

FORM  
2

Rev  
08/13

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:

400678679

Date Received:

09/08/2014

APPLICATION FOR PERMIT TO:

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

TYPE OF WELL OIL ☐ GAS ☒ COALBED ☐ OTHER CO2

Refilling ☐

ZONE TYPE SINGLE ZONE ☒ MULTIPLE ZONES ☐ COMMINGLE ZONES ☐

Sidetrack ☐

Well Name: Caddell Well Number: 3  
Name of Operator: TABULA RASA ENERGY LLC COGCC Operator Number: 10467  
Address: 12012 WICKCHESTER LANE #660  
City: HOUSTON State: TX Zip: 77079  
Contact Name: Kimberly Rodell Phone: (303)942-0506 Fax: ( )  
Email: krodell@upstreampm.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20130055

WELL LOCATION INFORMATION

QtrQtr: NESE Sec: 4 Twp: 29S Rng: 69W Meridian: 6

Latitude: 37.551780

Longitude: -105.111760

Footage at Surface: 1334 feet FNL/FSL FSL 1212 feet FEL/FWL FEL

Field Name: OAKDALE Field Number: 60610

Ground Elevation: 7834 County: HUERFANO

GPS Data:

Date of Measurement: 08/15/2014 PDOP Reading: 1.1 Instrument Operator's Name: Scott Estabrooks

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  
1633 FNL 732 FEL 1578 FNL 730 FEL  
Sec: 4 Twp: 29S Rng: 69W Sec: 4 Twp: 29S Rng: 69W

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: 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.)

T29S R69W Sec. 4: Lots 1, 2, S2NE (NE/4)

Total Acres in Described Lease: 160 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: 730 Feet

## CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 801 Feet  
Building Unit: 1206 Feet  
High Occupancy Building Unit: 5280 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 464 Feet  
Above Ground Utility: 313 Feet  
Railroad: 5280 Feet  
Property Line: 350 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 Wellbore to Nearest Wellbore Permitted or Completed in the same formation: 550 Feet

Distance from Completed Portion of Wellbore to Nearest Unit Boundary 730 Feet (Enter 5280 for distance greater than 1 mile.)

Federal or State Unit Name (if appl): 5280 Unit Number:

## SPACING & FORMATIONS COMMENTS

The closest well to the proposed well is the Harry Willis 1. The Entrada formation was temp abandoned and the Caddell 3 will replace the Entrada formation for this spacing unit (Order 520-1). The Caddell 3 will not produce from the Dakota formation.

## OBJECTIVE FORMATIONS

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
ENTRADA	ENRD	520-1	160	NE

## DRILLING PROGRAM

Proposed Total Measured Depth: 6213 Feet

Distance to nearest permitted or existing wellbore penetrating objective formation: 550 Feet (Including plugged wells)

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 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	17+0/0	13+3/8	53	0	60			
SURF	12+1/4	9+5/8	36	0	600	300	600	0
1ST	7+7/8	5+1/2	15.5	0	6213	499	6213	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 520-1
- ☐ 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 The Caddell 3 will be drilled on an existing location with minimal additional surface disturbance.

This application is in a Comprehensive Drilling Plan \_\_\_\_\_ CDP #: \_\_\_\_\_

Location ID: 324565

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: Kimberly Rodell

Title: Permit Agent Date: 9/8/2014 Email: krodell@upstreampm.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: 11/5/2014

Expiration Date: 11/04/2016

### API NUMBER

05 055 06319 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

	Open hole resistivity and gamma logs shall be run to describe the stratigraphy of the entire well bore and to adequately verify the setting depth of surface casing and aquifer coverage. On a multi-well pad, these open hole logs are only required on one of the first wells drilled on the pad and the Drilling Completion Report - Form 5 for every well on the pad shall identify which well was logged.
	1) Provide 48 hour notice prior to spud via electronic Form 42. 2) Provide cement coverage of production casing from TD to 50' above surface casing shoe. Verify coverage with cement bond log. 3) Run and submit Directional Survey from TD to base of surface casing. Ensure that the wellbore complies with setback requirements in commission orders or rules prior to producing the well. 4) If dry hole set the following plugs: 40 sks cement 50' above the Entrada, 40 sks cement 50' above the Dakota, 50 sks cement from 50' below surface casing shoe up into surface casing, 15 sks cement in top of surface casing, cut 4 ft below GL, weld on plate, 5 sks cement each in rat hole and mouse hole.

## Best Management Practices

### No BMP/COA Type

### Description

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## Applicable Policies and Notices to Operators

Notice Concerning Operating Requirements for Wildlife Protection.

## Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2519314	EXCEPTION LOCATION REQUEST
2519431	DEVIATED DRILLING PLAN
400678679	FORM 2 SUBMITTED
400681090	DRILLING PLAN
400681092	SURFACE AGRMT/SURETY
400681093	WELL LOCATION PLAT
400681116	OffsetWellEvaluations Data
400722809	DIRECTIONAL DATA

Total Attach: 8 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final review complete.	11/3/2014 2:36:00 PM
Permit	Operator submitted new directional data template. Revised TD and casing table. Unchecked surface owner is the mineral owner. Approved by K Rodell	11/3/2014 10:26:28 AM
Permit	Missing complete deviated drilling plan. Plan submitted on 10/31/2014 does not match the directional data template.	10/28/2014 6:24:22 AM
OGLA	In response to the comment dated 09/30/2014 regarding potential radioactivity, the COGCC reviewed the comment and available information and has determined that Tabula Rasa complied with COGCC Rules and Policies. Furthermore, the COGCC does not have jurisdictional authority over landfill operations and all further inquiry into this matter should be directed to the appropriate division of the CDPHE.	10/27/2014 4:16:08 PM
Permit	Public comments to be addressed.	10/14/2014 12:54:24 PM
Public	<p>As a citizen in the area of this proposed well, I am very concerned about the radiation potential of this well and the ones past. Paperwork has not been submitted for Caddell #2, so we have no way of knowing what they found radiation-wise, and there is no mention of where drill cuttings were taken and if it was tested at all. The Caddell wells are very</p> <p>close to a uranium claim.. Lone Pine/Oho Occurrence. There are no rules for radiation testing of cuttings, but in this county where there is uranium/vanadium with plenty of registered claims (link in previous comments), its critical information. These wells are right on Abeyta Creek, which feed into Middle Creek and then the Cucharas River. It is in a flood zone if you look at the area. A narrow valley exists between Hwy 160 and the hills on the other side. This widens somewhat as Abeyta Creek heads eastward, but it is still a rather narrow valley until it opens up toward La Veta. We are very concerned about this potential radiation threat and feel that COGCC needs to add this testing to all wells permitted in Huerfano County and make it public. Why are there no demands for past paperwork before this new well is considered?</p>	9/30/2014 9:31:07 AM
Engineer	Evaluated existing wells within 1500' of proposed directional. Checked meet std OWE w.r.t. ENRD.	9/23/2014 1:08:50 PM
Public	<p>In response to the application for the Caddell #3 well in the Oakdale field, Huerfano County, CO, by Tabula Rasa, we have the following objections:</p> <p>1) Tabula Rasa is currently not compliant with the COGCC regulations on its first/prior well on the same pad.</p>	9/22/2014 6:40:09 PM

2) Technical information on the first well drilled by Tabula Rasa in this immediate area has not been reviewed by the COGCC.

3) Uranium/vanadium exists in the Oakdale field sub-surface, yet there is no monitoring of radiation from the drilling activities.

In more detail:

#1. COGCC rules state that operators must submit notice prior to hydraulic fracturing, submit drilling and completion reports and well logs within 30 days of well completion, and submit production reports within 6 months. The Tabula Rasa Caddell #2 well, drilled on the same pad as the proposed Caddell #3, was completed in December 2013 and yet now, more than 9 months later, the COGCC has admitted that none of that information has been received/posted. Caddell #2 is the first well Tabula Rasa has drilled in Huerfano County. Despite their failure to follow the rules out of the gate, the COGCC accepted TRs new Caddell #3 application on Sept 10, and started the permitting process with the public input period to end on Sept 30. We urge the COGCC to NOT START the Tabula Rasa Caddell #3 permit process until they are made compliant on Caddell #2 and the information is publicly available as required by COGCC rules.

#2. The missing Caddell #2 well logs and reports must be read by the COGCC before the Caddell #3 technical review if they are not to omit potential problems/concerns identified in those reports from the review.

#3. In addition to historical coal mines in the Oakdale Field vicinity, there are Uranium and Vanadium mines and claims in that area:

[http://www.mindat.org/nearestlocs.php?](http://www.mindat.org/nearestlocs.php?lat=37.5511093139648&long=-105.111663818359)

[lat=37.5511093139648&long=-105.111663818359](http://www.mindat.org/nearestlocs.php?lat=37.5511093139648&long=-105.111663818359). Uranium and Vanadium are Naturally Occurring Radioactive Materials (NORM) (<http://www.epa.gov/radiation/tenorm/oilandgas.html>). NORM can return to the surface in drill cuttings and fluids (<http://www.post-gazette.com/local/marcellusshale/2013/08/22/Marcellus-Shale-waste-trips-more-radioactivity-alarms-than-other-products-left-at-landfills/stories/201308220367>).

Like Caddell #2s, Caddell #3s drill cuttings and wastes are to be disposed of at an offsite commercial disposal facility (e.g. landfill). In CO, landfills that accept EP (oil and gas) wastes are not required to have radiation-detection systems. Hence, the local environment and landfills are at risk because radiation from O/G activities is not being monitored.

Concern about Uranium was raised by the public on the Caddell #2 well. The CDPHE responded in their Oct 18 Consultation letter that the Department checked the records back to 2006 to determine if any radiation alarms had been received at local landfills and found no alarms from uranium materials had been received in this area. That statement does not provide evidence for absence of radioactivity in the area as it implies, because 1) there were only 2 wells drilled in the Oakdale field since 2006 as of Oct, and 2) the landfills their waste was taken to most likely didn't test for/detect radiation anyhow. We would like this to be checked more definitively for the Caddell #2 well by verifying if the landfill to where the waste was actually taken in December (which COGCC should have if they have the required records) actually tested/screened it for radiation.

Given the Uranium/Vanadium known to be in the area, unless it can be proven that the Caddell #2 was tested and clean, we demand testing for radiation in drilling/completion fluid and solid wastes from the Caddell #3 well.

In summary, please do not permit the Caddell #3 well without:

1) Requiring reporting compliance by Tabula Rasa on its prior well, Caddell #2

2) Examining technical information (drilling and completion reports, well logs) from Caddell #2 to ensure there are no questions or concerns

3) Including a BMP or COA requiring testing/quantifying radiation in the drilling and

	<p>hydraulic fracturing wastes from Caddell #3 - either directly by the operator or by requiring disposal at a commercial facility that will check it.</p> <p>Sincerely,</p> <p>Jeff Briggs, President</p> <p>Citizens for Huerfano County</p>	
Permit	Request and exception location letter requesting an exception to order 520-1 as was done in the Caddell #2 well.	9/12/2014 1:37:24 PM
Permit	Harry Willus #1 is Shut-in or temporarily abandoned in the Entrada. Requested a form 5A with wellbore diagram showing the Entrada TA Or abandoned status. Should indicate a bridge plug with or without cement on top.	9/12/2014 1:33:07 PM
Permit	Passed Completeness	9/10/2014 9:07:28 AM

Total: 11 comment(s)