

# WASTE MANAGEMENT PLAN



## **1 Wavetech Wulff Trust 43-5**

Sec. 5 T15S R42W (NE/4 SE/4)

Cheyenne County, Colorado

Surface: Fee

Submitted as an accompaniment to the Form 2A Application

And consistent with the requirements of Rule 905.a.(4).

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Prepared by:

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## **Wavetech Helium, Inc.**

### **Comprehensive Waste Management Plan**

#### **Project Summary:**

Wavetech Helium, Inc.'s ("Wavetech's") proposed 1 Wavetech Wulff Trust 43-5 "Location" is in Sec. 5 T15S R42W in Cheyenne County, Colorado. Wavetech plans to construct a new location, drill and test a conventional well which will produce helium containing natural gas, water and possibly oil. All gas production will go directly to the existing Ladder Creek Pipeline gathering system through a new tie-in point in SESW Sec. 33 T14S R42W. The Ladder Creek Pipeline is operated by Tumbleweed Midstream. The gas processing facility will be on lands outside of this Oil and Gas Development Plan. This well will be drilled, perforated, and tested. The proposed location is fee surface and fee minerals with a total pad disturbance of  $\pm 2.8$  acres. The graded site elevation is expected to be approximately 3,959'. No federal surface or minerals are involved in this project. All operations would be conducted in compliance with all federal, state, and local applicable laws, rules, and regulations.

#### **Plan:**

Pursuant to comply with the Colorado Energy & Carbon Management Commission (ECMC) 905 Rule Series, Wavetech's Comprehensive Waste Management Plan ("Plan") outlines the general guidelines for handling and disposal of all Exploration and Production (E&P) waste, including drilling cuttings, drill fluids, produced fluids and pits. Wavetech will adhere to all stipulations under ECMC 905 Rule Series to ensure E&P waste is properly stored, handled, transported, treated, recycled, or disposed to prevent threatened or actual adverse environmental impacts to air, water, soil, or biological resources, or to the extent necessary to ensure compliance with the concentration levels in Table 915-1, radiation control standards, and ECMC Regulation 41 numeric and narrative Groundwater quality standards and classifications, as incorporated by reference in Rule 901.b.

On site E&P waste will be stored in compatible containers or containment devices designed or engineered for the purposes for which they will be utilized. These containers will be inspected on a regular basis to ensure that no undue wear, structural issues, severe rust, or other defects will impact their effectiveness.

Wavetech will only transport E&P waste off site within Colorado to facilities authorized by the Director, to permitted commercial waste disposal facilities, permitted commercial waste recycling facilities, or beneficial use sites approved to receive E&P waste by the Colorado Department of Public Health and Environment (CDPHE) and the relevant local government.

Wavetech has no plans to transport any E&P waste out of Colorado. However, if necessary, Wavetech will transport E&P waste off site for treatment or waste disposal outside of Colorado only to facilities authorized and permitted by the appropriate regulatory agency in the receiving state. Wavetech will comply with the Rocky Mountain Low-level Radioactive Waste Board's Rules, as incorporated by reference in Rule 901.b.

Wavetech will maintain, for not less than 5 years, copies of each invoice, bill, or ticket, and such other records as necessary to document the requirements listed in Rules 905.b.(3).A–F for all E&P waste generated by Wavetech that is transported off site. Such records will be signed by the transporter and provided to the ECMC Director upon request.

#### **Produced Water**

Wavetech anticipates a low volume, if any, of produced water. Produced water will be stored in tanks on site prior to transport to a commercial disposal facility. Wavetech estimates approximately 5-10 barrels of produced water per day that will be encountered and disposed of.

#### **Drill Cuttings**

The wells are drilled using a “closed loop” mud handling system. Drill cuttings are mechanically separated, dried and stored in an above ground container and then hauled offsite. Once they are tested and meet the disposal criteria, they will be transferred to a transport truck and hauled to a permitted disposal facility.

Anticipated volumes for drill cuttings will be less than 2,500 cubic feet.

#### **Garbage and Household Waste**

All trash will be contained in a portable, completely enclosed, bear-proof wire mesh trash cage. Upon completion of the drilling operation, or as the trash case fills, the trash cage will be removed and hauled to the nearest authorized sanitary landfill. The cuttings pile will not be utilized for trash disposal.

A portable self-contained chemical toilet will be supplied on location for human waste temporarily during drilling and completion operations. As necessary the holding tank will be pumped and disposed of at an approved sewage facility.

#### **General**

Any soils contaminated by E&P waste will be disposed of at a licensed third-party solid waste disposal facility/landfill. Water tank bottoms will be disposed of at licensed third-party solid waste disposal facilities.

Liquid wastes such as produced water, if any, will be disposed of at licensed third-party injection facilities such as the Koch 11-7 1, Facility ID 159435 location is Section 7 T12S R52W.

Commercial disposal facilities planned to be used for disposal of solids materials are:

Clean Harbors Environmental  
Deer Trail, CO  
West of State Highway 36 and Washington County Road 72

General trash/Non-hazardous waste

Cheyenne Wells City Landfill  
151 S. 1<sup>st</sup> Street W  
Cheyenne Wells, CO 80810

Wavetech will keep records of all E & P waste that is transported off site for a period of not less than five (5) years. These records will satisfy the requirements of ECMC. If requested, Wavetech will provide copies of these records to the ECMC.

Wavetech will control and contain any spill or release immediately upon discovering any spills or releases of E&P waste, produced fluids, or unauthorized releases of natural gas that meet the criteria of Rules 912.b.(1).H, I, or J, regardless of size or volume, to protect and minimize adverse impacts to public health, safety, welfare, the environment, and wildlife resources. Spills will be investigated, cleaned up, and the impacts will be documented as soon as the impacts are discovered.

For any Spills or Releases that do not meet the reporting requirements of Rule 912.b, Wavetech will document cleanup efforts and provide documentation of the cleanup to the ECMC Director upon request.

#### **Haul Routes**

The haul route used for produced water will utilize County Road 56 to County Road Q to County Road 54 to Highway 40 to the commercial disposal well, Koch 11-7 1, Facility ID 159435 location is Section 7 T12S R52W.

The haul route used for waste being disposed of at the Cheyenne Wells Landfill will utilize County Road 56 to County Road Q to County Road 54 to Highway 40 to Cheyenne Wells, Colorado.

#### **Best Management Practices**

- All personnel, including contractors, will be informed of waste management protocols and locations of waste receptacles prior to the start of any operations.
- Operator will conduct site inspections throughout all operational phases to ensure waste is properly stored and receptacles are being emptied as needed.
- Operator will use a “closed loop” mud handling system. Once drill cuttings are tested and meet the disposal criteria, they will be transferred to a transport truck and hauled to a permitted disposal facility.
- All waste storage will include compatible containers and be in compliance with regulations. Containers will also be inspected regularly to ensure proper function.
- Waste levels will be monitored, and maximum storage limits will not be exceeded.

**Waste Characterization**

<b>Waste</b>	<b>Identification Method</b>	<b>Assessment Method</b>	<b>Treatment</b>	<b>Transport</b>	<b>Disposal</b>	<b>Recycle</b>
Drill Cuttings	Knowledge of Process	Sampling and Analysis	TBD by Table 915-1 analysis	Trucked to approved disposal facility		No
Drilling Fluids	Knowledge of Process	Sampling and Analysis	TBD by Table 915-1 analysis	Dewatered Fluids Trucked if not recycled	Koch 11-7 1 SWD	Yes - When Applicable
Cement Returns	Knowledge of Process	Knowledge of Process	None	Truck	Cheyenne Wells City Landfill	No
Frac Sand		Not applicable				
<b>E&amp;P Exempt Liquids</b>						
Produced Water	Knowledge of Process	Sampling and Analysis	TBD by Table 915-1 analysis	Truck	Koch 11-7 1 SWD	When Applicable
Impacted Soil	Visual Determination	Sampling and Analysis	If any: TBD by Table 915-1 analysis	Truck	Cheyenne Wells City Landfill	No
<b>General trash/Non-hazardous waste</b>	Visual Determination	None	Disposal at municipal solid waste landfill	Truck	Cheyenne Wells City Landfill	No

## WASTE MANAGMENT PLAN

**Wavetech Helium, Inc.**

Waste Description	Type	Storage	Onsite Treatment	Estimated Total Amount	Disposal Frequency	Duration of Waste Production	Waste End Point
<b>DRILLING</b>							
<b>Water-Based Drilling Fluid</b>	<b>E&amp;P</b>	Steel tanks of the closed loop drilling system. Then transported to Koch 11-7 1 SWD	Circulated through wellbore while drilling, processed to remove solids, sent to steel tanks of the closed loop drilling system Transported to Koch 11-7 1.	1,400 bbls	Every few days	1-2 days	Koch 11-7 1 SWD, Facility ID 159435
<b>Cement</b>	<b>E&amp;P</b>	Container integrated with closed loop drilling system. Then transported to landfill.	Drilled out cement will be separated from water	30 CY	1 load/day	7-10 days	Cheyenne Wells City Landfill
<b>COMPLETIONS</b>							
	<b>E&amp;P</b>						
<b>PRODUCTION</b>							
<b>Produced Water</b>	<b>E&amp;P</b>	300 bbl lined steel tank	Separated from total wellbore fluids via separator	5-10 bbls per day	Monthly	Life of the well, up to 20 years	Koch 11-7 1 SWD, Facility ID 159435
<b>Oily Waste</b>	<b>E&amp;P</b>	Leak-proof, closed containers	None	less than a barrel per year	Once every 6 months	Life of the well, which is up to 20 years	Clean Harbors
<b>OTHER</b>							
<b>General trash/Non-hazardous waste</b>	<b>General</b>	Portable trash container	None		Once a week	Life of the well	Cheyenne Wells City Landfill