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APPROVED

By OCD; Dr. Oberding at 11:31 am, Apr 26, 2016

April 25, 2016

Reference No. 082149

Dr. Tomas Oberding PhD
New Mexico Energy, Minerals, and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Dear Dr. Oberding:

**Re: Boyd Compressor Station
Work Plan for Continuation of Quarterly Groundwater Monitoring
Lea County, New Mexico
AP-106**

On behalf of ETC Field Services LLC (ETC), an Energy Transfer company, GHD Services Inc. (GHD) appreciates the opportunity to submit this proposed 2016 work scope for the Boyd Compressor Station (Site). The Site is located on land owned by Mr. R.D. Simms of Eunice, New Mexico in Section 26, Township 22 South, Range 37 East in Lea County, New Mexico (Figure 1). The Site is approximately seven miles south of Jal, New Mexico and one mile west of New Mexico Highway 18 and it is regulated by the New Mexico Oil Conservation Division (NMOCD).

1. Project History

Decommissioning of the compressor station began June 18, 2008. During removal of the 80 barrel (bbl) and 460 bbl tanks, corrosion was observed around the bolts used to join the two halves of the tank. The corrosion appeared to have allowed the release of liquids. The 80 bbl tank was utilized to contain produced water and the 460 bbl tank was utilized to contain hydrocarbon liquids (condensate) and produced water. Hydrocarbon and chloride impacted soil was excavated from the area where the tanks were located.

In December 2008, NMOCD approved backfilling of the excavation. The area was backfilled to a depth of 10 feet (ft) below ground surface (bgs). A 20- mil polyethylene liner was installed in the bottom of the excavation and the remainder of the excavation was backfilled to grade.

In January 2009, four groundwater monitoring wells were installed to a total depth of approximately 70 ft bgs using air rotary drilling methods. Monitoring well MW-1 was installed immediately south (downgradient) of the excavation and monitoring wells MW-2, MW-3, and MW-4 were installed north, southwest, and southeast of the excavation, respectively (Figure 2). Monitoring wells MW-2, MW-3, and MW-4 are located approximately 70 ft away from MW-1.

The compressor station operated under New Mexico Discharge Plan & Permit GW-269. NMOCD rescinded the discharge permit in February 2012 and issued Abatement Plan number AP-106.

Site monitoring wells have been sampled on a roughly quarterly basis since installation, most recently by GHD in March 2016. One groundwater pumping event took place on October 26 through 29, 2015. The pumping event consisted of pumping approximately 4,900 gallons of groundwater from monitoring well MW-1 at an average of approximately 3.08 gallons per minute for a total of 26.5 hours.

The contaminants of concern (COC) at the site are chloride and total dissolved solids (TDS) in groundwater and the impact is localized to the area of MW-1. Historically, chloride concentrations in groundwater samples from MW-1 have ranged from 1680 milligrams per Liter (mg/L) to 6000 mg/L. Concentrations of TDS have ranged from 3680 mg/L to 5860 mg/L. The New Mexico Water Quality Control Commission (NMWQCC) regulatory limits for the Site are:

Constituent	NMWQCC Regulatory Limit
Chlorides	250 mg/L
TDS	1000 mg/L

2. Data Review

Groundwater monitoring has been performed since January 2009. The depth to groundwater at the site is approximately 57 ft bgs.

Chloride concentrations have been slowly decreasing in monitoring well MW-1 and the most recent concentration was 2800 mg/L based on data from March 2016. Groundwater samples from the other monitoring wells have shown chloride concentrations to be stable and below the regulatory limit of 250 mg/L since monitoring began.

Soil data from installation of monitoring well MW-1 indicate that chloride concentrations ranged from below the laboratory detection limit of 200 milligrams per Kilogram (mg/Kg) to 11,000 mg/Kg at a depth of 30 ft bgs. Chloride concentrations at 60 ft bgs ranged from below the laboratory detection limit to 300 mg/Kg. Based on this, it is likely that the residual chlorides found in the soil above the water table are contributing to the recalcitrant chloride concentrations in the groundwater.

After the October 2015 pumping event on MW-1, both the field screening and laboratory analytical results showed a decreasing trend in chloride concentrations of approximately 500 mg/L to 600 mg/L over the duration of the event. An assessment of the analytical and field data indicates the following:

- The analytical data generally showed a decrease in chloride concentrations each day while pumping was occurring
- An increase (rebound) in chloride concentrations was observed each day when pumping was resumed after well recharge overnight. This rebound is to be expected because pumping was not performed overnight, allowing chloride concentrations to move towards equilibrium.

- Chloride concentrations at the end of each subsequent day were generally lower than concentrations observed at the end of the pumping the previous day. Chloride concentrations were 600 mg/L lower at the end of the three day event.

Chloride concentrations observed in MW-1 during the December sampling event were equivalent to the chloride concentration observed at the beginning of the pumping event (1700mg/L). However, the most recent chloride concentration in MW-1 from the March 2016 monitoring event has rebounded to a level similar to September 2015 results (3100 mg/L) at a concentration of 2800 mg/L.

3. Scope of Work

The scope of work for this project will involve the following tasks:

- Continuation of quarterly groundwater sampling of all Site monitoring wells; and
- Reporting of site activities to the NMOCD on behalf of ETC.

3.1 Continuation of Quarterly Groundwater Monitoring

GHD proposes the continuation of quarterly groundwater monitoring to monitor ongoing conditions at the Site.

A groundwater level meter will be used to measure groundwater depths in Site monitoring wells. Before and after each use, the groundwater level meter will be cleaned with an Alconox®/de-ionized water solution and rinsed with de-ionized water.

Monitoring wells will be purged and sampled using a low flow bladder pump, or disposable polyethylene bailer. Wells will be purged until field parameters including groundwater temperature, pH, TDS, conductivity, and oxidation/reduction potential (ORP) stabilize within 10%. Field parameters will be collected using an appropriate multi-parameter groundwater quality meter. The wells to be sampled will include monitoring wells MW-1, MW-2, MW-3, and MW-4.

Following collection, groundwater samples will be labeled, placed on ice, and submitted to Hall Environmental Analysis Laboratory of Albuquerque, New Mexico for analyses of chloride by EPA Method 300.0 and total dissolved solids by Standard Method 2540C. The information obtained from these sampling events will be included in the 2016 Annual Report.

Purge water generated during monitoring events will be containerized and managed accordingly.

3.2 Reporting

A report summarizing monitoring activities will be submitted to the NMOCD on behalf of ETC. The report will include a Site description, project history, description of field events, and discussion of results, tabulation of field and analytical data and recommendations.

GHD appreciates the opportunity to submit this work scope to assist in the management, assessment and closure of the Boyd Compressor Station site. Please feel free to contact either of us at 505-884-0672 if you have questions or comments.

Sincerely,

GHD

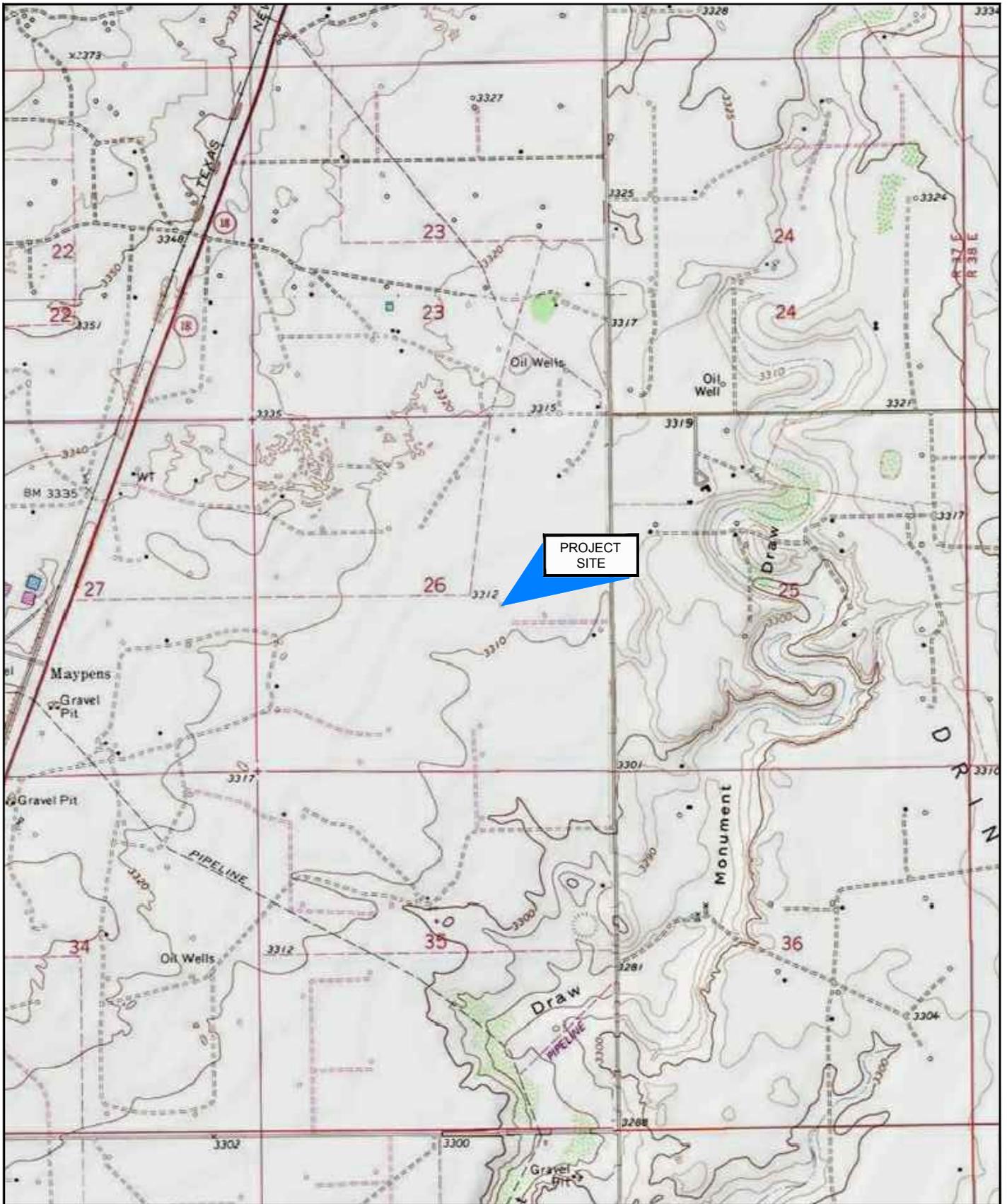


Steve Perez
Project Scientist/Coordinator



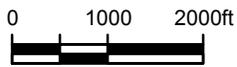
Bernard Bockisch
Senior Project Manager

Encl.



Source: USGS 7.5 Minute Quad "Rattlesnake Canyon and Eunice SE, New Mexico"

Lat/Long: 32.362468° North, 103.130500° West



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

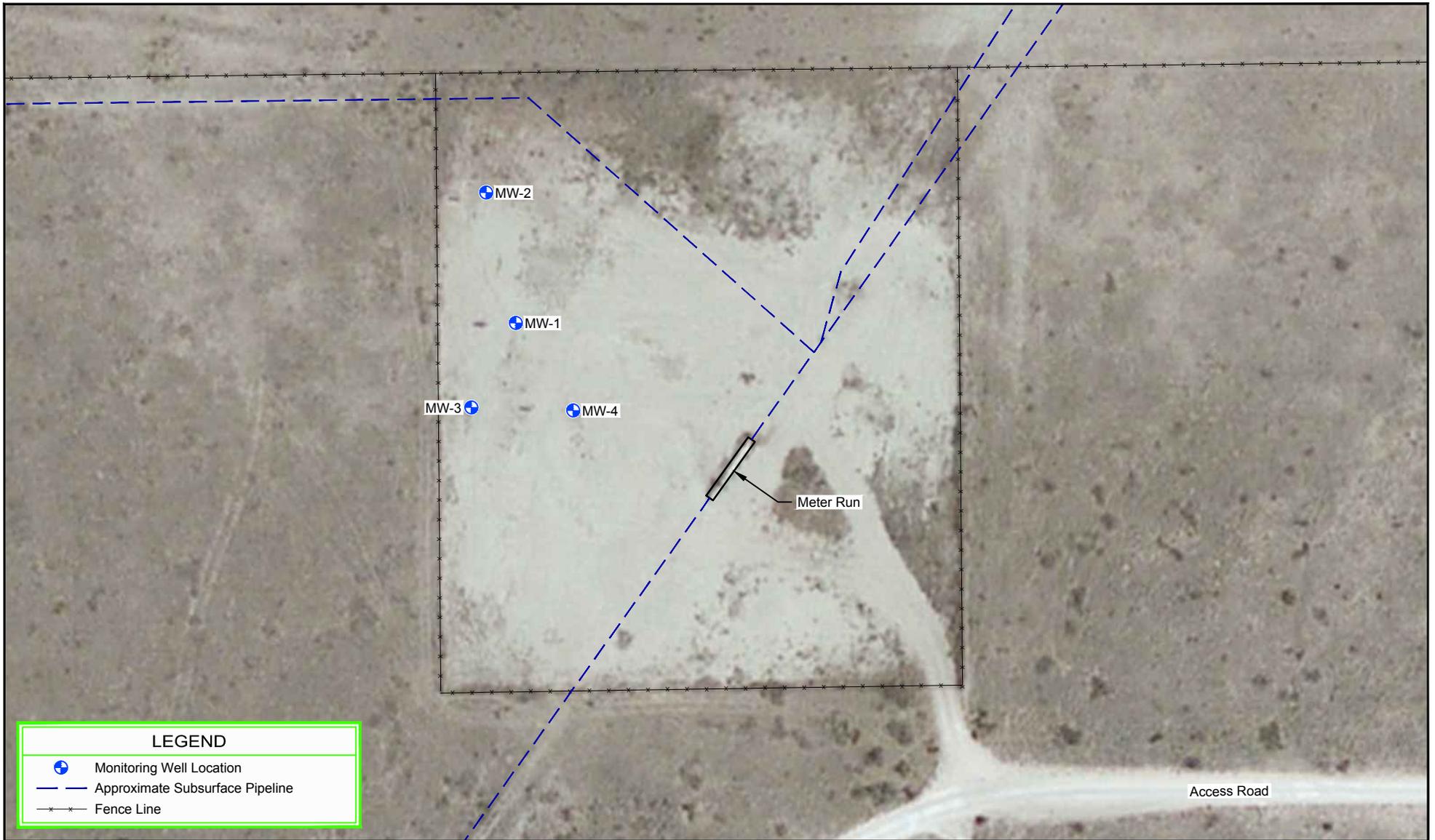


ETC FIELD SERVICES LLC
LEA COUNTY, NEW MEXICO
BOYD COMPRESSOR STATION

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Jan 26, 2016

SITE LOCATION MAP

FIGURE 1



LEGEND

-  Monitoring Well Location
-  Approximate Subsurface Pipeline
-  Fence Line

Source: USDA FSA Imagery, May 10, 2014

Lat/Long: 32.362468° North, 103.130500° West



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



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SITE MAP

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FIGURE 2