

FORM
2A

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:

400477202

Date Received:

09/13/2013

Oil and Gas Location Assessment

☐ New Location ☐ Refile ☒ Amend Existing Location Location#: 324565

Submit signed original form. This Oil and Gas Location Assessment is to be submitted to the COGCC for approval prior to any ground disturbance activity associated with oil and gas operations. Approval of this Oil and Gas Location Assessment will allow for the construction of the below specified Location; however, it does not supersede any land use rules applied by the local land use authority. Please see the COGCC website at <http://cogcc.state.co.us/> for all accompanying information pertinent this Oil and Gas Location Assessment.

Location ID:

324565

Expiration Date:

11/14/2016

☒ This location assessment is included as part of a permit application.

CONSULTATION

- ☐ This location is included in a Comprehensive Drilling Plan. CDP # _____
- ☐ This location is in a sensitive wildlife habitat area.
- ☐ This location is in a wildlife restricted surface occupancy area.
- ☐ This location includes a Rule 306.d.(1)A.ii. variance request.

Operator

Operator Number: 10467
Name: TABULA RASA ENERGY LLC
Address: 12012 WICKCHESTER LANE #660
City: HOUSTON State: TX Zip: 77079

Contact Information

Name: Kimberley Rodell
Phone: (303) 942-0506
Fax: ()
email: krodell@upstreampm.com

RECLAMATION FINANCIAL ASSURANCE

☒ Plugging and Abandonment Bond Surety ID: 20130055 ☐ Gas Facility Surety ID: _____
☐ Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: Caddell Number: 2
County: HUERFANO
QuarterQuarter: NESE Section: 4 Township: 29S Range: 69W Meridian: 6 Ground Elevation: 7833
Define a single point as a location reference for the facility location. When the location is to be used as a well site then the point shall be a well location.
Footage at surface: 1349 feet FSL from North or South section line
1306 feet FEL from East or West section line
Latitude: 37.551826 Longitude: -105.112081
PDOP Reading: 6.0 Date of Measurement: 07/19/2013
Instrument Operator's Name: Gary L. Terry

RELATED REMOTE LOCATIONS

(Enter as many Related Locations as necessary. Enter the Form 2A document # only if there is no established COGCC Location ID#)

This proposed Oil and Gas Location is:

LOCATION ID # FORM 2A DOC #



FACILITIES

Indicate the number of each type of oil and gas facility planned on location

Wells <u>2</u>	Oil Tanks <u> </u>	Condensate Tanks <u> </u>	Water Tanks <u> </u>	Buried Produced Water Vaults <u> </u>
Drilling Pits <u> </u>	Production Pits <u> </u>	Special Purpose Pits <u> </u>	Multi-Well Pits <u> </u>	Temporary Large Volume Above Ground Tanks <u> </u>
Pump Jacks <u> </u>	Separators <u> </u>	Injection Pumps <u> </u>	Cavity Pumps <u> </u>	
Gas or Diesel Motors <u> </u>	Electric Motors <u> </u>	Electric Generators <u> </u>	Fuel Tanks <u> </u>	Gas Compressors <u> </u>
Dehydrator Units <u> </u>	Vapor Recovery Unit <u> </u>	VOC Combustor <u> </u>	Flare <u> </u>	LACT Unit <u> </u>
				Pigging Station <u> </u>

OTHER FACILITIES

Other Facility Type

Number

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Per Rule 303.b.(3)C, description of all oil, gas, and/or water pipelines:

A CO2 pipeline will be installed.

CONSTRUCTION

Date planned to commence construction: 10/25/2013 Size of disturbed area during construction in acres: 0.40
Estimated date that interim reclamation will begin: 04/25/2014 Size of location after interim reclamation in acres: 0.34
Estimated post-construction ground elevation: 7833

DRILLING PROGRAM

Will a closed loop system be used for drilling fluids: Yes

Is H₂S anticipated? No

Will salt sections be encountered during drilling: No

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

Will oil based drilling fluids be used?

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Method: Commercial Disposal

Cutting Disposal: Cuttings Disposal Method:

Other Disposal Description:

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Beneficial reuse or land application plan submitted?

Reuse Facility ID: or Document Number:

Centralized E&P Waste Management Facility ID, if applicable:

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Phone:

Address: _____

Fax: _____

Address: _____

Email: _____

City: _____ State: _____ Zip: _____

Surface Owner: ☒ Fee ☐ State ☐ Federal ☐ Indian

Check all that apply. The Surface Owner: ☒ is the mineral owner

☒ 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 from or produced to this Oil and Gas Location: _____

The right to construct this Oil and Gas Location is granted by: oil and gas lease _____

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

Date of Rule 306 surface owner consultation 07/23/2013

CURRENT AND FUTURE LAND USE

Current Land Use (Check all that apply):

Crop Land: ☐ Irrigated ☐ Dry land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP

Non-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): _____

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

Future Land Use (Check all that apply):

Crop Land: ☐ Irrigated ☐ Dry land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP

Non-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): _____

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

CULTURAL DISTANCE INFORMATION

Distance to nearest:

Building: 880 Feet
Building Unit: 1010 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 460 Feet
Above Ground Utility: 221 Feet
Railroad: 5280 Feet
Property Line: 225 Feet

INSTRUCTIONS:

- All measurements shall be provided from center of nearest Well or edge of nearest Production Facility to nearest of each cultural feature as described in Rule 303.b.(3)A.
- 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: _____

SOIL

List all soil map units that occur within the proposed location. attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to be used when segregating topsoil.

The required information can be obtained from the NRCS web site at <http://soildatamart.nrcs.usda.org/> or from the COGCC web site GIS Online map page found at <http://colorado.gov/cogcc>. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: 43 Manzano loam

NRCS Map Unit Name: _____

NRCS Map Unit Name: _____

PLANT COMMUNITY:

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes ☐ No ☒

Plant species from: ☒ NRCS or, ☐ field observation Date of observation: _____

List individual species: Other perennial grasses, Blue grama, Western wheatgrass, Galleta, Sideoats grama, Black grama, Other perennial forbs, Sand dropseed, Vine mesquite

Check all plant communities that exist in the disturbed area.

- ☐ Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)
- ☒ Native Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)
- ☐ Shrub Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)
- ☐ Plains Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)
- ☐ Mountain Riparian (Cottonwood, Willow, Blue Spruce)
- ☐ Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon, Aspen)
- ☐ Wetlands Aquatic (Bullrush, Sedge, Cattail, Arrowhead)
- ☐ Alpine (above timberline)
- ☐ Other (describe): _____

WATER RESOURCES

Is this a sensitive area: ☐ No ☒ Yes

Distance to nearest

downgradient surface water feature: 240 Feet

water well: 470 Feet

Estimated depth to ground water at Oil and Gas Location 235 Feet

Basis for depth to groundwater and sensitive area determination:

Is the location in a riparian area: ☒ No ☐ Yes

Was an Army Corps of Engineers Section 404 permit filed ☒ No ☐ Yes If yes attach permit.

Is the location within a Rule 317B Surface Water Supply Area buffer No zone:

If the location is within a Rule 317B Surface Water Supply Area buffer have all public water supply systems within 15 miles been notified: _____

GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule _____

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)

RULE 502.b VARIANCE REQUEST

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

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 location is being amended to add the Caddell 2 onto the existing location of the Caddell 1. No new surface disturbance is anticipated.

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

Signed: _____ Date: 09/13/2013 Email: krodell@upstreampm.com

Print Name: Kimberly Rodell Title: Permit Agent

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: 11/15/2013

Conditions Of Approval

All representations, stipulations and conditions of approval stated in this Form 2A for this location shall constitute representations, stipulations and conditions of approval for any and all subsequent operations on the location unless this Form 2A is modified by Sundry Notice, Form 4 or an Amended Form 2A.

<u>COA Type</u>	<u>Description</u>
	Reference area photographs, taken in the growing season, shall be provided within 12 months.
	Operator shall provide sufficient soil berm at the southeast corner of the existing pad where the access road enters the Location to prevent fluids (stormwater or drilling/completions fluids) from leaving the site. The berm should be extended along the southern edge of the pad from west to east across the access road (allowing for traffic) and then be turned north along the eastern edge of the existing portion of the Location.
	Operator shall evaluate and take preventative measures at the culvert crossing of Abeyta Creek to prevent erosion from access road drainage from damaging the stability of the slopes around the culvert inlet and outlet.
	Any lighting required during drilling, completion or 24 hour operations shall be shielded or otherwise mitigated to prevent glare on Hwy 160.
	Operator shall utilize additional stormwater BMPs as necessary to prevent erosion and prohibit stormwater runoff from carrying sediment from the disturbance associated with this Oil and Gas Location beyond stormwater controls or into Abeyta Creek.
	Operator shall evaluate and repair access road from CR 441 to Location as necessary to prevent ponding/pooling of water and associated damage north of the Abeyta Creek crossing.
	Operator shall provide sufficient soil berm or utilize pad sloping to prevent fluids from leaving the pad along the eastern edge of the northern section of the Location.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Planning	Coordinate with Huerfano County Road and Bridge regarding access concerns, including bridge capacity and dust.
2	Planning	Employ an engineer to assess the capacity of the bridge over Abeyta Creek on CR 441, between Hwy 160 and the access road. Inform Huerfano County Road and Bridge department of the results. If bridge is inadequate for rig mobilization, alternative access will be developed.
3	Community Outreach and Notification	Operator will notify all property owners along CR 441 prior to construction and drilling activities.
4	Pre-Construction	Operator will repair 2 cattle guards on CR 441 as agreed to with Huerfano County Road and Bridge. Operator will notify Huerfano County of any additional improvements that need to be made.
5	Dust control	Operator will water the roads on an as needed basis to mitigate dust. Dust control will be conducted during high traffic periods, such as construction, mobilization, and water hauling.

Total: 5 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
1642134	CDPHE CONSULTATION
1642137	REFERENCE AREA MAP
1642138	CORRESPONDENCE
1642139	CORRESPONDENCE
400477202	FORM 2A SUBMITTED
400478293	LOCATION PICTURES
400480791	NRCS MAP UNIT DESC
400480798	CONST. LAYOUT DRAWINGS
400480802	ACCESS ROAD MAP
400480842	HYDROLOGY MAP
400480849	LOCATION DRAWING

Total Attach: 11 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final review completed; public comment received.	11/12/2013 9:19:18 AM
OGLA	Correspondence sent to operator for concurrence with changes, BMPs, COAs. Also requested reference area map, location disturbance size information, revised distance to Building Unit. Concurrence received (see doc 1642138). This 2A is ready for approval. OGLA task passed.	11/11/2013 2:00:03 PM

OGLA	COGCC has completed OGLA review of this application. CDPHE consultation resulted in COAs regarding stormwater management and the protection of Abeyta Creek. LGD comments resulted in discussions with operator regarding access and dust; operator has actively engaged Huerfano County. Operator has provided Best Management Practices for access and dust. COGCC has reviewed public comment, including a petition signed by 142 people; the processes described by the permit application package, BMPs, COAs, and COGCC Rules are protective of public health, safety, welfare and the environment, including wildlife resources as determined by COGCC staff. COGCC has recommended that the operator hold an informational meeting for members of the community surrounding their operational area, but has not mandated such a meeting take place. The operator is adding one or two wells to an existing field to produce CO2 for out of state operations; the infrastructure (CO2 plant & pipelines/ROW) and personnel are already in place and this additional well is not expected to change the character of the development of the resource.	11/11/2013 12:03:29 PM
OGLA	COGCC Review notes. 1. Operator comment that "no new surface disturbance is anticipated" is incorrect; the proposed activities will result in new surface disturbance off the north side of the existing pad. 2. Location is in a sensitive area due to proximity to surface water and potential for shallow groundwater in the Abeyta Creek drainage. Location not in riparian corridor nor in flood plain (application changed to sensitive area = YES) 3. During the review process, the County indicated that a new building had been constructed southwest of the location and is a Building Unit. Operator did not provide notice per Rule 305 (Pre-application & Buffer Zone Notices) because the building was not recorded as a Building Unit at the time of application. Operator has been in contact with Building Unit owner, and no changes to this application will result. Data reviewed indicates that the new building is likely just outside the 1,000' Buffer Zone, but the operator has been in contact with the neighbor and discussed the planned operations and proposed mitigation measures. 4. Operator indicated that Oil Based Mud will be used. Operator is not permitted to store or dispose oil based cuttings or drilling fluids on site.	11/11/2013 11:49:03 AM
OGLA	COGCC met with operator 11/8. Discussed access, BMPs/COAs, nearby building units, public comments & meetings.	11/11/2013 8:53:24 AM
OGLA	COGCC visited site 10/22/13. Access road had large puddle north of stream crossing; road will need to be repaired and stream crossing protected. There is a camper trailer located on property to 500' SW of Caddell 1 SHL, the camper is hooked up to power, but did not appear to be used as a place of residency. Observed a recently constructed metal building approximately 1100' SW of Caddell 1 SHL; this appears to be the building that was recently approved as a Residential Building Unit by county planning & zoning. BMPs will be necessary at SE corner of pad, where access road enters, very slight berm would create significant catchment area at SW corner of pad, where it is currently lower. BMPs will need to be placed along E side of northern portion of pad to prevent runoff from pad to the broad drainage area to the east that is tributary to Abeyta Creek.	10/28/2013 10:30:01 AM
OGLA	CDPHE consultation conference call with CDPHE, COGCC, LGD, and Operator. Recommendation letter from CDPHE forthcoming. CDPHE Consultation letter received 10/18/13, attached 10/28.	10/11/2013 3:18:41 PM
OGLA	COGCC phone conversation with Operator Contact. Operator will contact County Road & Bridge to discuss possibilities for dust mitigation on County Road 441. Operator is reaching out to Building Unit Owner to discuss notifications and meetings and determine if Building Unit Owner has any concerns that can be addressed by this permitting process. Operator did provide notification to nearby Building Unit Owner as an adjacent surface land owner during County process. Operator attended public planning and zoning meeting 10/8/13.	10/9/2013 4:40:24 PM
OGLA	"Pre-consultation" phone conference held with COGCC, CDPHE, & LGD.	10/9/2013 3:37:27 PM
OGLA	Per Huerfano County Planning Commission meeting 10/8/13, nearest Building at 880' has been permitted to be converted to an apartment and will thusly be considered a Building Unit.	10/9/2013 8:11:39 AM

Public	<p>I am the one who started the move-on petition. The purpose was to gain support for a public information meeting with Tabula Rasa. If some of the petition signers contacted Director Lepore, it was on their own initiative, as I did not suggest doing that. In the absence of a response from Tabula Rasa to date, I request that approval of this permit be postponed until such a time that a meeting is held. There are a number of issues which need explanation, including these.</p> <p>(1) Gas plant venting. Will this new well increase the venting volume? What is being vented?</p> <p>(2) Lighting. Will these wells be illuminated at night?</p> <p>(3) Enhanced Oil Recovery. What is it? Will it be done in Huerfano County?</p> <p>(4) The Blue Lake CO2 pipeline. Where is it located?</p> <p>(5) Local jobs and tax revenues. Is Huerfano County getting a fair deal?</p>	10/3/2013 3:31:28 PM
Permit	Exception location request has been received and attached.	10/3/2013 7:03:15 AM
Permit	This permit is Tabula Rasa's first priority for review and approval.	10/2/2013 11:16:08 AM
OGLA	<p>Correspondence from LGD to CDPHE regarding consultation request: there are 3 provisions that area residents have expressed concern about are Public water system protection As I understand it the Concerns of area residents regarding the close proximity of water run off drainage to the proposed well locations fear the potential for contamination to these water ways in times of summer rains and spring run off. The surface water is 240 feet for the caddell and 260 feet for the andratta This drainage flows into middle creek Middle creek is sometimes used to augment water supply to Walsenburg I am not sure if this would be under public water system protection or stormwater management. In view of the flooding up north recently there is a great concern that the caddell location is within the flood plain and there fore at risk to be damaged with contamination of waterways so close to the well site. We are seeking a proposal of safeguards (best management practices) at these well sites to prevent environmental insults in a flooding situation.</p> <p>Odor and dust The county roads leading to these well sites are dirt/gravel roads. These county roads are designed to carry passenger vehicles and pick up trucks some with trailers. The reality of travel characteristic of energy extraction is unique involving intense periods of very large and heavy vehicles. Drilling 2 wells involves approximately 500 truck trips, considerably more if stimulation techniques are used. Rig trucks have 20,000 to 30,000 times the load impact of a passenger car. With these figures in mind and the condition of the county roads leading to the well site it would be impossible to think that this traffic would not impact a substantial increase in fugitive dust production. We would like the CDPHE to recommend practices the permit application operator could employ to mitigate this issue. It is felt that the amount of fugitive dust produce may be a nuisance and a health hazard especially considering a population in a previous coal mining area with respiratory issues being a major health concern in this area. The Colorado regional health profiles published by the CDPHE in 2010 reports age adjusted rate of mortality due to chronic lower respiratory disease in Huerfano county per 100,000 population is 83.1 as compared to the state at 51.4.</p> <p>Dale Lyons Huerfano County LGD</p>	10/1/2013 3:37:00 PM

OGLA	<p>COGCC Director Lepore is in receipt of notices regarding a petition circulated by MoveOn.org</p> <p>COGCC has sent the following correspondence to the individual who started the petition:</p> <p>Dear Sir,</p> <p>Thank you for your interest in the Tabula Rasa Energy LLC permits in Huerfano County that are currently under review at the COGCC. We understand that there is a great deal of concern surrounding oil and gas development in Huerfano County. COGCC has an extensive permit review process that provides for inclusion of comments from the public. However, we are unable to accept the thoughtful comments from your petition signatories into our permit documents for review.</p> <p>Since you have initiated this petition, it would be of great benefit to those interested parties if you would provide them with the necessary guidance explaining exactly how to make comments on the permits themselves. The public comment process established by the COGCC gives each individual an opportunity to review the permit applications, including all their attachments so that they can make the most informed and valuable comments possible. Please note that the Local Governmental Designee (LGD) for Huerfano County has posted guidance for making comments on the Huerfano County webpage. I can also provide that information to you directly to distribute to your signatories.</p> <p>The LGD has requested that the public comment periods be extended; COGCC has granted the request and the new public comment due dates are posted on the COGCC website. The LGD has also requested that the Colorado Department of Public Health and Environment (CDPHE) consult on the applications as provided for in COGCC Rules, and that consultation process has begun.</p> <p>While COGCC cannot necessarily respond in writing to each individual comment, those that bring to light specific concerns regarding public health, safety, welfare and environment will be addressed with the operator by COGCC staff during the review of the permit applications.</p> <p>Thank you for your attention to this matter. Please do not hesitate to contact me.</p> <p>Greg Deranleau Oil and Gas Location Assessment Supervisor</p> <p>Colorado Oil & Gas Conservation Commission 1120 Lincoln Street, Suite 801 Denver, CO 80203</p>	9/27/2013 9:48:16 AM
OGLA	Activated CDPHE consultation task per LGD request. Contacted CDPHE to ensure process under way.	9/25/2013 9:22:00 PM
OGLA	Extended public comment period by LGD request from 10/7/13 to 10/17/13.	9/25/2013 9:21:48 PM
Permit	This form has passed completeness.	9/17/2013 1:47:07 PM
Permit	<p>Returned to draft:</p> <p>1) Number of wells on facilities tab incorrect.</p> <p>2) Need operator comment on reason for amended 2A.</p>	9/16/2013 11:03:47 AM

Total: 19 comment(s)