

Borehole

41-04-07

Log Event A

Borehole Information

Farm : <u>SX</u>	Tank : <u>SX-104</u>	Site Number : <u>299-W23-62</u>
N-Coord : <u>35,405</u>	W-Coord : <u>75,695</u>	TOC Elevation : <u>667.99</u>
Water Level, ft :	Date Drilled : <u>9/30/1954</u>	

Casing Record

Type : <u>Steel-welded</u>	Thickness : <u>0.313</u>	ID, in. : <u>8</u>
Top Depth, ft. : <u>0</u>	Bottom Depth, ft. : <u>101</u>	

Equipment Information

Logging System : <u>1</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>5/17/1995</u>	Logging Engineer: <u>Bob Spatz</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>53.5</u>	MSA Interval, ft. : <u>0.5</u>	Log Speed, ft/min.: <u>n/a</u>

Log Run Number : <u>2</u>	Log Run Date : <u>5/18/1995</u>	Logging Engineer: <u>Bob Spatz</u>
Start Depth, ft.: <u>98.5</u>	Counting Time, sec.: <u>100</u>	L/R : <u>L</u> Shield : <u>N</u>
Finish Depth, ft. : <u>52.5</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 : 7/11/1995**Analysis Notes :**

This borehole was logged in two log runs: run 1 from 0 to 53.5 ft, and run 2 from 52.5 to 98.5 ft.

Field verification data showed good agreement between the pre- and post-survey spectra; however, gain drift in the spectra made it necessary to perform a manual energy recalibration during automated spectrum analysis. This problem does not affect the system efficiency or the radionuclide concentration data, but it slows the analysis.

The borehole casing is recorded as 5/16 in. thick (0.3125 in.). The casing correction factor used in the analysis is that for a 0.33-in. casing.

Cs-137 was the only gamma-emitting man-made radionuclide found in this borehole. It occurred continuously from the surface down to the bottom of the borehole, suggesting that it traveled down along the outside of the borehole and may not exist in the formation.

The K-40 concentration showed an increase in concentration at about 65 ft that may be due to a change in the lithology.

Log Plot Notes:

Three log data plots are provided. The cesium concentration is provided in a separate plot to document the concentration and show the shape of the cesium distribution. The error of the cesium concentration determination is shown by the error bars and represents the 95 percent confidence interval. The calculated MDA is shown on this plot as open circle data points.

A plot of naturally occurring potassium, uranium and thorium (K-40, U-238, and Th-232) is provided to permit correlation of these data with the geologic information. The error bars representing the 95 percent confidence interval are also shown on these logs as are the calculated MDA values. At some depth locations the Th-232 MDA shows a value of 0. This is a result of an error in the spectrum analysis program and the 0 MDA values should be ignored.

A combination plot of individual radionuclide concentrations is provided and includes the total gamma log calculated from the spectral data and the Tank Farms gross gamma ray log data obtained from gross gamma logging systems.