



Kerr-McGee Oil & Gas Onshore IP

Waste Management Plan

**Vista 13-16HZ Well Pad and Facility
S ½, SW ¼, Sec 16, T5N, R67W**

**Greeley, Colorado
January, 2023**

1. Waste Management

Kerr-McGee Oil & Gas Onshore LP (KMOG) operations will meet the requirements Weld County Code Sec. 21-5-320.B.9, Sec. 21-5-450, and the Colorado Oil and Gas Conservation Commission (COGCC) 900 Series, and EPA CFR 40 & 49, Including 40 CFR 261.4(B)(5). All waste management and best management practices (BMP) will be conducted in accordance with the operational requirements listed below.

2. Waste Storage, Handling, and Best Management Practices

The proper handling and storage of waste is essential to ensuring protection of human health and the environment, while minimizing company liability. The following guidelines identify proper waste handling and storage practices to be employed by personnel at this Well Pad and Facility.

- Wastes will be stored in containers or on lined containment that are chosen for compatibility and checked periodically for leaks or integrity problems. Examples of containment include but are not limited to 3-sided steel tanks, steel tanks, lined containment, plastic totes, drums, etc.
- All specific wastes in the attached site-specific Table will have a detailed Safety Data Sheet available which includes information such as the properties of the wastes; the physical, health, and environmental health hazards; protective measures; and safety precautions for handling, storing, and transporting the chemical.
- The proper personal protective equipment will always be worn when handling waste. Employees will refer to the Safety Data Sheet for additional information.
- Good housekeeping measures will be implemented in the operating area and to ensure safety and environmental well-being.
- Wastes will be segregated and stored according to its waste type.
- When feasible, wastes will be recycled, re-used, or treated onsite. As a BMP fluid are generally re-used from location to location if possible. No onsite treatment or recycling is planned onsite for this location. In the event, that onsite treatment or recycling is feasible, a written management plan will be submitted to the COGCC Director for approval on a Form 4.
- All waste streams will be transported off location for recycling or disposal in a timely manner in accordance with local, state, and federal regulations.
- All spills or leaks will be cleaned up upon discovery in accordance with local, state, and federal testing and cleanup standards. All waste generated from the cleanup process will be profiled, as required by local, state, and federal regulations, for recycling or disposal. Manifests will be used to track all waste generated.

3. Waste Characterization and Volumes

Wastes will be characterized in accordance with local, state, and federal requirements. Different types of wastes will be characterized via process knowledge, safety data sheets, or laboratory analysis in accordance with regulations and the requirements of the permitted facility to which they will be taken for ultimate disposition. Different types of wastes have different classifications such as hazardous, non-hazardous, and E&P exempt. The majority of wastes generated at this well pad will be E&P exempt. Volumes of wastes will be highly variable with some potential wastes never being generated and can vary greatly throughout the life of the well. Wastes such as drill cuttings and produced fluids will certainly be generated with volumes ranging from approximately 350-700 cubic yards per well and 50-1,500 barrels per day, respectively.

4. Waste Transportation and Disposal

Wastes will be transported to facilities authorized by the COGCC Director, to permitted commercial waste disposal facilities, permitted commercial waste facilities, or permitted beneficial use sites.

All E&P wastes transported offsite will be ticketed, signed by the transporter, and maintained to be provided upon request for a minimum of five years. Each ticket will include the information listed below

- The date of the transport.
- The identity of the waste generator.
- The identity of the waste transporter.
- The location of the waste pickup site.
- The type and volume of waste.
- The name and location of the treatment or disposal site.

5. Site Specific Information

The attached Table 1 lists the Potential Waste Management Options for this location. For each waste type a variety of options are identified due to factors that change during normal operation and life of the facility such as waste volumes, disposal facility hours of operation, facility capacities, etc.

Waste Type	Storage Container	Waste Disposal or Centralized E&P Management Facility	Potential Volume per Well	Frequency of transport per Well	Waste Characterization	Potential Hazard	E&P Exempt	Narrative/Phase of Generation
Water-based drilling fluids and associated drill cuttings	Steel bins, roll-offs, or tanks	Drilling Fluid Management Facility #3 (COGCC Facility ID 439305)	300-700 cubic yards	Daily-weekly	DFMF 3 COGCC permit requirements	None	Yes	Drilling, Plugging and Abandonment
		Aggregate State Fluid Recyling Facility (COGCC Facility ID 456644)			Aggregate State Fluid Recycling Facility Waste Management Plan requirements			
		Waste Connections, Erie, Colorado			Landfill requirements			
		Buffalo Ridge, Keenesburg, Colorado						
Oil-based drilling fluids and associated drill cuttings	Steel bins, roll-offs, or tanks	Aggregate State Fluid Recyling Faciity (COGCC Facility ID 456644)	300-700 cubic yards	Daily-weekly	Aggregate State Fluid Recycling Facility Waste Management Plan requirements	Ingitable/Combustible, Toxic	Yes	Drilling, Plugging and Abandonment, Spill Response and Remediation
		Waste Connections, Erie, Colorado			Landfill requirements			
		Buffalo Ridge, Keenesburg, Colorado						
Flowback sand	Steel bins, roll-offs, or tanks	Aggregate State Fluid Recyling Faciity (COGCC Facility ID 456644)	100-300 cubic yards	Daily-weekly	Aggregate State Fluid Recycling Facility Waste Management Plan requirements	Ingitable/Combustible, Toxic	Yes	Drilling, Plugging and Abandonment, Spill Response and Remediation
		Waste Connections, Erie, Colorado			Landfill requirements			
		Buffalo Ridge, Keenesburg, Colorado						
Flowback and produced water	Steel tanks	KMOG 16-24i and 19-3i SWDs	50-1,500 bbls per day	Daily-weekly	COGCC UIC permit requirements	Ingitable/Combustible, Toxic	Yes	Completions, Flowback, Production, Facility Decommissioning, Plugging and Abandonment
		EWS #3, #4, and #5 SWDs						
		Lonestar Select SWD						
Oil and produced fluid impacted soil	Containment, steel roll-offs, or loaded directly into transportation	KMOG Land Treatment Facility (COGCC Facility ID 149007)	Highly Variable	Daily-Never	Land Treatment Facility Waste Management Plan requirements	Ingitable/Combustible, Toxic	Yes	Spill Response and Remediaion
		Aggregate State Fluid Recyling Faciity (COGCC Facility ID 456644)			Aggregate State Fluid Recycling Facility Waste Management Plan requirements			
		Waste Connections, Erie, Colorado			Landfill requirements			
		Buffalo Ridge, Keenesburg, Colorado						
Tank bottoms, oily waste, and workover fluids	Steel bins, roll-offs, tanks, containment , or loaded directly into transportation	KMOG Landfarm (COGCC Facility ID 149007)	Highly Variable	Weekly-Never Generated	Land Treatment Facility Waste Management Plan requirements	Ingitable/Combustible, Toxic	Yes	Drilling, Completions, Flowback, Production, Spill Response and remediation, Facility Decomissioning, Plugging and Abandonment
		Aggregate State Fluid Recyling Facility (COGCC Facility ID 456644)			Aggregate State Fluid Recycling Facility Waste Management Plan requirements			
		Waste Connections, Erie, Colorado			Landfill requirements			
		Buffalo Ridge, Keenesburg, Colorado						
		Tower Road Landfill, Denver, Colorado						
		Foothills Landfill, Golden, Colorado						
		Clean Harbors, Deer Trail, Colorado						
Hazardous materials	Steel bins, roll-offs, tanks, totes, drums, clean packs	Clean Harbors, Kimble, Nebraska	Highly Variable	Yearly-Never Generated	Resource, Conservation, and Recovery ACT (RCRA) and Landfill requirements	Ingitable/Combustible, Corrosive, Reactive, Toxic	No	Drilling, Completions, Production
		Clean Harbors, Deer Trail, Colorado						
Human Waste	Steel Septic Tanks or Port-a-lets	McDonald Farms, Longmont, Colorado	Highly Variable	Weekly-Monthly	No characterization required	Biological	No	Construction, Drilling, Completions, Flowback, Production, Spill Response and Remediation, Facility Decommissioning, Plugging and Abandonment
		Columbia Sanitation, Golden, Colorado						
General trash and non-hazardous municipal solid waste	Steel bins or roll-offs	Waste Connections, Erie, Colorado	Highly Variable	Weekly-Never Generated	No characterization required	None	No	Construction, Drilling, Completions, Flowback, Production, Spill Response and Remediation, Facility Decommissioning, Plugging and Abandonment
		Buffalo Ridge, Keenesburg, Colorado						