

FORM
2A

Rev
04/18

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:

401612448

(SUBMITTED)

Date Received:

Oil and Gas Location Assessment

☐ New Location ☐ Refile ☒ Amend Existing Location Location#: 453481

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:

453481

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

FINANCIAL ASSURANCE

- ☒ Plugging and Abandonment Bond Surety ID (Rule 706): 20170023 ☐ Gas Facility Surety ID (Rule 711): _____
- ☐ Waste Management Surety ID (Rule 704): _____

LOCATION IDENTIFICATION

Name: Saskatchewan Number: Pad
County: WELD
QuarterQuarter: SESE Section: 34 Township: 8N Range: 66W Meridian: 6 Ground Elevation: 4993
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: 401 feet FSL from North or South section line
1106 feet FEL from East or West section line
Latitude: 40.612478 Longitude: -104.757893
PDOP Reading: 2.4 Date of Measurement: 04/14/2017
Instrument Operator's Name: Michael Hernandez

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	20	Oil Tanks*	20	Condensate Tanks*		Water Tanks*	4	Buried Produced Water Vaults*	
Drilling Pits		Production Pits*		Special Purpose Pits		Multi-Well Pits*		Modular Large Volume Tanks	1
Pump Jacks		Separators*	20	Injection Pumps*		Cavity Pumps*		Gas Compressors*	3
Gas or Diesel Motors*		Electric Motors		Electric Generators*	1	Fuel Tanks*		LACT Unit*	2
Dehydrator Units*		Vapor Recovery Unit*	2	VOC Combustor*	4	Flare*		Pigging Station*	1

OTHER FACILITIES*

Other Facility Type

Number

Air Compressor	1
Meter Buildings	3
Vapor Recovery Tower	1
Water Pump Skid	1

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:

20 -4" multi-phase flowlines from wells to separators; 2 - 4" or 6" flowlines from water and oil pump buildings (1 each) to lease edge; 1 - 10" gas line from gas meter house to lease edge. 20 -3" gas lift lines from gas compressor to wellhead(s).

Meter Buildings, Air Compressor, Vapor Recovery Units, Electric Generator, Gas Compressors and LACT Units will be located in the Proposed Compression Area depicted in the production layout with all the facilities shown. The pigging station will be located near the lease entrance.

CONSTRUCTION

Date planned to commence construction: 03/01/2019

Size of disturbed area during construction in acres: 10.18

Estimated date that interim reclamation will begin: 03/01/2020

Size of location after interim reclamation in acres: 4.80

Estimated post-construction ground elevation: 4993

DRILLING PROGRAM

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

Is H₂S 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: 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: Evelyn King Rev Trust

Phone: _____

Address: 15975 CR 86

Fax: _____

Address: _____

Email: _____

City: Pierce State: CO Zip: 80650

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:	319 Feet	496 Feet
Building Unit:	765 Feet	732 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	233 Feet	77 Feet
Above Ground Utility:	219 Feet	63 Feet
Railroad:	3968 Feet	3799 Feet
Property Line:	246 Feet	90 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: 01/05/2018

- 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.

Please see attachment.

SOIL

List all soil map units that occur within the proposed location. attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to be used when segregating topsoil.

The required information can be obtained from the NRCS web site at <http://soildatamart.nrcs.usda.org/> or from the COGCC web site GIS Online map page found at <http://colorado.gov/cogcc>. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: 47—Olney fine sandy loam, 1 to 3 percent slopes

NRCS Map Unit Name: 48—Olney fine sandy loam, 3 to 5 percent slopes

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: 76 Feet

water well: 746 Feet

Estimated depth to ground water at Oil and Gas Location 23 Feet

Basis for depth to groundwater and sensitive area determination:

Nearest downgradient surface water feature is an ditch.

Nearest water well is CDWR Permit #1399-AD. However, the nearest water well with a recorded SWL is CDWR Permit #360-RD which is 996' 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

- The amendment to this pad is to add 4 additional wells and the associated facilities.
- The surface owner owns 50% of the minerals under the location.
- The BUOs to the West and East of the Pad belong to the SO who waived the Pre-App Notices when they signed the SUA. The BUO to the SE waived the 30-day notice period. Attached is a signed copy of the Pre-Application Notice waiver attaches as WAIVERS. The Hamblens were renotified with the addition of the 4 wells to this pad.
- Operator 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 - Nalco 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.

COA Type

Description

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Best Management Practices

No	BMP/COA Type	Description
1	Planning	604.c.(2)E. 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	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. 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.
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).
6	Material Handling and Spill Prevention	604.c.(2)F. Leak Detention 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	604.c.(2)N. 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.
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 to 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, 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. Permanent lighting will be installed around the facility to allow both the operator and haulers to conduct safe operations at night. All lights will be directed down toward the location or shielded so no light pollution leaves the facility.
12	Construction	604.c.(2)M. 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	604.c.(2).Q. 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	604.c.(2)G - 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	604.c.(2)R - 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	604.c.(2)A. Baseline noise monitoring and testing will be conducted prior to the commencement of construction. Sound mitigation measures such as sound walls or hay bales will be used 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.
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-ignitor. 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	604.c.(2)C - 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 thermally oxidized 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 oxidizing equipment and shall be provided with the equipment needed to maintain combustions where non-combustible gases are present. Prior to production, Enerplus will investigate options for bringing a gas sales line to the location. After production begins, Enerplus will connect to a gas sales as soon as practicable and as necessary to comply with any applicable flaring allowances as granted by the COGCC and limitations imposed by the CDPHE. In the event connecting to a gas sales line is delayed, Enerplus will explore other gas utilization methods such as NGL recovery units, a combination of NGL recovery and CNG, or gas powered electric generators. The first well drilled into each spacing unit will be considered exploratory.
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. Sound walls will be installed between the pad and the occupied dwellings which should also lessen the OBM odors. Sealed tanks with pressure relief valves and emission controls will be utilized for the production phase.
20	Drilling/Completion Operations	604.c.(2)J.i Blowout Prevention Equipment ("BOPE"): A double ram and annular preventer will be used during drilling. Stabbing valves shall be installed in the event of reverse circulation and shall be prior tested with low and high pressure fluid.
21	Drilling/Completion Operations	604.c.(2).I. BOPE testing for drilling operations. Upon initial rig-up and at least once every thirty (30) days during drilling operations thereafter, pressure testing of the casing string and each component of the blowout prevention equipment including flange connections shall be performed to seventy percent (70%) of working pressure or seventy percent (70%) of the internal yield of casing, whichever is less. Pressure testing shall be conducted and the documented results shall be retained by the operator for inspection by the Director for a period of one (1) year. Activation of the pipe rams for function testing shall be conducted on a daily basis when practicable.

22	Drilling/Completion Operations	604.c.(2).K. Pit level Indicators shall be used for tanks on location
23	Drilling/Completion Operations	604.c.(2).O. All loadlines shall be bull plugged or capped.
24	Drilling/Completion Operations	604.c.(2)B.i. Operator will be utilizing a closed loop system.
25	Interim Reclamation	Operator shall be responsible for segregating the topsoil, backfilling, re-compacting, reseeding, and re-contouring the surface of any disturbed area so as not to interfere with Owner's operations and shall reclaim such area to be returned to pre-existing conditions as best as possible with control of all noxious weeds.
26	Final Reclamation	604.c.(2)T. 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. Identification of plugged and abandoned wells will be identified pursuant to 319.a.(5).
27	Final Reclamation	604.c.(2).U. The operator shall identify the location of the 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.

Total: 27 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
401616665	NRCS MAP UNIT DESC
401616666	NRCS MAP UNIT DESC
401628887	SITING RATIONALE
401629012	WAIVERS
401629014	HYDROLOGY MAP
401629017	LOCATION DRAWING
401629032	WASTE MANAGEMENT PLAN
401629083	ACCESS ROAD MAP
401629087	LOCATION PICTURES
401629089	MULTI-WELL PLAN
401629319	FACILITY LAYOUT DRAWING
401629349	SURFACE AGRMT/SURETY
401630101	SURFACE AGRMT/SURETY

Total Attach: 13 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.

