STATE OF COLORADO

Trask - DNR, Sabrina <sabrina.trask@state.co.us>

Goldeneye Center Pad

5 messages

Andrews - DNR, Doug <doug.andrews@state.co.us> Tue, Nov 5, 2019 at 4:15 PM
To: Erin Mathews <emathews@mallardexploration.com>, "Trask - DNR, Sabrina" <sabrina.trask@state.co.us>

Erin,

Management does not think the size of the disturbance area is warranted for the facilities proposed on this location. The Wood East pad has more wells and facilities on the same size disturbance area. Please provide justification. We will evaluate and determine whether this Form 2A should be Rejected or Approved.

Please provide a BMP regarding compliance with the MLVT Policy.

Doug Andrews
Oil & Gas Location Assessment Specialist - Northeast Colorado
COLORADO
Oil & Gas Conservation Commission
Department of Natural Resources

303.894.2100 Ext. 5180
1120 Lincoln St., Suite 801, Denver, CO 80203
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Erin Mathews <emathews@mallardexploration.com> Wed, Nov 6, 2019 at 12:00 AM
To: "Andrews - DNR, Doug" <doug.andrews@state.co.us>, "Trask - DNR, Sabrina" <sabrina.trask@state.co.us>

Doug,

Thank you for the email regarding the proposed disturbance area at the Goldeneye Center location. Mallard is proposing a disturbance area of 18.0 acres for a location consisting of 10 wells and our compact facility footprint that includes less tanks because we are committing to use of oil pipeline. A disturbance area of this size has been proposed for the following reasons:

1. As is indicated on the location drawing and the hydrology map, there is a low lying area northwest of the well row. The presence of this low lying area was immediately considered during siting of this location as we did not want to disrupt the topography of this feature as it

likely collects stormwater from historic drainage patterns in the area. The topographic survey of the property shows that the over half of the proposed location is sitting in a what can be described as a “u-shaped bowl” that funnels toward the low lying area, depicting that stormwater historically drains from the southwest and southeast corners of the proposed pad to the low lying area. The northwest portion of the pad drains to the northwest following historic drainage patterns offsite. The proposed grading of this location has been designed with these drainage patterns in mind. A diversion ditch will be utilized along the south and west sides of the location to pass offsite stormwater flows around the pad allowing runoff to follow historic drainage patterns to the low lying area. The necessity of this diversion ditch is one reason the for the expanded pad size in the southwest corner of the proposed location.

2. Due to the close proximity of the low lying area, installation and construction of stormwater BMPs also necessitates the larger disturbance area. As discussed above, the historic drainage patterns for this area show that runoff will drain to the low lying area. To protect this area and to prevent any sediment discharge from the proposed pad, Mallard has designed this location with a sediment basin and a series of cut swales and compacted earthen berms. The swale and berms will direct all runoff to the sediment basin. In accordance with the historic drainage patterns, the sediment basin will be located northwest of the proposed wells, south of the exiting low lying area, within the limits of pad disturbance. The necessity of the cut swales/berms and sediment basin also account for the expanded pad size.

3. When feasible and agreed upon in the surface use agreement with the surface owner, Mallard designs pads to allow for simultaneous operations. Specifically for this location, the pad has been designed to allow the drilling rig and/or completions crews to operate safely at the same time that facility construction is occurring. Doing so, allows Mallard to decrease the length of the construction phase of operations and get the wells into production as soon as possible. This also provides the fastest path to starting interim reclamation operations therefore minimizing the length of time where pad disturbance is at its greatest.

4. This Goldeneye Center location is a result of Mallard’s continued efforts to minimize surface impacts in this area by reducing the overall number of surface locations to develop the minerals in Sections 21 and 16 of T8N, R60W. Originally Mallard sought to develop this acreage using 3 different surface locations totaling a combined disturbance area of 49.2 acres. As we began to work on an alternate location that would allow development of the 1280 ac unit from a single location, the location of the Goldeneye Center pad became the chosen location for a handful of reasons; technically feasible to drill and complete two mile laterals from this location, feasible access from WCR 103, the surface owner was willing to amend the SUA and allow the location move, and the ability to serve the location with oil and gas pipeline. This location did present increased stormwater and grading challenges as discussed above. Because of the existing topography of this portion of the property we knew that pad construction would require more intensive grading and enhanced stormwater BMPs compared to the original Goldeneye East, Goldeneye West, and Duclair locations. Even though the Goldeneye Center location will require additional disturbance area to grade and drain the pad in accordance with good engineering practice, the overall surface disturbance associated with developing this unit is being reduced by 31.2 acres.

Please let me know if you would like to have a more detailed discussion regarding grading and drainage of this location. Hopefully the information provided above can be considered in your final evaluation of this location.

I apologize that the MLVT information was not included. Please add the following BMP:

- 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.

- 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.

- All liner seams will be welded and tested in accordance with applicable ASTM international standards.

- Operator will be present during initial filling of the MLVT and the contractor will supervise and inspect the MLVT for leaks during filling.

- Operator will comply with the testing and re-inspection requirements and associated written standard operating procedures (SOP) listed on the design package.

- Signs will be posted on the MLVT indicating that the contents are freshwater.

- The MLVT will be operated with a minimum of 1 foot of freeboard at all times.

- Access to the MLVT will be limited to operational personnel and authorized regulatory agency personnel.

- Operator or contractor will conduct daily visual inspections of the exterior wall and surrounding area for integrity deficiencies.

- Operator will develop a contingency plan/emergency response plan associated with the MLVT and it is on file at their office.

- 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.

Please let me know if you have any questions or additional concerns. As you know, Mallard is trying to work with the COGCC, BLM, and the County to permit and develop this acreage in the most efficient way possible while also managing a lease expiration.

Thanks,

Erin

Erin Mathews, PE

VP of Development

Mallard Exploration

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Trask - DNR, Sabrina <sabrina.trask@state.co.us> Wed, Nov 6, 2019 at 9:26 AM
To: Erin Mathews <emathews@mallardexploration.com>
Cc: "Andrews - DNR, Doug" <doug.andrews@state.co.us>

Good morning, Erin,