E&P Waste Management – Bentonitic Drilling Fluids and Cuttings

Summary Applicable COGCC Rules

- **900 Series E&P Waste Management**
  - 907 Management of E&P Waste
    - 907.a.(3) Reuse and recycling – waste management plans
    - 907.d. Drilling Fluids

- **1000 Series Reclamation Regulations**
  - 1003 Interim Reclamation

Requirements for Land Application of Bentonitic Drilling Fluids – 907.d.

- Average thickness of water-based bentonitic drilling fluid waste applied shall be no more than three (3) inches prior to incorporation.
- The waste shall be applied to prevent ponding or erosion.
- The waste shall be incorporated as a beneficial amendment into the native soils within ten (10) days of application.
- The resulting concentrations shall not exceed those in Table 910-1.
- Operator shall obtain written authorization from the surface owner prior to land application.
- Operator shall maintain a record of waste generator information including source, volume, location where land application occurred. Records shall be maintained for 5-years.
- Operators with control and authority over the wells from which the drilling fluids are obtained retain responsibility for the land application.
- Prior approval from the COGCC Director is not required for reuse of water-based bentonitic drilling fluids for land application as a soil amendment.

Burial of Cuttings in Drilling Pits – 1003.d.

- Operators shall ensure that soils meet the concentration levels of Table 910-1.
- Drilling Pit reclamation, including the disposal of drilling fluids and cuttings, shall be performed in a manner so as to not result in the formation of an impermeable barrier.
• No more than *de minimis* amounts of drilling fluids and cuttings may be incorporated into the surface materials.
• On crop lands, a minimum of three (3) feet of backfill cover shall be applied over any remaining drilling pit contents.

**Recent E&P Waste Management Issues**

• Closed loop and pitless drilling operations have resulted in large volumes of drill cuttings being disposed off site.
• Some operators are using Rule 907.d. – Land Application, for disposal of drill cuttings.
  ➢ Rule 907.d. applies specifically to water-based bentonitic drilling fluids.
• Methods allowed by rule for treatment and disposal of drill cuttings

  ➢ Burial on site in accordance with Rule 1003.d.
  ➢ Disposal at a commercial solid waste disposal facility.
  ➢ Disposal or treatment at a centralized E&P waste management facility permitted in accordance with Rule 908.
  ➢ Reuse and Recycling in accordance with a written E&P Waste Management Plan with prior approval from the Director per Rule 907.a.(3).
  
  • COGCC will accept E&P Waste Management Plans for land application of drill cuttings or other methods to reuse or recycle cuttings.
Land application of drill cuttings will have to comply with Rule 907.d.(3) including Table 910-1 standards.

**Requirements of E&P Waste Management Plans – 907.a.(3)**

“To encourage and promote waste minimization” Operators may propose “plans for managing E&P waste through beneficial use, reuse, or recycling by submitting a written management plan…on a Sundry Notice (Form 4)”

The WMP needs to describe:

- Types of wastes – in this case drilling cuttings
- Any treatment – mixing with native soils?
- Location (STR) of the source(s) of the wastes – Also can use Facility ID or API (#418486/05-123-31934)
- Location (STR) of property for the beneficial reuse – “NWSE Section 14, T 4 North, R 67 West”
- Contact information for both transporter(s) of the generator of the E&P waste, and for the property receiving the materials
- Use type of beneficial use of the E&P waste (such as, land improvement(s), pad construction, lease road maintenance, facility construction and maintenance, etc.) **

**- Representative analytical sample results showing compliance with Table 910-1 levels. Post beneficial reuse.