



November 16, 2017

Ms. Crystal Weaver
New Mexico Oil Conservation Division
811 S. First Street
Artesia, New Mexico 88210

**RE: Proposed Sampling Work Plan
Los Medanos 36-23-30 State Tank Battery
2RP-4114
XTO Energy, Inc.
Eddy County, New Mexico**

Dear Ms. Weaver:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), proposes the following work plan to investigate impacted soil at the Los Medanos 36-23-30 State Tank Battery (Site) in response to a release of approximately 12 barrels (bbls) of produced water from a buried flowline. The leak was identified on January 22, 2017. XTO responded by recovering 2 bbls of standing fluids and excavating the flowline for repair, and stockpiling impacted soils. The initial response efforts were reported to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 dated January 22, 2017. This work plan is being submitted to address potential residual impact to soil in response to the conditions of approval from the NMOCD documented on the C-141.

BACKGROUND

The Site is located in the southwest quarter of the southwest quarter of Section 36 within Township 23 South and Range 30 East in Eddy County, New Mexico. Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data and known aquifer properties. The nearest permitted water well is ED02095, located approximately 1.8 miles west of the Site with depth to water listed as 440 feet. The closest surface water to the Site is a dry arroyo located approximately 1.2 miles east of the Site. Based on these criteria, the New Mexico Oil Conservation Division (NMOCD) site ranking for remediation action levels is a 0 and the following remediation action levels apply: 10 milligrams per kilogram (mg/kg) benzene, 50 mg/kg benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 5,000 mg/kg total petroleum hydrocarbons (TPH). Based on depth to groundwater greater than 100 feet, LTE proposes a site-specific chloride action level of 600 mg/kg or within range ($\pm 10\%$) of background concentrations.



PROPOSED SAMPLING

XTO removed impacted soil to expose the pipeline for repair. Since the excavation remains open, LTE proposes to collect samples from the excavation to assess the need for additional delineation and remediation. An excavator bucket will be used to collect 5-point composite samples from each sidewall and from the floor of the excavation. The samples will be spaced approximately every 25 to 30 linear feet along the sidewalls and approximately every 50 square feet along the floor of the excavation. Samples will be submitted for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (EPA) Method 8021, TPH – gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO) by EPA Method 8015, and chloride by EPA Method 300.1. XTO will collect at least one background soil sample for analysis of chloride by EPA Method 300.1. LTE will compare the laboratory analytical results to the remediation action levels identified in the previous section and to the background chloride concentrations. If the samples do not exceed the site-specific remediation action levels, LTE will prepare a closure report to document successful remediation of the release. Should the samples exceed remediation action levels, XTO will initiate a subsurface delineation program.

The subsurface delineation program will consist of advancing a borehole in the center of the impacted area to delineate the total depth of impact. Additional boreholes will be advanced to the north, east, west, and south until lateral extent of soil impact is defined. Continuous soil samples will be logged and described using the Unified Soil Classification System (USCS) to delineate potential hydrocarbon and saltwater impacts. The intervals from immediately beneath the ground surface and then every one foot will be screened for the first five feet. After the first five feet, samples will be screened at five-foot increments. Screening will be conducted for volatile aromatic hydrocarbons using a photo-ionization detector (PID). Soil samples with the highest PID result and a bottom hole sample will be collected from each borehole to be submitted to a certified laboratory for analysis of BTEX by EPA Method 8021, TPH – GRO, DRO, and MRO by EPA Method 8015, and chloride by EPA Method 300.1. Please note this analytical list may be reduced should initial excavation/source sampling indicate any of the contaminants of concern were not present in concentrations exceeding the site-specific remediation action levels.

In general, additional soil borings will be advanced radially in approximately 50-foot steps from any soil boring demonstrating significant evidence of impacts; however, actual locations of borings will be determined in the field as site conditions dictate. The soil borings will be advanced until one of three conditions are met: groundwater is encountered, auger refusal, or field screening indicates the extent of soil impact is below NMOCD standards based on site ranking.

REPORTING

Should initial excavation samples indicate impacted soil has been removed, XTO will prepare a final report and request No Further Action from NMOCD. If concentrations of contaminants of concern exceed site-specific remediation action levels, XTO will provide the sampling results in an email to NMOCD and schedule the additional delineation. Upon completion of the delineation,



XTO will prepare a report documenting all field activities and describing results for submittal to the NMOCD. The report will include site maps and a table of laboratory analytical results. Based on the results of the delineation, XTO will propose an appropriate remediation strategy.

SCHEDULE

XTO will initiate soil sampling within four weeks of the date of approval of this work plan by NMOCD. The report(s) or notification of additional delineation will be submitted to the NMOCD within two weeks of receipt of laboratory analytical results. XTO will provide the NMOCD with advanced notice of scheduled field activities.

LTE appreciates the opportunity to provide this proposed work plan to the NMOCD. If you have any questions or comments regarding this plan, do not hesitate to contact me at (970) 385-1096 or via email at aager@ltenv.com or Kyle Littrell at XTO at (970) 317-1867 or Kyle_Littrell@xtoenergy.com.

Sincerely,
LT ENVIRONMENTAL, INC.

A handwritten signature in black ink that reads "Ashley L. Ager". The signature is written in a cursive, flowing style.

Ashley L. Ager, M.S., P.G.
Senior Geologist

Cc: Kyle Littrell, XTO