FORM 2 Rev 08/16

# State of Colorado
# Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109

Document Number: 401484638 **(SUBMITTED)**

Date Received: 04/05/2018

## APPLICATION FOR PERMIT TO:

☒ **Drill** ☐ Deepen ☐ Re-enter ☐ Recomplete and Operate

TYPE OF WELL OIL ☐ GAS ☒ COALBED ☐ OTHER ____ Refiling ☐

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐ Sidetrack ☐

Well Name: Conundrum Fee Well Number: 0297-20-15

Name of Operator: ANSCHUTZ EXPLORATION CORP COGCC Operator Number: 3104

Address: 555 17TH ST STE 2400

City: DENVER State: CO Zip: 80202

Contact Name: Randy Maxey Phone: (303)299-1510 Fax: ( )

Email: randy.maxey@aec-denver.com

## RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20130080

## WELL LOCATION INFORMATION

QtrQtr: Lot 28 Sec: 20 Twp: 2N Rng: 97W Meridian: 6

Latitude: 40.123908 Longitude: -108.298267

Footage at Surface: 1314 Feet FNL/FSL FSL 1558 Feet FEL/FWL FEL

Field Name: WHITE RIVER Field Number: 92800

Ground Elevation: 5641 County: RIO BLANCO

GPS Data:

Date of Measurement: 10/02/2017 PDOP Reading: 1.7 Instrument Operator's Name: John Floyd

If well is ☐ Directional ☐ Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: FNL/FSL FEL/FWL Bottom Hole: FNL/FSL FEL/FWL

Sec: Twp: Rng: Sec: Twp: Rng:

## LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership: ☒ Fee ☐ State ☐ Federal ☐ Indian

The Surface Owner is: (check all that apply)
- ☐ is the mineral owner beneath the location.
- ☐ is committed to an Oil and Gas Lease.
- ☐ has signed the Oil and Gas Lease.
- ☐ is the applicant.

The Mineral Owner beneath this Oil and Gas Location is: ☒ Fee ☐ State ☐ Federal ☐ Indian

The Minerals beneath this Oil and Gas Location will be developed by this Well: Yes

The right to construct the Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place: Surface Surety ID:

## LEASE INFORMATION

Using standard QtrQtr, Sec, Twp, Rng format, describe one entire mineral lease that will be produced by this well (Describe lease beneath surface location if produced. Attach separate description page or map if necessary.)

Township 2 North - Range 97 West
a portion of the SW/4SE/4 Section 20
Covering 4.317 acres of surface disturbance for the wellsite and access road
All of Tract 40, except 13 acres off the west part thereof described as follows: beginning at the northwest corner of Lot 12 in Section 20, T2N, running thence east 26 rods, thence south 80 rods ot the point of beginning, in Sections 20 and 21, T2N also the north half of Tract 44A, except a 5.49 acre tract described as follows: beginning at the a point that is 30 ft. west of the northeast corner of Resurvey 44A, thence south 125 ft.;thence south 70 degrees west 295 ft; thence south 65 degrees west 145 ft; thence south 35 degrees west 100 ft.; thence south 19 degrees west 155 ft; thence south 4 degrees east 90 ft.; thence south 31 degrees 85 ft.; thence east 490 ft.; thence north 668.5 ft.; thence west 30 ft. to the point of beginning in 20 and 29, T2N,R97W.

Total Acres in Described Lease: 158 Described Mineral Lease is: ☒ Fee ☐ State ☐ Federal ☐ Indian

Federal or State Lease #

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 700 Feet

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

| | | |
|---|---|---|
| Building: | 2141 | Feet |
| Building Unit: | 2251 | Feet |
| High Occupancy Building Unit: | 5280 | Feet |
| Designated Outside Activity Area: | 5280 | Feet |
| Public Road: | 349 | Feet |
| Above Ground Utility: | 289 | Feet |
| Railroad: | 5280 | Feet |
| Property Line: | 701 | Feet |

INSTRUCTIONS:
- All measurements shall be provided from center of the Proposed Well to nearest of each cultural feature as described in Rule 303.a.(5).
- Enter 5280 for distance greater than 1 mile.
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.

## DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:

- ☐ Buffer Zone
- ☐ Exception Zone
- ☐ Urban Mitigation Area

- Buffer Zone – as described in Rule 604.a.(2), within 1,000' of a Building Unit
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government:

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners:

## SPACING and UNIT INFORMATION

Distance from completed portion of proposed wellbore to nearest completed portion of offset wellbore permitted or completed in the same formation: 5280 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): Unit Number:

## SPACING & FORMATIONS COMMENTS

## OBJECTIVE FORMATIONS

| Objective Formation(s) | Formation Code | Spacing Order Number(s) | Unit Acreage Assigned to Well | Unit Configuration (N/2, SE/4, etc.) |
|---|---|---|---|---|
| MORRISON | MRSN | | | |

## DRILLING PROGRAM

Proposed Total Measured Depth: 12100 Feet

Distance from the proposed wellbore to nearest existing or proposed wellbore belonging to another operator, including plugged wells:

Enter distance if less than or equal to 1,500 feet: 623 Feet ☐ No well belonging to another operator within 1,500 feet

Will a closed-loop drilling system be used? Yes

Is $H_2S$ gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No (If Yes, attach an H2S Drilling Operations Plan)

Will salt sections be encountered during drilling? No

Will salt based (>15,000 ppm Cl) drilling fluids be used? No

Will oil based drilling fluids be used? Yes

BOP Equipment Type: ☒ Annular Preventor ☒ Double Ram ☒ Rotating Head ☐ None

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 609

## DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Commercial Disposal

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Beneficial reuse or land application plan submitted?

Reuse Facility ID: or Document Number:

## CASING PROGRAM

| Casing Type | Size of Hole | Size of Casing | Wt/Ft | Csg/Liner Top | Setting Depth | Sacks Cmt | Cmt Btm | Cmt Top |
|---|---|---|---|---|---|---|---|---|
| CONDUCTOR | 26 | 16 | 42.05 | 0 | 80 | | | |
| SURF | 13+1/2 | 10+3/4 | 40.5-45.5 | 0 | 2800 | 860 | 2800 | 0 |
| 1ST | 9+7/8 | 7+5/8 | 29.7 | 0 | 8900 | 880 | 8900 | 2600 |
| 1ST LINER | 6+3/4 | 4+1/2 | 11.6 | 0 | 12100 | 245 | 12100 | 9500 |

☐ Conductor Casing is NOT planned

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

☐ Rule 604.a.(1)A. Exception Zone (within 500' of Building Unit)

☐ Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)

☐ Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)

☐ Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)

☐ Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## GREATER WATTENBERG AREA LOCATION EXCEPTIONS

Check all that apply:

☐ Rule 318A.a. Exception Location (GWA Windows).

☐ Rule 318A.c. Exception Location (GWA Twinning).

## RULE 502.b VARIANCE REQUEST

☐ Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number _____

## OTHER LOCATION EXCEPTIONS

Check all that apply:

☐ Rule 318.c. Exception Location from Rule or Spacing Order Number _____

☐ Rule 603.a.(2) Exception Location (Property Line Setback).

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

## OPERATOR COMMENTS AND SUBMITTAL

Comments: All oil based drilling mud generated cuttings will be disposed of offsite at an approved commercial disposal site.

Nearest wellbore is the 1-20 Caldwell owned by 31 Operating. This distance of 623 feet was measured using ArcGis and the current well status is producing. Since their completed portions are greater than 150 feet, no stimulation setback consent is needed.

The surface owner is:
1) is the mineral owner beneath the location – NO – split estate
2) is committed to an Oil and Gas Lease –NO (we have leases from the fee minerals who acquired/reserved minerals several decades ago)
3) has signed the Oil and Gas Lease – NO (see #2)
4) is the applicant NO – we are the applicant

This application is in a Comprehensive Drilling Plan: No CDP #: _____

Location ID: _____

Is this application being submitted with an Oil and Gas Location Assessment application? Yes

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: _____ Print Name: Jason Sutton

Title: Agent Date: 4/5/2018 Email: jsutton@gmecwy.com

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: _____ **Director of COGCC** Date: _____

Expiration Date: _____

**API NUMBER**

05

## Conditions Of Approval

**All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.**

| COA Type | Description |
|---|---|
| | |

## Best Management Practices

| No | BMP/COA Type | Description |
|---|---|---|
| 1 | Traffic control | A. In an effort to minimize disturbance, equipment and vehicles will be confined to the proposed access. Existing roads will be maintained and kept in the same condition as previously approved, with the exception of existing unimproved road segments which will be upgraded if required by landowner agreements. All improved access roads and associated structures will be constructed or reconstructed to the minimum standards of the COGCC.<br>B. Reduced Speed Signs will be used where necessary. During the initial planning of the project, Anschutz utilized the following practices to minimize the total disturbance of the project.<br>i. Where possible, the proposed pad location was placed near an existing improved access road with only short proposed approaches to the location.<br>ii. Access road widths were kept to the minimum safe width appropriate for vehicle volume.<br>iii. Wells were co-located on a pad where possible to reduce the total number of well pads required.<br>iv. Horizontal wells were planned with extended laterals when possible to reduce the total number of wells drilled within a lease as well as the total number of pads and associated access, thereby reducing overall surface disturbances. |
| 2 | General Housekeeping | Handling Waste<br>A. This Well will be drilled using a closed loop system.<br>i. Anschutz plans on using both freshwater and Oil Based Mud (OBM) systems to drill the wells.<br>B. A third-party service company approved by the COGCC will be contracted to manage, treat, and dispose of all drilling related wastes associated with proposed wells.<br>C. As the drill cuttings move off the shaker, they will be properly screened, chemically treated with a drying agent, and placed into metal storage containers. The containers are then hauled off by a third-party service company.<br>D. There will not be a reserve pit on proposed pads. Drilling fluids will be hauled and disposed of in a manner approved by the COGCC.<br>i. Upon completion of drilling operations, any remaining oil-based fluids would be removed from the well location and either recycled into the OBM system on a subsequent well or disposed of in accordance with COGCC rules and regulations.<br>E. At any given time, Anschutz proposes to truck waste from Flowback fluids, Completion/stimulation frac waters, and produced water to one or more individually permitted by the CDEQ disposal wells and or evaporation ponds, depending on which facilities are accepting fluids on that particular day.<br>F. No trash will be buried on location. A covered trash container will be on site during all drilling/completion operations to contain trash, and this will be hauled off location within thirty (30) days of well completion to an approved landfill.<br>G. A portable, self-contained chemical toilet will be provided for human waste disposal during drilling and completion operations. Upon completion of operations, or as required, the toilet holding tank will be pumped and the contents disposed of in an approved sewage disposal facility. It will be removed within ten (10) days following well completion or any future workover operations. |

| | | |
|---|---|---|
| 3 | Storm Water/Erosion Control | A. Temporary controls may be used in conjunction with permanent controls around draws, or at locations where erosion hazards are high. BMPs will be used as designed for the specific areas to reduce any migration of soils onto and off of site. Energy dissipating controls will be installed at culverts and other areas that have the potential for increasing the concentration of water volume and velocity that could increase erosion.<br>B. Drainage dips, ditch relief culverts, and water wings, when used, will be spaced and placed to divert water flow off the graded rights-of-way onto well-vegetated areas with low erosion potential.<br>C. Non-structural Practices Spoils excavated will be stored in a manner to prevent displacement. Wattles or other adequate erosion control practices will be implemented around the spoils to minimize erosion. Interim stabilization controls will be used throughout construction and after construction until a permanent vegetative cover is in place. All Best Management Practices (BMPs) employed will be designed to withstand a twenty-five (25) year weather event. The type and frequency of BMPs used will be determined by slope, topography, soil types, vegetation and potential of runoff from adjacent areas that could affect the overall performance of the controls. Structural Practices-Surface water diversion ditches, when used, will be constructed above and below the disturbed area to intercept water. Diversion ditches will be designed to discharge runoff into well vegetated areas or locations with a low erosion potential. Water bars or wings, when used, will be spaced and placed to divert water flow off disturbed areas and onto well-vegetated areas. Temporary controls may be used in conjunction with permanent controls around spoil piles, draws, or at locations where erosion hazards are high. BMPs will be used as designed for the specific areas to reduce any migration of soils off site. Energy dissipating controls will be installed at culverts and other areas that have the potential for increasing the concentration of water volume and velocity that could increase erosion.<br>D. Rat and mouse holes will be backfilled on release of the completion rig from the location. Backfilling, leveling and re-contouring are planned as soon as reasonably possible following drilling and completion operations. Fill slopes will be smoothed and reshaped to near pre-disturbed conditions to match the native contour. Fill slopes will be restored to cuts and blended or reshaped into large natural berms that provided visual and storm water benefits. If damage to reclaimed areas occurs as a result of well operations and maintenance, including work over operations, affected areas will be reclaimed again following operations. |
| 4 | Construction | A. Construction activity may be restricted due to weather, wildlife stipulations, or constraints placed on the leaseholder in the area by federal and/or state agencies. Pad and road construction is usually completed within a short time frame with permanent controls installed once the construction activities are completed.<br>B. Construction Specifications<br>i. The areas to be excavated or occupied by fill shall be cleared and grubbed of all vegetation, boulders, and debris. All such material will be disposed of by stacking, piling, windrowing, removal from site, or other approved methods.<br>ii. Clearing of vegetation should be kept to the minimum necessary for construction plus the installation of sediment controls. The areas to be excavated or occupied by fill shall be cleared and grubbed of all vegetation, boulders, and debris. All such material will be disposed of by stacking, piling, windrowing, removal from site, or other approved methods<br>C. Site Stabilization During Construction<br>i. Controls such as roughening, seeding, re-vegetation, and reclamation practices will use the designated seed mix and be monitored and drilled to maximize the potential for germination.<br>ii. Waterways of the state will be protected with barriers of vegetation, berms, silt fence, or other techniques listed to prevent disturbed soils from migrating off site.<br>iii. Fill material will be placed in compacted lifts or layers over the length of the fill. Each lift shall be compacted by compaction equipment such as a sheep's foot or pad roller, with compaction to visible non-movement of the embankment material. Compaction efforts shall not exceed optimum moisture limits. Each lift shall be adequately compacted before beginning the next lift. |

| | | |
|---|---|---|
| 5 | Drilling/Completion Operations | Rule 317.p – Requirements to log well:<br>Open-hole resistivity log with gamma-ray will be run from TD into the surface casing. A Cement Bond Log (CBL) with gamma-ray will be run on production casing, or on intermediate casing if a production liner is run. The Form 5, Completion Report, will list all logs run and have those logs attached. |

Total: 5 comment(s)

## Attachment Check List

| Att Doc Num | Name |
|---|---|
| 401484638 | FORM 2 SUBMITTED |
| 401488476 | OffsetWellEvaluations Data |
| 401488549 | DIRECTIONAL DATA |
| 401488550 | DRILLING PLAN |
| 401488551 | DEVIATED DRILLING PLAN |
| 401488552 | WELL LOCATION PLAT |
| 401596959 | SURFACE AGRMT/SURETY |

Total Attach: 7 Files

## General Comments

| User Group | Comment | Comment Date |
|---|---|---|
| | | Stamp Upon Approval |

Total: 0 comment(s)

## Public Comments

No public comments were received on this application during the comment period.