

FLUID LEAK DETECTION PLAN

Twin Bridges Resources LLC has prepared this Fluid Leak Detection Plan for the Red Rocks 1-13 exploratory helium gas well in Las Animas County, Colorado. The sections below correspond to the Colorado Oil & Gas Conservation Commission (COGCC) requirement in Rule 304.c.(13) to prepare a Fluid Leak Detection Plan and the fluid leak detection requirements in Rules 608, 609, 1102, 1103, and 1104.

1. INTRODUCTION AND SITE DESCRIPTION

Twin Bridges is proposing to develop a single shallow vertical helium gas well. The location is on fee surface and will produce fee minerals. It will be located in NW1/4NW1/4 Section 1, Township 30 South, Range 55 West, Las Animas County. The Oil and Gas Location will occupy approximately 1.1 acres. The Working Pad Surface will be approximately 1 acre. After interim reclamation, the production pad will be reduced to an estimated 0.2 acre. The site elevation is 5,557 feet. The estimated duration for well pad preparation is 1 day; for drilling and completion 7 to 10 days; for interim reclamation 1 day; and for production approximately 10 years.

2. MONITORING AND INSPECTION PROCEDURES AND SCHEDULE

The anticipated operations are described below. Table 1 provides a summary of monitoring and inspection procedures and a schedule.

Drill Rig – The well will be drilled using a truck-mounted spud rig, similar to a water well rig. The single vertical well will be an estimated 1,200 feet deep.

Well Drilling – The well will have an anticipated 12.25" conductor hole to approximately 33 feet. There will be an anticipated 30' join up with 10 ¾" casing and cement. There will be an anticipated 8 ¾" hole from 900 to 1,200 feet (zone of interest) with 7" casing and cement. The well is anticipated to be produced as an open hole without tubing. The wellhead is planned to be on the casing. Cement will be provided using a bulk unit and pump truck.

Wellhead – As planned, the wellhead will attach to the 7" casing. A 7" to 2" swedge will reduce the casing to the 2" meter run. A 2" orbit valve after the well meter and before the flowline will be used to manually shut the well in.

Water Truck – An estimated 200 bbl of water may be needed to drill the well. Water will be transported by a vacuum truck capable of hauling 4,200 gallons of water at a time (100 bbl).

Fuel Tank – An up to 500-gallon fuel tank may be transported to the location. It will have integrated steel secondary containment sufficient to contain spilled fuel.

Transfer Lines – Fueling the drill rig will use an approximately 20-foot rubber hose that is threaded at the fuel tank and delivered to the rig using a spill-proof diesel nozzle. The well will be drilled with air. If water is needed during drilling, it will be transferred to the drill rig using a 4-inch hose from the water tank to a manifold on the drill rig and pumped from there to the drill pipe.

Production Flowline – As planned, the anticipated 6" polyethylene production flowline will be polywelded above ground to a steel fitting at the meter run. The flowline then will be placed underground at a 45-degree angle and trenched to the helium unit, located approximately 3 miles away. A compressor at the helium unit will draw helium gas from the wellhead toward the helium unit. Potential for water in the flowline would be in the form of condensation and, as planned, would be detected by pigging the line. The pig would blow condensation toward the end of the line for capture.

Table 1. Monitoring and Inspection Procedures and Schedule

Equipment	Monitoring and Inspection Procedures	Schedule
Drill Rig	Drill rig operators will monitor for indications of overheating, drips or leaks onto the ground, and connection points to fuel or water. Problems will be corrected promptly. Spills or leaks will be treated with the spill kit and equipment maintained on site.	Continuous while operating
Water Truck	The area around the water truck will be monitored for indication of leaks of freshwater. Problems will be corrected promptly. A catastrophic loss of freshwater will be bermed using the skid steer available on site.	Daily
Fuel Tank	The integrated steel secondary containment is sized to contain the contents of the fuel tank. It will be monitored for signs of fuel staining. Valves would be tightened to avoid further leakage.	Daily
Transfer Lines	Transfer lines used for fuel or water will be monitored at the connection points for signs of leakage and corrected, as needed.	Continuous while operating
Production Flowline	The flowline will contain inert helium gas. Before the flowline is buried, it will be pressure tested to maximum operating pressure for AVO leak detection.	Pre-start up

3. TESTING AND MAINTENANCE PROCEDURES AND SCHEDULE

Testing and maintenance procedures and a schedule for equipment used during well drilling and completion are listed in Table 2. During production, the location will contain only a wellhead and buried polyethylene flowline transporting inert helium gas.

Table 2. Testing and Maintenance Procedures and Schedule

Equipment	Monitoring and Inspection Procedures	Schedule
Valves	The operator will maintain the isolation valve by performing a function test or maintaining the valve in accordance with its manufacturer’s specifications per Rule 1103.a.	Annual
Production Flowline	The flowline will be installed consistent with Rule 1102. In accordance with Rule 1104, before the flowline is put into service, it will be pressure tested to maximum pressure for AVO leak detection.	Pre-startup
Production Flowline	Per Rule 1104.c, the operator will conduct an AVO survey to detect failures or signs of leaks from the wellhead and flowline.	Monthly
Production Flowline	The operator will conduct integrity testing in accordance with Rule 1104.f.	Annual

4. PRODUCED FLUIDS

The helium gas well will be drilled without mud. It is not anticipated to produce hydrocarbons or condensate, based on analysis from a representative well, located approximately 13 miles northwest of the Red Rocks well in Section 30, Township 28 South, Range 56 West. The Texaco Cynthia True Government #1 well was developed as an exploratory oil well. The well contained a high concentration of helium from the uppermost Lyons Formation at 1,015

feet. There were no hydrocarbons present. The helium gas well will not have loading and unloading equipment, transfer points, or storage tanks.

5. RECORDKEEPING

Inspections and testing will be documented for the activity, date, time, finding, personnel, and signature. Associated testing results or lab analyses will be included. Written records will be maintained in the operator's Denver, Colorado office for a period of 3 years. A copy of this plan also will be maintained in the operator's Denver office. Plans also will be provided to the site operator.

6. SITE-SPECIFIC BMPS

- Site personnel will be trained in detecting and addressing spills that may occur on site.
- A catastrophic loss of freshwater will be bermed using the skid steer available on site.
- Equipment and transfer lines will be monitored daily during well drilling and completion for signs of drips, leaks, or spills, which will be corrected promptly.
- Spills or releases will be investigated, controlled or contained, in accordance with Rule 912.a.
- If a spill or release meets criteria in Rule 912.b, it will be reported as specified in the rule.
- Site personnel will be instructed on procedures for documenting and recordkeeping inspections and testing.
- The operator will maintain the shutoff valve on the helium gas flowline in accordance with Rule 1103.a.
- The flowline will be installed consistent with Rule 1102. In accordance with Rule 1104, before the flowline is put into service, it will be pressure tested to maximum pressure for AVO leak detection.
- Per Rule 1104.c, the operator will conduct a monthly AVO survey to detect failures or signs of leaks from the wellhead and flowline.
- The operator will conduct annual flowline integrity testing in accordance with Rule 1104.f.