

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:  
401716051

APPLICATION FOR PERMIT TO:

Drill       Deepen       Re-enter       Recomplete and Operate

TYPE OF WELL    OIL     GAS     COALBED     OTHER Injection  
ZONE TYPE      SINGLE ZONE     MULTIPLE ZONES     COMMINGLE ZONES

Refiling   
Sidetrack

Date Received:  
09/11/2018

Well Name: EWS      Well Number: 4B  
Name of Operator: EWS 4 DJ BASIN LLC      COGCC Operator Number: 10649  
Address: 2015 CLUBHOUSE DR SUITE 201  
City: GREELEY      State: CO      Zip: 80634  
Contact Name: Jeremiah Demuth      Phone: (303)290-9414      Fax: (    )  
Email: jdemuth@petrotek.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20180138

WELL LOCATION INFORMATION

QtrQtr: NESE      Sec: 18      Twp: 2N      Rng: 63W      Meridian: 6  
Latitude: 40.137150      Longitude: -104.472590

Footage at Surface: 2193 Feet      FNL/FSL      FSL      483 Feet      FEL/FWL      FEL

Field Name: WATTENBERG      Field Number: 90750

Ground Elevation: 4877      County: WELD

GPS Data:

Date of Measurement: 08/03/2018      PDOP Reading: 2.5      Instrument Operator's Name: Scott Sherard

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  
1206      FNL      1602      FWL      1686      FNL      1892      FWL  
Sec: 20      Twp: 2N      Rng: 63W      Sec: 20      Twp: 2N      Rng: 63W

LOCATION SURFACE & MINERALS & RIGHT TO CONSTRUCT

Surface Ownership:  Fee       State       Federal       Indian

The 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: No

The right to construct the Oil and Gas Location is granted by: applicant is owner

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.)

Total Acres in Described Lease: \_\_\_\_\_ 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: \_\_\_\_\_ Feet

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 1709 Feet  
Building Unit: 4206 Feet  
High Occupancy Building Unit: 5280 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 1751 Feet  
Above Ground Utility: 2263 Feet  
Railroad: 2365 Feet  
Property Line: 210 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: 3960 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

The nearest well completed in the same formation is the EWS 4 (05-123-44167). This well is owned and operated by EWS 4 DJ Basin.

## OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
ADMIRE	ADMI			
AMAZON	AMZN			
BLAINE	BLIN			
COUNCIL GROVE	COUGR			
FOUNTAIN	FNTN			
LOWER SATANKA	LSTKA			
LYONS	LYNS			
MISSOURI	MSSR			
VIRGIL	VRGL			
WOLFCAMP	WFCMP			

**DRILLING PROGRAM**

Proposed Total Measured Depth: 11237 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: 460 Feet  No well belonging to another operator within 1,500 feet

Will a closed-loop drilling system be used? Yes

Is H<sub>2</sub>S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No (If Yes, attach an H<sub>2</sub>S 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 318A

**DRILLING WASTE MANAGEMENT PROGRAM**

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Methods: Recycle/reuse

Cuttings Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

Water Based drilling fluids and cuttings will be spread at the land application facility on the EWS 4 property (Facility ID #448951). Oil based fluids will be recycled and oil based cuttings will be disposed of commercially.

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID: 448951 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	24	16	42	0	100	150	100	0
SURF	13+1/2	9+5/8	36	0	2500	896	2500	0
1ST	8+3/4	7	26	0	9491	446	9491	5900
1ST LINER	6+1/8	4+1/2	11.6	9429	11237	0		
	8+3/4	7	Stage Tool	0	5900	665	5900	0

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

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: Jeremiah Demuth

Title: Engineering Technician Date: 9/11/2018 Email: jdemuth@petrotek.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: 11/23/2018

Expiration Date: 11/22/2020

<b>API NUMBER</b>
05 123 48766 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

	<ol style="list-style-type: none"><li>1) Submit Form 42 electronically to COGCC 48 hours prior to MIRU (spud notice) for the first well activity with a rig on the pad.</li><li>2) Comply with Rule 317.j. and provide cement coverage from end of 7-inch casing to a minimum of 200' above Niobrara and from 200' below Shannon to 200' above Sussex. Verify coverage with cement bond log.</li><li>3) Bradenhead test shall be performed within 60 days of rig release and the Form 17 submitted within 10 days of the test.</li><li>4) Oil-based drilling fluid is to be used only after all fresh water aquifers are covered.</li></ol>
	<ol style="list-style-type: none"><li>1. Injection is not authorized until approval of Subsequent Forms 31 and 33.</li><li>2. Retrieve water sample(s) from injection zone(s) before stimulating formation. Samples must be analyzed for Total Dissolved Solids at a minimum.</li><li>3. PRIOR TO PERFORMING OPERATIONS: Operator is required to contact COGCC to discuss acid and fracturing jobs. Approval of Form 4 may be required for acid and fracturing jobs. (As of 4/13/2016)</li><li>4. PRIOR TO PERFORMING OPERATIONS: Operator is required to contact COGCC to discuss Step Rate Test or Injectivity Test criteria for Maximum Surface Injection Pressure determination. Prior approval of Form 4 may be required for step rate and injectivity tests.</li><li>5. For ALL NEW DRILL UNDERGROUND INJECTION WELLS a suite of open-hole Resistivity/Gamma Ray and Density/Neutron logs IS REQUIRED from Surface Casing shoe to TD. A PDF, TIFF, or PDS visual image and a LAS or DLIS file version of each log is required.</li><li>6. For all new and converted Underground Injection Control wells a Cement Bond Log (CBL) is required on the cased portions of the hole from the bottom of the casing to the top of the next shallower casing string for all casing strings other than the Surface Casing. Only a PDF, TIFF, or PDS visual image is required.</li><li>7. Operator must provide all tops of formations encountered from surface to TD on the Form 5 when submitted. (See Ensign Directional Plan Page 8 Attachment Doc # 401745081 for potential list of Formations.)</li><li>8. Well must pass MIT witnessed by COGCC before Subsequent Forms 31 and 33 will be approved. Well in must be in injection configuration.</li></ol>

## Best Management Practices

<b>No</b>	<b>BMP/COA Type</b>	<b>Description</b>
1	Material Handling and Spill Prevention	Load-lines. All load-lines shall be bull-plugged or capped.
2	Drilling/Completion Operations	Green Completions – No hydrocarbons are anticipated in this well.
3	Drilling/Completion Operations	Blowout preventer equipment (“BOPE”). A double ram and annular preventer will be used during drilling. At least the drilling company shall have a valid well blowout prevention certifications
4	Drilling/Completion Operations	BOPE for well servicing operations. Adequate BOP equipment shall be used. Stabbing valves shall be installed in the event of reverse circulation and shall be prior tested with low and high pressure fluid.
5	Drilling/Completion Operations	Drill stem tests. Not applicable; no Drill Stem tests are planned.
6	Drilling/Completion Operations	Rule 317.p Open Hole Logging Requirement: Open-hole Resistivity Log with Gamma Ray Log will be run from TD into the surface casing. A neutron porosity log will be run from td to the surface casing shoe, logging through the 7-inch casing where applicable. A Cement Bond Log 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.
7	Drilling/Completion Operations	Control of fire hazards. All materials which are considered fire hazards shall be a minimum of 25’ from the wellhead tanks or separators. Electrical equipment shall comply with API RP 500 and will comply with the current national electrical code. An emergency response plan will be generated for this site.
8	Drilling/Completion Operations	Guy line anchors. All guy line anchors shall be brightly marked pursuant to Rule 604.c (2)Q.
9	Drilling/Completion Operations	A bradenhead test will be performed within 60 days of rig release and prior to any stimulation activities. A Form 17 will be submitted on eForms within 10 days following the test. Bradenhead pressure will be monitored during stimulation activities. In the event of a rise in bradenhead pressure of more than 200 psi during stimulation activities, the COGCC will be notified per Rule 341.
10	Final Reclamation	Well site cleared. Within 90-day subsequent to the time of plugging and abandonment of the entire site, superfluous debris and equipment shall be removed from the site.
11	Final Reclamation	Identification of plugged and abandoned wells. P&A’d wells shall be identified pursuant to 319.a.(5).

Total: 11 comment(s)

### Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection.  
[http://cogcc.state.co.us/documents/reg/Policies/Wildlife\\_Notice.pdf](http://cogcc.state.co.us/documents/reg/Policies/Wildlife_Notice.pdf)

Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area.  
<http://cogcc.state.co.us/documents/reg/Policies/PolicyGwaBradenheadMonitoringFinal.pdf>

### Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
401716051	FORM 2 SUBMITTED
401745081	DEVIATED DRILLING PLAN
401745083	DIRECTIONAL DATA
401747422	WELL LOCATION PLAT
401750538	WELLBORE DIAGRAM

Total Attach: 5 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Final Review	Removed DJINJ as an objective formation - that is for production reporting ease only - not an objective.	11/23/2018
Permit	Final Review Completed.	11/21/2018
Permit	Permitting Review Complete.	11/16/2018
Permit	Passed Completeness	09/25/2018

Total: 4 comment(s)