Stoller
Hanford Office

established 1959

HGLP-LDR-101, Rev. 0

299-E27-155 (C5852)
Log Data Report

Borehole Information:

Borehole:	299-E27-155 (C5852)		Site:	Southwest of C Farm	
Coordinates (WA St Plane)		GWL[1] (ft) :	280.8	GWL Date:	10/29/07
North (m)	East (m)	Drill Date	TOC Elevation	Total Depth (ft)	Type
Not available	Not available	10/07	Not available	340	Cable

Casing Information:

Casing Type	Stickup (ft)	Outer Diameter (in.)	Inside Diameter (in.)	Thickness (in.)	Top (ft)	Bottom (ft)
Threaded Steel	0.9	11 3/4	10 1/4	3/4	0.9	130
Threaded Steel	3.4	8 5/8	7 1/8	3/4	3.4	335

Borehole Notes:

The logging engineer measured the casing diameters using a caliper and steel tape. Drill depth and the bottom of casing information were reported by the Fluor Hanford on site representative. This borehole was logged through a single casing from 0 to 130 ft on October 3 and from 129 to 337 ft on October 30. The zero depth reference is ground surface for both logging events.

Logging Equipment Information:

Logging System:	Gamma 1E		Type: / Serial No.:	SGLS (70%) / 34TP40587A
Effective Calibration Date:	05/22/07	Calibration Reference:	HGLP-CC-016	
		Logging Procedure:	HGLP-MAN-002 Rev. 0	

Logging System:	Gamma 4E		Type: / Serial No.:	SGLS (70%) / 34TP40587A
Effective Calibration Date:	05/17/07	Calibration Reference:	HGLP-CC-015	
		Logging Procedure:	HGLP-MAN-002 Rev. 0	

Logging System:	Gamma 4H		Type: / Serial No.:	NMLS / 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	3 Repeat	4	5
Date	10/02/07	10/03/07	10/03/07	10/29/07	10/30/07
Logging Engineer	Spatz	Spatz	Spatz	Spatz	Spatz
Start Depth (ft)	130.0	51.0	28.0	337.0	194.0
Finish Depth (ft)	50.0	0.0	13.0	193.0	129.0
Count Time (sec)	100	100	100	100	100
Live/Real	R	R	R	R	R
Shield (Y/N)	N	N	N	N	N
MSA Interval (ft)	1.0	1.0	1.0	1.0	1.0
ft/min	N/A[2]	N/A	N/A	N/A	N/A

RECEIVED
JUN 23 2015
EDMC

Log Run	1	2	3 Repeat	4	5
Pre-Verification	AE232CAB	AE233CAB	AE233CAB	DEH41CAB	DEH51CAB
Start File	AE232000	AE233000	AE233052	DEH41000	DEH51000
Finish File	AE232080	AE233051	AE233067	DEH41144	DEH51065
Post-Verification	AE232CAA	AE233CAA	AE233CAA	DEH41CAA	DEH51CAA
Depth Return Error (in.)	0	- 0.5	0	- 2	N/A
Comments	No fine-gain adjustment	No fine-gain adjustment	No fine-gain adjustment	No fine-gain adjustment	No fine-gain adjustment

Log Run	6 Repeat				
Date	10/30/07				
Logging Engineer	Spatz				
Start Depth (ft)	160.0				
Finish Depth (ft)	140.0				
Count Time (sec)	100				
Live/Real	R				
Shield (Y/N)	N				
MSA Interval (ft)	1.0				
ft/min	N/A				
Pre-Verification	DEH51CAB				
Start File	DEH51066				
Finish File	DEH51086				
Post-Verification	DEH51CAA				
Depth Return Error (in.)	- 1				
Comments	No fine-gain adjustment				

Neutron Moisture Logging System (NMLS) Log Run Information:

Log Run	7	8 Repeat	9	10 Repeat	
Date	10/03/07	10/03/07	10/30/07	10/30/07	
Logging Engineer	Spatz	Spatz	Spatz	Spatz	
Start Depth (ft)	129.75	100.00	129.0	265.0	
Finish Depth (ft)	0.0	85.0	280.5	250.0	
Count Time (sec)	15	15	15	15	
Live/Real	R	R	R	R	
Shield (Y/N)	NA	NA	NA	NA	
Sample Interval (ft)	0.25	0.25	0.25	0.25	
ft/min	NA	NA	NA	NA	
Pre-Verification	DH732CAB	DH732CAB	DH772CAB	DH772CAB	
Start File	DH732000	DH732520	DH772000	DH772608	
Finish File	DH732519	DH732580	DH772607	DH772668	
Post-Verification	DH732CAA	DH732CAA	DH772CAA	DH772CAA	
Depth Return Error (in.)	- 0.5	- 1	N/A	- 1.5	
Comments	None	None	Stopped at top of water	None	

Logging Operation Notes:

Logging was conducted with a centralizer on each sonde and measurements are referenced to ground surface.

Analysis Notes:

Analyst:	P.D. Henwood	Date:	12/05/2007	Reference:	GJO-HGLP 1.6.3, Rev. 0

RECEIVED
JUN 23 2015
EDMC

Pre-run 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 3/4-in. thick casing was applied to the SGLS data. There is no calibration available to convert NMLS data to volume percent moisture in the 7- and 10-in. casings. These data are reported in counts per second.

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 templates identified as G1EMay07.xls and G4EMay07.xls for logging systems gamma 1E and gamma 4E, respectively, using efficiency functions and corrections for casing and dead time as determined from annual calibrations. A correction for water was applied to the data below 280.8 ft.

Results and Interpretations:

No manmade radionuclides were detected in this borehole. Cs-137 was encountered at or near the MDL at two isolated points. These are simply statistical fluctuations.

The SGLS and NMLS repeat logs show good repeatability.

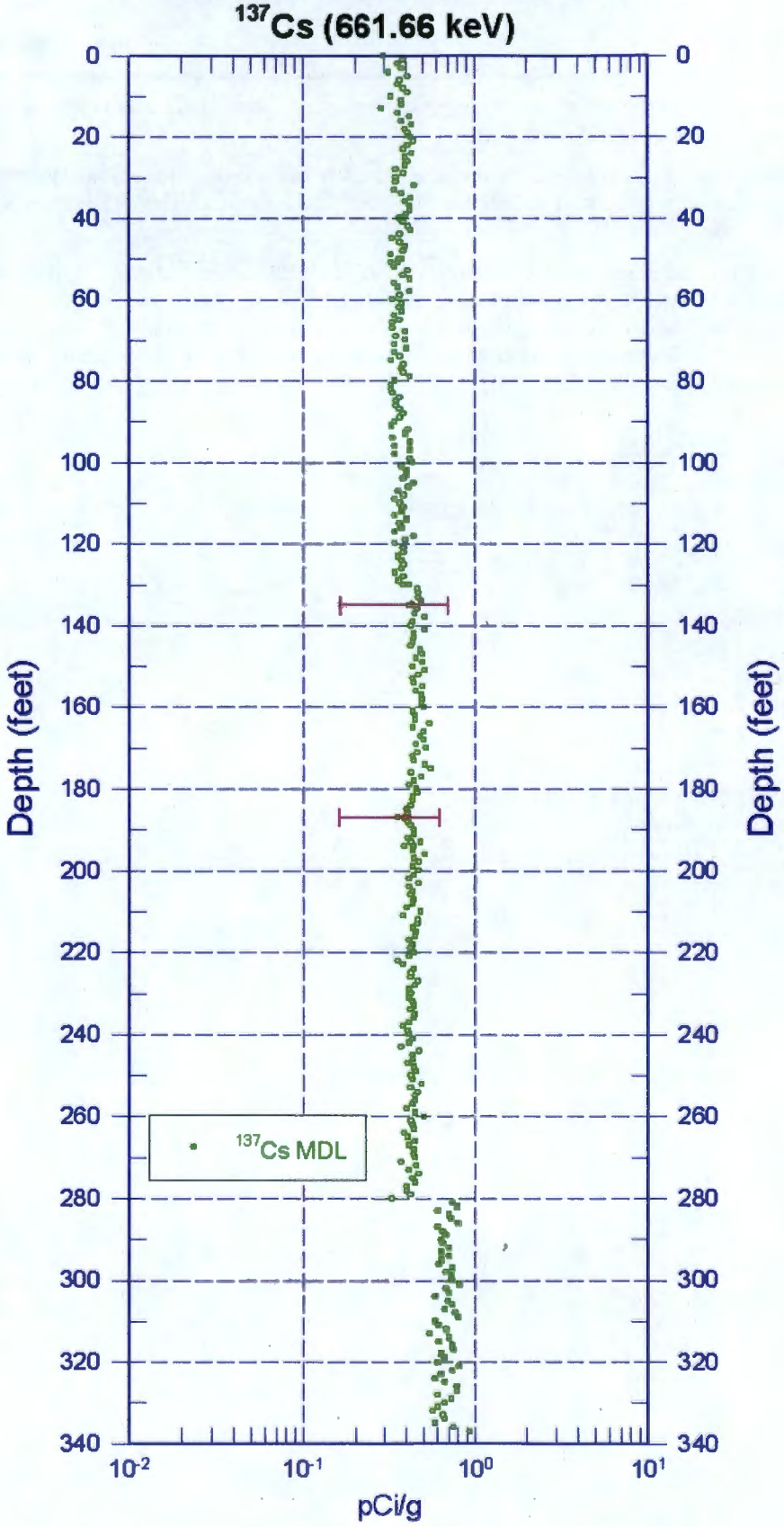
List of Log Plots:

Manmade Radionuclides
Natural Gamma Logs
Combination Plot
Total Gamma, Dead Time & Moisture
Repeat of Natural Gamma Logs (13 to 28 ft)
Repeat of Natural Gamma Logs (140 to 160 ft)
Repeat of Moisture (85 to 100 ft)
Repeat of Moisture (250 to 265 ft)

[1] GWL – groundwater level
[2] N/A - not applicable

Stoller
Hanford Office

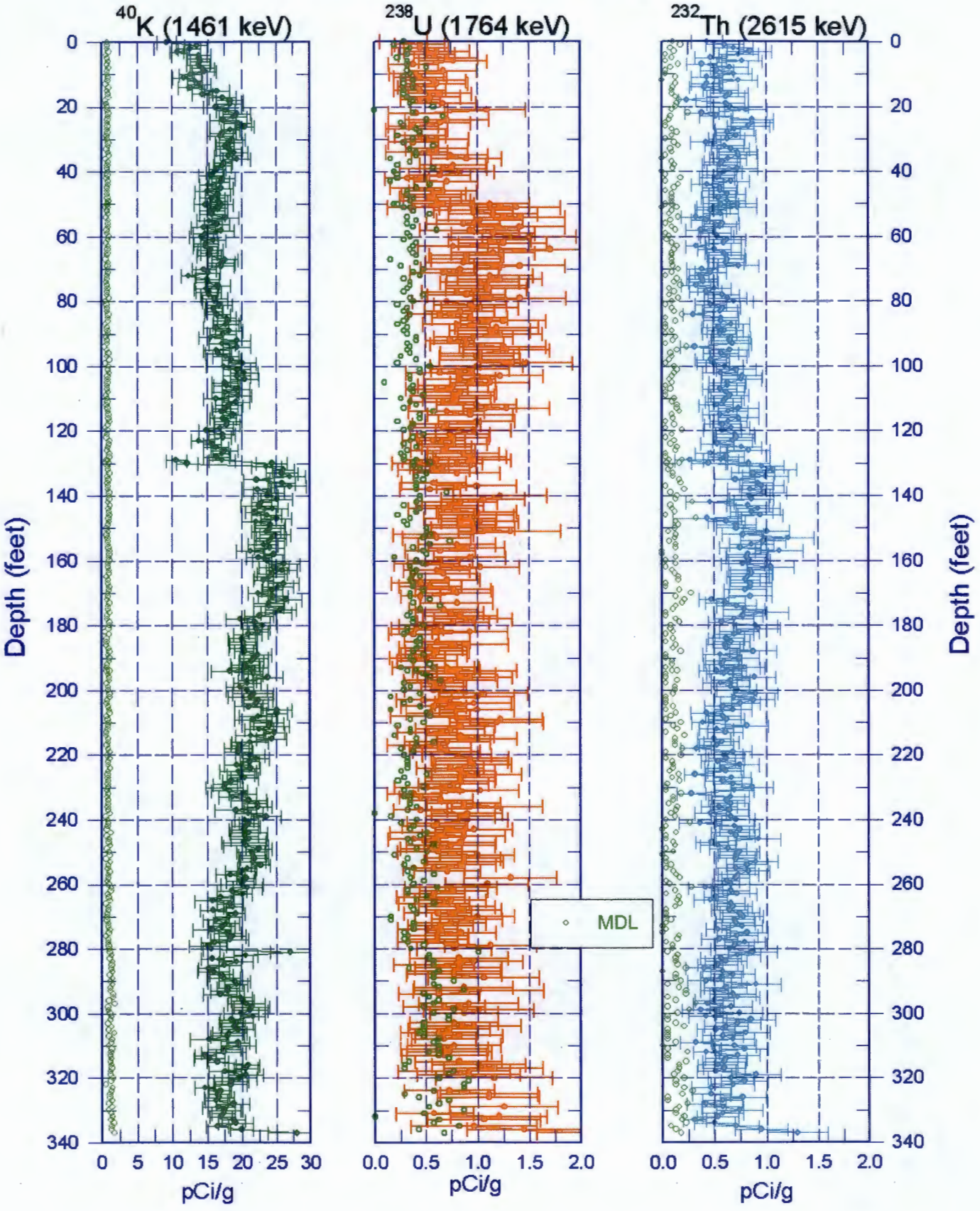
299-E27-155 (C5852)
Manmade Radionuclides



Zero Reference - Ground Surface

Stoller
Hanford Office

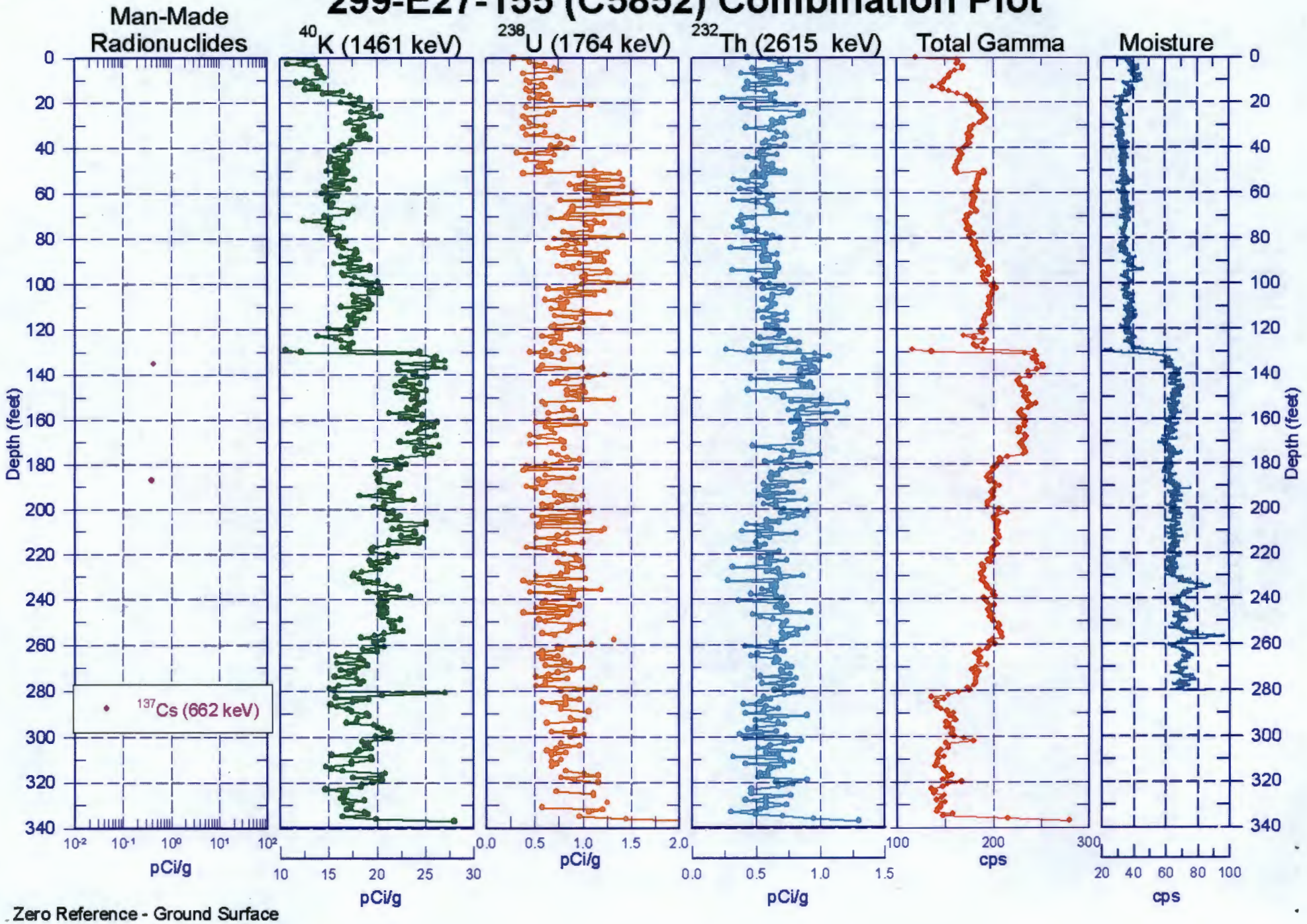
299-E27-155 (C5852)
Natural Gamma Logs



Zero Reference - Ground Surface

Stoller
Hanford Office

299-E27-155 (C5852) Combination Plot

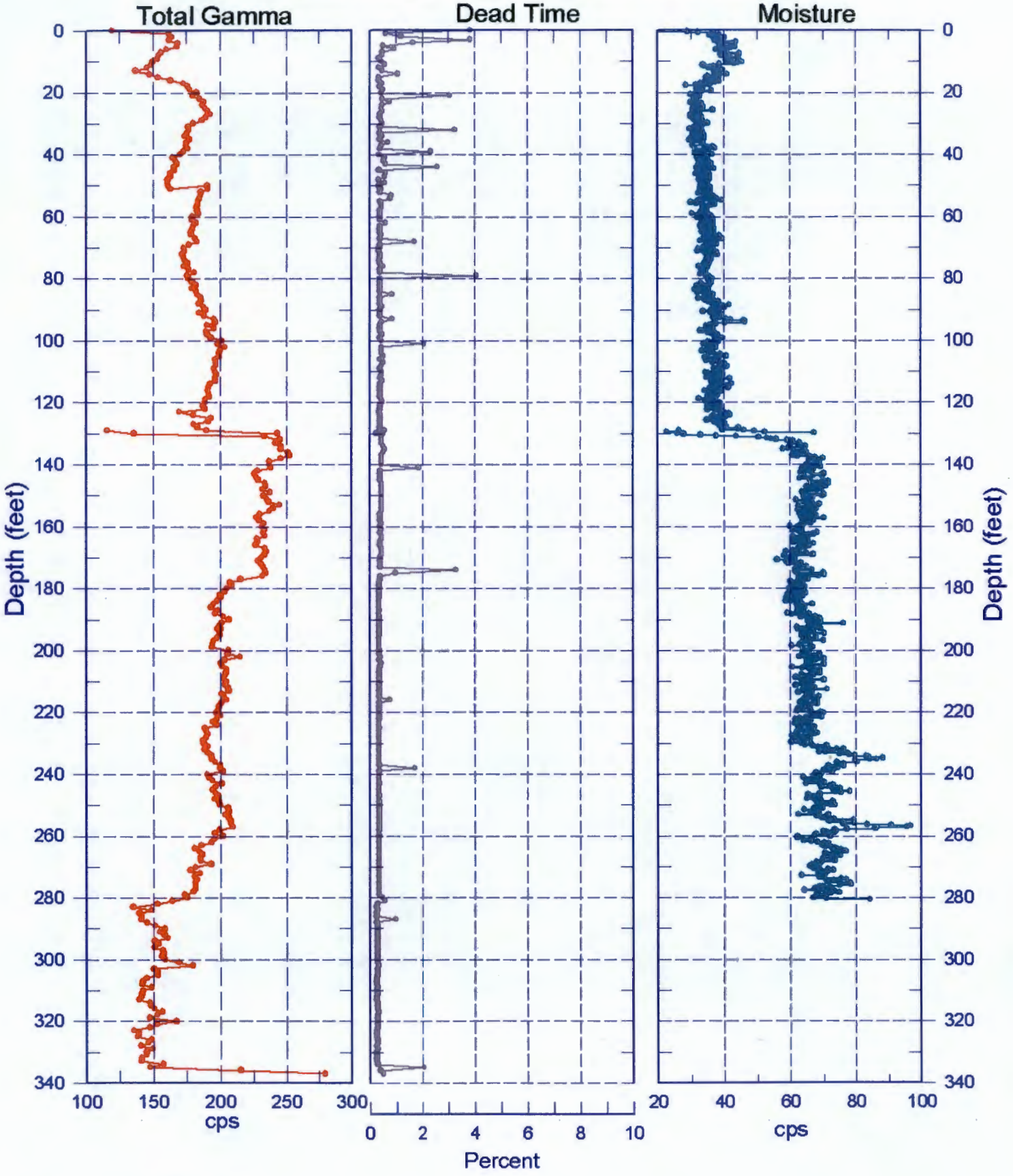


Zero Reference - Ground Surface

Stoller
Hanford Office

299-E27-155 (C5852)

Total Gamma, Dead Time & Moisture

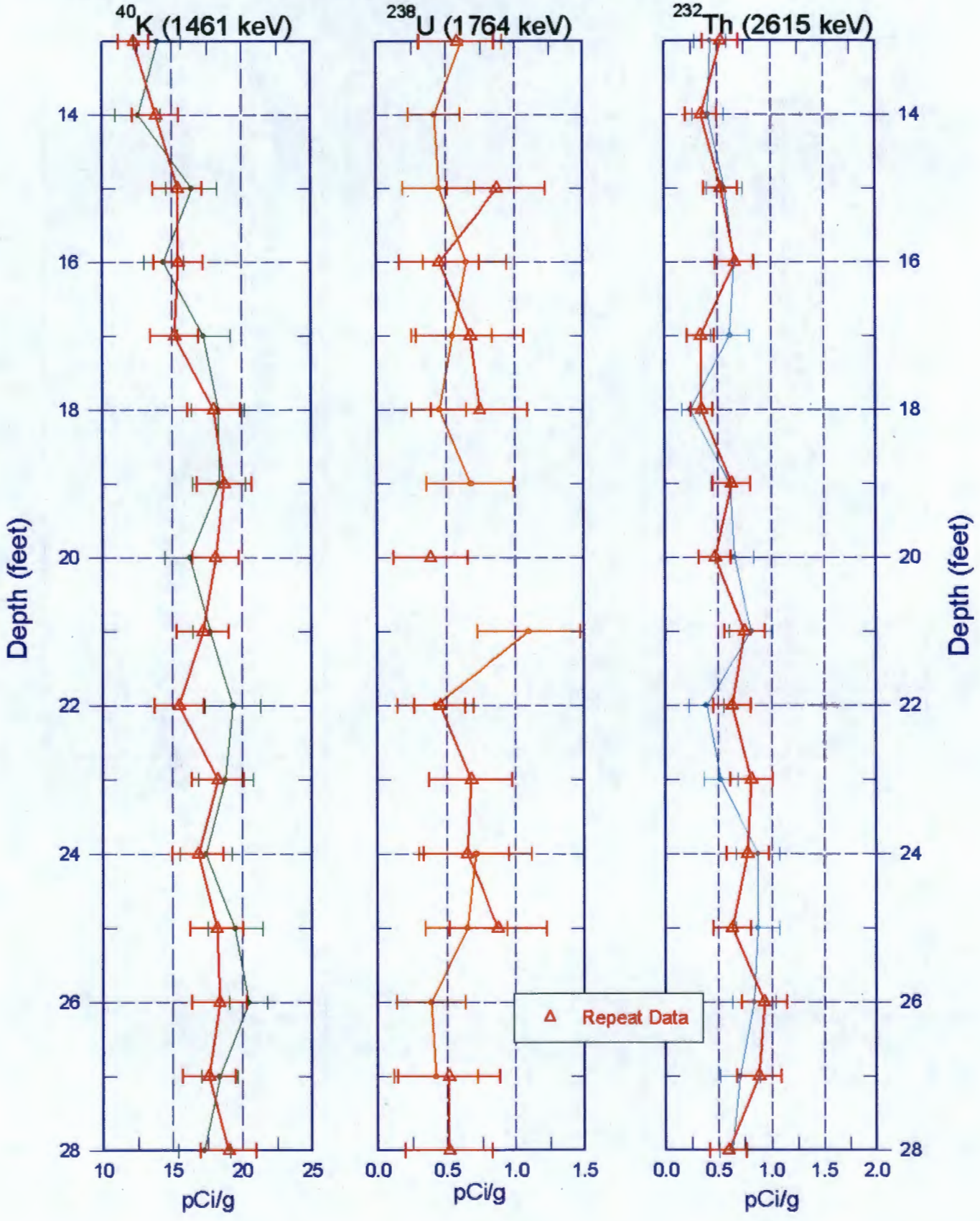


Reference - Ground Surface

Stoller
Hanford Office

299-E27-155 (C5852)

Repeat of Natural Gamma Logs (13 to 28 ft)

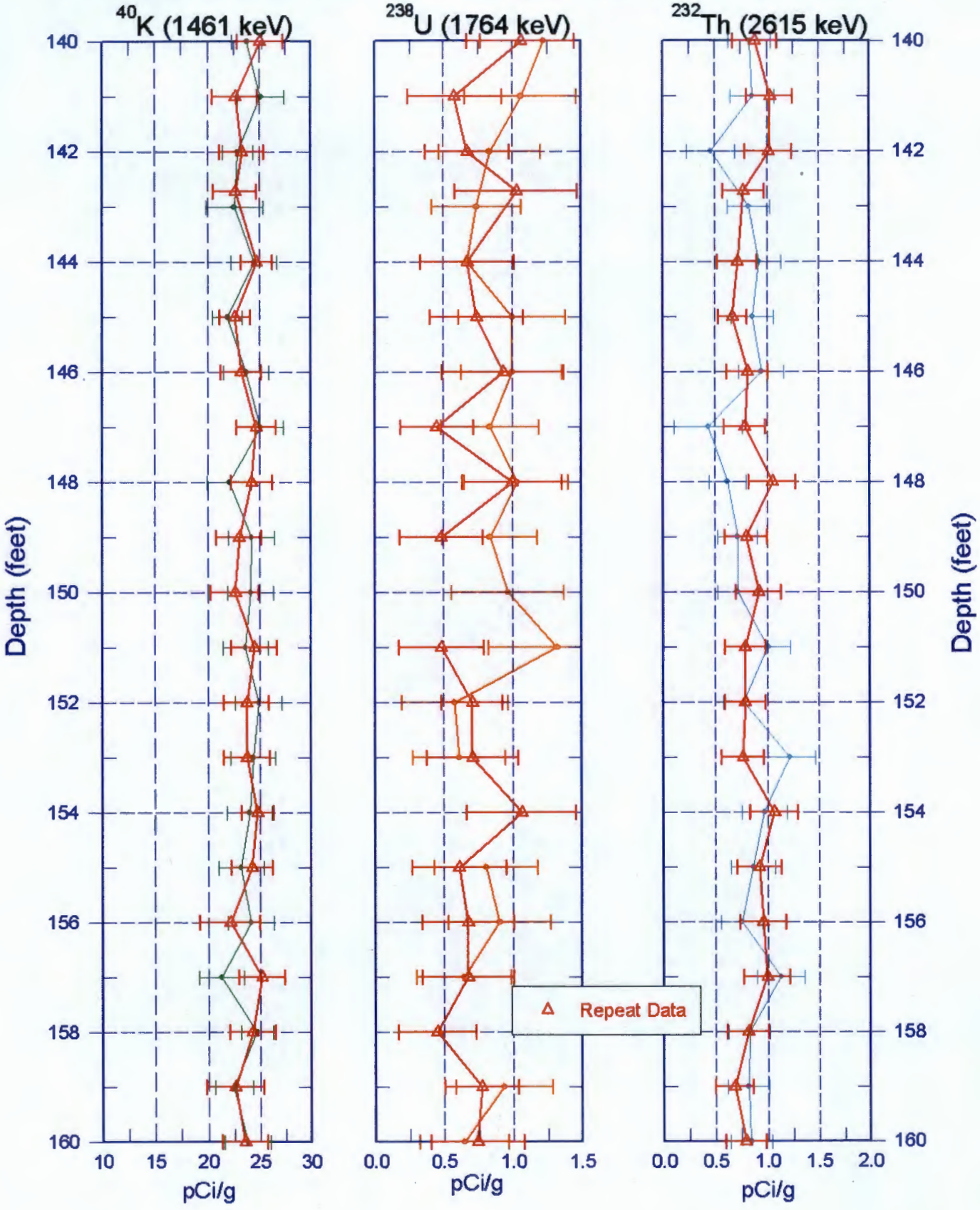


Zero Reference - Ground Surface

Stoller
Hanford Office

299-E27-155 (C5852)

Repeat of Natural Gamma Logs (140 to 160 ft)

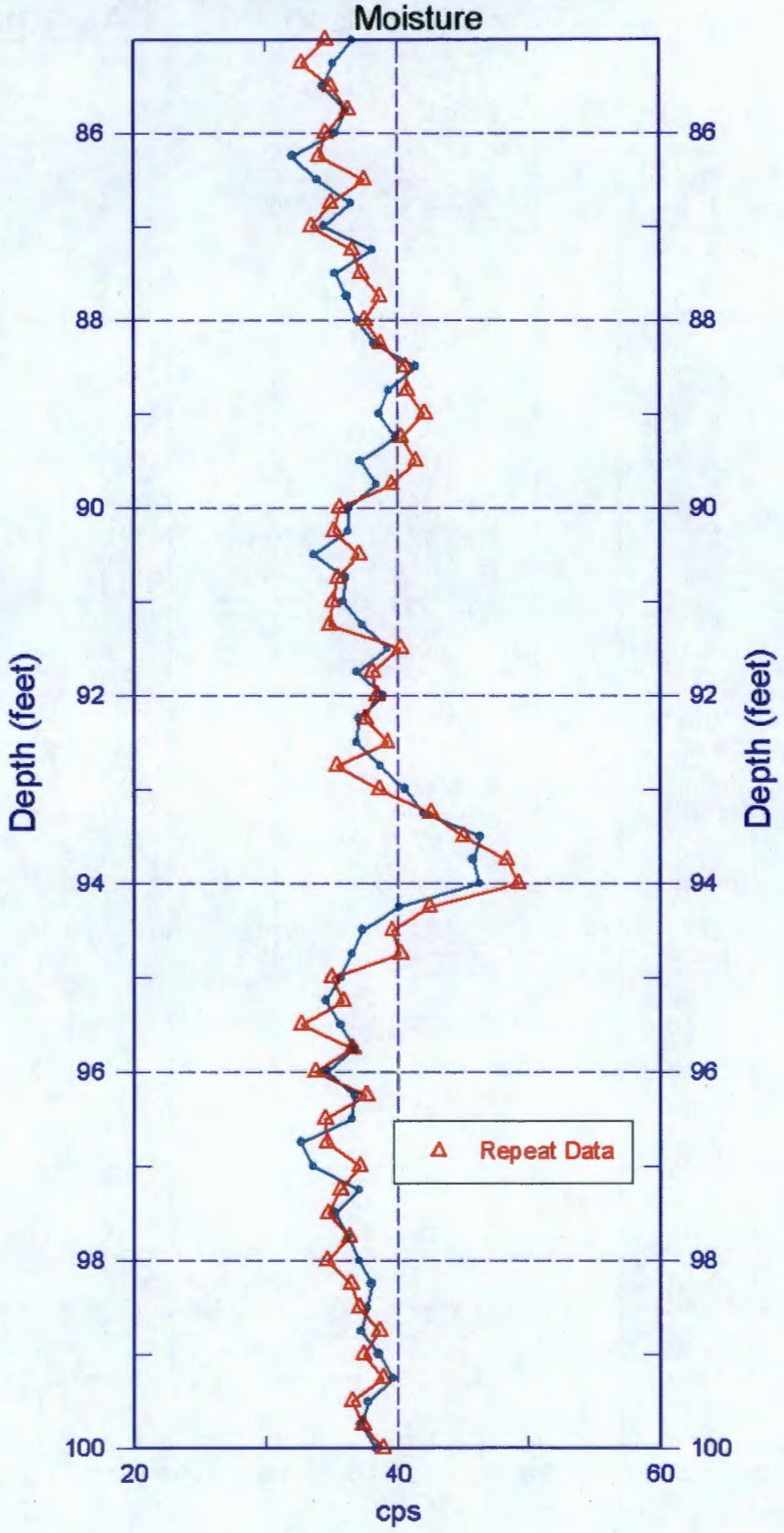


Zero Reference - Ground Surface

Stoller
Hanford Office

299-E27-155 (C5852)

Repeat of Moisture (85 to 100 ft)

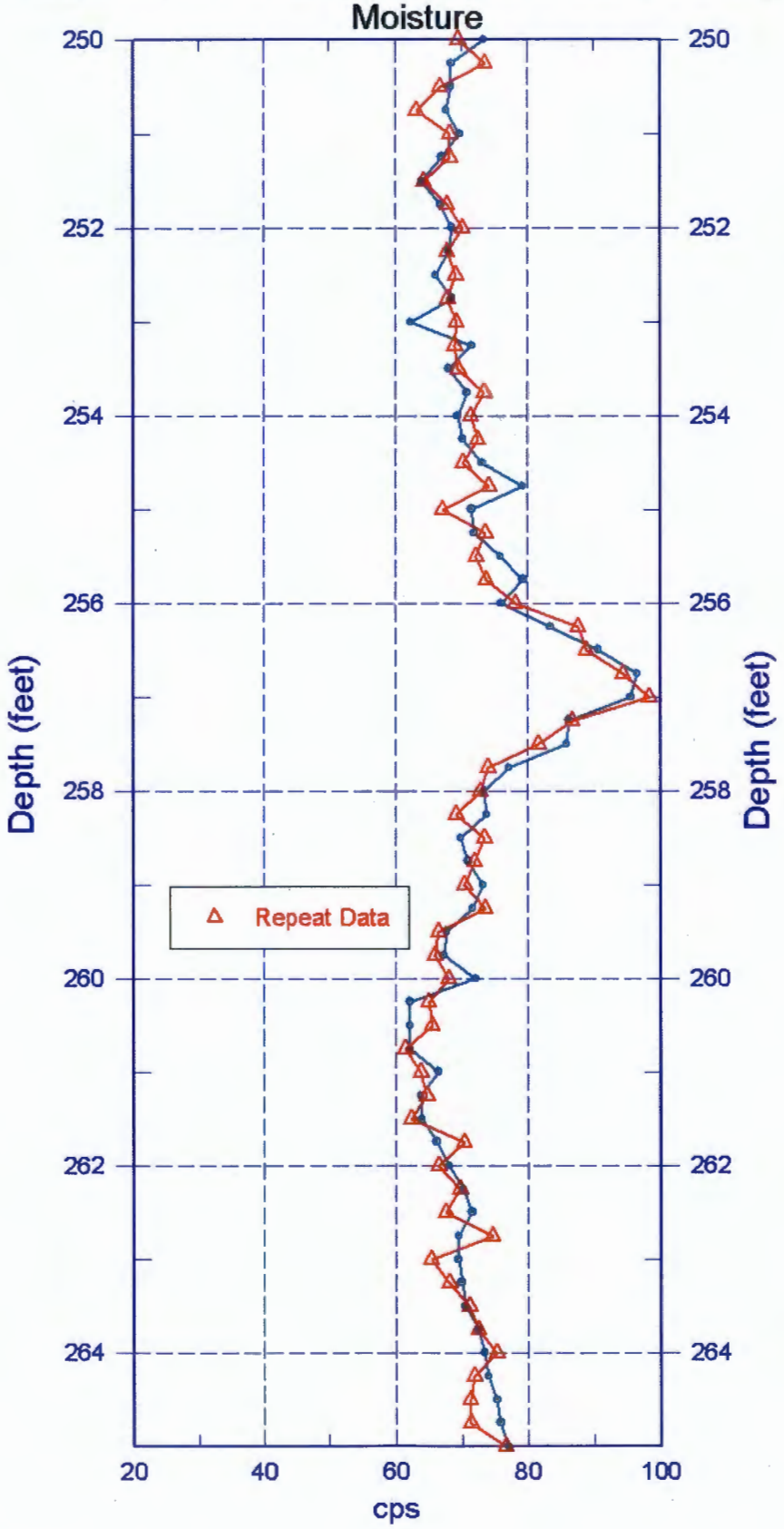


Reference - Ground Surface

Stoller
Hanford Office

299-E27-155 (C5852)

Repeat of Moisture (250 to 265 ft)



Reference - Ground Surface