

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:

401121891

Date Received:

10/06/2016

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:

**448384**

Expiration Date:

**11/17/2019**

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: 49888

Name: LARIO OIL & GAS COMPANY

Address: PO BOX 29

City: DENVER    State: CO    Zip: 80201

Contact Information

Name: Andrea Gross

Phone: (303) 942-0506

Fax: ( )

email: agross@upstreampm.com

RECLAMATION FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID: 20160090     Gas Facility Surety ID: \_\_\_\_\_
- Waste Management Surety ID: \_\_\_\_\_

LOCATION IDENTIFICATION

Name: Friend Trust    Number: 18-22

County: WASHINGTON

Quarter: SE    Section: 18    Township: 4S    Range: 50W    Meridian: 6    Ground Elevation: 4624

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: 1554 feet FNL from North or South section line

1917 feet FWL from East or West section line

Latitude: 39.709460    Longitude: -103.021870

PDOP Reading: 1.3    Date of Measurement: 01/22/2016

Instrument Operator's Name: Trevor Daley

## 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>1</u>      | Oil Tanks*           | <u>4</u>      | Condensate Tanks*    | <u>      </u> | Water Tanks*     | <u>2</u>      | Buried Produced Water Vaults* | <u>      </u> |
| Drilling Pits         | <u>1</u>      | Production Pits*     | <u>      </u> | Special Purpose Pits | <u>      </u> | Multi-Well Pits* | <u>      </u> | Modular Large Volume Tanks    | <u>      </u> |
| Pump Jacks            | <u>1</u>      | Separators*          | <u>1</u>      | Injection Pumps*     | <u>      </u> | Cavity Pumps*    | <u>      </u> | Gas Compressors*              | <u>      </u> |
| Gas or Diesel Motors* | <u>1</u>      | Electric Motors      | <u>1</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>      </u> | Flare*           | <u>1</u>      | Pigging Station*              | <u>      </u> |

## OTHER FACILITIES\*

Other Facility Type

Number

|     |          |
|-----|----------|
| ECD | <u>1</u> |
|-----|----------|

\*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:

If the well is successful, 3" steel, poly or fiberglass line from the well to the separator, 2" steel flowlines from the separator to the oil and water tanks will be laid.

## CONSTRUCTION

Date planned to commence construction: 01/01/2017 Size of disturbed area during construction in acres: 1.50  
Estimated date that interim reclamation will begin: 06/01/2017 Size of location after interim reclamation in acres: 0.90  
Estimated post-construction ground elevation: 4623

## DRILLING PROGRAM

Will a closed loop system be used for drilling fluids: No

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: ONSITE Drilling Fluids Disposal Method: Evaporation

Cutting Disposal: ONSITE Cuttings Disposal Method: Drilling pit

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: Arnold E. Friend Trust

Phone: 970-554-0325

Address: 19699 Lawrence

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

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

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

City: Aurora State: MO Zip: 65605

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 12/28/2015

### 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:                         | 3236 Feet | 3095 Feet                |
| Building Unit:                    | 3319 Feet | 3178 Feet                |
| High Occupancy Building Unit:     | 5280 Feet | 5280 Feet                |
| Designated Outside Activity Area: | 5280 Feet | 5280 Feet                |
| Public Road:                      | 1902 Feet | 1802 Feet                |
| Above Ground Utility:             | 3425 Feet | 3282 Feet                |
| Railroad:                         | 5280 Feet | 5280 Feet                |
| Property Line:                    | 780 Feet  | 780 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

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: \_\_\_\_\_

- 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.

## 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 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: Map Unit 58 Rago Silt Loam

NRCS Map Unit Name: Map Unit 55 Platner Loam

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: Western wheatgrass, Blue grama, Green needlegrass, Needle and thread, Buffalo grass, Winterfat, Broom snakeweed, Sand dropseed, Fourwing saltbrush

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: 1300 Feet

water well: 3296 Feet

Estimated depth to ground water at Oil and Gas Location 60 Feet

Basis for depth to groundwater and sensitive area determination:

Sensitive area was marked yes as the location is within the Northern High Plains designated basin. The closet water well is located in T4S R51W Sec. 13 SW/4 NE/4 Permit #21102-F and is 3,296' from the proposed oil and gas location. The depth to groundwater was determined by permit #76670.

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 609

**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

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.  
Signed: \_\_\_\_\_ Date: 10/06/2016 Email: agross@upstreampm.com

Print Name: Andrea Gross 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: 11/18/2016

**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.**

**COA Type**

**Description**

|  |                                                                                                                                   |
|--|-----------------------------------------------------------------------------------------------------------------------------------|
|  | Operator shall submit Reference Area Pictures taken within the growing season within 12 months from the approval of this Form 2A. |
|--|-----------------------------------------------------------------------------------------------------------------------------------|

## Best Management Practices

| <u>No</u> | <u>BMP/COA Type</u>                    | <u>Description</u>                                                                                                                                                                                                                                                                                                                                                            |
|-----------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1         | Traffic control                        | Access roads will be constructed to accommodate local emergency vehicles. This road will be maintained for access at all times.                                                                                                                                                                                                                                               |
| 2         | General Housekeeping                   | All surface trash, debris, scrap or discarded material connected with the operations of the property shall be removed from the premises and disposed of properly.                                                                                                                                                                                                             |
| 3         | General Housekeeping                   | Within ninety (90) days after a well is plugged and abandoned, the well site shall be cleared of all non-essential equipment, trash, and debris.                                                                                                                                                                                                                              |
| 4         | Material Handling and Spill Prevention | Leak Detection Plan:<br>To ensure protection for the surface during fracturing treatment, the location will be specifically constructed to contain any releases or spills. Secondary containment from any chemical spills or leaks will surround any trucks that carry, mix, or add chemicals to the flow stream as well as connections that could possibly leak fluid.       |
| 5         | Construction                           | All newly installed or replaced crude oil and condensate storage tanks will be designed, constructed, and maintained in accordance with National Fire Protection Association (NFPA) Code 30 (2008 version). Lario will maintain written records verifying proper design, construction, and maintenance, and will make these records available for inspection by the Director. |
| 6         | Dust control                           | Lario will comply with Rule 805.c to control fugitive dust caused by the operation, including but not limited to wetting the soil with fresh water via a truck with a spreader bar.                                                                                                                                                                                           |
| 7         | Final Reclamation                      | Lario will identify the location of the wellbore with a permanent monument as specified in Rule 319.a.(5). "Operator" will inscribe or imbed the well number and date of plugging upon the permanent monument.                                                                                                                                                                |

Total: 7 comment(s)

## Attachment Check List

| <u>Att Doc Num</u> | <u>Name</u>            |
|--------------------|------------------------|
| 401121891          | FORM 2A SUBMITTED      |
| 401121895          | LOCATION PICTURES      |
| 401121896          | REFERENCE AREA MAP     |
| 401121898          | ACCESS ROAD MAP        |
| 401121899          | NRCS MAP UNIT DESC     |
| 401124986          | CONST. LAYOUT DRAWINGS |
| 401124988          | HYDROLOGY MAP          |
| 401124989          | LOCATION DRAWING       |

Total Attach: 8 Files

### General Comments

| <u>User Group</u> | <u>Comment</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <u>Comment Date</u> |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Permit            | Final Review Completed. No LGD or public comment received.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 11/16/2016          |
| OGLA              | Per Operator request:<br>Removed "every reasonable measure" from the Leak Detection Plan BMP.<br>Removed "take all practicable measures to control fugitive dust" in the Dust BMP.<br>Removed the Fencing, Berms, Noise and Odor BMPs.<br>Removed the Rule 317.p BMP as it pertains to the APD and is not a surface location BMP.                                                                                                                                                                                                                                                                                                                                               | 11/08/2016          |
| OGLA              | Per Operator request, added one ECD to the facilities list.<br>Per Operator request:<br>Changed the size of disturbed arera during construction to 1.5 acres and the size of the disturbed area after Interim Reclamation to 1.0 acres.<br>Changed distance to the nearest surface water feature to 1300 feet based on the small surface water depression located to the north of the Location as shown on the topographic map and the NWI map.<br>Removed Reference Area Pictures.Changed the estimated depth to groundwater to 60 feet bgs based on the static water level reported for water well DWR Permit #76670. Revised the Basis Statement to reference Permit #76670. | 11/08/2016          |
| Permit            | Passes completeness.<br>Reference area photos not taken during growing season.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 10/12/2016          |

Total: 4 comment(s)