299-W6-1 (A4996)
Log Data Report

Borehole Information:

Borehole:		299-W6-1 (A4996)		Site:	218-W-6 Burial Grounds
Coordinates (WA St Plane)		GWL[1] (ft):	265.8	GWL Date:	03/11/08
North (m)	East (m)	Drill Date	TOC Elevation	Total Depth (ft)	Type
137510	567214	08/57	Not available	476	Cable

Casing Information:

Casing Type	Stickup (ft)	Outer Diameter (in.)	Inside Diameter (in.)	Thickness (in.)	Top (ft)	Bottom (ft)
Welded steel	1.4	8 5/8	7 3/4	5/16	1.4	457

Borehole Notes:

The logging engineer measured the casing diameter with a caliper and steel tape. A borehole camera survey was conducted March 11, 2008. Scaling on the inside of the casing was reported between 230 ft and the top of groundwater at approximately 266 ft. A one-liter sample bottle was reported floating on top of the groundwater. Consequently, logging below the water was not performed. Depth reference is the top of casing.

Logging Equipment Information:

Logging System:	Gamma 4L		Type: / Serial No.:	SGLS HpGe (60%) / 47TP32211A
Effective Calibration Date:	12/31/07	Calibration Reference:	HGLP-CC-027	
		Logging Procedure:	HGLP-MAN-002, Rev. 0	

Logging System:	Gamma 4H (with AmBe source)		Type: / Serial No.:	NMLS / H310700352
Effective Calibration Date:	11/06/07	Calibration Reference:	HGLP-CC-021	
		Logging Procedure:	HGLP-MAN-002, Rev. 0	

Spectral Gamma Logging System (SGLS) Log Run Information:

Log Run	1	2	3	4 Repeat	
Date	03/12/08	03/13/08	03/18/08	03/18/08	
Logging Engineer	Spatz	Spatz	Spatz	Spatz	
Start Depth (ft)	2.0	21.0	164.0	41.0	
Finish Depth (ft)	22.0	165.0	265.0	68.0	
Count Time (sec)	100	100	100	100	
Live/Real	R	R	R	R	
Shield (Y/N)	N	N	N	N	
MSA Interval (ft)	1.0	1.0	1.0	1.0	
Pre-Verification	DL151CAB	DL161CAB	DL191CAB	DL191CAB	
Start File	DL151000	DL161000	DL191000	DL191102	
Finish File	DL151020	DL161144	DL191101	DL191129	
Post-Verification	DL151CAA	DL161CAA	DL191CAA	DL191CAA	
Depth Return Error (in.)	0	- 1	N/A	- 2	
Comments	No fine gain adjustment	No fine gain adjustment	No fine gain adjustment	No fine gain adjustment	

Neutron Moisture Logging System (NMLS) Log Run Information:

Log Run	5	6	7 Repeat		
Date	03/11/08	03/12/08	03/12/08		
Logging Engineer	Spatz	Spatz	Spatz		
Start Depth (ft)	1.5	153.0	114.0		
Finish Depth (ft)	154.0	265.25	140.0		
Count Time (sec)	15	15	15		
Live/Real	R	R	R		
Shield (Y/N)	N	N	N		
MSA Interval (ft)	0.25	0.25	0.25		
Pre-Verification	DHC12CAB	DHC22CAB	DHC22CAB		
Start File	DHC12000	DHC22000	DHC22454		
Finish File	DHC12614	DHC22453	DHC22558		
Post-Verification	DHC12CAA	DHC22CAA	DHC22CAA		
Depth Return Error (in.)	- 2.5	N/A	- 1		
Comments	None	None	None		

Logging Operation Notes:

Logging was conducted with a centralizer on the sondes. All measurements are referenced to top of casing.

Analysis Notes:

Analyst:	Henwood	Date:	03/28/08	Reference:	GJO-HGLP 1.6.3, Rev. 0

Pre- and post-run verifications for the logging systems were performed before and after each day's data acquisition. The acceptance criteria were met.

A casing correction for a 5/16-in. thick casing was applied to the SGLS data.

The moisture data are reported in percent volumetric moisture according to a calibration 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 EXCEL worksheet template identified as G4LDec07.xls using efficiency functions and corrections for casing, dead time, and water as determined from annual calibrations.

Results and Interpretations:

No manmade radionuclides were detected in this borehole. Detections identified near the Cs-137 MDL, using the routine processing software, are statistical fluctuations, and are not valid full energy peaks. Moisture data indicate some variability. Repeat sections acquired for each logging system indicate good repeatability.

List of Log Plots:

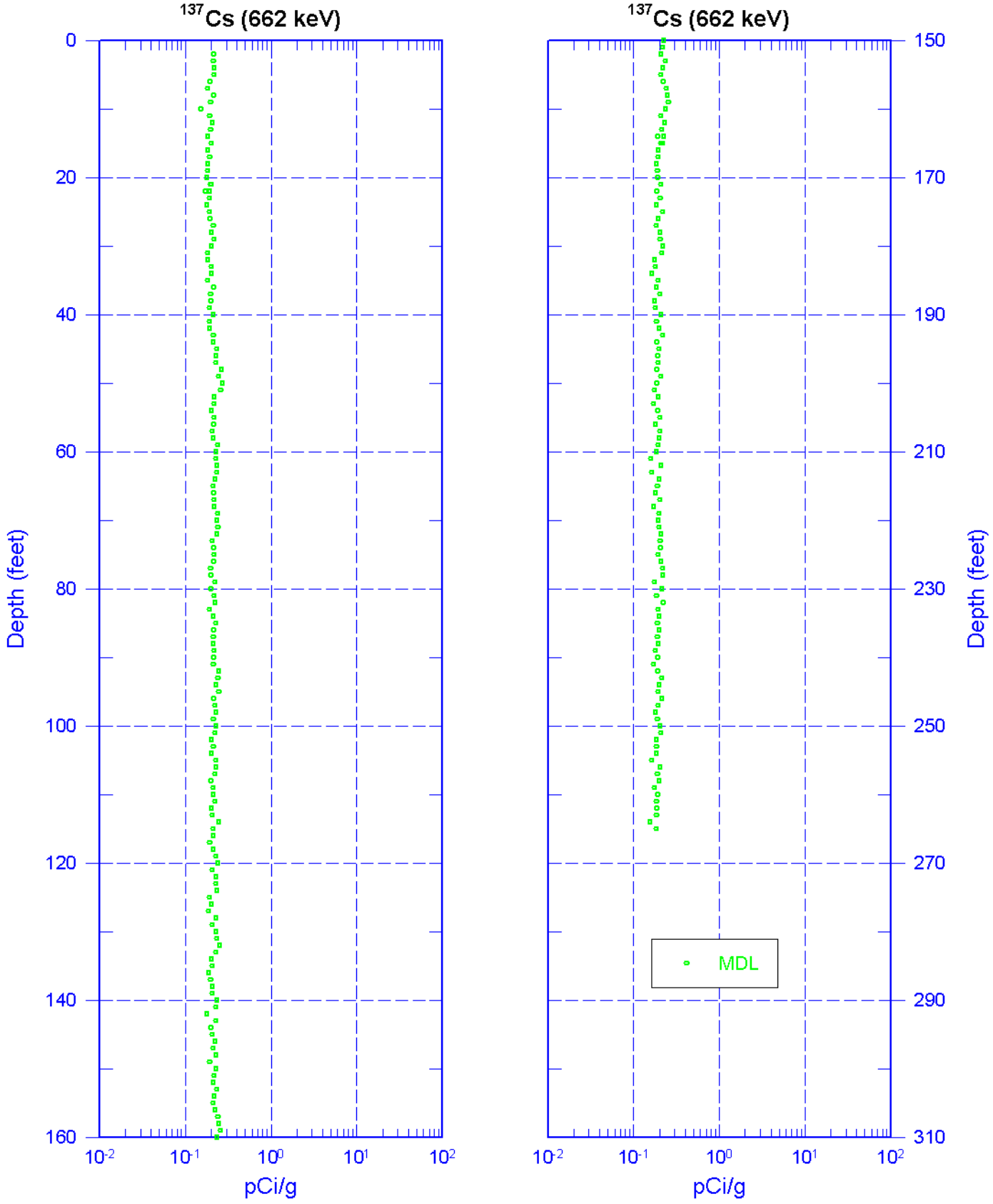
Depth Reference is top of casing

Manmade Radionuclides (1 page)
Natural Gamma Logs (2 pages)
Combination Plot (3 pages)
Combination Plot (0 to 280 ft)
Total Gamma & Moisture (2 pages)
Repeat Section of Natural Gamma Logs
Repeat Section for Moisture

[1] GWL – groundwater level

Stoller
Hanford Office

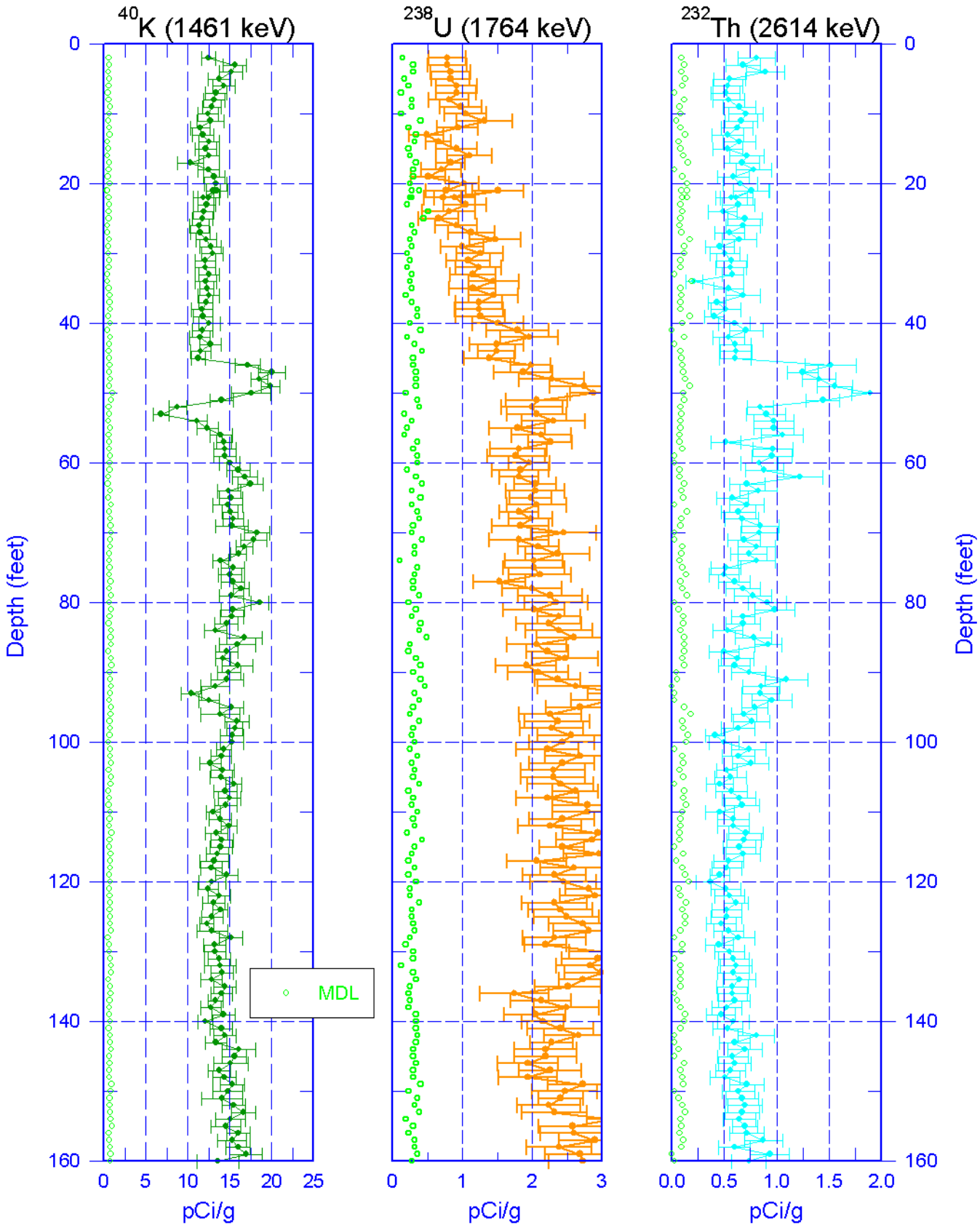
299-W6-1 (A4996)
Man-Made Radionuclides



Zero Reference = Top of Casing

Stoller
Hanford Office

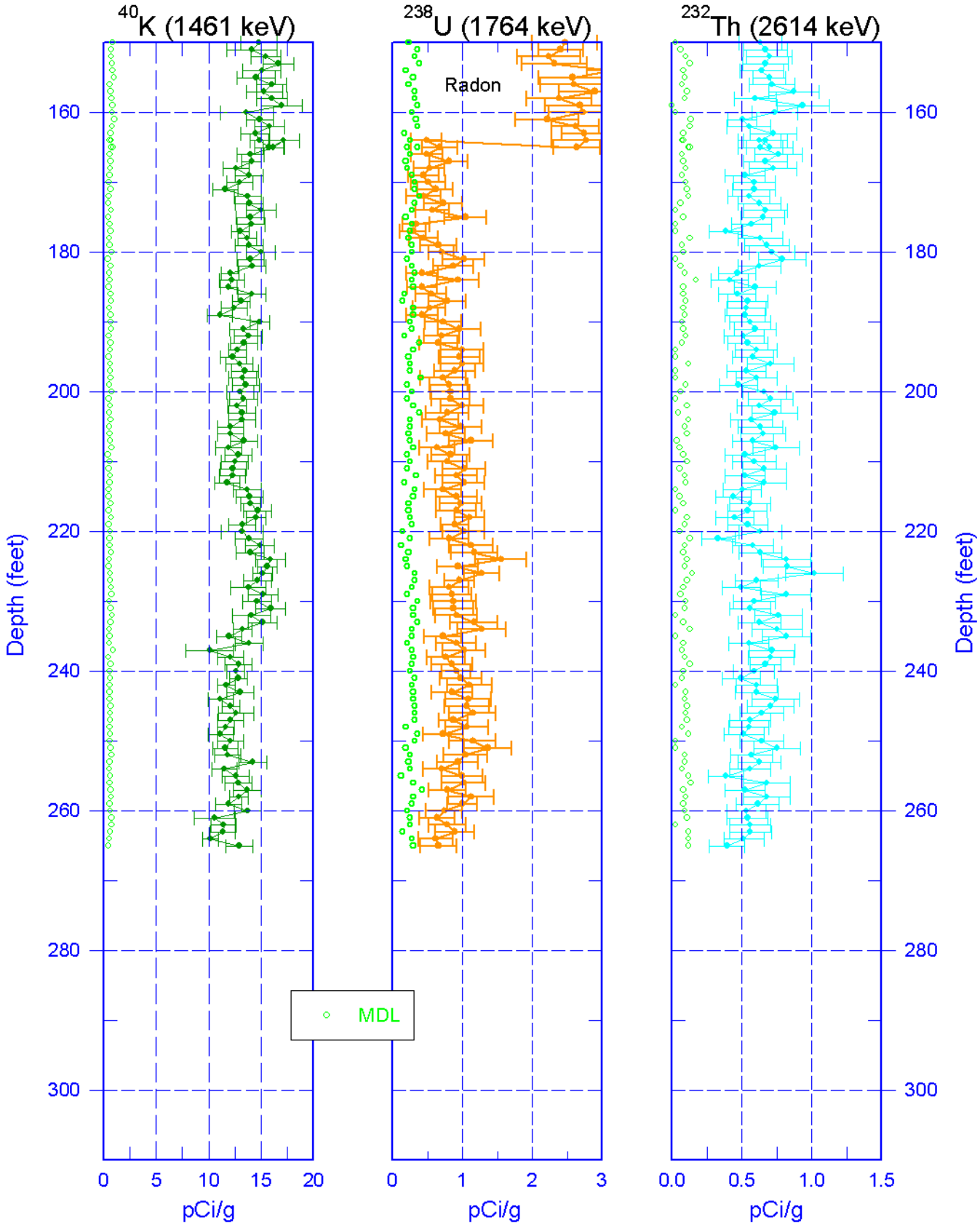
299-W6-1 (A4996)
Natural Gamma Logs



Zero Reference = Top of Casing

Stoller
Hanford Office

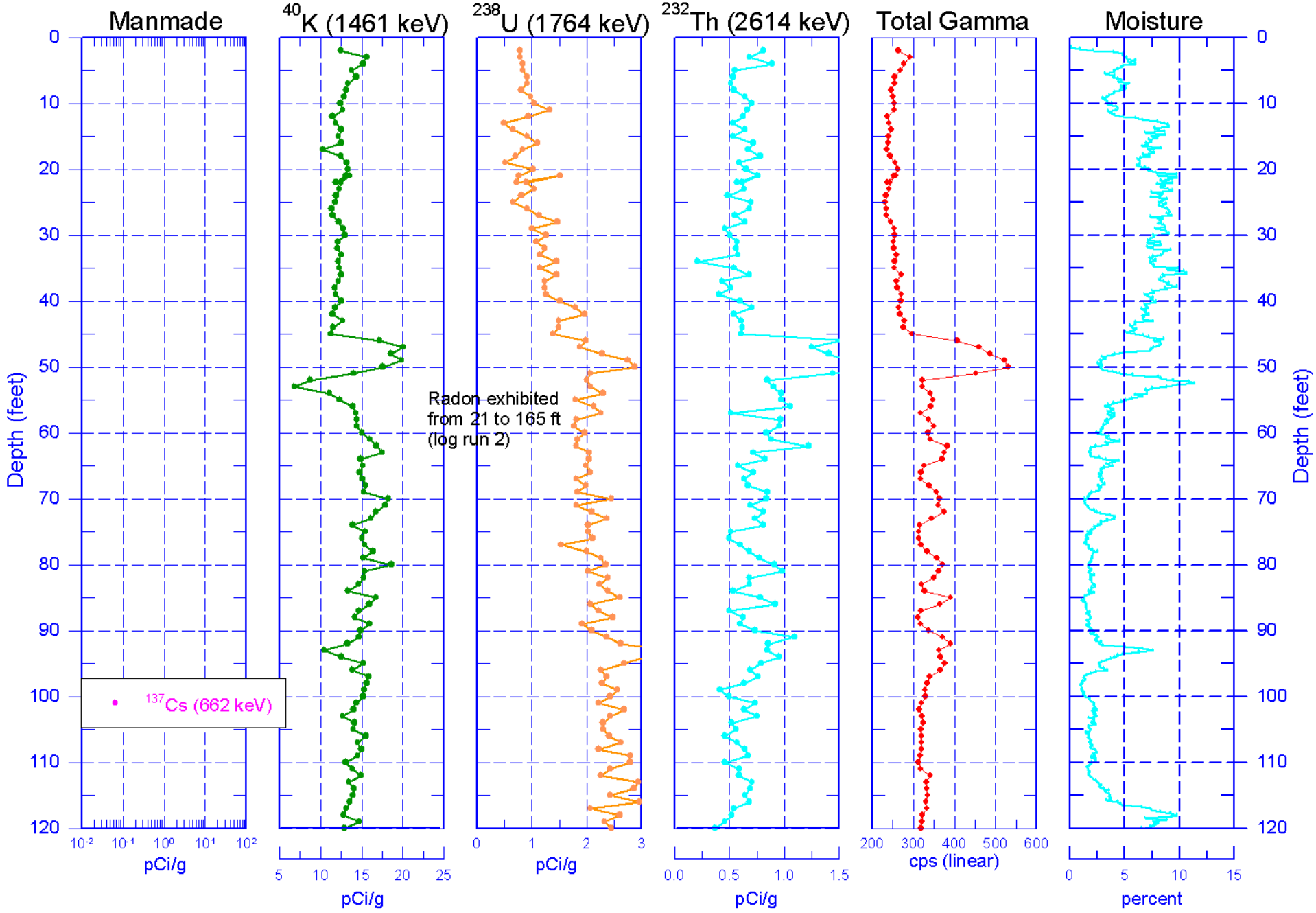
299-W6-1 (A4996)
Natural Gamma Logs



Zero Reference = Top of Casing

Stoller
Hanford Office

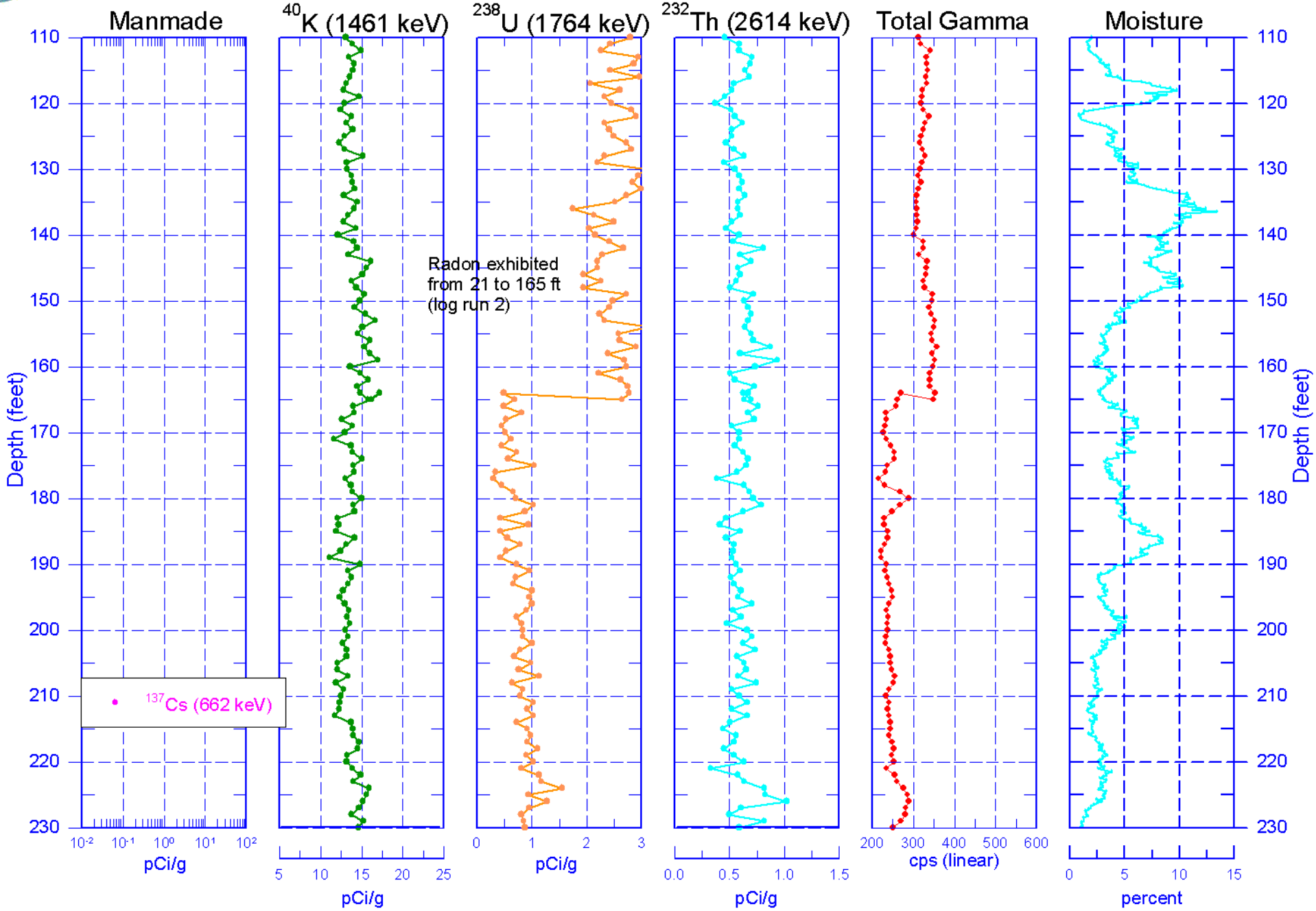
299-W6-1 (A4996) Combination Plot



Zero Reference = Top of Casing

Stoller
Hanford Office

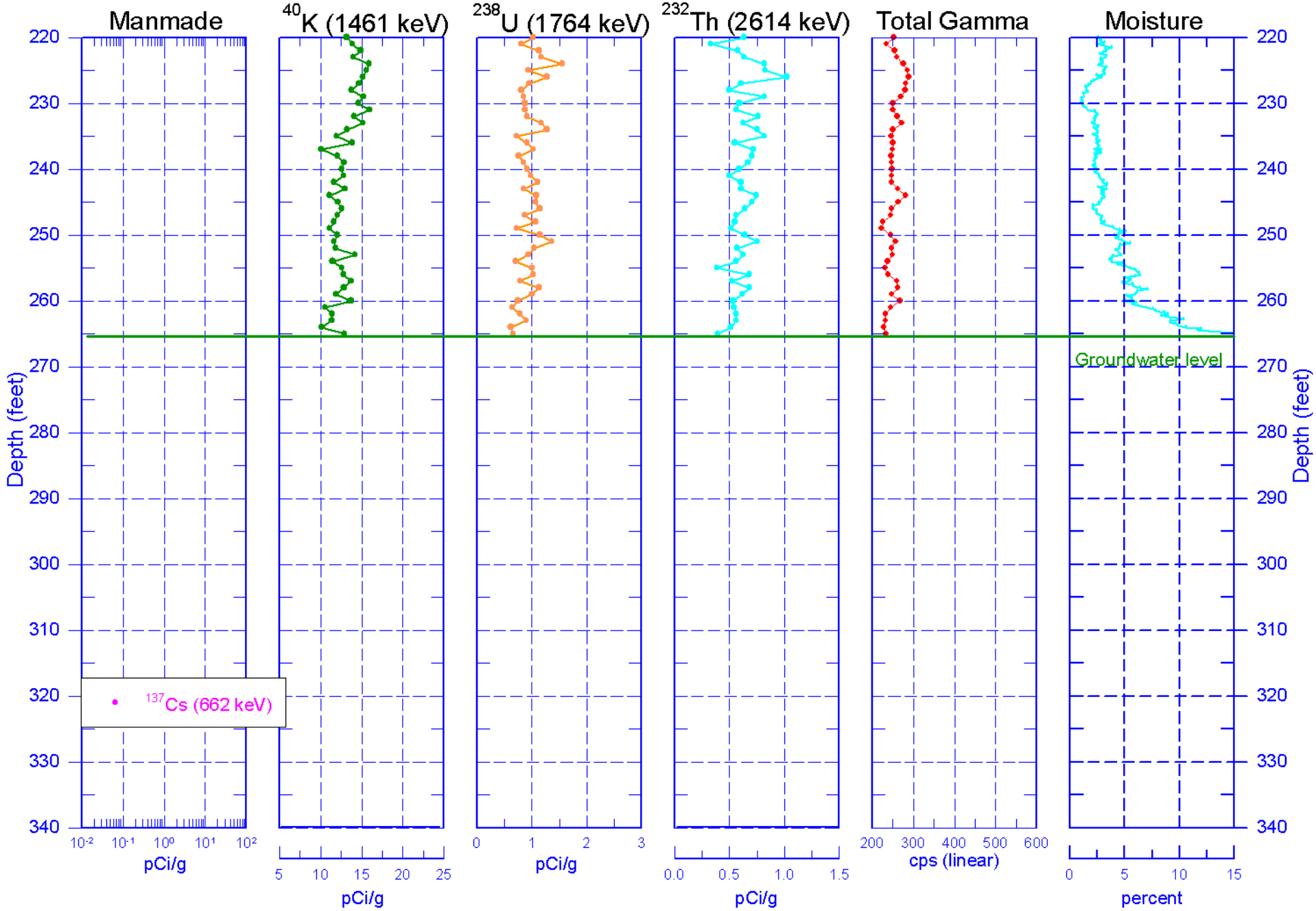
299-W6-1 (A4996) Combination Plot



Zero Reference = Top of Casing

Stoller
Hanford Office

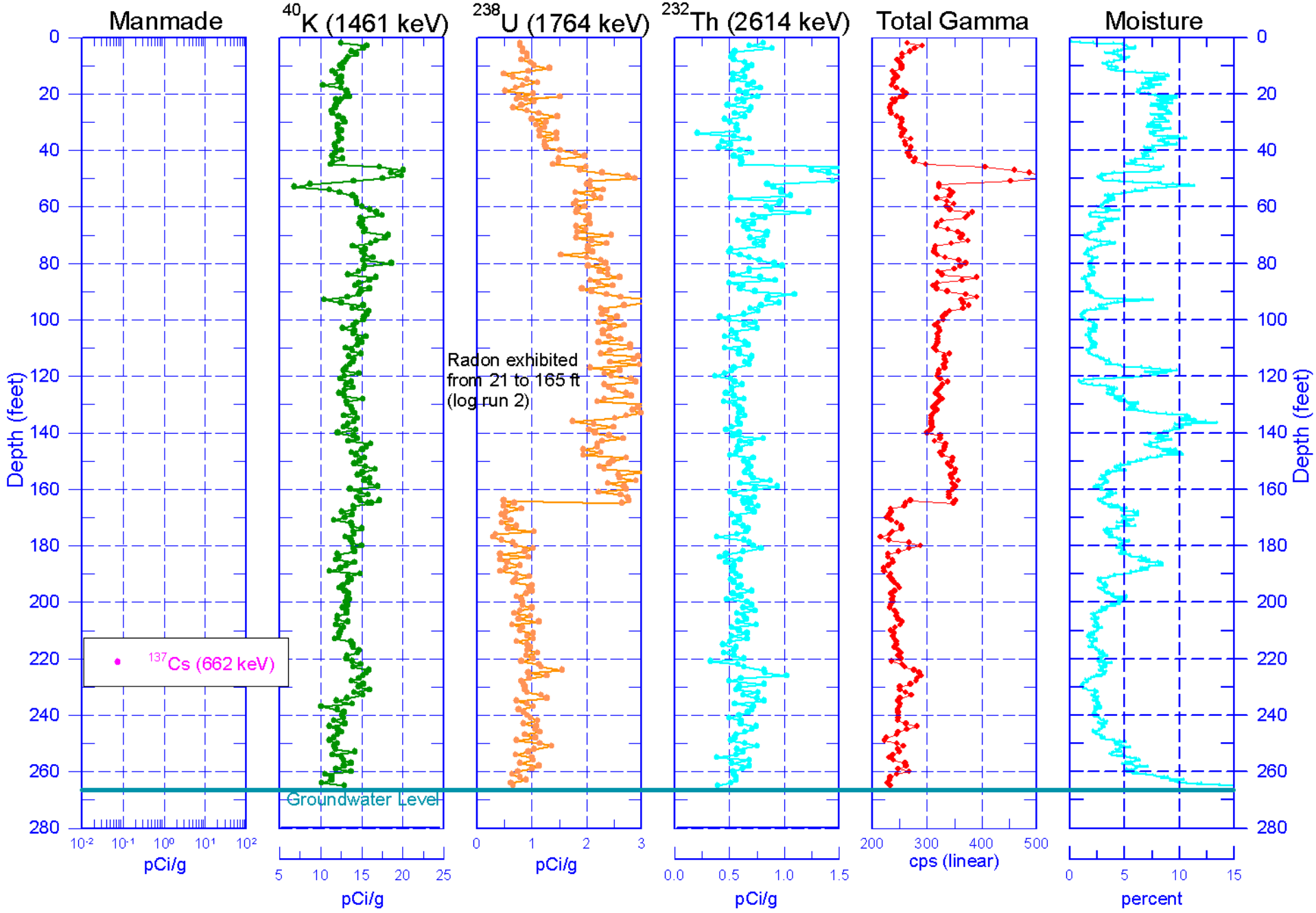
299-W6-1 (A4996) Combination Plot



Zero Reference = Top of Casing

Stoller
Hanford Office

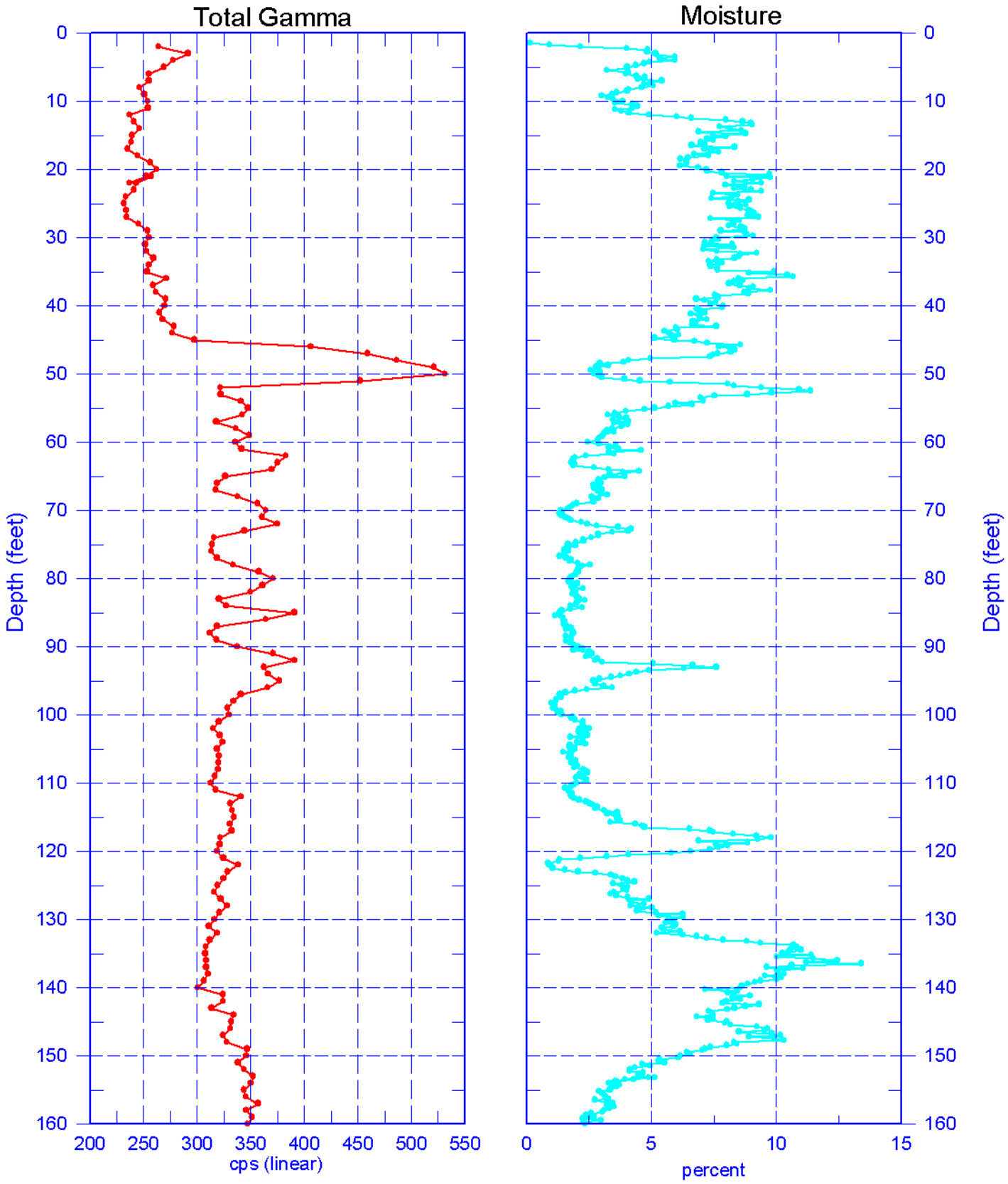
299-W6-1 (A4996) Combination Plot



Zero Reference = Top of Casing

Stoller
Hanford Office

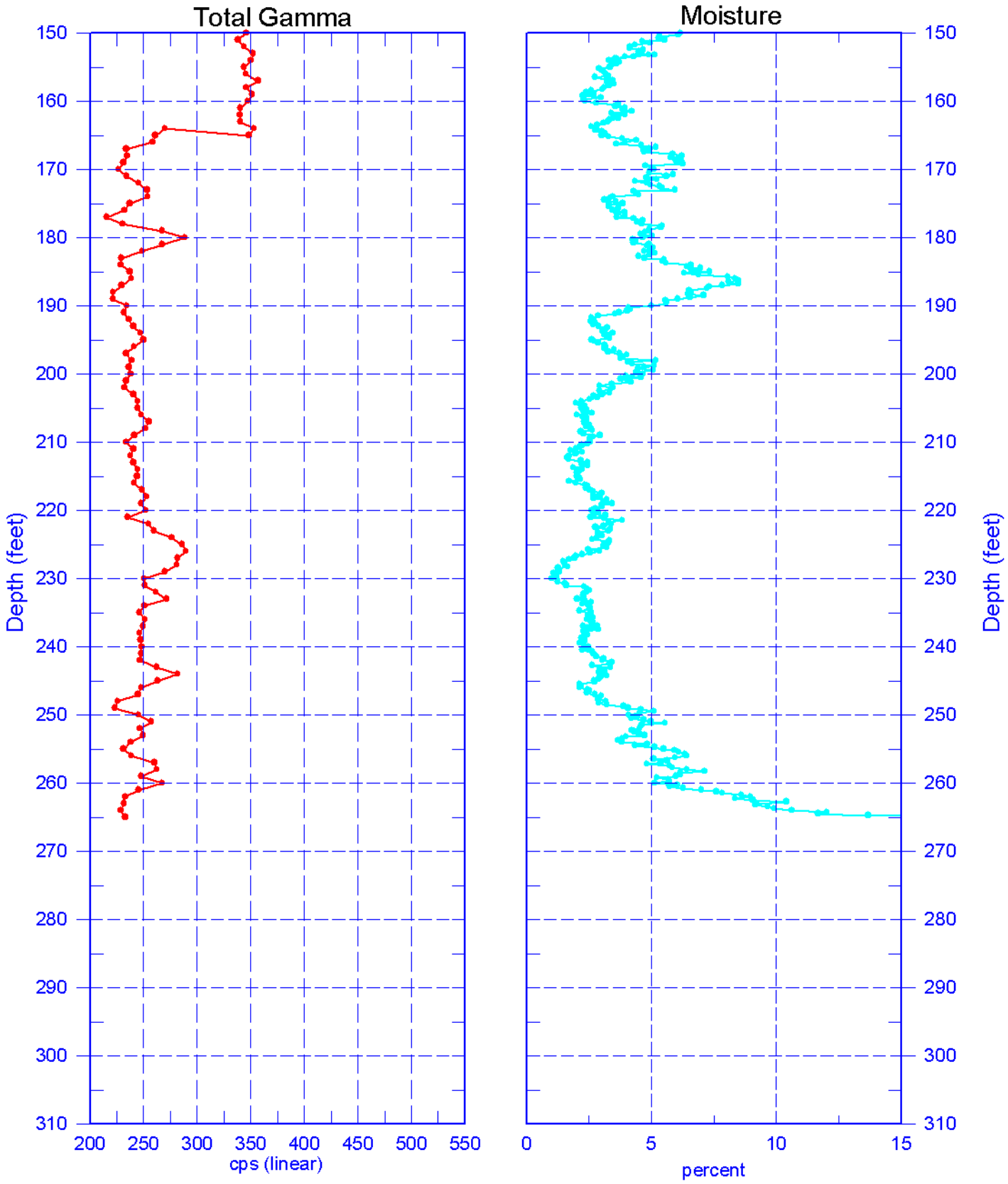
299-W6-1 (A4996)
Total Gamma & Moisture



Reference - Top of Casing

Stoller
Hanford Office

299-W6-1 (A4996)
Total Gamma & Moisture

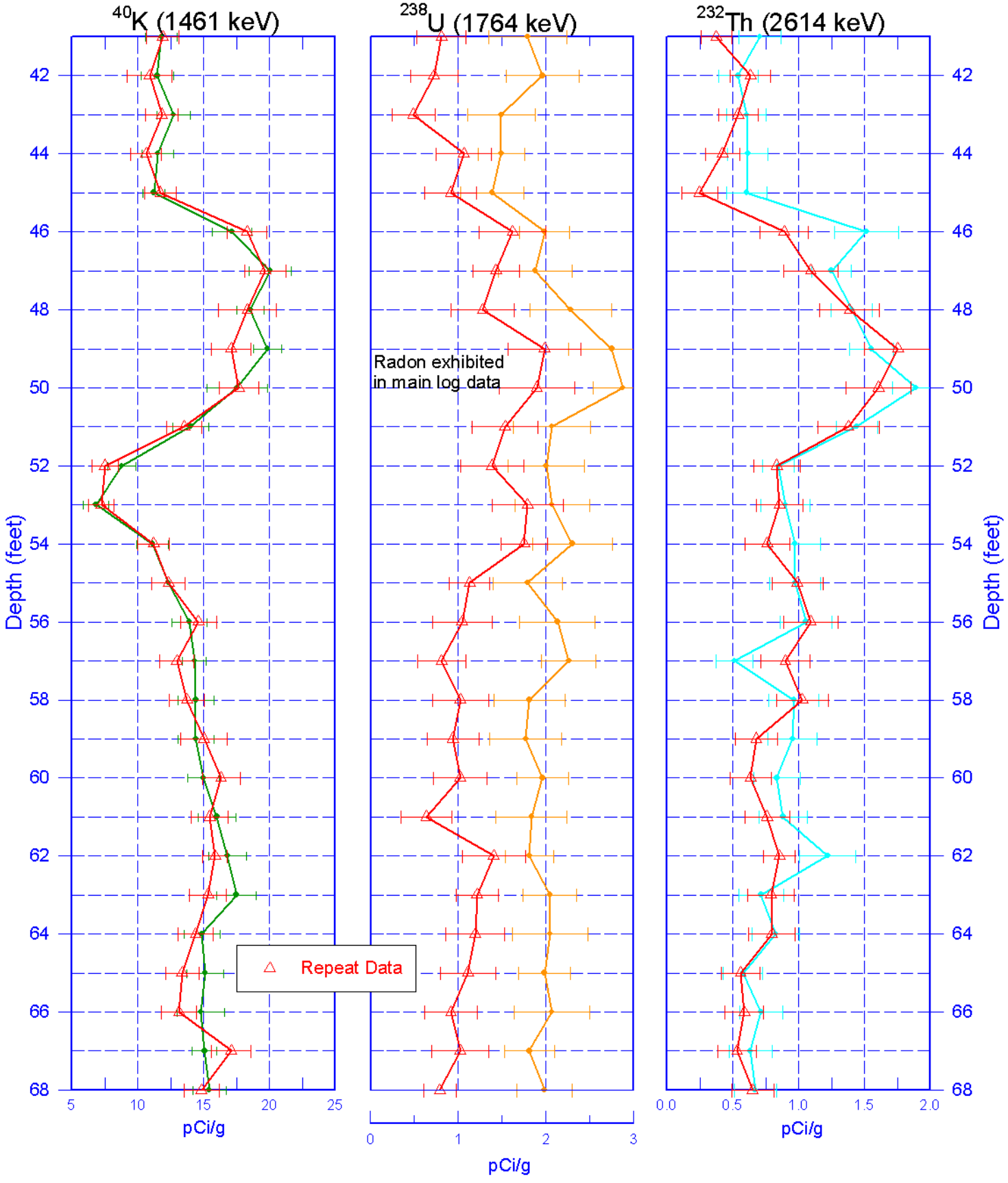


Reference - Top of Casing

Stoller
Hanford Office

299-W6-1 (A4996)

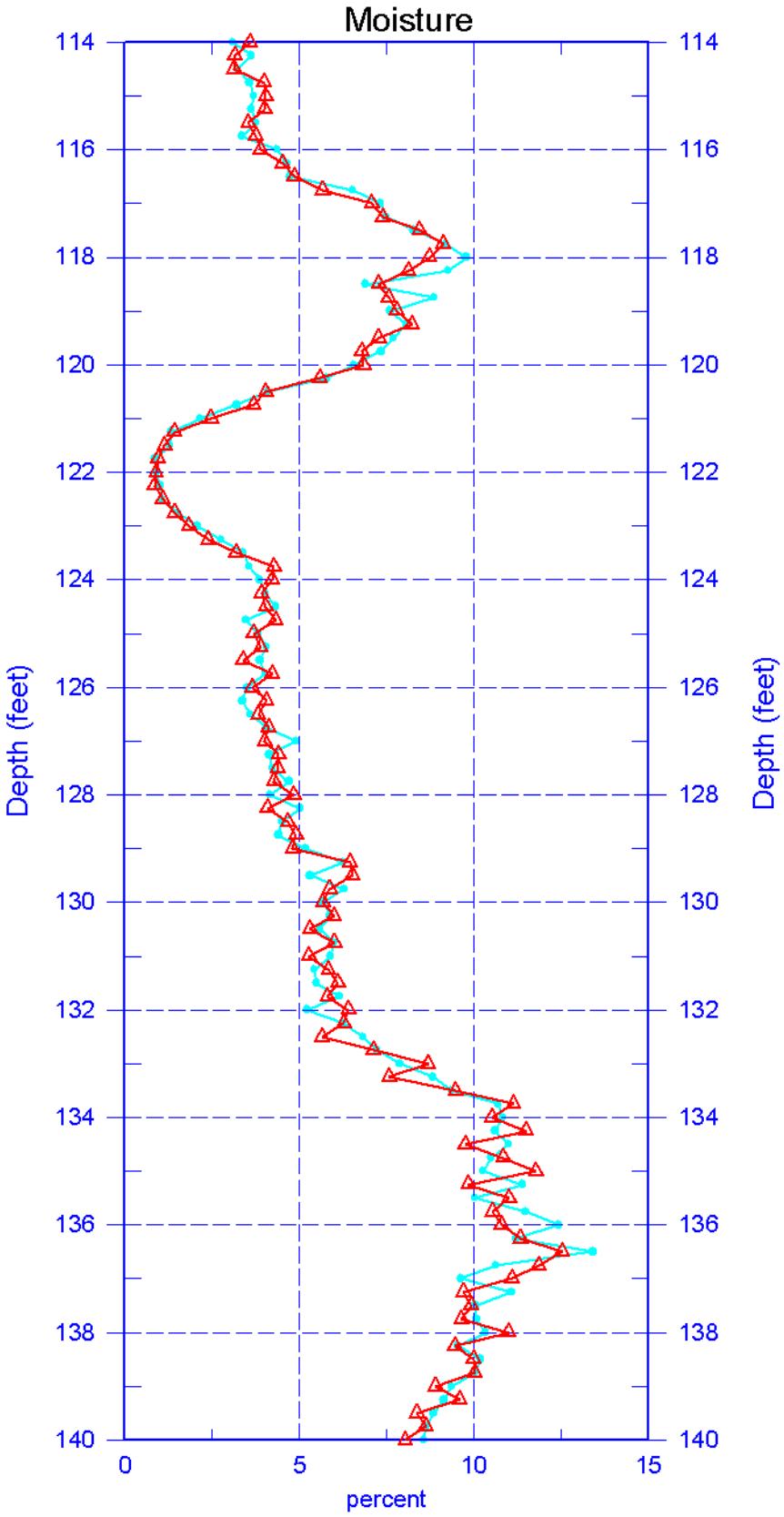
Repeat Section of Natural Gamma Logs



Zero Reference = Top of Casing

Stoller
Hanford Office

299-W6-1 (A4996)
Repeat Section for Moisture



Reference - Top of Casing