



November 12, 2018

Reference No. 11135250

Ms. Maria Pruett
New Mexico Oil Conservation Division
Energy, Minerals, and Natural Resources Department
District 2
811 S. First Street
Artesia, New Mexico 88210

**Re: 2018 Remediation Work Plan
Avalon Compressor Station (2RP-4657)
Lea County, New Mexico**

Dear Ms. Pruett:

1. Project Information

The Site is located on land owned by the State of New Mexico in Unit L, Section 20, Township 26 South, Range 28 East, approximately 14-miles south of Malaga, in southern Eddy County, New Mexico. ETC submitted an initial C-141 Form to the New Mexico Oil Conservation Division (NMOCD) dated March 12, 2018 describing a release of 7,840 million cubic feet (Mcf) of natural gas with zero (0) volume being recovered. Per the C-141: *A cracked fitting on the discharge line was discovered. In order to make repairs, the line had to be isolated by blowing down the entirety of the discharge line. Once the line was blown down, a tee was welded on the fitting and the segment was fixed.*

2. NMOCD Closure Requirement Criteria for Soils

Subsurface investigation activities were completed in accordance with the revised and reissued Guidelines for Remediation of Leaks, Spills, and Releases Rule 19.15.29 New Mexico Administrative Code (NMAC) from the NMOCD issued on August 14, 2018. The following criteria from Table 1 (below) within NMAC 19.15.29.12 were utilized to determine site-specific screening limits:

Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/l TDS	Constituent	Limit*
≤ 50 feet	Chloride**	600 mg/kg
	TPH (GRO+DRO+MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg
* Numerical limits or natural background level, whichever is greater.		
** This applies to release of produced water or other fluids which may contain chloride.		



Localized depth to groundwater was estimated at a depth of approximately 15 to 20 feet below ground surface (bgs) based on depth to water records available on the United States Geological Survey (USGS) National Water System Information map. The nearest well to the site is approximately 1.38 miles to the west. Information available from various sources including the Petroleum Recovery Research Center (PRRC) Mapping Portal and the United States Geological Survey (USGS) Current Water Database for the Nation concludes:

- a) the depth to groundwater at the Site is less than 50-feet bgs;
- b) the site is not within 300 feet of any continuously flowing watercourse;
- c) the site is not within 200 feet of any lakebed, sinkhole or playa lake;
- d) the site is not within 300 feet of an occupied permanent residence, school, etc.;
- e) the site is not within 500 feet of a spring or private, domestic fresh water well;
- f) the site is not within 1,000 feet of any fresh water well or spring;
- g) the site is not within incorporated municipal boundaries or within a defined municipal fresh water well field;
- h) the site is not within 300 feet of a wetland;
- i) the site is not within an area overlying a subsurface mine;
- j) the site is not within an unstable area; and
- k) the site is not within a 100-year floodplain.

Consequently, the anticipated site-specific screening limits to be applied to this location by the NMOCD based on the revised Rule are 10 mg/kg for benzene, 50 mg/kg for total benzene, toluene, ethylbenzene, and total xylenes (BTEX), 100 mg/kg for total petroleum hydrocarbons (TPH) including gasoline range organics (GRO), diesel range organics (DRO), an oil range organics (ORO), and 600 mg/kg for chloride.

Per 19.15.29.13, Restoration, Reclamation, and Re-vegetation, the impacted area must be remediated a minimum of 4-feet bgs with non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg. Soil cover must consist of topsoil at a thickness comparable to background topsoil thicknesses, or one foot of suitable earthen material capable of establishing and maintaining vegetation at the site. Reclamation is considered complete when all disturbed areas have established vegetative cover with a life-form ratio of plus or minus 50 percent of pre-remedial levels, and plant cover of a minimum of 70 percent of previous levels, excluding noxious weeds.

Evaluation of the analytical data obtained from soil assessment and delineation activities performed in August and September 2018 indicate horizontal and vertical delineation of BTEX and TPH impacts has been achieved at the Site to support remediation activities (excavation). Additional lateral delineation north and east of TP-1 and TP-5 may be warranted. If determined necessary during remediation activities,



lateral soil delineation will be completed in conjunction with soil remediation efforts via collection of bottom and sideways confirmation samples.

3. 2018 Scope of Work

The scope of work for this project in 2018 will involve soil remediation activities inclusive of excavation, sampling, backfilling, and restoration of the impacted area (see Figure 1).

Field screening of soils for chloride and TPH will be performed in order to guide excavation activities. Subsequently, the excavation will be backfilled with clean soil, graded and contoured to ensure proper surface area drainage. The following outlines basic project details that will be completed by GHD and selected subcontractors.

Field Program

- Prior to mobilizing excavation equipment to the Site, a New Mexico 811 utility notification will be made at least 48-hours prior to mobilization.
- Underground utilities in proximity to the proposed excavation area will be day-lighted prior to remedial excavation activities.
- GHD anticipates that pipeline operators will not allow excavation within 10 feet of any pipelines, therefore remediation within these areas will be deferred until operations of the pipelines cease.
- Approximately 280 cubic yards (cy) of shallow sub-surface area off-pad soil will be excavated (Figure 2). Impacted soil in the affected area will be excavated until field screening indicates that volatile organic compounds (VOCs) are at background concentrations. This volume could increase if additional impact to soil is observed within the proposed excavation area.
- Field screening will be conducted with a photoionization detector (PID) calibrated to isobutylene.
- Sidewall and bottom confirmation samples will be collected from the excavated area prior to backfilling and analyzed for BTEX by EPA Method 8021B and TPH by EPA Method 8015 Modified.
- The excavated area will be backfilled with clean soil following evaluation of the confirmation samples.
- The disturbed off-pad area will be fertilized and re-seeded with a Bureau of Land Management-approved seed mix.

Quality Assurance/ Quality Control

Confirmation soil sampling will be completed in accordance with our standard Quality Assurance/ Quality Control procedures designed to minimize cross-contamination between samples and to provide reliable laboratory results.

Reporting

A report summarizing remediation activities will be submitted. The report will include a Site description, project history, description of field events, a discussion of results, and recommendations (if any).



The report will include:

- A scaled Site plan showing the locations of the excavation and other Site features
- Tabulation of field screening and laboratory analytical results and
- Geotagged photographic documentation of field activities.

Vegetation Monitoring

Following completion of soil remediation activities at the Site, and as required by the New Mexico State Land Office (NMSLO), GHD will conduct vegetation monitoring visits to the Site. The status of vegetative growth within the remediated area will be documented with photographs and in field notes during each visit. A closure request report will be completed following one year of monitoring for submittal to NMSLO.

4. Work Plan Approval Request

GHD is prepared to initiate the scope of work immediately. If you have any questions or comments with regards to this work plan, please do not hesitate to contact our Albuquerque office at (505) 884-0672. Your timely response to this correspondence is appreciated.

Sincerely,

GHD

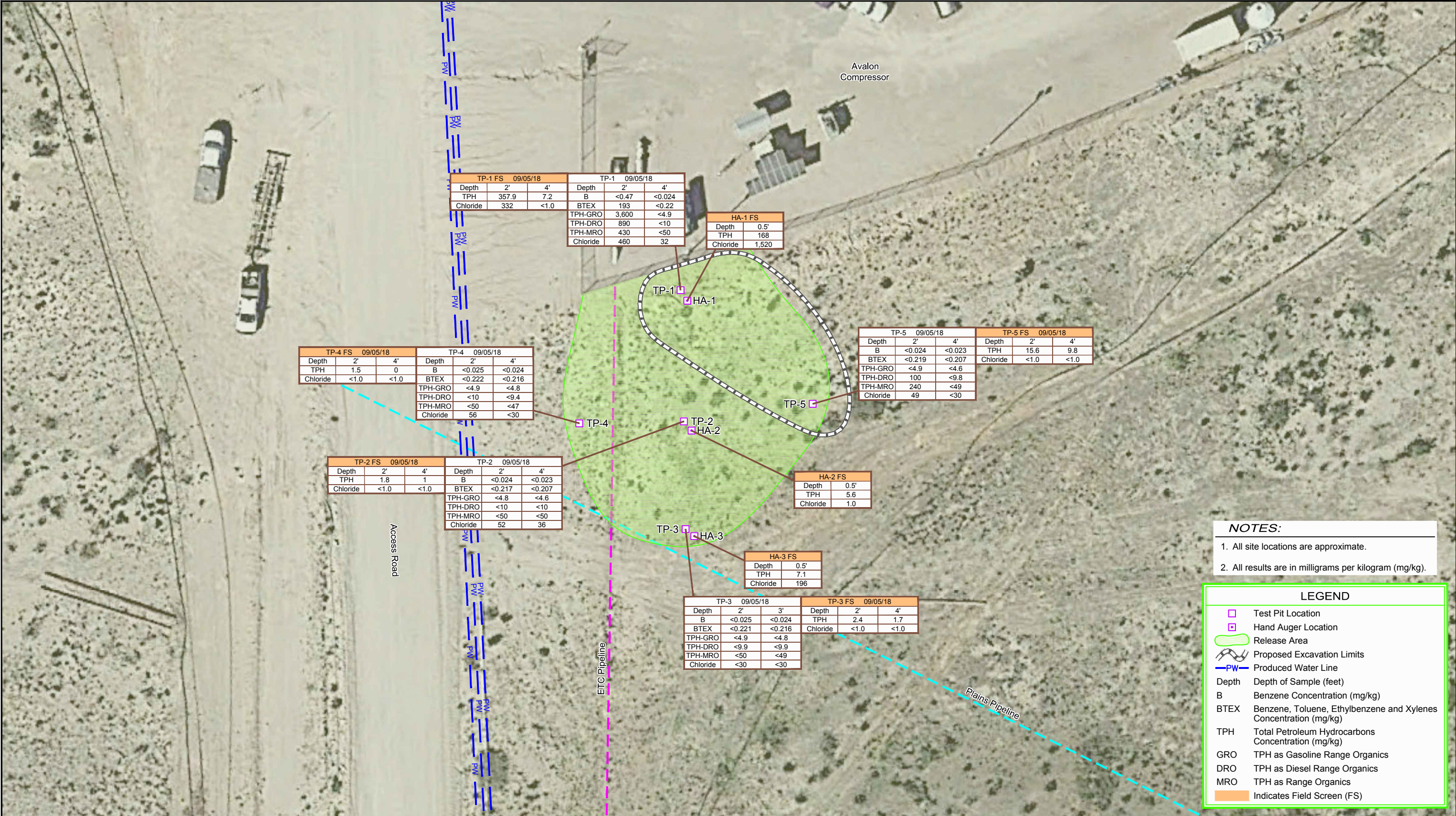
A handwritten signature in blue ink, appearing to read "Christine Mathews", is written over a faint, light blue circular stamp.

Christine Mathews
Project Manager

CM/ji/1

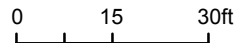
Encl.

Attachment: Figure 1 – Proposed Excavation Area Map



Source: Image © 2018 Google - Imagery Date: October 1, 2014

Lat/Long: 32.025645° North, 104.117738° West



Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)



ETC TEXAS PIPELINE, LTD.
EDDY COUNTY, NEW MEXICO
AVALON COMPRESSOR 2RP-4657

PROPOSED EXCAVATION AREA

11135250-15

Nov 8, 2018

FIGURE 1