
Made at Edmonton, in the Province of Alberta, on March 5, 2019	ALBERTA ENERGY REGULATOR
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Under Sections 113 and 241 of the *Environmental Protection and Enhancement Act (EPEA)*

Under Section 27(3) of the *Oil and Gas Conservation Act (OGCA)*

Vesta Energy Ltd. (BA Code A0L1)

2200, 520 – 3 Avenue SW
Calgary, AB T2P 0R3

WHEREAS Vesta Energy Ltd. (Vesta) is the holder of Alberta Energy Regulator (AER) well licence W 0489617 at surface location 10-32-037-01W5 (site);

WHEREAS Vesta submitted notification to the AER on January 22, 2019, pursuant to *Directive 083: Hydraulic Fracturing – Subsurface Integrity*, that hydraulic fracturing operations would be conducted from January 29 to March 5, 2019, for the site;

WHEREAS hydraulic fracturing operations commenced on or around January 29, 2019, and continued up until March 4, 2019, at the site;

WHEREAS a Vesta representative contacted the AER through the 24-hour emergency response number (EDGE) at 06:20 a.m. on March 4, 2019, and informed the AER that seismic activity of magnitude 4.32 was detected due to Vesta’s fracturing at the site, and that Vesta had shut down the fracturing operation;

WHEREAS the bottomhole location for well W 0489617 is reported as 52.194774 latitude and -114.109387 longitude;

WHEREAS the Alberta Geological Survey recorded a seismic event with a magnitude of 4.16 M_L at 05:55:16 MST on March 4, 2019, at 52.2177 latitude and -114.1071 longitude, in close proximity to the W 0489617 bottomhole location and associated fracturing operations;

WHEREAS seismic activity and seismic events are vibrations and/or the release of energy into the environment;

WHEREAS vibrations and the release of energy are “substances” as defined in section 1(mmm) of *EPEA*;

WHEREAS the substances when released may cause adverse effects including adverse effects to the environment, public safety and property damage and/or loss;

WHEREAS Erik Kuleba, Director, Environment and Operational Performance, is a Director for the purposes of issuing orders under *EPEA* (Director) and has the delegated authority to issue orders under the *OGCA*;

WHEREAS the Director is of the opinion that a release of a substance or substances has occurred, and that substances have caused, are causing, or may cause an adverse effect;

WHEREAS Vesta is a “person responsible” for the substances as defined in section 1(tt) of the *EPEA*;

WHEREAS the Director considers it necessary to suspend the well in order to protect the public and the environment;

THEREFORE, I, Erik Kuleba, Director, Environment and Operational Performance, under sections 113 and 241 of *EPEA* and section 27(3) of the *OGCA*, do hereby order:

Suspension

1. All operations at the site are suspended immediately unless otherwise directed in writing by the Director.

Information for Submission

2. Vesta must submit, in electronic format, by March 11, 2019, the following:
 - a. all passive seismic data from the Vesta seismic array, from April 2018 to present;
 - b. the hydraulic fracturing operational data for well W 0489617 from January 29 to March 4, 2019;
 - c. any other completion operations that occurred from January 29 to March 4, 2019, including all of the data regularly submitted in a Tour Report per *Directive 059: Well Drilling and Completion Data Filing Requirements*; and,
 - d. if recorded, continuous pumping curve data for each stage of the hydraulic fracturing operation for the site.
3. Vesta must submit a listing of current and future planned operations to the Director involving hydraulic fracturing in the Red Deer and Sylvan Lake areas by March 11, 2019.
4. If required by the Director, Vesta must submit any other information related to hydraulic fracturing operations and seismic events or activity requested in writing by the Director by the date specified in the request.

Fracturing Operations Plan

5. Vesta must submit, in electronic format, a Fracturing Operations Plan for approval to the Director by March 11, 2019. The plan must:

- a. meet or exceed the requirements in Clause 2 of Subsurface Order No. 2 for conducting fracturing operations in the Red Deer and Sylvan Lake areas, except that:
 - i. For the purposes of reporting under Clause 2(e), Vesta is to report any seismic event with 3.0M_L; and,
 - ii. For the purposes of submitting a plan under Clause 2(g)(i) the plan must be aimed at eliminating or reducing future induced seismicity to below 3.0M_L.
6. Vesta must implement the Fracturing Operations Plan in accordance with the approval of the Director until otherwise directed in writing by the Director.

General

7. Where “Red Deer” is used in this Order, it refers to the area within a 50 kilometre (km) radius from Red Deer city centre.
8. Where “Sylvan Lake” is used in this Order, it refers to the area within a 50 km radius from Sylvan Lake town centre.
9. All information and plans to be submitted to the Director under this order shall be submitted to RedDeer.FieldCentre@aer.ca.
10. Where a deadline has been specified in this Order, the Director may authorize in writing a different deadline.

Dated at the City of Edmonton in the Province of Alberta, the 5th day of March 2019.

<original signed by>

Erik Kuleba
Director, Environment and Operational Performance
Alberta Energy Regulator

In complying with this order, the party or parties named must obtain all approvals necessary, notwithstanding the above requirements.

This order in no way precludes any enforcement actions being taken regarding this matter under *EPEA*, the *OGCA*, or any other provincial or federal legislation, or by any other regulator with jurisdiction.

All enforcement actions issued by the AER may be subject to a follow-up review to confirm previous commitments have been completed and measures have been implemented, to ensure similar noncompliances are prevented in the future. The AER may request any information that demonstrates steps have been taken to prevent repeat noncompliances from occurring.

Under the *Responsible Energy Development Act*, an eligible person may appeal decisions that meet certain criteria. Eligible persons and appealable decisions are defined in section 36 of the *Responsible Energy Development Act* and section 3.1 of the *Responsible Energy Development Act General Regulation*. If you wish to file a request for regulatory appeal, you must submit your request according to the AER's requirements. You can find filing requirements and forms on the AER website, www.aer.ca, under Applications & Notices: Appeals.