



May 6, 2015

6400-4800-32640-02

Lesley Jorgensen  
Storm Resources Ltd.  
200, 640 – 5<sup>th</sup> Avenue SW  
Calgary AB T2P 3G4

Dear Ms. Jorgensen:

**RE: PRODUCED WATER DISPOSAL SPECIAL PROJECT  
SRL ET AL HZ NIG A-A48-D/94-H-03; (WA #29012)  
NIG FIELD – HALFWAY FORMATION**

Oil and Gas Commission staff have reviewed your application, dated March 16, 2015, requesting approval to dispose of produced water into the Halfway formation of the subject well. This horizontal well, rig released August of 2013, was drilled for the purpose of Montney production. However, during the first hydraulic fracture operation a casing rupture occurred near the heel of the well. Repair attempts were unsuccessful so the well was designated for disposal. The Montney was abandoned with a bridge plug and 8m of cement, then the Halfway was perforated and tested for disposal suitability.

A mini-frac was conducted on this well, with the post-closure analysis indicating an initial pressure of 10,700 kPa. This may be low compared to other Halfway measurements. Since the initial pressure is vital to the disposal pressure limit, the OGC invites Storm to run a second pressure test on this well before beginning disposal to confirm the initial pressure value.

Attached please find Order 15-02-009, designating an area in the Nig field – Halfway formation as a Special Project under section 75 of the *Oil and Gas Activities Act*, for the operation and use of a storage reservoir for the disposal of produced water. This Order includes a number of detailed operational conditions including: continuous tubing and casing pressure measurements, a maximum wellhead injection pressure, an ultimate reservoir pressure limit, as well as wellbore integrity monitoring and reporting requirements. Disposal wells are subject to regular field inspection and audit. Contravention of a condition of this Order may be subject to enforcement under section 62 of OGAA, or suspension or cancellation of the Order under section 75(2)(b).

In certain circumstances, disposal well operation may induce seismicity. The Commission advises that disposal well permit holders monitor seismic events in proximity to the well and be prepared to modify operations to mitigate induced seismicity. Permit holders may monitor seismic events through the Natural Resources Canada seismic monitoring network at <http://www.earthquakescanada.nrcan.gc.ca/recent/index-eng.php>

Should you have any questions, please contact Michelle Gaucher at (250) 419-4482 or the undersigned at (250) 419-4430.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Ron Stefik', written over a horizontal line.

Ron Stefik, Eng. L.  
Supervisor, Reservoir Engineering  
Oil and Gas Commission

Attachment

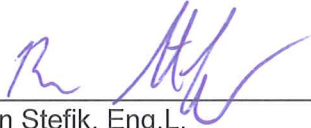


**ORDER 15-02-009**

- 1 Under Section 75(1)(d) of the *Oil and Gas Activities Act*, the Commission designates the operation and use of a storage reservoir for the disposal of produced water, into the Halfway formation – near the Nig field as a special project in the following area:

NTS                      Map 094 - H - 3    Block D    Unit 49

- 2 Under section 75(2) of the *Oil and Gas Activities Act*, the special project designation in this Order is subject to the following conditions. The Permit Holder shall:
- a) Inject produced water only into the well SRL et al Hz Nig a-A48-D/94-H-3; WA# 29012 – Halfway formation (disposal perforations 1510.5 – 1543.0 mKB MD).
  - b) Not exceed an injection pressure, measured at the wellhead on the subject well, of 7,200 kPag or the pressure required to fracture the formation, whichever is lesser.
  - c) Inject only through tubing with a packer set as near as is practical above the injection interval.
  - d) Continually measure and record the wellhead casing and tubing pressures electronically.
  - e) Cease injection and notify the Commission immediately if hydraulic isolation is lost in the wellbore or formation.
  - f) Submit the annual packer isolation test report to the Commission within 30 days of the completion of the test.
  - g) Include the disposal operating hours and the maximum injection pressure value on the monthly BC-S18 disposal statement.
  - h) Conduct an annual reservoir pressure test on the formation in the subject well, with a shut-in period of sufficient length to provide data for calculation of the reservoir pressure, and submit a report of the test within 60 days of the end of the test.
  - i) Cease injection upon reaching a maximum formation pressure of 12,840 kPaa, measured at MPP.
  - j)
    - i) Perform a casing inspection log on the subject well and submit results to the Commission within 30 days of the completion of logging, at an interval of not more than every 10 years, commencing from the date of initial disposal.
    - ii) Perform a hydraulic isolation temperature log on the subject well and submit results to the Commission within 30 days of the completion of logging, at an interval of not more than every 5 years, commencing from the date of initial disposal.
  - k) Not conduct a hydraulic fracture stimulation on any formation in the subject well without prior Commission approval.

  
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Ron Stefik, Eng.L.  
Supervisor, Reservoir Engineering  
Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 6<sup>th</sup> day of May, 2015.