

Objective Criteria Review Memo - Noble Energy Inc

Tatanka Federal LD13-650 -- Form 2 Application for Permit to Drill (APD) Doc# 402495212

LD15-17 PAD -- Form 4 Sundry to update Location BMPs Doc# 402535102

Approved Form 2A Oil & Gas Location Assessment (Doc# 401721170, approved 1/12/2019)

Location ID# 460646

This memo summarizes COGCC's technical review of the subject well within the context of SB 19-181 and the required Objective Criteria. The Form 2A and four APDs were approved on 1/12/2019. Noble has since submitted this subject refile APD (one of four refile APDs) for this approved Oil & Gas Location. For Oil & Gas Locations approved prior to SB 19-181, the Objective Criteria apply to any wells proposed on those approved or existing Oil & Gas Locations. This APD meets the following Objective Criteria:

1. (Criteria 5c) Oil and Gas Locations within: a Sensitive Area for water resources. The location is 141' from an intermittent stream.
2. (Criteria 8) Oil and Gas Locations with storage of hydrocarbon or produced liquid in more than 18 tanks or in excess of 5,200 barrels. The location is planned for four oil tanks, four water tanks, two buried produced water vaults, and 20 temporary frac tanks.

The following sections provide details regarding the evaluation of each criterion:

Criteria 5c: Oil and Gas Locations within: a Sensitive Area for water resources.

Site Specific Description of Applicability of Criteria 5c: The location is 141' from an intermittent stream.

Site Specific Measures to Address Criteria 5c: The Operator provided BMPs both on the originally approved Form 2A (doc# 401721170) and a newly submitted Form 4 Sundry (doc# 402535102) to mitigate being located in an area with sensitive water resources:

- **Stormwater Management Controls:** Controls will be constructed around the perimeter of the site prior to, or at the beginning of construction. Specific BMP's may include stockpile stabilization, grading, sediment traps, and perimeter barriers. Controls will remain in place until the pad reaches final reclamation.
- **Tank Area Containment:** Secondary containment devices shall enclose an area sufficient to contain and provide secondary containment for one-hundred fifty percent (150%) of the largest single tank and includes the installation of a contiguous spray liner installed and underlaying the entire tank battery, then anchored into the steel-walled containment berms.
- **Water Vault Containment:** The partially buried cement water vault will be installed above the spray in liner. The cement water vault is one piece with no seams designed to minimize potential for leaks. All piping associated with the use of the water vault will be aboveground and visually inspected on a regular basis.
- **Remote Monitoring/Shut-in:** Automation technology is utilized to monitor any variations in pressures and fluid gauges which could indicate a leak at the facility, well head or flow

lines to the production facility. In addition, automation provides remote shut-in capabilities in the event of an emergency.

- Drill Rig Liner: Operator will construct the LD15-17 multi pad with 4-6" of clay and 3-5' of road-based cuttings. In addition to the road-based cuttings, Operator will use a 30-mill geosynthetic liner to underly the drill rig, cuttings and mud storage areas.
- Temporary Tank Protections: Bulk liquids used or stored, including temporary frac tanks, will be containerized in appropriate vessels and underlain by an impervious liner and containment structure capable of containing any spill or leak from that vessel. Valves and temporary flow lines associated with frac site activities will be inspected daily while in service.

Summary: Noble provided BMPs that address possible impacts to nearby surface water features. The BMPs include stormwater controls around the location, permanent and temporary tank area containment, rig liner in addition to pad constructions, and remote monitoring/shut-in capabilities.

Criteria 8: Oil and Gas Locations with storage of hydrocarbon or produced liquid in more than 18 tanks or in excess of 5,200 barrels.

Site Specific Description of Applicability of Criteria 8: The location is planned for four oil tanks, four water tanks, two buried produced water vaults, and 20 temporary frac tanks.

Site Specific Measures to Address Criteria 8: In addition to the BMPs discussed in the Criteria 5c discussion, the Operator provided the following information regarding an emergency management plan and ongoing applicability of Criteria 8 to this location:

- Emergency Management Plan: Noble filed an Emergency Response Plan with Weld County. The local first responder is the Raymer-Stoneham Fire Protection District.
- Ongoing Criteria 8 Applicability: The planned volumes are: four oil tanks (500 bbls each), four water tanks (500 bbls each), two buried produced water vaults (20 bbls each), and 20 temporary frac tanks (500 bbls each). The temporary frac tanks will be on location for approximately 4 months during completions activities. After those four months the total planned permanent on-location storage volume is planned to be 4,040 bbls, which is below the Criteria 8 cut off of 5,200 bbls.

Summary: Noble provided BMPs that address possible impacts to having more than 5200 bbls of storage volume on location. The BMPs include stormwater controls around the location, permanent and temporary tank area containment, remote monitoring/shut-in capabilities. Additionally, the location will not permanently meet Criteria 8 once the temporary frac tanks are removed, approximately four months after completions is complete.

Director Determination: Based on the Objective Criteria review, the Director has determined that this permit application meets the standard for protection of public health, safety, welfare, the environment and wildlife resources set by SB 19-181.