

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:

401221338

APPLICATION FOR PERMIT TO:

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

Date Received:

04/04/2017

TYPE OF WELL OIL ☐ GAS ☒ COALBED ☐ OTHER _____Refiling ☐ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐Sidetrack ☐

Well Name: Rio Blanco Fed

Well Number: 0297-33-28-2 NH

Name of Operator: ANSCHUTZ EXPLORATION CORP

COGCC Operator Number: 3104

Address: 555 17TH ST STE 2400

City: DENVER State: CO Zip: 80202

Contact Name: Jason Sutton

Phone: (307)684-2112

Fax: (307)684-2142

Email: jsutton@gmccwy.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: _____

WELL LOCATION INFORMATION

QtrQtr: NESW Sec: 33 Twp: 2n Rng: 97w Meridian: 6

Latitude: 40.096467

Longitude: -108.284819

Footage at Surface: 1893 Feet FNL/FSL FSL 2201 Feet FEL/FWL FWL

Field Name: WHITE RIVER

Field Number: 92800

Ground Elevation: 6169

County: RIO BLANCO

GPS Data:

Date of Measurement: 11/01/2016 PDOP Reading: 5.1 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 FSL 1980 FEL 660 FNL 1980 FEL
 Sec: 33 Twp: 2n Rng: 97w Sec: 28 Twp: 2n Rng: 97w

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership: ☐ Fee ☐ State ☒ Federal ☐ IndianThe Surface Owner is: ☒ is the mineral owner beneath the location.

(check all that apply)

☒ 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: oil and gas lease

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.)

2N 97W Section 32 – All
2N 97W Section 33 – SWNE, W2, SE

Total Acres in Described Lease: 1160 Described Mineral Lease is: ☐ Fee ☐ State ☒ Federal ☐ Indian

Federal or State Lease # COC45291

Distance from Completed Portion of Wellbore to Nearest Lease Line of described lease: 0 Feet

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 5280 Feet
Building Unit: 5280 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 3648 Feet
Above Ground Utility: 2769 Feet
Railroad: 5280 Feet
Property Line: 3930 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: 1300 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 660 Feet (Enter 5280 for distance greater than 1 mile.)

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

SPACING & FORMATIONS COMMENTS

Communitization Agreement
COC 049158 - Koch Exploration Co. LLC – Wasatch - 157.45 Acres

OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
NIOBRARA	NBRR	547-24	1280	Sec 28 & 33 ALL

DRILLING PROGRAM

Proposed Total Measured Depth: 19878 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: 23 Feet ☐ No well belonging to another operator within 1,500 feet

Will a closed-loop drilling system be used? Yes

Is H₂S 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? No

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	20	52.78	0	80		80	0
SURF	17+1/2	13+3/8	61-68	0	3005	1740	3005	0
1ST	12+1/4	9+5/8	47-53.5	0	10047	1465	10047	2805
1ST LINER	8+1/2	7	26	9847	12509	240	12509	9847
2ND LINER	6+1/8	4+1/2	15.1	12009	19878	490	19878	12009

☐ 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 a 'COMMERCIAL DISPOSAL' site.
- Only water-bentonite based drilling mud generated cuttings (that meet the levels in Table 910-1) may be disposed of 'ONSITE' in 'CUTTINGS PITS'.

This application is in a Comprehensive Drilling Plan _____ 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: Christina Warren

Title: Agent Date: 4/4/2017 Email: cwarren@gmecwy.com

Operator must have a valid water right or permit allowing for industrial use or purchased water from a seller that has a valid water right or permit allowing for industrial use, otherwise an application for a change in type of use is required under Colorado law. Operator must also use the water in the location set forth in the water right decree or well permit, otherwise an application for a change in place of use is required under Colorado law. Section 37-92-103(5), C.R.S. (2011).

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: 12/27/2017

Expiration Date: 12/26/2019

API NUMBER

05 103 12293 00

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

	<p>1)Operator shall comply with the most current revision of the Northwest Notification Policy.</p> <p>2) Oil-based drilling fluid is to be used only after all fresh water aquifers are covered.</p> <p>3)Operator shall provide cement coverage from the intermediate casing shoe (9 5/8" FIRST STRING) to a minimum of 200' above the surface casing shoe to provide isolation of all Cretaceous (including Mesaverde Group) oil, gas, and water-bearing sandstone and coalbed formations that are not otherwise covered by surface casing. Verify intermediate casing cement coverage with a cement bond log.</p> <p>4)Operator acknowledges the proximity of the listed well. Operator agrees to provide mitigation option 4 (per the Statewide Horizontal Offset Policy) based on preferred frac planes in the area to mitigate the situation. In summary: For the Rio Blanco Fed 0297-33-28-1 NH and 2 NH, the fracs in the lateral should not intersect the WRD 23-33 wellbore. That is, the most heelward stage/frac in the 2 NH should not come closer than 800' or so of the WRD 23-33, and the most heelward stage/frac of the 1 NH should not come closer than several thousand feet of that wellbore. For the Rio Blanco Fed 0297-33-28-3 NH In order to avoid the WRD 23-33 wellbore/s, Operator will not complete the first (most heelward) 400' of the lateral. That is, from landing point + 400', there would not be a frac stage. By eliminating frac stages, the WRD 23-33 wellbores should not get a "hit". Same concept for the Rio Blanco Fed 0297-33-28-4 NH. In this case, Operator will not complete the first 1500' (most heelward) of the lateral. That is, from landing point (as currently planned) + 1500', there would be no frac stages. WRD #23-33 API #103-11814.</p>
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Best Management Practices

No BMP/COA Type

Description

1	Traffic control	<p>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 in Bureau of Land Management (BLM) Manual 9113-Roads and BLM Manual 9112-Bridges and Major Culverts unless otherwise approved by the BLM.</p> <p>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.</p> <p>i. Where possible, the proposed pad location was placed near an existing improved access road with only short proposed approaches to the location.</p> <p>ii. Access road widths were kept to the minimum safe width appropriate for vehicle volume.</p> <p>iii. Wells were co-located on a pad where possible to reduce the total number of well pads required.</p> <p>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.</p>
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2	General Housekeeping	<p>Handling Waste</p> <p>A. All wells proposed on the Rio Blanco Pad will be drilled using a semi-closed loop system.</p> <p>i. Anschutz plans on using both freshwater and Oil Based Mud (OBM) systems to drill the wells.</p> <p>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.</p> <p>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.</p> <p>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 BLM Authorized Officer.</p> <p>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 BLM and/or COGCC rules and regulations.</p> <p>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.</p> <p>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.</p> <p>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.</p>
3	Storm Water/Erosion Control	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>

4	Construction	<p>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.</p> <p>B. Construction Specifications</p> <p>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.</p> <p>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</p> <p>C. Site Stabilization During Construction</p> <p>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.</p> <p>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.</p> <p>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.</p>
5	Drilling/Completion Operations	<p>Rule 317.p – Requirements to log well:</p> <p>One of the first wells drilled on the pad will be logged with open hole Resistivity Log and Gamma Ray Log from the kick-off point into the surface casing. All wells on the pad will have a cement bond log with gamma-ray run on production casing (or on intermediate casing if production liner is run) into the surface casing. The horizontal portion of every well will be logged with a measured-while-drilling gamma-ray log. The Form 5, Completion Report, for each well on the pad will list all logs run and have those logs attached. The Form 5 for a well without open-hole logs shall clearly state "No open-hole logs were run" and shall clearly identify (by API#, well name & number) the well in which open hole logs were run.</p>

Total: 5 comment(s)

Applicable Policies and Notices to Operators

Policy
NW Colorado Notification Policy. http://cogcc.state.co.us/documents/reg/Policies/nw_notification_procedures.pdf
Notice Concerning Operating Requirements for Wildlife Protection. http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401221338	FORM 2 SUBMITTED
401244294	DRILLING PLAN
401244296	DEVIATED DRILLING PLAN
401245373	OffsetWellEvaluations Data
401297742	DIRECTIONAL DATA
401404002	WELL LOCATION PLAT
401496437	OFFSET WELL EVALUATION

Total Attach: 7 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Returned forms to In Process. Spacing order issue resolved. This well has the correct spacing. Final review complete.	12/27/2017
Permit	Pulled back from FA due to spacing order requireing 1200' distance to any other wellbore. Notified operator of spacing order issue. Moving form to On Hold until issue can be resolved.	12/20/2017
Permit	Removed the 0 from the N/S footages at the TOPZ and BHL location. Corrected typo on conductor setting depth in casing section from 8' to 80'.	11/20/2017
Engineer	Offset water well check: There are no permitted water wells within one mile of this proposed surface hole location. COGCC's geologic map indicates the lower part of the Green River Formation is at the surface at this location. There is offset Wasatch production within one mile. Proposed surface casing setting depth of 3300 feet will not provide full coverage of the Mesaverde Group based on Operator's geologic prognosis. Minimum cement coverage requirements are specified in Condition of Approval #2. Offset Well Evaluation: Evaluated PA well WRD #23-33R API #103-11931 drilled to a TVD of 15330'. 1st liner is cemented across the Niobrara and plugging is adequate. No mitigation required. Evaluated DA well WRD #23-33 API #103-11814 drilled to a TVD of 12071' through the Niobrara from 10776' to 11045'. Abandonment included 847 sacks cement from 8900' to 6250', 1015 sacks from 6193' to 4171' and 1145 sacks from 4171' to surface. The Niobrara is uncemented. Well was abandoned with bottom hole assembly in hole from 12065' to 4171'. Offset stimulation could communicate through the bottom hole assembly up to 4171'. Operator and COGCC staff agreed to mitigation option 4. See Condition of Approval #4. Attached operator's offset well evaluation. 11/30: Per operator, revised casing types.	11/17/2017
Permit	Corrected lease description with operator concurrence.	10/26/2017
Permit	Corrected the distance of the well completed in the same formation from 1026' to 1300' with operator concurrence. Corrected the distance to the unit boundary from 5280 to 660' with operator concurrence. Preliminary review complete.	10/12/2017
Engineer	Emailed operator regarding offset well WRD 23-33.	09/29/2017
Permit	Passed Completeness. Edit: Top of Prod Zone was listed as "2495 FSL, 1956 FEL", this was corrected to match the PLAT location of "2510 FSL, 1980 FEL"	09/25/2017
Permit	Returned to Draft: BMP for Rule 317.p is not adequate. Per Rule 317.p, "the operator shall be required to run a minimum of a resistivity log with gamma-ray or other petrophysical log(s) approved by the Director that adequately describe the stratigraphy of the wellbore".	05/19/2017
Permit	Returned to draft at operator request.	05/18/2017
Permit	Form is incomplete. Answers and comments are not consistent with other forms submitted for the pad. Distances are incorrect or missing, and the BMP for rule 317.p. is not included. Returning form to draft.	05/15/2017
Permit	Returned to Draft -Directional Data not imported -Need BMP stating Rule 317.p	04/13/2017

Total: 12 comment(s)