

FORM
2A

Rev
08/19

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:

401631824

Date Received:

05/09/2018

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:

468699

Expiration Date:

10/04/2022

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: 10670

Name: MALLARD EXPLORATION LLC

Address: 1400 16TH STREET SUITE 300

City: DENVER State: CO Zip: 80202

Contact Information

Name: Erin Mathews

Phone: (720) 543 7951

Fax: ()

email: emathews@mallardexploration.com

FINANCIAL ASSURANCE

- Plugging and Abandonment Bond Surety ID (Rule 706): 20170115 Gas Facility Surety ID (Rule 711): _____
- Waste Management Surety ID (Rule 704): _____

LOCATION IDENTIFICATION

Name: Goldeneye Number: East Pad

County: WELD

Quarter: NENW Section: 21 Township: 8N Range: 60W Meridian: 6 Ground Elevation: 4934

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: 558 feet FNL from North or South section line

2192 feet FWL from East or West section line

Latitude: 40.653550 Longitude: -104.098062

PDOP Reading: 1.6 Date of Measurement: 04/27/2018

Instrument Operator's Name: Ryan Desmond

LOCAL GOVERNMENT INFORMATION

County: WELD Municipality: N/A

Per § 34-60-106 (1)(f)(I)(A), the following questions pertain to the "local government with jurisdiction to approve the siting of the proposed oil and gas location."

The local government with jurisdiction is: County _____

Does the local government with jurisdiction regulate the siting of Oil and Gas Locations, with respect to this COGCC application? If the local government has waived its right to precede the COGCC in siting determination, indicate by selecting "NO" here and selecting "Waived" below. Yes No

If yes, in checking this box, I hereby certify that an application has been filed with the local government with jurisdiction to approve the siting of the proposed oil and gas location.

The local government siting permit type is: _____

The local government siting permit was filed on: _____

The disposition of the application filed with the local government is: Waived

Additional explanation of local process:

Weld Co LGD waived right to precede 5/29/19. WOGLA Submitted 5/9/19.

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>13</u>	Oil Tanks*	<u>26</u>	Condensate Tanks*	_____	Water Tanks*	<u>13</u>	Buried Produced Water Vaults*	_____
Drilling Pits	_____	Production Pits*	_____	Special Purpose Pits	_____	Multi-Well Pits*	_____	Modular Large Volume Tanks	<u>2</u>
Pump Jacks	<u>13</u>	Separators*	<u>13</u>	Injection Pumps*	_____	Cavity Pumps*	_____	Gas Compressors*	<u>2</u>
Gas or Diesel Motors*	<u>13</u>	Electric Motors	<u>13</u>	Electric Generators*	<u>2</u>	Fuel Tanks*	_____	LACT Unit*	<u>2</u>
Dehydrator Units*	_____	Vapor Recovery Unit*	<u>4</u>	VOC Combustor*	_____	Flare*	_____	Pigging Station*	_____

OTHER FACILITIES*

<u>Other Facility Type</u>	<u>Number</u>
Vapor Recovery Towers	<u>1</u>
Emission Control Devices	<u>7</u>
Fired Vessels	<u>13</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:

3" welded steel flowlines from wellheads to separators carrying oil, gas and water.
2" welded steel gas supply line from compressors to wellheads.

Empty rectangular box for additional information or comments.

CONSTRUCTION

Date planned to commence construction: 01/01/2020 Size of disturbed area during construction in acres: 16.40
Estimated date that interim reclamation will begin: 08/01/2020 Size of location after interim reclamation in acres: 8.50
Estimated post-construction ground elevation: 4934

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: Commercial Disposal

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: Bob R Offutt

Phone:

Address: 9010 County Road E

Fax:

Address: Apt 96

Email:

City: Olney Springs State: CO Zip: 81062-9710

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

If this Form 2A is associated with Drilling and Spacing Unit applications, list docket number(s):

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:	5280 Feet	5280 Feet
Building Unit:	5280 Feet	5280 Feet
High Occupancy Building Unit:	5280 Feet	5280 Feet
Designated Outside Activity Area:	5280 Feet	5280 Feet
Public Road:	2969 Feet	2760 Feet
Above Ground Utility:	562 Feet	142 Feet
Railroad:	5280 Feet	5280 Feet
Property Line:	329 Feet	119 Feet
School Facility::	5280 Feet	5280 Feet
School Property Line:	5280 Feet	5280 Feet
Child Care Center:	5280 Feet	5280 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, Designated Outside Activity Area, School Facility, and Child Care Center – as defined in 100 Series Rules.
 -For measurement purposes only, Production Facilities should only include those items with an asterisk(*) on the Facilities Tab.

SCHOOL SETBACK INFORMATION

Was Notice required under Rule 305.a.(4)? Yes No

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 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: 40 - Nunn loam, 0 to 6 percent slopes

NRCS Map Unit Name: 61 - Stoneham fine sandy loam, 0 to 6 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: 04/27/2018

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: 2 Feet

water well: 4041 Feet

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

Basis for depth to groundwater and sensitive area determination:

Location is sensitive due to depth to groundwater and proximity to low area.
Depth to groundwater taken from water well permit #23213 located approximately 5,400 feet to the northwest.

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

Manufacturer of MLVT: Hydrologistics
 Size and Volume: Up to two (2) 157' diameter/42,000 BBLs
 Anticipated time frame on site: 90 days

Since this location is not in a buffer zone, a Waste Management Plan and Facility Layout Drawing were not included.

Mallard Exploration does not anticipate developing this oil and gas location until the completion of a natural gas gathering system and processing plant that will be constructed in the vicinity of the location by a third party. The gathering system and processing plant is currently operational. Mallard has entered into a contract with the operator of the gathering system/plant.

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

Signed: _____ Date: 05/09/2018 Email: regulatory@ascentgeomatics.com

Print Name: Justin Garrett Title: Regulatory Analyst

Based on the information provided herein, this Oil and Gas Location Assessment complies with COGCC Rules, applicable orders, and SB 19-181 and is hereby approved.

COGCC Approved:  Director of COGCC Date: 10/5/2019

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**

Construction	The location is in a sensitive area because of the presence of shallow groundwater, therefore, the operator shall line the secondary containment areas for the tanks and separators with an impervious material to prevent the downward migration of produced liquids.
Emissions mitigation	Green Completions -Test separators and associated flow lines, sand traps and emission control systems shall be installed on-site to accommodate green completions techniques. When commercial quantities of salable quality gas are achieved at each well, the gas shall be immediately directed to a sales line or shut in and conserved. If a sales line is unavailable or other conditions prevent placing the gas into a sales line, the operator shall not produce the wells without an approved variance per Rule 805.b.(3)C.

Best Management Practices**No BMP/COA Type****Description**

1	General Housekeeping	Maintain appearance with garbage clean-up; a trash bin will be located on site to accumulate waste by the personnel drilling the wells. Site will have unused equipment, trash and junk removed immediately.
2	Material Handling and Spill Prevention	<p>New Flowline Rule 1100 Series BMP:</p> <p>1. Integrity testing of flowlines connecting wellheads to the separators: CONSTRUCTION PHASE: The flowlines that Operator uses are designed/constructed/tested to ASME B31.4 and API 1104 standards. Only materials with Material Test Reports (MTRs) provided by the pipeline supplier are used in the construction of the flowlines. Construction is tested with 100% x-ray and is hydrotested per the applicable ASME Code. OPERATIONS PHASE: Pressure testing of the flowlines is conducted on an annual basis. Additionally, Operator is already in compliance with 1104.i. Continuous Pressure Monitoring Requirements of the 1100 Series Flowline Regulations. Operator utilizes a series of standard operating procedures to define our flowline integrity testing program.</p> <p>2. Frequency on valve and fitting inspections: Operator's Lease Operators inspect all equipment on their locations at a minimum of once every 48 hours, but most sites are inspected every 24 hours. Valves and fittings inspections are part of the daily job</p>

duties of the lease operators. Any valve or fitting that is found to be leaking is either repaired immediately by the lease operator or shut-in procedures are implemented as described below. Additionally, lease operators conduct a documented monthly inspection of the facility and this includes inspection of all valves and fittings.

3. Description of Lease Operator Inspections, Monthly Documented Inspections & Environmental Inspections: The Operator lease operator inspections are done as a routine part of the lease operators job. The lease operator would typically visit each of their assigned locations daily. They conduct a visual inspection of the facility which includes all valves, fittings, wellhead, tanks, vapor control systems and all connections. The lease operator also checks our Scada automation system for system pressures and flows. Pressure and flow sensors are placed on multiple points throughout the system and are specifically designed to measure the system for irregularities that would indicate a leak in the system or change in production of oil, water, or gas. The Scada system is also set-up with alarms that are triggered by anomalous pressure or flows. Low pressure warnings can activate automatic shut-in of the well and system. Lease operator inspections would note any leaks of either gas or fluids which triggers an immediate repair or shut-in. The Lease operators also conduct CDPHE Regulation 7– Audible, Visual, and Olfactory (AVO) inspections, which focus on the tanks and vapor control system. The Regulation 7 AVO is also a documented inspection. In addition, the sites are inspected with optical gas imaging cameras on a routine schedule, annually for compliance purposes with our Spill Prevention Containment and Countermeasures (SPCC) plan, depending on the status of reclamation the sites are also inspected on either a 14-day, 30-day, annual or rain triggered event in accordance with both the COGCC and the CDPHE Stormwater Management Plans (SWMP).

4. Measures for when leaks are discovered:
If we suspect a leak we shut in the well and hydrotest the line. If it passes, then the well is brought back into production.
If there is an actual leak, the well is kept shut in while the leak is found and fixed. Not until the line has passed hydrotesting, would the well be brought back online.
In the event of a spill, Mallard personnel and/or contractors will adhere to Mallard’s Emergency Response Program and Spill Prevention, Control, and Countermeasure (SPCC) Plan. If a spill is discovered specific steps are taken, including immediate response, reporting, containment and cleanup. Key steps include:

Stop all work on site.
Contact 911/Emergency Services (if applicable)
Evacuate all unnecessary personnel and visitors to the appropriate muster area (if applicable),
Assess the situation:
If the employee or contractor is able to safely stop the spill or release this should be performed as quickly as possible.
If it is safe to do so employees or contractors should utilize booms, temporary dikes, or other methods of stopping the flow of the spill or release.
Follow appropriate incident reporting procedures
Provide details on estimated size of spill (bbls), current control of spill, location of spill on site, nearest body of water, and any other information that will facilitate a prompt and efficient response and clean-up.
Mallard will mobilize material, equipment, and manpower to control the spill and clean up any environmental impacts resulting from the spill.
Mallard personnel will:
Notify appropriate regulatory agencies
Complete appropriate agency incident reports
Notify landowners (if applicable)
Request environmental support (if applicable)

3	Construction	<p>Operator will have an MLVT Design Package, certified and sealed by a licensed professional engineer, which is on file in their office and available upon request. The site shall be prepared in accordance with the specifications of the design package prior to tank installation; including ensuring that proper compaction requirements have been met.</p> <p>The MLVT will be at least 75 feet from a wellhead, fired vessel, heater-treater, or a compressor with a rating of 200 horsepower or more. It will be placed at least 50 feet from a separator, well test unit, or other non-fired equipment.</p> <p>All liner seams will be welded and tested in accordance with applicable ASTM international standards.</p> <p>Operator will be present during initial filling of the MLVT and the contractor will supervise and inspect the MLVT for leaks during filling.</p> <p>Operator will comply with the testing and re-inspection requirements and associated written standard operating procedures (SOP) listed on the design package.</p> <p>Signs will be posted on the MLVT indicating that the contents are freshwater.</p> <p>The MLVT will be operated with a minimum of 1 foot of freeboard at all times.</p> <p>Access to the MLVT will be limited to operational personnel and authorized regulatory agency personnel.</p> <p>Operator or contractor will conduct daily visual inspections of the exterior wall and surrounding area for integrity deficiencies.</p> <p>Operator will have a contingency plan/emergency response plan associated with the MLVT and it is on file at their office.</p> <p>A fabric reinforced liner will be utilized. In the event that a tank breach were to occur, the fabric reinforced liner will prevent a "zippering" failure from occurring. The liner will meet the specifications per the design package.</p> <p>Operator acknowledges and will comply with the Colorado Oil & Gas Conservation Commission Policy on the Use of Modular Large Volume Tanks in Colorado dated June 13, 2014.</p>
4	Interim Reclamation	<p>Operator shall be responsible for segregating the topsoil, backfilling, re-compacting any backfill, 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 preexisting conditions as best as possible with control of all noxious weeds.</p>

Total: 4 comment(s)

Attachment Check List

<u>Att Doc Num</u>	<u>Name</u>
2479164	HYDROLOGY MAP
2479165	OBJECTIVE CRITERIA REVIEW MEMO
2534160	MULTI-WELL PLAN
2534161	LOCATION DRAWING
2534162	CORRESPONDENCE
401631824	FORM 2A SUBMITTED
401632562	NRCS MAP UNIT DESC
401632565	NRCS MAP UNIT DESC
401632569	ACCESS ROAD MAP
401632572	LOCATION PICTURES
401632573	REFERENCE AREA MAP
401632574	REFERENCE AREA PICTURES

Total Attach: 12 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	The Objective Criteria Review Memo (Doc #2479165) is attached to this Form 2A. Following additional analysis arising out of the Objective Criteria, the Director determined that this application meets the standard for the protection of public health, safety, welfare, the environment and wildlife resources set by SB 19-181.	10/03/2019
OGLA	COGCC staff conducted its technical review of this Form 2A Oil and Gas Location Assessment within the context of SB 19-181 and the required Objective Criteria. This Form 2A met Objective Criteria #5c & 8.	10/03/2019
OGLA	The operator provided a revised Hydrology Map, updated the dates for construction and interim reclamation starts, specified the direction to the water well in the Water Resources section, concurred with removing several BMPs that either conflicted with COGCC Rules and COAs or were not necessary, and confirmed that the gas gathering system is operational.	10/03/2019
Permit	Permitting Review Complete.	09/23/2019
OGLA	A new Multi-Well Plan (Document # 2534160) and Location Drawing (Document # 2534161) have been provided by the operator. Correspondence related the OGLA-181 review has been included in the attachments as Document # 2534162.	09/12/2019
OGLA	Mallard is trying to consolidate the Goldeneye pads and if possible they will submit new 2 and 2As.	08/12/2019
Permit	COGCC Staff has added the Local Government siting permit information and the School and Childcare Center distances provided by the operator.	07/25/2019
OGLA	OGLA review completed and task passed.	06/20/2018
LGD	This proposed oil and gas facility is in the Agricultural Zoned District of unincorporated Weld County. A Weld Oil and Gas Location Assessment (WOGLA) is required prior to constructing any improvements related to oil and gas exploration and production and prior to the issuance of any building permits. 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.	06/04/2018
Permit	Passed Completeness.	05/15/2018

Total: 10 comment(s)