

Borehole

41-04-05

Log Event A

Borehole Information

Farm : <u>SX</u>	Tank : <u>SX-104</u>	Site Number : <u>299-W23-198</u>
N-Coord : <u>35,412</u>	W-Coord : <u>75,639</u>	TOC Elevation : <u>663.00</u>
Water Level, ft :	Date Drilled : <u>11/14/1974</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>100</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>5/16/1995</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>77.5</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>5/12/1995</u>	Logging Engineer: <u>Bob Spatz</u>
Start Depth, ft.: <u>99.5</u>	Counting Time, sec.: <u>100</u>	L/R : <u>L</u> Shield : <u>N</u>
Finish Depth, ft. : <u>76.5</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 : 7/14/1995**Analysis Notes :**

This borehole was logged in two log runs: run 1 from 0 to 77.5 ft, and run 2 from 76.5 to 99.5 ft, with a 100-s counting time and a spatial data interval of 0.5 ft. The pre- and post-survey field verification spectra showed consistent peak activities for both runs, but energy calibrations differed due to gain drift in the instrumentation. Spectra in both log runs were recalibrated for energy versus channel. Both runs were done in the move-stop-acquire mode with 100-s of live time for counting.

The total measured casing thickness is 0.31 in. The casing correction used was that for 0.33 in.

Cs-137 was the only man-made radionuclide detected, occurring continuously from the surface to about 17 ft with the highest concentration at the surface. It was also detected at low concentrations at discontinuous locations to total depth.

Naturally occurring K-40, U-238, and Th-232 concentrations were calculated and plotted. K-40 shows a distinct increase in concentration at about 58 ft. U-238 and Th-232 concentrations are just above MDA.

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 and the calculated MDA values are shown on these logs. 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.