

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:

400639440

Date Received:

08/05/2014

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:

**438887**

Expiration Date:

**09/13/2017**

☒ 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: 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: Mead    Number: 9-E Pad

County: WELD

QuarterQuarter: SENE    Section: 9    Township: 7N    Range: 66W    Meridian: 6    Ground Elevation: 4967

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: 1508 feet FNL from North or South section line

404 feet FEL from East or West section line

Latitude: 40.592963    Longitude: -104.775000

PDOP Reading: 1.6    Date of Measurement: 05/23/2014

Instrument Operator's Name: Alan Hnizdo

## RELATED REMOTE LOCATIONS

(Enter as many Related Locations as necessary. Enter the Form 2A document # only if there is no established COGCC Location ID#)

This proposed Oil and Gas Location is:

LOCATION ID # FORM 2A DOC #

## FACILITIES

Indicate the number of each type of oil and gas facility planned on location

Wells	13	Oil Tanks	30	Condensate Tanks		Water Tanks	6	Buried Produced Water Vaults	
Drilling Pits		Production Pits		Special Purpose Pits		Multi-Well Pits		Temporary Large Volume Above Ground Tanks	
Pump Jacks		Separators	13	Injection Pumps		Cavity Pumps			
Gas or Diesel Motors		Electric Motors		Electric Generators	6	Fuel Tanks		Gas Compressors	
Dehydrator Units		Vapor Recovery Unit	6	VOC Combustor		Flare		LACT Unit	
								Pigging Station	

## OTHER FACILITIES

### Other Facility Type

### Number

Vapor Recovery Tower	2
Emission Control Devices	10

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

3" Schedule 80 Steel pipe from wellhead to separators, 1 line per well.  
2" Schedule 40 Steel pipe for oil and water from separators to tanks.

## CONSTRUCTION

Date planned to commence construction: 10/20/2014 Size of disturbed area during construction in acres: 4.08  
Estimated date that interim reclamation will begin: 04/20/2015 Size of location after interim reclamation in acres: 2.04  
Estimated post-construction ground elevation: 4967

## 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: Susan E. Mead

Phone: 970-219-1109

Address: PO Box 883235

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

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

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

City: Steamboat Springs State: CO Zip: 80488

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 06/10/2014

## 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: 725 Feet  
Building Unit: 725 Feet  
High Occupancy Building Unit: 5280 Feet  
Designated Outside Activity Area: 5280 Feet  
Public Road: 77 Feet  
Above Ground Utility: 108 Feet  
Railroad: 5280 Feet  
Property Line: 30 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: 06/10/2014

## 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 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: 47-Olney fine sandy 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: 108 Feet

water well: 859 Feet

Estimated depth to ground water at Oil and Gas Location 2 Feet

Basis for depth to groundwater and sensitive area determination:

Nearest downgradient surface water feature is a ditch.

Nearest water well is CDWR Permit 10522.

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

Extraction Oil & Gas proposes to drill 13 horizontal wells on the Mead 9-E Pad located in the SENE of Section 9, Township 7 North, Range 66 West in Weld County, Colorado.

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: 08/05/2014 Email: regulatory@petro-fs.com

Print Name: Jeff Annable 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: 9/14/2014

### **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.**

<b><u>COA Type</u></b>	<b><u>Description</u></b>
	Operator shall provide notice to COGCC 48 hours prior to commencing construction of this Oil and Gas Location via Form 42.

### **Best Management Practices**

<b><u>No</u></b>	<b><u>BMP/COA Type</u></b>	<b><u>Description</u></b>
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.</p>
2	Pre-Construction	<p>Anti-Collision: Prior to drilling operations, Operator will perform an anti-collision scan of existing offset wells that have the potential of being within close proximity of the proposed wells. The anti-collision scan may include definitive MWD or gyro surveys 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, operators may have gyro surveys conducted to verify botto 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 anti-collision 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>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: 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.</p> <p>Trash Removal: All trash, debris and material not intrinsic to the operation of the oil and gas facility shall be removed and legally disposed of as applicable.</p>
5	Material Handling and Spill Prevention	<p>Leak Detention 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.</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 API IRP 500 and will comply with the current national electrical code.</p>
6	Dust control	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.
7	Construction	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.
8	Noise mitigation	The drill site will be powered by electricity, mitigating the majority of noise from drilling operations. Sound walls and/or hay bales will be used to surround the well site during drilling operations.
9	Emissions mitigation	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.
10	Odor mitigation	Extraction 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.
11	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: Light sources during all phases of operations will 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>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>
12	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.

Total: 12 comment(s)

## Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
1668492	RULE 306.E. CERTIFICATION
1668493	CORRESPONDENCE
400639440	FORM 2A SUBMITTED
400656464	LOCATION DRAWING
400656466	LOCATION PICTURES
400656467	ACCESS ROAD MAP
400656471	HYDROLOGY MAP
400656472	NRCS MAP UNIT DESC
400656474	MULTI-WELL PLAN
400656475	WASTE MANAGEMENT PLAN
400656476	FACILITY LAYOUT DRAWING
400656477	CORRESPONDENCE

Total Attach: 12 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Added wells in the related tab. Cultural distances are measured from a "reference point" and are therefore different on the form 2's. Final review complete.	9/3/2014 1:25:59 PM
OGLA	The Public Comment expressed concerns for traffic, noise, dust, home/property values, and the overall size of this location. The Operator has provided BMPs that deal with traffic, road maintenance, noise, and dust and has indicated the location was placed as far north away from the BU owner to the southeast while satisfying the surface owners wishes for placement of the oil and gas location on the property. Additionally both the Operator and Tom Parko with Weld County met with this BU owner to discuss her concerns. Operator has indicated they are willing to re-route truck traffic to come in from the north instead of by the BU owners house. To the extent possible the BU owners were addressed by the Operator; however, preserving the BU owner's property value is beyond the scope and purpose of this Location Assessment. Operator has also provided the Rule 306.e. Certification. OGLA task passed.	8/27/2014 2:40:38 PM
Public	<p>I want to begin by saying I am not opposed to drilling and fracking in Colorado and Weld County if it is done in a responsible manner with consideration to all parties. As a home owner located within a few hundred feet of the proposed</p> <p>site, I do have concerns. (There are three other homes within a few hundred feet of the site in addition to mine.)</p> <p>I bought my home 16 years ago with the hope it would remain a very quiet uncongested location for years to come. I never thought I would have a significant industrial site locate only a few hundred feet from my front door with constant traffic, bright lights all night and loud noises 24/7. The proposed site will consist of 13 wells, 13 seperators, 6 electric generators, 6 vapor recovery units, 30 high profile oil tanks and 6 high profile water tanks. That is a large disruptive operation by any definition. The current surface owner lives over 100 miles from the site and will experience no negative</p> <p>impact from the industrial site that is being located in our community.</p> <p>Little if any consideration has been given to how this will impact the home owners lives during construction, drilling and fracking operations as well as the impact to</p>	8/14/2014 10:38:38 AM



	<p>home values after the site is completed. A smaller site of 2-3 wells and 4-6 tanks like can bee seen in other areas of Weld County would have much less impact than this proposed large operation. I think this points to the total disregard and lack of respect the industry has for adjacent home and property owners as sites continue to expand in size and disruption to the surrounding areas.</p> <p>I spoke with a representative from Extraction Oil about these concerns and his comment was You shouldt have moved to an area that had oil. If that is the case, then more advanced notice prior to commencement of drilling operations should be given to current property owners or prospective buyers for them to make a decision whether they want to have their families next to an industrial site. Of course that is ridiculous, but no more so that the comment made by Extraction Oil. This is a total and complete disregard for home owners in the area and the industries unwillingness to give any consideration for our concerns.</p> <p>I also asked the representative about traffic on Weld County Road 31 to access the site. What could be done to mitigate the dust and heavy truck traffic.Too bad, Ill have to deal with it. County Road 31 was not built to suport the kind of heavy truck traffic that will be used during and after construction of the site. A little wet snow and the road becomes muddy and slick. No plan has been given as to how local traffic will travel the road when heavy truck traffic has turned the surface into a sloppy, snow packed muddy mess after our first snow. But then again, I shouldnt have purchased the property 16 years ago.</p> <p>I have little hope of the Colorado Oil and Gas Conservation Commission doing anything to support home owners in the area, but I hope there will eventually be some sort of legislation that considers all parties rights and concerns rather than just those of the oil industry. There has to be a balance between oil independance for our nation, local job creation and existing home owners rights and property values.</p> <p>I respectfully ask that you consider my issues and concerns as you review this proposed application. I respect the rights of the surface owner and mineral rights owners, but I do not believe this large proposed industrial site is in the best interest of ALLparties impacted by this proposal. It is too slanted toward Extraction Oil, the surface owner and mineral rights owners and their financial gain, while local home owners residing in the area loose quality of life style and property value.</p>		
OGLA	OGLA review complete. Waiting on Public Comment period.	8/12/2014 2:51:30 PM	
Permit	Passed Completeness	3/6/2014 2:04:57 PM	

Total: 5 comment(s)