

Pioneer Natural Resources
HydroLoc Mix™/Drill Cuttings On-Site Treatment
April 30, 2014

Pioneer Natural Resources (Pioneer) proposes to recycle and reuse E&P drill cutting waste per Colorado Oil and Gas Commission Rule (COGCC) 907a(3) from the oil and gas well Long View Farm 44-18-16-53 H (estimated spud date late July 2014); located in Section 18 Township 16 S Range 53 W in Lincoln County. HydroLoc Mix™, which is described in the attached HydroLoc Soil Amendment™ Summary, Proprietary Blend Description, and HydroLoc Mix™ Materials Safety Data Sheet will be mixed with the cuttings to begin the remediation process. The remaining remediation factors utilizing the moisture, natural bacteria, fungi and micro-organisms (both present in the HydroLoc Mix™ and populated throughout the duration of the process), and also managing constituents to accomplish the final goals.

The HydroLoc Mix™ will be combined with the water-based cuttings in the lined, earthen pit following drilling operations at the generation source well site. The ratio of drill cuttings to HydroLoc Mix™ is estimated at one cubic yard of cuttings to one cubic yard of HydroLoc Mix™. Once combined, organic-matter bedding will be placed within a bermed containment area on the generation source pad to protect from stormwater run-off, and the HydroLoc/water-based cutting blend will be constructed into windrow(s) within the bermed area for further treatment.

The HydroLoc Mix™ will be combined with the oil-base cuttings in a separate high-side containment vessel during the drilling process on the generation source well site. The ratio of oil-base drill cuttings to HydroLoc Mix™ is estimated at one cubic yard of cuttings to 1.5 cubic yards of HydroLoc Mix™. Once combined, the HydroLoc/oil-based cutting blend will be placed in a lined, bermed containment area to protect from stormwater run-off, and constructed as a treatment pile for further processing.

The HydroLoc Mix™ has been developed as a treatment agent and is designed to bring TPH and BTEX to COGCC approved detection limits. A thorough description of the treatment process and final product is contained within the attached HydroLoc Soil Amendment™ Summary and the HydroLoc Mix™ Proprietary Blend Description.

During the treatment process, both the water-based windrow(s), and the oil-based treatment pile will be sampled, analyzed according to COGCC Table 910 requirements, and monitored for progress. The final product may be re-blended and aerated as needed to achieve the desired analytical results. The final testing of the products will include collection of 1 sample per 100 cubic yards of blended material. All results will be available to the COGCC for review.

All finished HydroLoc Mix™ /cuttings material will be utilized as a soil amendment during the reclamation of the generation source pad. Application rates of the finished HydroLoc Soil Amendment™ will be generated by a Professional Soil Scientist to insure compliance within COGCC Table 910 guidelines. No blended cuttings material will be removed from the generation source well pad unless prior approval is obtained from COGCC in the form of an approved sundry.

The present proposed operation is not intended as a commercial treatment of E&P waste, or Non-E&P waste streams. The proposed operation is specific to only Pioneer Natural Resources, and only material generated by Pioneer Natural Resources will be allowed on location. The timeframe for treatment is normally 45 to 60 days with the exception of the oil-base cutting which may require additional treatment time.

Attachments:

- HydroLoc Mix™ MSDS
- HydroLoc Soil Amendment™ Summary
- HydroLoc Mix™