



October 26, 2017

Mr. Mike Bratcher  
New Mexico Oil Conservation Division  
811 S. First Street  
Artesia, New Mexico 88210

**RE: Proposed Delineation Work Plan  
Remuda Basin 32-23-30 State #1H Tank Battery  
2RP-4420  
XTO Energy, Inc.  
Eddy County, New Mexico**

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), proposes the following work plan to delineate impacted soil at the Remuda Basin 32-23-30 State #1H Tank Battery (Site) in response to a release of approximately 29 barrels (bbls) of produced water and 1.5 bbls of oil from a heater treater on September 11, 2017. XTO recovered a majority of the liquids as reported to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 dated September 28, 2017. This work plan addresses residual impact to soil and is being submitted in response to the conditions of approval from the NMOCD documented on the C-141.

## **BACKGROUND**

The Site is located in the southeast quarter of the southeast quarter of Section 32 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 ED02108, located approximately 1.5 miles southwest of the Site with depth to water listed as 186 feet. The closest surface water to the Site is a dry arroyo located approximately 350 feet north of the Site. Based on these criteria, the New Mexico Oil Conservation Division (NMOCD) site ranking for remediation action levels is a 10 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 1,000 mg/kg total petroleum hydrocarbons (TPH). Based on depth to groundwater greater than 100 feet, LTE proposes a site-specific chloride action level of 20,000 mg/kg or within range ( $\pm 10\%$ ) of background concentrations.

## **PROPOSED DELINEATION**

XTO will install a borehole in the center of the impacted area to delineate the total depth of impact and boreholes will be advanced to the north, east, west, and south until lateral extent 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 five feet thereafter will be screened for volatile aromatic hydrocarbons as well as any soil that is stained or has a hydrocarbon odor 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 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. Additional soil borings will be advanced radially in approximately 50-foot steps from any soil boring demonstrating significant evidence of impacts. 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 hydrocarbon soil impact is below NMOCD standards based on site ranking. XTO will collect at least one background soil sample for analysis of chloride by EPA Method 300.1.

## **REPORTING**

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 complete the delineation within four weeks of the date of approval of this work plan by NMOCD. The report will be submitted to the NMOCD within two weeks of receipt of laboratory analytical results.

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](mailto:aager@ltenv.com) or Kyle Littrell at XTO at (970) 317-1867 or [Kyle\\_Littrell@xtoenergy.com](mailto: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

