

C5670 Log Data Report

Borehole Information:

Borehole: C5670		Site: 118-B-1 Burial Ground			
Coordinates (WA St Plane)		GWL¹ (ft): 62.3		GWL Date: 04/24/07	
North (m)	East (m)	Drill Date	TOC Elevation	Total Depth (ft)	Type
Not available	Not available	04/07	Not available	74	Cable

Casing Information:

Casing Type	Stickup (ft)	Outer Diameter (in.)	Inside Diameter (in.)	Thickness (in.)	Top (ft)	Bottom (ft)
Welded Steel	1.8	8 5/8	8	5/16	1.8	74

Borehole Notes:

Casing diameter and casing stickup measurements were acquired by the logging engineer using a caliper and steel tape. This borehole was drilled at the bottom of an approximate 20 ft excavation. This surface is the zero ft depth reference for data acquisition.

Logging Equipment Information:

Logging System: Gamma 4 N	Type: 60% HPGe SN: 45-TP22010A
Effective Calibration Date: 02/14/07	Calibration Reference: HGLP-CC-009
	Logging Procedure: HGLP-MAN-002, Rev 0

Logging System: Gamma 4 H	Type: NMLS SN: H310700352
Effective Calibration Date: 11/22/06	Calibration Reference: HGLP-CC-002
	Logging Procedure: HGLP-MAN-002, Rev 0

Spectral Gamma Logging System (SGLS) Log Run Information:

Log Run	1	2 Repeat			
Date	04/24/07	04/24/07			
Logging Engineer	Spatz	Spatz			
Start Depth (ft)	72.5	62.5			
Finish Depth (ft)	0.5	52.5			
Count Time (sec)	100	100			
Live/Real	R	R			
Shield (Y/N)	N	N			
MSA Interval (ft)	1.0	1.0			
ft/min	N/A	N/A			
Pre-Verification	DN751CAB	DN751CAB			
Start File	DN751000	DN751073			
Finish File	DN751072	DN751083			
Post-Verification	DN751CAA	DN751CAA			
Depth Return Error (in.)	0	0			
Comments	No fine gain adjustment	Fine gain adjustment after file 074			

Neutron Moisture Logging System (NMLS) Log Run Information:

Log Run	3	4 Repeat			
Date	04/24/07	04/24/07			
Logging Engineer	Spatz	Spatz			
Start Depth (ft)	61.75	50.5			
Finish Depth (ft)	0	40.5			
Count Time (sec)	15	15			
Live/Real	R	R			
Shield (Y/N)	N	N			
Sample Interval (ft)	0.25	0.25			
ft/min	N/A	N/A			
Pre-Verification	DH522CAB	DH522CAB			
Start File	DH522000	DH522248			
Finish File	DH522247	DH522288			
Post-Verification	DH522CAA	DH522CAA			
Depth Return Error (in.)	0	- 1			
Comments	None	None			

Logging Operation Notes:

Logging was conducted with a centralizer on the sondes. Repeat sections were acquired in this borehole to evaluate system performance.

Analysis Notes:

Analyst:	Henwood	Date:	05/01/07	Reference:	GJO-HGLP 1.6.3, Rev. 0
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Pre-run and post-run verifications for the logging systems were performed before and after the day's data acquisition. The acceptance criteria were met. A casing correction for a 5/16 in. thick casing was applied to the SGLS log data. Moisture data were corrected according to calibrations for an 8-in. borehole.

SGLS spectra were processed in batch mode using APTEC SUPERVISOR to identify individual energy peaks and determine count rates. Concentrations were calculated with an EXCEL worksheet template identified as G4NFeb07.xls using efficiency functions and corrections for casing, water, and dead time as determined from annual calibrations. No corrections for dead time were necessary. A correction for water inside the casing is applied to the data below 62 ft.

Results and Interpretations:

Cs-137 was detected using the routine processing software at two depth locations near the MDL of 0.2 pCi/g. These were determined to be statistical fluctuations and are not valid full energy peaks.

The moisture log data indicate some variability.

The repeat sections generally indicate good agreement of the naturally occurring KUT and moisture.

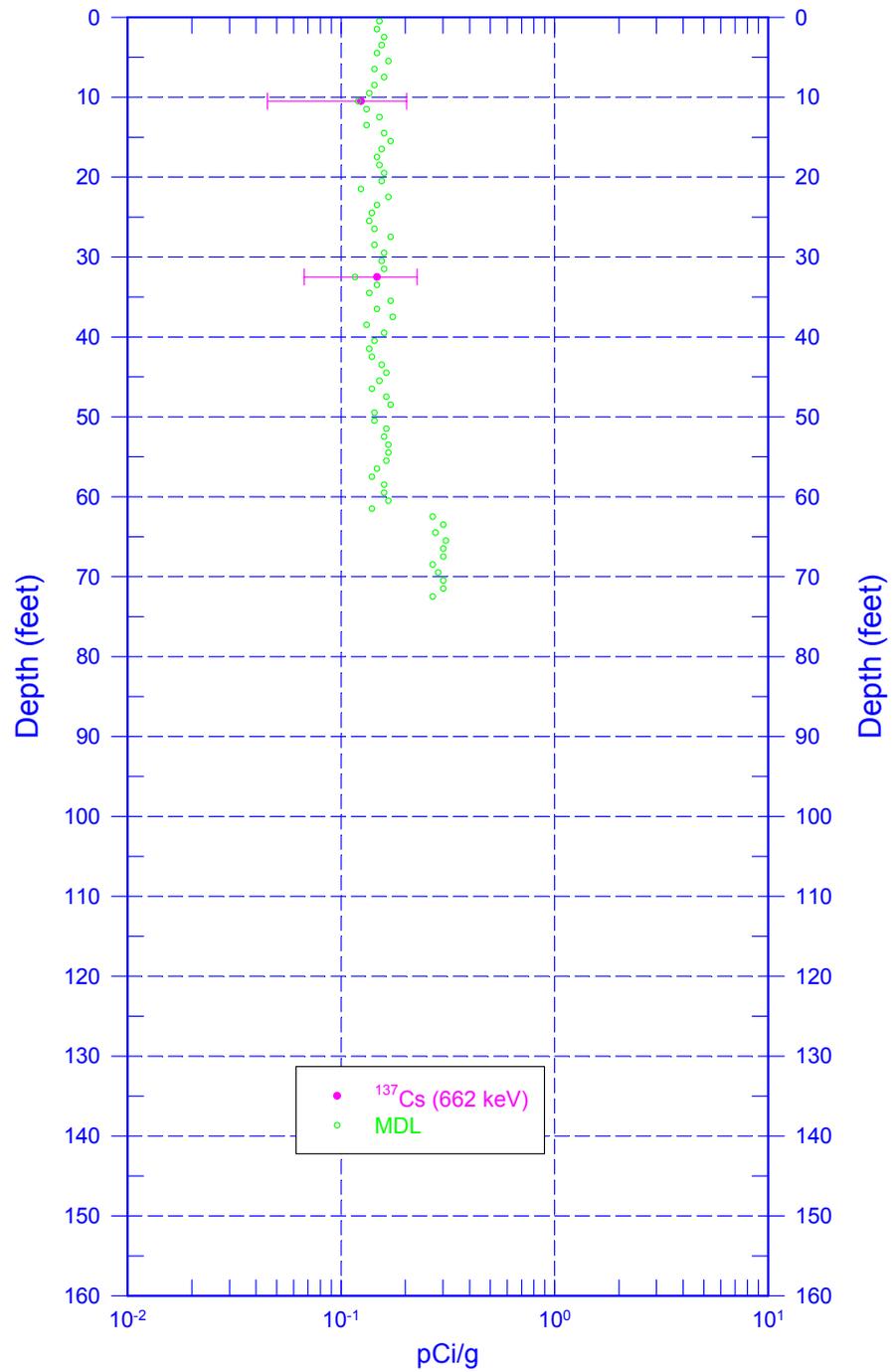
List of Log Plots:

Depth Reference is ground surface
Depth Scale - 20 ft/inch except for repeat logs

Manmade Radionuclides
Natural Gamma Logs
Combination Plot
Total Gamma & Moisture
Repeat Section of Natural Gamma Logs
Moisture Repeat Section

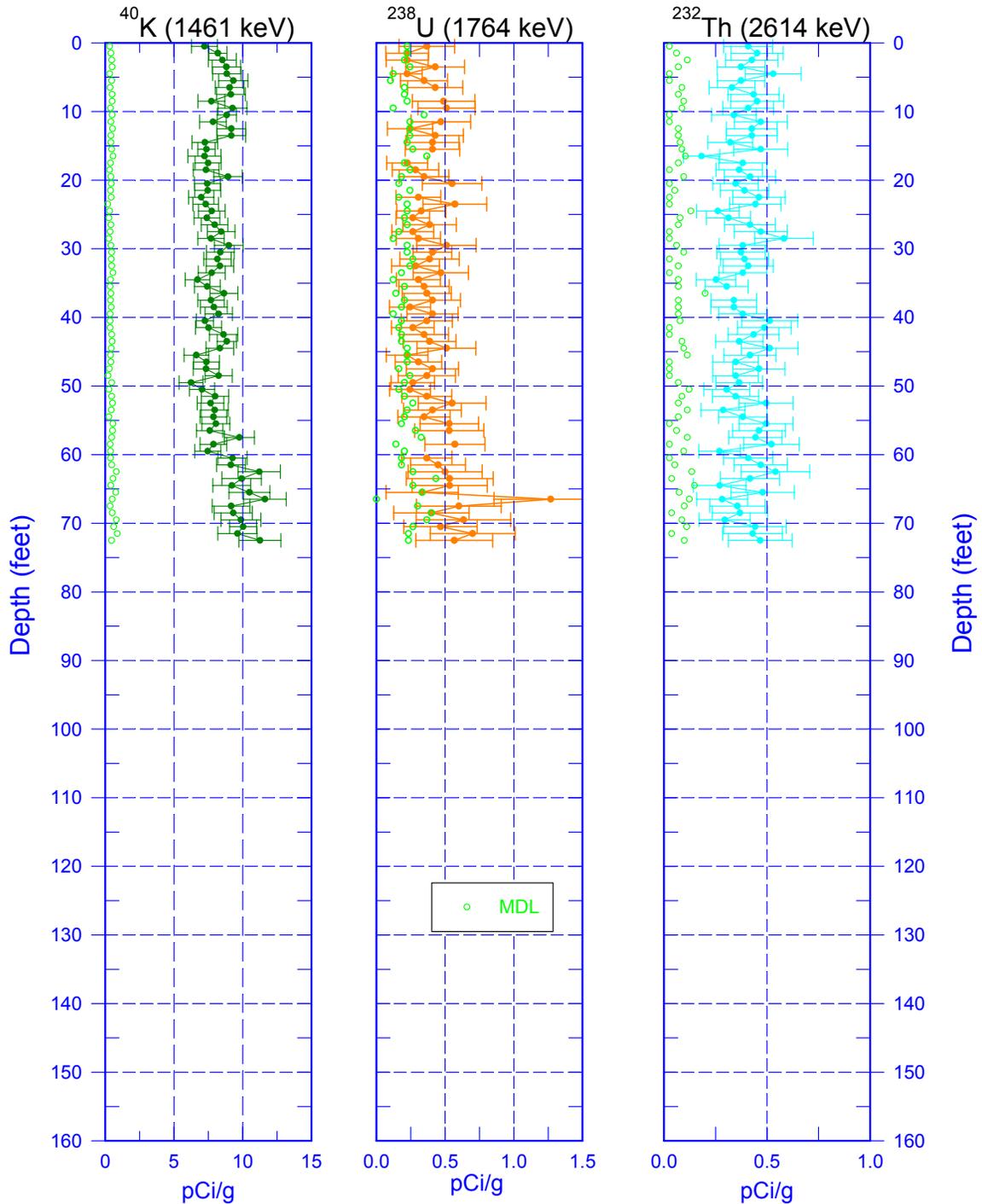
¹ GWL – groundwater level

C5670 Manmade Radionuclides



Zero Reference - ground surface

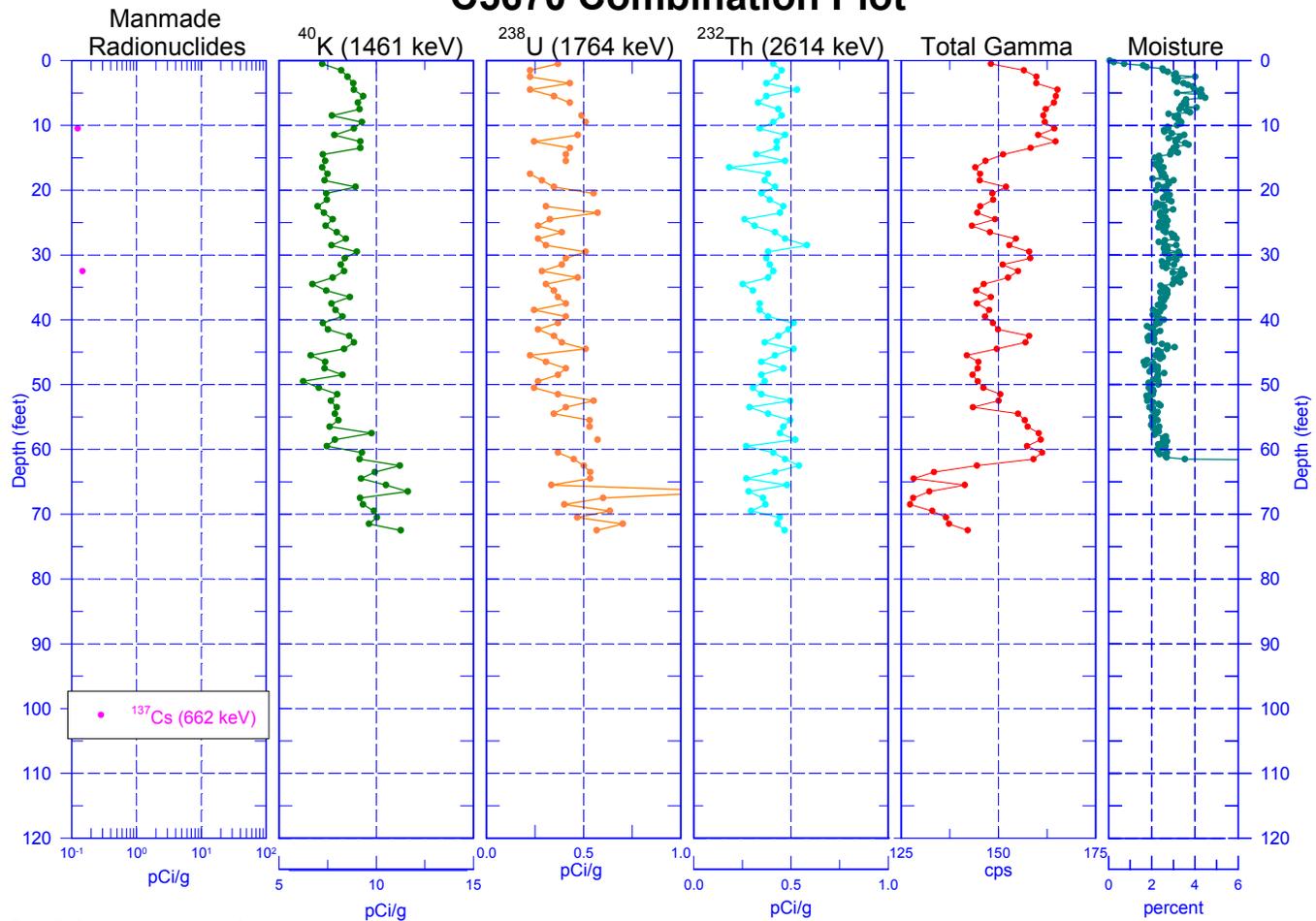
C5670 Natural Gamma Logs



Zero Reference = ground surface

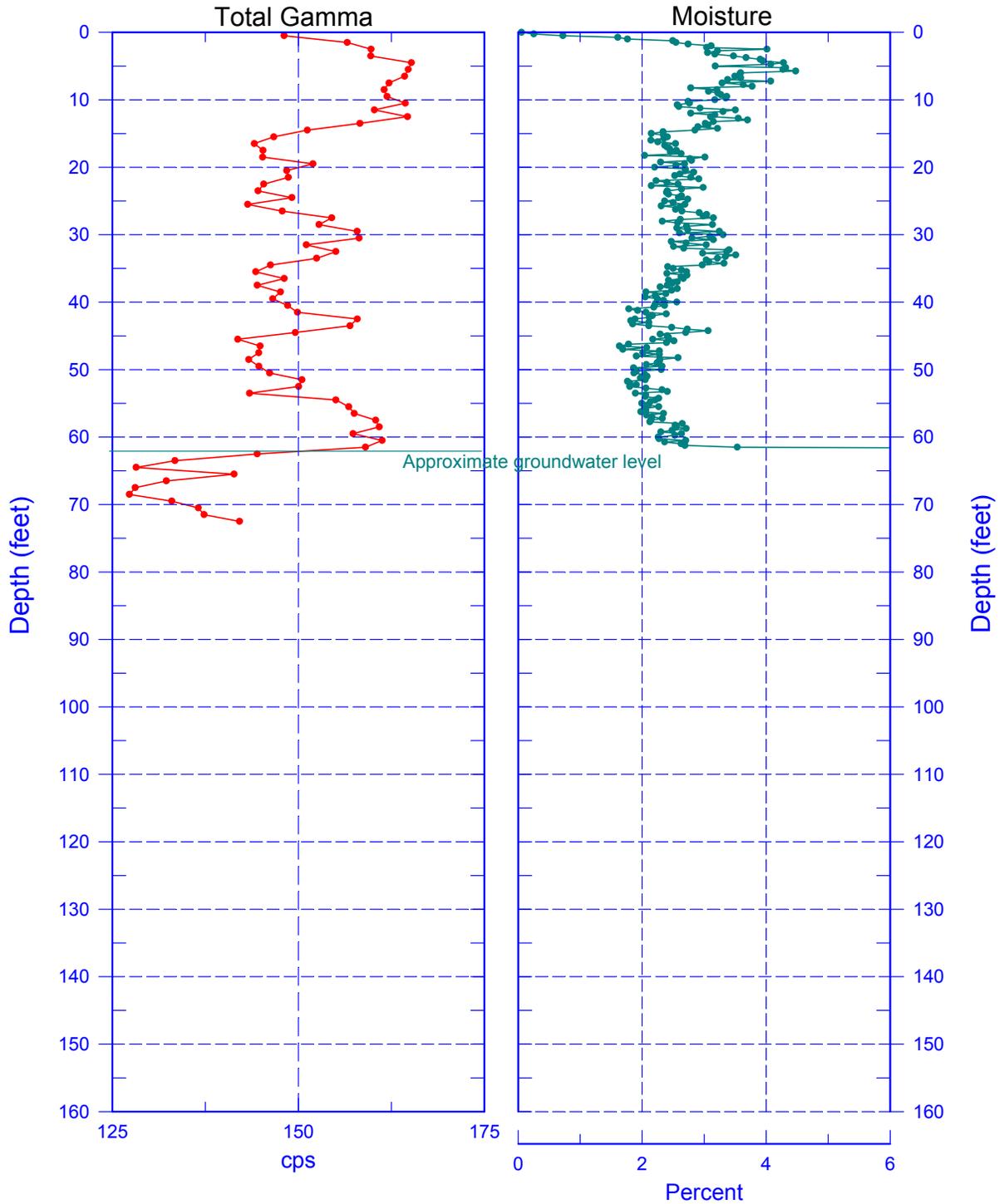
HGLP-LDR-070

C5670 Combination Plot



Zero Reference - ground surface

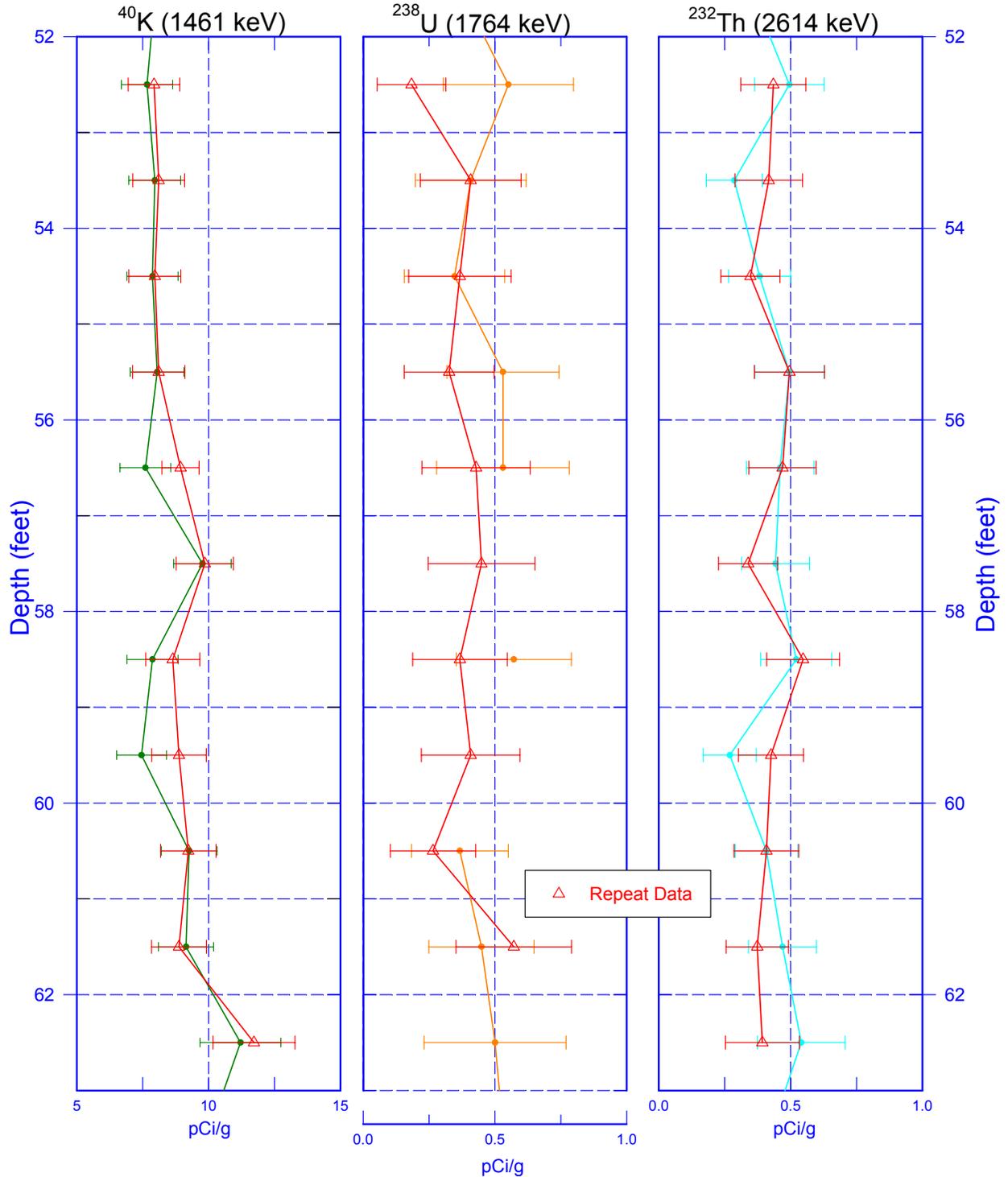
C5670 Total Gamma & Moisture



Reference - ground surface

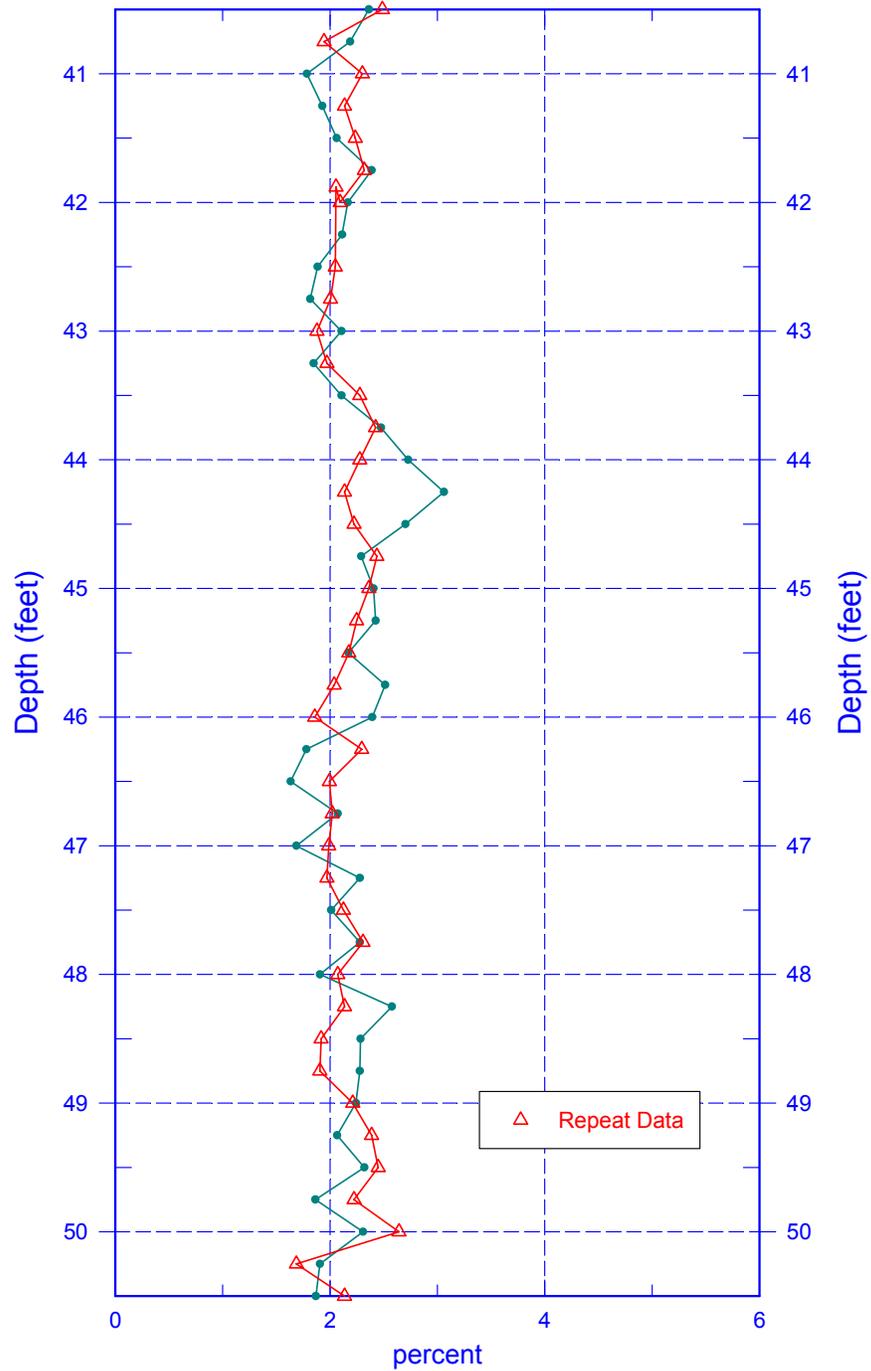
C5670

Repeat Section of Natural Gamma Logs



Zero Reference - ground surface

C5670 Moisture Repeat Section



Zero Reference - ground surface