



## GADWALL PAD DUST MITIGATION PLAN

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## **Article I. Introduction**

### *Facility Information*

This document provides site-specific information for the Gadwall Pad within the Gadwall OGD. The information in this document relates specifically to the time during the construction, drilling, completion, and production of the eight (8) proposed horizontal wells on this location.

The proposed location is rangeland approximately 2,700 feet east of Weld County Road 97, south of Highway 14. The Pad will be in the NWNE Section 30, Township 8 North, Range 60 West, zoned Agricultural within the Ag-Rural Planning Area of Weld County. A WOGLA application for the Gadwall Pad was approved as WOGLA18-0087 on September 5, 2018. A 1041 WOGLA Minor Amendment extending the term of WOGLA18-0087 was approved by Weld County OGED on May 7, 2021.

The proposed Working Pad Surface will be 15.9 acres, reduced to 7.5 after interim reclamation. The Pad is on Parcel 054130100003 owned by Deborah J. Holub and William F. Stepanek. The location is currently used for grazing.

The proposed production facility equipment for the Gadwall Pad will be located within the Working Pad Surface adjacent to the wells and will consist of 5 oil tanks, 5 water tanks, 8 separators, 2 vapor recovery towers (VRT), 1 vapor recovery unit (VRU), 2 electric compressors, 2 Enclosed Combustion Devices (ECD), 1 meter skid, 1 LACT Unit, 3 Pigging Stations, 1 gas lift, 1 drain vault, 1 scrubber, 1 Instrument Air skid, 3 KO drums, 1 temporary product cooler skid, 1 temporary MLVT, and proposed electrical and/or solar equipment.

<b>Phase</b>	<b>Duration (days)</b>	<b>Estimated Start Date</b>
Pad Construction	20	1 <sup>st</sup> Quarter (March) 2022
Facility Construction	60	2 <sup>nd</sup> Quarter (April) 2022
Drilling	52	2 <sup>nd</sup> Quarter (June) 2022
Completion	56	4 <sup>th</sup> Quarter (October) 2022
Flowback	30	4 <sup>th</sup> Quarter (November) 2022
Production	9125 (25 Years)	4 <sup>th</sup> Quarter (December) 2022
Interim Reclamation	20	2 <sup>nd</sup> Quarter (June) 2023

## **Article II. Dust Mitigation Plan Specific Data**

Soil type(s): 45 - Olney fine sandy loam, 6 to 9 percent slopes, 54 - Platner loam, 0 to 3 percent slopes

The Access Road is not paved. Unpaved access road travel 276' North (0.2 acres) from location to paved Highway 14 as depicted on the Haul Route Map.

Total area of soil disturbance in acres including accesses: 16.4 acres.

### *Truck Traffic*

Proposed vehicle speed limit on location and on access road: 15 MPH. If vehicle speeds become an issue, Mallard will install speed limit signs.



The traffic associated with the proposed location will depend on the phase of the project. The average daily traffic (average number of roundtrips per day) associated with each phase of development is estimated below. It is anticipated that the majority of trucks accessing the site will be Combo Units (class 8-13), however some Single Units (class 4-7) are also expected. For employee traffic, it is assumed supervisors will be driving pickup trucks and contract employees will be driving personal vehicles.

	<b>Pad Construction</b>	<b>Facility Construction</b>	<b>Drilling</b>	<b>Completions</b>	<b>Flowback</b>
<b>Duration (Days)</b>	20	60	52	56	30
<b>Operating Hours</b>	Daylight Hours	Daylight Hours	24 hours	24 hours	24 hours
<b>Truck Traffic</b>	8	2	10	84	6
<b>Employee Traffic</b>	5	8	18	21	4

**Article III. Mitigation Measures and Best Management Practices**

Operator shall employ practices for control of fugitive dust caused by their operations. 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, the access road and high traffic areas of the pad will be plated with 6 inches of aggregate road base material compacted to 4 inches to further minimize fugitive dust.

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.



If necessary, or if required, or requested by the Relevant Local Governments or Agencies with road jurisdiction Mallard will apply dust control chemical treatments on the access road.

Operators will not use any of the following fluids for dust suppression:

- Produced water
- E&P Waste or hazardous waste
- Crude oil or any oil not specifically designed for road maintenance
- Solvents
- Any process Fluids

Operator will use only fresh water (potable or non-potable) to conduct dust suppression activities within 300 feet of the ordinary high-water mark of any water body.

Operator will maintain safety data sheets (“SDS”) for any chemical-based dust suppressant and make the SDS available immediately upon request to the Director and to the Local Government. Operators will maintain SDS for any chemical-based dust suppressant until the site passes final site Reclamation and transfer the records upon transfer of property ownership.

#### **Article IV. Cumulative Dust Impacts**

The estimated number of anticipated truck trips for the Oil and Gas Facility seeking Commission approval combined with the number of anticipated truck trips at any other Oil and Gas Locations within a 1-mile radius during the same time period is below, calculated with as locations with anticipated construction, drilling, and completion dates between 1st Quarter 2022 and 2nd Quarter 2023.

There is one active Oil and Gas Location (Loc ID 455365) consisting of 11 wells currently being developed. The move in and move out of the actual hydraulic fracturing completion equipment should be completed before the commencement of operations of the Gadwall Pad.

There is one permitted Oil and Gas Location (Loc ID 454749) consisting of 8 wells anticipated to be constructed, drilled, and/or completed within the proposed time frame. During the pad construction phase, the expected number of per day roundtrips is estimated to be approximately 5 passenger cars/pickups and 8 semi-truck/trailers. During the facility construction phase, the expected number of per day roundtrips is estimated to be approximately 8 passenger cars/pickups and 8 semi-truck/trailers. For the drilling phase of the operation, the roundtrip numbers should be 18 trips/day for passenger cars/pickups and 10 semi-truck/trailer or tandem trucks. During the hydraulic fracturing completion phase, the expected number of per day roundtrips is estimated to be approximately 21 passenger cars/pickups and 84 semi-truck/ trailers.

There is one proposed site (Doc #401578109) consisting of 16 wells anticipated to possibly be constructed, drilled, and/or completed within the proposed time frame. During the construction phase, the expected number of per day roundtrips is estimated to be approximately 30 passenger cars/pickups and 20 semi-truck/trailers. For the drilling phase of the operation, the roundtrip numbers should be 30 trips/day for passenger cars/pickups and 20 semi-truck/trailer or tandem trucks. During the hydraulic fracturing completion phase, the expected number of per day roundtrips is estimated to be approximately 40 passenger cars/pickups and 240 semi-truck/ trailers.



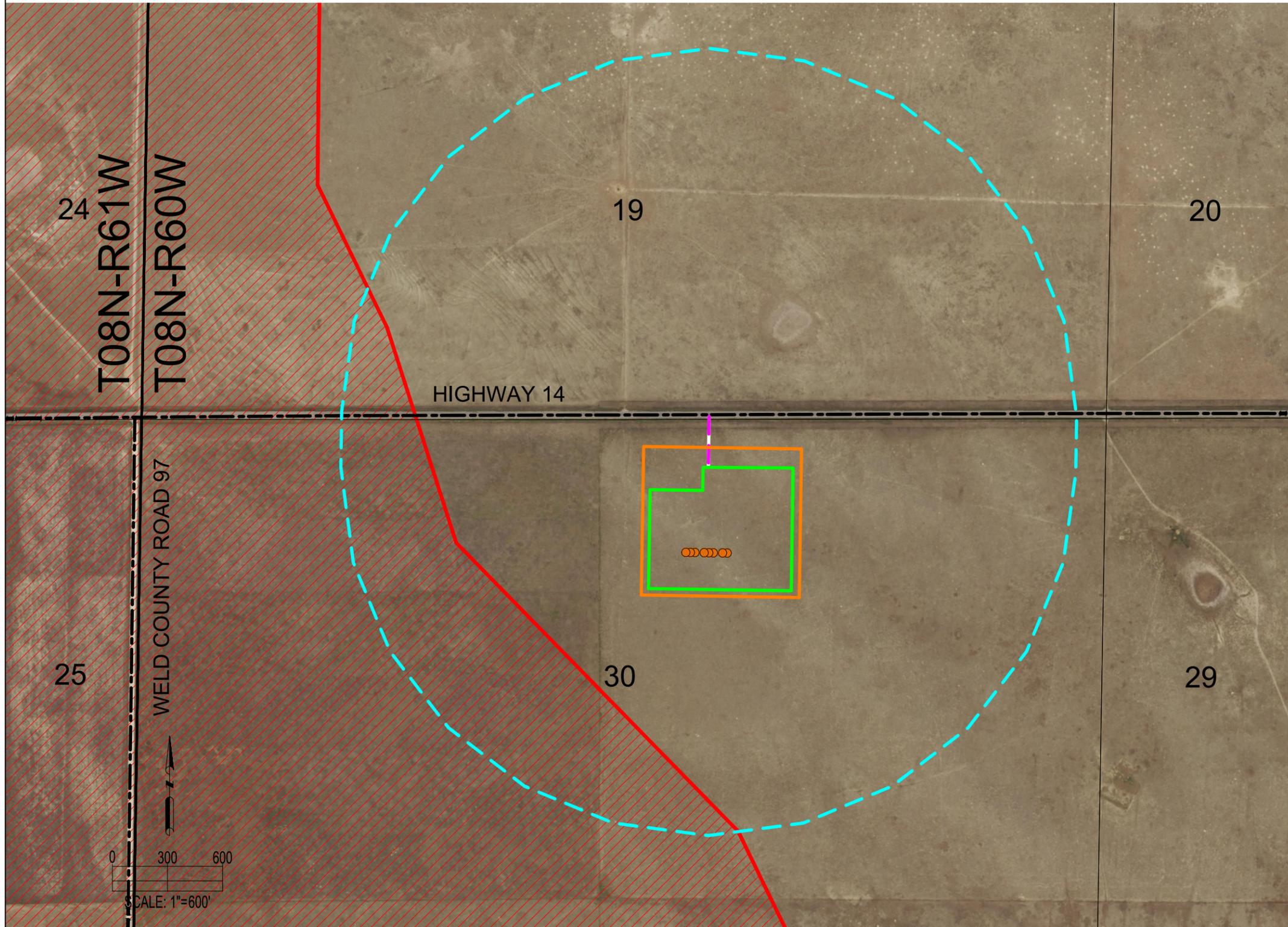
No other Oil and Gas Facility seeking Commission approval is anticipated to use any of the same unpaved roads as truck traffic at the same time as the proposed Gadwall Pad.

There are no other anticipated major sources of dust in the area which will result in the area bearing a cumulative dust risk that could harm public health, safety, welfare, the environment, or wildlife resources, including impacts to plants, such as burial or significant damage to photosynthetic processes.

**Article V. Exhibits/References/Appendices**

Haul Route Map

# GADWALL PAD ACCESS ROAD MAP



RESIDENTIAL BUILDING UNITS: (WITHIN 2000' ACCESS ROAD BUFFER)	
RESIDENTIAL BUILDING UNITS:	0
HIGH OCCUPANCY BUILDING UNITS:	0
SCHOOLS:	0
CHILD CARE CENTERS:	0

THERE ARE NO BUILDING UNITS WITHIN THE 2000' ACCESS ROAD BUFFER

ACCESS ROAD LENGTH:	
PROPOSED ACCESS ROAD LENGTH:	±276'

DISCLAIMER:  
THIS PLOT DOES NOT REPRESENT A MONUMENTED LAND SURVEY AND SHOULD NOT BE RELIED UPON TO DETERMINE BOUNDARY LINES.  
PROPERTY OWNERSHIP OR OTHER PROPERTY INTERESTS, PARCEL LINES, IF DEPICTED HAVE NOT BEEN FIELD VERIFIED AND MAY BE BASED  
UPON PUBLICLY AVAILABLE DATA THAT ALSO HAS NOT BEEN INDEPENDENTLY VERIFIED.

 8620 Wolff Court Westminster, CO 80031 (303) 928-7128 www.ascentgeomatics.com	FIELD DATE: 08-10-17	DRAWING DATE: 07-12-21	SITE NAME: GADWALL PAD SURFACE LOCATION: NW 1/4 NE 1/4 SEC. 30, T08N, R60W, 6TH P.M. WELD COUNTY, COLORADO
	DRAWN BY: JDH	CHECKED BY: CSG	DATA SOURCE: AERIAL IMAGERY: NAIP 2019 PUBLICLY AVAILABLE DATA SOURCES HAVE NOT BEEN INDEPENDENTLY VERIFIED BY ASCENT.

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<b>LEGEND:</b> ● = PROPOSED WELL — (magenta) = PROPOSED ACCESS ROAD - - - (black) = EXISTING PUBLIC ROAD — (black) = SECTION LINE — (black) = TOWNSHIP LINE
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- - - (cyan) = 2000' ACCESS ROAD RADIUS □ (orange) = OIL & GAS LOCATION □ (green) = WORKING PAD SURFACE ▨ (red) = HIGH PRIORITY HABITAT
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PREPARED FOR:



**MALLARD**  
EXPLORATION