

Swan Pond Recreation Areas Surface Soil Sampling Results Fact Sheet - September 2019



The Tennessee Department of Health's (TDH) Environmental Epidemiology Program (EEP) evaluated the results of soil sampling performed by the Tennessee Department of Environment and Conservation's (TDEC) at the Swan Pond Recreation Areas. We wanted to protect the health of children who use the recreation areas. We are providing this information to those who live in Kingston and Harriman and especially to those whose children played soccer at the Swan Pond Sports Complex or use the nearby recreation areas.

Citizens of Roane County wanted to know if coal ash was in the soil where their children played. The Roane County Environmental Review Board (RCERB) asked TDH and TDEC if we could help. TDH and TDEC jointly prepared a work plan for the soil sampling at the Sports Complex, the festival field, the walking trail, and Lakeshore Park. The work plan was reviewed and accepted by the RCERB and by the Tennessee Valley Authority (TVA) as TVA had to grant access to the areas for sampling. Soil sampling took place May 6 – 8, 2019.

TDH reviewed surface soil sampling results. Our health consultation outlines what the testing results were, how the results were evaluated, and if the soil could be a concern to the children using the recreation areas. We provide this fact sheet to the community to summarize our evaluation, to help the community understand what was done, and how to get more information.

Purpose

To find out if coal ash was in surface soil in the Swan Pond Sports Complex soccer fields or nearby recreation areas.

TDH and TDEC prepared a surface soil sampling work plan. This work plan thoroughly tested surface soils to protect children at the soccer fields and nearby recreation areas.

What was sampled?

TDEC staff collected soil samples from 0 - 3 inches below the grass cover on May 6 - 8, 2019.

The 0 - 3 inch soil layer represents what children could come into contact with during recreational activities like running in cleats, kicking, and sliding, or otherwise playing.

How many samples were collected?

- 35 total 9-point composite surface soil samples
- 16 locations in the two soccer fields
- 7 locations from soccer field sidelines, end lines, concessions and rest room areas, and picnic pavilion (1 duplicate sample)
- 6 locations in the festival field
- 3 locations along the walking trail
- 3 locations in Lakeshore Park





What laboratory tests were performed?

- Coal ash percentage was measured using Polarized Light Microscopy
- Coal ash residuals
 - 20 metals
 - 3 radionuclides
 - 4 general chemistry properties

What did we find?

- Less than 1% coal ash was measured in all of the soil samples. Therefore, the surface soil in the recreational areas is **normal soil**.
- No excessive levels of any metal were found = **normal soil**. Levels of metals were similar to or below background levels. Measured levels of metals in soil are not a health concern.
- Measured levels of radium-226, radium-228, and cesium-137 were similar to or below published background soil levels = **normal soil**. Measured levels of radionuclides in soil are not a health concern.
- Measured soil pH ranged between 6.08 and 7.13 pH units = **normal range for soil**. Many plants grow best in this pH range.
- Measured levels of chloride, fluoride, and sulfate are not elevated and do not show contamination of the soil.

Summary

Conclusion:

Surface soils were tested from the Swan Pond Recreation Areas to protect the children who play there. All 35 soil sample locations tested had less than 1% coal ash. All soil sample test results were below health comparison values used to determine unacceptable risk. All surface soil sampling test results were similar to what would be expected for Tennessee soil background levels. Therefore, exposure to surface soil by accidentally swallowing, breathing dust, or skin contact at the Swan Pond Recreation Areas is not expected to harm the health of children using these areas.

Recommendation:

Use the Swan Pond Recreational Areas for their intended purposes.

Preparer

TDH's Environmental Epidemiology Program

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www.tn.gov/health/cedep/environmental

TDH EEP reviewed the laboratory results from the shallow soil investigation of the Swan Pond Recreation Areas to decide if there could be potential exposure to children from coal ash. The full version of the health consultation report can be viewed or downloaded from this website: www.tn.gov/tn/health/cedep/environmental/ee-list.html

TDEC's Division of Remediation 615-532-0900

www.tn.gov/environment/remediation