Fluid Leak Detection Plan

Rule 304.c.(13)

Coyote Fed 0397-14

Section 14 T3N R97W 6th P.M.

Moffat County, Colorado

November 2022

November 1, 2022

Fluid Leak Detection Plan

Operator Location Name	Coyote Federal 0397-14 Pad
Federal Unit	Wiley
Legal Description	NWNW Section 14 T3N-R97W
Coordinates (Lat/Long)	40.235177, -108.253509
County	Moffat County, Colorado

Anschutz Exploration Corporation (Anschutz) has developed the following Fluid Leak Detection Plan to identify the location of production facilities and equipment at the Coyote Federal 0397-14 Pad (Location), to describe the engineering and administrative processes to prevent the discharge of fluids (oil, condensate, or produced water) to the environment, and to document the repair of any fluid leaks or discharges. The procedures and processes used to monitor, inspect, test, and maintain the equipment, vessels, tanks, structures, flowlines, at the Location pad are described in greater detail below. This Fluid Leak Detection Plan has been prepared in accordance with the requirements of Colorado Oil and Gas Conservation Commission (COGCC) Rule 304.c.(13).

Site Details

Anschutz is proposing to drill, complete, and operate six proposed directional natural gas wells at the Location which is situated on private surface approximately 22.6 miles northwest of Meeker, Colorado. The Location will be located in the NWNW quarter-quarter of Section 14, Township 3 North, Range 97 West, 6th P.M., within Moffat County, Colorado.

The Coyote Federal Oil and Gas Development Plan (OGDP) involves construction of one new Oil and Gas Location, construction of a new access road to the Location, construction of a new pipeline corridor for natural gas and produced water transport, and the utilization of other existing facilities to support well completion and production operations.

The proposed 6.818-acre Location would be constructed for drilling and completions operations of the six proposed directional wells. The long-term disturbance attributed to the Location would be approximately 4.329 acres. All proposed disturbance for the Location is on private surface. Approximately 13,481 feet of an existing two-track ranch road will be improved and approximately 605 feet of new road will be constructed for well pad access. Pipeline installation will parallel the road. The total access road and pipeline right-of-way (ROW) disturbance area is approximately 31.2 acres. Anschutz will install several on-location pipelines to support onsite production operations. The proposed off-location pipeline will be installed adjacent to the exiting two-track access road.

Monitoring and Inspection Procedures and Schedule

Drilling

During drilling operations, regular auditory, visual, and olfactory (AVO) monitoring inspections are performed on equipment containing drilling fluids, hydrocarbons, or associated chemicals. Hazard identification inspections are also conducted daily on all areas of the pad.

The fluid management system used during drilling operations is monitored from both the rig floor and drilling mud tanks. An electronic drilling recorder (ERD) and a pit volume totalizer (PVT) will be used to monitor changes in pressure, volume, or flow rate, to aid in leak detection. In the event of unexpected changes in operating conditions on surface equipment used to manage fluids, rig

personnel will be deployed to inspect the system including transfer lines and storage tanks. Alarms are also set on the ERD and PVT systems to automatically notify rig personnel if conditions change outside of expected parameters.

Real-time gas measurements will be collected with gas analyzer in the drilling rigs flowline that can measure methane, ethane, propane, butane, and carbon dioxide that is released during the drilling process. Gas monitoring will be used to ensure mud weight is sufficient and the well is properly controlled. Any background gas brought to surface in the drilling mud is circulated through the mud-gas separator on the drilling rig and sent overhead to an enclosed combustion device (ECD).

Completions

During completion operations, regular AVO inspections are performed on all lines, tanks, totes, or other vessels containing produced water, hydrocarbon fluids, or fluid additives as well as any equipment through which fluids pass through. The fluid transfer system used during completion operations is monitored from the on-site mobile command center for changes in pressure, volume, or rate. In the event unexpected changes in operating conditions are identified, personnel will inspect the system for signs of a leak.

A liner will be installed beneath the hydraulic fracturing equipment and manifold used during completion operations. The use of this liner prevents fluids from reaching the soil in the unlikely event a leak does occur. Additionally, frac tanks will be placed within a secondary containment to ensure containment of produced water in the event of a release. The liner is inspected for integrity throughout completion operations and repaired as needed.

During all pre-production operations, the location is staffed and monitored 24 hours a day, 7. Additional comprehensive inspections are conducted for drilling, completions, and workovers in compliance with COGCC regulations. These additional inspections include routine blowout preventer (BOP) tests and pressure testing of various hydraulic fracturing equipment and lines prior to commencing operations.

Production Facilities and Equipment

The equipment planned for use during production operations at the Location include the following:

- Three enclosed combustion devise (ECD) units
- One high pressure ECD unit
- Six propane tanks
- Six heater treaters (6x20)
- Two wellsite generators
- Two electric vapor recovery units
- Two vapor recovery towers
- One recycle pump
- One condensate collection building
- Twenty-four 750-barrel storage tanks
- One lease automatic custody transfer (LACT) unit
- One natural gas cooling unit
- One gas lift/gas sale compressor
- One gas dehydration unit
- Various on-location pipelines as described in the Coyote Federal OGDP which has been submitted as an attachment to the Form 2A for this location.

The proposed locations for the production equipment are shown on the attached Plan of Development Map for this location. The Location is constructed so that bulk storage containers reside within lined secondary containment to prevent fluids from reaching the soil in the unlikely event a leak does occur.

Monitoring and Inspections

Routine Production Inspections and Monitoring: Production equipment is physically monitored and inspected by Anschutz personnel during routine visits to each location. At a minimum, the Location will be physically inspected on a weekly basis, and more often if conditional warrant. During these routine site visits, the Anschutz personnel or third-party contractor visually inspect all components of the fluid production process for any signs or evidence of active leaks, drips, or pending leaks. The routine, physical inspection of the location and production equipment includes a close examination of the following components:

- Production Tanks
- Secondary Containment Structures and liners
- Separators
- Flowlines and production piping between the wellhead and the processing equipment

Inspectors will specifically look for any evidence of active leaks from tanks, piping, and associated fittings. Signs of leakage may include drips, bubbles, puddling, and pooling of liquids, wet spots, or corrosion such as rust or flaking, blistered or bubbled paint. Other indicators of leakage may include an unexplained loss of tank volumes, loss of normal operating pressures, unusual sounds, odors, etc. When a leak or loss of fluid is confirmed, immediate actions will be taken to stop the flow of liquids, if possible, and initiate the appropriate repairs. Anschutz personnel will communicate details of the fluid loss to Management, as required, to initiate the appropriate reporting, and cleanup actions as needed.

AVO/LDAR/STEM/0000a/Flare Inspections

The following inspections are also performed, as appropriate, and present another opportunity where Anschutz personnel are performing a physical inspection of each location and thorough inspection of site equipment.

- Audio, Visual, and Olfactory (AVO) inspections are conducted monthly at each location throughout the life of the well.
- Leak Detection and Repair (LDAR) inspections are performed at all locations; however, the inspection frequency is tiered based upon the level of emission controls that are required or employed at each location.
- Storage Tank Emission Monitoring (STEM) inspections are performed monthly at locations where emissions must be controlled (> 2 tons per year [tpy]).
- Subpart OOOOa of the Code of Federal Regulations (CFP) Title 40 inspections are performed semi-annually on any facility constructed after 2015.
- Flare Logs are completed daily for all locations where active flares and emissions controls are required.

The technicians performing these air compliance inspections are also highly specialized and trained to identify and perform immediate repairs to production fluid equipment to correct a variety of maintenance and repair issues.

SPCC Inspections

As required by Spill Prevention Control and Countermeasures (SPCC) regulations found at 40 CFR 112, Anschutz conducts routine inspections of all regulated oil storage facilities and related equipment, including secondary containment structures. These inspections are conducted annually to verify the types and number of production equipment that are located at each well pad, and to ensure that secondary containment structures are in good working condition, and adequately sized to contain 150 percent (%) of the largest tank, in accordance with COGCC 603.o.(1). An example of the annual SPCC inspection checklist is attached.

Stormwater Compliance Inspections

As required by the Colorado Department of Public Health and Environment (CDPHE) Stormwater Discharge Permit requirements, Anschutz conducts ongoing and routine inspections of all well pads, pipeline corridors, and access roads. Inspections are conducted every 14 days for active construction sites, or every 30 calendar days for post-construction sites. These inspections are yet another opportunity for inspection and monitoring of oil and gas locations, facilities, and equipment.

Dedicated Continuous Monitoring (SCADA)

All oil and gas locations are also equipped with Supervisory Control and Data Acquisition (SCADA) monitoring technology which enables remote monitoring of individual well attributes (i.e., well-head pressures, casing pressures, production and sales volumes, etc.). In addition, most locations with produced water and condensate tanks, are also equipped with SCADA systems to monitor fluid production rates, actual fluid volume tank levels, etc. In addition, various alarms (i.e., high liquid level alarm) can be set to notify technicians if a tank is close to exceeding its maximum capacity and is at risk of overfilling. SCADA is also useful to detect any sudden, unexplained loss in fluid volumes as another means indicative of a potential leak or release.

Testing and Maintenance Procedures and Schedule

Testing

Anschutz production personnel perform pressure and integrity testing of all new construction production piping and pipeline facilities prior to being placed into active service. Pressure testing for all new and relocated pressure piping and facilities are pressure tested according to Anschutz 's Construction Specification for Pipeline Construction.

Pressure and integrity testing is also conducted on all existing (in-service) off-location flowlines on an annual basis and after any repair. All pressure and integrity testing are conducted per the requirements set forth in ASME B 31.8 and ASME B 31.4.

Corrosion control for production piping and pipeline facilities is implemented in accordance with the requirements as proposed by the ASME B31.4 standards 460 - 468, Corrosion Control.

Maintenance

All maintenance required for production piping, pipeline facilities, tank storage, and secondary containment structures is performed by Anschutz’s personnel. Maintenance is performed on an "as-needed" basis.

Spill Response Procedures

Anschutz has prepared a spill prevention, control and countermeasure (SPCC) plan that includes procedures to reduce the potential for discharge from produced fluid facilities and equipment at the Location. A Waste Management Plan has also been prepared to address waste disposal.

Training

Anschutz will provide training or secure the services of property trained third party contractors for all inspection and testing, including, but not limited to: AVO, hazard recognition, LDAR, STEM, OOOOa, stormwater, and SPCC. Training will also be provided to all oil-handling personnel regarding spill response procedures.

Record Keeping

Written procedures associated with the inspection and testing activities conducted per the requirements of this Plan will be signed by the appropriate personnel and retained for a period of three (3) years or as indicated in COGCC's rules. Inspection records and associated information will be maintained with a copy of this Plan.

Site-Specific Fluid Detection BMPs

Anschutz will use the following site-specific best management practices (BMPs) at the Location to evaluate that all above ground and below ground onsite and offsite fluid handling, storage, transmission, and transportation equipment have integrity and are in compliance with the applicable standards cited in the COGCC rules include the following:

- AVO inspections: AVO inspections will be conducted monthly at the Location throughout the life of the Location.
- Routine inspection of all production equipment, wellheads, temporary equipment, etc. via:
    - Routine physical inspections of production equipment;
    - Compliance inspections and monitoring;
    - SPCC inspections;
    - Stormwater inspections; and,
    - Continuous, dedicated SCADA monitoring of fluid production rates and pressures, and fluid storage volumes.
- As part of the LDAR, STEM, OOOOa inspection and compliance programs, Anschutz will adhere to the use of Approved Instrument Monitoring Methods (AIMM) for inspecting production equipment and facilities at the Location.
- Spill prevention training is provided to all field employees at least annually. The training is completed in compliance with 40 CFR Part 112.
- Flowlines will be integrity-tested per the 1100 Series rules.
- All spills will be managed in accordance with the COGCC 900 Series rules.

Attachments

- SPCC Yearly Inspection Form

YEARLY FACILITY INSPECTION REPORT & CHECKLIST		
Date:	Site:	Inspector:
ITEM		**COMMENTS**
General Wellsite		
Location free of any noticeable oil sheen or staining on the pad and facility containment areas.	☐ Acceptable	☐ Not Acceptable
Perimeter diking and containment diking in good condition without breaches and free of oil sheen or staining.	☐ Acceptable	☐ Not Acceptable
No signs of erosion or sediment discharge issues on or off location including lease road.	☐ Acceptable	☐ Not Acceptable
Location free of any unused equipment and all trash and debris.	☐ Acceptable	☐ Not Acceptable
All posted safety signs, including well sign(s), secured in place and legible.	☐ Acceptable	☐ Not Acceptable
Rig anchors and existing flowline markers intact.	☐ Acceptable	☐ Not Acceptable
Above Ground Storage Tanks	☐Not Applicable for this Site	
Tank surface conditions free of significant rust, pitting or signs of leakage.	☐ Acceptable	☐ Not Acceptable
Pressure relief valve(s) free of staining and no evidence of emission releases.	☐ Acceptable	☐ Not Acceptable
Thief hatch sealing surface in good condition (free of cracks or damage).	☐ Acceptable	☐ Not Acceptable
All thief hatch seals have been wiped clean.	☐ Acceptable	☐ Not Acceptable
Fresh water tank(s) free from oil accumulation.	☐ Acceptable	☐ Not Acceptable
Truck Unloading / Loading Area	☐Not Applicable for this Site	
Truck load out area free of standing water, oil staining, etc.	☐ Acceptable	☐ Not Acceptable
Metal seals on oil transfer points installed & intact.	☐ Acceptable	☐ Not Acceptable
PCC pots free of liquid and camlocks in place.	☐ Acceptable	☐ Not Acceptable
Facility	☐Not Applicable for this Site	
Fittings, valves and stuffing box free of oil accumulation.	☐ Acceptable	☐ Not Acceptable
Chemical and recycle pump containments free of accumulated oil and water.	☐ Acceptable	☐ Not Acceptable
Safety shutdowns, ESD, and Murphy gauges operating and calibrated properly (excluding high level tank shutdowns).	☐ Acceptable	☐ Not Acceptable
Valve handles removed and bull plugs installed.	☐ Acceptable	☐ Not Acceptable
Flare Pit / Flare Tanks	☐ Not Applicable for this Site	
Flare/combustor operating properly.	☐ Acceptable	☐ Not Acceptable
Flare/combustor free of any visible emissions (black smoke, soot).	☐ Acceptable	☐ Not Acceptable
Vent line free of liquid and scrubber pot drained.	☐ Acceptable	☐ Not Acceptable

Avian/Animal Protection	☐ Not Applicable for this Site	
Location free of any active bird nests, dead, injured, or trapped birds or other animals.	☐ Acceptable	☐ Not Acceptable
All open tanks, pits, tank battery dikes, and chemical tank secondary containments kept clean of visible oil sheen and chemicals, and effectively covered (netting, screens, vaults, etc.).	☐ Acceptable	☐ Not Acceptable
Are necessary bird/animal controls in place and working (hazing devices, netting, witch hats, anti-perching strips, etc.).	☐ Acceptable	☐ Not Acceptable
REMARKS AND REPAIRS		
NOTE: This inspection record must be retained for at least 5 years since last recorded inspection. Any spills, safety hazards, active bird nests, dead, injured, or trapped birds and other animals need to be reported to management immediately.		