



OIL CONS. DIV DIST. 3

April 8, 2015

APR 13 2015

* Approval and Conditions
Attached

Mr. James McDaniel
XTO Energy, Inc.
382 CR 3100
Aztec, New Mexico 87410

**RE: Work Plan for Additional Investigation
Hare GC F #1 Natural Gas Production Well
Bloomfield, New Mexico**

Dear Mr. McDaniel:

LT Environmental, Inc. (LTE) presents the following work plan to XTO Energy, Inc. (XTO) to conduct a supplementary investigation of soil at the Hare GC F #1 natural gas production well located in Unit G of Section 23 in Township 29 North, Range 11 West of San Juan County, New Mexico. LTE will advance three boreholes to obtain additional soil samples downgradient of a former excavation from which XTO removed impacted soil identified after closure of a below-grade tank. The extent of the former excavation began encroaching upon private structures and XTO has requested to leave remaining impacted soil in place after demonstrating that groundwater beneath and downgradient of the excavation has not been impacted. The new samples have been requested by the New Mexico Oil Conservation Division (NMOCD) prior to approval to better characterize remaining impacted soil.

Scope of Work

The proposed boreholes will be approximately ten feet to the east, west, and south of former borehole BH-2 (Figure 1). LTE will utilize a hand auger to obtain soil samples from the subsurface for lithologic classification (Unified Soil Classification System [USCS]) and field screening. The intervals from immediately beneath the ground surface and then every two feet thereafter will be field screened for volatile aromatic hydrocarbons. In addition, soil that is stained or has a hydrocarbon odor will be screened. Screening will be conducted with a photo-ionization detector (PID) equipped with a 10.6 electron volt lamp in accordance with the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*, August 13, 1993. LTE will collect one soil sample for laboratory analysis from the section of each borehole containing the highest field screening result. Soil samples will be analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) using United States Environmental Protection Agency (EPA) Method 8021 and total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and diesel range organics (DRO), using EPA Method 8015.





Soil borings will be advanced until field screening results and visual observations indicate soil is no longer impacted. All impacted soil cuttings encountered within the boreholes will be drummed and transported to the Envirotech, Inc. Landfarm in Hilltop, New Mexico for disposal. Because the groundwater is currently present in the sandy interval and contaminants appear to be restricted to the overlying clay, LTE will plug all existing and new boreholes with hydrated bentonite upon completion of sampling.

Upon receipt of analytical reports, LTE will provide a full report to XTO documenting field procedures and results.

LTE appreciates the opportunity to provide this work plan to XTO. If you have any questions or comments regarding this proposal, do not hesitate to contact me at (970) 385-1096 or via email at aager@ltenv.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.
Senior Geologist

Attachments (1)

Figure 1 – Borehole Location Map

FIGURES





IMAGE COURTESY OF ESRI

LEGEND

- BOREHOLE
- PROPOSED BOREHOLE
- ↑ ESTIMATED GROUNDWATER FLOW DIRECTION
BASED ON EXISTING DATA FROM HARE GC B #1
- EXCAVATION EXTENT

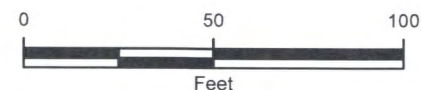


FIGURE 1
BOREHOLE LOCATION MAP
HARE GC F #1
SAN JUAN COUNTY, NEW MEXICO

XTO ENERGY, INC.



State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

David R. Catanach, Division Director
Oil Conservation Division



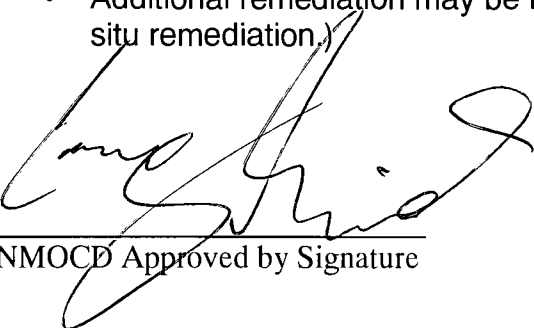
**New Mexico Oil Conservation Division
Investigation Work Plan Approval
and Conditions**

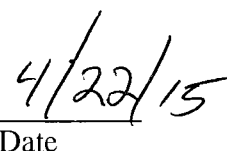
Well information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf_Owner	UL	Sec	Twp	N/S	Rng	W/E
30-045-23549	HARE GAS COM F	001	XTO ENERGY, INC	G	H	San Juan	P	G	23	29	N	11	W

Conditions of Approval:

- Schedule with Division District Office for the work/samples so the activity can be witnessed.
- If the samples from the three boreholes exceed the 100mg/kg TPH and 50 mg/kg BTEX limits, XTO will be required to continue the horizontal delineation at 10' intervals past the contaminated boreholes until the soil impacts are below standards. This will allow full delineation of the contaminants still in place. It is recommended to perform any additional delineation as needed based on field screening levels.
- Once the horizontal delineation is complete XTO will collect a water sample from the first down gradient borehole outside of the clay contamination and test for BTEX.
- Additional remediation may be required based on results (Which could include in-situ remediation.)


NMOCD Approved by Signature


Date