

Basin Environmental Service Technologies, LLC

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Heather Patterson
New Mexico Energy, Minerals and Natural Resources Department
New Mexico Oil Conservation Division (District 2)
811 South First Street
Artesia, New Mexico 8821

Re: Permission to Install 20-Mil Poly Liner on Well Pad
James Ranch Unit #55
Unit Letter F (SE/NW), Section 17, Township 23 South, Range 31 East
NMOCD Ref #s (2RP-548 & 1177)
Eddy County, New Mexico

*approved thru b3 phone
5/27/14*

Ms. Patterson:

This email has been prepared in regard to BOPCO, L.P.'s JRU #55 Well Pad release site. The legal description of the release site is Unit Letter "F" (SE/NW), Section 17, Township 23 South, Range 31 East, in Eddy County, New Mexico. The property affected by the release is owned by the Bureau of Land Management (BLM). The release site GPS coordinates are 32.306285 North and 103.801920 West. General photographs are provided.

An inferred depth-to-groundwater gradient map utilized by the NMOCD indicates the depth to groundwater is approximately 90' bgs at the release site. NMOCD guidelines indicate the JRU #55 Well Pad release site has an initial ranking score of ten (10) points. The soil remediation levels for a site with a ranking score of ten (10) points are as follows:

- Benzene – 10 mg/Kg (ppm)
- Benzene, Toluene, Ethylbenzene and Xylene (BTEX) – 50 mg/Kg (ppm)
- Total Petroleum Hydrocarbons (TPH) – 1,000 mg/Kg (ppm)

The New Mexico Administrative Code (NMAC) does not currently specify a remediation level for chloride concentrations in soil. Chloride remediation levels are set by the NMOCD on a site-specific basis.

There have been two reportable releases on the JRU #55 Well Pad. The first reportable release (2RP-548) occurred on March 9, 2010, and was attributed to the failure of a temporary hose being used while circulating the well. A release of approximately 10 bbls of produced water and 10 bbls of crude oil affected approximately 2500 sq. ft. of caliche well pad, 1620 sq. ft. of caliche road and 525 sq. ft. of adjacent pasture land. During initial response activities approximately 5 bbls of produced water and 3 bbls of crude oil were recovered using a vacuum truck. Heavily saturated soil was excavated from the well pad and pasture and transported to an NMOCD-approved disposal facility. Limited environmental remediation activities were conducted at the release site by an environmental contractor that is no longer affiliated with the site. Final closure was never sought.

The second reportable release (2RP-1177) occurred on May 18, 2012, and was attributed to the failure of the packing in the stuffing box. The release of approximately 5 bbls of produced water and 3 bbls of crude oil affected approximately 410 sq. ft. of caliche well pad. With NMOCD-approval the two releases will be remediated simultaneously and closed under one cover.

On May 19, 2014, Basin began excavation activities at the release site. The excavation floor and sidewalls were advanced until field test results suggested concentrations of BTEX, TPH and Chloride were below NMOCD Regulatory Standards. As the excavation was advanced toward the east, elevated chloride concentrations were encountered at approximately 4' bgs. A test trench (DT-1) was advanced in the area exhibiting the highest concentrations of chloride. Soil samples were collected at selected intervals and field-screened for concentrations of chloride. Field test results indicate chloride concentrations ranged from 5894 ppm for the soil sample collected at 14' bgs to 288 ppm for the soil sample collected at 18.5' bgs. Based on the proximity to the active pumping well it was determined that a risk-based approach should be sought.

With your permission, BOPCO plans to install a 20-mil poly liner at approximately 4' bgs in the floor of the excavation atop areas exhibiting chloride concentrations above NMOCD Regulatory Standards. The engineering control is designed to inhibit the vertical migration of any contaminants left in-situ and mitigate any future releases on the well head.

An initial investigation conducted in the area of the pasture that was inferred to have been affected by the March 9, 2010 release indicated the top 3' of the soil column was not impacted above regulatory standards. During the advancement of a hand-soil bore (represented by SP #5 on the attached map) a 20-mil poly liner was encountered at ~4' bgs. Whether the liner encountered in SP #5 is related to a previous risk-based closure or a historical pit is yet to be determined, but field test results suggest it has been effective in protecting the vegetative zone in that area. With your permission, BOPCO requests permission to plug the bore hole with bentonite hole plug and leave the inferred previously affected pasture undisturbed in that area.

Upon completion of the remediation activities, Basin will prepare a "Remediation Summary and Site Closure Request" detailing remediation activities and the results of confirmation soil sampling.

If you have any questions or need any additional information, please feel free to contact me by phone or email.

Respectfully,



Joel W. Lowry
Basin Environmental Service Technologies, LLC

Attachments:

Attachment #1: Photographs

Attachment #2: Chloride Field Test Results Map



Legend:

- Excavation Extent
- Sample Location
- 2' bgs
- 4' bgs
- Chloride Concentration

Figure 2
Chloride Field Test Results Map
BOPCO, L.P.
JRU #55 Well Pad
Eddy County, New Mexico
NMOCD Ref#s 2RP-548 & 1177

Basin Environmental Services

Prep By: JWL

Checked By: BJA

May 22, 2014

Scale 1"=20'