COLORADO OIL & GAS CONSERVATION COMMISSION

Land Application Plan - Checklist for Water-based Bentonitic Drilling Fluids and Associated Cuttings

Instructions

This document was developed to assist operators in preparing a plan for land application of allowable drilling fluids and/or associated drill cuttings generated from drilling with water based bentonitic drilling fluids only.

The intent of a Land Application Plan ("LAP") is to enable COGCC to better track the final disposition of drilling fluids and drill cuttings, to ensure the material is being fully incorporated into the land while minimizing run-off or other impacts to adjacent land or surface water, and to verify that resulting soils comply with Table 910-1 standards after incorporation. This Checklist provides operators with guidance on uniform information to be included in the LAP, and is intended to help ensure consistency during the COGCC approval process.

The LAP should be submitted via eForm 4, Sundry Notice. The following items should be included in the LAP, along with a copy of this checklist to aid in timely review and approval of the plans.

Recommended Information:	**Included**
Sundry eForm 4	☐

Process to Receive Facility ID Number for eForm 4 Submittal:

- The operator shall contact staff area Environmental Protection Specialist by email and provide the following information:
  - Facility name;
  - GPS coordinates of the entrance to the facility or other relevant feature that will remain fixed over the life of the facility;
  - Topographic map or aerial photograph with boundaries of the land application area.
- Upon receipt of the lat/long, facility name and map, COGCC staff will create a Land Application Facility and reply to the operator with the Facility ID # to be used on the eForm 4 for submittal of the additional information.
- COGCC will process the eForm 4 and approve when appropriate. Operator shall not begin land application until approval of the eForm 4.

Disposal Location Information	**Included**
1) Latitude and Longitude of the physical entrance to the facility or other relevant feature that will remain fixed over the life of the facility.	☐
2) Map showing the governmental Section, Township and Range as well as nearby hydrologic features (all surface water features and known water wells within 1/4 mile of the facility boundaries). The map shall be at an appropriate scale to illustrate the surface hydrology	☐

3) Land use (Crop Land: dry land agricultural, irrigated, improved pasture, hay meadow, CRP; Non-Crop Land: rangeland, timber, recreational, industrial, commercial, residential) ☐

4) If land use is Non-Crop Land, provide a justification for the application of drilling fluids and/or cuttings as a beneficial amendment for Non-Crop Land, along with a detailed surface reclamation plan for the land application site. ☐

5) Is the proposed land application site in a Sensitive Area? On what data has the determination been made? Include actual depth to groundwater, if available, or estimated depth based on available information; soil type and proximity to surface waters and wetlands should also be considered. ☐

6) Verification that the land application facility is not in a mapped Sensitive Wildlife Habitat or Restricted Surface Occupancy Area as defined by mapped areas available on COGCC GIS Online map. ☐

7) Background sampling and analysis plan to establish pre-application conditions and a listing of parameters being analyzed. Samples should include, at a minimum, background parameters listed in COGCC table 910-1. ☐

8) Surface Owner contact information and a date of signature for the agreement between the surface owner and the operator approving this activity. ☐

9) Operator shall provide means of access to land application site when requested by COGCC for purposes of inspection. ☐

10) Verification that land application of drilling fluids/cuttings is consistent with local (City, County) zoning land use policy (refer to existing permit number or determination that permits were not required). ☐

11) Description of site control measures, including proposed signage, to prevent unauthorized dumping or access by the public if appropriate. ☐

12) Description of the benefit to native soil that application of the water based bentonitic fluids and/or drill cuttings will achieve. ☐

Material Volume **Included**

1) Estimate of the maximum volume of drilling fluids/cuttings to be applied at the facility in a given year based on anticipated loading rates. ☐

Material Handling **Included**

1) Description of any plan for treating drilling fluids/cuttings prior to land application (bioremediation, solidification, etc.) ☐

2) Description of any stockpiling or segregation of drilling fluids/cuttings prior to leaving the well site (e.g. note whether material that cannot be treated onsite or transported ☐

directly to a land application site will be disposed at a landfill and/or transported to a centralized waste management facility).

3) Method of material tracking (manifests/haul tickets). Tracking information will be retained by the operator and provided to the COGCC upon request as per Rule 907.b. ☐

4) Description of material handling and best management practices that will be implemented at the land application facility to address the following as applicable: ☐

- stockpiling, mixing
- method of incorporation (thickness, machinery for spreading and incorporating)
- timeframe for incorporation within 10 days of application
- runoff/sediment controls
- tracking control
- dust control
- odor control
- contingency for frozen or muddy conditions that would prevent timely incorporation

5) Confirm that the facility will receive drilling fluids/cuttings for less than 3 years consecutively from the date of waste management plan approval, or from the date of first land application as reported to COGCC via Sundry Notice eForm 4. ☐

Post Application Sampling and Closure Requirements	**Included**

1) Provide a post-application sampling and analysis plan that includes proposed sampling locations to support a closure request. ☐

2) To receive closure: ☐

- The operator shall notify the COGCC via Form 4 requesting closure of the land application facility.
- Submit post-application sample results along with a sample location map
- Verify that site soils comply with Table 910-1.
- Verify that all drilling fluids and associated drill cuttings have been thoroughly incorporated.
- Verify that any temporary runoff/sediment controls have been removed.
- Verify that surface owner is satisfied with final condition of property.
- Verify that surface reclamation has been performed, if appropriate. (Verification can include photo-documentation, email correspondence, dates of work performed, etc.)