

July 31, 2015

3425-6200-59240-16

Peter Cochrane  
Leucrotta Exploration Inc.  
Suite 700, 639-5<sup>th</sup> Avenue S.W.  
Calgary, Alberta T2P 0M9

Dear Mr. Cochrane:

**RE: ACID GAS DISPOSAL ORDER 15-16-001  
LEUCROTTA DOE A13-24-80-15W6M; WELL PERMIT #30630  
BELLOY FORMATION**

Commission staff have reviewed the application, submitted by Canadian Chemical Technology Inc. on behalf of Leucrotta Exploration Inc., dated March 15, 2015, requesting approval to dispose of acid gas into the Belloy formation of the subject well. Additional supporting information has been submitted in response to Commission requests.

The subject well A13-24-80-15 was purpose drilled for acid gas disposal in December 2014. The source of acid gas is the processing of raw gas from the Montney formation at a Leucrotta plant proposed for 13-24-80-15. While the proposed disposal location is in close proximity to Spectra Energy's Belloy acid gas disposal, SEMC Doe 15-24-80-15 (WA23946), pressure data from the 7 year history of disposal indicates the Belloy aquifer is extensive and will accommodate both disposal wells.

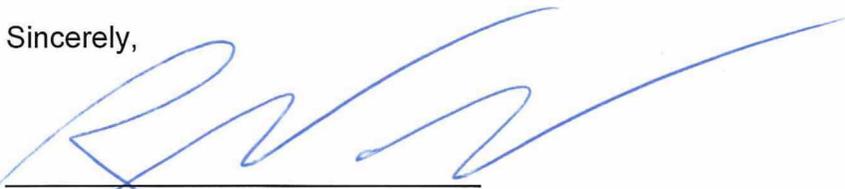
As the disposal formation is directly below the lower Montney, hydraulic fractures that may contact the Belloy are a concern and must be avoided by Leucrotta in proximity of the disposal plume.

Attached please find Order 15-16-001 designating an area in the Doe field Belloy 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 acid gas.

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 Ron Stefik at (250) 419-4430.

Sincerely,



Richard Slocomb, P.Eng.  
Deputy Commissioner, Engineering  
Oil and Gas Commission

Attachment  
cc: Harvey Heinrich, Canadian Chemical Technology Inc.

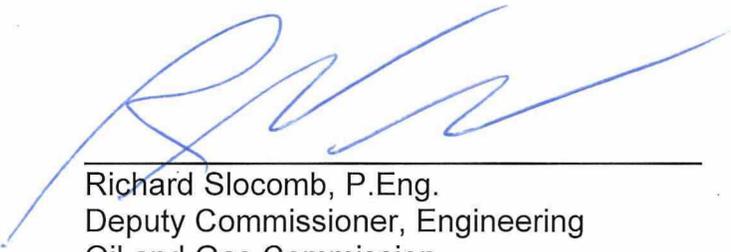
**ORDER 15-16-001**

- 1 Under Section 75(1)(d) of the *Oil and Gas Activities Act*, the Commission designates the Belloy formation as a special project for the operation and use of a storage reservoir for the disposal of acid gas within the following area:

DLS      TWP 80    RNG 15    Sec 23.

- 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 acid gas only into the well Leucrotta Doe A13-24-80-15; WA 30630 - Belloy formation (2275 – 2328 mKB MD).
  - b) Not exceed an injection pressure, measured at the wellhead on the subject well, of 19,200 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) Collect fluid sample analysis twice annually and submit a report of the analysis through electronic submission noted to the disposal well
  - f) Cease injection and notify the Commission immediately if hydraulic isolation is lost in the wellbore or formation.
  - g) Submit the annual packer isolation test report to the Commission within 30 days of the completion of the test.
  - h) Include the disposal operating hours, the maximum injection pressure and the minimum temperature values on the monthly BC-S18 disposal statement.
  - i) At each facility turn-around, conduct a 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.
  - j) Cease injection upon reaching a maximum formation pressure of 25,950 kPaa measure at MPP.
  - k) Not exceed content of 95% mole fraction H<sub>2</sub>S in the flow stream.
  - l) Implement appropriate corrosion and freeze protection measures in the casing-tubing annulus.
  - m) 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

- n) Install a barricade around the wellhead that is capable of withstanding vehicle collision.
- o) Ensure a Wellhead Emergency Shut-Off Device and Subsurface Safety Valve are installed to operate "fail-safe" and these should be linked to H<sub>2</sub>S detector heads at the wellhead.
- p) Ensure the Subsurface Safety Valve has controls for remote activation.
- q) Immediately suspended all injection operations if any injection equipment, monitoring equipment or safety devices considered necessary for safe operation should fail.
- r) Not conduct a hydraulic fracture stimulation on any formation in the subject well without prior Commission approval.
- s) Submit a Progress Report to the Commission for each six month period the project is in operation. The Progress Report must be filed within 60 days after the end of each period and must contain the information specified in the Acid Gas Progress Report Requirements document found on the OGC website here: <http://www.bcogc.ca/industry-zone/documentation/Subsurface-Disposal>.



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Richard Slocomb, P.Eng.  
Deputy Commissioner, Engineering  
Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 31<sup>st</sup> day of July, 2015.

### **Advisory Guidance for Order 15-16-001**

- I. A production packer must be set above the injection interval and the space between the tubing and casing filled with corrosion inhibiting fluids, as per section 16(2) of the Drilling and Production Regulation.
- II. Annual packer isolation tests are required, as per section 16(3) of the Drilling and Production Regulation.
- III. Injected fluids must be metered, as per section 74 of the Drilling and Production Regulation.
- IV. A monthly disposal statement must be submitted to the Commission not later than the 25<sup>th</sup> day of the month following the reported month, as per section 75 of the Drilling and Production Regulation.