

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:

400804331

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Date Received:

05/05/2015

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:

**442411**

Expiration Date:

**07/09/2018**

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: Angela Callaway  
Phone: (303) 942-0506  
Fax: ( )  
email: acallaway@upstreampm.com

RECLAMATION FINANCIAL ASSURANCE

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

LOCATION IDENTIFICATION

Name: Ivey Number: 11-N  
County: ADAMS  
Quarter: SWSE Section: 11 Township: 1S Range: 68W Meridian: 6 Ground Elevation: 5107

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: 1035 feet FSL from North or South section line  
1746 feet FEL from East or West section line

Latitude: 39.974865 Longitude: -104.965650

PDOP Reading: 1.6 Date of Measurement: 06/03/2014

Instrument Operator's Name: Alan Hnizdo

## 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>26</u>	Oil Tanks*	<u>52</u>	Condensate Tanks*	<u>      </u>	Water Tanks*	<u>10</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>	Modular Large Volume Tanks	<u>      </u>
Pump Jacks	<u>      </u>	Separators*	<u>26</u>	Injection Pumps*	<u>      </u>	Cavity Pumps*	<u>      </u>	Gas Compressors*	<u>      </u>
Gas or Diesel Motors*	<u>      </u>	Electric Motors	<u>      </u>	Electric Generators*	<u>      </u>	Fuel Tanks*	<u>      </u>	LACT Unit*	<u>      </u>
Dehydrator Units*	<u>      </u>	Vapor Recovery Unit*	<u>      </u>	VOC Combustor*	<u>10</u>	Flare*	<u>      </u>	Pigging Station*	<u>      </u>

## OTHER FACILITIES\*

Other Facility Type

Number

<input type="text"/>	<input type="text"/>
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\*Those facilities indicated by an asterisk (\*) shall be used to determine the distance from the Production Facility to the nearest cultural feature on the Cultural Setbacks Tab.

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

## CONSTRUCTION

Date planned to commence construction: 07/10/2015 Size of disturbed area during construction in acres: 6.81  
Estimated date that interim reclamation will begin: 10/01/2015 Size of location after interim reclamation in acres: 3.40  
Estimated post-construction ground elevation: 5107

## DRILLING PROGRAM

Will a closed loop system be used for drilling fluids: Yes  
Is H<sub>2</sub>S 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: Commercial Disposal  
Cutting Disposal: OFFSITE Cuttings Disposal Method: Commercial Disposal

Other Disposal Description:

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: Barbara L. & John G. Howe Phone:

Address: P.O. Box 7460

Fax: \_\_\_\_\_

Address: \_\_\_\_\_

Email: \_\_\_\_\_

City: Surprise State: AZ Zip: 85374

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: No

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 05/30/2013

### 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**

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

	<b>From WELL</b>	<b>From PRODUCTION FACILITY</b>
Building:	2117 Feet	2204 Feet
Building Unit:	2117 Feet	2204 Feet
High Occupancy Building Unit:	3232 Feet	3170 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	253 Feet	405 Feet
Above Ground Utility:	2009 Feet	1890 Feet
Railroad:	4740 Feet	4719 Feet
Property Line:	150 Feet	129 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.

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: \_\_\_\_\_

**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: Arvada Loam, 0 to 3 percent slopes  
 NRCS Map Unit Name: Ulm Loam, 5 to 9 percent slopes  
 NRCS Map Unit Name: Ulm Loam, 3 to 5 percent slopes

**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: 150 Feet

water well: 1460 Feet

Estimated depth to ground water at Oil and Gas Location 35 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: \_\_\_\_\_

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

**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 Oil and Gas Location will serve 26 wells. Synergy is in the process of obtaining a pipeline agreement to pipe the oil from the location, which will drastically diminish the footprint of the current Production Facility Layout. The number of tanks would shrink by 65% to 75%, and the truck traffic during the production phase would be minimized.

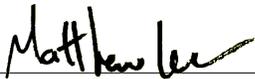
Additional NRCS Mapped Soil Unit: Planter loam 3 to 5 percent slopes

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

Signed: \_\_\_\_\_ Date: 05/05/2015 Email: acallaway@upstreampm.com

Print Name: Angela Callaway 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: 7/10/2015

## Surface Owner Information

Owner Name	Address	Phone	Fax	Email
Barbara L. & John G. Howe	P.O. Box 7460 Surprise, AZ 85374			
Clifford Kennie	16910 CR362 Buena Vista, CO 81211			
Irene Ehler	10035 W. Royal Oak Rd. Sun City, AZ 85351	623-815-3339		
Lawrence Keil	66 Porter Way Durango, CO 81303			
Milton Kennie	90 West Bells Neck Rd. West Harwick, MD 02671			
Ronald Keil	12513 West 12th Pl Golden, CO 80401			
William D. and Gay Ehler	153 Pinehurst Rd Portsmouth, NH 03801			

7 Surface Owner(s)

## 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>
	Proposed Location lies approximately 800 feet to the south of Highway 470 and 2117 feet to the northeast from a residential neighborhood. To the extent practicable, site lighting shall be directed downward and inward and shielded so as to avoid glare onto public roads and Building Units.
	Unnecessary or excessive flaring is prohibited. Operator shall direct all salable quantity gas to a sales line as soon as practicable or shut in and conserved.  Concurrence received - 06/16/2015
	The proposed location may lie within a sensitive area within proximity to two drainages and the Big Dry Creek. Operator shall use tertiary containment around the down- and cross-gradient perimeters of the Location.  Concurrence received - 06/16/2015
	Operator shall provide notice to COGCC 48 hours prior to commencing construction of this Oil and Gas Location via Form 42.  Concurrence received - 06/16/2015

## Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>

## Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
1009894	LOCATION DRAWING
1009913	ACCESS ROAD MAP (MAINTENANCE)
400804331	FORM 2A SUBMITTED
400823450	LOCATION PICTURES
400823452	HYDROLOGY MAP
400823453	MULTI-WELL PLAN
400823457	REFERENCE AREA MAP
400823460	REFERENCE AREA PICTURES
400834680	WASTE MANAGEMENT PLAN
400834681	OTHER
400836017	ACCESS ROAD MAP
400836020	NRCS MAP UNIT DESC
400836021	FACILITY LAYOUT DRAWING
400836022	OTHER

Total Attach: 14 Files

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	"The COGCC has reviewed the public comments provided for this location. The concerns expressed in these comments have been addressed by COGCC Rules and the protections have been further enhanced by the Conditions of Approval placed on this permit."	7/9/2015 12:14:46 PM
Permit	Final Review Completed. Public comment addressed (see comments), LGD comment addressed in MOU.	7/8/2015 11:16:36 AM
OGLA	Concurrence received Changed Estimated Date of Construction to 06/20/2015  Per Operator, revised Date to of Construction 07/10/2015 - 07/08/2015	6/16/2015 10:11:20 AM
OGLA	Deleted: Depth to groundwater was determined by Water Well Permit 115294. The location drawing calls out Water Well Permit 115294 but using the COGCC mapping tool there is a monitoring well located 1,460' from the location.  Concurrence received - 06/16/2015	6/2/2015 10:16:30 AM
OGLA	Changed Depth to Groundwater based on 35 feet Added: "Depth to Groundwater Based on DWR Permit #9453"  Concurrence received - 06/16/2015	6/2/2015 9:24:40 AM
OGLA	Changed distance to nearest Surface Water feature to 150 feet based on the distance to the nearest ditch as reported on the Hydrology Map submitted by the Operator.  Concurrence received - 06/16/2015	6/1/2015 12:54:04 PM
OGLA	Added "Planter loam 3 to 5 percent slopes" to the Submit Tab. This is the fourth NRCS Mapped Soil Unit for the Location.  Concurrence received - 06/16/2015	6/1/2015 12:44:51 PM

OGLA	Removed: Checked Boxes and "Western Wheatgrass, Galleta, Fourwing saltbush, Greasewood, Blue Grama, Alkali sacaton, Green needlegrass, Needle and thread"  from the Plant Community as this Location lies within crop land.  Concurrence received - 06/16/2015	6/1/2015 12:41:02 PM
OGLA	Changed the distance from the Wellhead to the nearest Surface Property Line to 150 feet based on the Revised Location Drawing submitted by the Operator.  Concurrence received - 06/16/2015	5/29/2015 5:19:26 PM
Public	As a homeowner I am totally against any drilling so close to our subdivision. I have safety concerns,as well as, noise and odor. Will my water be safe? How will this impact the large population of birds, hawks and eagles?Doesnt anyone care more about people and wildlife? Would you approve this so close to your home?	5/26/2015 1:47:10 PM
Public	Im a homeowner in a home in Quail Valley near the north west side of the subdivision and closer than 1/2 mile to the proposed new 26 wells. Every well drilled within horizon view in the last decade emitted fire, hundreds-feet high black smoke emissions during construction and unknown continuing emissions afterwards.  There are already more than 14 wells within the 1/2 mile of my own home.  Children play in the playground that is also within this 1/2 mile radius of the new proposed sites. Would the owners of the sites like to trade homes with me? Why do they believe its ok to spoil others neighborhoods?  All these wells so close in proximityto our current high-end, currently desireable subdivision will affect property values and desirability in loss of sales for all of us that live here now.  Just because there is open space available thats not suited for additional commerical or residential buildings doesnt mean this space should be used for more drilling and more well construction. Health is at risk. Personal home property is at risk because of what is being proposed here.	5/23/2015 4:05:21 PM
Permit	Permitting Review Complete.	5/21/2015 10:57:02 AM
LGD	This site is served by an existing access point. No new access point is approved/assumed by this permit. A signed Memorandum of Understanding (MOU) must be in place with Adams County prior to the beginning of any production activity. Per this MOU, Adams County requires permits for all Oil and Gas Drilling Production Activity. Pleas contact Mr. Mark Russell at 720-523-6821 for information regarding these permits and the related fees.	5/8/2015 3:00:00 PM
Permit	Passed Completeness	5/8/2015 8:57:31 AM

Total: 14 comment(s)