

199-K-142 (C5304) Log Data Report

Borehole Information:

Borehole: 199-K-142 (C5304)		Site: 100-KR-4 (NE of 100K Area)			
Coordinates (WA St Plane)		GWL¹ (ft): 72.73	GWL Date: 01/10/07		
North (m)	East (m)	Drill Date	TOC Elevation	Total Depth (ft)	Type
146870.94	569104.26	01/10/07	142.58	115.7	Cable tool

Casing Information:

Casing Type	Stickup (ft)	Outer Diameter (in.)	Inside Diameter (in.)	Thickness (in.)	Top (ft)	Bottom (ft)
Threaded Steel	1.1 ft.	11 3/4	10 3/8	11/16	1.1	114.5

Borehole Notes:

Spread on the ground surface is a thick layer of new gravel to stabilize the work area. The Fluor BTR provided the following: total depth, depth to water, and depth of casing. The casing diameters were measured using calipers and a steel tape.

Zero reference = top of ground surface.

Logging Equipment Information:

Logging System: γ 1 E	Type: 70% HPGe SGLS	
Effective Calibration Date: 05/02/06	Calibration Reference: DOE-EM/GJ1200-2006	
Serial No.: 34TP40587A	Logging Procedure: HGLP-MAN-002 Rev.0	

Spectral Gamma Logging System (SGLS) Log Run Information:

Log Run	1	2 Repeat		
Date	01/11/07	01/11/07		
Logging Engineer	McClellan	McClellan		
Start Depth (ft)	113.0	0.0		
Finish Depth (ft)	0.0	11.0		
Count Time (sec)	200 s	200 s		
Live/Real	R	R		
Shield (Y/N)	NA	NA		
MSA Interval (ft)	1.0 ft	1.0 ft		
ft/min	NA	NA		
Pre-Verification	AE219CAB*	AE219CAB*		
Start File	AE219000	AE219114		
Finish File	AE219113	AE219125		
Post-Verification	AE219CAA	AE219CAA		
Depth Return Error (in.)	NA	2.0 low		
Comments	No fine gain adjustment made.	Repeat section.		

Logging Operation Notes:

Data were collected using Gamma 1, HO 68B-3574. Pre- and post-survey verification measurements were acquired in the Amersham verifier, SN 118. The back of the logging truck was set-up facing NE. A centralizer was installed on the sonde. Maximum borehole depth before un-weighting was 113.16'. The pre-run verification file AE219CAB.CHN was lost but the *.SO file was saved.

Analysis Notes:

Analyst:	LEGLER	Date:	08/22/2007	Reference:	GJO-HGLP 1.6.3, Rev. 0
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The pre- and post- verification met acceptance criteria established for the system.

A casing correction for an 11/16" thick steel casing was applied during analysis. A water correction was also applied from 72.73 ft to total depth of borehole.

SLGLS spectra were processed in batch mode in APTEC SUPERVISOR to identify individual peaks and count rates. Concentrations were calculated with an EXCEL template identified as G1EMay06.xls using an efficiency function and corrections for casing, dead time, and water as determined by annual calibrations.

Results and Interpretations:

The only man made radionuclide detected was Cs-137. Cs-137 was detected at 71ft, 30 ft, and 7 ft.

The KUT concentrations bias high at depths where water is present, suggesting that water correction factor may be overcorrecting.

The repeat log section showed good repeatability for depth and radionuclide concentrations, suggesting that the system was operating properly.

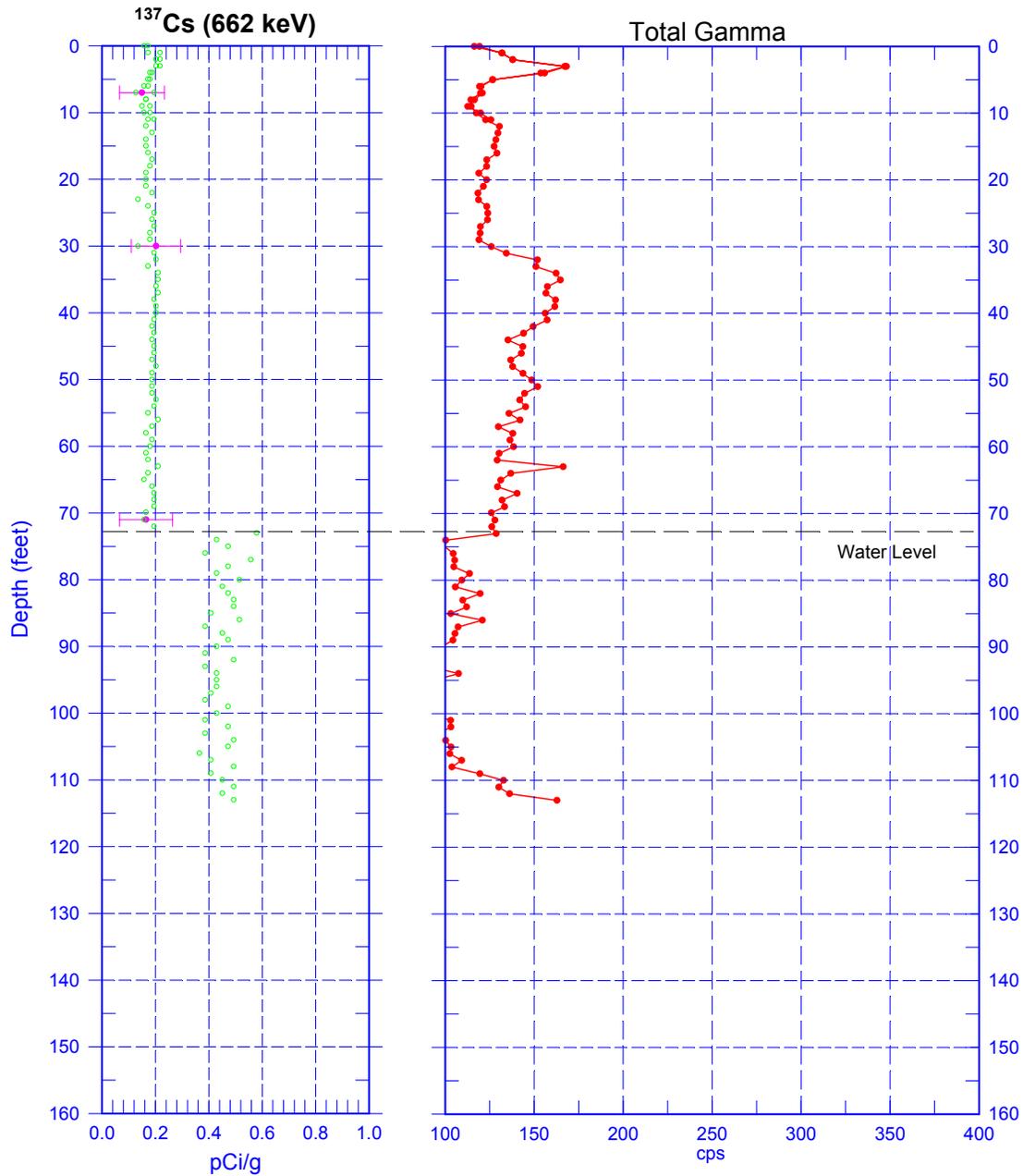
List of Log Plots:

Depth Reference is top of casing
Depth Scale - 20 ft/inch except for repeat logs

- Man-made Radionuclides
- Natural Gamma Logs
- Combination Plot
- Total Gamma & Dead Time
- Repeat Section of Natural Gamma Logs

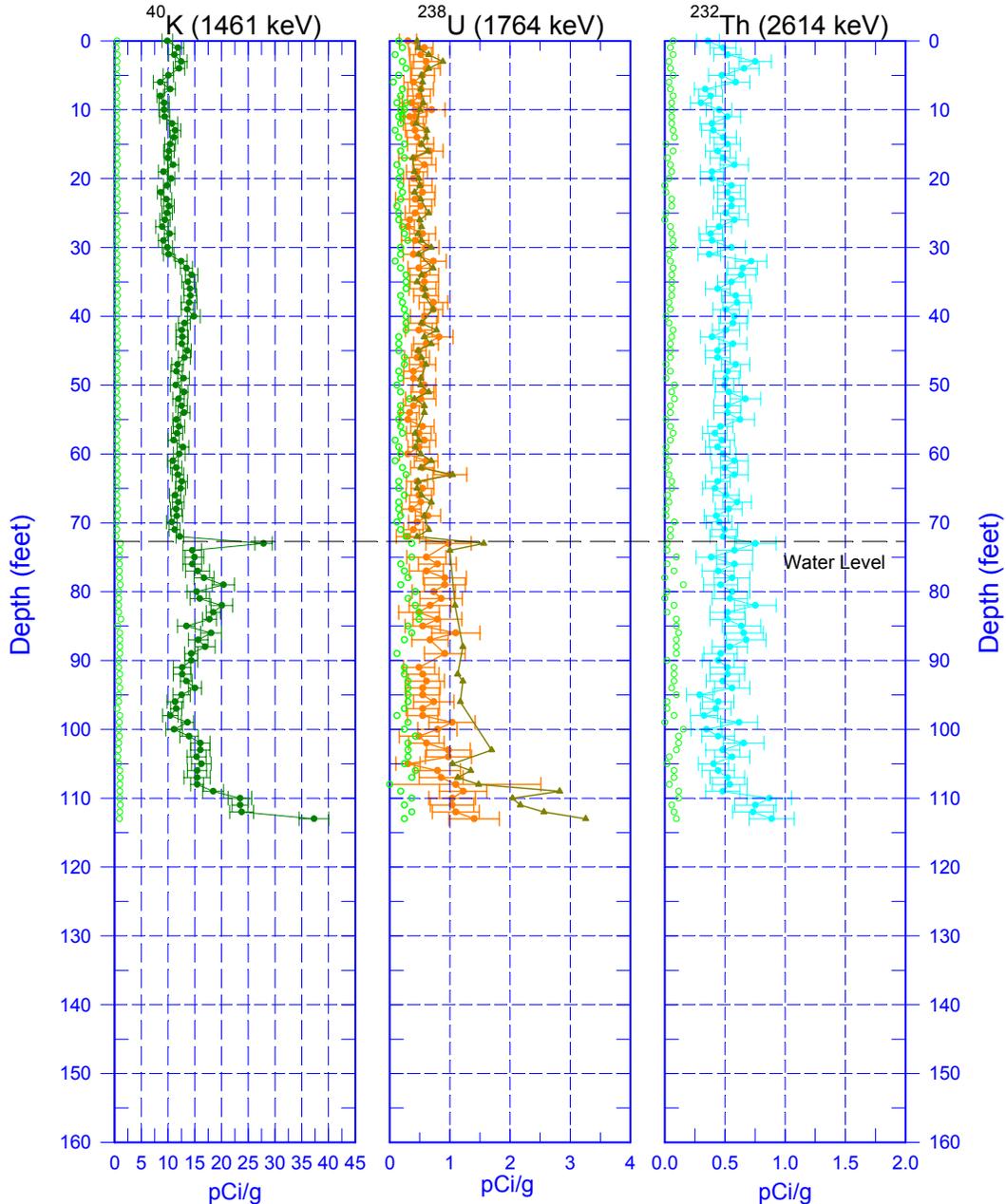
¹ GWL – groundwater level

**199-K-142 (C5304)
Manmade Radionuclides**



Zero Reference - Ground Surface

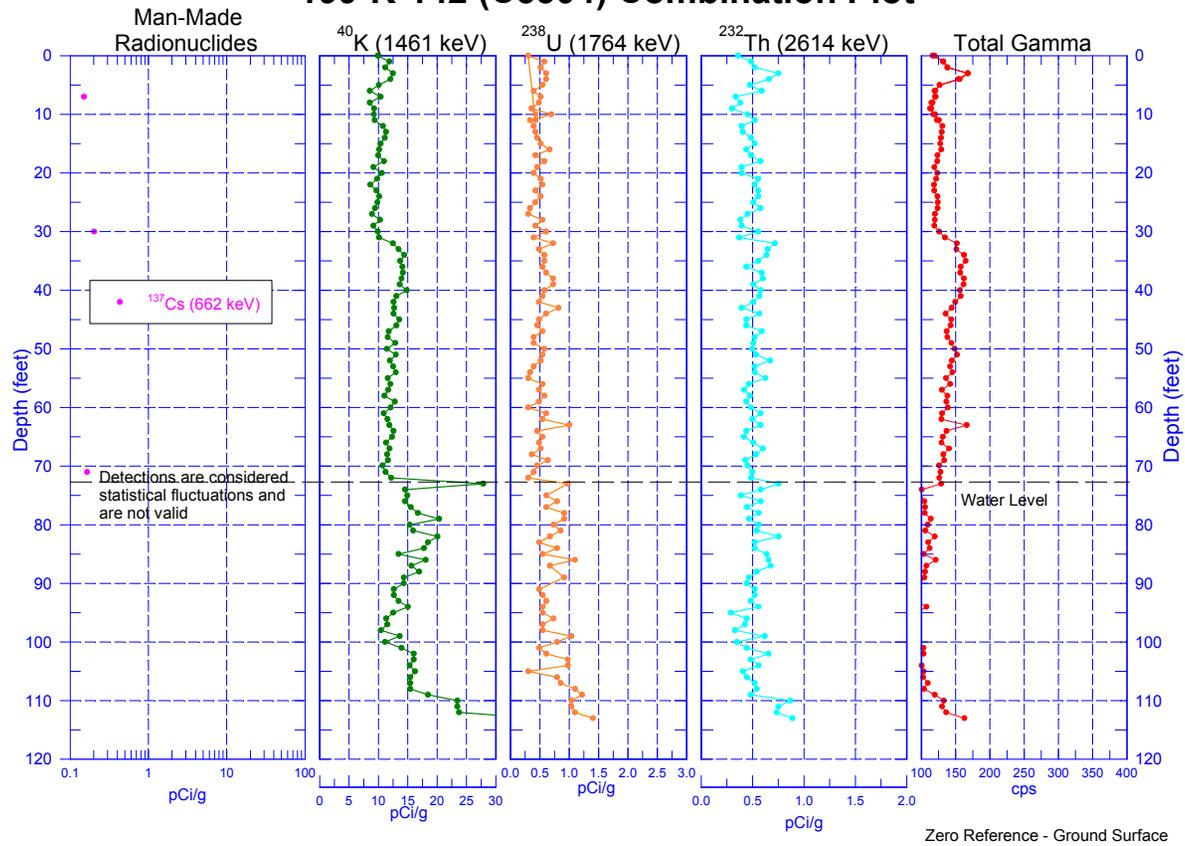
199-K-142 (C5304) Natural Gamma Logs



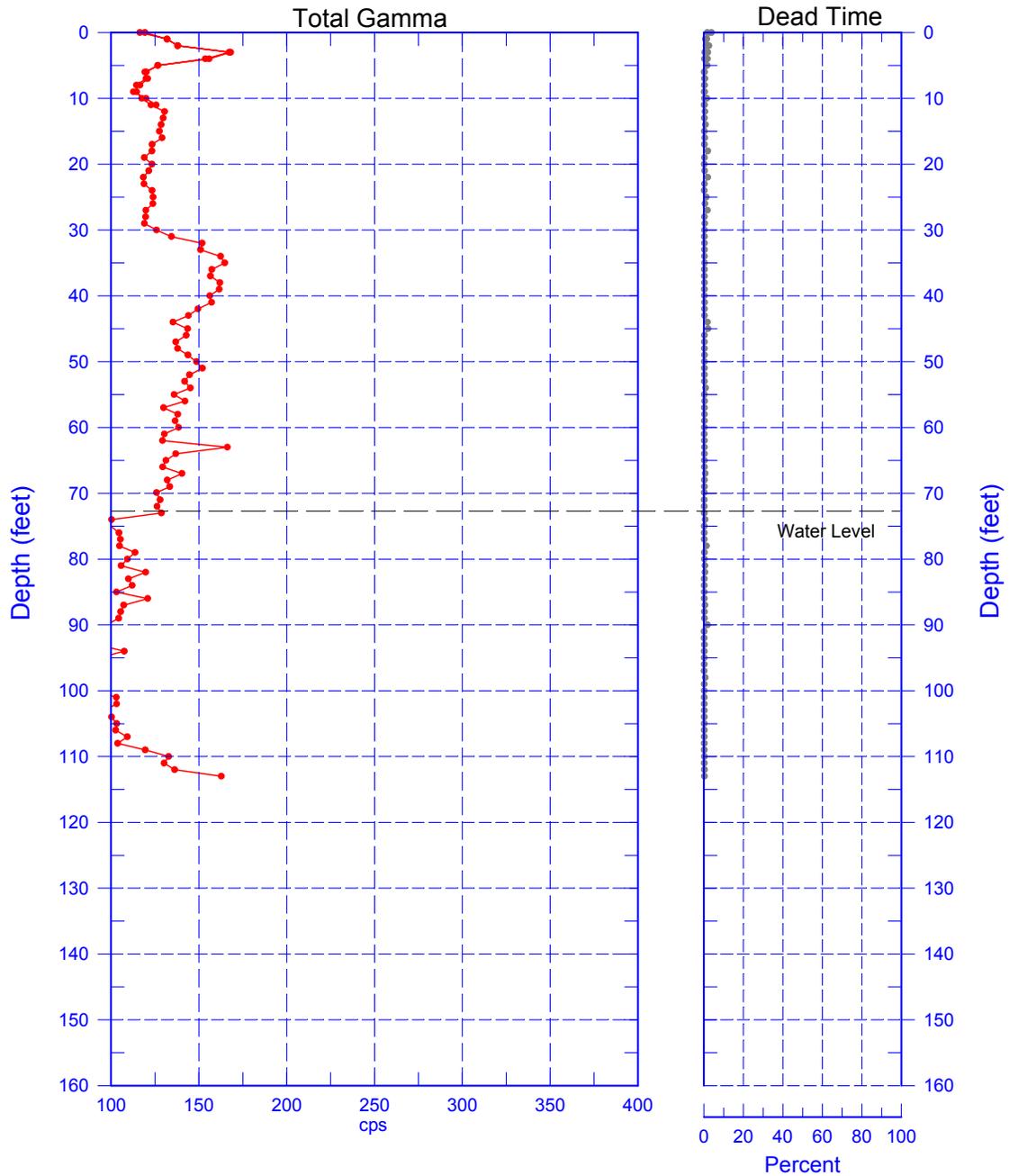
Zero Reference - Ground Surface

- 1764 keV
- MDL (1764 keV)
- ▲ 609 keV
- MDL

199-K-142 (C5304) Combination Plot



**199-K-142 (C5304)
Total Gamma & Dead Time**



Reference - Ground Surface

199-K-142 (C5304)
Repeat Section of Natural Gamma Logs

