

Borehole

41-11-02

Log Event A

Borehole Information

Farm : <u>SX</u>	Tank : <u>SX-111</u>	Site Number : <u>299-W23-96</u>
N-Coord : <u>35,286</u>	W-Coord : <u>75,741</u>	TOC Elevation : <u>662.89</u>
Water Level, ft :	Date Drilled : <u>3/14/1962</u>	

Casing Record

Type : <u>Steel-welded</u>	Thickness : <u>0.280</u>	ID, in. : <u>6</u>
Top Depth, ft. : <u>0</u>	Bottom Depth, ft. : <u>75</u>	

Equipment Information

Logging System : <u>2</u>	Detector Type : <u>HPGe</u>	Detector Efficiency: <u>35.0 %</u>
Calibration Date : <u>03/1995</u>	Calibration Reference : <u>GJPO-HAN-1</u>	

Logging Information

Log Run Number : <u>1</u>	Log Run Date : <u>6/19/1995</u>	Logging Engineer: <u>Dave Traub</u>
Start Depth, ft.: <u>0.0</u>	Counting Time, sec.: <u>100</u>	L/R : <u>L</u> Shield : <u>N</u>
Finish Depth, ft. : <u>75.5</u>	MSA Interval, ft. : <u>0.5</u>	Log Speed, ft/min.: <u>n/a</u>

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Analysis Information

Analyst : D.C. StromswoldData Processing Reference : Data Analysis Manual Ver. 1Analysis Date : 11/9/1995**Analysis Notes :**

Borehole 41-11-02 was logged in one run in a move-stop-acquire mode that collected spectra for 100 seconds every 0.5 ft. Gain drift during the run was minimal, allowing processing of all spectra with a single energy calibration.

Verification spectra collected before and after the run showed that the tool was operating correctly.

Correction factors for 0.25-in.-thick steel casing were used during data processing.

Cs-137 was the only man-made radionuclide identified in this borehole, occurring mostly near the top of the borehole and intermittently at lower depths. The subsurface concentrations of Cs-137 were less than about 0.5 pCi/g.

The K, U, and Th logs showed possible lithology changes near 62 and 73 ft.

For additional log data interpretation, see the discussion for this borehole included in the Tank Summary Data Report for SX-111 .

Log Plot Notes:

Three log plots are provided. The first plot shows Cs-137 concentrations. The second plot shows the naturally occurring radionuclides (K-40, U-238, and Th-232), which can be used for lithology interpretations. A combination plot includes logs of Cs-137, natural gamma, total gamma derived from the spectral data, and the latest available data from WHC Tank Farms gross gamma logging. The headings of the Cs-137 and natural gamma plots identify the specific gamma rays used to calculate the concentrations.

Uncertainty bars on the plots show the statistical uncertainties for the measurements as 95-percent confidence intervals. Open circles on the plots give the minimum detectable activity (MDA). The MDA of a radionuclide represents the lowest concentration at which positive identification of a gamma-ray peak is statistically defensible. If the reported concentration is slightly above the MDA, the 95-percent confidence interval may extend below the MDA value and detection is not assured with 95-percent certainty.

The Tank Farms gross gamma plot is the latest available from WHC. No attempt has been made to adjust the plot for depth discrepancies.