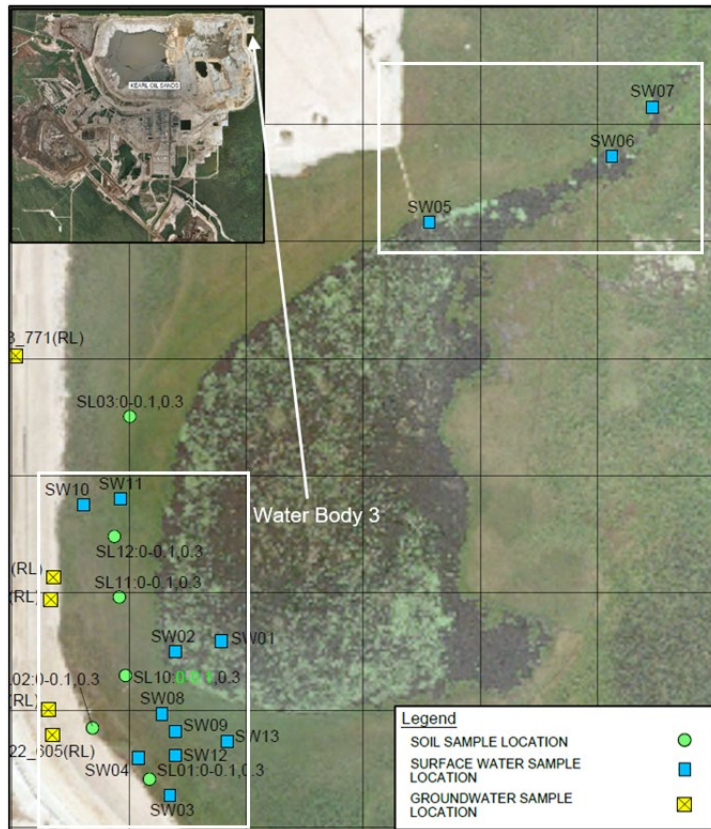


AER Third-Party Sampling 2023

Kearl Oil Sands

Surface Water Quality



Location	Date	PAL Guideline Exceedance*
Receptor (Water Body 3)		
SW01 (receptor-near seep)	19-May-2023	PAL: No exceedances
SW02 (receptor-near seep)	19-May-2023	PAL: No exceedances
SW05 (receptor-near outlet)	19-May-2023	PAL: No exceedances
SW06 (receptor-outlet)	19-May-2023	PAL: No exceedances
SW07 (receptor-outlet)	19-May-2023	PAL: No exceedances
Source		
SW03 (source- seep)	19-May-2023	PAL: F2, dissolved iron No guideline: naphthenic acids (2.6 mg/L)
SW04 (source- seep)	19-May-2023	PAL: No exceedances
SW08 (source- onshore)	19-May-2023	PAL: No exceedances No guideline: naphthenic acids (0.3 mg/L)
SW11 (source- onshore)	19-May-2023	PAL: No exceedances
SW13 (source- onshore)	19-May-2023	PAL: dissolved iron No guideline: naphthenic acids (0.4 mg/L)

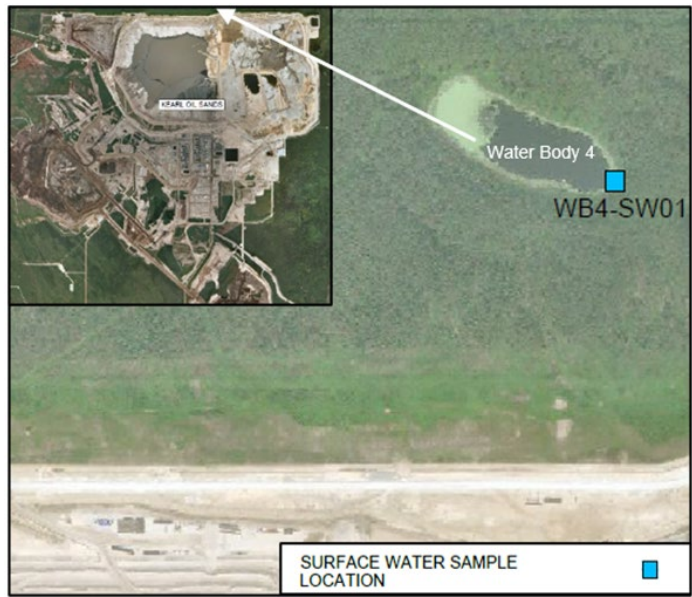
* Environmental Quality Guidelines for Alberta Surface Waters, Surface Water Quality Guidelines for the Protection of Aquatic Life.

Interpretation

- Sulphide samples collected since April 6, 2023 were analyzed by a different lab for increased detection. Sulphide results from the May 19, 2023 samples were not available for this update.
- 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.
- Naphthenic acid sample results based on FTIR analytical method. Orbitrap data for May 19, 2023 were not available for this update.

AER Third-Party Sampling 2023

Kearl Oil Sands



Surface Water Quality

Location	Date	PAL Guideline Exceedance*
Water Body 4		
WB4-SW01	19-May-2023	PAL: toluene, total zinc

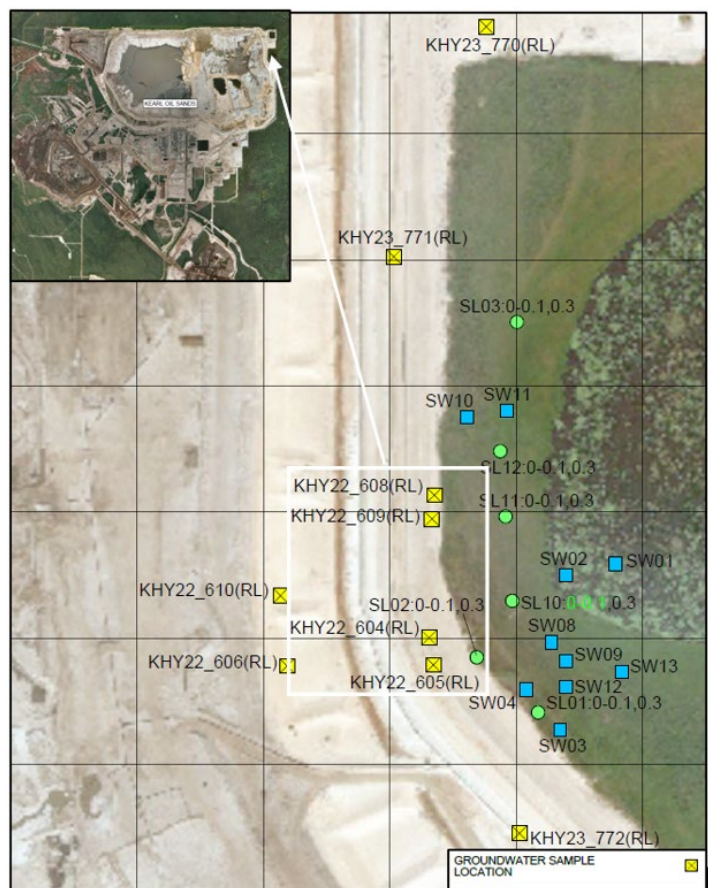
*Environmental Quality Guidelines for Alberta Surface Waters, Surface Water Quality Guidelines for the Protection of Aquatic Life

Interpretation

- Toluene may be biogenic (natural) in origin and is common in wetlands.
- Sulphide samples collected since April 6, 2023 were analyzed by a different lab for increased detection. Sulphide results from the May 19, 2023 samples were not available for this update.
- Naphthenic acid sample result were below detection limit based on FTIR analytical method. Orbitrap data for May 19, 2023 were not available for this update.

AER Third-Party Sampling 2023

Kearl Oil Sands



Soils

Last sampled on April 22, 2023. Refer to previous updates.

Groundwater

Last sampled on May 4, 2023. Refer to previous update.