

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:

400755069

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Date Received:

03/04/2015

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:

441811

Expiration Date:

05/16/2018

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: 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: Fairview Number: 5-I Pad

County: WELD

Quarter: NWSW Section: 5 Township: 2N Range: 68W Meridian: 6 Ground Elevation: 4945

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: 1855 feet FSL from North or South section line

390 feet FWL from East or West section line

Latitude: 40.165763 Longitude: -105.035167

PDOP Reading: 1.6 Date of Measurement: 07/26/2014

Instrument Operator's Name: Alan Hnizdo

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Voyage Ventures, LLC

Phone: _____

Address: 105 S. Sunset St

Fax: _____

Address: Suite H

Email: _____

City: Longmont State: CO Zip: 80501

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:	742 Feet	848 Feet
Building Unit:	742 Feet	848 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	1919 Feet	2046 Feet
Public Road:	532 Feet	618 Feet
Above Ground Utility:	1732 Feet	1500 Feet
Railroad:	902 Feet	434 Feet
Property Line:	209 Feet	84 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: 09/05/2014
 Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 01/25/2015

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.

Extraction Oil & Gas, LLC (Extraction) designed the Fairview 5-I Production Facility to be a safe distance from neighboring houses and buildings, clear of the 100 year flood plain and located efficiently for regular maintenance and access. Extraction agreed upon an oil and gas operations area per the landowner/ operator Surface Use Agreement pertaining to these horizontal wells. Where possible, consolidation of existing facilities has been attempted to keep the disturbed area to a minimum. Extraction has reviewed the surrounding areas to identify any technical and economical options outside of buffer zones. As a result of Operator's review of potential locations outside Buffer Zone, the operator has determined that this is the best possible location for the facilities given the surface owner's preference, property boundaries, utility easements and current COGCC setbacks. (See Comments section for additional rationales)

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: 27 - Heldt silty clay - 1 to 3 percent slopes
 NRCS Map Unit Name: 42 - Nunn clay loam - 1 to 3 percent slopes

NRCS Map Unit Name: 83 - Wiley-Colby complex - 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: 44 Feet

water well: 1372 Feet

Estimated depth to ground water at Oil and Gas Location 14 Feet

Basis for depth to groundwater and sensitive area determination:

Distance to nearest downgradient water feature is a Ditch.
Nearest water well is CDWR Permit # 52009, however nearest water well with a recorded SWL is CDWR Permit #134176 which is 2308'W.

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

Extraction is aware that this location falls within the city limits for the Town of Firestone and will be applying for a Special Use Permit (SUP) with the Town of Firestone.

A neighborhood meeting was held 2/4/15 where all homeowner concerns were addressed and resolved.

Facility layout attached.

Facilities cannot be moved south due to agreement with SO, as SO has future plans for residential development in that area. Facilities cannot be moved to where existing oil and gas location is as Operator will be plugging the existing well and reclaiming this pad as a result of a negotiated SUA with SO for prime future development. Facilities cannot be moved west as that land belongs to the Town of Longmont, which has an exclusive surface use agreement with Top Operating Co. Operator will be paying for, installing and maintaining landscape screening on the east side of facilities closest to building units.

Please see attached justification and map for other options explored by operator, attached as Siting Rationale.

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

Signed: _____ Date: 03/04/2015 Email: regulatory@petro-fs.com

Print Name: Jennifer Grosshans 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: Matthew Lee Director of COGCC Date: 5/17/2015

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.

COA Type	Description
	Operator shall provide notice to COGCC 48 hours prior to commencing construction of this Oil and Gas Location via Form 42 per Rule 316C.c.

Best Management Practices

No	BMP/COA Type	Description
1	Planning	<p>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.</p> <p>A meeting with the surface owner will determine the fencing plan.</p> <p>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. Because tanks are within the buffer zone, Operator will utilize low-profile tanks.</p> <p>Operator will be purchasing, installing and maintaining landscape screening on the east side of facilities closest to building units.</p>
2	Pre-Construction	<p>Anti-collision: Operator will perform an anti-collision evaluation of all active (producing, shut in, or temporarily abandoned) offset wellbores that have the potential of being within 150 feet of a proposed well prior to drilling operations for the proposed well. Notice shall be given to all offset operators prior to drilling.</p> <p>Identification of plugged and abandoned wells will be identified pursuant to 319.a.(5)</p>
3	Traffic control	<p>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.</p>
4	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>
5	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>
6	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>
7	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>

8	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>
9	Noise mitigation	<p>Sound walls and/or hay bales will be used to shield sensitive areas to the East during drilling operations should noise be a concern to Building Unit owner(s).</p> <p>Additional Sound mitigation measures will be considered and implemented pursuant to third party recommendations.</p> <p>Sound walls will be used to surround the generators during drilling operations to shield sensitive areas.</p> <p>Sound walls will be used to surround the vapor recovery units and/or combustion engines during production operations to shield sensitive areas.</p> <p>Operator will investigate the possibility of using electricity to power the facilities in order to decrease the amount of noise from combustion generators and/or engines.</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. 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 at 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>
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> <p>Open hole resistivity and gamma logs shall be run to describe the stratigraphy of the entire well bore and to adequately verify the setting depth of surface casing and aquifer coverage. On a multi-well pad, these open hole logs are only required on one of the first wells drilled on the pad and the Drilling Completion Report - Form 5 for every well on the pad shall identify which well was logged.</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 noxious 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>
1668705	ACCESS ROAD MAP
1668706	SURFACE AGRMT/SURETY
1668709	RULE 306.E. CERTIFICATION
1668715	OTHER
1668716	CORRESPONDENCE
1668718	CORRESPONDENCE
400755069	FORM 2A SUBMITTED
400755158	FACILITY LAYOUT DRAWING
400755164	LOCATION PICTURES
400755172	MULTI-WELL PLAN
400755234	NRCS MAP UNIT DESC
400755243	NRCS MAP UNIT DESC
400755245	NRCS MAP UNIT DESC
400802599	CORRESPONDENCE
400802655	WASTE MANAGEMENT PLAN
400803376	SITING RATIONALE
400803423	LOCATION DRAWING
400803426	HYDROLOGY MAP

Total Attach: 18 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed. Public comment addressed (see correspondence); no LGD comment received.	5/15/2015 9:56:42 AM
OGLA	OGLA review is complete. OGLA task passed.	5/14/2015 5:41:59 PM
OGLA	Weld County LGD is the jurisdictional LGD for this Location. Comment entered by Longmont LGD, is considered to be a public comment rather than an LGD comment.	5/14/2015 1:28:19 PM
OGLA	Had a meeting with the operator on 4/9/2015 to discuss location. Attached new access road map per operators request, operator also provided additional siting rationale (OTHER), and response to the Town of Longmont (correspondence), all attached.	5/11/2015 2:46:20 PM
Permit	Permitting Review Complete.	4/13/2015 1:57:07 PM

LGD	<p>1. Article 16 of the City of Longmont Charter prohibits the use hydraulic fracturing to extract oil, gas, or other hydrocarbons as well as the storage of related wastes and liquids within the City of Longmont. Well locations within or adjacent to the City of Longmont which use hydraulic fracturing that would originate or extend into the City will be subject to Article 16 of the City's Charter.</p> <p>Unless Extraction or the COGCC can demonstrate that the Fairview wells will not result in hydraulic fracturing that originates or extends within the City boundaries, the City requests that Extraction defer drilling and hydraulic fracturing on the portion of the Fairview 3 and 4 wells adjacent to the City boundaries, and on other wells whose fractures may extend into the City, until all legal challenges to Article 16 are resolved.</p> <p>2. Proposed access to the Fairview Location uses Fairview Street to/from Highway 119. The developed portion of Fairview Street is owned and maintained by the City of Longmont.</p> <p>The City requests that Extraction develop an access plan that does not use Fairview Street, but could include any of the following options for private access:</p> <p>a. Use the existing private access from Highway 119 to the Fairview property that is currently being used for the May-Jon wells on this property.</p> <p>b. Plan an access road that parallels Fairview Street to/from Highway 119 but remains on private property.</p> <p>c. Plan an access road along the railroad tracks to the east that intersects with WCR 3.5.</p> <p>For proposed access that uses Fairview Street, Extraction will be required to provide the City with a transportation impact analysis for the Fairview Location addressing potential impacts to Fairview Street, and may be required to pay appropriate use fees. Extraction may also be required to provide the City with financial security to address potential road damage mitigation. No use of Fairview Street will be allowed until the City provides its written approval.</p> <p>3. To reduce traffic, visual, and environmental impacts, the City of Longmont requests that Extraction connect the Fairview Location with recently completed regional gas and oil transmission pipelines in the area.</p> <p>4. To reduce water quality impacts given the Fairview Location proximity to Union Reservoir and the Oligarchy Ditch, the City of Longmont requests that Extraction implement ground water quality testing and monitoring similar to the program the City has outlined in our regulations.</p> <p>5. To reduce air quality impacts to existing and planned surrounding development and the environment, the City of Longmont requests that Extraction contract quarterly to conduct a third party FLIR (Forward Looking Infrared Camera) inspection at the Fairview Location and promptly remediate detected fugitive emissions.</p> <p>6. To reduce impacts to existing and planned surrounding development and the environment, the City of Longmont requests that Extraction utilize the best available technology and drilling and production equipment at the Fairview Location.</p> <p>7. To buffer visual impacts on existing and planned surrounding development, the City of Longmont requests that Extraction provide substantial landscaping and berms surrounding the Fairview Location.</p> <p>8. To enhance safety measures at the Fairview Location, the City of Longmont requests that Extraction install full automation for all wells that provides continuous management, alert and shut down capability.</p>	3/26/2015 3:54:06 PM
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Permit	Passed completeness.	3/12/2015 9:13:45 AM
OGLA	Passed Buffer Zone completeness review	3/10/2015 4:41:45 PM
Permit	Located within a buffer zone; referred to OGLA for further review.	3/5/2015 9:39:50 AM

Total: 9 comment(s)