



Natural Resources and Northern Development
Petroleum Branch
Box 1359, 590 Wellington St. East
Virden, MB ROM 2CO
Phone (204) 748-4260

February 6, 2023

Attn: Petroleum Inspectors

**RE: 13-18-02-28 Pierson
New Battery Application – flare stack at multi-well battery**

As per subsection 75(1) of the *Drilling and Production Regulation* Tundra Oil & Gas Partnership is submitting an application to construct a new battery to be located at 13-18-2-28WPM. A vapour collection system complete with separator and flare is to be installed at this multi-well battery to control H₂S odors, ensure ambient air quality off lease and ensure worker safety. One 750bbl will be set and all three wells will produce to the single tank. A portable tester will be taken to each well at regular intervals to allocate production. This location is near existing flowline infrastructure however, the flowline pressures exceed 300 PSI. When pressures are reduced, a flowline project will be considered. Please review the following application.

- A) The application fee of \$1,000 has been requested and will be submitted via EFT. I will forward the confirmation email once it is received.
- B) Performance deposit for Tundra is currently topped up and up to-date.
- C) A survey plan of the well site has been included in the application package.
 - C.1) The description of landowner consultation is attached in **Appendix A**. This appendix also includes the names and addresses for all landowners and occupants within 1.5 km of the proposed battery. There was one landowner that had objections. Chris Masson, Manger Surface Land, sent a response letter. No further communication was received. Note that the consultation letter indicated 3-400bbl tanks would be installed but one 750bbl tank will be utilized instead.
- D) There will be 3 wells producing to this battery:
 - 1) (13-18)100.11-18-02-28, well license 5660
 - 2) (13-18)100.16-18-02-28, well license 9385
 - 3) (13-18)102.16-18-02-28, well license 9772
- E) The combined production from these three wells is currently 3 m³/day oil, 27 m³/day water, and 0.27 e3m³/day gas. These wells have a GOR of 90 m³/m³. It is assumed that 100% of the gas will separate out in the separator and go to flare. A scrubber will be utilized to prevent odors when loading a truck to haul the fluid.

E.1) A representative gas analysis has been included for two of the three wells. At the time of testing the 102.16-18-2-28 wasn't producing.

F) Equipment specification.

- There will be a separator, a 750bbl test tank, a flare stack, and a scrubber on site. Currently only one test tank is required. The wells are already electrified.
- *The CRN and Serial numbers of the separator and flare stack will be forwarded to the Branch when they are installed, the equipment will be from Tundra's surplus equipment.*
- Separator Building Specs:
 - 8 x10' building on a skid
 - Vessel is 6' high x 24" OD. MAWP 500 PSI. 2 Phase separator
 - 2" Taylor PSV "G" orifice set at 500 PSI
 - MB CRN # TBD, SN# TBD
 - 3-way divert actuated on high level and high pressure
 - Scanner 2000 gas meter run with bypass
 - Air compressor
 - Building heater
- The flare stack is:
 - Fre-Flo 3" dia. by 40' freestanding flare stack, Serial #TBD, mounted c/w the following: 13'x 8' nom. wide flange skid collapsible stack lowered/raised by wide flange support system
 - hand winch to raise/lower stack c/w cable
 - 3" 150# Enardo detonation type flame arrestor, (Serial #TBD).
 - Mactronic 120V ignitor system for stack c/w slip stream ignition chamber
 - ignitor head with retractable ignitor head assembly manual or automatic operation

G) The wells will be tested with a portable tester at regular intervals. All three wells will go through the group separator, daily, which will catch any major production changes between all 3 wells.

G.1) Flare and vapor system. This battery will collect all gas off the separator and will direct it to flare. The scrubber will be utilized by the trucker to further eliminate odors associated with that task. These two systems will control off lease odors.

G.2) The results of gas dispersion modelling for SO₂ at the proposed battery are included within **Appendix B**.

All gas is being directed to the flare stack. As per the Dispersion Modeling Guidelines for Oil Batteries in the Province of Manitoba within Informational Notice 02-215 it is assumed that the combustion conversion of H₂S to SO₂ is 100% and the radiation heat loss is assumed to be 25%. Therefore, if 100% of the gas is collected and passes through the flare this location will be in compliance with ambient air quality for H₂S.

Air dispersion modeling for SO₂ was completed at various production rates and show result of 10.45 to 15.15 µg/m³. These results are in compliance with the regulation.

H) Plot Plan: a proposed plot plan has been included in the application package. Tundra will complete an as-built survey of the site and forward it to the branch. For well site planning, we will ensure the tanks are 25 meters away from the wellhead and the flare is 25 meters away from the tanks and the wellhead.

I) A process flow diagram has been included in the application package.

K) The oil & water from this location will be hauled to the 04-01-002-28WPM Lyleton battery where it will be processed. The water will be disposed of in the 01-02-002-28WPM and 16-02/102.01-11-002-28WPM disposal wells.

If you have any additional questions, comments, or concerns please contact myself, Lindsey Flannery in the Virden office at (204)748-4445.

Sincerely,

Lindsey Flannery

Lindsey Flannery, B.Sc. (Hon.)
Facilities Technologist