

Managing Saltwater Disposal Induced Seismicity in the Cadomin Formation: NE British Columbia

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Summary

Ovintiv has been utilizing the Cretaceous Cadomin formation in the Tower Lake area of NE British Columbia for saltwater disposal since late 2017. Ovintiv's Cadomin water recycling scheme is comprised of three horizontal injection wells and three horizontal source wells. In mid-2019, anomalous induced seismic events were identified and reported felt in proximity to one of the injection wells. A 5-station enhanced induced seismicity monitoring array was installed above the Cadomin disposal pool. The high fidelity array confirmed that seismic events were originating from Cadomin depth. Subsequently, Ovintiv utilized bottomhole pressure gauges in the three source wells to understand pressure correlations to induced seismicity event frequency and magnitudes. Ovintiv has implemented a pressure management plan to reduce and limit the amount of induced seismicity associated with Cadomin saltwater disposal activity.