

# Waste Management Plan

## Sammons Ranch

Helium Gas Wells

315310C, 315310D

315315A, 315315C



October 2021

## 1.0 Introduction

This Waste Management Plan (Plan) has been prepared by Vecta Oil & Gas, Ltd. (Vecta) for its Sammons Ranch helium gas well development in Las Animas County, Colorado. The Plan addresses the Colorado Oil & Gas Conservation Commission (COGCC) requirement at Rule 304.c.(11) to prepare a Waste Management Plan and the waste management criteria in Rule 905.a.(4).

## 2.0 Types of Waste

Vecta does not anticipate hydrocarbons or produced water from the helium gas wells, based on analysis from a representative well. The Texaco Cynthia True Government #1 well was drilled into the Lyons Formation in Section 30, Township 28 South, Range 56 West to a depth of 1,015 feet. The well contained a high concentration of helium with no hydrocarbons present. Vecta similarly proposes to drill into the Lyons Formation to a depth of approximately 1,400 feet.

Vecta wells will be drilled with air. Drilling mud, oil-based drilling fluids, and salt-based drilling fluids will not be used. Cementing will use a bulk unit and pump truck with no bagged debris. Waste will be limited to drill cuttings and trash. Trash will consist of food wrappers and other incidental packaging.

## 3.0 Proposed Volume of Waste

There will be an estimated 18 cubic yards of drill cuttings per well. An estimated 3 haul loads will be needed to transport the drill cuttings off site. Trash will consist of domestic trash bags.

## 4.0 Method of Storage and Waste Treatment

Drill cuttings will be stored on the Working Pad Surface in steel storage tanks. Trash will be contained in a pickup truck. It will be disposed of daily by the drilling team in a municipal garbage collection receptacle as incidental domestic waste.

## 5.0 Material Reuse and Recycling

There will be no hydrocarbon-based waste to reuse or recycle. Salvaged topsoil will be reused on site to support interim and final reclamation for the Oil and Gas Location.

## 6.0 Transportation and Final Disposition of Waste

Drill cuttings will be disposed of at a commercial facility authorized to accept the waste for disposal, consistent with Rule 905.b.(1). The anticipated facility is:

Twin Enviro Services, Trinidad, CO

For recordkeeping, a waste profile will be provided to the commercial hauler to support the hauler manifest and final disposal. Information will include:

- Waste generation details from process knowledge;
- Volume of drill cuttings;
- Method of on-site storage; and
- Results of the lab analysis for parameters required by the third-party disposal facility. The Compliance Manager for Twin Enviro Services confirmed on October 6, 2021 that the following constituents will be required for drill cuttings analysis:
  - Resource Conservation and Recovery Act metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

- TENORM constituents (Radium-226, Radium-228, natural thorium, and natural uranium).

Haul loads will be kept covered during transport to the commercial disposal facility. Incidental trash will be bagged and secured in a pickup truck for daily offsite disposal as domestic trash.

A contingency is in place for a spill of freshwater that consists of berming the affected area using a skid steer on location to prevent its runoff from the Oil and Gas Location.

A contingency is in place for how incidental spills of equipment oil, lubricants, hydraulic fluid, or fuel would be handled, treated, stored, and disposed of. The well driller will be equipped with a spill kit consisting of absorbents (e.g., socks and bagged absorbent). The material will be placed in a drum on the drill rig. Spilled material, including contaminated soil, will be loaded into 1 or more drums for transport off site. Final disposition will be in accordance with the waste characterization and profile requirements for the licensed third-party disposal facility that will accept the waste. The facility is anticipated to be Twin Enviro Services. Final disposal will be in accordance with Rule 905.b.(2). Were a spill to occur on site that exceeds the driller's capacity to contain and control contamination, a third-party provider would be engaged for spill response and any necessary reporting would be provided to COGCC.

A contingency is in place for produced water if it is encountered. It will be placed in a steel tank on site prior to transport to a licensed third-party disposal facility. The facility is anticipated to be NGL Water Solutions. Vecta will comply with the sampling and analysis requirements of the disposal facility. Results will be documented in the waste characterization and profile provided to the disposal facility.

Vecta will maintain records of disposal of E&P waste transported off site. Records will include waste characterization and profile forms and waste manifests. Records will be maintained for 5 years and will be stored in Vecta's Denver, Colorado Office.