RUST GEOTECH INC.

Spectral Gamma-Ray Borehole
Log Data Report

Borehole 41-01-08

Log Event A

Borehole Information

Farm : SX	**Tank :** SX-101	**Site Number :** 299-W23-134
N-Coord : 35,534	**W-Coord :** 75,705	**TOC Elevation :** 662.95
Water Level, ft : 93.90	**Date Drilled :** 1/3/1972	

Casing Record

Type : Steel-welded	**Thickness :** 0.280	**ID, in. :** 6
Top Depth, ft. : 0	**Bottom Depth, ft. :** 100	

Equipment Information

Logging System : 1	**Detector Type :** HPGe	**Detector Efficiency:** 35.0 %
Calibration Date : 03/1995	**Calibration Reference :** GJPO-HAN-1	

Logging Information

Log Run Number : 1	**Log Run Date :** 4/28/1995	**Logging Engineer:** Bob Spatz
Start Depth, ft.: 0.0	**Counting Time, sec.:** 100	**L/R :** L **Shield :** N
Finish Depth, ft. : 10.5	**MSA Interval, ft. :** 0.5	**Log Speed, ft/min.:** n/a

Log Run Number : 2	**Log Run Date :** 5/2/1995	**Logging Engineer:** Bob Spatz
Start Depth, ft.: 9.5	**Counting Time, sec.:** 100	**L/R :** L **Shield :** N
Finish Depth, ft. : 16.0	**MSA Interval, ft. :** 0.5	**Log Speed, ft/min.:** n/a

Log Run Number : 3	**Log Run Date :** 5/3/1995	**Logging Engineer:** Bob Spatz
Start Depth, ft.: 98.0	**Counting Time, sec.:** 100	**L/R :** L **Shield :** N
Finish Depth, ft. : 15.0	**MSA Interval, ft. :** 0.5	**Log Speed, ft/min.:** n/a

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Analysis Information

Analyst : P.D. Henwood

Data Processing Reference : Data Analysis Manual Ver. 1 Analysis Date : 8/18/1995

Analysis Notes :

Borehole 41-01-08 was logged in three runs: run 1 from 0 to 10 ft, run 2 from 9.5 to 16 ft, and run 3 from 98 to 15 ft. The data showed appropriate repeatability at the depth overlaps.

The pre- and post-survey field verification data showed good agreement in the system's performance, but there was some instrument gain drift from 98 to 85 ft during log run 3. The spectra were recalibrated during analysis for energy versus channel. This recalibration does not affect the efficiency of the system or the accuracy of the concentration data.

Cs-137 was the only man-made radionuclide detected. It occurred primarily from the surface to 33 ft, with concentrations ranging from about 0.2 pCi/g to 12 pCi/g. The maximum concentration occurred at 3.5 ft. Several additional depth intervals of concentration at or just above the minimum detectable activity (MDA) occurred throughout the borehole. Minor contamination (less than 2 pCi/g) occurred at the bottom of the borehole.

All three naturally occurring radionuclides indicated increased activity at about 53 ft, indicating a lithology change. An interval of decreasing count rates is evident from about 58.5 to 65 ft. This interval is not indicated by the Tank Farms gross gamma logging data.

Corrections for casing attenuation were made based on a casing thickness of 0.25 inches. No water corrections were made even though it was reported at approximately 94 ft. If the correction was applied, the concentrations appeared to be over-estimated.

Log Plot Notes:

Three log data plots are provided: a Cs-137 concentration plot, a natural gamma log plot, and a combination plot. All three show concentration versus depth. The Cs-137 log indicates the MDA as open circles. Any concentration below the MDA is not plotted, because it is considered non-detecteable. Error bars representing the 95 percent confidence interval are plotted with the concentration data points.

The natural gamma logs are shown in a separate plot to allow correlation of these data with lithology. These data are also plotted with the MDA values and error bars. On the Th-232 plot, the MDA value is shown as zero at some depth locations. This zero value was a result of an anomaly in the commercial spectrum analysis software which has been corrected by the vendor. Because the MDA calculation at these few points is not significant relative to the intended use of the plot, the data were not reprocessed and corrected. Therefore, these MDA data points on the plot should be ignored.

A combination plot of individual radionuclide concentrations is provided and includes the total gamma log calculated in counts per second from the spectral data and the Tank Farms gross gamma log obtained from a system operated by WHC.