

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:

401167301

Date Received:

12/16/2016

Oil and Gas Location Assessment

New Location Refile Amend Existing Location Location#: _____

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:

449336

Expiration Date:

02/25/2020

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: 1625 BROADWAY SUITE 300
 City: DENVER State: CO Zip: 80202

Contact Information

Name: Erin Ekblad
 Phone: (720) 616.4319
 Fax: (720)
 email: eekblad@syrginfo.com

RECLAMATION FINANCIAL ASSURANCE

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

LOCATION IDENTIFICATION

Name: Hood-Doles Number: 37-20
 County: WELD
 Quarter: SESE Section: 20 Township: 6N Range: 66W Meridian: 6 Ground Elevation: 4735

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: 765 feet FSL from North or South section line
1122 feet FEL from East or West section line

Latitude: 40.468466 Longitude: -104.796423
 PDOP Reading: 1.5 Date of Measurement: 07/07/2016

Instrument Operator's Name: Rob Wilson

DRILLING WASTE MANAGEMENT PROGRAM

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

Cutting Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

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: Darlinda A. Doles and She Phone: _____

Address: 32171 County Road 29 Fax: _____

Address: _____ Email: _____

City: Greeley State: CO Zip: 80631

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 05/18/2016

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

Provide the distance to the nearest cultural feature as measured from Wells or Production Facilities onsite.

	From WELL	From PRODUCTION FACILITY
Building:	964 Feet	874 Feet
Building Unit:	964 Feet	1064 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	475 Feet	54 Feet
Above Ground Utility:	503 Feet	48 Feet
Railroad:	4404 Feet	3952 Feet
Property Line:	207 Feet	25 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.
 -For measurement purposes only, Production Facilities should only include those items with an asterisk(*) on the Facilities Tab.

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.
 - Large UMA Facility – 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: 11/02/2016

FOR MULTI-WELL PADS AND PRODUCTION FACILITIES WITHIN DESIGNATED SETBACK LOCATIONS ONLY:

Check this box if this Oil and Gas Location has or will have Production Facilities that serve multiple wells (on or offsite) and the Production Facilities are proposed to be located less than 1,000 feet from a Building Unit. *(Pursuant to Rule 604.c.(2)E.i., the operator must evaluate alternative locations for the Production Facilities that are farther from the Building Unit, and determine whether those alternative locations were technically feasible and economically practicable for the same proposed development.)*

By checking this box, I certify that no alternative placements for the Production Facilities, farther from the nearest Building Unit, were available based on the analysis conducted pursuant to Rule 604.c.(2)E.i.

In the space below, explain rationale for siting the multi-well Production Facility(ies) that supports your Rule 604.c.(2)E.i determination. Attach documentation that supports your determination to this Form 2A.

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: 32: Kim 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: 789 Feet

water well: 998 Feet

Estimated depth to ground water at Oil and Gas Location 15 Feet

Basis for depth to groundwater and sensitive area determination:

Distance to nearest surface water is 789' feet to pond.

Distance to nearest water well permit 35-RD, well abandoned at 851' feet.

Next nearest water well, water well permit 35-RD-R at 998' feet, with static water level at 15 feet, elevation depth at 37 ft.

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: _____

Is the Location within a Floodplain? No Yes Floodplain Data Sources Reviewed (check all that apply)

Federal (FEMA)

State

County

Local

Other

GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule 318A

WILDLIFE

- This location is included in a Wildlife Mitigation Plan
- This location was subject to a pre-consultation meeting with CPW held on _____

DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- Rule 604.a.(1)A. Exception Zone (within 500' of a Building Unit) and is in an Urban Mitigation Area
- 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 The reference well for this location, Hood 25N-22B-M.

Our access permit to location is our notification to Weld County, the city of Greeley, or additional municipality if necessary we need for approved traffic routes and traffic control.
All traffic plans are approved per our access permit, part of the access permitting process.
Synergy anticipates pipeline to this location and all future locations so that there are no trucks on road.

There will be MLVT on this location. We will plan on 60 days on location.
42,000 bbl capacity
12' high x 160' diameter
Manufacturer is unknown at this time. Potential: PCI Manufacturing, Pinnacle, Southern Frac, or Big Holdings.
Synergy will comply with all MLVT policies and requirements for this pad.

Surface Use Agreement has waivers for Rule 318A.a. and 318A.c. See page 5, Section 10. (a)

The location of the production facilities was oriented at the request of the landowner. In addition, the production facility location provides for quick access and consolidated surface disturbance with its bundled location to the well pad. Lastly, the production facility was located west of Bayswater's Ward 20-M Facility to consolidate production facilities on the landowners property.

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

Signed: _____ Date: 12/16/2016 Email: eekblad@syrginfo.com
 Print Name: Erin Ekblad Title: Manager Regulatory Affair

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: 2/26/2017

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

No	<u>BMP/COA Type</u>	<u>Description</u>
1	Planning	Planning : 604.c(2)M. Fencing: A meeting with the surface owner will determine a fencing plan. And after this discussion with surface owner, we will not be doing fencing at this location.
2	Planning	Planning: 804. Visual Impacts: All long term facility structures will be painted a color that enables the facilities to blend in with the natural background color of the landscape, as seen from a viewing distance and location typically used by the public. Maintain appearance with garbage clean-up; a trash bin will be located on site to accumulate waste by the personnel drilling the wells. Site will have unused equipment, trash and junk removed immediately.
3	Planning	Planning: 604.c.(2)N. Control of fire hazards: All material that is considered a fire hazard shall be a minimum of 25' from the wellhead tanks or separators. Electrical equipment shall comply with API IRP 500 and will comply with the current national electrical code.
4	Traffic control	Traffic Control: 604.c.(2)S. Access Roads: The access road will be constructed to accommodate local emergency vehicles. This road will be maintained for access at all times. Traffic will be routed to minimize local interruption. Dust control measures will also be utilized.
5	Traffic control	Traffic Control: RULE 604.c.(2)D: If required by the local government, a traffic plan shall be coordinated with the local jurisdiction prior to commencement of move in and rig up. Any subsequent modification to the traffic plan must be coordinated with the local jurisdiction. Our access permit to location is our notification to Weld County, the city of Greeley, or additional municipality if necessary for approved traffic routes, and traffic control. All Traffic Plans are approved per our access permit, part of the access permitting process.
6	General Housekeeping	General Housekeeping: 604.c.(2)P. Trash Removal: 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	Material Handling and Spill Prevention	Material Handling and Spill Prevention: 604.c.(2)F. Leak Detention 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.
8	Material Handling and Spill Prevention	Material Handling and Spill Prevention 604.c.(2)R 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.
9	Construction	Construction: 604.c.(3)B. 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. Secondary containment devices shall be sufficiently impervious to contain any spilled or released material. Tertiary containment, such as an earthen berm, will be installed around production facilities.
10	Construction	Construction: 803 Light sources during all phases of operations will be directed downwards and away from occupied structures where possible. Once the drilling and completion rigs leave the site, lighting usually exists on the entrance/exit doors to the LACT units and Instrument Air skids, all for safety. The light fixtures need to be specified as "shine down" with appropriate shields.
11	Construction	Construction: 604.c.(2).Q. All guy line anchors left buried for future use shall be identified by a marker of bright color not less than four (4) feet in height and not greater than one (1) foot east of the guy line anchor.
12	Construction	Construction: 604.c.(2).E. This will be a multi-well pad.
13	Noise mitigation	Noise mitigation: 604.c.(2)A. Synergy will be placing sound walls on the north, east and west side where necessary to surround the well site during drilling operations.

14	Odor mitigation	Odor Mitigation: Rule 805: Oil & gas facilities and equipment shall be operated in such a manner that odors and dust do not constitute a nuisance or hazard to public welfare. For the OBM system, the base fluid is D822. The fluid is a refined product that has low VOC and BTEX counts. The BTEX counts are trace levels so this provides a much safer work environment as compared to diesel. The product has a reduction in aromatic compounds when compared to diesel so the odor emitted by the fluid is minimal. The flash point is 85°F higher than diesel which increases the overall safety of the product. During our drilling operations we average 5-6 loads of cuttings hauled off per day to a disposal facility. During the platting process of every location, special consideration is payed to the orientation of the rig with respect to surrounding residential units. When possible, the generators will be placed on the far side of location away from surrounding occupied units. Prevailing wind direction is taken into consideration when planning a location in order to mitigate odor, and noise from being a nuisance to the surrounding stakeholders. When possible, the rig is oriented in a way in which residential units are upwind from the location. Hydrocarbon odors from production facilities are minimize and eliminated by keeping all product inside pipe, separators, tanks, and combustors. Uncommon leaks are discovered by frequent FLIR camera inspections and immediately repaired. All tanks are sealed with best available industry thief hatches and gaskets. Tank vapors are captured with properly sized piping and combustors.
15	Drilling/Completion Operations	Drilling/Completion Operations 604.c.(2).K. 604.c.(2).K. Pit level Indicators - For the rig pits (steel tanks) we utilize the Pason PVT (Pit Volume Totalizer) system in conjunction with the EDR (Electronic Depth Recorder) systems on both rigs which incorporate digital recording of pit volumes, settable alarms for gain and loss so we are able to track the pit volumes. These items are standard on a 5K system which is what we are permitting for.
16	Drilling/Completion Operations	Synergy will comply with all MLVT policies and requirements for this pad.
17	Final Reclamation	Final Reclamation: 604.c.(2)T. Within 90 days subsequent to the time of plugging and abandonment of the entire site, superfluous debris and equipment shall be removed from the site. Identification of plugged and abandoned wells will be identified pursuant to 319.a.(5)
18	Final Reclamation	Final Reclamation 604.c.(2).U. Final Reclamation-The operator shall identify the location of the wellbore with a permanent monument as specified in Rule 319.a.(5). The operator shall also inscribe or imbed the well number and date of plugging upon the permanent monument.

Total: 18 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2478130	LOCATION DRAWING
2478131	HYDROLOGY MAP
2478132	FACILITY LAYOUT DRAWING
2478133	ACCESS ROAD MAP
2478134	PRE-APPLICATION NOTIFICATION CERTIFICATION
2478135	RULE 306.E. CERTIFICATION
2478136	CORRESPONDENCE
401167301	FORM 2A SUBMITTED
401167307	WASTE MANAGEMENT PLAN
401167434	SURFACE AGRMT/SURETY
401167554	NRCS MAP UNIT DESC
401168128	LOCATION PICTURES
401168131	MULTI-WELL PLAN
401168134	LOCATION PICTURES

Total Attach: 14 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	02/22/2017
Permit	Permitting Review Complete.	02/22/2017
OGLA	<p>IN PROCESS - Operator revised the distance from the nearest well to a Public Road, Above Ground Utility, and Railroad, revise the Lighting BMP, confirm the placement of the MLVT will meet safety setback in the COGCC Policy on MLVTs, agreed to move the MLVT to get it out of a mapped wetland, provide a signed waiver from the Building Unit Owners for their 305.a. pre-application notice, provide a letter certifying compliance with Rule 306.e., & revised the Location Drawing, Facility Layout Drawing, Hydrology Map, and Access Road Map to show the new placement of the MLVT.</p> <p>OGLA review complete and task passed.</p>	02/10/2017
OGLA	Operator provided a revised Odor Mitigation BMP.	01/30/2017
OGLA	ON HOLD - Requested operator revise the distance from the nearest well to a Public Road, Above Ground Utility, and Railroad, revise the contradictory statements in the Lighting BMP, confirm the placement of the MLVT will meet safety setback in the COGCC Policy on MLVTs, consider moving the MLVT to get it out of a mapped wetland, provide evidence that Building Unit Owners received their 305.a. pre-application notices, & provide letter certifying compliance with Rule 306.e. Due by 3/1/17.	01/30/2017
LGD	This proposed oil and gas facility is located in unincorporated Weld County. As of today's date, January 17, 2017, the Weld County Oil and Gas Liaison/LGD has not been contacted regarding this proposed location. The County will respond to legitimate concerns or issues regarding a proposed location and attempt to facilitate a solution with the operator. The COGCC Form 2A for this location was submitted on or before February 1, 2017 and is considered a Use by Right with no Weld Oil and Gas Location Assessment (WOGLA) required. A building permit is required for the production facilities (tank battery, separators, pump jacks, compressors, generators, etc.) from the Department of Planning Services. Access points from a County road require Access Permits from the Department of Public Works, which include any necessary traffic control plans and Improvement Agreements. The use of a right-of-way requires a Right-Of-Way Permit from the Department of Public Works. Troy Swain, Weld Oil/Gas Liaison and LGD (970) 400-3579.	01/17/2017
Permit	Passed completeness.	12/28/2016
OGLA	Passed Buffer Zone completeness review. Operator sent 305.a certification in email, will be attached during technical review.	12/23/2016
Permit	Referred to OGLA Supervisor for Buffer Zone Review.	12/19/2016

Total: 9 comment(s)