

State of Colorado
Oil and Gas Conservation Commission

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Date Received:

CUMULATIVE IMPACTS DATA IDENTIFICATION

Per Rule 303, this form and all required components and attachments will be submitted for any Oil and Gas Development Plan.

Form Type: ☒ OGD ☐ Partial 2B - Rule 803.b.(2).A UIC Conversion

OPERATOR INFORMATION

OGCC Operator Number: 10670

Name of Operator: MALLARD EXPLORATION LLC

Address: 1400 16TH STREET SUITE 300

City: DENVER State: CO Zip: 80202

Contact Name and Telephone:

Name: Erin Mathews

Phone: (720) 543 7951

Email: emathews@mallardexploration.com

OIL & GAS DEVELOPMENT PLAN INFORMATION

Oil & Gas Development Plan Name: Shelduck South

Oil & Gas Development Plan Docket #:

Oil & Gas Development Plan ID #:

Docket Number

211000200

Data not required

☐ This OGD is included in a Comprehensive Area Plan. CAP ID #: _____

OIL & GAS LOCATION DATA

1 Oil & Gas Location Name: Shelduck South

Number: Pad

Status: Active, unbuilt

OIL & GAS LOCATION INFORMATION

Form 2A Doc#: 402657658

Loc ID#: 455769

Oil & Gas Location: QTRQTR: Lot 6 Sec: 6 Twp: 7N Rng: 60W Meridian: 6

Total number of wells planned: 8

Operations Duration

Estimated total number of weeks to construct this Oil & Gas Location: 8

Estimated total number of weeks to drill all planned wells for this Oil & Gas Location: 9

Number of planned drilling occupations to drill all planned wells for this Oil & Gas Location: 1

Estimated total number of weeks to complete all planned wells for this Oil & Gas Location: 9

Number of planned completions occupations to complete all planned wells for this Oil & Gas Location: 1

Will there be simultaneous drilling and completions operations occurring at this Oil & Gas Location? No

Estimated total number of months the Oil & Gas Location will be active, prior to abandonment and reclamation: 300

Noise Impacts

Provide a qualitative evaluation of the incremental adverse noise impacts to the surrounding receptors during the pre-production activities at this Oil & Gas Location.

Noise levels are expected to rise minimally for wildlife resources during pre-production activities. The Shelduck South pad is over 2,640 ft from the nearest building or building unit and over 5,280 ft from the nearest high occupancy building, childcare facility, and school; over 2,640' from the nearest public road; and is not within a mile of any Disproportionately Impacted Community. The location is within a Pronghorn Winter Concentration Habitat. The CPW was consulted and had no concerns or requests for noise mitigation and Mallard has agreed to the direct and indirect compensatory mitigation fees as established with and approved by the CPW.

Provide a qualitative evaluation of the incremental adverse noise impacts to the surrounding receptors during the production stage of this Oil & Gas Location.

Noise levels are expected to rise minimally for wildlife resources during production activities. The Shelduck South pad is over 2,640 ft from the nearest building or building unit and over 5,280 ft from the nearest high occupancy building, childcare facility, and school; over 2,640' from the nearest public road; and is not within a mile of any Disproportionately Impacted Community. The location is within a Pronghorn Winter Concentration Habitat. The CPW was consulted and had no concerns or requests for noise mitigation and Mallard has agreed to the direct and indirect compensatory mitigation fees as established with and approved by the CPW.

Light Impacts

Provide a qualitative evaluation of the incremental adverse light impacts to the surrounding receptors during the pre-production activities at this Oil & Gas Location.

Pre-production activities at the Shelduck South pad will require lighting to facilitate safe operations. However, the light generated will be contained within the limits of the pad. At the edge of the pad, pre-production lighting will be at 0.5 foot-candles or less per calculated modeling. Light impacts from pre-production activities are expected to be minimal to nearby wildlife resources. The Shelduck South pad is over 2,640 ft from the nearest building or building unit and over 5,280 ft from the nearest high occupancy building, childcare facility, and school; over 2,640' from the nearest public road; and is not within a mile of any Disproportionately Impacted Community. The location is within a Pronghorn Winter Concentration Habitat. The CPW was consulted and had no concerns or requests and Mallard has agreed to the direct and indirect compensatory mitigation fees as established with and approved by the CPW. The anticipated illumination at a one-mile radius from the location during pre-production is anticipated to be less than 0.1 Lux, which is well below the requirements of Rule 424.f.

Provide a qualitative evaluation of the incremental adverse light impacts to the surrounding receptors during the production stage of this Oil & Gas Location.

Production activities at the Shelduck South pad will require lighting to facilitate safe operations. However, the light generated will be contained within the limits of the pad. At the edge of the pad, production lighting will be at 0.1 foot-candles or less per calculated modeling. Light impacts from production activities are expected to be minimal to nearby wildlife resources. The Shelduck South pad is over 2,640 ft from the nearest building or building unit and over 5,280 ft from the nearest high occupancy building, childcare facility, and school; over 2,640' from the nearest public road; and is not within a mile of any Disproportionately Impacted Community. The location is within a Pronghorn Winter Concentration Habitat. The CPW was consulted and had no concerns or requests and Mallard has agreed to the direct and indirect compensatory mitigation fees as established with and approved by the CPW. The anticipated illumination at a one-mile radius from the location during production is anticipated to be less than 0.1 Lux, which is well below the requirements of Rule 424.f.

Odor Impacts

Provide a qualitative evaluation of the incremental adverse odor impacts to the surrounding receptors during the pre-production activities at this Oil & Gas Location.

No significant changes to odor levels are expected to nearby wildlife resources during pre-production activities. The Shelduck South pad is over 2,640 ft from the nearest building or building unit and over 5,280 ft from the nearest high occupancy building, childcare facility, and school; over 2,640' from the nearest public road; and is not within a mile of any Disproportionately Impacted Community. The location is within a Pronghorn Winter Concentration Habitat. The CPW was consulted and had no concerns or requests and Mallard has agreed to the direct and indirect compensatory mitigation fees as established with and approved by the CPW.

Provide a qualitative evaluation of the incremental adverse odor impacts to the surrounding receptors during the production stage of this Oil & Gas Location.

No significant changes to odor levels are expected to nearby wildlife resources during production activities. The Shelduck South pad is over 2,640 ft from the nearest building or building unit and over 5,280 ft from the nearest high occupancy building, childcare facility, and school; over 2,640' from the nearest public road; and is not within a mile of any Disproportionately Impacted Community. The location is within a Pronghorn Winter Concentration Habitat. The CPW was consulted and had no concerns or requests and Mallard has agreed to the direct and indirect compensatory mitigation fees as established with and approved by the CPW.

WATER RESOURCES

☐ This Oil & Gas Location is listed as a sensitive area for water resources.

☐ This Oil & Gas Location is within 2,640 feet of a surface Water of the State.

Estimated depth to groundwater: 80

Estimated total planned on-location storage capacity of the Oil & Gas Location for:

	Number of Tanks	Total Volume (bbls)
Oil	<u>5</u>	<u>2500</u>
Condensate	<u>0</u>	<u>0</u>

Produced Water	5	2500
Other volumes of stored fluids, hydrocarbons, chemicals, or E&P Waste Fluids	0	0

List, with volumes, the "Other" fluids planned to be stored on the Oil & Gas Location, including, but not limited to: hydrocarbons, chemicals, or E&P Waste fluids.

N/A

Potential Impacted Surface Water Resources

Provide the distance and direction of the contaminant migration pathway from the Oil & Gas Location to the nearest downstream riparian corridors, wetlands, and surface Waters of the State. Also provide an evaluation of the baseline condition of the nearest downstream riparian corridors, wetlands, and surface Waters of the State.

Enter 2,640 for distances greater than 1/2-mile. Distances are measured along the migration pathway, not a straight line from the edge of the Oil & Gas Location.

	Distance	Direction	Evaluation of Baseline Condition
Riparian Corridor	2640	SW	N/A. There are no migration pathways to any riparian corridors within 2,640'. There are no riparian corridors within 2,640'.
Wetland	2640	SW	N/A; nearest wetland PEM1A classification known as Weitzel Pond 5,108' SW is seasonally dry.
Surface Waters of the State	2640	SW	N/A; nearest surface water PEM1A classification known as Weitzel Pond 5,108' SW is seasonally dry.

Potential Impacts to Public Water Resources

Provide the distance, direction, and evaluation of potential impacts to the nearest Public Water System Intake. Enter 5,280 for distances greater than 1-mile.

	Distance	Direction	Evaluation of Baseline Condition
Public Water System Intake	5280	SW	There are no potential impacts to PWS systems.

Estimated Water Usage

Provide the estimated total volumes of the following that are anticipated to be used during the drilling and completions stage of the Oil & Gas Location activity.

Water Source	Volume (bbls)		Volume (bbls)		Volume (bbls)		Percentage	
Surface Water	0	Recycled Water (Produced Water)	0	Unspecified Source	0	Recycled Water	0	%
Ground Water	4008000	Recycled Water (non-Produced Water)	0	Total Water Usage	4008000			
					0			

If an unspecified water source is planned to be used, provide a description of the source.

N/A

Evaluate the measures being taken to reduce freshwater use, including reusing and recycling produced water.

At this time, no recycled or reused water is anticipated to be used due to constraints in the scheduling and availability. If available, a small amount of recycled or reused water could be used during the drilling and completion phases. A reuse and recycling plan will be submitted via sundry prior to drilling as described in Rule 905.a.(3).

ECOSYSTEM & WILDLIFE RESOURCES

List High Priority Habitats (HPH) that occur within one mile of the Oil & Gas Location and list the distance from working pad surface. If the location is partially or entirely within a HPH list the distance as '0' and provide the estimated acreage disturbance of that HPH by the location construction.

High Priority Habitat (HPH) Name:	Distance	Estimated Acreage Disturbed
PRONGHORN WINTER CONCENTRATION AREA	0	11

List total size of disturbed acreage and disturbed High Priority Habitat (HPH) area (in acres) during the Oil & Gas Location construction and after interim reclamation.

	Total Acreage (acres)	Total HPH Acreage (acres)	Provide any further information regarding the location's HPH disturbance.
Construction	11	11	Mallard and Colorado Parks and Wildlife (CPW) engaged in pre-application consultation beginning in April 2021 regarding minimizing unavoidable anticipated impacts, preliminary mitigation options and compensatory costs, and Alternative Location Analysis. The surface location and access road are located entirely within Pronghorn Winter Concentration Area HPH. On 06/28/2021, Mallard received email confirmation that "given the inability of Mallard to move this location outside of the mapped Pronghorn Winter Concentration Area (an HPH polygon) while staying in the DSU, pursuant to Rule 304.b.(2).B.viii, CPW recommends that COGCC waive the ALA from the HPH perspective."
Post-interim Reclamation	5.6	5.6	

Provide the acreage of the existing land use types that occur within one mile of the Oil & Gas Location. Note: a circle with a one mile radius is approximately 2010 acres.

		Existing Acreage			Existing Acreage			Existing Acreage	Existing Acreage
Crop Land:	Irrigated	<u>0</u>	Non-Irrigated	<u>1760</u>	Conservation Reserve Program(CRP)	<u>0</u>			
Non-Crop Land:	Rangeland	<u>800</u>	Forestry	<u>0</u>		Recreation	<u>0</u>	Other	<u>0</u>
Subdivided:	Industrial	<u>0</u>	Commercial	<u>0</u>		Residential	<u>0</u>		

If any land use is industrial, provide a description of the use or operation of the industrial facilities.

N/A.

If any land use is "Other", provide a description of the land use.

N/A.

If any portion of the land use for the proposed oil and gas location includes Rangeland, Forestry, or Recreation, provide a list of the plant community or communities and estimated acreage disturbed for each:

	Estimated Disturbed Acreage		Estimated Disturbed Acreage		Estimated Disturbed Acreage		Estimated Disturbed Acreage
Disturbed Grassland	<u>0</u>	Shrub Land	<u>0</u>	Mountain Riparian	<u>0</u>	Wetland Aquatic	<u>0</u>
Native Grassland	11	Plains Riparian	0	Forest Land	0	Alpine	0

Provide a qualitative evaluation of incremental adverse impacts to ecosystems, including any plant communities, as a result of Oil and Gas Operations associated with the proposed Oil & Gas Location.

Impacts to ecosystems is limited to loss of 13.75 acres of rangeland. No riparian areas or water resources are likely to be affected by operations. Wildlife habitat fragmentation is mitigated by BMP and compensatory mitigation as prescribed within the Wildlife Mitigation Plan.

Soil Resources

List all soil map units that occur within the Oil & Gas Location and list the estimated total area (in acres) disturbance of each soil map unit.

NRCS Map Unit Name:	Estimated Disturbed Acreage
40 - Nunn loam, 0 to 6 percent slopes	5.5
44 - Olney fine sandy loam, 0 to 6 percent slopes	5.5

PUBLIC WELFARE

☐ This Oil & Gas Location lies within a Disproportionately Impacted Community as defined in the 100-series rules.

Building Units within 1-mile

0'-2,000' 2,001'-5,280'

Total number of Residential Building Units:	0	1
Total Number of non-school AND non child care center High Occupancy Building Units:	0	0
Total number of School Facilities:	0	0
Total number of Child Care Centers:	0	0

Recreation and Scenic Value

List all State Parks, State Trust Lands, or State Wildlife Area within 1-mile of the Oil & Gas Location.

N/A

List all Designated Outdoor Activity Areas within 1-mile of the Oil & Gas Location.

N/A

List all mapped trails that support any of the following recreational activities within 1-mile of the Oil & Gas Location: Hiking, Biking, Horseback Riding, Motorcycle Riding, ATV Riding, OHV, Nordic Skiing, Snowmobiling, or Snowshoeing.

N/A

AIR RESOURCES

Pre-Production Emissions

Complete the following chart based on the estimated total equipment emissions (in tons) for the Oil & Gas Location during the pre-production (construction, drilling, completions) stage for Criteria Pollutants by equipment type.

	NOx	CO	VOCs	Methane	Ethane	CO2	N2O
Process Heaters or Boilers	0.03	0.02	0.002	0	0	34.5	1.3
Storage Tanks	0.01	0.05	0.1	0.06	0.03	36.6	0
Venting or Blowdowns	0	0	0	0	0	0	0
Combustion Control Devices	0.01	0.05	0.1	0.05	0.03	21.4	0
Non-Road Internal Combustion Engines	59.3	15.4	2.02	0.1	0	2964.3	0.02
Drill Mud	0	0	0.6	2.1	0	0	0
Flowback or Completions	0.07	0.3	0.99	0.3	0.2	159.2	0
Loadout	0	0	0	0	0	0	0

Production Emissions

Complete the following chart based on the estimated full facility equipment emissions (in tons) for the Oil & Gas Location once the Oil & Gas Location has entered the production stage, for Criteria Pollutants. The table should be filled out based on ONE year of operation.

	NOx	CO	VOCs	Methane	Ethane	CO2	N2O
Stationary Engines or Turbines	0	0	0	0	0	0	0
Process Heaters or Boilers	0	0	0	0	0	0	0
Storage Tanks	0.1	0.6	2.395	0.096	0.07	500.2	0
Dehydration Units	0	0	0	0	0	0	0
Pneumatic Pumps	0	0	0	0	0	0	0
Pneumatic Controllers	0	0	0	0	0	0	0
Separators	0.2	1.1	35.3	3.6	7.3	5891.9	0.008
Fugitives			0.1	0.97	0	0.1	
Venting or Blowdowns	0	0.003	0.3	0.06	0.08	1.3	0
Combustion Control Devices	0	0	0	0	0	0	0
Loadout	0.01	0.05	0.3	0	0.04	25.99	0
Non-Road Internal Combustion Engines	0	0	0	0	0	0	0
Well Bradenhead	0	0	0	0	0	0	0
Well Maintenance	0	0	0	0	0	0	0

Diesel Vehicle Road Miles

Complete the following chart for diesel vehicle road miles during each stage of oil and gas location operations.

During Construction: 74128

During Completions: 376651

During Drilling: 16485

During Interim Reclamation: 410

During Production: 36000

PUBLIC HEALTH RESOURCES

Pre-Production Emissions

Complete the following chart based on the estimated total equipment emissions (in lbs) for the Oil & Gas Location during the pre-production (construction, drilling, completions) stage for Hazardous Air Pollutants (HAP).

	BEN	TOL	ETH	XYL	NHE	TMP	H2S	FDE	MET	HAP
Process Heaters or Boilers	0.001	0.002	0	0	0	0	0	0	0	0.003
Storage Tanks	5.2	2.3	0.1	0.2	3.4	0	0	0	0	11.2
Venting or Blowdowns	0	0	0	0	0	0	0	0	0	0
Combustion Control Devices	0.8	0.7	0.095	0.2	6.8	0.03	0	0	0	8.625
Non-Road Internal Combustion Engines	0.0141 80432	0.0052 40195	0	0.004	0	0	0	0.003	0	0.0260 73177
Drill Mud	0	0	0	0	0	0	0	0	0	0
Flowback or Completions	6.1	5.2	0.7	1.3	50.8	0.2	0	0	0	64.3
Loadout	0	0	0	0	0	0	0	0	0	0

Production Emissions

Complete the following chart based on the estimated total equipment emissions (in lbs) for the Oil & Gas Location once the Oil & Gas Location has entered the production stage, for Hazardous Air Pollutants (HAP). The table should be filled out based on ONE year of operation.

	BEN	TOL	ETH	XYL	NHE	TMP	H2S	FDE	MET	HAP
Stationary Engines or Turbines	0	0	0	0	0	0	0	0	0	0
Process Heaters or Boilers	0	0	0	0	0	0	0	0	0	0
Storage Tanks	20.1	12.9	1.4	2.7	133.9	0.5	0	0	0	171.5
Dehydration Units	0	0	0	0	0	0	0	0	0	0
Pneumatic Pumps	0	0	0	0	0	0	0	0	0	0
Pneumatic Controllers	0	0	0	0	0	0	0	0	0	0
Separators	259.3	216.1	28.9	53.1	2135.6	10.1	0	0	0	2703.1
Fugitives	0.8	1.9	0.4	2.3	1.4	1.5	0	0	0	8.3
Venting or Blowdowns	1.4	1	0.1	0.2	12.4	0.008	0	0	0	15.108
Combustion Control Devices	0	0	0	0	0	0	0	0	0	0
Non-Road Internal Combustion Engines	0	0	0	0	0	0	0	0	0	0
Loadout	1	0	0	0	9.1	0	0	0	0	10.1
Well Bradenhead	0	0	0	0	0	0	0	0	0	0
Well Maintenance	0	0	0	0	0	0	0	0	0	0

Provide a qualitative evaluation of any potential acute or chronic, short- or long-term incremental impacts to public health as a result of the estimated total pre-production hazardous air pollutant emissions.

Emissions levels are expected to pose minimal potential short- or long-term incremental impacts to public health during pre-production activities due to a lack of receptors. There are no residential buildings or public roads within 2,640' or any high occupancy buildings, childcare facilities, schools, or Disproportionately Impacted Communities within 5,280'.

Provide a qualitative evaluation of any potential acute or chronic, short- or long-term incremental impacts to public health as a result of the estimated annual production hazardous air pollutant emissions.

Emissions levels are expected to pose minimal potential short- or long-term incremental impacts to public health during production activities due to a lack of receptors. There are no residential buildings or public roads within 2,640' or any high occupancy buildings, childcare facilities, schools, or Disproportionately Impacted Communities within 5,280'.

Dust Impacts

The following are the estimated number of truck trips traveling on or off the Oil & Gas Location.

Total	During Construction	During Drilling	During Completions	During Interim Reclamation	During Production
Monthly	380	600	5160	40	60
Annual	560	1040	9528	40	548

Estimated total pounds (lbs) of proppant to be used during completions activities. 2376000
00

Provide the type of proppant(s) that are planned to be used during completions activities.

100 mesh and 40/70 Northern White

Provide an evaluation of the proposed proppant management system that will be used to minimize dust during completions activities, including the estimated amount of silica dust that will leave the Oil & Gas Location.

A dustless sandbox system with gravity fed operation will be utilized.

EXISTING OIL & GAS

Total number of oil & gas locations within 1-mile of the Oil & Gas Location:

	Total Number of Locations		Total Number of Wells
Active, built	1	Active, built	1
Permitted by COGCC, unbuilt	0	Permitted by COGCC, unbuilt	0
Permitted by Relevant Local Government & not COGCC, unbuilt	0	Proposed	0
Proposed	0	Plugged and Abandoned	11

Total acreage disturbance during construction of the active and proposed oil & gas locations within 1-mile of the proposed Oil & Gas Location: 4.5

Source for acreage total:

- ☐ Field Observation/Measurement
☒ COGCC Location Files
☒ Aerial PhotosOther
☐ Other

If "Other" is selected, please describe the source use to determine the acreage total for construction disturbance of the active and proposed oil & gas locations within 1-mile of the proposed Oil & Gas Location.

N/A.

Total permitted capacity of on-location storage (in number of pits and tanks) of the active and proposed oil & gas locations within 1-mile of the Oil & Gas Location :
NOTE: providing the existing number of pits and tanks on surrounding existing locations is optional.

Source for storage totals:

- ☐ Field Observation/Measurement
☒ COGCC Location Files
☒ Aerial PhotosOther
☐ Other

	Permitted Onsite Storage Capacity	Existing Onsite Storage Capacity
Oil	0	3
Condensate	0	1
Produced Water	0	1
Pits	0	0

If "Other" is selected, please describe the source use to determine the tank totals for the active and proposed oil & gas locations within 1-mile of the proposed Oil & Gas Location.

N/A

OIL & GAS DEVELOPMENT PLAN-SCALE DATA

List High Priority Habitats (HPH) that are estimated be disturbed by the construction of new roads, including access roads, pipelines, and utilities for this OGD, along with the estimated disturbed acreage of each HPH.

High Priority Habitat (HPH) Name	Estimated Acreage Disturbed
Pronghorn Winter Concentration Area	13.75

List the total estimated of disturbed acreage and the total disturbed High Priority Habitat (HPH) area (in acres) during construction and the acreage that will remain disturbed after interim reclamation of the following for the entire OGDG:

	Construction			Post-interim Reclamation	
	Total Acreage (acres)	Total HPH Acreage (acres)		Total Acreage (acres)	Total HPH Acreage (acres)
New roads, including access roads	2.75	2.75	New roads, including access roads	2.75	2.75
Pipelines	0	0	Pipelines	0	0
Utilities	0	0	Utilities	0	0

Provide any further information regarding the HPH disturbance from the construction of new roads, including access roads, pipelines, and utilities for this OGDG.

N/A

Number of miles of the existing lease road that are planned to be used to access these location(s): 0

BENEFICIAL IMPACT INFORMATION

Equipment and Facility Removal

Total number of existing wells that are planned to be plugged and abandoned as part of this OGDG: 0

Total number of existing locations that are planned to be closed and undergo final reclamation as part of this OGDG: 0

Total number of acres that are planned to be reclaimed through the closing of existing locations: 0

Total number of existing pits that are planned to be closed and undergo final reclamation as part of this OGDG: 0

Estimated number of vehicle trips that are planned to be prevented from the above mentioned facility closures and equipment upgrades (on an annual basis): 0

Total number of tanks planned to be removed from existing locations through the approval of this OGDG:

Oil Tanks: 0

Condensate Tanks: 0

Produced Water Tanks: 0

Provide a qualitative evaluation of any incremental beneficial impacts to the surrounding community directly and indirectly from this OGDG.

The Shelduck South Pad has been sited as far as possible from residential building units, high occupancy buildings, childcare facilities and schools and yet still positioned to develop the minerals of the spacing unit feasibly and efficiently. Development of the Shelduck South Pad will result in economic benefits to the surrounding community through revenues, royalties, and taxes to the surface owner, mineral owners, Weld County, and the State of Colorado, as well as direct impacts tied to local employment and local spending. Mallard Exploration, whenever possible, utilizes local and regional contractors, vendors, and service companies from pad construction through production operations.

Provide a qualitative evaluation of any incremental beneficial impacts to the surrounding wildlife and ecosystems directly and indirectly from this OGDG.

The Shelduck South location has been sited outside of any riparian corridors, yet it is located within a High Priority Habitat for the Pronghorn Winter Concentration. The entire 1280-acre spacing unit for the Shelduck project is located within the HPH habitat; it is not feasible to access these minerals from a surface location outside of said boundaries. In an effort to efficiently develop this leasehold and best protect the surrounding wildlife and ecosystems, Mallard worked in collaboration with CPW to develop BMPs and has agreed to compensatory mitigation.

MITIGATION INFORMATION

Item	Impacted Resource	Mitigation Description
1	Water Resources	During drilling and completions operations a temporary impermeable synthetic or geosynthetic liner will be utilized under equipment. This liner will be installed on top of the plated surface and will provide an additional layer of protection against spills. Secondary containment devices, such as duck ponds or equivalent type products, will be used to protect any pipe connections or equipment that carry, mix, or could possibly leak fluids or chemicals.

2	Air Resources	Mallard personnel will conduct Audible, Visual, and Olfactory (AVO) inspections of the facility daily. Any valve or fitting that is found to be ineffective is either repaired immediately or well shut-in procedures are implemented. Additionally, documented AVO and optical gas imaging surveys are conducted monthly by a third-party specialist.
3	Air Resources	To minimize truck traffic and vehicle exhaust emissions, no water will be trucked to location for completions operations. A modular large volume tank will be used to store freshwater and will be filled from local sources, in accordance with the Water Plan, through use of temporary lay-flat water lines. Additionally, the location will be automated to allow production operations to be monitored remotely.
4	Air Resources	A closed-loop system will be used for drilling operations.
5	Air Resources	Mallard is committed to takeaway prior to commencement of operations.
6	Water Resources	Sediment control, spill prevention, tank berms with liners, and automation will be implemented at this location to avoid and minimize any adverse impacts to water resources.
7	Ecosystem and Wildlife Resources	Mallard is committed to the disinfection measures, closed loop drilling, pre-disturbance surveys, berms and liners, AVO inspections, wildlife conservation practices training, and migratory bird screening measures outlined in the Wildlife Protection Plan to avoid and minimize any adverse impacts to any wildlife species.
8	Ecosystem and Wildlife Resources	Mallard and Colorado Parks and Wildlife (CPW) engaged in pre-application consultations beginning in April 2021 regarding minimizing unavoidable anticipated impacts, preliminary mitigation options and compensatory costs, and Alternative Location Analysis. The surface location and access road are located entirely within Pronghorn Winter Concentration Area HPH. On 06/28/2021, Mallard received email confirmation that "given the inability of Mallard to move this location outside of the mapped Pronghorn Winter Concentration Area (an HPH polygon) while staying in the DSU, pursuant to Rule 304.b.(2).B.viii, CPW recommends that COGCC waive the ALA from the HPH perspective.
9	Public Welfare	A dustless sandbox system with gravity fed operation will be utilized for completions operations.
10	Public Welfare	Vehicle speed limit on location and on the access road shall be 15 MPH. Signage will be posted.
11	Public Welfare	A vehicle tracking control pad will be installed at the location entrance to minimize off-site tracking of sediment onto public roads.
12	Public Welfare	To minimize 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.
13	Public Welfare	Any solid waste generated by the site will be collected and disposed of by a contracted waste disposal company. Disposal will follow the rules and regulations as defined by the Colorado Department of Health and Environment (CDPHE).
14	Air Resources	Electricity will be brought to the location to power the facility. Use of electricity eliminates the air emissions that were formerly associated with older equipment such as diesel generators and/or natural gas compressors.
15	Air Resources	All trucks on location will be prohibited from idling when not in use to prevent the accumulation of odors and emissions from exhaust.
16	Air Resources	Mallard will perform a baseline air quality monitoring survey prior to the commencement of drilling operations and the site will have continuous air monitoring during the drilling, completion, and first 6 months of production operations, in accordance with CDPHE Regulation 7.
17	Water Resources	Mallard will follow appropriate CPW recommended protocols for disinfecting water collection and transportation equipment to protect surface waters.
18	Ecosystem and Wildlife Resources	Fencing will be installed and maintained in both the pre-production and production phases. All fencing will utilize a wildlife friendly design consisting of 3 or 4 wire strands with the top strand at a height of approximately 42-inches and the lower smooth (without barbs) strand at a height of approximately 18-inches.
19	Ecosystem and Wildlife Resources	Bird exclusion devices will be installed on the vent stacks for all separation and combustion devices.
20	Ecosystem and Wildlife Resources	All produced water and water collection vessels will be closed-topped, and all access ports will be sealed or netted.

21	Ecosystem and Wildlife Resources	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 Endangered Species Act (ESA) laws in protection of active nesting activities, observing CPW/USFWS requested protected buffers for active nesting species, and consulting with CPW/USFWS as warranted.
22	Ecosystem and Wildlife Resources	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 a take.
23	Ecosystem and Wildlife Resources	While conducting interim and final reclamation activities (pursuant to 1100 Series Rules), Mallard will use CPW-recommended pronghorn seed mix.
24	Public Welfare	Mallard has and will continue to communicate with offset oil and gas operators prior to commencement of operational milestones. To the greatest extent possible, development schedules will be coordinated with offset operators to reduce concurrent operations that would result in adverse impacts to the public. If concurrent operations would be beneficial, Mallard is committed to having those conversations as well.
25	Public Welfare	Mallard intends to perform simultaneous operations, consisting of Facility construction during drilling and completions operations, to decrease the duration of impacts.

OPERATOR COMMENTS AND SUBMITTAL

Print Name: Justin Garrett Title: Regulatory Analyst

Email: regulatory@ascentgeomatrics.com Date: _____

Based on the information provided herein, this Cumulative Impacts Data Identification Form 2B complies with COGCC Rules and is hereby accepted into the Cumulative Impacts Data Evaluation Repository (CIDER database).
Contact OGLA Staff for consultation.

COGCC Approved: _____ **Director of COGCC** Date: _____

Attachment Check List

Att Doc Num

Name

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Total Attach: 0 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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