

Niagara Falls Storage Site News from the Corps

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Hello from the U.S. Army Corps of Engineers Buffalo District,

The report for the Niagara Falls Storage Site Balance of Plant Operable Unit Field Investigation is now available at:

<http://www.lrb.usace.army.mil/Missions/HTRW/FUSRAP/NiagaraFallsStorageSite.aspx> in the Reports Section.

The Balance of Plant Field Investigation Report strongly suggests that uranium contamination in groundwater south of the Interim Waste Containment Structure (IWCS) and in the vicinity of groundwater monitoring well OW11B is due to historic storage of tailings and waste piles in that location. The IWCS is performing as designed and remains protective of human health and the environment.

The Corps performed this field investigation to address data gaps and community and stakeholder questions in support of the Feasibility Study for the Balance of Plant Operable Unit. This field investigation focused on the groundwater contamination south of the IWCS; uranium concentrations in groundwater monitoring well OW11B; a potential pathway along the 10-inch water line; delineation of groundwater contamination in northern areas of the site; and exposing, sampling, plugging, and sealing of all known pipelines entering and leaving NFSS.

ACTIONS

South of the IWCS

- Seven groundwater monitoring wells were installed to the south of the IWCS and four soil samples were collected from each monitoring well location. These monitoring wells were added to the Environmental Surveillance Program.

Vicinity of Groundwater Monitoring Well OW11B

- Four groundwater monitoring wells were installed to the north, south, east, and west of groundwater monitoring well OW-11B, which is east of the IWCS and has been exhibiting elevated levels of uranium. Four soil samples were collected during the installation of each monitoring well. Additionally, eight investigative trenches were advanced in this area with soil and groundwater samples collected from each investigative trench.

10-inch Water Line and Other Pipelines

- The 10-inch water line was exposed, sampled, plugged, and sealed south and east of the IWCS.
- All known pipelines entering and exiting NFSS were exposed, sampled, plugged, and sealed.
- Two manholes associated with the sanitary sewer line were sampled and filled with concrete.

Northern Areas of Site

- Six monitoring wells were installed in the northern areas of the site. Four soil samples were collected from each monitoring well location. These monitoring wells were added to the Environmental Surveillance Program.

SUMMARY OF RESULTS

South of the Interim Waste Containment Structure

- Uranium contamination in soil is near the surface and absent in deeper soils.
- Uranium concentrations in groundwater were detected above drinking water criteria in wells east and south of the former Building 409. These concentrations and soil analytical results suggest the groundwater contamination resulted from leaching from material stored above these areas as shown in historical aerial photographs.

Vicinity of Groundwater Monitoring Well OW11B

- Uranium concentrations in groundwater were detected above drinking water criteria north, south, and east of OW11B.
- The groundwater monitoring well installed to the west of monitoring well OW11B and closest to the IWCS did not exhibit radionuclide concentrations above drinking water criteria.
- Uranium contamination in soil is near the surface and absent in deeper soils.
- Water was encountered at two excavated locations near OW11B. The Corps will perform further evaluations to determine the hydraulics and source of water identified in these investigative trenches.
- The uranium concentrations in groundwater are consistent with ground scarring shown on historical aerial photographs, operation corridors (e.g., rail line), past practices (e.g., decontamination activities during IWCS construction), and soil analytical results.

10-inch Water Line and Other Pipelines

- There was no radiological contamination detected in the soil surrounding the 10-inch water line or in the pipeline.
- There was no bedding material noted at any of the excavated pipeline locations associated with former Lake Ontario Ordnance Works trinitrotoluene plant activities. It appears the natural silty clay backfill inhibits groundwater migration along these older pipelines when groundwater is encountered.
- There was no radiological contamination detected in soil surrounding or water sampled for any of the water pipelines included in this field investigation except in two water samples taken from within the 24 to 36-inch pipeline at two locations located in the NE corner of the site. These samples exhibited radium-226 [4-5 pCi/L] slightly above the drinking water criterion [3 pCi/l].

- Uranium concentrations above criteria were detected in the sediment and a water sample from a manhole southeast of former Building 409.

- No radionuclides were detected at concentrations exceeding criteria in sediment or water from a manhole in the northeastern portion of the site.

Northern Areas of Site

- Of the six groundwater monitoring wells installed in the northern area of the site, the groundwater monitoring well installed in the lower water bearing zone was the only monitoring well to produce groundwater. No exceedances of criteria were detected in this monitoring well.

- Radionuclides did not exceed the soil criteria in any of the soil core sample results from these monitoring wells.