

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:

401524021

Date Received:

01/31/2018

Oil and Gas Location Assessment

☐ New Location ☐ Refile ☒ Amend Existing Location Location#: 449968

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:

449968

Expiration Date:

03/04/2021

☒ 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: Colorado Lakes Number: Pad

County: WELD

QuarterQuarter: SWSW Section: 28 Township: 8N Range: 67W Meridian: 6 Ground Elevation: 5175

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: 1057 feet FSL from North or South section line

668 feet FWL from East or West section line

Latitude: 40.628235 Longitude: -104.904830

PDOP Reading: 1.3 Date of Measurement: 01/09/2018

Instrument Operator's Name: Al Hnizdo

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>16</u>	Oil Tanks*	<u>20</u>	Condensate Tanks*	<u> </u>	Water Tanks*	<u>4</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>1</u>
Pump Jacks	<u>16</u>	Separators*	<u>16</u>	Injection Pumps*	<u> </u>	Cavity Pumps*	<u> </u>	Gas Compressors*	<u>3</u>
Gas or Diesel Motors*	<u> </u>	Electric Motors	<u> </u>	Electric Generators*	<u>1</u>	Fuel Tanks*	<u> </u>	LACT Unit*	<u> </u>
Dehydrator Units*	<u> </u>	Vapor Recovery Unit*	<u>2</u>	VOC Combustor*	<u>4</u>	Flare*	<u> </u>	Pigging Station*	<u>1</u>

OTHER FACILITIES*

Other Facility Type

Number

Vapor Recovery Tower	<u>2</u>
Meter House	<u>2</u>
Water Pump Skid	<u>1</u>

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:

16 - 4" multi-phase flowlines from wells to separators; 2 - 4" flowlines from water and oil pump buildings (1 each) to lease edge; 1 - 8" gas line from gas meter house to lease edge. 8 - 3" gas lift lines from gas compressor to wellhead(s).

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

CONSTRUCTION

Date planned to commence construction: 03/01/2018 Size of disturbed area during construction in acres: 11.60

Estimated date that interim reclamation will begin: 09/01/2018 Size of location after interim reclamation in acres: 5.80

Estimated post-construction ground elevation: 5175

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?

Reuse Facility ID: or Document Number:

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

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: Patrick & Amanda Weakland

Phone:

Address: 8695 County Road 88

Fax:

Address:

Email:

City: Fort Collins State: CO Zip: 80524

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: oil and gas lease

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:	2730 Feet	2457 Feet
Building Unit:	2738 Feet	2457 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	2576 Feet	2196 Feet
Above Ground Utility:	372 Feet	366 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	179 Feet	480 Feet

INSTRUCTIONS:

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

DESIGNATED SETBACK LOCATION INFORMATION

Check all that apply. This location is within a:

- ☐ Buffer Zone
- ☐ Exception Zone
- ☐ Urban Mitigation Area

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

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

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

Date of Rule 305.a.(2) Buffer Zone Notification to Building Unit Owners: _____

FOR MULTI-WELL PADS AND PRODUCTION FACILITIES WITHIN DESIGNATED SETBACK LOCATIONS ONLY:

- ☐ Check this box if this Oil and Gas Location has or will have Production Facilities that serve multiple wells (on or offsite) and the Production Facilities are proposed to be located less than 1,000 feet from a Building Unit. *(Pursuant to Rule 604.c.(2)E.i., the operator must evaluate alternative locations for the Production Facilities that are farther from the Building Unit, and determine whether those alternative locations were technically feasible and economically practicable for the same proposed development.)*
- ☐ By checking this box, I certify that no alternative placements for the Production Facilities, farther from the nearest Building Unit, were available based on the analysis conducted pursuant to Rule 604.c.(2)E.i.

In the space below, explain rationale for siting the multi-well Production Facility(ies) that supports your Rule 604.c.(2)E.i determination. Attach documentation that supports your determination to this Form 2A.

SOIL

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

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

NRCS Map Unit Name: 48 - Olney fine sandy loam, 3 to 5 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: 2100 Feet

water well: 949 Feet

Estimated depth to ground water at Oil and Gas Location 73 Feet

Basis for depth to groundwater and sensitive area determination:

Nearest downgradient surface water feature is an intermittent stream to the northeast.
Nearest water well is CDWR Permit #251683, but nearest water well with recorded SWL is CDWR Permit #191853 which is 3337' 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 _____ 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 609 _____

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	<p>The form 2A is being amended to add an additional 8 wells and associated facilities to the pad. We plan to expand the pad from 7.7 acres to 11.62 acres and reduce the size of our MLVT from 60k barrels to 40k barrels. The plugging and abandonment bond number has also been updated.</p> <p>Location Identification tab is based off the Stagecoach 8-67-28-27C well located on this pad. Document # 401198459.</p> <p>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:</p> <p>Vendor of MLVT: Wellwater Solutions Manufacturer: Nalfo Fab-tech Inc., LLC Size and Volume: One (1) 156' diameter - 40,000 BBLs Anticipated time frame on site: 90 days</p>
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I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct and complete.

Signed: _____ Date: 01/31/2018 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: 3/5/2018

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	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 the results of the study and subsequent modeling to 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 four 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. Enerplus must complete three additional wells in 2018, two from the CO Lakes Pad, to hold the acreage by production to preserve our leases. In addition to the Rimrock prospect, Enerplus has committed to acquiring ROWs to tie the CO Lakes Pad to our two 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 2018, Enerplus will drill two exploratory wells, Cherry Creek 8-67-28-27N and Barton Mills 8-67-29-30C, from the Colorado Lakes 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>
401524021	FORM 2A SUBMITTED
401530773	NRCS MAP UNIT DESC
401530775	HYDROLOGY MAP
401530776	ACCESS ROAD MAP
401530807	LOCATION DRAWING
401530808	LOCATION PICTURES
401530809	WASTE MANAGEMENT PLAN
401530811	CONST. LAYOUT DRAWINGS
401531106	SURFACE AGRMT/SURETY
401533148	MULTI-WELL PLAN

Total Attach: 10 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	03/02/2018
OGLA	Operator provided a revised Green Completions BMP that was reviewed and accepted by the Environmental & Engineering group. OGLA review completed and task passed.	03/02/2018
OGLA	Contacted operator to further discuss the Green Completions - Emissions mitigation BMP. Waiting for call back.	02/22/2018
LGD	This proposed oil and gas facility is in the Agricultural Zoned District of unincorporated Weld County. A Weld Oil and Gas Location Assessment, WOGLA18-0013 was Administratively Approved on February 16, 2018. Copies of all related documentation are available from Weld County Government. A building permit is required for the production facilities (tank battery, separators, pump jacks, compressors, generators, etc.) from the Department of Planning Services. Access points from County roads require an Access Permit from the Department of Public Works, which includes any necessary traffic control plans and Improvement Agreements. The use of County right-of-way requires a permit from the Department of Public Works. Troy Swain, Weld Oil/Gas Liaison and LGD (970) 400-3579.	02/21/2018
Permit	Permitting Review Complete.	02/13/2018
Permit	Passed Completeness.	02/02/2018
Permit	Returned to draft per Permitting Supervisor.	02/01/2018
Permit	Returned to draft for comment explaining purpose of amended 2A.	01/31/2018

Total: 8 comment(s)