

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:

401257283

Date Received:

05/04/2017

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:

451448

Expiration Date:

07/21/2020

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: 10110
 Name: GREAT WESTERN OPERATING COMPANY LLC
 Address: 1801 BROADWAY #500
 City: DENVER State: CO Zip: 80202

Contact Information

Name: Ashley Noonan
 Phone: (303) 398-0355
 Fax: ()
 email: regulatorypermitting@gwogco.com

RECLAMATION FINANCIAL ASSURANCE

Plugging and Abandonment Bond Surety ID: 20160041 Gas Facility Surety ID: _____
 Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: Raindance Offsite Completions Pad Number: _____
 County: WELD
 Quarter: NWNW Section: 29 Township: 6N Range: 67W Meridian: 6 Ground Elevation: 4776

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: 710 feet FNL from North or South section line
616 feet FWL from East or West section line

Latitude: 40.463092 Longitude: -104.924244

PDOP Reading: 1.3 Date of Measurement: 03/01/2017

Instrument Operator's Name: Dallas Nielsen

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 #

Production Facilities Location serves Well(s)

427917

400948035

FACILITIES

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

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

OTHER FACILITIES*

Other Facility Type

Number

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:

Water Lines will be temporary surface lines.

CONSTRUCTION

Date planned to commence construction: 08/01/2017 Size of disturbed area during construction in acres: 2.68

Estimated date that interim reclamation will begin: 12/01/2017 Size of location after interim reclamation in acres: 0.00

Estimated post-construction ground elevation: 4776

DRILLING PROGRAM

Will a closed loop system be used for drilling fluids: _____

Is H₂S anticipated? _____

Will salt sections be encountered during drilling: _____

Will salt based mud (>15,000 ppm Cl) be used? _____

Will oil based drilling fluids be used? _____

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: _____ Drilling Fluids Disposal Method: _____

Cutting Disposal: _____ Cuttings Disposal Method: _____

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: Raindance Aquatic Invest.

Phone: _____

Address: 1625 Pelican Lakes Point

Fax: _____

Address: _____

Email: _____

City: Windsor State: CO Zip: 80550

Surface Owner: Fee State Federal Indian

Check all that apply. The Surface Owner: is the mineral owner
 is committed to an oil and Gas Lease
 has signed the Oil and Gas Lease
 is the applicant

The Mineral Owner beneath this Oil and Gas Location is: Fee State Federal Indian

The Minerals beneath this Oil and Gas Location will be developed from or produced to this Oil and Gas Location: 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 09/09/2016

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:	_____ Feet	_____ Feet
Building Unit:	_____ Feet	_____ Feet
High Occupancy Building Unit:	_____ Feet	_____ Feet
Designated Outside Activity Area:	_____ Feet	_____ Feet
Public Road:	_____ Feet	_____ Feet
Above Ground Utility:	_____ Feet	_____ Feet
Railroad:	_____ Feet	_____ Feet
Property Line:	_____ Feet	_____ 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

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: _____

- 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.

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: Kim Loam, 1 to 3 percent slopes

NRCS Map Unit Name: _____

NRCS Map Unit Name: _____

PLANT COMMUNITY:

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes No

Plant species from: NRCS or, field observation Date of observation: 09/09/2016

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, Chokeycherry)
- 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: 39 Feet

Estimated depth to ground water at Oil and Gas Location 25 Feet

Basis for depth to groundwater and sensitive area determination:

Basis for depth of groundwater was DRW Well Permit# 62724-F-. This area is determined a "sensitive area" due to its close proximity to a pond located just south of the proposed location.

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 N/A

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 This Form 2A is for a temporary staging pad for the completions frac crew for the Raindance wells. Temporary surface water lines will be laid from this location to the drill pad. Water will be pulled from the adjacent lake to be utilized in the completion of the Raindance wells.

 The pad and associated access roads will be completely reclaimed.

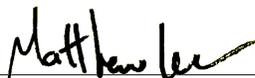
 This pad is a Sim-Ops Pad which will be utilized as a staging area for the frac crew treating the Raindance wells located on the Raindance Drilling Pad. No facilities will be constructed on this location and the site is not within a buffer zone as the nearest building unit is ~1100' away.

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

Signed: _____ Date: 05/04/2017 Email: regulatorypermitting@gwogco.com

Print Name: Ashley Noonan Title: Sr. 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: 7/22/2017

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.

<u>COA Type</u>	<u>Description</u>

Best Management Practices

No	BMP/COA Type	Description
1	Planning	Access Roads (Rule 604.c.(2)S All access roads are designed, constructed, and maintained such that heavy equipment, including emergency response vehicles, can readily access and exit the location. The pad has all weather access roads to allow for operator and emergency response. In addition, GWOC will implement manual mud mitigation measures (eg. tracking control rock aprons) at location exits onto paved roads as necessary and in conjunction with county requirements.
2	Planning	Light Mitigation Light sources will be directed downwards, and away from occupied structures where possible.
3	Traffic control	Traffic Plan (Rule 604.c.(2)D. An access route from the highway or county road to the proposed oil and gas location has been prearranged. Required access road permits will be obtained before construction begins and any special requirements outlined by the municipality will be followed. Emergency routes will be chosen prior to the commencement of operations and will be clearly marked and maintained throughout drilling, completion and production activities.
4	General Housekeeping	Removal of Surface Trash (Rule 604.c.(2)P All surface debris, trash, unusable scrap, or solid waste from the facility will be properly temporarily stored on location in a secure container and ultimately removed and disposed of in a legal manner.
5	Storm Water/Erosion Control	The Raindance Offsite Completions pad is a temporary location that will be used exclusively for completion operations by mobile equipment and as a temporary staging area for equipment that will not fit on the drilling pad for both drilling and completion operations. There will be secondary containment under equipment while on location except for equipment storing fresh water that will be supplied by Poudre River recharge from the adjacent lake.
6	Dust control	Dust Control Dust control measures may include surface stabilization, or dust control with appropriate chemical or water applications.
7	Drilling/Completion Operations	Rule 603.g. & 603.h. Floodplain: The Raindance Offsite completions pad is a temporary location that will be used exclusively for completion operations by mobile equipment and as a temporary staging area for equipment that will not fit on the drilling pad for both drilling and completion operations. Since equipment is temporary no anchors will be utilized on location. If there is a flood event while we are using this pad we will demobilize equipment and move it until water recedes. 24' portable sound walls will be utilized so that in the event of a projected flood event they can be rapidly evacuated.

Total: 7 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2478301	CORRESPONDENCE
401257283	FORM 2A SUBMITTED
401261297	NRCS MAP UNIT DESC
401261322	LOCATION PICTURES
401261325	REFERENCE AREA MAP
401261326	REFERENCE AREA PICTURES
401261327	HYDROLOGY MAP
401261336	ACCESS ROAD MAP
401261344	LOCATION DRAWING
401275082	SURFACE AGRMT/SURETY

Total Attach: 10 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final review complete. LGD (Windsor) and Colorado Parks & Wildlife (CPW) comments received and included on associated PDF.	07/20/2017
Permit	Initial permitting review complete.	07/20/2017
OGLA	IN PROCESS - Operator revised the date planned to commence construction, change indication of this location being in a riparian area to YES, provide BMP addressing Rule 603.g. & 603.h., and provide BMP addressing stormwater runoff and erosion control. OGLA review complete and task passed.	07/13/2017
OGLA	Sent follow-up email requesting a status update to my email of June 8. Requested operator reply by 7/21/17.	07/10/2017
OGLA	ON HOLD - Requested operator revise the date planned to commence construction, change indication of this location being in a riparian area to YES, provide BMPs addressing Rule 603.g. & 603.h., and provide BMP(s) addressing stormwater runoff and erosion control. Due by 7/8/17.	06/08/2017
LGD	The site is located within the Town of Windsor municipal limits and is currently being processed via the Towns Conditional Use Grant for Oil Gas application. The Windsor Town Board will hold a public hearing on the item on June 12, 2017. The following conditions of approval have been agreed upon between Great Western Operating Company LLC and the Town of Windsor: 1. All Town Board and staff comments are addressed. 2. The truck hauling route shall remain in accordance with Exhibit A attached hereto, unless otherwise approved by the Town. 3. Truck hauling periods shall avoid before and after school traffic (7:30 a.m. – 8:15 a.m. and 2:45 p.m. - 3:30 p.m.), and avoid peak times of commuter traffic (7:00 a.m. – 8:30 a.m. and 4:30 – 6:00 p.m.). 4. All landscape screening shown on plan shall be completed no later than 60 days after the initial drilling phase and shall not be postponed until development of the golf course. Irrigation shall be included to ensure establishment of all plant materials. 5. The Town's standard conditions of approval for oil and gas facilities, with amendments, as noted: 1. Prior to the commencement of drilling, the applicant shall submit comprehensive "Drilling and Site Improvement Plans" for review and approval by the Town. Such plans shall address initial drilling activities, initial installation of site improvements	06/05/2017

and details, and on-going perpetual maintenance of the subject site including, but not limited to, the following:

a. Site access plan. The Drilling and Site Improvement Plans and supplemental information shall address site access points and haul routes for review and approval.

b. Public street clean-up and tracking prevention. The Drilling and Site Improvement Plans and supplemental information shall include a tracking pad for review and approval.

c. Site grading. The Drilling and Site Improvement Plans and supplemental information shall address site grading, including any earth berms for emergency containment.

d. Site lighting. The Drilling and Site Improvement Plans and supplemental information shall include details regarding site lighting fixtures and locations. Security and other site lighting shall utilize full cutoff light fixtures to mitigate light pollution.

e. Temporary screening. The applicant shall install a buffer to screen the initial drilling activities and installation of site improvements from surrounding neighborhoods and streets. The temporary buffer/sound walls shall enclose the drilling operations to provide screening and noise mitigation barriers in the direction of nearby homes, as appropriate.

f. Permanent screening. Given the close proximity to residential neighbors, the Drilling and Site Improvement Plans shall depict proposed long-term screening materials including landscaping, earth berms and any other screening methods to mitigate visual impacts.

g. Fencing. The Drilling and Site Improvement Plans shall depict fencing of the perimeter of the site. Fencing materials shall be reviewed for approval by the Town based upon the character of the surrounding neighborhood.

h. Oil and gas equipment.

(1) The applicant shall utilize electric motors in order to mitigate the noise impacts to the neighboring properties. The applicant shall utilize noise dampening methods consistent with the best management practices (BMPs) utilized in the basin. Such methods include, but are not limited to, sound walls, blankets, and other noise mitigation installed at the source of any equipment creating such noise. Noise mitigation methods known as "Quite Fleet Technology," utilized by Liberty Oilfield Services, shall be used as examples of BMPs to be replicated.

(2) The applicant shall ensure that the wells and tanks are of the minimum size required to satisfy present and future functional requirements to mitigate visual impacts.

(3) Low profile tanks shall be utilized and shall be installed in the least visible manner possible.

(4) All tanks and equipment shall be painted to blend-in with the surrounding landscape.

i. Air quality.

(1) The applicant shall participate in any required Environmental Protection Agency (EPA) air quality monitoring and/or testing by allowing EPA to install equipment on site for said monitoring and testing.

(2) The applicant shall install and operate an emissions control device (ECD) capable of reducing Volatile Organic Compound (VOC) emissions on the subject oil and gas equipment in accordance with Colorado Oil and Gas Conservation Commission (COGCC) and/or the Colorado Department of Public Health and Environment (CDPHE) rules and regulations.

	<p>(3)The applicant shall submit to the Town copies of all air emissions reporting as required by the COGCC and/or the CDPHE's Air Pollution Control Division.</p> <p>j.Water quality.</p> <p>(1)The applicant shall ensure that any hydrocarbon discharges from the site comply with all state and federal water quality requirements. Any hydrocarbon discharges shall be properly reported to COGCC, and remediated according to COGCC requirements in all cases.Reportable hydrocarbon discharges shall also be reported to the Windsor Local Government Designee (LGD).</p> <p>(2)The applicant shall provide test results from Groundwater Baseline Sampling and Monitoring required by COGCC Rule 318A.e(4) to the Town. (condition updated 10/28/13 to reflect updated COGCC rule)</p> <p>k.Emergency containment.The secondary containment berm surrounding all storage vessels shall be designed and constructed to contain a minimum of 110% of the volume of the largest vessel located within the containment area or to State of Colorado standards, whichever requirements are more stringent.</p> <p>l.Waste disposal.The applicant shall submit to the Town copies of all waste management reports as required by the COGCC and/or the CDPHE rules and regulations.</p> <p>m.The following certification blocks shall be included on the Drilling and Site Improvement Plans:</p> <p>(1)A signed owner's acknowledgement certification block.</p> <p>(2)A signed drilling operator's acknowledgement certification block.</p> <p>n.The following notes shall be included on the Drilling and Site Improvement Plans:</p> <p>(1)The applicant shall comply with all rules and regulations of the Colorado Oil and Gas Conservation Commission (COGCC).</p> <p>(2)The applicant shall comply with all rules and regulations of the Colorado Department of Public Health and Environment (CDPHE).</p> <p>(3)The applicant shall maintain on-going compliance with all conditions of the Town and Windsor-Severance Fire Rescue.</p> <p>(4)The facilities shall be kept clean and otherwise properly maintained at all times.</p> <p>(5)If access to the site is proposed from a Town of Windsor street, such access point(s) shall require approval from the Town of Windsor Engineering Department and any required access improvements, street clean-up, tracking pads, etc., shall be addressed accordingly.</p> <p>2.The applicant shall address and comply with the conditions of Windsor-Severance Fire Rescue.</p> <p>3. All trucks and equipment shall be equipped with and utilize white noise backup alarms.</p>		
Permit	<p>With Operator agreement, changed surety bond ID # and added Buffer Zone comment provided by Operator.</p> <p>Passes completeness.</p>	05/23/2017	
Permit	<p>Contacted Operator for more information/clarification:</p> <ul style="list-style-type: none"> - why use a gas facility surety bond? This should be the regular plugging/abandonment bond ID. - add comment that location is not within a buffer zone. 	05/22/2017	

Permit	Returned to draft for: - On Consultation & Contact Info Tab Rule 306 d.(1)A.ii. Variance requested but no 502.b variance on the Exceptions Tab and no variance letter attached. - On Soil & Plant Community Tab the plant community section needs to be completed. - On the Water Resources Tab missing information on the "basis for depth to groundwater and sensitive area was determined".	05/11/2017
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Total: 9 comment(s)