

March 31, 2010

Mr. Mike Bratcher
Oil Conservation Division
New Mexico Energy, Minerals and Natural Resources Department
1301 W. Grand Avenue
Artesia, New Mexico 88210

**Re: Remediation Workplan,
Marks and Garner Production LTD Co., Red State #1
Unit Letter B (NW/4, NE/4), Section 4, Township 17 South, Range 29 East,
Eddy County, New Mexico
(Latitude: N 32.86999°, Longitude: W 104.07871°)**

Dear Mr. Bratcher:

Marks and Garner Production LTD Co. (M&G), has retained Ocotillo Environmental, LLC (Ocotillo) to remediate impacts to soil from a leak at the Red State #1 wellhead and tanks (Site). The Site is located in the northwest quarter (NW/4) of the northeast quarter (NE/4), Section 4, Township 17 South, Range 29 East, Eddy County, New Mexico. The date and volume of the release are unknown. An initial C-141 is included in Appendix A. Figure 1 shows the site location.

Based on published literature (1961), well records of the New Mexico State Engineer, and well records of the United States Geological Survey, groundwater occurs at approximately 65 feet bgs in the well located nearest the Site. One soil boring (BH-4) was drilled to a depth of approximately 80 feet below ground surface (bgs) and no moisture was encountered. No domestic water wells are located within 1,000 feet of the site. The NMOCD has established recommended remediation action levels (RRALs) for benzene, total BTEX and TPH resulting from spills of natural gas liquids ("Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993"). Remediation levels for benzene, total BTEX and TPH were calculated using the following NMOCD criteria:

Criteria	Result	Ranking Score
Depth-to-Groundwater	50 - 99 Feet	10
Wellhead Protection Area	No	0
Distance to Surface Water Body	>1000 Horizontal Feet	0
Total:		10

The following RRALs have been assigned based on NMOCD criteria:

Benzene 10 mg/kg
Total BTEX 50 mg/kg
TPH 1,000 mg/kg

OCD Case# 14393
Marks & Garner
July 22, 2010
Ex# 5

Initial Investigation

On September 10, 2009, a letter was prepared for the NMOCD by R.T. Hicks Consultants, Ltd. (Hicks), that provided documentation that groundwater in the area is confined, thereby making the depth to groundwater "not relevant".

Current Investigation

On March 1, 5 and 6, 2010, Ocotillo installed five (5) soil borings (BH-1 through BH-5) at the site, using an air rotary drilling rig, in order to assess the horizontal and vertical limits of the spill. Soil samples from the exploratory borings were collected in five foot intervals from the ground surface to a depth of approximately 21 feet bgs in borings BH-1 and BH-2, to approximately 31 feet bgs in BH-3, to approximately 81 feet bgs in boring BH-4, and to 51 feet bgs in boring BH-5. All soil borings were plugged with bentonite. Figure 2 shows the locations of the soil borings. Appendix B provides copies of the Well Record and Logs provided to the Office of the State Engineer.

The soil samples from borings BH-1 through BH-5 were placed in clean glass sample jars, labeled, and chilled in an ice chest. Samples from borings BH-1 and BH-2 were delivered under chain-of-custody control to Cardinal Laboratories, located in Hobbs, New Mexico. Samples from borings BH-3 through BH-5 were delivered to Xenco Laboratories, located in Odessa, Texas.

All soil samples collected from borings BH-1 through BH-5 were analyzed for chlorides. The uppermost two (2) samples (0-1' and 5-6' bgs) from borings BH-1, BH-2 and BH-4 were also analyzed for total petroleum hydrocarbons (TPH) by EPA method SW 8015 (extended) for gasoline range organics (GRO) and diesel range organics (DRO). The surface sample (0-1' bgs) from boring BH-3 was also analyzed for TPH. The PID reading from each sample was less than 100 ppm, therefore, no analysis for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) was conducted. Table 1 presents a summary of the laboratory analysis of soil samples. Laboratory analysis and chain of custody documentation are included in Appendix C.

Referring to Table 1, TPH concentrations in samples collected from borings BH-1 through BH-4 were all less than the RRAL of 1,000 mg/kg, with the exception of the 0-1 foot bgs sample collected from boring BH-2 (1,210 mg/kg). Vertical delineation of chloride concentrations was not achieved in borings BH-1, BH-2, or BH-3; however, laboratory results did report a decreasing concentration with depth in boring BH-1. A chloride concentration below 250 mg/kg was reported in the sample from boring BH-4 at a depth of 75-76 feet bgs (206 mg/kg). The background boring (BH-5) reported all chloride concentrations below 250 mg/kg.

Proposed Remediation

Marks and Garner proposes to conduct excavation of the hydrocarbon impacted soil around the separator to a depth of approximately two (2) feet bgs, or until confirmation samples report TPH concentrations less than 1,000 mg/kg. Marks and Garner also proposes to excavate chloride impacted soil in the vicinity of soil borings BH-1, BH-3 and BH-4 to a depth of approximately ten (10) feet bgs.

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Horizontal delineation will be determined by laboratory analysis of samples collected during excavation. All excavated soil with a chloride concentration greater than 5,000 mg/kg will be hauled to an NMOCD approved disposal facility. Excavated soil with a chloride concentration less than 5,000 mg/kg will be blended on-site with organic material, in order to reduce the chloride concentrations to less than 1,000 mg/kg. A 20 mil plastic liner will be installed at the five foot depth, and the excavated areas will be backfilled with either clean soil or blended soil with a chloride concentration less than 1,000 mg/kg. Excess blended soil (with a chloride concentration less than 1,000 mg/kg) will be used to construct firewalls around the Marks and Garner tank batteries and / or other ancillary equipment.

If you have any questions or need additional information, please call Mr. Quinton Welborn at (575) 631-0949, or myself at (575) 441-7244. We may also be reached by email at qwelborn@valornet.com or Cindy.Crain@gmail.com.

Sincerely,
Ocotillo Environmental, LLC

Cindy K. Crain, P.G.
Environmental Manager

cc: Quinton Welborn, Marks & Garner

FIGURES

TABLE

APPENDIX A

INITIAL C141

APPENDIX B

WELL RECORD AND LOGS

APPENDIX C

ANALYTICAL DATA AND CHAIN OF CUSTODY DOCUMENTATION