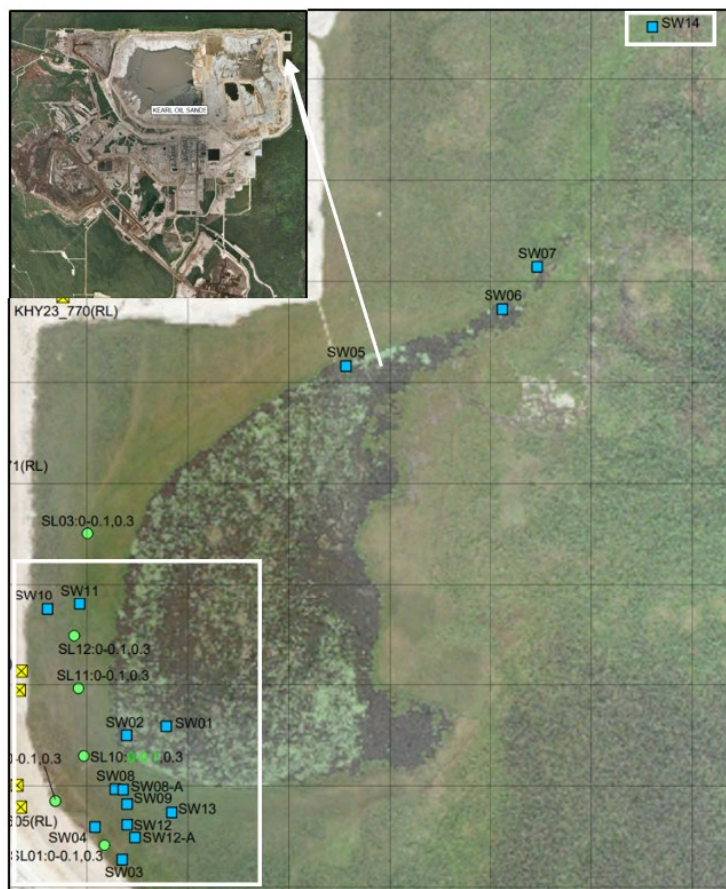


AER Third-Party Sampling 2024

Kearl Oil Sands



Surface Water Quality

Location	Date	PAL Guideline Exceedance*
Receptor (Water Body 3)		
SW01 (receptor-near seep)	8-May-2024	<u>PAL</u> : total zinc
SW02 (receptor-near seep)	8-May-2024	<u>PAL</u> : total silver
SW05 (receptor-near outlet)	8-May-2024	<u>PAL</u> : no guideline exceedances
SW06 (receptor-outlet)	8-May-2024	<u>PAL</u> : no guideline exceedances
SW14 (receptor-fish fence)	8-May-2024	<u>PAL</u> : total zinc
Source		
SW03 (source-seep)	8-May-2024	<u>PAL</u> : F2 <u>No guideline</u> : naphthenic acids (1.3 mg/L)
SW04 (source-seep)	8-May-2024	<u>PAL</u> : F2, total cobalt, dissolved iron <u>No guideline</u> : naphthenic acids (6.1 mg/L)
SW08 (source-onshore)	8-May-2024	<u>PAL</u> : toluene, total copper
SW09 (source-onshore)	8-May-2024	<u>PAL</u> : F2, total zinc <u>No guideline</u> : naphthenic acids (2.7 mg/L)
SW10 (source-onshore)	8-May-2024	<u>PAL</u> : total cobalt, total zinc, dissolved iron
SW11 (source-onshore)	8-May-2024	<u>PAL</u> : toluene, dissolved iron, sulphate
SW12 (source-onshore)	8-May-2024	<u>PAL</u> : F2, dissolved aluminum, dissolved iron <u>No guideline</u> : naphthenic acids (0.7 mg/L)
SW13 (source-onshore)	8-May-2024	<u>PAL</u> : F2, dissolved iron <u>No guideline</u> : naphthenic acids (0.4 mg/L)

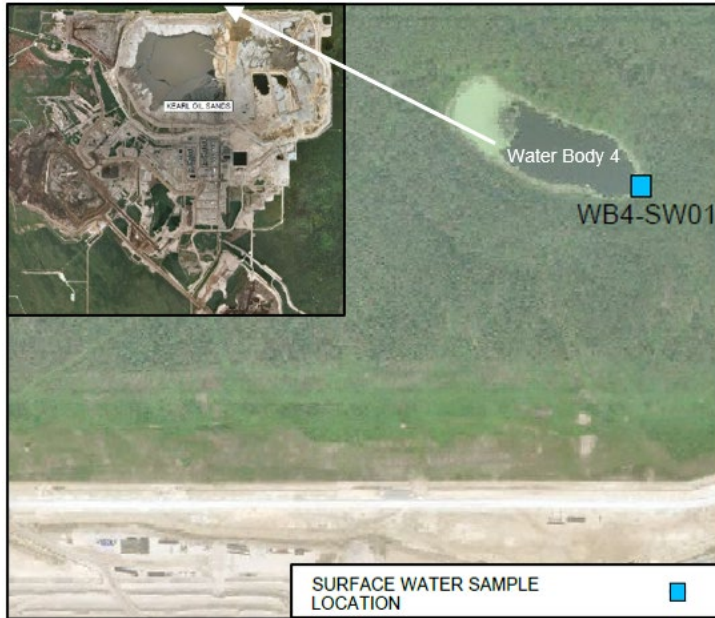
*Environmental Quality Guidelines for Alberta Surface Waters, Surface Water Quality Guidelines for the Protection of Aquatic Life

Interpretation

- SW14 (receptor- fish fence) sampled in place of SW07.
- Locations SW08 and SW12 were dry on May 8, 2024. Samples were collected at alternate locations near these locations where water was present and are labelled as SW08-A and SW12-A on the map.
- Several metals and major ions exceed guidelines in the area prior to Kearl mine development, based on 2003-2004 baseline sampling. This includes iron, sulphide, zinc.
- Total and dissolved sulphide samples were analyzed by a different lab. Therefore, May 8, 2024 data is not available for this update.

AER Third-Party Sampling 2024

Kearl Oil Sands



Surface Water Quality

Location	Date	PAL Guideline Exceedance*
WB4-SW01	9-May-2024	Water Body 4 <u>PAL</u> : no guideline exceedances

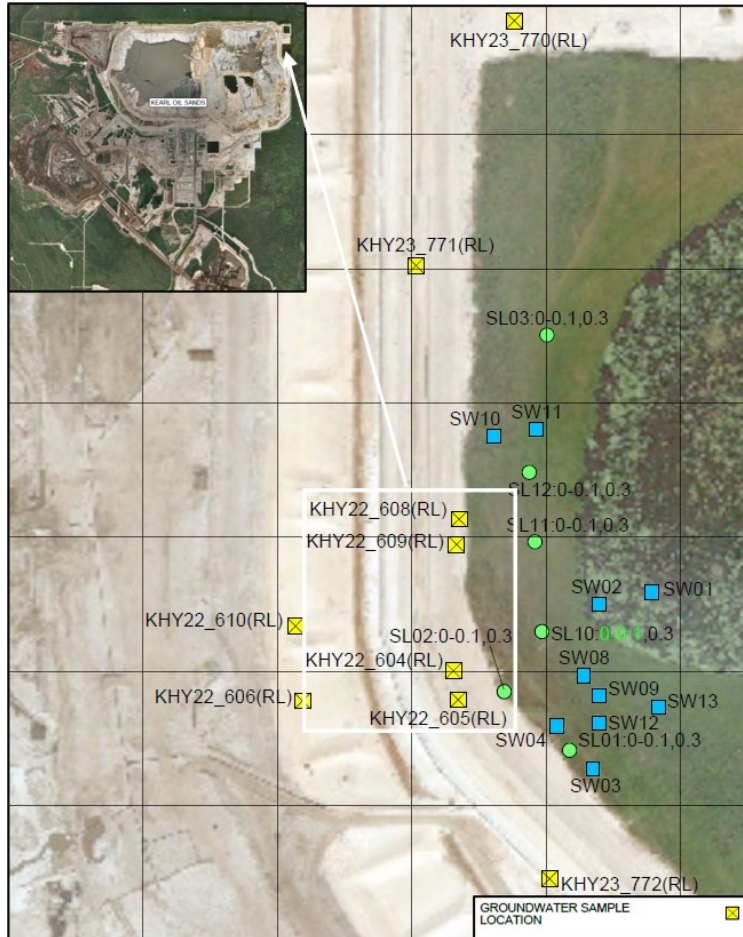
*Environmental Quality Guidelines for Alberta Surface Waters, Surface Water Quality Guidelines for the Protection of Aquatic Life

Interpretation

- Total and dissolved sulphide samples were analyzed by a different lab. Therefore, May 9, 2024 data is not available for this update.

AER Third-Party Sampling 2024

Kearl Oil Sands



Groundwater

Location	Date	AB Tier 1 Guideline Exceedance*
KHY22-604 (shallow well)	08-May-2024	<u>AB Tier 1:</u> TDS, sulphate, dissolved iron and manganese <u>No guideline:</u> naphthenic acids (5.6 mg/L)
KHY22-608 (shallow well)	08-May-2024	<u>AB Tier 1:</u> TDS, sulphate, fluoride, dissolved iron and manganese <u>No guideline:</u> naphthenic acids (7 mg/L)
KHY23-771 (shallow well)	08-May-2024	<u>AB Tier 1:</u> TDS, dissolved iron and manganese <u>No guideline:</u> naphthenic acids (0.8 mg/L)
KHY23-772 (shallow well)	09-May-2024	<u>AB Tier 1:</u> TDS, sulphate, sodium, dissolved aluminum, iron and manganese <u>No guideline:</u> naphthenic acids (5.5 mg/L)

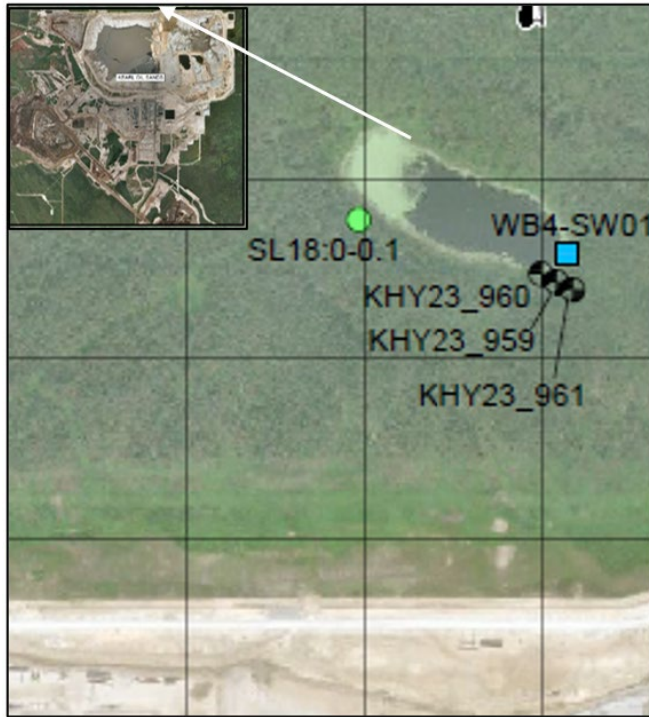
*Alberta Tier 1 Soil and Groundwater Remediation Guidelines

Interpretation

- Exceedances suggest the presence of tailings seepage in shallow groundwater.

AER Third-Party Sampling 2024

Kearl Oil Sands



Groundwater

Location	Date	AB Tier 1 Guideline Exceedance*
KHY23-959 (shallow well)	09-May-2024	AB Tier 1: TDS No guideline: naphthenic acids (0.4 mg/L)

*Alberta Tier 1 Soil and Groundwater Remediation Guidelines

Interpretation

- TDS is within normal aquifer range, no other exceedances of Alberta Tier 1 Guidelines.
- KHY23_956, shallow monitoring well located on the southwestern edge of WB4 near SL18, was dry and not sampled.