

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:

401541602

(SUBMITTED)

Date Received:

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:

Expiration Date:

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: 10177

Name: ENERPLUS RESOURCES (USA) CORPORATION

Address: 950 17TH STREET #2200

City: DENVER State: CO Zip: 80202

Contact Information

Name: Sarah Miller

Phone: (720) 279-5512

Fax: (720) 279-5550

email: smiller@enerplus.com

RECLAMATION FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID: 20170023 Gas Facility Surety ID: _____
- Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: Alberta Cities East Pad Number: _____

County: WELD

Quarter: SESE Section: 20 Township: 8N Range: 67W Meridian: 6 Ground Elevation: 5200

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: 1146 feet FSL from North or South section line

437 feet FEL from East or West section line

Latitude: 40.642959 Longitude: -104.907995

PDOP Reading: 1.3 Date of Measurement: 09/18/2017

Instrument Operator's Name: G. Weimer, J.F.

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE Drilling Fluids Disposal Method: Recycle/reuse

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: Anheuser-Busch, Incorpore Phone: _____

Address: One Busch Place Fax: _____

Address: _____ Email: _____

City: St. Louis State: MO Zip: 63118

Surface Owner: Fee State Federal Indian

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

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

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

The right to construct this Oil and Gas Location is granted by: Surface Use Agreement

Surface damage assurance if no agreement is in place: _____ Surface Surety ID: _____

Date of Rule 306 surface owner consultation _____

CURRENT AND FUTURE LAND USE

Current Land Use (Check all that apply):

Crop Land: Irrigated Dry land Improved Pasture Hay Meadow CRP

Non-Crop Land: Rangeland Timber Recreational Other (describe): _____

Subdivided: Industrial Commercial Residential

Future Land Use (Check all that apply):

Crop Land: Irrigated Dry land Improved Pasture Hay Meadow CRP

Non-Crop Land: Rangeland Timber Recreational Other (describe): _____

Subdivided: Industrial Commercial Residential

CULTURAL DISTANCE INFORMATION

Provide the distance to the nearest cultural feature as measured from Wells or Production Facilities onsite.

| | From WELL | From PRODUCTION FACILITY |
|-----------------------------------|-----------|--------------------------|
| Building: | 2818 Feet | 2578 Feet |
| Building Unit: | 3987 Feet | 3752 Feet |
| High Occupancy Building Unit: | 5280 Feet | 5280 Feet |
| Designated Outside Activity Area: | 5280 Feet | 5280 Feet |
| Public Road: | 875 Feet | 900 Feet |
| Above Ground Utility: | 376 Feet | 223 Feet |
| Railroad: | 5280 Feet | 5280 Feet |
| Property Line: | 422 Feet | 262 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 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: 5 - Ascalon sandy loam, 5 to 9 percent slopes

NRCS Map Unit Name: _____

NRCS Map Unit Name: _____

PLANT COMMUNITY:

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

Are noxious weeds present: Yes No

Plant species from: NRCS or, field observation Date of observation: _____

List individual species:

Check all plant communities that exist in the disturbed area.

- Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)
- Native Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)
- Shrub Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)
- Plains Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)
- Mountain Riparian (Cottonwood, Willow, Blue Spruce)
- Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon, Aspen)
- Wetlands Aquatic (Bullrush, Sedge, Cattail, Arrowhead)
- Alpine (above timberline)
- Other (describe): _____

WATER RESOURCES

Is this a sensitive area: No Yes

Distance to nearest

downgradient surface water feature: 644 Feet

water well: 1650 Feet

Estimated depth to ground water at Oil and Gas Location 90 Feet

Basis for depth to groundwater and sensitive area determination:

Nearest water well is Permit #350-WCB to the NW of the pad, but nearest water well with recorded SWL is CDWR Permit #219124 which is 4850' SE.

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 zone: 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 609

WILDLIFE

- This location is included in a Wildlife Mitigation Plan

This location was subject to a pre-consultation meeting with CPW held on _____

Operator Proposed Wildlife BMPs

No BMP

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 Location Identification Tab based off the Calgary 8-67-21-22C. Document #401511359.

Enerplus certifies that the MLVTs will be designed and implemented consistent with the COGCC Policy on the Use of Modular Large Volume Tanks in Colorado. MLVT Design Package, certified and sealed by a licensed professional engineer, is available upon request:

Vendor of MLVT: Wellwater Solutions
 Manufacturer: Nalfo Fab-tech Inc., LLC
 Size and Volume: One (1) 190' diameter - 60,000 BBLs
 Anticipated time frame on site: 90 days

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

Signed: _____ Date: _____ Email: smiller@enerplus.com

Print Name: Sarah Miller Title: Permitting Technician

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

COGCC Approved: _____ Director of COGCC Date: _____

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 | Multi-Well Pads are located in a manner that allows for resource extraction while maintaining the highest distances possible from the offsetting residential areas and complies with the wishes of the surface owner. |
| 2 | Traffic control | <p>Enerplus shall ensure that at the time of construction, all leasehold roads shall be constructed to accommodate local emergency vehicle access requirements, and shall be maintained in a reasonable condition.</p> <p>Enerplus will work with the Weld County Public Works Department to determine the extent of a Traffic Management Plan if required. Enerplus will adhere to all required state, county and local government roadway requirements prior to the commencement of operations.</p> |
| 3 | General Housekeeping | All trash, debris, scrap or discarded material connected with the operations of the property shall be removed from the premises and disposed of in a legal manner. |
| 4 | General Housekeeping | Visual Impacts: Equipment, regardless of construction date, which are observable from any public highway shall be painted with uniform, non-contrasting, non-reflective color tones (similar to the Munsell Soil Color Coding System), and with colors matched to, but slightly darker than, the surrounding landscape. |
| 5 | Storm Water/Erosion Control | Implement and maintain BMPs to control stormwater runoff in a manner that minimizes erosion, transport of sediment offsite, and site degradation. Location will comply with applicable Colorado stormwater permitting requirements and associated stormwater management plan (SWMP). Enerplus utilizes a ditch and berm around the perimeter of the pad to contain sediment and will install sediment traps when adequate slopes allow. At the conclusion of construction, disturbed areas not required for ongoing operations and the topsoil spoil pile will be seeded with an appropriate seed mix. Inspections will occur per CDPHE stormwater regulatory requirements and any evidence of stormwater erosion will be repaired. Culverts will be installed along the lease road and maintained clear of sediment where appropriate. |
| 6 | Material Handling and Spill Prevention | Leak Detection Plan: Operator will monitor production facilities weekly at a minimum to a maximum of daily to identify fluid leaks, including, but not limited to, visually inspecting all wellheads, tanks and fittings. Additionally annual SPCC inspections will be conducted and documented. |
| 7 | Material Handling and Spill Prevention | Control of fire hazards: All material that is considered a fire hazard shall be a minimum of 25' from the wellhead tanks or separators. Electrical equipment shall comply with API IRP 500 and will comply with the current national electrical code. Operator shall comply with state and federal laws, rules and regulations governing the presence of any petroleum products, toxic or hazardous chemicals or wastes on the Subject lands. Enerplus will also comply with rule 606.A.d. and store all flammable liquids at least 50' from the wellbore, with the exception of the fuel in the tanks of operating equipment or supply for injection pumps. |
| 8 | Material Handling and Spill Prevention | Annual flowline testing will also occur according to COGCC rules 1101 and 1102. Inspection and record retention of flowline testing will be in accordance per COGCC regulation. All records will be made available to the COGCC upon request. |
| 9 | Dust control | Operator shall employ practices for control of fugitive dust caused by their operations. Such practices shall include but are not limited to the use of speed restrictions, regular road maintenance, restriction of construction activity during high-wind days, watering of lease roads and pad during construction, and silica dust controls when handling sand used in hydraulic fracturing operations. Additional management practices such as road surfacing, wind breaks and barriers may be used. |
| 10 | Construction | Enerplus certifies that the MLVTs used during completion operations shall only hold fresh water and will be designed and implemented consistent with the COGCC June 13, 2014 Policy on the Use of Modular Large Volume Tanks in Colorado. |
| 11 | Construction | Light sources during all phases of operations will be directed downwards and away from occupied structures. |
| 12 | Construction | Fencing - Enerplus will install appropriate fencing to restrict access by any unauthorized persons. This fencing may vary depending on site-specific situations, such as reasonable security, local government or surface owner concerns. |
| 13 | Construction | All guy line anchors left buried for future use shall be identified by a marker of bright color not less than four (4) feet in height and not greater than one (1) foot east of the guy line anchor. |

| | | |
|----|----------------------|---|
| 14 | Construction | Berm Construction: Secondary containment devices will be constructed around crude oil and produced water storage tanks and will enclose an area sufficient to contain and provide secondary containment for one-hundred fifty percent (150%) of the largest single tank. Secondary containment devices will be sufficiently impervious to contain any spilled or released material. All berms and containment devices will be inspected at regular intervals and maintained in good condition. No potential ignition sources will be installed inside the secondary containment area unless the containment area encloses a fired vessel. |
| 15 | Construction | Tank Specifications: Tanks will be designed, constructed and maintained in accordance with NFPA Code 30 (2008 version). Operator will maintain written records verifying proper design, construction, and maintenance, and shall make these records available for inspection by the Director. |
| 16 | Noise mitigation | Baseline noise monitoring will be conducted prior to the commencement of construction. Sound mitigation measures such as sound walls or hay bales will be used based on proximity to residents or the results of modeling. Where residents are less than 0.5 miles from the pad, noise modeling will be performed to ensure Enerplus will meet or exceed COGCC noise requirements. During completion activities, onsite equipment shall be positioned to take full advantage of sound mitigation measures. |
| 17 | Emissions mitigation | Associated Gas Flaring BMP - Following the last stage of separation associated gas will flow through a liquid knockout drum to remove entrained liquid phases. Following the liquid knockout drum, associated gas will flow to a smokeless combustion device capable of a 98% control efficiency. The combustion device will be equipped with a continuous pilot gas flame and an auto-igniter. Enerplus will comply with all applicable Colorado - Air Pollution Control Division requirements to ensure adequate design and operation of the control device is maintained. |
| 18 | Emissions mitigation | <p>Green Completions - Emission Control Systems: Test separators and associated flow lines and sand traps will be installed on-site to accommodate green completions techniques pursuant to COGCC Rules. In the anticipated absence of a viable gas sales line, the flowback gas shall be combusted in an emissions control device (ECD), which will be installed and kept in operable condition for at least the first 90-days of production pursuant to CDPHE rules. This ECD shall have an adequate capacity for 1.5 times the largest flowback within a 10 mile radius, will be flanged to route gas to other or permanent combustion equipment and shall be provided with auxiliary fuel with sufficient supply and heat needed to maintain combustion where the mixture includes non-combustible gases.</p> <p>This pad is approximately five miles north of the northern extent of the DCP Midstream gathering system and the northern portion is maxed out in capacity thus ruling out connection to that existing infrastructure. Rimrock Energy Partners announced intent to construct a gathering system and gas processing plant near Pierce, CO. Enerplus is in discussions with Rimrock regarding gathering services. Rimrock anticipates completion of the gas processing plant in the 1st quarter of 2019. In addition to the Rimrock prospect, Enerplus has committed to acquiring ROWs to tie the Alberta Cities East Pad to our other pads in 8N67W via pipeline. This effort provides benefits of speed if Rimrock is successful, or alternatively, Enerplus has the option to investigate gas processing from a centralized location through a portable NGL skid or other application. Enerplus anticipates a gas processing solution will be in place prior to completing the remaining wells proposed from this pad.</p> <p>In 2019, Enerplus will drill two exploratory wells from the Alberta Cities East Pad. Subsequent wells will not be considered exploratory and will be completed in full compliance with the 805 Series COGCC regulations.</p> |
| 19 | Odor mitigation | Rule 805: Oil & gas facilities and equipment shall be operated in such a manner that odors and dust do not constitute a nuisance or hazard to public welfare. In an attempt to lessen odors from the oil based drilling mud, Enerplus will layout the rig with the backyard positioned as far away from occupied dwellings as possible. For this pad in particular, we will make every effort to keep the oil based fluids on the north end of the pad in consideration for the house southwest of the pad. Closed-vent systems and emission controls will be utilized for the production phase. |

Total: 19 comment(s)

Attachment Check List

| <u>Att Doc Num</u> | <u>Name</u> |
|--------------------|------------------------|
| 401568046 | NRCS MAP UNIT DESC |
| 401568073 | WASTE MANAGEMENT PLAN |
| 401568091 | HYDROLOGY MAP |
| 401568093 | ACCESS ROAD MAP |
| 401568095 | LOCATION DRAWING |
| 401568097 | LOCATION PICTURES |
| 401568100 | CONST. LAYOUT DRAWINGS |
| 401568108 | MULTI-WELL PLAN |
| 401568114 | SURFACE AGRMT/SURETY |

Total Attach: 9 Files

General Comments

| <u>User Group</u> | <u>Comment</u> | <u>Comment Date</u> |
|-------------------|----------------|---------------------|
| | | Stamp Upon Approval |

Total: 0 comment(s)

Public Comments

No public comments were received on this application during the comment period.

