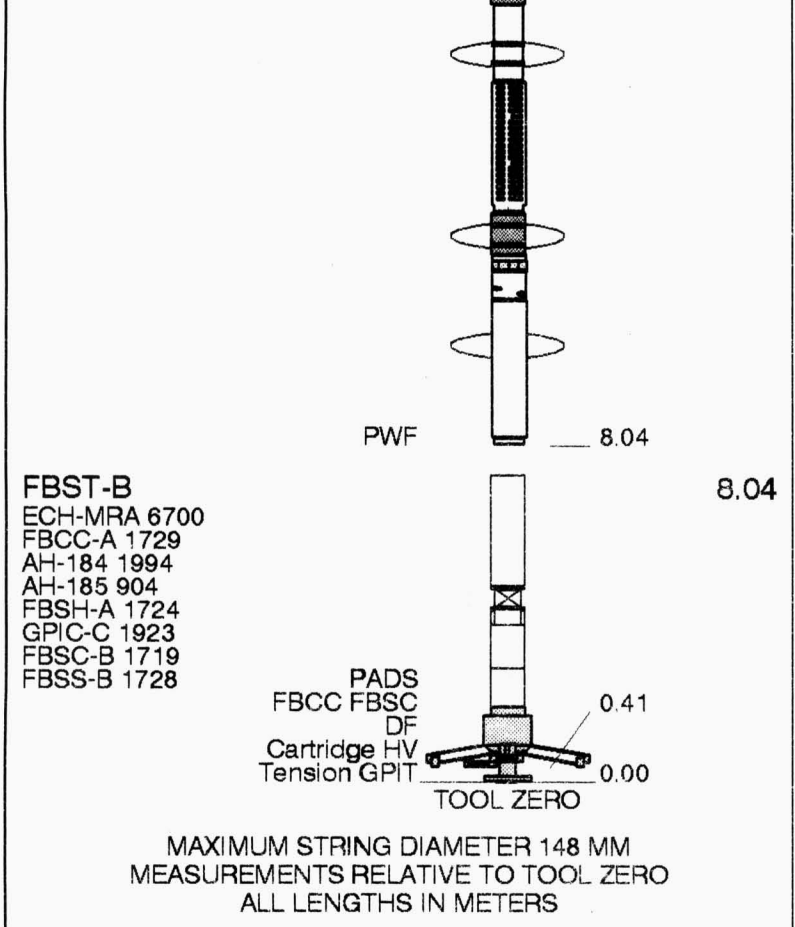
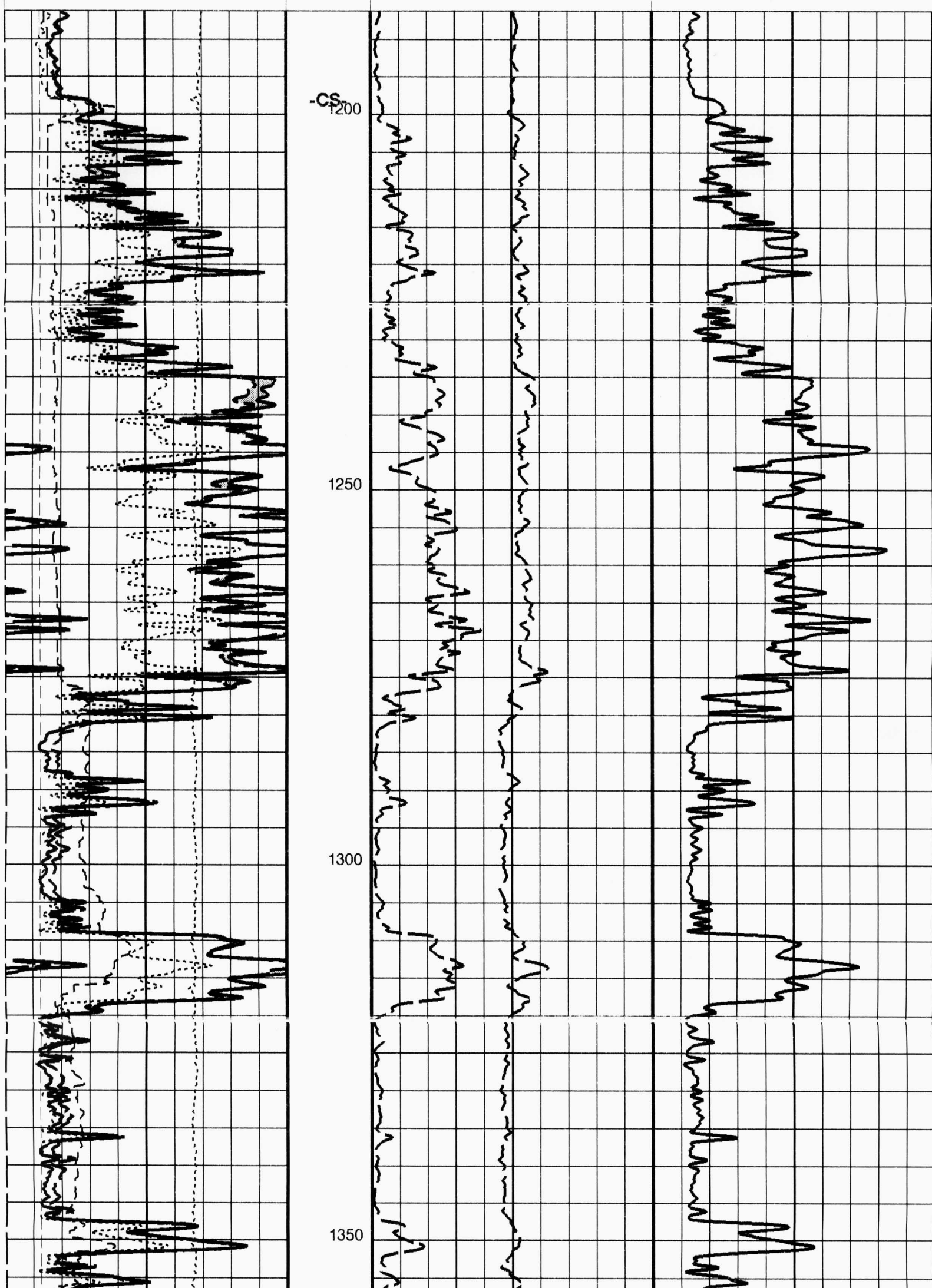


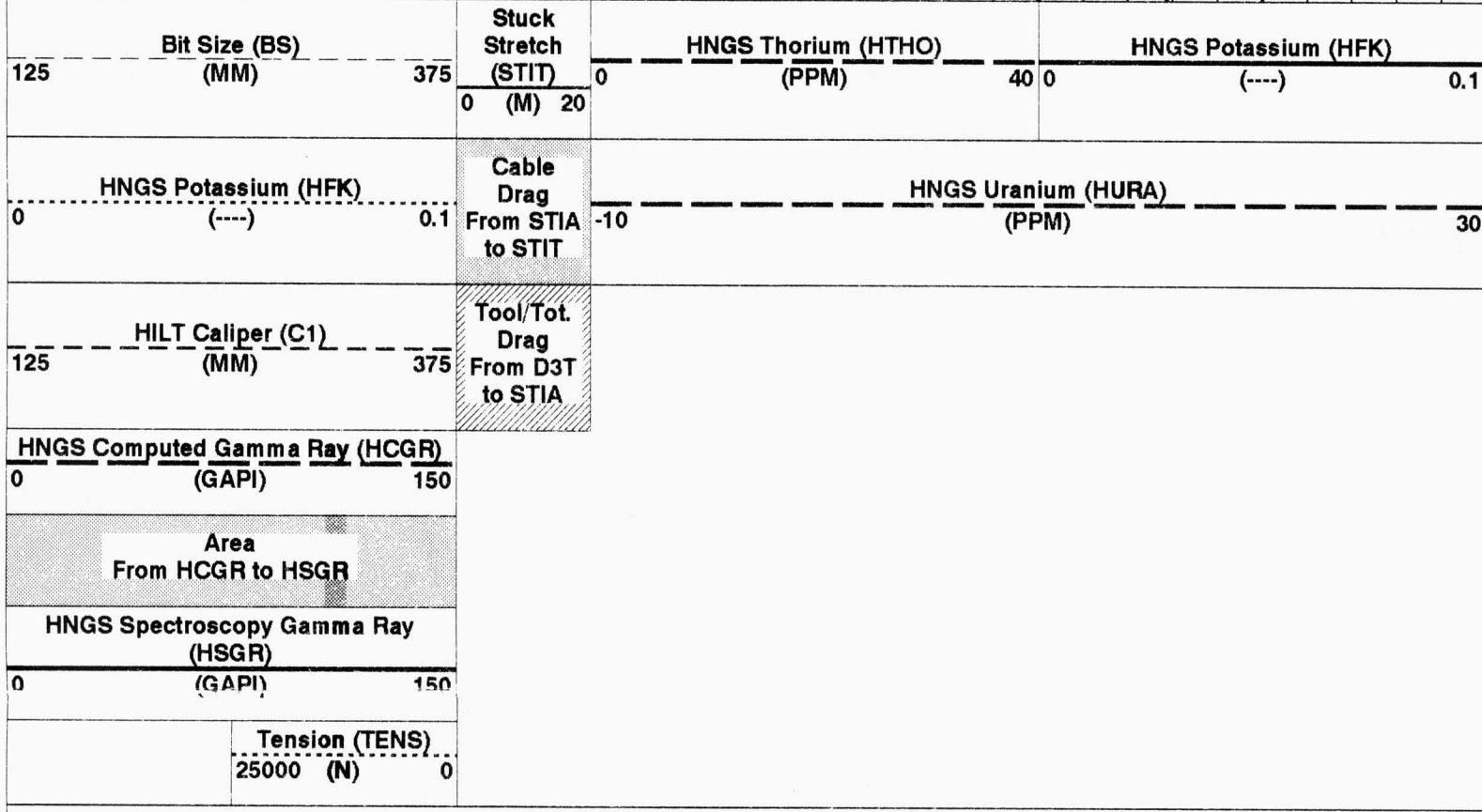
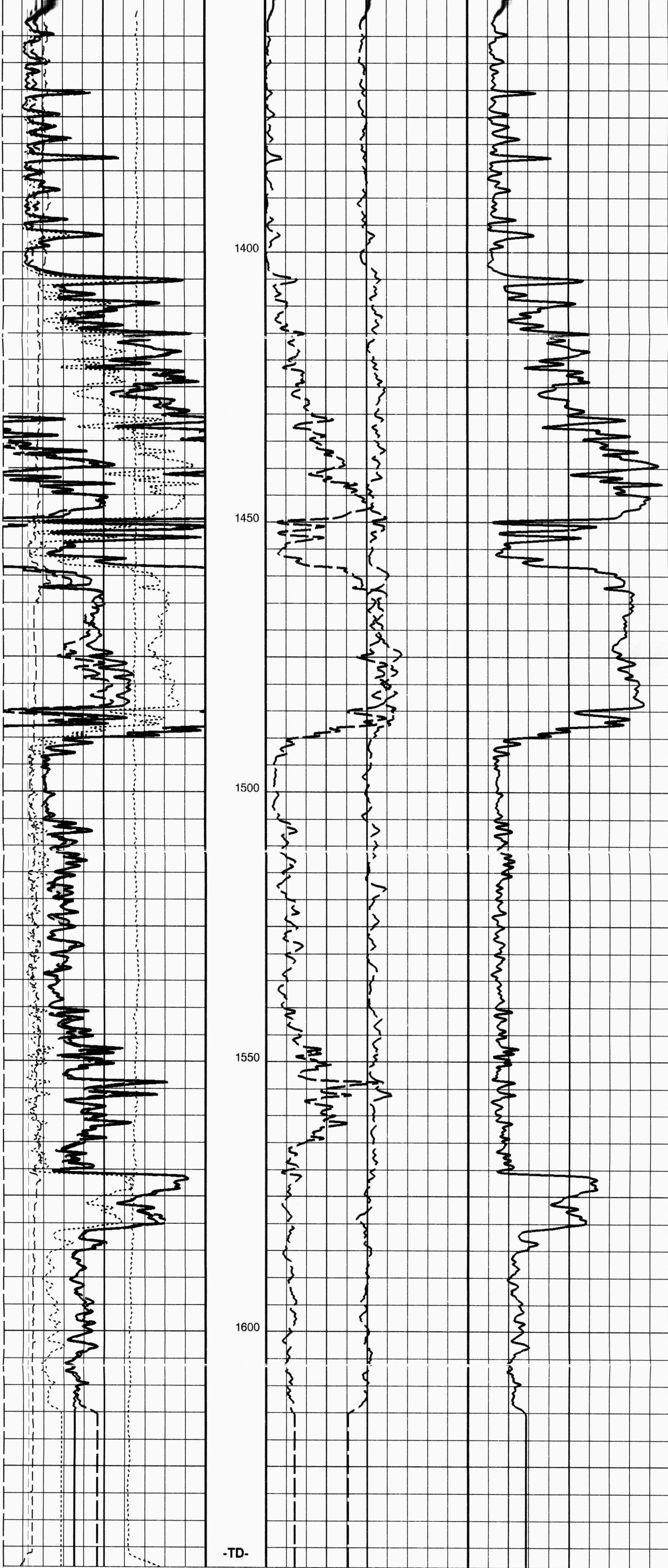


Company: PETRO-CANADA Well: PETRO-CANADA BLACKWATER KWIJIKA M-59

Input DLIS Files						
DEFAULT	FMI_DSI_EMS_NGS_040LUP	FN:62	PRODUCER	05-Mar-2008 11:09	1643.6 M	1123.9 M
OP System Version: 15C0-309						
MCM						
FBST-B	15C0-309	DSST-B	15C0-309			
EMS-B	15C0-309	HNGC-B	SPC-3530-NUCL			
HNGS-BA	SPC-3530-NUCL	MLT-B	15C0-309			
SGT-N	15C0-309	DTC-H	15C0-309			

PIP SUMMARY						
Time Mark Every 60 S						
Tension (TENS)						
25000 (N)		0				
HNGS Spectroscopy Gamma Ray (HSGR)						
0 (GAPI)		150				
Area From HCGR to HSGR						
HNGS Computed Gamma Ray (HCGR)						
0 (GAPI)		150				
HILT Caliper (C1) (MM)		125	375	Tool/Tot. Drag From D3T to STIA		
HNGS Potassium (HFK) (----)		0	0.1	Cable Drag From STIA to STIT		
					HNGS Uranium (HURA) (PPM)	
				-10		30
Bit Size (BS) (MM)		125	375	Stuck Stretch (STIT) (M)		
				0	20	
					HNGS Thorium (HTHO) (PPM)	
				0	40	0
					HNGS Potassium (HFK) (----)	
						0.1





Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
BHS	DSST-B: Dipole Shear Imager - B	
GCSE	Borehole Status	OPEN
	Generalized Caliper Selection	BS
	HNGS-BA: Hostile Natural Gamma Ray Sonde	
BAR1	HNGS Detector 1 Barite Constant	1
BAR2	HNGS Detector 2 Barite Constant	1
BHK	HNGS Borehole Potassium Correction Concentration	0
BHS	Borehole Status	OPEN
CSD1	Inner Casing Outer Diameter	0 MM
CSD2	Outer Casing Outer Diameter	0 MM
CSW1	Inner Casing Weight	0 KG/M
CSW2	Outer Casing Weight	0 KG/M
DBCC	HNGS Barite Constant Correction Flag	NONE
GCSE	Generalized Caliper Selection	BS
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW
HABK	HNGS Borehole Potassium Running Average	0.0542692
HALF	HNGS Alpha Filter Length	1524 MM
HCRB	HNGS Apply Borehole Potassium Correction	NONE
HMWM	Mud Weighting Material	NATU
HNPE	HNGS Processing Enable	YES
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3 CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3 CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES
TPOS	Tool Position	ECCE
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.99427
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.00011
	SGT-N: Scintillation Gamma Ray Tool - N	
BHS	Borehole Status	OPEN
GCSE	Generalized Caliper Selection	BS
	STI: Stuck Tool Indicator	
LBFR	Trigger for MAXIS First Reading Label	STI
STKT	STI Stuck Threshold	1.524 M
TDD	Total Depth - Driller	1640.00 M
TDL	Total Depth - Logger	1641.00 M
	DIR: Directional Survey Computation	
SPVD	TVD of Starting Point	0 M
TIMD	Along-hole depth of Tie-in Point	1198 M
TIVD	TVD of Tie-in Point	1198 M
	System and Miscellaneous	
BS	Bit Size	156.000 MM
DFD	Drilling Fluid Density	1315.00 K/M3
DO	Depth Offset for Playback	0.0 M
DORL	Depth Offset for Repeat Analysis	0.0 M
PP	Playback Processing	RECOMPUTE

Format: HNGSNGT_S2 Vertical Scale: 1:600 Graphics File Created: 05-Mar-2008 14:26

OP System Version: 15C0-309			
MCM			
FBST-B	15C0-309	DSST-B	15C0-309
EMS-B	15C0-309	HNGC-B	SPC-3530-NUCL
HNGS-BA	SPC-3530-NUCL	MLT-B	15C0-309
SGT-N	15C0-309	DTC-H	15C0-309

Input DLIS Files

Company: PETRO-CANADA

Well: PETRO-CANADA BLACKWATER KWIJIKA M-59

Input DLIS Files

DEFAULTFMI_DSI_EMS_NGS_040LUPFN:62PRODUCER05-Mar-2008 11:091643.6 M1123.9 M

OP System Version: 15C0-309

MCM

FBST-B15C0-309

EMS-B15C0-309

HNGS-BA15C0-309

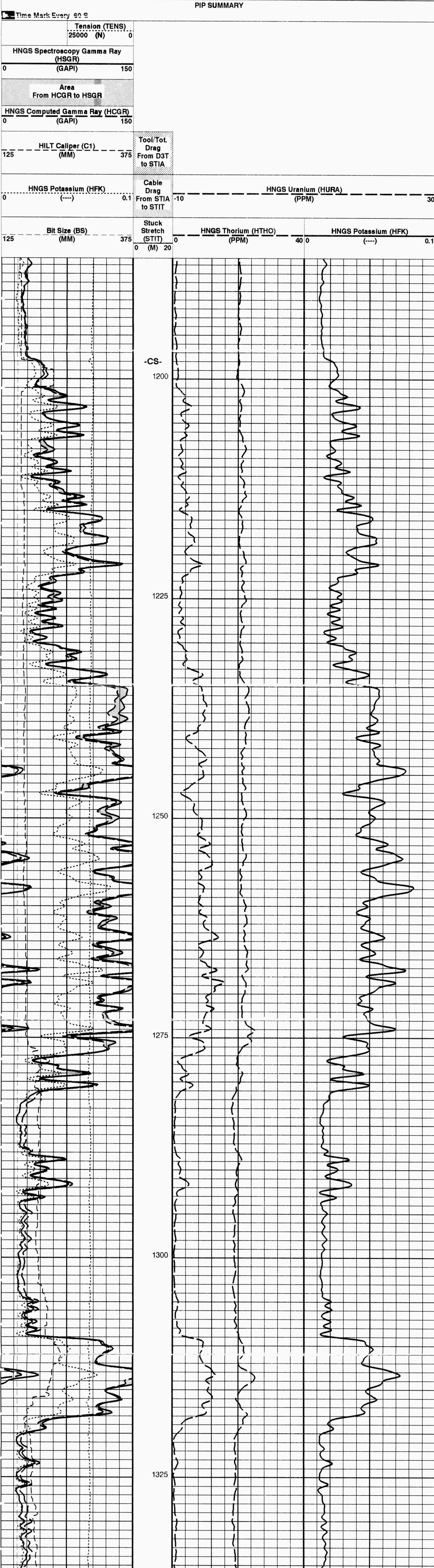
SGT-N15C0-309

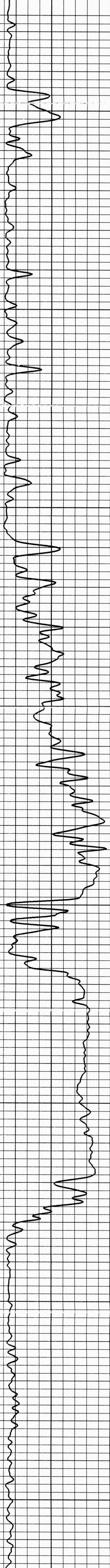
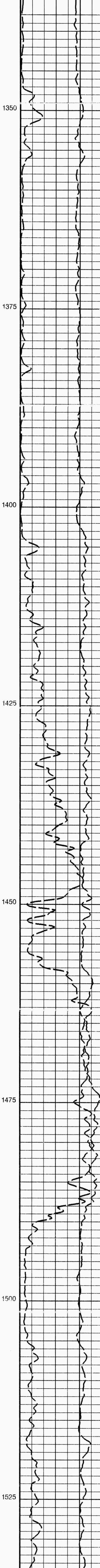
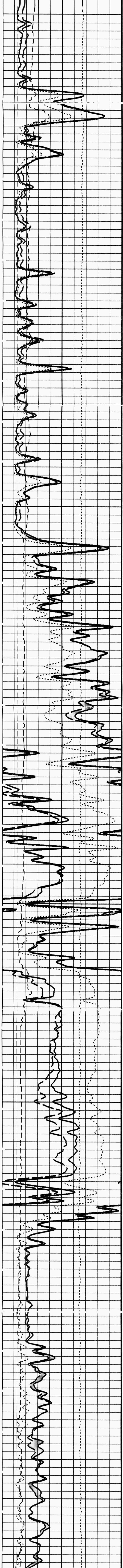
DSST-B15C0-309

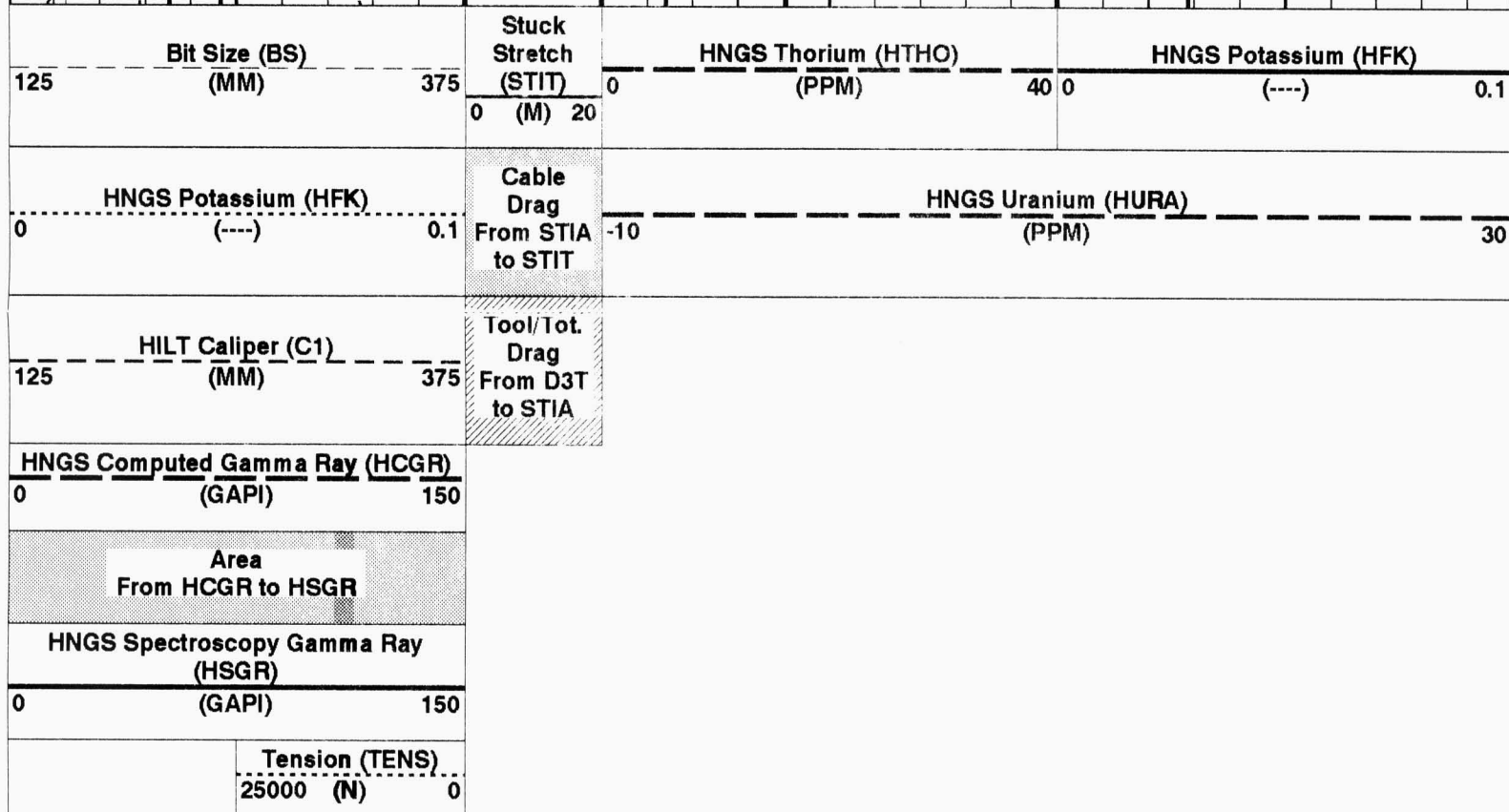
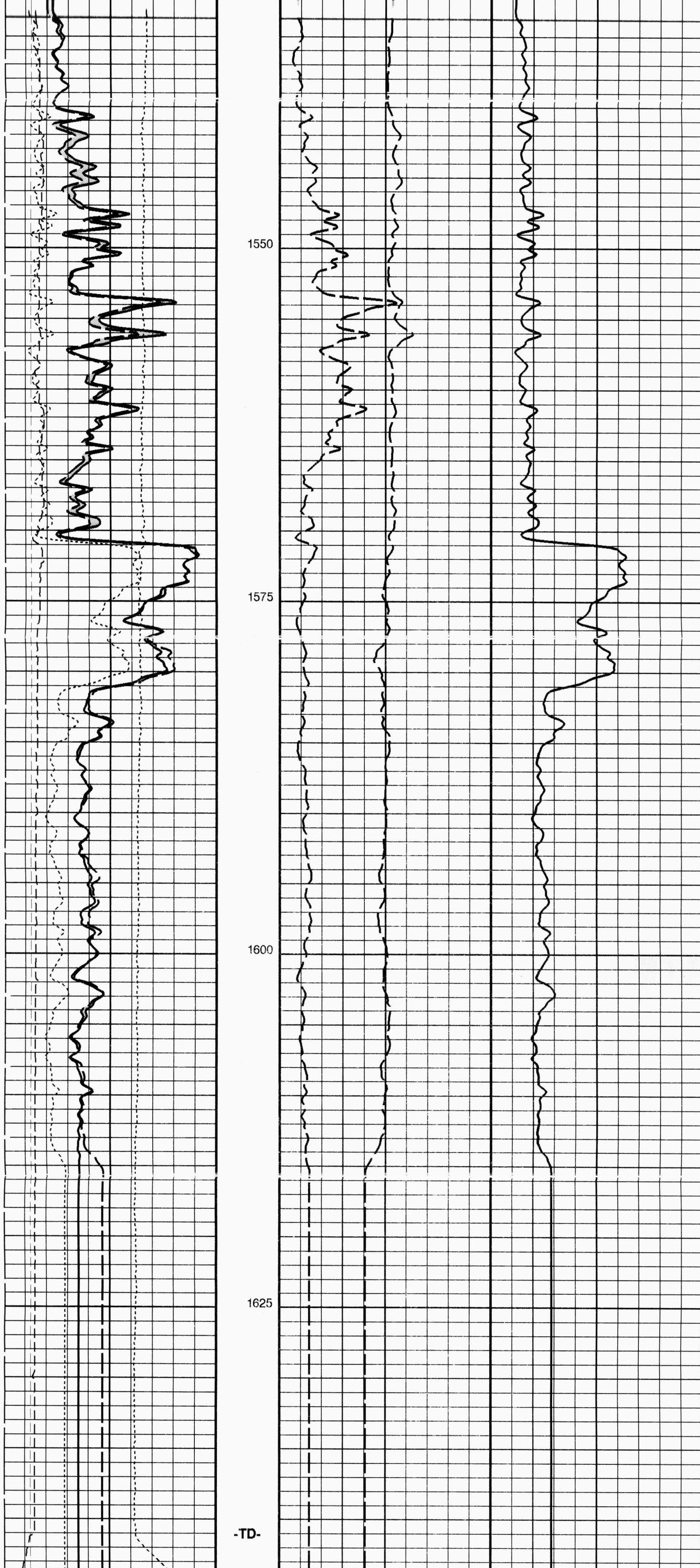
HNGC-BSPC-3530-NUCL

MLT-B15C0-309

DTC-H15C0-309







PIP SUMMARY			
Time Mark Every 60 S			
Parameters			
DLIS Name	Description	Value	
BHS	DSST-B: Dipole Shear Imager - B		
GCSE	Borehole Status	OPEN	
	Generalized Caliper Selection	BS	
HNGS-BA: Hostile Natural Gamma Ray Sonde			
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
CSD1	Inner Casing Outer Diameter	0	MM
CSD2	Outer Casing Outer Diameter	0	MM
CSW1	Inner Casing Weight	0	KG/M
CSW2	Outer Casing Weight	0	KG/M
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	BS	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	0.0542692	
HALF	HNGS Alpha Filter Length	1524	MM
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.99427	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.00011	
SGT-N: Scintillation Gamma Ray Tool - N			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	BS	
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	STI	
STKT	STI Stuck Threshold	1.524	M
TDD	Total Depth - Driller	1640.00	M
TDL	Total Depth - Logger	1641.00	M
DIR: Directional Survey Computation			
SPVD	TVD of Starting Point	0	M
TIMD	Along-hole depth of Tie-in Point	1198	M
TIVD	TVD of Tie-in Point	1198	M
System and Miscellaneous			
BS	Bit Size	156.000	MM
DFD	Drilling Fluid Density	1315.00	K/M3
DO	Depth Offset for Playback	0.0	M
DORL	Depth Offset for Repeat Analysis	0.0	M
PP	Playback Processing	RECOMPUTE	
Format: HNGSNGT_S5 Vertical Scale: 1:240		Graphics File Created: 05-Mar-2008 14:26	
OP System Version: 15C0-309			
MCM			
FBST-B	15C0-309	DSST-B	15C0-309
EMS-B	15C0-309	HNGC-B	SPC-3530-NUCL
HNGS-BA	SPC-3530-NUCL	MLT-B	15C0-309
SGT-N	15C0-309	DTC-H	15C0-309
Input DLIS Files			
DEFAULT	FMI_DSI_EMS_NGS_040LUP	FN:62 PRODUCER	05-Mar-2008 11:09 1643.6 M 1123.9 M

Input DLIS Files

DEFAULT	FMI_DSI_EMS_NGS_040LUP	FN:62	PRODUCER	05-Mar-2008 11:09	1643.6 M	1123.9 M
DEFAULT	FMI_DSI_EMS_NGS_044PUP	FN:68	PRODUCER	05-Mar-2008 13:05	1579.9 M	1441.4 M

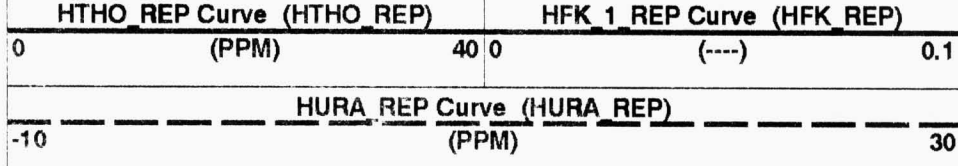
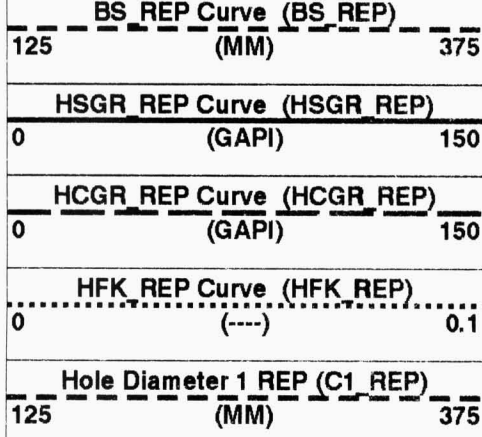
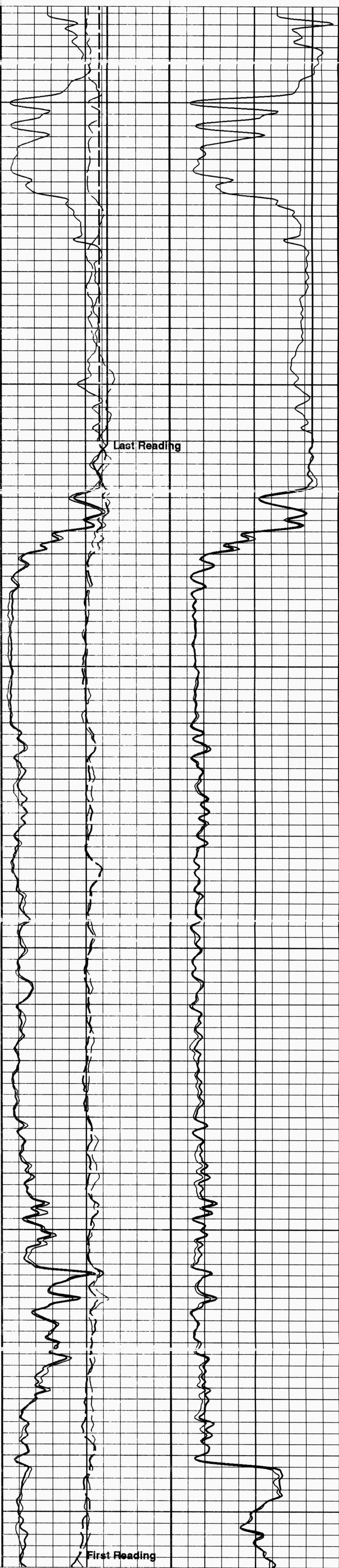
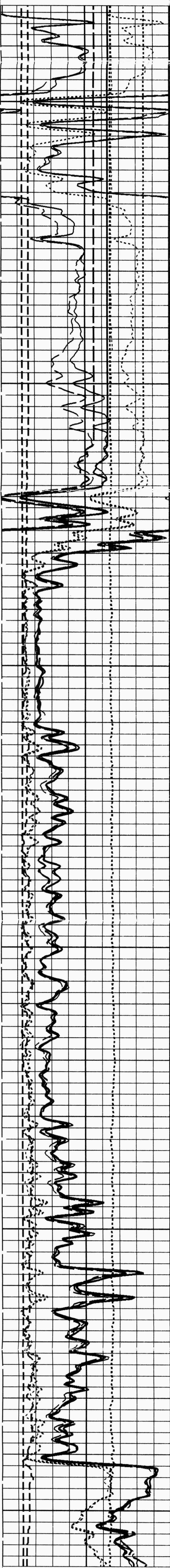
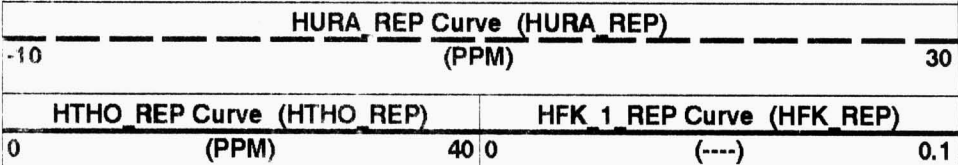
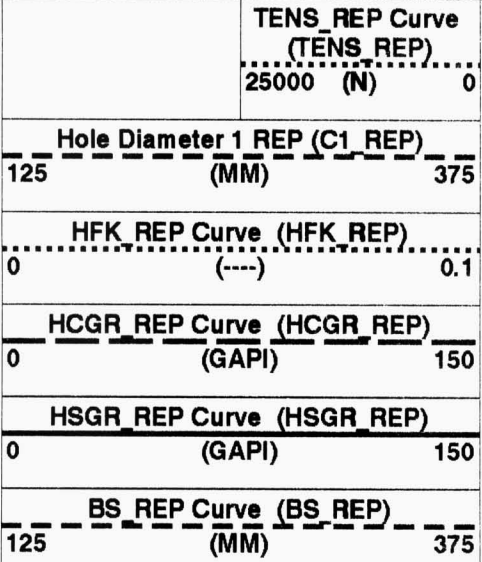
OP System Version: 15C0-309

MCM

FBST-B	15C0-309	DSST-B	15C0-309
EMS-B	15C0-309	HNGC-B	SPC-3530-NUCL
HNGS-BA	SPC-3530-NUCL	MLT-B	15C0-309
SGT-N	15C0-309	DTC-H	15C0-309

PIP SUMMARY

Time Mark Every 60 S



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
-----------	-------------	-------

DSST-B: Dipole Shear Imager - B			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	BS	
HNGS-BA: Hostile Natural Gamma Ray Sonde			
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	1	
BHK	HNGS Borehole Potassium Correction Concentration	0	
BHS	Borehole Status	OPEN	
CSD1	Inner Casing Outer Diameter	0	MM
CSD2	Outer Casing Outer Diameter	0	MM
CSW1	Inner Casing Weight	0	KG/M
CSW2	Outer Casing Weight	0	KG/M
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	BS	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	0.0542692	
HALF	HNGS Alpha Filter Length	1524	MM
HCRB	HNGS Apply Borehole Potassium Correction	NONE	
HMWM	Mud Weighting Material	NATU	
HNPE	HNGS Processing Enable	YES	
S1BI	HNGS Detector 1 Calibration Bismuth Count Rate	1.3	CPS
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	CPS
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.99427	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	1.00011	
SGT-N: Scintillation Gamma Ray Tool - N			
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	BS	
DIR: Directional Survey Computation			
SPVD	TVD of Starting Point	0	M
TMD	Along-hole depth of Tie-in Point	1198	M
TVD	TVD of Tie-in Point	1198	M
System and Miscellaneous			
BS	Bit Size	156.000	MM
DFD	Drilling Fluid Density	1315.00	K/M3
DO	Depth Offset for Playback	0.0	M
DORL	Depth Offset for Repeat Analysis	0.0	M
PP	Playback Processing	RECOMPUTE	
Format: HNGSNGT_REP Vertical Scale: 1:240 Graphics File Created: 05-Mar-2008 14:26			
OP System Version: 15C0-309			
MCM			
FBST-B	15C0-309	DSST-B	15C0-309
EMS-B	15C0-309	HNGC-B	SPC-3530-NUCL
HNGS-BA	SPC-3530-NUCL	MLT-B	15C0-309
SGT-N	15C0-309	DTC-H	15C0-309
Input DLIS Files			
DEFAULT	FMI_DSI_EMS_NGS_040LUP	FN:62	PRODUCER 05-Mar-2008 11:09 1643.6 M 1123.9 M
DEFAULT	FMI_DSI_EMS_NGS_044PUP	FN:68	PRODUCER 05-Mar-2008 13:05 1579.9 M 1441.4 M

Calibration and Check Summary								
Measurement	Nominal	Master	Before	After	Change	Limit	Units	
Full-Bore Scanner - B Wellsite Calibration - Caliper Calibration								
Before: 16-Feb-2008 15:30								
Caliper 1 Small Jig	203.2	N/A	195.0	N/A	N/A	N/A	MM	
Caliper 2 Small Jig	203.2	N/A	193.4	N/A	N/A	N/A	MM	
Caliper 1 Large Jig	304.8	N/A	289.7	N/A	N/A	N/A	MM	
Caliper 2 Large Jig	304.8	N/A	289.1	N/A	N/A	N/A	MM	
Full-Bore Scanner - B Wellsite Calibration - CROUZET ACCELEROMETER PROM HAS BEEN READ CORRECTLY								
Before: 5-Mar-2008 9:14								
TEMPERATURE REFERENCE :	N/A	N/A	20	N/A	N/A	N/A	DEGC	
YEAR OF CALIBRATION :	N/A	N/A	6	N/A	N/A	N/A		
MONTH OF CALIBRATION :	N/A	N/A	12	N/A	N/A	N/A		
SERIAL NUMBER :	N/A	N/A	1076	N/A	N/A	N/A		
Full-Bore Scanner - B Wellsite Calibration - CROUZET MAGNETOMETER PROM HAS BEEN READ CORRECTLY								
Before: 5-Mar-2008 9:14								
TEMPERATURE REFERENCE :	N/A	N/A	20	N/A	N/A	N/A	DEGC	
YEAR OF CALIBRATION :	N/A	N/A	6	N/A	N/A	N/A		
MONTH OF CALIBRATION :	N/A	N/A	5	N/A	N/A	N/A		
SERIAL NUMBER :	N/A	N/A	725	N/A	N/A	N/A		
Environment Measurement Sonde Wellsite Calibration - EMS Caliper Calibration								
Before: 16-Feb-2008 15:25								
Radius 1 Short Radius	101.6	N/A	81.34	N/A	N/A	5.080	MM	
Radius 1 Long Radius	203.2	N/A	187.4	N/A	N/A	5.080	MM	
Radius 2 Short Radius	101.6	N/A	79.42	N/A	N/A	5.080	MM	
Radius 2 Long Radius	203.2	N/A	184.6	N/A	N/A	5.080	MM	
Radius 3 Short Radius	101.6	N/A	79.37	N/A	N/A	5.080	MM	
Radius 3 Long Radius	203.2	N/A	184.5	N/A	N/A	5.080	MM	
Radius 4 Short Radius	101.6	N/A	87.87	N/A	N/A	5.080	MM	
Radius 4 Long Radius	203.2	N/A	190.2	N/A	N/A	5.080	MM	
Radius 5 Short Radius	101.6	N/A	83.27	N/A	N/A	5.080	MM	
Radius 5 Long Radius	203.2	N/A	186.9	N/A	N/A	5.080	MM	
Radius 6 Short Radius	101.6	N/A	78.00	N/A	N/A	5.080	MM	
Radius 6 Long Radius	203.2	N/A	183.6	N/A	N/A	5.080	MM	
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check								
Master: 4-Jan-2008 9:55 Before: 3-Mar-2008 14:57								
Na 511 Peak Loc	40.00	39.78	39.64	N/A	N/A	1.000		
Na 511 Peak Res	15.50	15.38	14.71	N/A	N/A	2.000	%	
High Voltage	1150	1258	1196	N/A	N/A	N/A	V	
Na 1785 Peak Loc	142.6	143.7	144.3	N/A	N/A	7.000		
Na 1785 Peak Res	8.500	8.442	7.752	N/A	N/A	2.000	%	
Temperature	15.50	22.14	-19.41	N/A	N/A	N/A	DEGC	
Na Count Rate	45.00	35.30	35.42	N/A	N/A	8.000	CPS	
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check								
Master: 4-Jan-2008 9:55 Before: 3-Mar-2008 14:57								
Na 511 Peak Loc	40.00	39.66	39.58	N/A	N/A	1.000		
Na 511 Peak Res	15.50	14.86	14.28	N/A	N/A	2.000	%	
High Voltage	1150	1273	1211	N/A	N/A	N/A	V	
Na 1785 Peak Loc	142.6	142.7	142.6	N/A	N/A	7.000		
Na 1785 Peak Res	8.500	8.234	8.033	N/A	N/A	2.000	%	
Temperature	15.50	21.49	-20.13	N/A	N/A	N/A	DEGC	
Na Count Rate	45.00	35.28	35.35	N/A	N/A	8.000	CPS	
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Ratio Of Detector 1 To Detector 2								
Master: 4-Jan-2008 9:55 Before: 3-Mar-2008 14:57								
Coincidence Count Rate Ratio	1.000	1.001	1.001	N/A	N/A	0.05000		
Hostile Natural Gamma Ray Sonde Master Calibration - Detector 1 Calibration								
Master: 4-Jan-2008 9:50								
Na 511 Peak Set Point	40.00	41.00	--	--	--	--		
Th Peak Loc	209.6	211.0	--	--	--	--		
Th Peak Res	7.000	6.785	--	--	--	--	%	
Background Count Rate	142.5	60.06	--	--	--	--	CPS	
Gain Ratio	1.000	1.009	--	--	--	--		
Hostile Natural Gamma Ray Sonde Master Calibration - Detector 2 Calibration								
Master: 4-Jan-2008 9:50								
Na 511 Peak Set Point	40.00	41.00	--	--	--	--		
Th Peak Loc	209.6	211.2	--	--	--	--		
Th Peak Res	7.000	7.094	--	--	--	--	%	
Background Count Rate	142.5	80.00	--	--	--	--	CPS	
Gain Ratio	1.000	1.013	--	--	--	--		
MicroLog - B Wellsite Calibration - MLT Caliper Calibration								
Before: 3-Mar-2008 13:47								
MLT Caliper Small Ring	203.2	N/A	162.1	N/A	N/A	N/A	MM	
MLT Caliper Large Ring	304.8	N/A	265.8	N/A	N/A	N/A	MM	
MicroLog - B Wellsite Calibration - MLT Micro Inverse Calibration								
Before: 3-Mar-2008 13:45								
Micro Inverse Zero	0	N/A	0.0006272	N/A	N/A	0.2000	OHMM	
Micro Inverse Plus	5.000	N/A	4.872	N/A	N/A	0.2000	OHMM	
MicroLog - B Wellsite Calibration - MLT Micro Normal Calibration								
Before: 3-Mar-2008 13:45								
Micro Normal Zero	0	N/A	0.002347	N/A	N/A	0.2000	OHMM	
Micro Normal Plus	6.720	N/A	6.560	N/A	N/A	0.2000	OHMM	
Scintillation Gamma Ray Tool - N Wellsite Calibration - Detector Calibration								
Before: 3-Mar-2008 13:04								
Gamma Ray (Jig - Bkg)	159.4	N/A	159.4	N/A	N/A	14.49	GAPI	
Gamma Ray (Calibrated)	162.0	N/A	162.0	N/A	N/A	15.00	GAPI	

Full-Bore Scanner - B / Equipment Identification	
Primary Equipment:	
FullBore Scanner Sonde	FBSS - B
FullBore Scanner Sonde Upper part	FBSH - A
FullBore Scanner Sonde Cartridge	FBSC - B
GPIT Cartridge - C	GPIC - B
Insulating Sub	AH - 185
Flex Joint	AH - 184
FullBore Scanner Control Cartridge	FBCC - A
Auxiliary Equipment:	
Electronics Cartridge Housing	ECCH - MHA

Full-Bore Scanner - B Wellsite Calibration					
Caliper Calibration					
Phase	Caliper 1 Small Jig MM	Value	Phase	Caliper 2 Small Jig MM	Value
Before		195.0	Before		193.4
	172.7 (Minimum) 203.2 (Nominal) 233.7 (Maximum)			172.7 (Minimum) 203.2 (Nominal) 233.7 (Maximum)	
Phase	Caliper 1 Large Jig MM	Value	Phase	Caliper 2 Large Jig MM	Value
Before		289.7	Before		289.1
	259.1 (Minimum) 304.8 (Nominal) 350.5 (Maximum)			259.1 (Minimum) 304.8 (Nominal) 350.5 (Maximum)	
Before: 16-Feb-2008 15:30					

Environment Measurement Sonde / Equipment Identification	
Primary Equipment:	
EMS Mechanical	EMM - B
EMS Cartridge	EMC - B
EMS Adaptor	EMA - B
Resistivity Meter	RES -
Auxiliary Equipment:	
Electronics Cartridge Housing	ECH - KH

Environment Measurement Sonde Wellsite Calibration					
EMS Caliper Calibration					
Phase	Radius 1 Short Radius MM	Value	Phase	Radius 1 Long Radius MM	Value
Before		81.34	Before		187.4
	76.20 (Minimum) 101.6 (Nominal) 127.0 (Maximum)			177.8 (Minimum) 203.2 (Nominal) 228.6 (Maximum)	
Phase	Radius 2 Short Radius MM	Value	Phase	Radius 2 Long Radius MM	Value
Before		79.42	Before		184.6
	76.20 (Minimum) 101.6 (Nominal) 127.0 (Maximum)			177.8 (Minimum) 203.2 (Nominal) 228.6 (Maximum)	
Phase	Radius 3 Short Radius MM	Value	Phase	Radius 3 Long Radius MM	Value
Before		79.37	Before		184.5
	76.20 (Minimum) 101.6 (Nominal) 127.0 (Maximum)			177.8 (Minimum) 203.2 (Nominal) 228.6 (Maximum)	
Phase	Radius 4 Short Radius MM	Value	Phase	Radius 4 Long Radius MM	Value
Before		87.87	Before		190.2
	76.20 (Minimum) 101.6 (Nominal) 127.0 (Maximum)			177.8 (Minimum) 203.2 (Nominal) 228.6 (Maximum)	
Phase	Radius 5 Short Radius MM	Value	Phase	Radius 5 Long Radius MM	Value
Before		83.27	Before		186.9
	76.20 (Minimum) 101.6 (Nominal) 127.0 (Maximum)			177.8 (Minimum) 203.2 (Nominal) 228.6 (Maximum)	
Phase	Radius 6 Short Radius MM	Value	Phase	Radius 6 Long Radius MM	Value
Before		78.00	Before		183.6
	76.20 (Minimum) 101.6 (Nominal) 127.0 (Maximum)			177.8 (Minimum) 203.2 (Nominal) 228.6 (Maximum)	

Phase	Radius 5 Short Radius MM	Value	Phase	Radius 6 Long Radius MM	Value
Before		78.00	Before		183.6
	78.20 (Minimum)	101.6 (Nominal)		177.8 (Minimum)	203.2 (Nominal)
		127.0 (Maximum)			228.6 (Maximum)
Before: 16-Feb-2008 15:25					

Hostile Natural Gamma Ray Cartridge - B / Equipment Identification			
Primary Equipment:			
HNGC Cartridge	HNGC - B	405	
Auxiliary Equipment:			
HNGC Housing	HNGH - A	346	

Hostile Natural Gamma Ray Sonde / Equipment Identification			
Primary Equipment:			
HNGS Sonde	HNGS - BA	163	
Auxiliary Equipment:			
HNGS Sonde Housing	HNSH - BA	160	
Gamma Source Radioactive	GSR - U	1237	

Hostile Natural Gamma Ray Sonde Wellsite Calibration							
Detector 1 Check							
Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V
Master		39.78	Master		15.38	Master	
Before		39.64	Before		14.71	Before	
	37.50 (Minimum)	40.00 (Nominal)		12.00 (Minimum)	15.50 (Nominal)		900.0 (Minimum)
		43.50 (Maximum)			19.00 (Maximum)		1150 (Nominal)
							1600 (Maximum)
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC
Master		143.7	Master		8.442	Master	
Before		144.3	Before		7.752	Before	
	135.0 (Minimum)	142.6 (Nominal)		7.000 (Minimum)	8.500 (Nominal)		-28.89 (Minimum)
		150.3 (Maximum)			11.00 (Maximum)		15.50 (Nominal)
							60.00 (Maximum)
Phase	Na Count Rate CPS	Value					
Master		35.30					
Before		35.42					
	10.00 (Minimum)	45.00 (Nominal)					
		100.0 (Maximum)					
Master: 4-Jan-2008 9:55				Before: 3-Mar-2008 14:57			

Hostile Natural Gamma Ray Sonde Wellsite Calibration							
Detector 2 Check							
Phase	Na 511 Peak Loc	Value	Phase	Na 511 Peak Res %	Value	Phase	High Voltage V
Master		39.66	Master		14.86	Master	
Before		39.58	Before		14.28	Before	
	37.50 (Minimum)	40.00 (Nominal)		12.00 (Minimum)	15.50 (Nominal)		900.0 (Minimum)
		43.50 (Maximum)			19.00 (Maximum)		1150 (Nominal)
							1600 (Maximum)
Phase	Na 1785 Peak Loc	Value	Phase	Na 1785 Peak Res %	Value	Phase	Temperature DEGC
Master		142.7	Master		8.234	Master	
Before		142.6	Before		8.033	Before	
	135.0 (Minimum)	142.6 (Nominal)		7.000 (Minimum)	8.500 (Nominal)		-28.89 (Minimum)
		150.3 (Maximum)			11.00 (Maximum)		15.50 (Nominal)
							60.00 (Maximum)
Phase	Na Count Rate CPS	Value					
Master		35.28					
Before		35.35					
	10.00 (Minimum)	45.00 (Nominal)					
		100.0 (Maximum)					
Master: 4-Jan-2008 9:55				Before: 3-Mar-2008 14:57			

Hostile Natural Gamma Ray Sonde Wellsite Calibration		
Ratio Of Detector 1 To Detector 2		
Phase	Coincidence Count Rate Ratio	Value
Master		1.001
Before		1.001
	0.9500 (Minimum)	1.000 (Nominal)
		1.050 (Maximum)
Master: 4-Jan-2008 9:55		
Before: 3-Mar-2008 14:57		

Hostile Natural Gamma Ray Sonde Master Calibration												
Detector 1 Calibration												
Phase	Na 511 Peak Set Point		Value	Phase	Th Peak Loc		Value	Phase	Th Peak Res %		Value	
Master			41.00	Master			211.0	Master			6.765	
38.00 (Minimum)			40.00 (Nominal)	201.0 (Minimum)			209.6 (Nominal)	5.000 (Minimum)			7.000 (Nominal)	9.000 (Maximum)
43.00 (Maximum)						218.3 (Maximum)						
Phase	Background Count Rate CPS		Value	Phase	Gain Ratio		Value					
Master			82.05	Master			1.009					
10.00 (Minimum)			142.5 (Nominal)	0.9400 (Minimum)			1.000 (Nominal)					1.060 (Maximum)
Master: 4-Jan-2008 9:50												

Hostile Natural Gamma Ray Sonde Master Calibration											
Detector 2 Calibration											
Phase	Na 511 Peak Set Point		Value	Phase	Th Peak Loc		Value	Phase	Th Peak Res %		Value
Master			41.00	Master			211.2	Master			7.094
	38.00 (Minimum)	40.00 (Nominal)	43.00 (Maximum)		201.0 (Minimum)	209.6 (Nominal)	218.3 (Maximum)		5.000 (Minimum)	7.000 (Nominal)	9.000 (Maximum)
Phase	Background Count Rate CPS		Value	Phase	Gain Ratio		Value				
Master			80.00	Master			1.013				
	10.00 (Minimum)	142.5 (Nominal)	265.0 (Maximum)		0.9400 (Minimum)	1.000 (Nominal)	1.060 (Maximum)				
Master: 4-Jan-2008 9:50											

MicroLog - B / Equipment Identification			
Primary Equipment:			
MicroLog - B (sonde)	MLT - B		
Auxiliary Equipment:			

MicroLog - B Wellsite Calibration							
MLT Micro Inverse Calibration							
Phase	Micro Inverse Zero OHMM		Value	Phase	Micro Inverse Plus OHMM		Value
Before			0.0006272	Before			4.872
	-2.000 (Minimum)	0 (Nominal)	2.000 (Maximum)		1.000 (Minimum)	5.000 (Nominal)	9.000 (Maximum)
Before: 3-Mar-2008 13:45							

MicroLog - B Wellsite Calibration							
MLT Micro Normal Calibration							
Phase	Micro Normal Zero OHMM		Value	Phase	Micro Normal Plus OHMM		Value
Before			0.002347	Before			6.560
	-2.000 (Minimum)	0 (Nominal)	2.000 (Maximum)		2.720 (Minimum)	6.720 (Nominal)	10.72 (Maximum)
Before: 3-Mar-2008 13:45							

Scintillation Gamma Ray Tool - N / Equipment Identification			
Primary Equipment:			
Scintillation Gamma Cartridge	SGC - TB		
Scintillation Gamma Detector	SGD - TAB		
Auxiliary Equipment:			
Scintillation Gamma Housing	SGH - K		
Gamma Source Radioactive	GSR - U/Y		

Scintillation Gamma Ray Tool - N Wellsite Calibration							
Detector Calibration							
Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Ug - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI
Before		10.45	Before		159.4	Before	
	0 (Minimum)	30.00 (Nominal)		144.9 (Minimum)	159.4 (Nominal)		147.0 (Minimum)
		120.0 (Maximum)			173.9 (Maximum)		162.0 (Nominal)
							177.0 (Maximum)
Before: 3-Mar-2008 13:04							

DTS Telemetry Tool / Equipment Identification			
Primary Equipment:			
DTC-H Auxiliary Cartridge	DTCH - A		
DTC-H Telemetry Cartridge	DTCH - A		
Auxiliary Equipment:			
DTCH Telemetry Cartridge Housing	ECH - KC		

Company: PETRO-CANADA

Well: PETRO-CANADA BLACKWATER KWIJKA M-59

Field: KWIJKA

Province: NORTHWEST TERRITORIES

MD

Schlumberger

MD

HOSTILE ENVIRONMENT
NATURAL GAMMA RAY LOG