



Borehole **60-08-04**

Log Event A

Borehole Information

Farm : <u>U</u>	Tank : <u>U-108</u>	Site Number : <u>299-W18-115</u>
N-Coord : <u>37,976</u>	W-Coord : <u>75,692</u>	TOC Elevation : <u>661.10</u>
Water Level, ft :	Date Drilled : <u>3/31/1974</u>	

Casing Record

Type : <u>Steel-welded</u>	Thickness : <u>0.280</u>	ID, in. : <u>6</u>
Top Depth, ft. : <u>1</u>	Bottom Depth, ft. : <u>125</u>	

Borehole Notes:

No driller's logs are available for this borehole. This borehole is assumed to be completed with 6-in.-nominal-diameter steel casing. The surface configuration consists of a 6-in. steel casing from the ground surface to 6 in., concrete from 6 to 12 in., and a soil berm from 12 to 36 in. The borehole is offset from the berm, and the berm covers a transfer line. It appears this surface configuration has been added since the original drilling, which results in the total logging depth being about 2.5 ft more than the original drilling depth.

Equipment Information

Logging System : <u>2</u>	Detector Type : <u>HPGe</u>	Detector Efficiency: <u>35.0 %</u>
Calibration Date : <u>10/1995</u>	Calibration Reference : <u>GJPO-HAN-3</u>	Logging Procedure : <u>P-GJPO-1783</u>

Log Run Information

Log Run Number : <u>1</u>	Log Run Date : <u>11/13/1995</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>17.0</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>11/15/1995</u>	Logging Engineer: <u>Alan Pearson</u>
Start Depth, ft.: <u>127.5</u>	Counting Time, sec.: <u>100</u>	L/R : <u>L</u> Shield : <u>N</u>
Finish Depth, ft. : <u>35.0</u>	MSA Interval, ft. : <u>0.5</u>	Log Speed, ft/min.: <u>n/a</u>
Log Run Number : <u>3</u>	Log Run Date : <u>11/16/1995</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>36.0</u>	MSA Interval, ft. : <u>0.5</u>	Log Speed, ft/min.: <u>n/a</u>



Borehole

60-08-04

Log Event A

Analysis Information

Analyst : P.D. Henwood

Data Processing Reference : P-GJPO-1787

Analysis Date : 6/7/1996

Analysis Notes :

This borehole was logged in three log runs. Data from log run 1 were inadvertently lost and not used to generate logs; log run 3 is the relog of the interval of lost data. The pre- and post-survey field verification spectra show consistent activities, indicating the logging system operated properly during data collection. Energy calibrations differed because of gain drift in the instrumentation. Gain drifts during data collection necessitated energy versus channel number recalibrations during processing of the data to maintain proper peak identification. A depth overlap, where data were collected on separate days at the same depth, occurred in this borehole at about 35 ft. The calculated concentrations were within the statistical uncertainty of the measurements, indicating very good repeatability.

The casing thickness is presumed to be 0.280 inch (in.), on the basis of published thickness for schedule-40, 6-in. steel casing.

Cs-137, Eu-154, processed U-238 (1001 keV), and processed U-235 (185.7 keV) were the only man-made radionuclides identified in this borehole. Cs-137 was measured from the ground surface to about 20 ft, from 25 to 31 ft, and at a few locations near the bottom of the borehole. The concentrations of Cs-137 measured about 3 pCi/g from 0 to 4.5 ft and less than 1 pCi/g in the remainder of the borehole. Eu-154 was identified from about 2 to 4 ft with a maximum concentration of about 1 pCi/g. Processed U-238 was measured at about 240 pCi/g at 55 ft and at about 20 pCi/g from 65 to 67 ft. Processed U-235 was measured at a depth of 55 ft with a maximum concentration of about 16 pCi/g.

Additional information and interpretations of log data are included in the main body of the Tank Summary Data Reports for tanks U-107 and U-108.

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 Tank Farms gross gamma log. The gross gamma plot displays the latest available digital data. No attempt has been made to adjust the depths of the gross gamma logs 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.