

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:

400774299

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Date Received:

10/14/2015

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:

444315

Expiration Date:

12/13/2018

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: 10459
 Name: EXTRACTION OIL & GAS LLC
 Address: 370 17TH STREET SUITE 5300
 City: DENVER State: CO Zip: 80202

Contact Information

Name: Jeff Annable
 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: Stromberger Number: 22-E Pad
 County: WELD
 Quarter: SENE Section: 22 Township: 6N Range: 67W Meridian: 6 Ground Elevation: 4778

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: 1994 feet FNL from North or South section line
150 feet FEL from East or West section line

Latitude: 40.474235 Longitude: -104.870861

PDOP Reading: 2.7 Date of Measurement: 06/24/2015

Instrument Operator's Name: Bryan Johnson

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:

Waste Management Plan attached as Waste Management Plan.

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: Harold J. Stromberger

Phone: _____

Address: 2020 Trail Ridge Drive

Fax: _____

Address: _____

Email: _____

City: Eaton State: CO Zip: 80615

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: Surface Use Agreement

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

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

	From WELL	From PRODUCTION FACILITY
Building:	1619 Feet	1778 Feet
Building Unit:	1820 Feet	1778 Feet
High Occupancy Building Unit:	2863 Feet	2846 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	1997 Feet	2284 Feet
Above Ground Utility:	626 Feet	138 Feet
Railroad:	657 Feet	170 Feet
Property Line:	150 Feet	5 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: 41 - Nunn clay loam, 0 to 1 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: _____ 1 Feet

water well: _____ 1472 Feet

Estimated depth to ground water at Oil and Gas Location _____ 12 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 Waste Management Plan attached as Waste Management Plan.

The minerals beneath the surface are being developed since the mineral lease beneath the surface extends into the Proposed Spacing Unit of the proposed wellbores.

Operator acknowledges that this location is in close proximity to the Town of Windsor and has read through the comments posted. Operator will contact the Town of Windsor LGD to discuss, however, the site is located within Weld County on property zoned AG (agriculture) and therefore oil and gas operations are considered a use by right.

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

Signed: _____ Date: 10/14/2015 Email: regulatory@petro-fs.com

Print Name: Jeff Annable Title: Regulatory Analyst

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: 12/14/2015

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 are 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. A meeting with the surface owner will determine the fencing plan. 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.
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. A traffic study is not required through the Colorado Department of Transportation (CDOT). An Access Road Permit will be applied for through CDOT.

3	General Housekeeping	<p>Visual Impacts: Equipment, regardless of construction date, which are observable from any public highway shall be painted with uniform, non-contrasting, non-reflective color tones (similar to the Munsell Soil Color Coding System), and with colors matched to, but slightly darker than, the surrounding landscape.</p> <p>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. Operator shall keep the Surface Use Area as well as any roads or other areas used by Operator safe and in good order, including control of noxious weeds litter and debris.</p>
4	Storm Water/Erosion Control	<p>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).</p>
5	Material Handling and Spill Prevention	<p>Leak Detention Plan: Pumper will visit the location daily and visually inspect all wellheads, tanks and fittings for leaks. Additionally, monthly documented SPCCP inspections are conducted pursuant to 40 CFR 112.</p> <p>Control of fire hazards: All material that is considered a fire hazard shall be a minimum of 25' from the wellheads, tanks or separators. Electrical equipment shall comply with API IRP 500 and will comply with the current national electrical code.</p> <p>Operator shall comply with state and federal laws, rules and regulations governing the presence of any petroleum products, toxic or hazardous chemicals or wastes on the Subject lands.</p>
6	Dust control	<p>Operator shall employ practices for control of fugitive dust caused by their operations. Such practices shall include but are not limited to the use of speed restrictions, regular road maintenance, restriction of construction activity during high- wind days, and silica dust controls when handling sand used in hydraulic fracturing operations. Additional management practices such as road surfacing, wind breaks and barriers may be used.</p>
7	Construction	<p>Guy line anchors: All guy line anchors shall be brightly marked pursuant to Rule 604.c.(2)Q.</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>Containment berms shall be constructed and designed to prevent leakage and resist degradation from erosion or routine operation. Tertiary containment, such as an earthen berm, will be installed as required for Production Facilities within 500 feet of a downgradient surface water feature. All berms will be visually checked periodically to ensure proper working condition.</p>
8	Construction	<p>All equipment will be anchored to the extent necessary to resist flotation, collapse, lateral movement, or subsidence.</p>
9	Construction	<p>Extraction will install an engineered containment system around the tank battery. The containment system is constructed of a perimeter of walls that are post driven into the ground around a flexible geotextile base. All components are then sprayed with a polyurea liner technology. This liner technology maintains impermeability and puncture resistance under exposure to UV rays, weather extremes, and chemicals commonly encountered in oil and natural gas production, and provides seamless protection. In addition to the engineered containment system, Extraction will install bollards on the upstream end of the tank battery as an added safety measure. The bollards will provide added protection to the tank battery in the event of a flood in which objects and debris may be floating downstream. The bollards will be constructed of steel pipe filled with concrete and will protect the containment system from being struck and compromised by floating debris.</p>
10	Emissions mitigation	<p>Green Completions - Emission Control System: Test separators and associated flow lines and sand traps shall be installed to accommodate green completions techniques pursuant to COGCC Rules. Operator shall direct all salable quality gas to a sales line as soon as practicable. Operator will tie into either APC or DPC gas sales lines nearby.</p>

11	Odor mitigation	<p>Equipment shall be operated in such a manner that odors and dust do not constitute a nuisance or hazard to public welfare.</p> <p>Oil and gas operations shall be in compliance with the Department of Public Health and Environment, Air Quality Control Commission, Regulation No. 2 Odor Emission, 5 C.C.R. 1001-4, Regulation No. 3 (5 C.C.R. 1001-5), and Regulation No. 7 Section XVII.B.1 (a-c) and Section XII.</p>
12	Drilling/Completion Operations	<p>A closed –loop system will be used for drilling operations.</p> <p>Blowout Prevention Equipment (“BOPE”): 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>Lighting: Site lighting shall be directed downward and inward and shielded so as to avoid glare on public roads and Building Units within one thousand (1000) feet where possible. Once the drilling and completion rigs leave the site, there will be no permanently installed lighting on site.</p> <p>Bradenhead Monitoring: Operator acknowledges and will comply with COGCC Policy for Bradenhead Monitoring during Hydraulic Fracturing Treatments in the Greater Wattenberg Area dated May 29, 2012.</p>
13	Interim Reclamation	Operator shall be responsible for segregating the topsoil, backfilling, repacking, reseeding, and recontouring the surface of any disturbed area so as not to interfere with Owner’s operations and shall reclaim such area to be returned to pre-existing conditions as best as possible with control of all weeds.
14	Final Reclamation	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. The Operator shall restore the surface of the Land affected by such terminated operations as near as possible to the previous state that existed prior to operations.

Total: 14 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2477752	SURFACE AGRMT/SURETY
2477753	LOCATION DRAWING
2477754	CORRESPONDENCE
2477767	CORRESPONDENCE
400774299	FORM 2A SUBMITTED
400913795	ACCESS ROAD MAP
400913796	NRCS MAP UNIT DESC
400913797	LOCATION PICTURES
400913800	HYDROLOGY MAP
400913801	WASTE MANAGEMENT PLAN
400917302	MULTI-WELL PLAN

Total Attach: 11 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	Operator provided a correspondence indicating their engineered containment system around the tank battery is equivalent to the requirements in Rule 603.h.	12/14/2015 8:22:32 AM
Permit	Final review complete.	12/9/2015 1:50:25 PM
OGLA	No Public Comments. OGLA task passed.	11/9/2015 8:32:46 AM
OGLA	IN PROCESS - Operator provided the missing SUA attachment, revised the distance to the nearest water well, revised the Location Drawing, provided BMPs on anchoring and construction in a floodplain, and provided a response to the comment on the associated Form 2 APDs from the Town of Windsor. OGLA review complete. Waiting on Public Comment period.	11/4/2015 9:32:08 AM
OGLA	ON HOLD - Requested the missing Surface Owner info and a copy of the executed SUA, revise the distance to the nearest water well and the Location Drawing, provide BMPs on anchoring and construction in a floodplain, and the operator's response to the comment on the associated Form 2 APDs from the Town of Windsor. Due by 11/30/15.	10/30/2015 10:40:06 AM
Permit	Passed completeness.	10/16/2015 3:44:30 PM

Total: 6 comment(s)