Project Profile

Project Name:	Induced Seismicity Reduction with Production Depletion Study
Project Number:	LOCAL-Seismic-2025-04
Proponent:	Pressure Diagnostics Ltd.
Funding Envelope:	Operations—Local Matters—Seismicity Research and Monitoring
Timeframe:	January 6, 2025, to May 31, 2025

Project objectives

The objectives of this project are to:

- investigate the hypothesis that a reduction in pore pressure due to production (depletion) reduces the occurrence and/or magnitude of induced seismicity.

Project description

The project will involve the following:

- Collect data—meeting the following criteria:
  - wells with coincident completion dates to induced seismicity activity in the same area (the Study Region).
  - wells in the Study Region that have been completed at significantly different dates to observe differences in initial pressure between original (primary/parent wells) and newer (secondary/infill/child wells).
  - Induced seismic data fidelity that includes incident counts and magnitudes with date-time markers in the Study Region.
- Analyze the data including evidence of depletion:
  - Direct evidence of depletion by measuring pore pressure comparisons between parent and child wells using Diagnostic Fracture Injection Test (DFIT) analysis.
  - Indirect evidence of depletion by comparing hydraulic fracturing pressures between parent and child wells, or normalized production performance comparisons between parent and child wells.
- Documenting finding which may be considered in making well completion timing and spacing decisions when developing natural gas resources in induced seismicity prone regions.

Project Team

- Pressure Diagnostics Ltd.

Project deliverables

The deliverables from this project include the following:

- Final report including tables and charts of data with notes describing the degree of correlation observed to show affirmatively or not that pore pressure reduction mitigates induced seismicity event counts and/or magnitude (the "IS Reduction with Depletion Correlation").