



**Minister of
Growth, Enterprise and Trade**

Legislative Building
WINNIPEG, MANITOBA, CANADA
R3C 0V8

MINISTERIAL ORDER

**Subsection 116(2)
THE OIL AND GAS ACT**

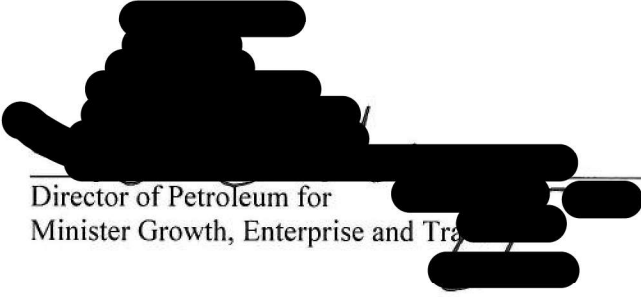
WATERFLOOD ORDER NO. 78A

**Pertaining to Waterflood Operations
in Miniota Unit No. 1**

- 1.0 The Unit Operator shall conduct waterflood operations by injecting water into the Manson Reston-Amaranth-Lodgepole Pool underlying Miniota Unit No. 1 ("the Unit") through the wells listed in Schedule A. The Director may approve the conversion of additional wells in the Unit to water injection.
- 1.1 Every injection well shall be completed as approved under Section 47 of the Drilling and Production Regulation ("the Regulation").
- 1.2 The maximum wellhead pressure at which water may be injected is 6 000 kPa.
- 1.3 The Director may, from time to time, establish a maximum or minimum rate at which water may be injected into a well.
- 1.4 The annulus of each injection well shall be pressure tested in accordance with Section 50 of the Regulation.
- 2.0 The Unit Operator shall conduct an annual survey to determine the level and distribution of reservoir pressure in the Unit. A summary of the results of any pressure surveys conducted during the year are to be included in the annual waterflood progress report required under Section 73 of the Regulation.
- 2.1 The frequency of pressure surveys may be reduced where the Director is satisfied that more frequent surveys will not assist the Unit Operator in monitoring the effectiveness of the waterflood.
- 2.2 The Unit Operator is responsible for monitoring the effectiveness of the waterflood and for collecting such reservoir data and other information as is necessary to evaluate and optimize waterflood performance.

- 2.3 The Unit Operator shall advise the Petroleum Branch of the suspension of water injection at any well, any indication of channelling or breakthrough of injected water to a producing well or out of zone and any other detrimental effects that may be attributable to the waterflood operations.
- 3.0 The Unit Operator shall file a report of production or injection for each well in the Unit in accordance with Section 120 of the Regulation.
- 4.0 The Unit Operator shall file an annual waterflood progress report in accordance with Section 73 of the Regulation.
- 5.0 Only Bakken-Torquay and/or Reston-Amaranth-Lodgepole Formation source waters are approved to be injected into the Unit. Any other source of water must be approved by the Petroleum Branch prior to injection.
- 6.0 Waterflood Order No. 78 is rescinded.

Oct 18/2019
Date



Director of Petroleum for
Minister Growth, Enterprise and Trade

SCHEDULE A

WATERFLOOD ORDER NO. 78A

MINIOTA UNIT NO. 1

WATER INJECTION WELL

WELL NAME	LSD	SEC	TWP	RGE
Miniota Unit No. 1 HZNTL WIW	03	02	13	27