



Manitoba Mineral Resources
Box 1359, 227 King St. West
Virden, MB ROM 2CO
Phone (204) 748-4260

April 28, 2017

Attn Allan Gervin Petroleum Inspector:

**RE: 8-9-13-28 Manson Tank Battery
New Battery Application**

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 8-9-13-28WPM. Please review the following application.

A) The application fee of \$1,000 is attached with submission.

B) Performance deposit for Tundra is currently topped up and up to-date.

C) A PDF copy of the battery survey is attached.

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.

D) List of 2 wells to be included in the battery:

Well Name	Estimated Oil m ³ /d	Estimated Water m ³ /d	Estimated Gas m ³ /d
8-10-13-28HZ	5.7	0.3	2.3
1-10-13-28HZ	7.1	0.9	2.8
Total	12.8	1.2	5.1

Tundra Oil & Gas attempted to use separators with gas runs to obtain an accurate G.O.R. of the wells but was unsuccessful because of the extreme low G.O.R. in this field. The estimated G.O.R. for this field is 0.4m³/m³. It is estimated that 100% of the gas will be vented.

E) Attached representative gas analysis obtained in February 2017 have been provided for the 4-10/1-10-13-28 well to show what might be expected for the

battery. An additional direct sample was taken that found H₂S concentrations ranging from 1500-4000ppm. A concentration of 4000 ppm was used in the dispersion modeling as a worst-case scenario.

F) Specifications of all vessels installed at the facility include:

- 3-400 bbl steel oil tanks

G) Wells will be individually tested at the battery site by producing into a separate tank. They will be tested a minimum of quarterly, as per regulation.

G.1) Tundra proposes to continue venting the tanks.

G.2) Gas is being vented due to the low volume of gas. The gas itself will not burn due to the high concentration of nitrogen and would require a constant pilot flare to burn the gas. The pilot flare would consume 8 – 10 m³/d of gas.

G.3) The results of gas dispersion modelling for H₂S at the proposed battery is included within **Appendix B**. The model showed that the H₂S is at an acceptable concentration of 1.411 µg/m³

H) A plot plan battery as-built will be provided after construction.

I) A process flow diagram has been attached.

J) Repealed.

K) Trucked to other facilities.

If you have any additional questions, comments, or concerns please contact Jesse Olafson in the Virden office at (204)748-4541.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jesse Olafson', with a stylized, cursive script.

Jesse Olafson,
Facilities E.I.T.