



Borehole

22-12-10

Log Event A

Borehole Information

Farm : <u>BY</u>	Tank : <u>BY-112</u>	Site Number : <u>299-E33-99</u>
N-Coord : <u>46,142</u>	W-Coord : <u>53,591</u>	TOC Elevation : <u>647.81</u>
Water Level, ft :	Date Drilled : <u>12/31/1967</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>	

Borehole Notes:

This borehole was drilled with a cable tool drilling rig, and the casing is apparently ungrouted and unperforated.

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 Procedure : <u>P-GJPO-1783</u>

Log Run Information

Log Run Number : <u>1</u>	Log Run Date : <u>9/19/1995</u>	Logging Engineer: <u>Alan Pearson</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>38.0</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>9/20/1995</u>	Logging Engineer: <u>Alan Pearson</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>37.0</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. Stromswold

Data Processing Reference : P-GJPO-1787

Analysis Date : 2/27/1996

Analysis Notes :

Verification spectra collected before and after the log runs show that the logging tool was operating properly.

Gain drift was minimal during data acquisition, enabling a single energy calibration to be used during data processing for each run.

Repeatability was good at the overlap log section.

Correction factors for 0.25-in.-thick steel casing were used during data processing. No water correction was applied because the borehole was dry.

Cs-137 was the only man-made contaminant detected in this borehole. It occurred mainly from the surface to about 14 ft at concentrations less than about 3 pCi/g (except very near the surface). Cs-137 also was detected at discontinuous locations to TD.

K-40 concentrations increased slightly below about 47 ft, near the tank's bottom. The increase in K-40 concentrations in the interval from about 13 to 23 ft is unusual and might be caused by grout or by different fill material around the borehole at that depth.

See the Tank Summary Data Report for tank BY-112 for additional log analysis.

Log Plot Notes:

Separate log plots show the man-made (e.g., Cs-137) and the naturally occurring radionuclides (K-40, U-238, and Th-232). The natural radionuclides can be used for lithology interpretations. The headings of the plots identify the specific gamma rays used to calculate the concentrations.

A combination plot includes both the man-made and natural radionuclides, in addition to the total gamma derived from the spectral data and the Westinghouse Hanford Company (WHC) Tank Farms gross gamma log. The gross gamma plot displays the latest available digital data from WHC with no attempt to adjust the depths to coincide with the SGLS data.

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 detection level (MDL). The MDL of a radionuclide represents the lowest concentration at which positive identification of a gamma-ray peak is statistically defensible.