

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:

400585484

Date Received:

05/06/2014

Oil and Gas Location Assessment

New Location Refile Amend Existing Location Location#: _____

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:

437829

Expiration Date:

06/27/2017

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: 10311
Name: SYNERGY RESOURCES CORPORATION
Address: 20203 HIGHWAY 60
City: PLATTEVILLE State: CO Zip: 80651

Contact Information

Name: CLAYTON DOKE
Phone: (720) 420-5700
Fax: (720) 420-5800
email: cdoke@iptenergyservices.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20090043 Gas Facility Surety ID: _____
 Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: SRC KIEHN PAD Number: _____

County: WELD

Quarter: SWSE Section: 4 Township: 4N Range: 68W Meridian: 6 Ground Elevation: 5064

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: 201 feet FSL from North or South section line

1718 feet FEL from East or West section line

Latitude: 40.335811 Longitude: -105.005066

PDOP Reading: 1.2 Date of Measurement: 12/12/2013

Instrument Operator's Name: BRETT BIRCH

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>13</u>	Oil Tanks	<u>22</u>	Condensate Tanks	<u> </u>	Water Tanks	<u>4</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>13</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>2</u>	VOC Combustor	<u>6</u>	Flare	<u> </u>	LACT Unit	<u> </u>
								Pigging Station	<u> </u>

OTHER FACILITIES

Other Facility Type

Number

<input type="text"/>	<input type="text"/>
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Per Rule 303.b.(3)C, description of all oil, gas, and/or water pipelines:

Intra-facility flow lines are generally 3" (although may be 2") fusion bonded schedule 40 steel.

CONSTRUCTION

Date planned to commence construction: 06/15/2014 Size of disturbed area during construction in acres: 6.00
Estimated date that interim reclamation will begin: 12/15/2014 Size of location after interim reclamation in acres: 3.00
Estimated post-construction ground elevation: 5064

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? No

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Method: Land application

Cutting Disposal: OFFSITE Cuttings Disposal Method: Other

Other Disposal Description:

Drilling Fluids offsite at Land Application location to be determined.
Cutting disposal offsite at Land Application location to be determined.

Beneficial reuse or land application plan submitted? No

Reuse Facility ID: or Document Number:

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

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: DONNA M KIEHN

Phone:

Address: 23467 COUNTY ROAD 7

Fax: _____

Address: _____

Email: _____

City: BERTHOUD State: CO Zip: 80513-9136

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: Yes

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 _____

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: 872 Feet
Building Unit: 1030 Feet
High Occupancy Building Unit: 5280 Feet
Designated Outside Activity Area: 5280 Feet
Public Road: 1144 Feet
Above Ground Utility: 1080 Feet
Railroad: 5280 Feet
Property Line: 50 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 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: 42 - NUNN CLAY LOAM, 1 TO 3 PERCENT SLOPES

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: _____

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: 111 Feet

water well: 1350 Feet

Estimated depth to ground water at Oil and Gas Location 97 Feet

Basis for depth to groundwater and sensitive area determination:

COGCC GIS map shows the nearest water well 1714694- - is 1350' NE from location but does not provide applicable data and may not be drilled. Static water level was determined from the nearest water well (5150' SE) to location with applicable data: Permit #84772- -, located SWSW Sec. 10-T4N-R68W. This well has a static water level of 13'. There is no elevation listed for this well, but topographic maps show it as approximately 13' above location. Correcting for this difference results in an estimate of 97' to groundwater at location.
Irrigation Ditch runs east-west, 117' N from location. Irrigation Pond is located 520' SW from location.

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 318A

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

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.
 Signed: _____ Date: 05/06/2014 Email: ruben.markarian@iptenergyservices.com

Print Name: RUBEN MARKARIAN Title: ENGINEERING TECH _____

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: Matthew Lee Director of COGCC Date: 6/28/2014

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>

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Planning	Multi-well Pads. It is a multi-well pad located in a manner which allows for resource extraction while maintaining the highest distances possible from the offsetting residential areas and complies with the wishes of the surface owner.
2	Planning	Development from existing well pads. These additional wells are located on an already approved location assessment and have been clustered in two lines to minimize surface disturbance area and cut and fill volumes.
3	Planning	Site-specific measures. This location has been designed to mitigate the visual impacts to the surrounding properties.
4	Traffic control	Access roads. The access road will be constructed to accommodate local emergency vehicles. This road will be maintained for access at all times.
5	Traffic control	Traffic Plan. Traffic will be routed to minimize local interruption.
6	General Housekeeping	Removal of surface trash. All trash, debris and material not intrinsic to the operation of the oil and gas facility shall be removed and legally disposed of as applicable.
7	General Housekeeping	Fencing requirements. A meeting with the surface owner will determine fencing plan.
8	Material Handling and Spill Prevention	Leak Detection Plan. Pumper will visit the location daily and visually inspect all tanks and fittings for leaks. Additionally, monthly documented SPCCP inspections are conducted pursuant to 40 CFR §112.
9	Material Handling and Spill Prevention	Loadlines. All loadlines shall be bullplugged or capped.
10	Material Handling and Spill Prevention	Tank specifications. Tanks will be designed, constructed and maintained in accordance with NFPA Code 30. The tanks are visually inspected once a day for issues, and recorded inspections are conducted once a month.
11	Construction	Berm construction. Tank berms shall be constructed of steel rings with a synthetic or engineered liner and designed to contain 150% of the capacity of the largest tank. All berms will be visually checked periodically to ensure proper working condition.
12	Noise mitigation	Noise. The drilling site is far enough away from the building unit that noise mitigation is not required.
13	Emissions mitigation	Green Completions – Emission Control Systems. Test separators and associated flow lines and sand traps shall be installed on-site to accommodate Green completions techniques pursuant to COGCC Rules. In the anticipated absence of a viable gas sales line, the flowback gas shall be thermally oxidized in an emissions control device (ECD), which will be installed and kept in operable condition for least the first 90-days of production pursuant to CDPHE rules. This ECD shall have an adequate capacity for 1.5 times the largest flowback within a 10 mile radius, will be flanged to route gas to other or permanent oxidizing equipment and shall be provided with the equipment needed to maintain combustion where non-combustible gases are present.

14	Drilling/Completion Operations	Pit level indicators. Not applicable; a closed-loop system will be used and no pits shall be dug.
15	Drilling/Completion Operations	Closed Loop Drilling Systems – Pit Restrictions. Not applicable; a closed-loop system will be used for drilling.
16	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.
17	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.
18	Drilling/Completion Operations	Drill stem tests. Not applicable; no Drill Stem tests are planned.
19	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.
20	Drilling/Completion Operations	Guy line anchors. All guy line anchors shall be brightly marked pursuant to Rule 604.c (2)Q.
21	Drilling/Completion Operations	Bradenhead Monitoring BMP: Operator will comply with COGCC Policy for Bradenhead Monitoring During Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012.
22	Drilling/Completion Operations	Anti-Collision BMP: Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed wells. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment. For the proposed well, upon conclusion of drilling operations, an as constructed gyro survey will be submitted to COGCC with the Form 5.
23	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
24	Final Reclamation	Identification of plugged and abandoned wells. P&A’d wells shall be identified pursuant to 319.a.(5).

Total: 24 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
20868858	LOCATION DRAWING
400585484	FORM 2A SUBMITTED
400602684	LOCATION PICTURES
400602699	HYDROLOGY MAP A, TOPO
400602700	ACCESS ROAD MAP
400602701	NRCS MAP UNIT DESC
400602703	MULTI-WELL PLAN
400602712	WASTE MANAGEMENT PLAN
400602714	CONSULT NOTICE
400602715	EXCEPTION LOC REQUEST
400602716	EXCEPTION LOC WAIVERS
400602734	EXCEPTION LOC REQUEST
400602748	PROPOSED SPACING UNIT
400603916	EXCEPTION LOC WAIVERS

Total Attach: 14 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Finall review comoplete.	6/24/2014 7:42:51 AM
OGLA	Uploaded new Location Drawing and changed distances to nearest cultural feature as provided by IPT. Changed cuttings disposal method as requested by SRC.	6/23/2014 11:35:40 AM
OGLA	Received revised Location Drawing, requesting additional revision.	6/12/2014 1:23:23 PM
OGLA	Requesting distance to nearest BU from facilities and cuttings disposal clarification.	6/4/2014 11:24:49 AM
Permit	Property line exception request and waiver attached. Ready to pass pending public comment 5/28/14.	5/22/2014 1:08:09 PM
Permit	Passed completeness	5/7/2014 10:46:11 AM
Permit	Return to draft. SHL footages do not match up for the reference lat/long provided. Waivers attachment doesn't open.	5/7/2014 10:07:41 AM

Total: 7 comment(s)