



DIRECTOR'S RECOMMENDATION:

Mallard Exploration LLC (Mallard), Operator Number 10670. Shellduck South Pad OGD, OGD ID #481626. Form 2C #402657688, Form 2A #402657658, Form 2B #402657681, Docket #211000200.

Pursuant to Rule 306, the Director submits to the Commission this recommendation for the Mallard Shellduck South Pad OGD located in Weld County, Colorado.

BACKGROUND

On October 28, 2021, Mallard filed a Form 2C, Oil and Gas Development Plan Certification, and all required components for an Oil and Gas Development Plan (OGDP) application with the Colorado Oil and Gas Conservation Commission (COGCC). Staff returned the Form 2A to "DRAFT" status one time for the applicant to make corrections prior to the Director determining the application was complete on February 17, 2022. Additional revisions were coordinated between Staff and the applicant throughout the technical review process. This Recommendation is based on information finalized in the Form 2A, Form 2B, and Hearing Application as of May 11, 2022. No additional revisions will be made to the application prior to the Commission Hearing scheduled for May 25, 2022.

Mallard Eider North Proposed Development:

The proposed OGD includes application lands in Township 7 North, Range 60 West, ALL of Section 5 and Section 6. The setting is a rural area within Weld County.

Mallard proposes to amend a previously permitted but unbuilt Oil and Gas Location (Location ID#455769): the Shellduck South Pad. This Location will have 8 wells, 5 oil tanks, 5 water tanks, 8 separators, 1 vapor recovery unit, 3 enclosed combustion devices, 1 LACT unit, and 1 modular large volume tank.

Mallard is committed to transporting oil, gas, and produced water from the location via third-party pipeline.

Mallard has provided the following updated estimated timeline for construction through production of the location:

Shellduck South Pad

- Commence construction: May 2023
- Commence drilling: June 2023
- Commence completions: August 2023
- Flowback: October 2023
- Full production phase: December 2023

Surface Lands:

The proposed Oil and Gas Location and associated surface disturbance lie on fee surface within the mineral development area, and require approximately 13.6 acres of total location disturbance as follows:

- Oil and Gas Location disturbance of 11 acres (approximately 6.7 acres for the Working Pad Surface (WPS); interim reclamation will reduce the operational pad down to 5.6 acres.
- No new pipeline disturbance or utility corridor disturbance.
- New access road disturbance of 2.6 acres road that connects to Weld County Road 97.

Mineral Development:

Mallard seeks to develop FEE minerals from the Niobrara, Fort Hays, Codell, and Carlile formations as follows:

- The use of one existing drilling and spacing unit (DSU) covering approximately 1,280 acres; Order 535-975.
- The Shellduck South Pad OGDG will include a total of 8 new wells from a previously permitted but unbuilt oil and gas location within the DSU lands (Loc ID# 455769) that is being amended through this OGDG application.
- There is one other horizontal well producing or permitted to produce the Niobrara, Fort Hays, Codell, and Carlile formations, or portions thereof, within the application lands and within the established DSU boundaries; that well will remain subject to its originally permitted spacing, and will not be included in this OGDG.

This spacing complies with applicable COGCC rules and Staff appreciates the utilization of a single, existing DSU for these application lands, eliminating the need for multiple individual wellbore spacing units.

Financial Assurance:

Staff confirmed that Mallard has a valid blanket plugging bond on record for all proposed oil and gas wells in this OGDG consistent with Rule 702.

LOCAL GOVERNMENT PERMITTING AND PRE-APPLICATION CONSULTATIONS**Relevant Local and Proximate Governments:**

Weld County is the relevant local government for the proposed Location. There are no proximate local governments within 2,000 feet of the WPS.

Permitting with Weld County:

The 1041WOGLA 20-0059 was submitted on July 13, 2020, and approved on August 27, 2020. The operator has indicated that WOGLA pre-Application meeting was not required.

VARIANCES and ADMINISTRATIVE CONSIDERATIONS

Lesser Impact Area Exemption Request Summary:

Mallard requested a Rule 304.d. Lesser Impact Area Exemptions for the Geologic Hazard Plan. This exemption request was granted on November 5, 2021.

Variance Requests:

Mallard did not include any variance requests in their application materials and none are required to permit the Oil and Gas Operations as proposed.

PUBLIC COMMENTS

Pursuant to Rule 303.d.(1).A.ii, the public comment period was open for 30 days from February 17, 2022 through March 19, 2022. No public comments were received on the Shellduck South Pad Form 2A., nor were any received on Hearing Docket# 211000200.

COGCC STAFF'S TECHNICAL REVIEW HIGHLIGHTS

This section addresses issues related to siting, and public health, safety, welfare, the environment and wildlife resources, within the context of SB 19-181 for Mallard's Shellduck South Pad Oil and Gas Development Plan.

Alternative Location Analysis (ALA)

The proposed location does meet the 304.b.(2).B.viii. ALA criteria (WPS is within an High Priority Habitat for Pronghorn Winter Concentration Area); however, Mallard obtained an ALA waiver per Rule 304.b.(2).A.i. from Colorado Parks & Wildlife (CPW). CPW granted the waiver primarily based on an assessment of the proposed location and the extent of the HPH, which could not be avoided to access the minerals in the DSU (see CPW Waiver attachment on the Form 2A). Therefore, an ALA was not required and none was submitted.

Public Health, Safety, and Welfare Considerations

Staff's technical review of the OGDG identified no Residential Building Units (RBUs) within 2,000 feet of the WPS. The nearest RBU is approximately 3,389 feet northwest of the WPS. Further review determined there are no High Occupancy Building Units (HOBUs), Designated Outside Activity Area (DOAA), School Facility, or Child Care Center within a mile of the proposed WPS. Additionally, the OGDG is not proposed within a Disproportionately Impacted Community.

Staff has determined that the proposed site-specific BMPs will adequately minimize and/or mitigate the potential adverse impacts to public health, safety and welfare. The BMPs and plans address administrative processes (coordination and permitting with relevant local government)

and nuisance conditions (e.g. noise, lighting, odors, and dust). Staff concludes that there are no significant potential direct adverse impacts to public health, safety, and welfare.

Environmental Resource Considerations

Wildlife Resources:

The proposed Oil and Gas Location is sited within a High Priority Habitat for Pronghorn Winter Concentration Area. This HPH is very extensive, covering hundreds of square miles in this part of Weld County. Mallard began engaging in consultations with CPW beginning in April 2021 regarding minimizing unavoidable anticipated impacts, preliminary mitigation options and compensatory costs, and potential ALA needs for this proposed Oil and Gas Location. The consultation process included on-site visits by CPW field staff. Mallard subsequently prepared a Wildlife Mitigation Plan which is attached to the Form 2A. As part of the consultation process with CPW, waiving of the ALA requirement was also discussed. A CPW Consultation Summary is also attached to the Form 2A.

Additionally, CPW determined that an indirect mitigation fee was applicable to the proposed location based on a density calculation performed as part of the CPW consultation process and that Mallard intends to conduct all construction, drilling, and completion operations outside of the Pronghorn Winter Concentration season.

Operator-proposed site-specific measures to address wildlife resources:

Given that the proposed Oil and Gas Location is within an HPH, Mallard provided specific BMPs to address the protection of the Pronghorn Winter Concentration Area near the Oil and Gas Location. Staff has reviewed those BMPs and included them on the Form 2A. A summary of Mallard's minimization and mitigation measures includes:

1. Operator will plan to conduct all construction, drilling, and completion operations between May 1 and December 31, outside of the Pronghorn Winter Concentration season. Operator will provide notice to COGCC and CPW if the operations stray beyond December 31, this will also result in a higher Indirect Habitat Mitigation Fee
2. During reclamation, Operator will use CPW Recommended Seed Mix for Pronghorn.
3. Operator will use CPW-recommended fence designs.
4. Operator will direct site lighting downward and inward to ensure that lighting from Oil and Gas Facilities does not unnecessarily impact the health, safety, and welfare of Wildlife.
5. Operator will transport oil, gas, and produced water from the location via 3rd party pipelines that will be in place prior to commencement of production operations. The planned oil and produced water storage tanks are for safety and maintenance only.

COGCC Staff Analysis of Wildlife Resource Considerations:

COGCC Staff conducted a technical review to evaluate the potential for impact to the High Priority Habitat - Pronghorn Winter Concentration Area. Mallard has proposed the Shellduck South Pad location within this HPH and provided BMPs that reduce, minimize, or mitigate impacts to Pronghorn migrating through the area. The BMPs include timing restrictions, engineering controls (lighting) and CPW recommendations (fencing and seeding mix). Staff also appreciates Mallard's commitment to oil, gas, and produced water pipeline takeaway reducing truck trips in the area. Based on this information, Staff concludes that risk to HPH from this Oil and Gas Location will be minimized by the successful implementation of the proposed BMPs.

DIRECTOR'S RECOMMENDATION:

The Director has reviewed the Oil & Gas Development Plan and all supporting application materials and has obtained all information necessary to evaluate the proposed operation and its potential impacts to public health, safety, welfare, the environment, and wildlife resources. The Director has determined that the OGDG application complies with all applicable requirements of the Commission's Rules. The Director recommends that the Commission approve the Mallard Shellduck South Pad OGDG.

**FORM
2A**Rev
01/21**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:

402657658

Date Received:

10/28/2021

Oil and Gas Location Assessment

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 <https://cogcc.state.co.us/> for all accompanying information pertinent this Oil and Gas Location Assessment.

Location ID: **455769**

OGDP ID:

Expiration Date:

☐ New Location ☐ Refile ☒ Amend Existing Location # 455769

If this Location assessment is a component of an Oil and Gas Development Plan (OGDP) application, enter the OGDP docket number(s).

Docket Number	OGDP ID	OGDP Name
211000200		

If this Location assessment is part of an approved Oil and Gas Development Plan, enter the OGDP ID number(s).

<No existing OGDP number provided>

CONSULTATION

- ☐ This location is included in a Comprehensive Area Plan (CAP). CAP ID # _____
- ☒ This Location or its associated new access road, utility, or Pipeline corridor meets Rule 309.e.(2).A, B, or C.
- ☐ This Location is within 2,640 feet of a GUDI or Type III Well per Rule 411.b.(4).
- ☐ This Location includes a Rule 309.e.(2).E variance request.
- ☐ This location includes a Rule 309.f.(1).A.ii. variance request.

OperatorOperator Number: 10670Name: MALLARD EXPLORATION LLCAddress: 1400 16TH STREET SUITE 300City: DENVER State: CO Zip: 80202**Contact Information**Name: Erin MathewsPhone: (720) 543 7951Fax: ()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 IDENTIFICATIONName: Shelduck South Number: Pad

Provide the location description and the latitude and longitude of a single point near the center of the Working Pad Surface as a reference for this Location.

QuarterQuarter: LOT 6 Section: 6 Township: 7N Range: 60W Meridian: 6 Ground Elevation: 4954Latitude: 40.600730 Longitude: -104.142971GPS Quality Value: 1.2 Type of GPS Quality Value: PDOP Date of Measurement: 12/14/2017

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 #



RELEVANT LOCAL GOVERNMENT SITING INFORMATION

County: WELD Municipality: N/A

Per § 34-60-106 (1)(f)(I)(A), the following questions pertain to the "Relevant Local Government approval of the siting of the proposed oil and gas location."

This proposed Oil and Gas Location is in an area designated as one of State interest and subject to the requirements of § 24-65.1-108, C.R.S. Yes

Does the Relevant Local Government regulate the siting of Oil and Gas Locations, with respect to this location? Yes

A siting permit application has been submitted to the Relevant Local Government for this proposed Oil and Gas Location: Yes

Date Relevant Local Government permit application submitted: 07/13/2020

Current status or disposition of the Relevant Local Government permit application for this proposed Oil and Gas Location: Approved

Status/disposition date: 08/27/2020

If Relevant Local Government permit has been approved or denied, attach final decision document(s).

Provide the contact information for the Relevant Local Government point of contact for the local permit associated with this proposed Oil and Gas Location:

Contact Name: Jason Maxey Contact Phone: 970 400 3579

Contact Email: oged@weldgov.com

PROXIMATE LOCAL GOVERNMENT INFORMATION

For every Proximate Local Government (PLG) associated with this proposed Oil and Gas Location, provide the PLG's point of contact and their contact information.

< No row provided >

FEDERAL PERMIT INFORMATION

A Federal drilling permit (or related siting application) has been submitted for this proposed Oil and Gas Location: No

Date submitted: _____

Current status or disposition of the Federal drilling permit (or related siting application) for this proposed Oil and Gas Location: _____

Status/disposition Date: _____

If Federal agency permit has been approved or denied, attach the final decision document(s).

Provide the contact information of the Federal point of contact for the Federal permit associated with this proposed Oil and Gas Location.

Contact Name: _____ Contact Phone: _____

Contact Email: _____ Field Office: _____

Additional explanation of local and/or federal process:

1041WOGLA20-0059 Submitted 7/13/2020, Approved 8/27/2020. WOGLA Pre-Application meeting was not required for this submittal.

RELEVANT LOCAL GOVERNMENT OR FEDERAL PRE-APPLICATION CONSULTATION

Complete this section for any pre-application consultation related to this proposed Oil and Gas Location that occurred prior to the submission of this Form 2A. If a pre-application Formal Consultation Process occurred, attach a Consultation Summary.

Did a pre-application Formal Consultation Process occur with the Relevant Local Government per Rule 301.f.(3)? No

Date of local government consultation:

Did a pre-application Formal Consultation Process occur with the Federal land manager per Rule 301.f.(3)? No

Date of federal consultation: _____

Was an ALA that satisfies Rule 304.b.(2).C (or substantially equivalent information per Rule 304.e) developed during a federal or local government permit application process? If yes, attach the ALA to the Form 2A. No

ALA APPLICABILITY AND CRITERIA

Complete this section for any pre-application consultation related to this proposed Oil and Gas Location that occurred prior to the submission of this Form 2A. If a pre-application Formal Consultation Process occurred, attach a Consultation Summary.

Does the proposed Oil and Gas Location meet any of the criteria listed in Rule 304.b.(2)B? No

If YES, indicate by checking the box for every Rule 304.b.(2).B criterion met by this proposed Location, and attach an ALA. See Rule 304.b.(2).B.i-x for full text of criteria.

- | | |
|---|--|
| <input type="checkbox"/> i. WPS < 2,000 feet from RBU/HOBU | <input type="checkbox"/> vi.aa. WPS within a surface water supply area |
| <input type="checkbox"/> ii. WPS < 2,000 feet from School/Child Care Center | <input type="checkbox"/> vi.bb. WPS < 2,640 feet from Type III or GUDI well |
| <input type="checkbox"/> iii. WPS < 1,500 feet from DOAA | <input type="checkbox"/> vii. WPS within/immediately upgradient of wetland/riparian corridor |
| <input type="checkbox"/> iv. WPS < 2,000 feet from jurisdictional boundary and PLG objects/requests ALA | <input type="checkbox"/> viii. WPS within HPH and CPW did not waive |
| <input type="checkbox"/> v. WPS within a Floodplain | <input type="checkbox"/> ix. Operator using Surface bond |
| | <input type="checkbox"/> x. WPS < 2,000 feet from RBU/HOBU/School within a DIC |

Is the proposed Oil and Gas Location within the exterior boundaries of the Southern Ute Indian Reservation, and the Tribe objects to the Location or requests an ALA? If YES, attach an ALA to the Form 2A. No

Operator requests the Director waive the ALA requirement per Rule 304.b.(2).A.i: ☒

Provide an explanation for the waiver request, and attach supporting information (if necessary).

Location is within Pronghorn Winter Concentration HPH, but CPW has waived via e-mail recommendation to waive ALA, which is attached.

ALTERNATIVE LOCATIONS DASHBOARD

List every alternative location reviewed and included in the ALA. Provide a latitude and longitude for the approximate center of the alternative location, all Rule 304.b.(2).B Criteria met, if a variance would be required to permit the location, and a brief comment on the key points of the alternative location.

304.b.(2).B.i-x Criteria Met:

< No row provided >

SURFACE & MINERAL OWNERSHIP

Surface Owner Info:

Name: <u>Donald James West</u>	Phone: _____
Address: <u>1515 Ridgepark Road</u>	Fax: _____
Address: _____	Email: <u>redacted@redacted.com</u>
City: <u>Harrison</u> State: <u>AR</u> Zip: <u>72601</u>	

Surface Owner at this Oil and Gas Location: ☒ Fee ☐ State ☐ Federal ☐ Indian

Check only one: ☐ The Operator/Applicant is the surface owner.

☒ The Operator has a signed Surface Use Agreement for this Location – attach SUA.

☐ All operations on this Oil & Gas Location will develop the minerals beneath the Location, and the surface owner owns the minerals beneath this Location and is committed to an oil and gas lease – attach lease map or provide lease description.

☐ All operations on this Oil & Gas Location will develop the minerals beneath the Location, and the Operator intends to use a surface bond per Rule 703 to secure access to this Location – attach lease map or provide lease description.

Surface Owner protection Financial Assurance type: N/A

Surety ID Number: _____

Mineral Owner beneath this Oil and Gas Location: ☒ Fee ☐ State ☐ Federal ☐ Indian

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

Lease description if necessary: _____

SITE EQUIPMENT LIST

Indicate the number and type of major equipment components planned for use on this Oil and Gas Location:

Wells	8	Oil Tanks	5	Condensate Tanks	0	Water Tanks	5	Buried Produced Water Vaults	0
Drilling Pits	0	Production Pits	0	Special Purpose Pits	0	Multi-Well Pits	0	Modular Large Volume Tank	1
Pump Jacks	0	Separators	8	Injection Pumps	0	Heater-Treaters	0	Gas Compressors	0
Gas or Diesel Motors	0	Electric Motors	0	Electric Generators	0	Fuel Tanks	0	LACT Unit	1
Dehydrator Units	0	Vapor Recovery Unit	1	VOC Combustor	0	Flare	0	Enclosed Combustion Devices	3
Meter/Sales Building	1	Pigging Station	3			Vapor Recovery Towers	2		

OTHER PERMANENT EQUIPMENT

Permanent Equipment Type	Number
Knockout Drum	3
Drain Tank	1
Gas Lift	1
Electric Compressors	2
Product Cooler	1
Scrubber	1
Instrument Air Skid	1

OTHER TEMPORARY EQUIPMENT

< No Row Provided >

GAS GATHERING COMMITMENT

Operator commits to connecting to a gathering system by the Commencement of Production Operations? Yes _____

If the answer is NO, a Gas Capture Plan consistent with the requirements of Rule 903.e MUST be attached on the Plans tab.

FLOWLINE DESCRIPTION

Per Rule 304.b.(6), provide a description of all onsite and off-location oil, gas, and/or water flowlines.

3" welded steel flowlines from wellheads to separators carrying oil, gas and water.
3" welded steel gas supply line from compressors to wellheads.
2" Schedule 40 line steel pipe will be set downstream of the separator for gas, oil and water.
6" Schedule 80 line steel pipe for combined Gas sales.

CULTURAL DISTANCE AND DIRECTION

Provide the distance and direction to the nearest cultural feature as measured from the edge of the Working Pad Surface.

	Distance	Direction	Rule 604.b Conditions Satisfied (check all that apply):			Details of Condition(s)	604.b. (4)
			604.b. (1)	604.b. (2)	604.b. (3)		
Building:	3314 Feet	NW					
Residential Building Unit (RBU):	3389 Feet	NW	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
High Occupancy Building Unit(HOBU)	5280 Feet	NW	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
Designated Outside Activity Area:	5280 Feet	SW					
Public Road:	3621 Feet	N					
Above Ground Utility:	3666 Feet	N					
Railroad:	5280 Feet	SW					
Property Line:	276 Feet	W					
School Facility:	5280 Feet	NW					
Child Care Center:	5280 Feet	NW					
Disproportionately Impacted (DI) Community:	5280 Feet	SE					
RBU, HOBU, or School Facility within a DI Community.	5280 Feet	SE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>

RULE 604.a.(2). EXCEPTION LOCATION REQUEST

☐ Operator requests an Exception Location Request from Rule 604.a.(2) [well is less than 150 feet from a property line]. Exception Location Request Letter and Waiver signed by offset Surface Owner(s) must be attached.

CULTURAL FEATURE INFORMATION REQUIRED BY RULE 304.b.(3).B.

Provide the number of each Cultural feature identified within the following distances, as measured from the Working Pad Surface:

	0-500 feet	501-1,000 feet	1,001-2,000 feet
Building Units	0	0	0
Residential Building Units	0	0	0
High Occupancy Building Units	0	0	0
School Properties	0	0	0
School Facilities	0	0	0
Designated Outside Activity Areas	0	0	0

CONSTRUCTION

Size of disturbed area during construction in acres: 13.60

Size of location after interim reclamation in acres: 5.60

Estimated post-construction ground elevation: 4954

DRILLING PROGRAM

Will a closed-loop drilling system be used? Yes

Is H2S gas reasonably expected to be encountered during drilling operations at concentrations greater than or equal to 100 ppm? No If YES, attach H2S Drilling Operations Plan.

Will salt sections be encountered during drilling: No

Will salt based (>15,000 ppm Cl) drilling fluids 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? No

Reuse Facility ID: _____ or Document Number: _____

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

CURRENT LAND USE

Current Land Use: check all that apply per Rule 304.b.(9).

Crop Land: ☐ Irrigated ☐ Non-Irrigated ☐ Conservation Reserve Program (CRP)

Non-Crop Land: ☒ Rangeland ☐ Forestry ☐ Recreation ☐ Other

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

Describe the current land use:

Rangeland

Describe the Relevant Local Government's land use or zoning designation:

Agricultural - Ag Rural Planning Zone

Describe any applicable Federal land use designation:

FINAL LAND USE

Final Land Use: check all that apply per Rule 304.b.(9).

Crop Land: ☐ Irrigated ☐ Non-Irrigated ☐ Conservation Reserve Program (CRP)

Non-Crop Land: ☒ Rangeland ☐ Forestry ☐ Recreation ☐ Other

Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

REFERENCE AREA INFORMATION

If Final Land Use includes Non-Crop Land (as checked above), the following information is required:

Describe landowner's designated final land use(s):

Rangeland

Reference Area Latitude: 40.602688

Reference Area Latitude: -104.144764

Provide a list of plant communities and dominant vegetation found in the Reference Area.

Plant Community	Dominant vegetation
Native Grassland	switchgrass
Native Grassland	deer grass

Noxious weeds present: No

SOILS

List all soil map units that occur within the maximum extent of the proposed Oil and Gas Location. Attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" listing the typical vertical soil profile(s). This data is to be used when segregating topsoil.

The required information can be obtained from the NRCS website at <https://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/> or from the COGCC website GIS Online map page. Instructions are provided within the COGCC website help section.

NRCS Map Unit Name: 40 - Nunn loam, 0 to 6 percent slopes

NRCS Map Unit Name: 44 - Olney fine sandy loam, 0 to 6 percent slopes

NRCS Map Unit Name:

GROUNDWATER AND WATER WELL INFORMATION

Provide the distance and direction, as measured from the Working Pad Surface, to the nearest:

water well: 4756 Feet SW

Spring or Seep: 5280 Feet NW

Estimated depth to shallowest groundwater that can be encountered at this Oil and Gas Location: 80 Feet

Basis for estimated depth to and description of shallowest groundwater occurrence:

Depth to GW taken from water well Permit #13410.

Location is not sensitive due to distance from surface water and depth to groundwater.

SURFACE WATER AND WETLANDS

Provide the distance and direction to the nearest downgradient surface Waters of the State, as defined 5280 Feet SE

in the 100-Series Rules, measured from the Working Pad Surface:

If less than 2,640 feet, is the Waters of the State identified above within 15 stream miles upstream of a Public Water System intake? _____

Provide the distance and direction to the nearest downgradient wetland, measured from the Working

Pad Surface: 5280 Feet SE

Provide a description of the nearest downgradient surface Waters of the State:

Pond

If the proposed Oil and Gas Location is within a Rule 411.a Surface Water Supply Area buffer zone, select the buffer zone type: _____

Public Water System Administrator - Contact Name _____ Email _____

If the proposed Oil and Gas Location is within a Rule 411.b GUDI/Type III buffer zone, select the buffer zone type: _____

Public Water System Administrator - Contact Name _____ Email _____

Is a U.S. Army Corps of Engineers Section 404 permit required for the proposed Oil and Gas Location, access road, or associated pipeline corridor? No

If a U.S. Army Corps of Engineers Section 404 permit is required, provide the permit status, and permit number if available:

Is the Location within a Floodplain? No Floodplain Data Sources Reviewed (check all that apply):

☒ Federal (FEMA) ☐ State ☐ County ☐ Local

☐ Other

Does this proposed Oil and Gas Location lie within a Sensitive Area for water resources, as defined in the 100-Series Rules? No

CONSULTATION, WAIVERS, AND EXCEPTIONS

When Rule 309.e.(2) Consultation must occur, check all that apply:

- ☒ This location is included in a Wildlife Mitigation Plan
- ☐ This Oil and Gas Location or associated new access road, utility, or pipeline corridor falls within federally designated critical habitat or an area with a known occurrence for a federal or Colorado threatened or endangered species. Provide description in Comments section of Submit tab.
- ☐ This Oil and Gas Location or associated new access road, utility, or pipeline corridor falls within an existing conservation easement established wholly or partly for wildlife habitat. Provide description in Comments section of Submit tab.

When Rule 309.e.(3) Consultation is not required, check all that apply:

- ☐ This Oil and Gas Location has been included in a previously approved, applicable Wildlife Protection Plan.
- ☐ This Oil and Gas Location has been included in a previously approved, applicable Wildlife Mitigation Plan.
- ☐ This Oil and Gas Location has been included in a previously approved, applicable conservation plan.

Pre-application Consultation:

- ☒ A pre-application consultation with CPW, regarding this Oil and Gas Location, occurred 05/05/2021 on:

CPW Waivers and Exceptions (check all that apply and attach all CPW waivers to this Form 2A):

- ☒ The applicant has obtained a Rule 304.b.(2).B.viii CPW waiver for the requirement to complete an ALA.
- ☐ The applicant has obtained a Rule 309.e.(2).G CPW waiver and consultation is not required.
- ☐ The applicant has obtained a Rule 309.e.(5).D.i CPW waiver and is requesting an exception from Rule 1202.c.(1).R.
- ☐ The applicant has obtained a Rule 309.e.(5).D.ii CPW waiver and is requesting an exception from Rule 1202.c.(1).S.
- ☐ The applicant has obtained a Rule 309.e.(5).D.iii CPW waiver of Rule 1202.c.(1).T.
- ☐ The applicant has obtained a Rule 309.e.(5).D.iv CPW waiver and is requesting an exception from Rule 1202.c.(1) in accordance with an approved CAP.
- ☐ The applicant has obtained a Rule 1202.a CPW waiver.

- ☐ The applicant has obtained a Rule 1202.b CPW waiver.
- ☐ In accordance with Rule 1203.a.(3), the applicant requests an exception from compensatory mitigation
Rule(s): _____

HIGH PRIORITY HABITAT AND COMPENSATORY MITIGATION

This Oil and Gas Location, associated access roads, utility, or Pipeline corridor falls wholly or partially within the following High Priority Habitats (Note: dropdown options are abbreviated - see Rule 1202 for full rule text):

High Priority Habitat (list all that apply)	Oil and Gas Location	Access Road	Utility or Pipeline Corridor
1202.d.(4) - Pronghorn migration & winter	x	x	

The following questions are for Oil and Gas Locations that cause the density to exceed one Oil and Gas Location per square mile in Rule 1202.d High Priority Habitat:

Direct Impacts:

Is Compensatory Mitigation required per Rule 1203.a for this Oil and Gas Location? Yes

Is a Compensatory Mitigation Plan proposed to address direct impacts for this Oil and Gas Location? Yes

Have all Compensatory Mitigation Plans been approved for this Location? Yes

If not, what is the current status of each Plan?

Is a Compensatory Mitigation Fee proposed for this Oil and Gas Location? Yes

Direct impact habitat mitigation fee amount: \$ 47388

Indirect Impacts:

Is Compensatory Mitigation required per Rule 1203.d for this Oil and Gas Location? Yes

Is a Compensatory Mitigation Plan proposed to address indirect impacts for this Oil and Gas Location? Yes

Have all Compensatory Mitigation Plans been approved for this Location? Yes

If not, what is the current status of each Plan?

Is a Compensatory Mitigation Fee proposed for this Oil and Gas Location? Yes

Indirect impact habitat mitigation fee amount: \$ 28837.27

Operator Proposed Wildlife BMPs

No	Target Species	BMP Type	Description
1	PRONGHORN	Wildlife - Minimization	1. Mallard will limit the placement of extensive linear barrier features (i.e. fencing, surface lines, berms) that may impact Pronghorn movement and migration. 2. Fencing will be 3 or 4 strand with the top strand height maximum height of approximately 42 inches, with the lower smooth strand without barbs at a height of approximately 18-inches. 3. Mallard will quickly excavate, install and reclaim linear pipeline features that may impact pronghorn movement and migration. 4. Should operators occur during WCA timing (January 1 thru April 30) and significant number of pronghorn are identified in the area, Mallard will have a biologist periodically survey and monitor animal behavior to identify potential negative impacts from operational activities.

CPW Proposed Wildlife BMPs

No BMP

AIR QUALITY MONITORING PROGRAM

Will the Operator install and administer an air quality monitoring program at this Location? Yes

Operator Proposed BMPs

No BMP

CDPHE Proposed COAs OR BMPs

No BMP

PLANS

Total Plans Uploaded: 14

- ☐ (1) Emergency Spill Response Program consistent with the requirements of Rules 411.a.(4).B, 411.b.(5).B, & 602.j
- ☒ (2) Noise Mitigation Plan consistent with the requirements of Rule 423.a
- ☒ (3) Light Mitigation Plan consistent with the requirements of Rule 424.a
- ☐ (4) Odor Mitigation Plan consistent with the requirements of Rule 426.a
- ☒ (5) Dust Mitigation Plan consistent with the requirements of Rule 427.a
- ☒ (6) Transportation Plan
- ☒ (7) Operations Safety Management Program consistent with the requirements of Rule 602.d
- ☒ (8) Emergency Response Plan consistent with the requirements of Rule 602.j
- ☐ (9) Flood Shut-In Plan consistent with the requirements of Rule 421.b.(1)
- ☐ (10) Hydrogen Sulfide Drilling Operations Plan consistent with the requirements of Rule 612.d
- ☒ (11) Waste Management Plan consistent with the requirements of Rule 905.a.(4)
- ☐ (12) Gas Capture Plan consistent with the requirements of Rule 903.e
- ☒ (13) Fluid Leak Detection Plan
- ☒ (14) Topsoil Protection Plan consistent with the requirements of Rule 1002.c
- ☒ (15) Stormwater Management Plan consistent with the requirements of Rule 1002.f
- ☒ (16) Interim Reclamation Plan consistent with the requirements of Rule 1003
- ☒ (17) Wildlife Plan consistent with the requirements of Rule 1201
- ☒ (18) Water Plan
- ☒ (19) Cumulative Impacts Plan
- ☐ (20) Community Outreach Plan
- ☐ (21) Geologic Hazard Plan

VARIANCE REQUESTS

Check all that apply:

☐ This proposed Oil and Gas Location requires the approval of a Rule 502.a variance from COGCC Rule or Commission

Order number: _____

ALL exceptions and variances require attached Request Letter(s). Refer to applicable rule for additional required attachments (e.g. waivers, certifications, SUAs).

RULE 304.d LESSER IMPACT AREA EXEMPTION REQUESTS

Check the boxes below for all Exemptions being requested. Lesser Impact Area Exemption Request must be attached, and will include all requested exemptions.

- | | |
|--|--|
| <input type="checkbox"/> 304.b.(1). Local Government Siting Information | <input type="checkbox"/> 304.c.(1). Emergency Spill Response Program |
| <input type="checkbox"/> 304.b.(2). Alternative Location Analysis | <input type="checkbox"/> 304.c.(2). Noise Mitigation Plan |
| <input type="checkbox"/> 304.b.(3). Cultural Distances | <input type="checkbox"/> 304.c.(3). Light Mitigation Plan |
| <input type="checkbox"/> 304.b.(4). Location Pictures | <input type="checkbox"/> 304.c.(4). Odor Mitigation Plan |
| <input type="checkbox"/> 304.b.(5). Site Equipment List | <input type="checkbox"/> 304.c.(5). Dust Mitigation Plan |
| <input type="checkbox"/> 304.b.(6). Flowline Descriptions | <input type="checkbox"/> 304.c.(6). Transportation Plan |
| <input type="checkbox"/> 304.b.(7). Drawings | <input type="checkbox"/> 304.c.(7). Operations Safety Management Program |
| <input type="checkbox"/> 304.b.(8). Geographic Information System (GIS) Data | <input type="checkbox"/> 304.c.(8). Emergency Response Plan |
| <input type="checkbox"/> 304.b.(9). Land Use Description | <input type="checkbox"/> 304.c.(9). Flood Shut-In Plan |
| <input type="checkbox"/> 304.b.(10). NRCS Map Unit Description | <input type="checkbox"/> 304.c.(10). Hydrogen Sulfide Drilling Operations Plan |
| <input type="checkbox"/> 304.b.(11). Best Management Practices | <input type="checkbox"/> 304.c.(11). Waste Management Plan |
| <input type="checkbox"/> 304.b.(12). Surface Owner Information | <input type="checkbox"/> 304.c.(12). Gas Capture Plan |
| <input type="checkbox"/> 304.b.(13). Proximate Local Government | <input type="checkbox"/> 304.c.(13). Fluid Leak Detection Plan |
| <input type="checkbox"/> 304.b.(14). Wetlands | <input type="checkbox"/> 304.c.(14). Topsoil Protection Plan |
| <input type="checkbox"/> 304.b.(15). Schools and Child Care Centers | <input type="checkbox"/> 304.c.(15). Stormwater Management Plan |
| | <input type="checkbox"/> 304.c.(16). Interim Reclamation Plan |
| | <input type="checkbox"/> 304.c.(17). Wildlife Plan |
| | <input type="checkbox"/> 304.c.(18). Water Plan |
| | <input type="checkbox"/> 304.c.(19). Cumulative Impacts Plan |
| | <input type="checkbox"/> 304.c.(20). Community Outreach Plan |
| | <input checked="" type="checkbox"/> 304.c.(21). Geologic Hazard Plan |

OPERATOR COMMENTS AND SUBMITTAL

Comments

MLVT: Manufacturer of MLVT: Hydrologistics
Size and Volume: One (1) 157' diameter/42,000 BBLs
Anticipated time frame on site: 90 days

Mallard is committed to transporting oil and produced water from this location via pipeline. Storage tanks will remain on location mainly for safety concerns related to unplanned pipeline shutdown and for routine maintenance operations.

Emergency Spill Response Program, Odor Mitigation Plan, Flood Shut In Plan, Hydrogen Sulfide Drilling Operations Plan, Gas Capture Plan, and Community Outreach Plan are not attached and are not included within Lesser Impact Area Exemption for this location as the none of the requisite elements to necessitate said plans are met.

Soil type(s):

Well Pad: 40 - Nunn loam, 0 to 6 percent slopes; 44 - Olney fine sandy loam, 0 to 6 percent slopes

Access Road**: 40 - Nunn loam, 0 to 6 percent slopes; 44 - Olney fine sandy loam, 0 to 6 percent slopes

**NRCS Web Soil Survey is not accurate at scale to capture access road soil types. There are no offsite flowline corridors associated with this OGDG.

3rd party gathering pipelines are not part of this OGDG application.

DPOC, LLC, a Delaware limited liability company is a wholly owned subsidiary of Mallard Exploration, LLC, a Delaware limited liability company

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

Signed: _____ Date: 10/28/2021 Email: regulatory@ascentgeomatrics.com

Print Name: Justin Garrett Title: Sr. 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: _____

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.

Condition of Approval

COA Type

Description

0 COA

Best Management Practices

No BMP/COA Type

Description

1 General Housekeeping

Visual Impacts: All long term facility structures will be painted a color that enables the facilities to blend in with the natural background color of the landscape, as seen from a viewing distance and location typically used by the public. 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 when the trash bin is full.

2	Wildlife	<p>Mallard plans on conducting all construction, drilling, and completion operations between May 1 and December 31, outside of the Pronghorn Winter Concentration season; and therefore, will pay the Indirect Impact Habitat Mitigation Fee (at least 32 days prior to construction). If Mallard is unable to complete all operations between May 1 to December 31, the operator will provide notice as soon as practical indicating that operations will be occurring within the Pronghorn Winter Concentration season (January 1 to April 30) via a Form 4 Sundry Notice to COGCC and direct communication with CPW. With the Form 4 Sundry Notice, Mallard will indicate an estimate of the planned duration of the operations needing to be completed. In addition, Mallard will pay an additional Indirect Impact Habitat Mitigation Fee directly to CPW. This amount is the difference between the 'Operating Exclusively Outside of the Pronghorn Winter Season Fee' (originally paid to CPW prior to construction) and the 'Operating Within any Portion of the Pronghorn Winter Season Fee'.</p>	
3	Wildlife	<p>1202.a. Operating Requirements ? Water Transportation 1202.a.(2)- Mallard will follow appropriate CPW recommended protocols for disinfecting water collection and transportation equipment to protect surface waters. Mallard will disinfect water suction hoses and water transportation tanks withdrawing from or discharging into surface waters (other than contained Pits) used previously in another river, intermittent or perennial stream, lake, pond, or wetland and discard rinse water in an approved disposal facility. Disinfection practices will be repeated prior to completing work and before moving to the next water body. Disinfection will be performed by scrubbing and pre-rinsing equipment away from water bodies to remove all mud, plants, and organic materials and then by implementing one of the following practices:</p> <ul style="list-style-type: none"> o Spray/soak equipment with a CPW-approved disinfectant solution capable of killing whirling disease spores and other aquatic nuisance species defined by CPW. ? A sprayed disinfectant solution will have a minimum Active Quaternary Ammonia Compound (QAC) concentration of 0.8%. ? A soaking disinfectant solution will have a QAC concentration of 0.4% and equipment will be submerged for a minimum of 10 minutes. o Spray/soak equipment with water greater than 140° Fahrenheit for at least 10 minutes. <p>All equipment and any compartments they contain will be completely drained and dried between each use.</p> <p>? Refueling/Chemical Storage Areas 1202.a.(3)- Mallard will not locate new staging, refueling, or chemical storage areas within 500 feet of the Ordinary High Water Mark (OHWM) of any river, perennial or intermittent stream, lake, pond, or wetland.</p> <p>? Wildlife Exclusions 1202.a.(4)- Mallard will implement appropriate wildlife exclusion devices for drilling, completion and production operations. Mallard will not construct or utilize drilling pits or production pits on location. The following wildlife exclusion devices will be installed:</p> <ul style="list-style-type: none"> o Fencing may be installed and maintained around the pad perimeter following drilling and completion activities and in coordination with surface landowner preferences and any relevant Local Government requirements. Any wire fencing will be 3 or 4 strand with the top strand height maximum height of approximately 42-inches, with the lower smooth strand without barbs at a height of approximately 18-inches. o Netting will be installed and maintained on all small-volume secondary containment structures that may hold precipitation and liquids. o Drip pans will have functional lids and be kept closed. o Bird exclusion devices will be installed on the vent stacks for all separation and combustion devices. o All produced water and water collection vessels will be close-topped, and all access ports 	

will be sealed or netted.

- o Administrative Controls- Daily inspections and good housekeeping practices will be followed for early prevention/detection of wildlife-related issues.
- o Vegetation removal will be prioritized between September 1 and May 31, but, if necessary, migratory bird nesting surveys will be completed prior to mowing during the migratory bird nesting season. Any active nests will be buffered to avoid take.

Consultation with CPW may occur to ensure regulatory compliance and negative impacts are avoided or minimized.

? Trenching 1202.a.(5)- Any flowline/pipeline trenches left open for more than five consecutive days will have wildlife escape ramps at a minimum of one ramp per ¼ mile of trench.

? Reclamation and Seed Mix 1202.a.(6)- While conducting interim and final reclamation activities (pursuant to 1100 Series Rules), Mallard will use CPW-recommended pronghorn seed mix (Appendix 1) when consistent with the Surface Owner's approval and any Soil Conservation District requirements.

? Fencing 1202.a.(7)- Mallard will use CPW-recommended fence designs (3 or 4 strand with the top strand height maximum height of approximately 42-inches, with the lower smooth strand without barbs at a height of approximately 18-inches) when consistent with the Surface Owner's approval and any relevant Local Government requirements.

? Migratory Birds 1202.a.(8)- Mallard will conduct all vegetation removal necessary for Oil and Gas Operations outside of the established nesting season for migratory birds (April 1-July 31). For any vegetation removal activities performed between April 1 and July 31, Mallard will conduct preconstruction nesting surveys within the proposed disturbance area prior to vegetation removal.

Should active nests be located, Mallard will establish appropriate work zone buffers or modify operations as practicable.

? West Nile Virus (WNV) and Mosquito Larvae Control 1202.a.(9)- Mallard will not utilize drilling or production pits. However, fresh water may be stored on location in Modular Large Volume Tanks (MLVT) or completely enclosed Minion tanks during wells drilling/completion activities. Any open topped tanks will be treated for WNV with Bti as approved by EPA for mosquito control.

? 1202.a.(10) Best Management Practices for activities in Proximity to Aquatic HPH 1202.c.(1).Q-Smallard has not proposed any activities within 500-1000 feet from 1202.c. Aquatic HPH areas for the OGD development.

1201.b.(1)-(4) Operating and Mitigation Requirements

? (1) Pre-Application Consultation with CPW- Mallard has consulted with CPW for pre-application consultation for this OGD. This Wildlife Mitigation Plan and any required supporting information will be provided to CPW for detailed review and pre-application approval. Pursuant to Rule 304.b.(2).B.viii as part of the pre-application consultation, CPW has notified Mallard of their waiver of an Alternative Location Analysis due to the site conditions and siting limitations.

? (2) Best Management Practices- The following BMPs are committed under this Wildlife Mitigation Plan.

- o Mallard will pre-clear all proposed disturbances according to CPW guidance meeting Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA) and

		<p>Endangered Species Act (ESA) laws in protection of active nesting activities, observe CPW/USFWS requested protected buffers for active nesting species, and consult with CPW/USFWS as warranted.</p> <ul style="list-style-type: none"> o Mallard will install and maintain bird-deterrent devices on all open-vent exhaust stacks <p>on production equipment to discourage perching, roosting, and nesting activities.</p> <ul style="list-style-type: none"> o Mallard commits to employ Noise, Light, Dust and Odor mitigation efforts meeting COGCC <p>Series 400 Rules in the protection of Wildlife Resources.</p> <p>Should operators occur during WCA timing (January 1 thru April 30) and significant number of</p> <p>pronghorn are identified in the area, Mallard will have a biologist periodically survey and monitor</p> <p>animal behavior to identify potential negative impacts from operational activities.</p>
4	Storm Water/Erosion Control	<p>Culverts will be used under the access road at the entrance to the pad to convey water through the perimeter ditch. Culvert protection may be required at the inlet (upstream side) of the culvert and/or the outlet (downstream side) of the culvert located at the entrance to the pad.</p> <p>a ditch or drainage swale will be used in conjunction with earthen berm as perimeter control around the pad disturbance.</p> <p>an earth dike (berm) will be used in conjunction with ditch/drainage swale as perimeter control around the pad disturbance.</p> <p>Mallard is using CPW-recommended fence designs (three or four strand with the top strand height maximum of approximately 42-inches, and a lower smooth strand without barbs at</p> <p>a height of approximately 18-inches) when consistent with the surface owner's approval and any relevant local government requirements. The entire pad will be fenced initially during active construction. The fence will be pulled-in to surround only the reclamation area during interim reclamation activities.</p> <p>mulching will be used in conjunction with seeding on areas that will be reclaimed during interim reclamation. The entire pulled-back area surrounding the interim pad will riprap will be used to establish a stabilized outlet on the sediment trap/basin located on the eastern edge of the pad.</p> <p>A sediment trap/basin will be implemented on the eastern edge of the pad disturbance to temporarily pond and capture eroded soil transported in storm water runoff and allow sediment to fall out of suspension prior to discharge.</p> <p>seeding will be used in conjunction with mulching on areas that will be reclaimed during interim reclamation. The entire pulled-back area surrounding the interim pad will be seeded and mulched during the interim reclamation phase of construction. Mallard will be using a Colorado Parks and Wildlife (CPW) – recommended pronghorn seed mix at the Shelduck South pad. Utilizing the Habitat Seeding Calculator, Mallard has designed an optimum seeding methodology during</p> <p>reclamation at the Shelduck South pad.</p> <p>surface armor will be applied as a stabilization measure to the working surface of the location throughout the life of the pad.</p> <p>surface roughening, using tracked equipment will be employed as a temporary stabilization to the topsoil pile on location in order to minimize erosion by reducing runoff velocity, decreasing wind exposure, increasing infiltration, and to a minor extent, trapping sediment.</p> <p>street sweeping of adjacent paved local and county roads will be employed as needed to remove sediment tracked offsite by vehicles leaving the construction site.</p> <p>a vehicle track pad will be implemented near the site entrance to provide a temporary stabilized entrance to the construction location and help minimize off-site tracking of sediment onto public roads.</p> <p>the location will be inspected for weed infested areas and prompt action consisting of spraying and/or mowing, where appropriate, will be taken to mitigate any identified</p> <p>infested areas. All noxious weeds identified will not be allowed to reach the flowering or seed dispersal stage. Vehicles will not be allowed to drive through, and machinery will not be parked, within weed infested areas. Routine inspections throughout the life of the pad will aid in identifying when weed mitigation is needed.</p> <p>wind erosion/dust control measures (primarily water application) will be implemented as needed on areas of exposed soil during construction to control vehicle or wind generated dust.</p>

5	Material Handling and Spill Prevention	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. The Operator shall restore the surface of the Land affected by such terminated operations as near as possible to the previous state that existed prior to operations.
6	Material Handling and Spill Prevention	If a leak is discovered or suspected, the well will be shut in and the line will be hydrotested. If a leak is determined, the well remains shut in while the leak is located and repaired. Not until the line has passed hydrotesting, will the well be brought back online.
7	Material Handling and Spill Prevention	The location will utilize a SCADA (remote monitoring) system to monitor facility pressures and flows. Sensors are placed on multiple points throughout the facility and are 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 designed with alarms that are triggered by irregularities and will activate automatic shut-in of the well and facility.
8	Material Handling and Spill Prevention	Documented Audible, Visual, and Olfactory (AVO) inspections and optical gas imaging surveys are conducted monthly by a third-party specialist.
9	Material Handling and Spill Prevention	Audible, Visual, and Olfactory (AVO) inspections of the facility are conducted daily by the Operator. Any valve or fitting that is found to be ineffective is either repaired immediately or well shut-in procedures are implemented.
10	Material Handling and Spill Prevention	Pressure testing of the flowlines is conducted on an annual basis.
11	Material Handling and Spill Prevention	All flowlines 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.
12	Dust control	Dust control measures shall be employed as necessary during high traffic periods for both on-site and off-site haul roads. Such control measures 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. Through the life of this location Mallard will utilize watering, via water trucks, to control fugitive dust on the location and the access road. Additionally, traffic corridors on the pad will be plated with 6 inches of aggregate road base material compacted to 4 inches to further minimize fugitive dust. All stockpiles and cut/fill slopes will be stabilized as soon as possible following initial pad construction. Operator will use soil stockpile stabilization measures to suppress fugitive dust caused solely by wind. Measures will include, but are not limited to, the use of surface roughening and tracking, seeding with crimped straw mulching or hydroseeding, and if necessary, erosion control logs installed along the toe slopes. Operator will minimize the amount of fugitive dust through the use of speed restrictions. All vehicles will be subject to a speed limit of 15 MPH on all lease roads to minimize dust. Operator will use methods including wind breaks and barriers, road or facility surfacing, and soil stockpile stabilization measures to suppress fugitive dust caused solely by wind. Operator will avoid the creation of fugitive dust by restricting or limiting construction activity during high wind days. Operator will minimize fugitive dust caused by their operations, or dust originating from areas disturbed by their Oil and Gas Operations that becomes windborne

13	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>	
14	Construction	<p>Operator will direct site lighting downward and inward, such that no light shines above a horizontal plane passing through the center point light source.</p> <p>Operator will use appropriate technology within fixtures that obscures, blocks, or diffuses the light to reduce light intensity outside the boundaries of the Oil and Gas Facility.</p> <p>Operator will minimize lighting when not needed using timers or motion sensors; to minimize light pollution and obtrusive lighting.</p> <p>Operator will use full cut-off lighting; to minimize light pollution and obtrusive lighting.</p> <p>Operator will use lighting colors that reduce light intensity to minimize light pollution and obtrusive lighting.</p> <p>Operator will use low-glare or no-glare lighting to minimize light pollution and obtrusive lighting.</p> <p>When operator has active operations involving personnel ongoing at an oil and gas location, Operator will provide sufficient on-site pre-production lighting to ensure the safety of all persons on or near the site.</p> <p>No Sound Walls on this location. Prior to the Commencement of Production Operations, Operator will take all necessary and reasonable precautions to ensure that lighting from Oil and Gas Facilities does not unnecessarily impact the health, safety, and welfare of persons occupying the 0 Building Units (0 HOBUs) within 5,280 feet) within 2,000 feet of the Oil and Gas Facility.</p> <p>Prior to the Commencement of Production Operations, Operators will take all necessary and reasonable precautions to ensure that lighting from Oil and Gas Facilities does not unnecessarily impact the health, safety, and welfare of Motorists on nearby roads. There are no public roads within 2,000 feet of the Oil and Gas Facility.</p> <p>Prior to the Commencement of Production Operations, Operators will take all necessary and reasonable precautions to ensure that lighting from Oil and Gas Facilities does not unnecessarily impact the health, safety, and welfare of Wildlife occupying any High Priority Habitat within 2,000 feet of the Oil and Gas Facility. There are approximately 290 acres of Pronghorn Winter Concentration Area habitat within 2,000 of the Working Pad Surface. Per the lighting plan calculations, the production lighting will be less than 0.1-foot candles within the limits of the reclaimed pad. CPW was consulted and had no concerns or requests for mitigation.</p>	

15	Construction	<p>The location is on rangeland and operator has agreed to install cattle guards and fences where necessary as part of the Surface Use Agreement.</p> <p>The operator, at the request of the surface owner, will install a fence around the wellhead and production equipment to prevent livestock entry. There will be no pits (including reserve pits) on location, so no fencing around pits will be needed.</p> <p>Mallard will separate, store, mark, and document the location of stockpiles to facilitate subsequent reclamation. Mallard will segregate the separated horizons based upon noted changes in physical characteristics such as organic content, color, texture, density, or consistency.</p> <p>Topsoil stockpiles will be located along the west side of the proposed Oil and Gas Location as shown on the Facility Layout Drawings. The maximum height of topsoil stockpiles will be 10 feet.</p> <p>Prior to the commencement of pad construction, a geotechnical exploration will be completed by a Geotechnical Engineer consisting of multiple soil bores across the location. The bores will be completed to a depth of approximately 25 feet below the existing surface. These bores will provide a subsurface profile of the soil conditions, including the depth of the topsoil at the location. The Geotechnical Engineering Report will be utilized by the Operator and contractor to ensure the proper depth of topsoil is salvaged and stockpiled.</p>
16	Noise mitigation	<p>Operator will comply with the maximum permissible noise levels specified in Rule 423.b.(1) and as outlined in Weld County Code Sec 21-5-435.</p> <p>Prior to the start of construction, Operator will evaluate the location for any new construction of occupied structures within 2,000 feet. If an occupied structure is identified, Operator will contract with a third-party noise expert to perform an analysis of the predicted noise levels.</p> <p>A quiet frac fleet will be used for completion operations.</p> <p>Mallard intends to perform simultaneous operations, consisting of facility construction during drilling and completions operations, to decrease the duration of impacts.</p> <p>All trucks on location will be prohibited from idling when not in use to prevent unnecessary noise.</p> <p>Electricity will be brought to the location to power the facility. Use of electricity allows for installation of quieter equipment compared to older equipment such as diesel generators and/or natural gas compressors</p>
17	Drilling/Completion Operations	<ul style="list-style-type: none"> • Wastes stored onsite will be stored in compatible containers that are regularly inspected to ensure they are in good condition and free of excessive wear, structural issues or other defects that may impact effectiveness. • All drill cuttings generated during drilling operations are transported offsite with proper manifesting for disposal at facilities properly permitted to receive E&P waste. • Drilling fluids will be stored on site and recycled for use in future drilling operations. • Advanced oil-based mud systems which target the reduction of aromatics will be utilized • A temporary impermeable synthetic or geosynthetic liner with foam type berms will be utilized under the drilling rig, mud tanks, shakers, and drill cuttings bins. A liner will also be used under completions equipment. • Produced water is disposed of at an offsite location via a permitted UIC well designed specifically for produced water disposal. • Trash or other waste materials will not be buried or burned on location. • All surface trash, debris, and material not intrinsic to the operation of the facility will be stored in a roll off dumpster and disposed of at a commercial solid waste facility. • Trash receptacles (roll off dumpster) will be designed, maintained, and operated to exclude wildlife, and to protect public safety, the environment, and wildlife from exposure to overflowing, leak prone, or insecure trash receptacles. • Unforeseen wastes not listed in the Waste Stream table will be stored and disposed of in accordance with all regulations applicable to the specific waste.
18	Final Reclamation	<p>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. The Operator shall restore the surface of the Land affected by such terminated operations as near as possible to the previous state that existed prior to operations.</p>

Total: 18 comment(s)

Attachment List

<u>Att Doc Num</u>	<u>Name</u>
2479440	CORRESPONDENCE
2479472	CPW WAIVER
2479473	CORRESPONDENCE
2479474	DIRECTOR'S RECOMMENDATION
402657658	FORM 2A SUBMITTED
402922881	CPW CONSULTATION
402922885	ACCESS ROAD MAP
402922886	CULTURAL FEATURES MAP
402922887	DIRECTIONAL WELL PLAT
402922898	GEOLOGIC HAZARD MAP
402922900	HYDROLOGY MAP
402922903	LOCATION DRAWING
402922907	LOCATION PICTURES
402922910	REFERENCE AREA MAP
402922911	REFERENCE AREA PICTURES
402922914	RELATED LOCATION AND FLOWLINE MAP
402922915	WILDLIFE HABITAT DRAWING
402922917	LOCATION AND WORKING PAD GIS GDB
402922923	LAYOUT DRAWING
402922929	LOCAL/FED FINAL PERMIT DECISION
402922932	NRCS MAP UNIT DESC
402922934	PRELIMINARY PROCESS FLOW DIAGRAMS
402922935	SURFACE AGRMT/SURETY
402922936	LESSER IMPACT AREA EXEMPTION REQUEST

Total Attach: 24 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
OGLA	The Director has determined that the OGD application that this Form is a component of meets all requirements of Rule 306.a. The Director's Recommendation has been attached to the Form 2A.	05/13/2022
OGLA	Operator provide revised information on the Wildlife Resources tab to reflect updates to Direct and Indirect Impacts and Mitigation Fee amounts.	05/11/2022
OGLA	Operator provided an updated email contact information for the Surface Owner; however, they requested this email address be kept confidential and not displayed to the public on the Form 2A.	04/26/2022
OGLA	Operator agreed to changing the 2A from a Refile to Amending the existing location as there are changes to the proposed location being made, updated and clarified the Surface Owner(s) and the parties that signed the Surface Use Agreement, confirmed the size of the disturbed area to include both the proposed location and Access Road, updated the Noise Mitigation Plan to include discussion of expected noise levels during all phases of operations, explained how the proposed schedule of operations shown in the Dust Mitigation Plan and Cumulative Impacts Plan will not conflict with a possible timing stipulation associated with the location being in a HPH for Pronghorn Winter Concentration Area, provided a Wildlife BMP related to the planned schedule of operations, & provided a revised waiver from the CPW for the ALA requirement.	04/26/2022
OGLA	Following technical review, emailed operator and requested they provide a response to questions/issues/concerns regarding changing the 2A from a Refile to Amending the existing location as there are changes to the proposed location being made, updating and clarifying the Surface Owner(s) and the parties that signed the Surface Use Agreement, providing updated email contact information for the Surface Owner, confirming the size of the disturbed area to include both the proposed location and Access Road, updating the Noise Mitigation Plan to include discussion of expected noise levels during all phases of operations, explaining how the proposed schedule of operations shown in the Dust Mitigation Plan and Cumulative Impacts Plan does not conflict with a possible timing stipulation associated with the location being in a HPH for Pronghorn Winter Concentration Area, & providing a formal written waiver from the CPW for the ALA requirement.	03/22/2022
OGLA	The Director has determined this OGD application is complete. Form pushed to IN PROCESS.	02/17/2022
OGLA	The operator requested a Lesser Impact Area exemption for the Geologic Hazard Plan. This request was granted by OGLA Supervisor John Noto, on behalf of the Director, on November 5, 2021.	02/17/2022
OGLA	Returned to DRAFT - Following Completeness review by OGLA staff, the Form 2A was returned to DRAFT status for the operator to make necessary corrections/revisions/updates.	11/23/2021

Total: 8 comment(s)

Public Comments

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