

State of Colorado  
Oil and Gas Conservation Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109

Document Number:

401219263

Date Received:

03/01/2017

## Oil and Gas Location Assessment

☒ New Location ☐ Refile ☐ Amend Existing Location Location#: \_\_\_\_\_

This Oil and Gas Location Assessment is to be submitted to the COGCC for approval prior to any ground disturbance activity associated with oil and gas operations. Approval of this Oil and Gas Location Assessment will allow for the construction of the below specified Location; however, it does not supersede any land use rules applied by the local land use authority. Please see the COGCC website at <http://cogcc.state.co.us/> for all accompanying information pertinent this Oil and Gas Location Assessment.

Location ID:

**451646**

Expiration Date:

**08/04/2020**☒ 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: 10454

Name: PETROSHARE CORPORATION

Address: 9635 MAROON CIRCLE #400

City: ENGLEWOOD State: CO Zip: 80112

## Contact Information

Name: Andrea Gross

Phone: (303) 942-0506

Fax: ( )

email: [agross@upstreampm.com](mailto:agross@upstreampm.com)

## RECLAMATION FINANCIAL ASSURANCE

☒ Plugging and Abandonment Bond Surety ID: 20130019☐ Gas Facility Surety ID: \_\_\_\_\_☐ Waste Management Surety ID: \_\_\_\_\_

## LOCATION IDENTIFICATION

Name: Brighton Lakes

Number: 20-17

County: ADAMS

QuarterQuarter: SESW Section: 20 Township: 1S Range: 66W Meridian: 6 Ground Elevation: 5047

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: 400 feet FSL from North or South section line

1980 feet FWL from East or West section line

Latitude: 39.944420 Longitude: -104.801770

PDOP Reading: 1.2 Date of Measurement: 12/21/2016

Instrument Operator's Name: Kyle Daley

## RELATED REMOTE LOCATIONS

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

This proposed Oil and Gas Location is:

LOCATION ID # FORM 2A DOC #

## FACILITIES

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

Wells	<u>8</u>	Oil Tanks*	<u>2</u>	Condensate Tanks*	<u>      </u>	Water Tanks*	<u>1</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>	Modular Large Volume Tanks	<u>      </u>
Pump Jacks	<u>      </u>	Separators*	<u>2</u>	Injection Pumps*	<u>      </u>	Cavity Pumps*	<u>      </u>	Gas Compressors*	<u>      </u>
Gas or Diesel Motors*	<u>      </u>	Electric Motors	<u>      </u>	Electric Generators*	<u>      </u>	Fuel Tanks*	<u>      </u>	LACT Unit*	<u>1</u>
Dehydrator Units*	<u>      </u>	Vapor Recovery Unit*	<u>      </u>	VOC Combustor*	<u>1</u>	Flare*	<u>      </u>	Pigging Station*	<u>      </u>

## OTHER FACILITIES\*

Other Facility Type

Number

\*Those facilities indicated by an asterisk (\*) shall be used to determine the distance from the Production Facility to the nearest cultural feature on the Cultural Setbacks Tab.

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

PetroShare will install 1 Gas line: a combination of 4", 6" & 8" 0.188 to 0.219 wall thickness, ARO coated, steel pipeline and 1 Oil Line: 4 inch 0.188 wall thickness, ARO coated, steel pipeline to tie into a pipeline that is currently being installed west of the location to transport oil and gas.

## CONSTRUCTION

Date planned to commence construction: 01/15/2018 Size of disturbed area during construction in acres: 10.80  
Estimated date that interim reclamation will begin: 04/15/2018 Size of location after interim reclamation in acres: 3.60  
Estimated post-construction ground elevation: 5047

## 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: Commercial Disposal

Other Disposal Description:

Beneficial reuse or land application plan submitted?       

Reuse Facility ID:        or Document Number:       

Centralized E&P Waste Management Facility ID, if applicable:       

## SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Brighton Lakes LLC

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

Address: 200 W. Hampden Ave.

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

Address: Suite 201

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

City: Englewood State: CO Zip: 80110

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: No

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 02/01/2017

## 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:	943 Feet	1018 Feet
Building Unit:	1035 Feet	1124 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	386 Feet	511 Feet
Above Ground Utility:	432 Feet	557 Feet
Railroad:	4605 Feet	4729 Feet
Property Line:	400 Feet	525 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.
- Large UMA Facility - 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 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: AsB- Ascalon sandy loam, 0 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): Native Grasslands as above and irrigated cropland.

## WATER RESOURCES

Is this a sensitive area: ☐ No ☒ Yes

Distance to nearest

downgradient surface water feature: 58 Feet

water well: 1022 Feet

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

Basis for depth to groundwater and sensitive area determination:

Depth to groundwater was determined from Water Well Permit 13526-R located in SW/4 SW/4 of Section 20 T1S R66W. This was checked as a sensitive area due to the depth of groundwater.

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

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

## WILDLIFE

- ☐ This location is included in a Wildlife Mitigation Plan

☐ This location was subject to a pre-consultation meeting with CPW held on \_\_\_\_\_

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

- ☐ Rule 604.a.(1)A. Exception Zone (within 500' of a Building Unit) and is in an Urban Mitigation Area
- ☐ Rule 604.b.(1)A. Exception Location (existing or approved Oil & Gas Location now within a Designated Setback as a result of Rule 604.a.)
- ☐ Rule 604.b.(1)B. Exception Location (existing or approved Oil & Gas Location is within a Designated Setback due to Building Unit construction after Location approval)
- ☐ Rule 604.b.(2) Exception Location (SUA or site-specific development plan executed on or before August 1, 2013)
- ☐ Rule 604.b.(3) Exception Location (Building Units constructed after August 1, 2013 within setback per an SUA or site-specific development plan)

## RULE 502.b VARIANCE REQUEST

- ☐ Rule 502.b. Variance Request from COGCC Rule or Spacing Order Number \_\_\_\_\_

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

## OPERATOR COMMENTS AND SUBMITTAL

Comments PetroShare has begun the City of Brighton permitting process and understands that they must obtain an approved Brighton permit prior to construction.

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.  
Signed: \_\_\_\_\_ Date: 03/01/2017 Email: agross@upstreampm.com

Print Name: Andrea Gross Title: Permit Agent

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved:  Director of COGCC Date: 8/5/2017

## 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

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## Best Management Practices

No	BMP/COA Type	Description
1	Planning	Fencing: The wellsite will be fenced for security and in concurrence with surface owner.
2	Planning	Lighting: All permanent lighting will be directed downward and internally. Temporary lighting shall conform to COGCC rules and regulations and not adversely affect adjacent residential properties. Lighting from the location will not affect visibility on the road.
3	Planning	Visual Mitigation: Pursuant to Rule 804, the tank battery shall be painted in uniform, non-contrasting, non-reflective color tones with the colors matched to but slightly darker than the surrounding landscape.

4	Planning	Development from existing well pads: PetroShare is permitting an Oil and Gas Location Assessment - Form 2A as a multi well pad through the Colorado Oil and Gas Conservation Commission (COGCC). This will eliminate the need for multiple well pads which would ultimately require more surface disturbance.
5	Traffic control	Traffic Control: PetroShare will construct or upgrade if necessary all leasehold roads to accommodate local emergency vehicle access requirements and will be maintained in a reasonable condition. The location in concurrence with the surface owner and developer was chosen to utilize the shared access road with another operator. PetroShare intends to utilize pipelines to transport oil and gas to reduce the amount of traffic.
6	General Housekeeping	Guy Line Anchors: All guy line anchors left buried for future use will be identified by a marker of bright color not less than four feet in height and not greater than one foot further of the guy line anchor.
7	General Housekeeping	Removal of Surface Trash: PetroShare agrees that all trash, refuse pipe, equipment, liquids, chemicals of other materials that are not necessary for the continued operations of the wells will be removed and disposed of no later than 30 days after completion. No such items will be burned or buried on location.
8	Storm Water/Erosion Control	<p>Erosion Control Measures: PetroShare will maintain a Stormwater Management Plan with site specific measurements to assess erosion control. The inspection schedule is as follows:</p> <p>While site is under construction, an inspection is required at least every 14 calendar days;</p> <p>Post storm event inspections must be conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion.</p> <p>Inspection records will be kept on file for a minimum of five (5) years from expiration or inactivation of permit coverage. These records will be made available to COGCC.</p>
9	Material Handling and Spill Prevention	<p>Leak Detection Plan: To ensure protection for the surface during fracturing treatment, the location will be specifically constructed to contain any releases or spills. All containment will be steel with impermeable barriers installed inside and along the internal sidewalks of the containment. Volume capacity will be 110% or greater of the largest tank plus largest annual rainfall. The majority of the product will be piped out of the location.</p> <p>Leak detection will be monitored by daily operator inspections and remote hi/lo pressure monitoring with electronic shut down functionality. Secondary containment from any chemical spills or leaks will surround any trucks that carry, mix, or add chemicals to the flow stream as well as connections that could possibly leak fluid. Should any spill or release occur, every reasonable step will be taken to quickly remediate the area disturbed. One to seven inspections per week will be recorded and kept in the district office and available to regulatory agencies. Records will be kept electronically indefinitely. All tanks will have hi level shut down for all producing wells on the pad.</p> <p>Both gas and oil will be sold via pipeline and consequently will have remote ESD system functionality and independently tied to the operational status of the purchasing line(s) as well as high pressure ESD for all lines and vessels.</p> <p>Flowlines will either be welded or threaded, some lines may be non-metallic. Welded Flowlines will be installed with welded or flanged connections. All threaded metallic pipe will be joined with appropriate lubricant/sealant. All non-metallic pipes that require welded joints will be installed with appropriate equipment to meet manufacturer recommendations and welded with qualified welders. All buried non-metal Flowline installation will contain a continuous metallic tracer line attached to the pipeline with surface access or other means of surface location. All flowlines will be pressure tested to their maximum manufactured value (at minimum 70%) prior to hydrocarbon production use. 10% of welds will be x-rayed for integrity. Chemical inspection program begins as soon as well begins flowback. A contractor for PetroShare will perform daily flowline inspections to ensure flowline integrity and prevent leaks/spills. Records of inspections will be available to COGCC upon request.</p>

10	Material Handling and Spill Prevention	Berm Construction: A steel containment berm or structure will be erected around the oil and water storage tanks. The berm will enclose an area sufficient to contain and provide secondary containment for 150% of the largest single tank. The berm will be inspected at least every 14 calendar days while the site is under construction and within 24 hours of a precipitation event. Inspection records will be kept on file for a minimum of three (3) years from expiration or inactivation of permit coverage. These records will be made available to the regulatory agencies upon request.
11	Dust control	Dust mitigation measures shall include but are not limited to the use of speed restrictions, regular road maintenance, restrictions of construction activities during high wind days, and silica dust controls when handling sand used in hydraulic fracturing operations. The access road will be constructed with road base aggregate material. Additional management practices such as road surfacing, wind breaks and barriers may be used.
12	Noise mitigation	Baseline noise monitoring and testing will be conducted prior to the commencement of construction. Sound mitigation will be designed based on the results of the study to meet or exceed COGCC noise requirements. During completion activities, onsite equipment shall be positioned to take full advantage of the sound mitigation measures provided by the sound walls, well pad grading, and surrounding topography. Sound wall(s) will remain in place through the end of completions operations.
13	Emissions mitigation	Green Completions: Emission Control Systems. Test separators and associated flow lines and sand traps shall be installed on-site to accommodate Green completion techniques pursuant to COGCC Rules. PetroShare intends to utilize pipelines to transport oil, gas and water, reducing the amount of onsite tanks to one. PetroShare will utilize a VOC to reduce emissions.
14	Odor mitigation	Odor Mitigation: PetroShare will comply with Rule 805 and 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. PetroShare intends to utilize pipelines to transport oil and gas, reducing the amount on onsite tanks to one. PetroShare will also utilize a VOC to reduce odor emissions. The VOC will be placed facing away from the residential buildings to the south of the location.
15	Interim Reclamation	Interim Restoration (Production): Rehabilitation of unneeded, previously disturbed areas will consist of backfilling and contouring, back sloping, and contouring all cut & fill slopes. These areas will be reseeded. The portions of the cleared well site not needed for operational and safety purposes will be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Sufficient level area will remain for setup of a workover rig and to park equipment. In some cases, rig anchors may need to be pulled and reset after recontouring to allow for maximum interim reclamation.
16	Final Reclamation	Well site cleared. 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.
17	Final Reclamation	Final stabilization of the well area will mean revegetation of all areas not including the permanently installed well anchor points. All other areas will be revegetated or covered by permanent materials before they are considered finally stabilized and complete.

Total: 17 comment(s)



## **Attachment Check List**

<b><u>Att Doc Num</u></b>	<b><u>Name</u></b>
401219263	FORM 2A SUBMITTED
401220465	CONST. LAYOUT DRAWINGS
401220469	HYDROLOGY MAP
401220473	LOCATION DRAWING
401220476	LOCATION PICTURES
401220477	MULTI-WELL PLAN
401220479	NRCS MAP UNIT DESC
401221913	SURFACE AGRMT/SURETY
401221917	WASTE MANAGEMENT PLAN
401222498	ACCESS ROAD MAP

Total Attach: 10 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	Per Operator request, changed the Construction Date to 01/15/2018 and the Interim Reclamation Date to 04/15/2018.  Pushed to In Process.	08/04/2017
OGLA	Contacted operator on July 24 about revised dates for construction and interim reclamation. They indicated they would look into it and get back to me soon.  Contacted operator again on August 4 as we have not heard any response. Left message.	08/04/2017
Final Review	Pushed to On Hold. Requested revised dates for construction and interim reclamation from OGLA staff.	07/24/2017
Permit	Permitting Review Complete.  Final Review Completed.	07/14/2017
OGLA	The COGC has reviewed the comments provided by the City of Brighton. The Operator is in the process of working with the City of Brighton on the local permitting process. In addition, the Operator has provided Best Management Practices regarding containment berms and access roads. It is anticipated that the Operator will continue to work with the City of Brighton on additional concerns and/or requirements during the local permitting process.	04/25/2017
OGLA	Per Operator request;  Removed the following statement from the Traffic Control BMP: "PetroShare will provide a Traffic Plan if requested by the City of Brighton."  Removed the CDPHE reference from the stormwater BMP: "PetroShare will make thorough inspections, in accordance with the requirements set forth by CDPHE Water Quality Division (WQD)."	04/25/2017
OGLA	Per Operator request;  Changed distance to the nearest surface water feature to 58 feet as shown on the Hydrology Map submitted by the Operator.  Removed "Prairie sandreed, Little bluestem, Needleandthread, Sideoats grama, Sand bluestem, Blue grama, Sand dropseed, Western wheatgrass" from the plant list as the Location lies within crop land.	04/25/2017
OGLA	Public comment period extended 10 days from 3/29/17 to 4/8/17 at the request of the Brighton LGD	03/15/2017
Permit	Passed Completeness	03/09/2017
Permit	PDOP reading and instrument operator's name are not listed on the plat	03/08/2017

Total: 10 comment(s)