



Borehole

# 22-03-01

Log Event A

## Borehole Information

Farm : <u>BY</u>	Tank : <u>BY-103</u>	Site Number : <u>299-E33-104</u>
N-Coord : <u>46,140</u>	W-Coord : <u>53,225</u>	TOC Elevation : <u>647.33</u>
Water Level, ft :	Date Drilled : <u>8/7/1970</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:

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

The borehole is apparently not 100 ft deep; the logging tool's maximum depth was 95.5 ft. The Tank Farms gross gamma log has a comparable maximum depth.

## 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>8/10/1995</u>	Logging Engineer: <u>Alan Pearson</u>
Start Depth, ft.: <u>95.5</u>	Counting Time, sec.: <u>100</u>	L/R : <u>L</u> Shield : <u>N</u>
Finish Depth, ft. : <u>0.0</u>	MSA Interval, ft. : <u>0.5</u>	Log Speed, ft/min.: <u>n/a</u>



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### Analysis Information

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Analyst : D.C. Stromswold

Data Processing Reference : Data Analysis Manual Ver. 1

Analysis Date : 1/16/1996

#### Analysis Notes :

Verification spectra collected before and after the log run showed 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.

The absence of a repeat logging section precluded judgment of the repeatability.

Correction factors for 0.33-in.-thick steel casing were used during data processing, because correction factors for 0.31-in. casing were not available. As a result, the calculated concentrations will be slightly high. No water correction was applied because the borehole was dry.

Cs-137 was the only man-made contaminant detected, occurring from the surface to total depth (TD) almost continuously. Except near the surface, the concentration was 2 pCi/g or less.

The K-40 and total gamma logs indicate lithology changes near 47 ft (the approximate bottom of the excavation for the tank).

See the Tank Summary Data Report for BY-103 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.