

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:

401030820

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Date Received:

04/27/2016

Oil and Gas Location Assessment

New Location Refile Amend Existing Location Location#: 305283

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:

305283

Expiration Date:

08/26/2019

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: 69175
Name: PDC ENERGY INC
Address: 1775 SHERMAN STREET - STE 3000
City: DENVER State: CO Zip: 80203

Contact Information

Name: Kelsi Welch
Phone: (303) 831-3974
Fax: ()
email: kelsi.welch@pdce.com

RECLAMATION FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID: 20160047 Gas Facility Surety ID: _____
- Waste Management Surety ID: _____

LOCATION IDENTIFICATION

Name: High Pointe LLC Number: 5N67W10L
County: WELD
Quarter: SWSW Section: 10 Township: 5N Range: 67W Meridian: 6 Ground Elevation: 4977

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: 325 feet FSL from North or South section line
613 feet FWL from East or West section line
Latitude: 40.407780 Longitude: -104.886550
PDOP Reading: 2.1 Date of Measurement: 11/18/2015
Instrument Operator's Name: Casey Kohout

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 #

Well Site is served by Production Facilities

322843

FACILITIES

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

Wells	5	Oil Tanks*	8	Condensate Tanks*		Water Tanks*		Buried Produced Water Vaults*	
Drilling Pits		Production Pits*		Special Purpose Pits		Multi-Well Pits*		Modular Large Volume Tanks	2
Pump Jacks		Separators*	4	Injection Pumps*		Cavity Pumps*		Gas Compressors*	
Gas or Diesel Motors*		Electric Motors		Electric Generators*		Fuel Tanks*		LACT Unit*	
Dehydrator Units*		Vapor Recovery Unit*	1	VOC Combustor*	4	Flare*		Pigging Station*	

OTHER FACILITIES*

Other Facility Type

Number

Meter	1
500 bbl temporary water tanks	3

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:

Each well will have a flow line, oil production line, water production line and a backpressure line, each battery will have a gas sales line. Oil production line and flow lines are 3 inch steel SCH 80FB PE DRL. Water production line and low pressure gas vent lines are 2 inch SDR7 poly. Gas sales lines installed and maintained by Gas Purchaser, normally 6 inch steel .256 FBE

CONSTRUCTION

Date planned to commence construction: 07/01/2018 Size of disturbed area during construction in acres: 9.00

Estimated date that interim reclamation will begin: 10/01/2018 Size of location after interim reclamation in acres: 3.70

Estimated post-construction ground elevation: 4977

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? No

DRILLING WASTE MANAGEMENT PROGRAM

Drilling Fluids Disposal: OFFSITE

Drilling Fluids Disposal Method: Land application

Cutting Disposal: OFFSITE

Cuttings Disposal Method: Beneficial reuse

Other Disposal Description:

Drill cuttings will be land applied at PDC spread fields with COGCC Facility ID 444255, 159534, 436033, or 434889.

Beneficial reuse or land application plan submitted? Yes

Reuse Facility ID: 444255 or Document Number: _____

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

SURFACE & MINERALS & RIGHT TO CONSTRUCT

Name: High Pointe, LLC

Phone: _____

Address: 142 N. Timberline Road

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 06/24/2015

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:	<u>810</u> Feet	<u>420</u> Feet
Building Unit:	<u>5121</u> Feet	<u>5131</u> Feet
High Occupancy Building Unit:	<u>5280</u> Feet	<u>5280</u> Feet
Designated Outside Activity Area:	<u>5280</u> Feet	<u>5280</u> Feet
Public Road:	<u>336</u> Feet	<u>196</u> Feet
Above Ground Utility:	<u>275</u> Feet	<u>134</u> Feet
Railroad:	<u>5280</u> Feet	<u>5280</u> Feet
Property Line:	<u>325</u> Feet	<u>185</u> 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 (onl 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: 15—Colby loam, 1 to 3 percent slopes

NRCS Map Unit Name: 18—Colby-Adena loams, 3 to 9 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: 06/24/2015

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: 81 Feet

water well: 1593 Feet

Estimated depth to ground water at Oil and Gas Location 30 Feet

Basis for depth to groundwater and sensitive area determination:

Sensitive area determination: ground water is more than 20'. Depth to ground water determination: CDWR Receipt No. 9066015, Permit No. 96391 - -

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 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 following wells will be drilled from this pad: High Pointe LLC 10H-232, High Pointe LLC 10H-302, High Pointe LLC 10I-202 High Pointe LLC 10I-312.

The MLVT will be onsite for 120 days and contains 53,000 bbls per tank. MLVT manufacturers currently used by PDC are Industrial Systems Inc. (ISI) and PCI Manufacturing.

The proposed High Pointe LLC 10H-302 (doc#401030705) location was used as the reference point for footages and lat/long location.

3- 500 bbl temporary water tanks will be onsite during the high water production phase of the well. These tanks will be onsite until water production levels decrease which is estimated to be 6-9 months.

See "Notification Zone Drawing" attached as other.

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

Signed: _____ Date: 04/27/2016 Email: kelsi.welch@pdce.com

Print Name: Kelsi Welch Title: Regulatory Analyst

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

COGCC Approved:  Director of COGCC Date: 8/27/2016

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.

<u>COA Type</u>	<u>Description</u>
	Operator must implement site-specific best management practices in accordance with good engineering practices, including, but not limited to, construction of a berm or diversion dike, site grading, or other comparable measures, sufficient to protect the nearby ravine located 81 feet north of the oil and gas location from a release of drilling, completion, produced fluids, and chemical products.

Best Management Practices

<u>No</u>	<u>BMP/COA Type</u>	<u>Description</u>
1	Storm Water/Erosion Control	Storm Water/Erosion Control: Stormwater Management Plan contains required elements associated with PDC's construction activities for Areas 1, 2, 3, and 5, as defined in the CDPS General Permit for Stormwater Discharges Associated with Construction Activity, Authorization to Discharge Under the Colorado Discharge Permit System (Permit No. COR-030000, re-issued and effective July 1, 2007).BMPs for sediment and erosion control will be accomplished through a combination of construction techniques, vegetation and re-vegetation, administrative controls, and structural features.
2	Material Handling and Spill Prevention	To prevent adverse impacts to shallow groundwater, buried produced water vault shall be installed above an impermeable synthetic or geosynthetic liner system which shall be tied back into the surface liner.

3	Drilling/Completion Operations	<p>MLVTs: PDC Energy, Inc. (PDC) has developed Best Management Practices (BMPS) to prevent injuries, property damage or environmental impacts and a Contingency Plan for any Modular Large Volume Tank (MLVT) leak or catastrophic failure of the tank integrity and resulting loss of fluid. These BMPs include, but not limited, by the following:</p> <ol style="list-style-type: none"> 1) PDC determines MLVT locations based on size of location, nearby surface waters, site visibility, surrounding land use, property lines, onsite traffic, site security, tear-away tank fill connections, topography (high, low, slope, direction), nearby building units, roads, access points, and surface owner requests. 2) Signs shall be posted on each MLVT to indicate that the contents are fresh water and that no E&P waste fluids are allowed. Location and additional signage shall conform to Rule 210. 3) MLVTs will be operated with a minimum of 1 foot freeboard at all times. 4) Access to the tanks shall be limited to operational personnel. 5) Construction and installation of the tank structure, liner and sub-grade shall meet or exceed the manufacturer specifications. PDC follows manufacturer's Standard Operating Procedures (SOPs) and will provide these SOPs upon request to the COGCC. 6) PDC will conduct daily, visual inspections of the exterior wall and general area for any integrity deficiencies before, during, and after filling the MLVTs. PDC uses Construction Sign-Off, Site Preparation Sign-Off, Completion Sign-Off, Pre-Fill, and Site Visit checklists to maintain a written record of inspections. However, when the fluid level in the MLVTs is less than two (2) feet and there is no activity going on (i.e. during holidays or a small break between completions), only intermittent inspections will be conducted. Two feet is the safe volume of fluid level that is needed to hold the liner down and keep the MLVT stable. 7) Each location where MLVT's are used will have its own set of unique site-specific characteristics and associated risks (e.g., rural vs. urban setting, grade of the location, etc.) to be considered in a worst case scenario. These characteristics must be identified and addressed prior to the MLVT construction phase and should be documented in the MLVT construction checklist. Ensuring the safety of our employees, contractors, and the public are a top priority. This can be addressed with the implementation of MLVT pre-construction risk assessment measures to address safety concerns, and minimize environmental impacts and property damage in the unlikely event of a MLVT release. 8) In the event of a catastrophic MLVT failure, the Operator shall notify the COGCC as soon as practicable but not more than 24 hours after discovery, submit a Form 22-Accident Report within 10 days after discovery, conduct a "root cause analysis", and provide same to COGCC on a Form 4-Sundry Notice within 30 days of the failure. 9) The MLVT shall be constructed and operated in accordance with a design package certified and sealed by a Licensed Professional Engineer either in Colorado or the state where the MLVT was designed or manufactured. 10) COGCC Rules 605.a.(3,5,6,7, and 8), as applicable to tank setbacks at the time of installation shall apply to the siting of this MLVT. 11) All MLVT liner seams shall be welded and tested in accordance with applicable ASTM international standards. Any repairs to liners shall be made using acceptable practices and applicable standards. 12) PDC Energy Inc. hereby certifies to the Director that the Modular Large Volume Tanks, utilized for the afore mentioned location, will be designed and implemented consistent with the Colorado Oil and Gas Conservation Commission policy dated June 13, 2014.
4	Drilling/Completion Operations	PDC Energy Inc. hereby certifies to the Director that the Modular Large Volume Tanks, utilized for the afore mentioned location, will be designed and implemented consistent with the Colorado Oil and Gas Conservation Commission policy dated June 13, 2014.

Total: 4 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2477896	CORRESPONDENCE
2477952	MULTI-WELL PLAN
2477955	OPERATOR RESPONSE TO LGD COMMENT
401030820	FORM 2A SUBMITTED
401030867	ACCESS ROAD MAP
401030868	HYDROLOGY MAP
401030869	LOCATION DRAWING
401030870	LOCATION PICTURES
401030872	NRCS MAP UNIT DESC
401030873	NRCS MAP UNIT DESC
401030874	OTHER
401032343	FACILITY LAYOUT DRAWING
401032577	WASTE MANAGEMENT PLAN

Total Attach: 13 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	Final Review Completed.	8/19/2016 1:07:10 PM
OGLA	Operator provided their response to the City of Greeley LGD Comment (See Attachment) OGLA review complete and task passed.	3/2/2016 1:59:09 PM
OGLA	Operator provided a revised Multi-Well Plan.	7/29/2016 8:29:15 AM
OGLA	Followed up with operator inquiring about their response to the comment from Greeley requesting the operator sundry the location to add BMPs from the Greeley USR. They are still working on a response to Greeley.	7/6/2016 9:37:09 AM
Permit	Permitting Review Complete.	6/29/2016 1:21:24 PM

LGD	<p>The City of Greeley respectfully requests that the State withhold approval of any State permit until the operator successfully receives local land use approval, in this instance a Use by Special Review ("USR") permit. At this time, without a formal application having been submitted to the City by the applicant, it is difficult to anticipate a date for potential City approval. A Use by Special Review application can be completed within approximately 120 days if all approval criteria are met and the project is found to be supportable.</p> <p>If the COGCC does not withhold approval, the City then requests that the State application be approved with the condition that the 2A Permit be subsequently formally amended to incorporate any site and/or operational standards that get finalized through the local Use by Special Review permit. The City believes this deference is consistent with, and in the spirit of, the standing Memorandum of Understanding between the City of Greeley and the COGCC, and at the same time the City acknowledges the State's right to determine areas of operational conflict that would otherwise prohibit the incorporation of such standards into an Amended 2A Permit.</p> <p>A number of preliminary review comments (i.e., pre-application notes) were provided to the operator on 11/30/15. The City would anticipate and benefit from on-going discussion with the applicant, and it would be appropriate for the operator to submit a formal land use application, if indeed it is the operator's intent to begin development of the site for drilling.</p> <p>To briefly summarize comments provided directly to the applicant, in general the layout of the proposed oil and gas facilities in several clustered areas is particularly expansive. The distribution proposed will make it difficult and costly to effectively screen the site, while (seemingly unnecessarily) extending the amount of land disturbed for completion/recompletion operations. If the overall use proves to be supportable, the City encourages the operator to consider ways to re-design the site to be more compact and/or contain fewer facilities. The non-compact nature of the proposed design exacerbates a concern that the proposed facilities would unnecessarily consume and limit land use options in the future.</p> <p>Other comments provided include those expressing concern about limitations caused on future logical growth extension of the city, a requirement to meet minimum city setbacks, a commitment to various specified best management practices, a need to design for visual mitigation (particularly relative to Highway 34, an critically important gateway corridor into Greeley), landscaping requirements, and options for temporary water supply to the site.</p> <p>It is the expectation of the City that these and other matters identified through the benefit of a complete design and land application to the City would be appropriately addressed through the City's USR process.</p>	6/2/2016 11:21:35 AM
OGLA	IN PROCESS - Operator concurred with changing the 2A from New Location to Amend Existing Location due to an existing well (B&B #10-14), provided the Location ID# where the B&B #10-14 well will continue to produce to, updated the number of wells in the Facilities section, provided a revised Multi-Well Plan, and confirmed that the temporary produced water tanks will be bermed and vapor emission controlled like the permanent tanks. OGLA review complete. Waiting on Public Comment period.	5/23/2016 2:11:25 PM
LGD	This proposed location is on agricultural land within Greeley city limits. Troy Swain, Weld Oil and Gas Liaison and LGD (970) 353-6100, ext. 3579.	5/19/2016 1:55:14 PM
OGLA	Operator concurred with revising the distance to nearest downgradient surface water feature and changing the Sensitive Area to YES. Additional follow-up information and clarification requested concerning changing this location from New to Amended and the temporary water tanks.	5/16/2016 11:01:49 AM

OGLA	ON HOLD - Requested operator concur with changing the 2A from New Location to Amend Existing Location due to existing well, indicate where the existing well is producing to, update the number of wells in the Facilities section, provide a revised Multi-Well Plan, revise distance to nearest downgradient surface water feature, change Sensitive Area to YES, and provide additional information concerning the temporary water tanks. Due by 6/13/16.	5/13/2016 1:42:41 PM
Permit	Extended comment period at request of Town of Greeley LGD to 6/2/2016.	5/4/2016 9:15:13 AM
Permit	Passed completeness.	5/3/2016 3:00:14 PM
Permit	Updated Surety bond ID# per operator request.	5/3/2016 2:12:09 PM

Total: 13 comment(s)