

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:

400947039

0

Date Received:

12/03/2015

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:

**447013**

Expiration Date:

**07/27/2019**

☒ 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: Callie Fiddes

Phone: (303) 398-0550

Fax: ( )

email: regulatorypermitting@gwogco.com

RECLAMATION FINANCIAL ASSURANCE

☒ Plugging and Abandonment Bond Surety ID: 20090080 ☐ Gas Facility Surety ID: \_\_\_\_\_

☐ Waste Management Surety ID: \_\_\_\_\_

LOCATION IDENTIFICATION

Name: Dittmer KE Pad Number: 29-032HN

County: WELD

QuarterQuarter: NENW Section: 32 Township: 1N 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: 1103 feet FNL from North or South section line

2379 feet FWL from East or West section line

Latitude: 40.011917 Longitude: -104.801886

PDOP Reading: 1.3 Date of Measurement: 04/03/2015

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 #

## FACILITIES

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

Wells	<u>25</u>	Oil Tanks*	<u>36</u>	Condensate Tanks*	<u>        </u>	Water Tanks*	<u>6</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>2</u>
Pump Jacks	<u>        </u>	Separators*	<u>30</u>	Injection Pumps*	<u>        </u>	Cavity Pumps*	<u>        </u>	Gas Compressors*	<u>6</u>
Gas or Diesel Motors*	<u>        </u>	Electric Motors	<u>        </u>	Electric Generators*	<u>        </u>	Fuel Tanks*	<u>        </u>	LACT Unit*	<u>        </u>
Dehydrator Units*	<u>        </u>	Vapor Recovery Unit*	<u>4</u>	VOC Combustor*	<u>        </u>	Flare*	<u>        </u>	Pigging Station*	<u>        </u>

## OTHER FACILITIES\*

Other Facility Type

Number

ECD	14
VRT	8

\*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:

30 – 3" steel line  
30 - 3" steel oil line  
30 – 3" steel vent line  
2 – 3" steel return gas line  
2 – 3" poly pipe

## CONSTRUCTION

Date planned to commence construction: 08/20/2016 Size of disturbed area during construction in acres: 12.21  
Estimated date that interim reclamation will begin: 12/20/2016 Size of location after interim reclamation in acres: 5.40  
Estimated post-construction ground elevation: 4966

## 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? Yes

## 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? No

Reuse Facility ID: \_\_\_\_\_ or Document Number: \_\_\_\_\_

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

## SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Timothy Dittmer

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

Address: 13408 CR 4

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

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

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

City: Brighton State: CO Zip: 80603

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 06/01/2015

## 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:	833 Feet	683 Feet
Building Unit:	833 Feet	772 Feet
High Occupancy Building Unit:	2956 Feet	3002 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	992 Feet	855 Feet
Above Ground Utility:	797 Feet	636 Feet
Railroad:	2399 Feet	2759 Feet
Property Line:	220 Feet	55 Feet

### INSTRUCTIONS:

- All measurements shall be provided from center of nearest Well or edge of nearest Production Facility to nearest of each cultural feature as described in Rule 303.b.(3)A.
- Enter 5280 for distance greater than 1 mile.
- Building - nearest building of any type. If nearest Building is a Building Unit, enter same distance for both.
- Building Unit, High Occupancy Building Unit, and Designated Outside Activity Area - as defined in 100-Series Rules.
- For measurement purposes only, Production Facilities should only include those items with an asterisk(\*) on the Facilities Tab.

## DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a: ☒ Buffer Zone  
☐ Exception Zone  
☐ Urban Mitigation Area

- Buffer Zone - as described in Rule 604.a.(2), within 1,000' of a Building Unit.
- Exception Zone - as described in Rule 604.a.(1), within 500' of a Building Unit.
- Urban Mitigation Area - as defined in 100-Series Rules.

Pre-application Notifications (required if location is within 1,000 feet of a building unit):

Date of Rule 305.a.(1) Urban Mitigation Area Notification to Local Government: \_\_\_\_\_

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: 08/24/2015

## 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.

The facilities have been placed at this location per the surface owner's request. Great Western was able to obtain an SUA with this surface owner and the location of this facility pad is what was agreed upon in the SUA. The facility pad has been placed here because it is the most suitable location in order to develop the minerals in section 20 and 29. Given the location of this pad, the facilities were placed as far away from the nearby houses as possible. Nearest building units are owned by the surface owner who does not have mineral rights.

## 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: Ascalon sandy loam, 1 to 3 percent slopes #5

NRCS Map Unit Name: Nunn clay loam, 0 to 1 percent slopes #41

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: \_\_\_\_\_ 16 Feet

water well: \_\_\_\_\_ 668 Feet

Estimated depth to ground water at Oil and Gas Location \_\_\_\_\_ 20 Feet

Basis for depth to groundwater and sensitive area determination:

The nearest water well is an abandoned irrigation well that is 336' away. Since this well is abandoned the well listed above is just to the north of our location and also depicted on the hydro map.

Receipt: 9058846  
Permit #: 1991-R -

Is the location in a riparian area: ☒ No ☐ Yes

Was an Army Corps of Engineers Section 404 permit filed ☒ No ☐ Yes If yes attach permit.

Is the location within a Rule 317B Surface Water Supply Area buffer \_\_\_\_\_ No  
zone:

If the location is within a Rule 317B Surface Water Supply Area buffer have all public water supply systems within 15 miles been notified: \_\_\_\_\_

Is the Location within a Floodplain? ☒ No ☐ Yes Floodplain Data Sources Reviewed (check all that apply)

☒ Federal (FEMA)

☒ State

☒ County

☐ Local

☐ Other \_\_\_\_\_

## GROUNDWATER BASELINE SAMPLING AND MONITORING AND WATER WELL SAMPLING

Water well sampling required per Rule \_\_\_\_\_ 318A

## DESIGNATED SETBACK LOCATION EXCEPTIONS

Check all that apply:

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

## RULE 502.b VARIANCE REQUEST

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

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

## OPERATOR COMMENTS AND SUBMITTAL

Comments

Please note that under the cultural distances tab the nearest distance listed is that of a well and not an open slot.

1. The manufacturer of the TLVST is Brewer Steel Company
2. The size of the TLVST is 40,000 BBLs
3. The anticipated time frame the TLVST will be onsite is four weeks.
4. A Construction Layout Drawing depicting the placement of the MLVT's has been attached.

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

Signed: \_\_\_\_\_

Date: 12/03/2015

Email: regulatorypermitting@gwogco.com

Print Name: Callie Fiddes

Title: Regulatory Specialist

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: 7/28/2016

## 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

--	--

## Best Management Practices

### No BMP/COA Type

### Description

1	Planning	Closed Loop Drilling Systems - Pit Restrictions (Rule 604.c.(2)B.  GWOC is utilizing a Closed Loop Drilling System on the subject facility. No open pit storage of water is foreseen for this facility. If open pit storage of fresh water is required, a Form 15 will be submitted and approved prior to use of such pit, and appropriate signage and escape provisions will be provided as required. Cuttings and drilling fluids will be removed from location and properly treated or disposed of according to applicable regulations.
---	----------	--

2	Planning	<p>Multi-well Pads (Rule 604.c.(2)E.</p> <p>GWOC strives to utilize multi-well pads wherever technically and economically practicable to minimize potential impacts to neighbors and the environment. Multi-well pads are not always feasible due to numerous possible issues including but not limited to; landowner requirements, topographic constraints, well bore reaches, setback requirements, etc. This pad will be constructed in such a manner that noise mitigation may be installed and removed without disturbing the site or landscaping. The pad has all weather access roads to allow for operator and emergency response. This pad has been placed as far as possible from building units.</p>
3	Planning	<p>Leak Detection Plan (Rule 604.c(2)F.</p> <p>GWOC designs its new facilities to both avoid leaks or releases as well as to help detect them in a time-efficient manner to minimize potential impacts. Tanks and all visible pipelines and valves etc. are inspected informally on a daily basis by company lease operators. In addition, GWOC also conducts formal annual SPCC inspections, and formal site specific and random audits, by third-party consultants to inspect for general site conditions as well as condition of tanks, pipelines, and containment structures. In addition, our company lease operators and Production staff review production records, including volumes and pressures, looking for irregularities that may indicate a problem with a tank or pipeline. If an irregularity is detected that may indicate a potential release the suspect tank and/or pipeline(s) are removed from service, isolated, and either pressure tested or visibly inspected for indications of a potential leak.</p>
4	Planning	<p>BOPE for well servicing (Rule 604.c.(2)J</p> <p>A BOPE with a minimum pressure rating of 3,000 psi will be utilized. At a minimum it will consist of 2 ram preventers and 1 annular preventer. The blind rams will be positioned below the pipe rams. A backup system of pressure control will be onsite consisting of at a minimum 1,000 psi accumulator (backup pressure). Accumulator is tested to 1,000 psi. Operator may use fixed sized pipe rams matching the tubular size. The annular preventer will be pressure tested to 250 psi low and 2,000 psi high for 10 minutes each. The ram preventers will be tested to 250 psi low and 2,500 psi high for 10 minutes each. All remaining well control equipment will be tested to 250 psi low and 2,500 psi high for 10 minutes each. The pressure tests will be conducted when the equipment is first installed and every 30 days thereafter. Pipe rams and blind rams will be function tested before every well service operation. Annual BOP inspections and pressure tests will be performed by the service company and will be charted &amp; retained for 1 year. Backup stabbing valves shall be used on operations that require reverse circulation. Valves will be pressure tested before each well service operation in low pressure and high pressure range. The GWOC onsite representative will be certified in Well Control Operations by a Well-Cap certified training service.</p>
5	Planning	<p>Pit level indicators (Rule 604.c.(2)K</p> <p>GWOC does not typically utilize pits in any of its operations. If a pit was to be used proper pit Level indicators would be installed to indicate pit levels and compliance with pit volume rules.</p>
6	Planning	<p>Drill stem tests (Rule 604.c.(2)L</p> <p>Conventional drill stem tests will not be conducted on DJ Basin horizontal wells currently being executed or planned by GWOC. If plans change in the future a well specific drill stem testing plan will be prepared for that particular well. Note that GWOC may elect to use one of several available wireline deployed tools for the purpose of measuring downhole formation pressures and/or collecting downhole fluid samples from the target formation(s) of a particular well.</p>

7	Planning	<p>Load lines (Rule 604.c.(2)O)</p> <p>Load line containment is a necessary part of a complete secondary containment system. In any designated setback zone all loadlines are capped or bullplugged or locked shut to reduce the likelihood of a release occurring. In addition, GWOC places all load line receivers/valves inside secondary containment areas or in a proper load line containment device or both.</p>
8	Planning	<p>Identification of P&amp;A wells (Rule 604.c.(2)U)</p> <p>GWOC shall identify the location of the P&amp;A wellbore with a permanent monument as specified in Rule 319.a.(5). The operator shall also inscribe or imbed the well number and date of plugging upon the permanent monument. P&amp;A wellbores shall be cutoff well below ground surface in agricultural areas to provide for landowners to safely farm the reclaimed well area.</p>
9	Planning	<p>Development from existing well pads (Rule 604.c.(2)V)</p> <p>Where possible, GWOC shall provide for the development of multiple reservoirs by drilling on existing pads. GWOC strives to utilize multi-well pads wherever technically and economically practicable to minimize potential impacts to neighbors and the environment. Multi-well pads are not always feasible due to numerous possible issues including but not limited to; landowner requirements, topographic constraints, well bore reaches, setback requirements, etc.</p>
10	Planning	<p>The wellbore spacing unit contains federal leased and/or unleased minerals. As such, Great Western Oil and Gas Company agrees to submit a Communitization Agreements to the BLM at least 90 days before the anticipated date of first production (as defined in the COGCC Rules) from the well drilled within the wellbore spacing unit</p>
11	Traffic control	<p>Traffic Plan (Rule 604.c.(2)D).</p> <p>GWOC works closely with all municipalities as appropriate to develop a mutually acceptable road traffic access plan addressing site specific traffic-related issues. These plans may address issues such as; routes, construction specification of access roads, maintenance, dust control, Jake brake limits, traffic controls, enforcement, emergency response, etc. GWOC will work with municipalities, the County's Planning Department and/or Road Department to address complaints related to traffic or dust issues as appropriate. Dust control measures may include surface stabilization, or dust control with appropriate chemical or water applications.</p>
12	General Housekeeping	<p>Removal of Surface Trash (Rule 604.c.(2)P)</p> <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.</p>
13	General Housekeeping	<p>Well site cleared (Rule 604.c.(2)T)</p> <p>Within ninety (90) days after a well is plugged and abandoned, the well site shall be cleared of all non-essential equipment, trash, and debris.</p>



14	General Housekeeping	General housekeeping will consist of neat and orderly storage of materials and fluids. Wastes will be temporarily stored in sealed containers and regularly collected and disposed of at offsite, suitable facilities. If spills occur prompt cleanup is required to minimize any commingling of waste materials with storm water runoff. Routine maintenance will be limited to fueling and lubrication of equipment. Drip pans will be used during routine fueling and maintenance to contain spills or leaks. Any waste product from maintenance will be containerized and transported offsite for disposal or recycling. There will be no major equipment overhauls conducted onsite. Equipment will be transported offsite for major overhauls. Cleanup will consist of patrolling the roadways, access areas, and other work areas to pick up trash, scrap debris, other discarded materials, and any contaminated soil. These materials will be disposed of properly and promptly.
15	Storm Water/Erosion Control	Storm Water Management Plans (SWMP) are in place to address construction, drilling and operations associated with Oil and Gas development throughout the state of Colorado in accordance with Colorado Department of Public Health and Environment (CDPHE). Barriers will be constructed around the perimeter of the site prior to construction. Typically, GWOC utilizes a ditch and berm system of storm water control at its sites. BMP's used are determined just prior to construction by a third-party storm water contractor and may vary according to the location. Storm water controls will remain in place until the pad is stabilized or reaches final reclamation.
16	Material Handling and Spill Prevention	Spill Prevention Control and Countermeasures (SPCC) plans in place to address any possible spills associated with Oil and Gas operations throughout the state of Colorado in accordance with CFR 112. In accordance with COGCC Rule 1002.f.(2)A. & B., shall provide a designated storage area for dry bulk chemicals and miscellaneous fluids. The storage area shall be covered to prevent contact of precipitation with chemicals, shall be elevated above storm- or standing water, and shall provide sufficient containment to prevent release of spilled fluids or chemicals from impacting soil, surface water or groundwater and will prevent the co-mingling of spilled fluids or chemicals with other E & P Waste.
17	Construction	Berm Construction (Rule 604.c.(2)G).  A minimum containment capacity of 150% of the single largest storage vessel inside the containment will be constructed around any liquids storage area within a designated setback zone. For this location, steel containment with sealed liners will be utilized at all storage facilities on this location.  Tanks and all visible pipelines and valves etc. will be inspected informally on a daily basis by company lease operators. In addition, GWOC also conducts formal annual SPCC inspections, and formal site specific and random audits, by third-party consultants to inspect for general site conditions as well as condition of tanks, pipelines, and containment structures.
18	Construction	Fencing requirements (Rule 604.c.(2)M)  At a minimum GWOC installs appropriate fencing to restrict access by any unauthorized persons. This fencing may vary depending on site-specific situations. Fencing will be properly noted on facility layout diagrams for both drilling/completion and the production phases of operations.
19	Construction	Control of Fire Hazards (Rule 604.c.(2)N)  GWOC constructs and operates our facilities to meet state and API codes, as appropriate, including API RP 500 electrical classifications inside bermed areas. Any unused potentially flammable materials are moved a minimum distance of 25-feet from wellhead, tanks, and separator areas. In addition, GWOC implements a Hot Work Permit Program for employees and contractors doing any defined 'Hot Work' activities on GWOC locations.

20	Construction	<p>Guy line anchors (Rule 604.c.(2)Q)</p> <p>Guy line anchors left buried for future use shall be identified by a brightly colored marker at least 4-feet in height and within 1-foot to the east of the anchor.</p>
21	Construction	<p>Tank specifications (Rule 604.c.(2)R)</p> <p>All newly installed or replaced crude oil and condensate storage tanks shall be designed, constructed, and maintained in accordance with National Fire Protection Association (NFPA) Code 30 (2008 version). GWOC shall maintain written records verifying proper design, construction, and maintenance, and shall make these records available for inspection by the Director. Only the 2008 version of NFPA Code 30 applies to this rule.</p>
22	Construction	<p>Access Roads (Rule 604.c.(2)S)</p> <p>All access roads are designed, constructed, and maintained such that heavy equipment, including emergency response vehicles, can readily access and exit the location. 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.</p>
23	Construction	<p>MLVT CERTIFICATION STATEMENT:</p> <p>Great Western Operating Company certifies that the MLVTs on this location will be designed and implemented consistent with the COGCC Policy on the use of MLVTs in the state of Colorado.</p>
24	Noise mitigation	<p>Noise (Rule 604.c.(2)A).</p> <p>The subject Great Western Operating Company, L.L.C. (GWOC) location will operate in accordance with maximum permissible noise levels per COGCC Rule 604.c.(2)A. and 802, as applicable. GWOC will utilize reasonable and cost-effective best practices to endeavor to reduce noise levels below these limits in areas where occupied structures occur within a Designated Setback Zone. Where possible, drilling rig and completion equipment engine exhaust will be directed away from occupied buildings to assist with noise mitigation. No noise compliance issues are expected from the production area.</p>
25	Noise mitigation	<p>During the drilling phase, Great Western plans to construct sound/visual walls that will be placed along the northern, southern, and eastern edges of the pad. This will also assist to block out any lighting from nearby occupied structures. Where possible, drilling rig and completion equipment engine exhaust will be directed away from occupied buildings. Sealed tanks with pressure relief valves and emissions controls will also be utilized during the production phase.</p>
26	Odor mitigation	<p>Where possible, drilling rig and completion equipment engine exhaust will be directed away from occupied buildings to assist in mitigating potential odors. Light sources will be directed downwards, and away from occupied structures where possible. While GWOC does not anticipate any mitigation measures will be necessary for odors, sealed tanks with pressure relief valves and emissions controls will be utilized for the production phase. Once the drilling and completion rigs leave the site, there will be no permanently installed lighting on site.</p>

27	Drilling/Completion Operations	<p>Green Completions (Rule 604.c.(2)C.</p> <p>As applicable, per COGCC Rule 805, GWOC will utilize all reasonable and cost-efficient best practices, including but not limited to those listed in Rule 805, to maximize resource recovery and mitigate releases to the environment.</p> <ul style="list-style-type: none"> <li>• Initial frac and drillout effluent is routed through a sand catcher/trap and a junk/sand tank to remove sand and well frac debris.</li> <li>• Once any hydrocarbons are detected but prior to encountering salable quality combustible gas or significant volumes of liquid hydrocarbons (condensate or oil) (greater than 10 barrels per day average) the effluent is routed through a high-pressure separator and closed-top tanks to minimize emissions to the environment. Hydrocarbon liquids, produced water, and sand are separated utilizing the high-pressure separator.</li> <li>• The quality (combustibility) of the gas is typically monitored directly at the high-pressure separator. When salable (combustible) quality gas is measured/detected the gas stream is immediately diverted to the sales pipeline or the well is shut in or a from 42 for flaring will be submitted for approval.</li> <li>• The separated produced water and hydrocarbon liquids (condensate/oil) are directed to specific tanks for storage until being unloaded and hauled to disposal or sales as appropriate.</li> </ul>
28	Drilling/Completion Operations	GWOC will comply with the "COGCC Policy for Bradenhead Monitoring during Hydraulic Fracturing Treatments in the Greater Wattenberg Area", dated May 29, 2012
29	Drilling/Completion Operations	One of the first wells drilled on the pad will be logged with open-hole Resistivity and Gamma Ray Log from the kick-off point into the surface casing. All wells on the pad will have a cement bond log with gamma-ray run on production casing (or on intermediate casing id production liner is run) into the surface casing. The horizontal portion of every well will be logging with a measure-while-drilling gamma-ray log. The Form 5, Completion Report, for each well on the pad will list all logs run and have those logs attached. The Form 5 for a well without open hole logs shall clearly state "No open-hole logs were run" and shall clearly identify (by API#, well name and number) the well in which open-hole logs were run.
30	Drilling/Completion Operations	<p>Stimulation Setback (Rule 317.r and 317.s)</p> <p>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 well. This anti-collision scan will include definitive MWD or gyro surveys of the offset wells with included error of uncertainty per survey instrument, and compared against the proposed wellpath with its respective error of uncertainty. If current surveys do not exist for the offset wells, Operator may have gyro surveys conducted to verify bottomhole location. The proposed well will only be drilled if the anti-collision scan results indicate that there is not a risk for collision, or harm to people or the environment.</p>

Total: 30 comment(s)

## Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
166934	HYDROLOGY MAP
1668898	RULE 306.E. CERTIFICATION
1668899	CORRESPONDENCE
1668931	ACCESS ROAD MAP
1668932	CONST. LAYOUT DRAWINGS
1668933	FACILITY DRAWING
1668935	LOCATION DRAWING
1668936	MULTI-WELL PLAN
1668937	LOCATION PICTURES
1668942	CORRESPONDENCE
400947039	FORM 2A SUBMITTED
400947447	SURFACE AGRMT/SURETY
400947452	WASTE MANAGEMENT PLAN
400947454	NRCS MAP UNIT DESC
400947455	NRCS MAP UNIT DESC
400947469	30 DAY NOTICE LETTER

Total Attach: 16 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	Update date of the construction and interim reclamation from Operator.	7/27/2016 9:38:11 AM
Permit	Final Review Completed.	7/25/2016 1:10:47 PM
OGLA	Based on the information provided by the Operator, COGCC has determined that this proposed Oil and Gas Location meets the requirements for conditional approval based on compliance with COGCC Rules, including, but not limited to; Rule 604 Series Setback and Mitigation Measures. The Operator has presented a siting rationale for the Production Facilities in the Buffer Zone and Best Management Practices that adequately address site specific environmental, health, safety and welfare concerns. OGLA review complete and OGLA task passed	4/1/2016 10:27:56 AM
OGLA	Operator switched drill pad and production facilities to make access from the north and then east possible - less disturbance to traffic for Brighton to the south. Updated facility drawing, location drawing, hydrology map, access road map, and construction drawing. Emailed Operator regarding reference location if well plan and potentially pictures then need to be updated as well. - sent new multi-well plan and location photos right away - replaced/attached. Updated distances to nearest surface water and water well from hydrology map and cultural distances from email and phone correspondence. Move location back to IN PROCESS	3/22/2016 2:16:09 PM
OGLA	Phone call from the Operator that changing the access road based on Brighton's comments. Will send new map - place ON HOLD	2/8/2016 12:41:40 PM
Permit	Per operator changed "will the minerals beneath the location be developed from Yes to No. Permitting Review Complete.	2/4/2016 1:31:50 PM
OGLA	Operator sent email (attached as correspondence) regarding discussions with the City of Brighton and still working on water supply for MLVTs. No public comments were made to the LGD of Weld County.	1/15/2016 3:45:02 PM
OGLA	Send email to Operator regarding 306e certification and if Operator has reached out to local government for traffic.	1/8/2016 12:26:53 PM
Public	TO:John Noto, COGCC Oil and Gas Location Assessment Supervisor	12/30/2015 5:06:23 PM

Email: john.noto@state.co.us

Rebecca Treitz, COGCC OGLA Assessment Specialist

Email:rebecca.treitz@state.co.us

FR:Matt Sura, Attorney at Law

DT:12/30/2015

RE:Comment on Form 2A # 400947039, Dittmer KE Pad, located in the NENW Sec 32, Twp 1N Rng 66W

Dear COGCC,

These comments are submitted on behalf of the City of Brighton regarding Great Western's proposed Dittmer KE Pad and all the associated wells. First of all, the City of Brighton appreciates that Great Western has chosen a location that appears to be at least 1,000 feet from homes. The City of Brighton's concerns about this location are primarily about access to and from the proposed location. The access route indicated on the "Access Road Map" would require traveling west on County Road 4 (New Energy Drive) then turning south on US Hwy 85. That is a prohibited turn. Furthermore, the proposed access onto County Road 4 is within the City of Brighton and therefore a right of way application will need to be filed with the City.

The City of Brighton is requesting that a full transportation plan be filed with the City of Brighton prior to this location being permitted by the COGCC. Brighton has reached out to Great Western to discuss its transportation concerns but, due to the holidays, we have been unable to meet with the appropriate Great Western staff.

#### COMMENTS

The proposal will create a large impact to transportation infrastructure.

Constructing the location and drilling, completing, and servicing the wells will create a large impact on local transportation infrastructure. Great Western has proposed 25 wells, 36 oil tanks, 6 water tanks, 2 modular large volume tanks, 30 separators and 4 vapor recovery units. The proposed location will be, by any standard, a very large oil and gas facility.

Drilling and hydraulically fracturing a single well takes a minimum of 14 days per well. Even using that conservative estimate, drilling and completing 25 wells will take approximately one year.

During that year, there will be at least 36,000 one-way truck trips (18,000 inbound and 18,000 outbound) to the facility – primarily for hauling water for drilling and hydraulic fracturing, and disposing of flow-back wastewater.

Brighton estimates that current traffic volumes on County Road 4 east of Main Street is about 1,500 vehicles per day. Approximately 10% or 150 of those trips are truck traffic. The proposed facility would add 100 additional trucks on that stretch of road each day, on average.

This additional truck traffic could damage County Road 4. The load impact of oil and gas trucks can be as much as 6,000 to 30,000 times that of a passenger car.

Great Western's proposed haul route is illegal.

The haul route proposed by Great Western appears to require a left turn from westbound County Road 4 to US Hwy 85. That is a prohibited turn. The intersection was converted to a ¾ movement and does not have a lane to turn from as that lane was replaced with an island.

The alternate transportation routes to reach US Hwy 85 all travel through City of

	<p>Brighton roadways. The intersections for both County Road 6 and Baseline road on Main Street are at capacity and not designed for heavy truck traffic. The intersection of County Road 4 and Main Street does not have sufficient turn radiuses to function well for increased truck traffic. (See Figure 1)</p> <p>The City of Brighton would like to discuss alternative travel routes to and from this location with Great Western.</p> <p>The proposed oil and gas access road will require a Right of Way Permit from the City of Brighton.</p> <p>County Road 4 (New Energy Dr.) is within the City of Brighton. The proposed access to County Road 4 will require obtaining a right of way permit from the City of Brighton.</p> <p>The new road to access the well pad is proposed slightly offset from the southern entrance to the Vestas plant (E. Crown Prince Blvd.). The City of Brighton is requesting a traffic study that considers the movements and interactions with existing traffic at that intersection and along the proposed haul route.</p> <p>In conclusion, the City of Brighton's Street and Fleet Department would like to meet with Great Western to discuss its transportation concerns: 1) a right of way permit for accessing County Road 4, 2) the location of the proposed road to access the pad, 3) haul routes to and from the location, and 4) completion of a traffic study.</p> <p>The City of Brighton requests that these issues be addressed prior to COGCC issuing a permit for this location.</p> <p>Sincerely,</p> <p>Matt Sura</p> <p>Figure 1 – Weld County Assessor map highlighting the proposed location of the well pad.</p> <p>Figure 2 – Google Map with an approximate location of well pad and access road</p>	
OGLA	OGLA review - called operator and left message regarding siting rationale and nearest building unit owner is the surface owner. Need 306e when public comment is over. - Operator responded on 12/31/15 that nearest building unit owner is the surface owner.	12/30/2015 2:05:45 PM
LGD	<p>This proposed oil and gas facility is located in unincorporated Weld County. As of today's date 12/28/2015, the Weld County Oil and Gas Liaison/LGD has not been contacted by any nearby resident(s) or local government(s) regarding this proposed location. The County will respond to any legitimate concerns or issues regarding a proposed location and attempt to facilitate a solution. Oil and Gas Exploration and Production activities are currently considered a Use by Right in the Agricultural Zoned District and no land use permitting is required by the County. A building permit is required for the production facilities (tank battery, separators, and pump jacks) from the Department of Planning Services. A new or expanded access from a county road or the use of a right-of-way requires a permit from the Department of Public Works. Troy Swain, Weld Oil and Gas Liaison and LGD (970) 353-6100, ext. 3579.</p>	12/28/2015 2:23:43 PM
Permit	Passed completeness.	12/10/2015 1:24:55 PM
Permit	Returned to draft. Did not pass buffer zone review - missing location photos.	12/10/2015 8:09:49 AM

Permit	Referred to OGLA Supervisor for buffer zone review.	12/4/2015 9:49:59 AM
--------	---	-------------------------

Total: 14 comment(s)