

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:

400620296

Date Received:

## Oil and Gas Location Assessment

New Location     Refile     Amend Existing Location    Location#: 430411

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:

**430411**

Expiration Date:

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: 10459  
 Name: EXTRACTION OIL & GAS LLC  
 Address: 1888 SHERMAN ST #200  
 City: DENVER      State: CO      Zip: 80203

### Contact Information

Name: Jennifer Grosshans  
 Phone: (303) 928-7128  
 Fax: (303) 218-5678  
 email: regulatory@petro-fs.com

### RECLAMATION FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID: 20130028       Gas Facility Surety ID: \_\_\_\_\_
- Waste Management Surety ID: \_\_\_\_\_

### LOCATION IDENTIFICATION

Name: Varra      Number: 5-I Pad  
 County: WELD  
 Quarter: NWSW    Section: 5    Township: 6N    Range: 67W    Meridian: 6    Ground Elevation: 4873

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: 1615 feet FSL from North or South section line  
788 feet FWL from East or West section line

Latitude: 40.513009      Longitude: -104.923880

PDOP Reading: 1.9      Date of Measurement: 03/31/2014

Instrument Operator's Name: Ben Hardenbergh

## 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>30</u>	Condensate Tanks	<u>        </u>	Water Tanks	<u>6</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>12</u>	Injection Pumps	<u>        </u>	Cavity Pumps	<u>        </u>		
Gas or Diesel Motors	<u>        </u>	Electric Motors	<u>6</u>	Electric Generators	<u>        </u>	Fuel Tanks	<u>        </u>	Gas Compressors	<u>6</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

Emission Control Devices	<u>10</u>
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Per Rule 303.b.(3)C, description of all oil, gas, and/or water pipelines:

There has been no previous construction completed at this location.

80 - 3" steel pipe from each wellhead to separators carrying oil, gas and water.  
40 - 2" steel pipe for oil and water from separators to tanks.

## CONSTRUCTION

Date planned to commence construction: 08/01/2014 Size of disturbed area during construction in acres: 13.03

Estimated date that interim reclamation will begin: 02/01/2015 Size of location after interim reclamation in acres: 6.51

Estimated post-construction ground elevation: 4873

## 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: Other

Other Disposal Description:

Cuttings will be disposed of by land spreading.

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: Dan Varra

Phone: \_\_\_\_\_

Address: 35412 County Road 15

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

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

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

City: Windsor State: CO Zip: 80550

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: 479 Feet  
Building Unit: 553 Feet  
High Occupancy Building Unit: 5280 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 528 Feet  
Above Ground Utility: 491 Feet  
Railroad: 5280 Feet  
Property Line: 123 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: 04/17/2014

## 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: 554 Feet

water well: 3632 Feet

Estimated depth to ground water at Oil and Gas Location 12 Feet

Basis for depth to groundwater and sensitive area determination:

Downgradient surface water feature is a ditch.  
Closest water well with reported static water level is DWR Permit 15953 at 3,632' to the South.  
Closest water well is DWR Permit 43296 at 2312' to the South.

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 This location has has been assigned a location ID: 430411, under the name Varra 5-13 located in the NWSW of Section 5, Township 6 North, Range 67 West in Weld County, Colorado. Extraction Oil & Gas, LLC (Extraction) would like to amend the existing location to add 12 horizontal wells, a production facility and to change the location name to Varra 5-1 Pad. There is also a location ID: 430440 for the Varra Tank Battery 13, 14, 23, 24, 53 that was supposed to serve as facilities for the Varra 5-13 well site. Nothing has been developed at this location, if the location will never be constructed, a Form 4 Sundry to abandon that location will be submitted.

Facility Layout attached.

Letter to Director for COGCC Rule 303b.(3)J.iii. Building Unit Owner Pre-Application Notification receipts, attached as Correspondence.

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

Signed: \_\_\_\_\_ Date: \_\_\_\_\_ Email: regulatory@petro-fs.com

Print Name: Jennifer Grosshans Title: Regulatory Technician

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: \_\_\_\_\_

### **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.**

### **Best Management Practices**

#### **No BMP/COA Type**

#### **Description**

<b><u>No BMP/COA Type</u></b>	<b><u>Description</u></b>
1 Planning	When feasible develop multiple well sites by using directional drilling to reduce cumulative impacts and adverse impacts on wildlife resources.
2 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.  Traffic will be routed to minimize local interruption.
3 General Housekeeping	Fence the well site after drilling to restrict public and wildlife access.  Keep well site location, the road, and the pipeline easement free of noxious weeds, litter and debris.  Spray for noxious weeds, and implement dust control, as needed.  Operator will not permit the release or discharge of any toxic or hazardous chemicals or wastes on Owner's Land.  Construct and maintain gates where any roads used by operator, its employees, or contractors cross through fences on the leased premises.  Visual Impact Mitigation: 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.
4 Storm Water/Erosion Control	Use water bars, and other measures to prevent erosion and non-source pollution. Implement and maintain BMPs to control stormwater runoff in a manner that minimizes erosion, transport of sediment offsite, and site degradation. Co-locate gas and water gathering lines whenever feasible, and mitigate any erosion problems that arise due to the construction of any pipeline(s).
5 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.
6 Dust control	Traffic dust control will be done utilizing water on all County Roads leading up to the pad site.

7	Construction	<p>Remove only the minimum amount of vegetation necessary for the construction of roads and facilities. Conserve topsoil during excavation and reuse as cover on disturbed areas to facilitate regrowth of vegetation. No construction or routine maintenance activities will be performed during periods when the soil is too wet to adequately support construction equipment.</p> <p>Berm Construction: Tanks 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.</p> <p>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 the current national electrical code.</p> <p>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.</p>
8	Noise mitigation	<p>Noise: A baseline noise survey will be performed prior to the start of drilling and completion operations. Some type of sound wall mitigation will be implemented based on the study results to insure that noise levels are maintained below the permissible level for Light Industrial Zones, as measured at the nearest Building Unit.</p>
9	Emissions mitigation	<p>Green Completions; Emission Control System. 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 combustions where non-combustible gases are present.</p>
10	Odor mitigation	<p>Odors and Dust: Operator will regulate odors in accordance with COGCC Rule 805. The production facilities will have VOC Combustors with emission control devices to comply with the Department of Public Health and Environment, Air Quality Control Commission. Fugitive dust will be controlled by speed restrictions on all neighboring roads, regular road maintenance and repair, and avoiding construction activity during high wind days. If technologically and economically feasible, additional management practices may also be required to minimize fugitive dust, as well as to control silica dust while handling sand during frac'ing operations.</p>

11	Drilling/Completion Operations	<p>A closed-loop drilling mud system will be used to preclude the use of an earthen reserve pit.</p> <p>Light Sources will likewise be directed downwards and away from occupied structures where possible. Once the drilling and completion rigs leave the site, there will be no permanently installed lighting on site.</p> <p>Prior to drilling operations, Operator may perform an anti-collision review of existing offset wells that have the potential of being within close proximity of the proposed well. This anti-collision review may include MWD or gyro surveys and surface locations of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed well path with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottom hole location. The proposed well may only be drilled if the anti-collision review results indicate that the risk of collision is sufficiently low as defined by the anticollision plan, with separation factors greater than 1.5, or if the risk of collision has been mitigated through other means including shutting in wells, plugging wells, increased drilling fluid in the event of lost returns or as is appropriate for the specific situation. In the event of an increased risk of collision, that risk will be mitigated to prevent harm to people, the environment or property. For the proposed well, upon conclusion of drilling operations, an as-constructed directional survey will be submitted to the COGCC with the Form 5.</p> <p>Pursuant to COGCC 207.a. ("Policy"), operator, acknowledges and will comply with said policy for Bradenhead Monitoring during hydraulic fracturing treatments in the Greater Wattenberg Area (GWA), dated May 29, 2012.</p> <p>Blowout Preventer Equipment: A double ram and annular preventer will be used during drilling. Stabbing valves shall be installed in the event of reverse circulation and shall be prior tested with low and high pressure fluid.</p> <p>BOPE- 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.</p>
12	Interim Reclamation	Utilize only such area around each producing well as is reasonably necessary. Restore the remainder of the well site location to its original condition within a reasonable time after the completion of operations. All reseeding shall be done with grasses consistent with the Rocky Mountain native mix or other grasses reasonably requested by surface owner and during planting period suggested by Owner.
13	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.

Total: 13 comment(s)

### Attachment Check List

Att Doc Num	Name
400621447	LOCATION DRAWING
400621449	LOCATION PICTURES
400621450	ACCESS ROAD MAP
400621452	HYDROLOGY MAP
400621471	NRCS MAP UNIT DESC
400621472	MULTI-WELL PLAN
400621494	WASTE MANAGEMENT PLAN
400622075	FACILITY LAYOUT DRAWING
400622092	CORRESPONDENCE

Total Attach: 9 Files

## General Comments

**User Group**

**Comment**

**Comment Date**

<b><u>User Group</u></b>	<b><u>Comment</u></b>	<b><u>Comment Date</u></b>

Total: 0 comment(s)