Subject: [EXTERNAL] Extension Request North Brushy Pipeline nAPP2231126594

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

All,
We had a spill on 10/25/2022 along a pipeline ROW, it was assigned incident nAPP2231126594. The release was in a remote area of BLM land and access to the spill area required applying for a BLM ROW permit. We were granted the permit to improve a road on 1/9/2023 and are in the process of gaining access to the spill area.

Due to this delay we request a 90 day extension to 4/23/2023.

Jim Raley | Environmental Professional - Permian Basin
5315 Buena Vista Dr., Carlsbad, NM 88220
C: (575)689-7597 | jim.rale@dvn.com



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Erick Herrera

From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: Thursday, July 6, 2023 2:41 PM
To: Raley, Jim
Cc: Devon-Team; Bratcher, Michael, EMNRD; Harimon, Jocelyn, EMNRD
Subject: (Final Extension) - WPX - North Brushy Pipeline - NAPP2231126594, NAPP2312845934

Some people who received this message don't often get email from robert.hamlet@emnrd.nm.gov. [Learn why this is important](#)

RE: Incident #**NAPP2231126594, NAPP2312845934**

Jim,

Your request for an extension to **October 20th, 2023** is approved. This will be the **final extension** for this release. Please include this e-mail correspondence in the remediation and/or closure report.

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



From: Raley, Jim <Jim.Raley@dvn.com>
Sent: Thursday, July 6, 2023 12:34 PM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>; Devon-Team <Devon-Team@etechnv.com>
Subject: RE: [EXTERNAL] (Final Extension) - WPX - North Brushy Pipeline - NAPP2231126594, nAPP2312845934

Robert,
On April 13th, 2023 you granted a final extension of July 22, 2023 for incident# NAPP2231126594. However on May 5th, 2023 we had an additional release nAPP2312845934 that basically covered much of the same footprint of the previous spill.

With this new release we had to reevaluate some of our previous data, and are in the process of scheduling a rig to collect the additional information needed to submit a workplan.

With these complications in mind, WPX Energy respectfully asks for a 90 day extension for both incidents (nAPP2231126594, nAPP2312845934) to October 20th, 2023. We plan on addressing both releases in the same workplan.

Jim Raley | Environmental Professional - Permian Basin
5315 Buena Vista Dr., Carlsbad, NM 88220
C: (575)689-7597 | jim.raley@devon.com



From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Sent: Thursday, April 13, 2023 9:20 AM
To: Raley, Jim <Jim.Raley@devon.com>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: [EXTERNAL] (Final Extension) - WPX - North Brushy Pipeline - NAPP2231126594

RE: Incident #NAPP2231126594

Jim,

Your request for an extension to **July 22nd, 2023** is approved. This will be the **final extension** for this release. Please include this e-mail correspondence in the remediation and/or closure report.

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



From: Raley, Jim <Jim.Raley@devon.com>
Sent: Thursday, April 13, 2023 9:02 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>
Cc: Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>
Subject: RE: [EXTERNAL] (Extension Approval) North Brushy Pipeline nAPP2231126594

Robert,

WPX Energy is requesting a 90 day extension on incident nAPP2231126594 to July 22nd, 2023. From our original correspondence we had requested an extension, due to the difficulties we had getting into the site. It required special ROW permitting from BLM and construction of a road. We have currently drilled two rounds of delineation boreholes and need additional time to delineate the site for submission of a remediation plan. The spill area lays above several large transmission lines and requires special care, which has slowed the delineation process considerably.

Jim Raley | Environmental Professional - Permian Basin
5315 Buena Vista Dr., Carlsbad, NM 88220

C: (575)689-7597 | jim.raley@dvn.com



From: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>

Sent: Tuesday, January 17, 2023 9:14 AM

To: Raley, Jim <Jim.Raley@dvn.com>

Cc: Devon-Team <Devon-Team@ensolum.com>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>; Nobui, Jennifer, EMNRD <Jennifer.Nobui@emnrd.nm.gov>; Harimon, Jocelyn, EMNRD <Jocelyn.Harimon@emnrd.nm.gov>

Subject: [EXTERNAL] (Extension Approval) North Brushy Pipeline nAPP2231126594

RE: Incident #**NAPP2231126594**

Jim,

Your request for an extension to **April 23rd, 2023** is approved. Please include this e-mail correspondence in the remediation and/or closure report.

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



From: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>

Sent: Tuesday, January 17, 2023 8:25 AM

To: Hamlet, Robert, EMNRD <Robert.Hamlet@emnrd.nm.gov>

Subject: FW: [EXTERNAL] Extension Request North Brushy Pipeline nAPP2231126594

Jocelyn Harimon • Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
1220 South St. Francis Drive | Santa Fe, NM 87505
(505)469-2821 | Jocelyn.Harimon@emnrd.nm.gov
<http://www.emnrd.nm.gov>



From: Raley, Jim <Jim.Raley@dvn.com>
Sent: Tuesday, January 17, 2023 8:05 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>
Cc: Devon-Team <Devon-Team@ensolum.com>
Subject: [EXTERNAL] Extension Request North Brushy Pipeline nAPP2231126594

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All,

We had a spill on 10/25/2022 along a pipeline ROW, it was assigned incident nAPP2231126594. The release was in a remote area of BLM land and access to the spill area required applying for a BLM ROW permit. We were granted the permit to improve a road on 1/9/2023 and are in the process of gaining access to the spill area.

Due to this delay we request a 90 day extension to 4/23/2023.

Jim Raley | Environmental Professional - Permian Basin
5315 Buena Vista Dr., Carlsbad, NM 88220
C: (575)689-7597 | jim.raley@dvn.com



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Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 333444

QUESTIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 333444
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Prerequisites	
Incident ID (n#)	nAPP2231126594
Incident Name	NAPP2231126594 NORTH BRUSHY PW LINE @ 0
Incident Type	Produced Water Release
Incident Status	Remediation Plan Received
Incident Facility	[fAPP2123149329] ETC NGGS

Location of Release Source*Please answer all the questions in this group.*

Site Name	NORTH BRUSHY PW LINE
Date Release Discovered	10/25/2022
Surface Owner	Federal

Incident Details*Please answer all the questions in this group.*

Incident Type	Produced Water Release
Did this release result in a fire or is the result of a fire	No
Did this release result in any injuries	No
Has this release reached or does it have a reasonable probability of reaching a watercourse	Yes
Has this release endangered or does it have a reasonable probability of endangering public health	No
Has this release substantially damaged or will it substantially damage property or the environment	Yes
Is this release of a volume that is or may with reasonable probability be detrimental to fresh water	No

Nature and Volume of Release*Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.*

Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure Flow Line - Production Produced Water Released: 100 BBL (Unknown Released Amount) Recovered: 0 BBL Lost: 100 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Produced water was released from failure of a gathering line. The volume is expected to exceed 100 bbls. The release occurred in a dry waterway and overlays several midstream operator underground lines. Access is limited and will require a ROW from the BLM to access and fully assess the spill area to estimate volume release. ROW access is currently being secured with BLM, as well as permissions from midstream operators to delineate in close proximity to their underground lines.

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QUESTIONS, Page 2

Action 333444

QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 333444
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	No, according to supplied volumes this does not appear to be a "gas only" report.
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	Yes
Reasons why this would be considered a submission for a notification of a major release	From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more; (2) an unauthorized release of a volume that: (b) may with reasonable probability reach a watercourse; (d) substantially damages property or the environment.
With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury.

The source of the release has been stopped	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	Not answered.

Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dvsn.com Date: 04/15/2024
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QUESTIONS, Page 3

Action 333444

QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 333444
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS**Site Characterization**

Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)	Between 100 and 500 (ft.)
What method was used to determine the depth to ground water	U.S. Geological Survey
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 100 and 200 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Greater than 5 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Greater than 5 (mi.)
Any other fresh water well or spring	Between ½ and 1 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 100 (ft.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Between 1 and 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Medium
A 100-year floodplain	Zero feet, overlying, or within area
Did the release impact areas not on an exploration, development, production, or storage site	Yes

Remediation Plan

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride (EPA 300.0 or SM4500 Cl B)	13100
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	577
GRO+DRO (EPA SW-846 Method 8015M)	577
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

On what estimated date will the remediation commence	01/25/2023
On what date will (or did) the final sampling or liner inspection occur	07/28/2023
On what date will (or was) the remediation complete(d)	07/28/2023
What is the estimated surface area (in square feet) that will be reclaimed	21373
What is the estimated volume (in cubic yards) that will be reclaimed	3958
What is the estimated surface area (in square feet) that will be remediated	21373
What is the estimated volume (in cubic yards) that will be remediated	3958

These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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QUESTIONS, Page 4

Action 333444

QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 333444
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Remediation Plan (continued)	
<i>Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.</i>	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
<i>(Select all answers below that apply.)</i>	
(Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for off-site disposal	Not answered.
OR which OCD approved well (API) will be used for off-site disposal	Not answered.
OR is the off-site disposal site, to be used, out-of-state	Yes
In which state is the disposal taking place	Texas
What is the name of the out-of-state facility	R360
OR is the off-site disposal site, to be used, an NMED facility	Not answered.
(Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)	Not answered.
(In Situ) Soil Vapor Extraction	Not answered.
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	Not answered.
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	Not answered.
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	Not answered.
Ground Water Abatement pursuant to 19.15.30 NMAC	Not answered.
OTHER (Non-listed remedial process)	Not answered.
<i>Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.</i>	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
I hereby agree and sign off to the above statement	Name: James Raley Title: EHS Professional Email: jim.raley@dmv.com Date: 04/15/2024
<i>The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.</i>	

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QUESTIONS, Page 5

Action 333444

QUESTIONS (continued)

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
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	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Deferral Requests Only	
Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation.	
Requesting a deferral of the remediation closure due date with the approval of this submission	No

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QUESTIONS, Page 6

Action 333444

QUESTIONS (continued)

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	Action Number: 333444
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	{Unavailable.}

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	No

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CONDITIONS

Action 333444

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 333444
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	North Brushy PW Line Remediation Plan is approved to include the following conditions of approval: The excavation will be required to the maximum extent practicable within the pipeline right-of-way for both releases. Once WPX believes it has excavated to the maximum extent practicable, please contact the OCD before moving forward. In the event that a pipeline operator does not allow excavation near and around any pipeline to allow the excavation to take place, the OCD requests a letter from the operator indicating they will accept responsibility and liability for remediation. At this time, the variance request to leave chloride contamination in place between 5' to 38' is not approved. The request to collect sidewall confirmation samples representative of 1000 square feet and no confirmation floor samples is not approved..Based on submitted ground-water lab analyses provided, the OCD has reasonable evidence to believe that groundwater in the areas of concern has been impacted.	2/17/2025