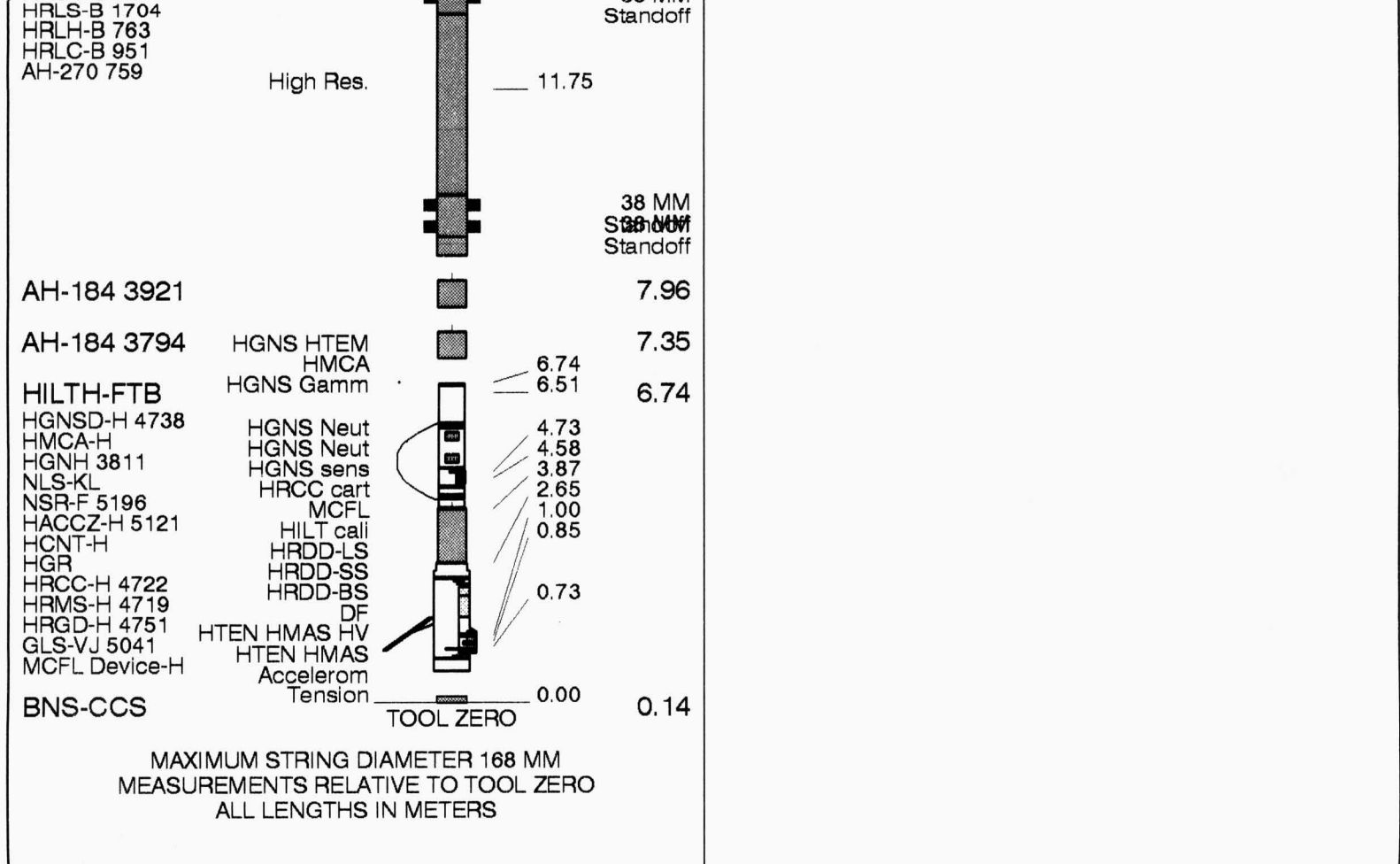




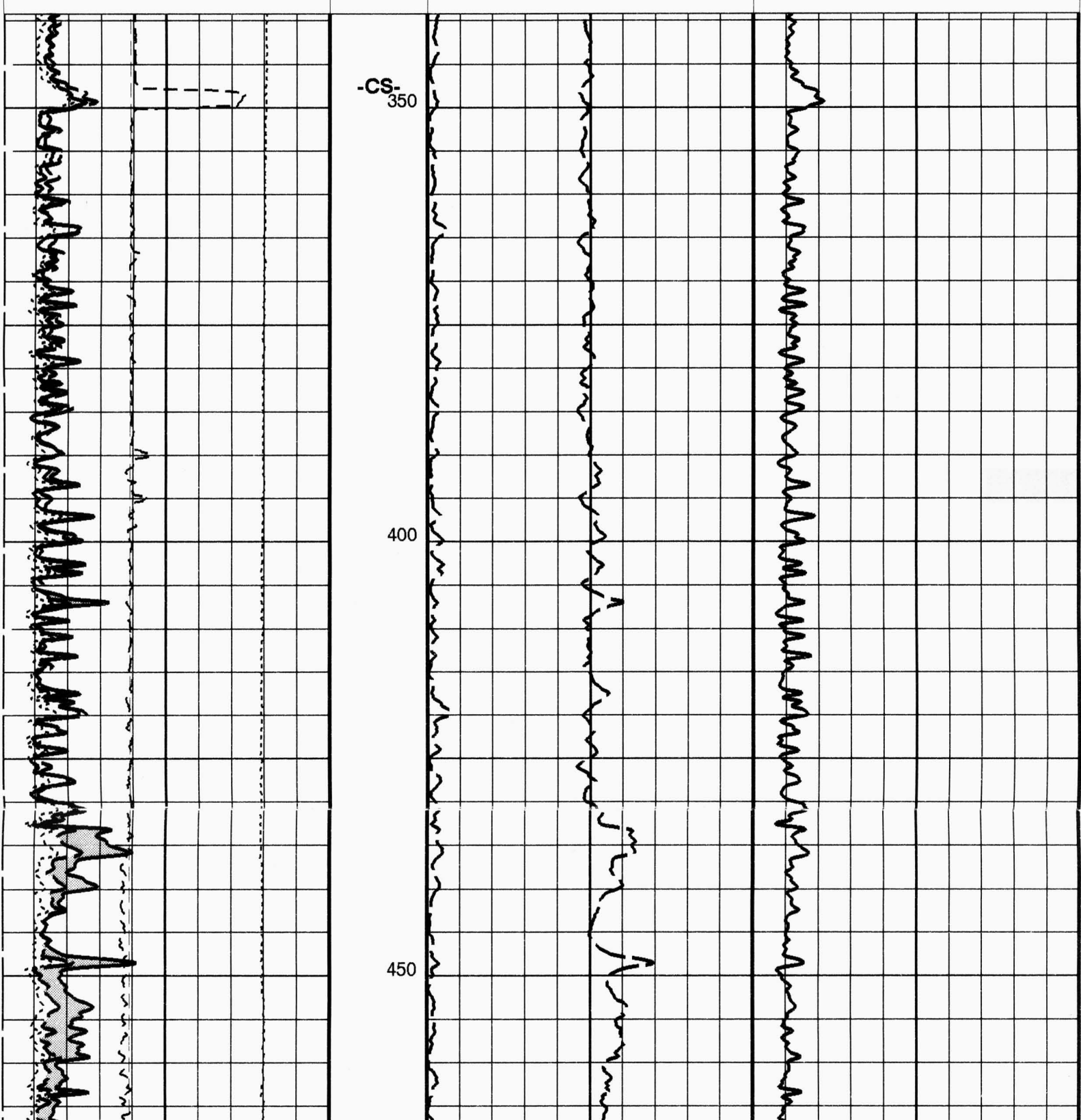
Company: PETRO-CANADA Well: PETRO-CANADA BLACKWATER KWIJIKA M-59

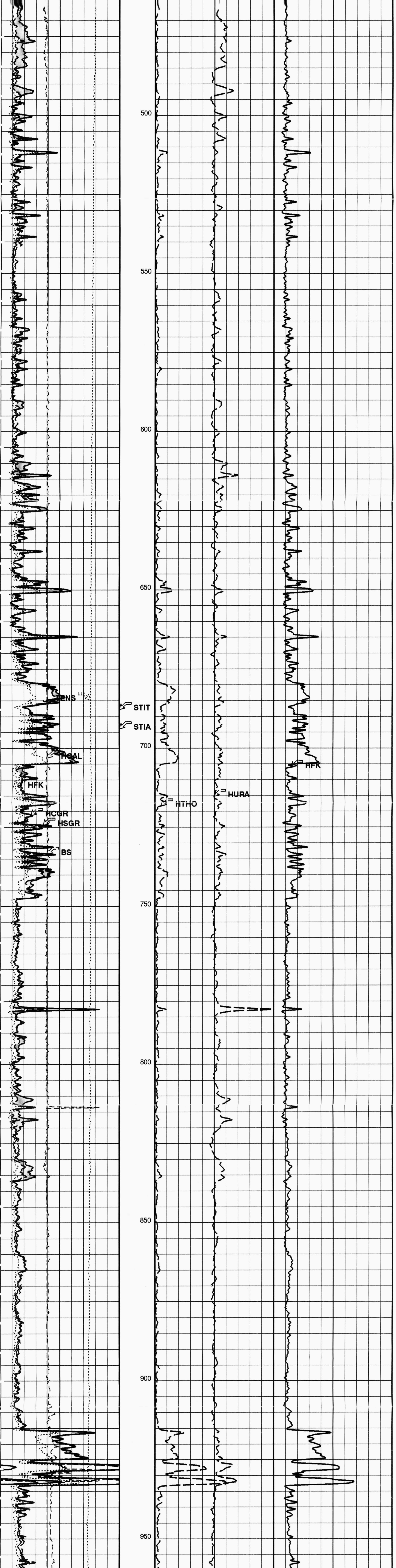
Input DLIS Files						
DEFAULT	TLD_MCFL_CNL_HRLA_011LUP	FN:17	PRODUCER	23-Feb-2008 16:24	1202.4 M	-13.7 M
Output DLIS Files						
DEFAULT	TLD_MCFL_CNL_HRLA_013PUP	FN:21	PRODUCER	23-Feb-2008 18:53	1202.4 M	301.4 M
BACKUP	TLD_MCFL_CNL_HRLA_013PUP	FN:22	PRODUCER	23-Feb-2008 18:53	1202.4 M	301.4 M

OP System Version: 15C0-309				
MCM				
HILTH-FTB	SRPC-3402-Q3_2007	HRLT-B	15C0-309	
HILTH2-FTB	SRPC-3402-Q3_2007	HNGC-B	SPC-3530-NUCL	
HNGS-BA	SPC-3530-NUCL	DTC-H	15C0-309	
SPA-A	9936			

PIP SUMMARY

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







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

PIP SUMMARY

Time Mark Every 60 S

Parameters			
DLIS Name	Description	Value	
BHS	HILTH-FTB: High resolution Integrated Logging Tool-DTS	OPEN	
GCSE	Borehole Status	HCAL	
BHS	HRLT-B: High Resolution Laterolog Array - B	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
BHS	HILTH2-FTB: High resolution Integrated Logging Tool-DTS2	OPEN	
GCSE	Borehole Status	HCAL	
	Generalized Caliper Selection		
	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	HCAL	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	0.026445	
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	0.991349	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.999198	
	DIR: Directional Survey Computation		
SPVD	TVD of Starting Point	0	M
TIMD	Along-hole depth of Tie-in Point	348	M
TIVD	TVD of Tie-in Point	348	M
	HOLEV: Integrated Hole/Cement Volume		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
	STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	1.524	M
TDD	Total Depth - Driller	1200.00	M
TDL	Total Depth - Logger	1201.00	M
	System and Miscellaneous		
BS	Bit Size	222.000	MM
DFD	Drilling Fluid Density	1180.00	K/M3
DO	Depth Offset for Playback	0.0	M
DOPL	Depth Offset for Repeat Analysis	0.0	M
PP	Playback Processing	RECOMPUTE	

Format: HNGSNGT_S2 Vertical Scale: 1:600 Graphics File Created: 23-Feb-2008 18:53

OP System Version: 15C0-309			
MCM			
HILTH-FTB	SRPC-3402-Q3_2007	HRLT-B	15C0-309
HILTH2-FTB	SRPC-3402-Q3_2007	HNGC-B	SPC-3530-NUCL
HNGS-BA	SPC-3530-NUCL	DTC-H	15C0-309
SPA-A	9936		

Input DLIS Files						
DEFAULT	TLD_MCFL_CNL_HRLA_011LUP	FN:17	PRODUCER	23-Feb-2008 16:24	1202.4 M	-13.7 M
Output DLIS Files						
DEFAULT	TLD_MCFL_CNL_HRLA_013PUP	FN:21	PRODUCER	23-Feb-2008 18:53		
BACKUP	TLD_MCFL_CNL_HRLA_013PUP	FN:22	PRODUCER	23-Feb-2008 18:53		

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

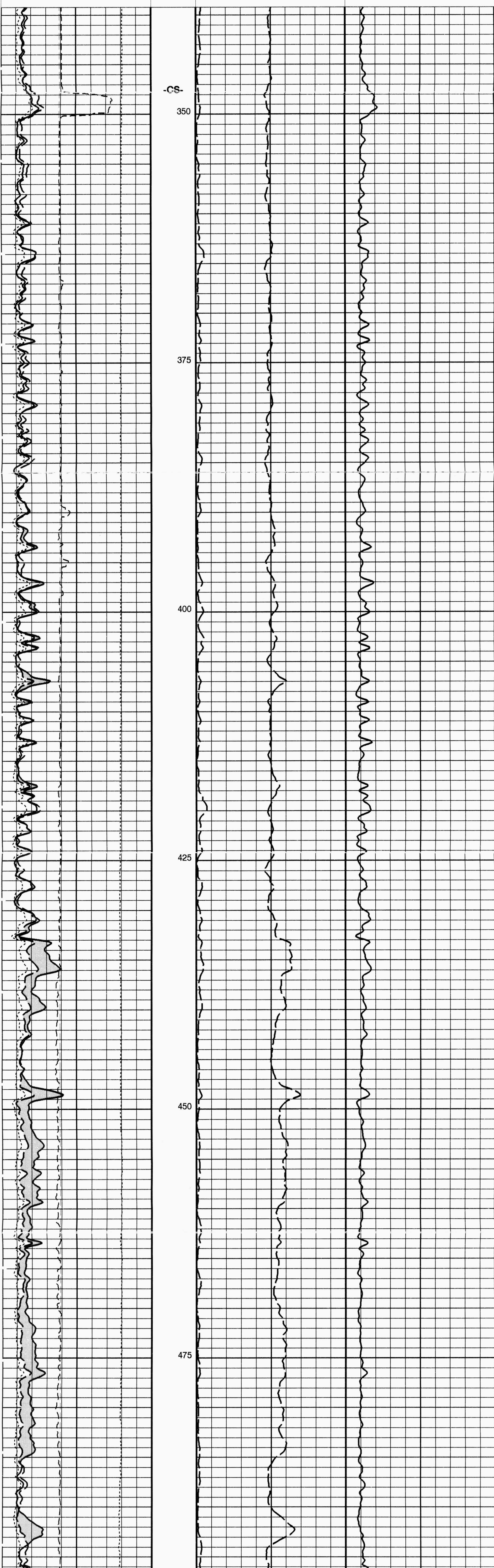
Input DLIS Files						
DEFAULT	TLD_MCFL_CNL_HRLA_011LUP	FN:17	PRODUCER	23-Feb-2008 16:24	1202.4 M	-13.7 M

Output DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_013PUP	FN:21	PRODUCER	23-Feb-2008 18:53	1202.4 M	301.4 M
BACKUP	TLD_MCFL_CNL_HRLA_013PUP	FN:22	PRODUCER	23-Feb-2008 18:53	1202.4 M	301.4 M
OP System Version: 15C0-309						
MCM						
HILTH-FTB	SRPC-3402-Q3_2007		HRLT-B	15C0-309		
HILTH2-FTB	SRPC-3402-Q3_2007		HNGC-B	SPC-3530-NUCL		
HNGS-BA	SPC-3530-NUCL		DTC-H	15C0-309		
SPA-A	9936					

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 (HCAL)		Tool/Tot. Drag From D3T to STIA			
125 (MM)			375		
HNGS Potassium (HFK)		Cable Drag From STIA to STIT			
0 (----)			0.1		
		-10	HNGS Uranium (HURA)		30
			(PPM)		
Bit Size (BS)		Stuck Stretch (STIT)	HNGS Thorium (HTHO)		HNGS Potassium (HFK)
125 (MM)			0 (PPM)		
375		0 (M) 20	0	0	0.1
					(----



500

525

550

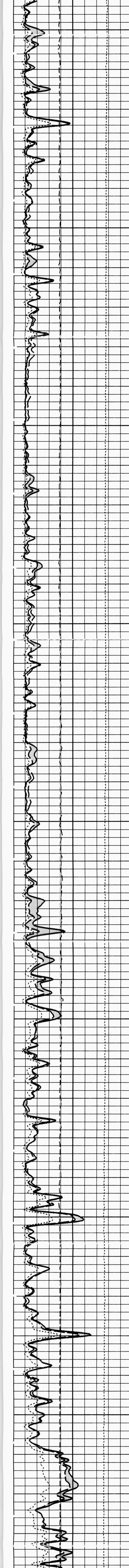
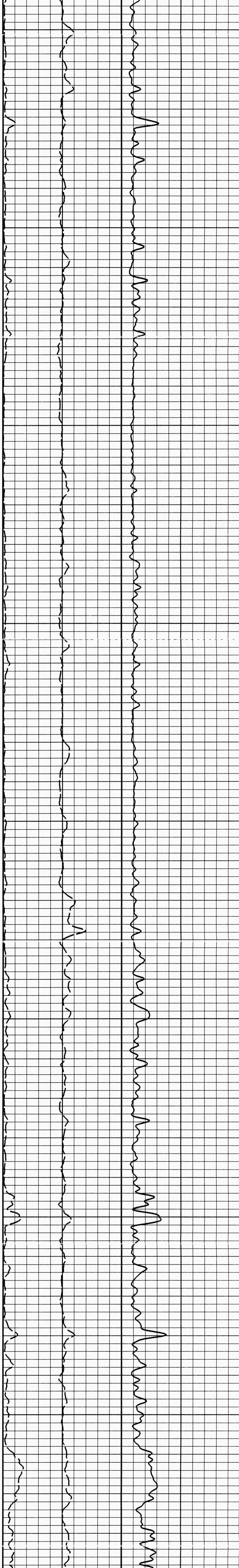
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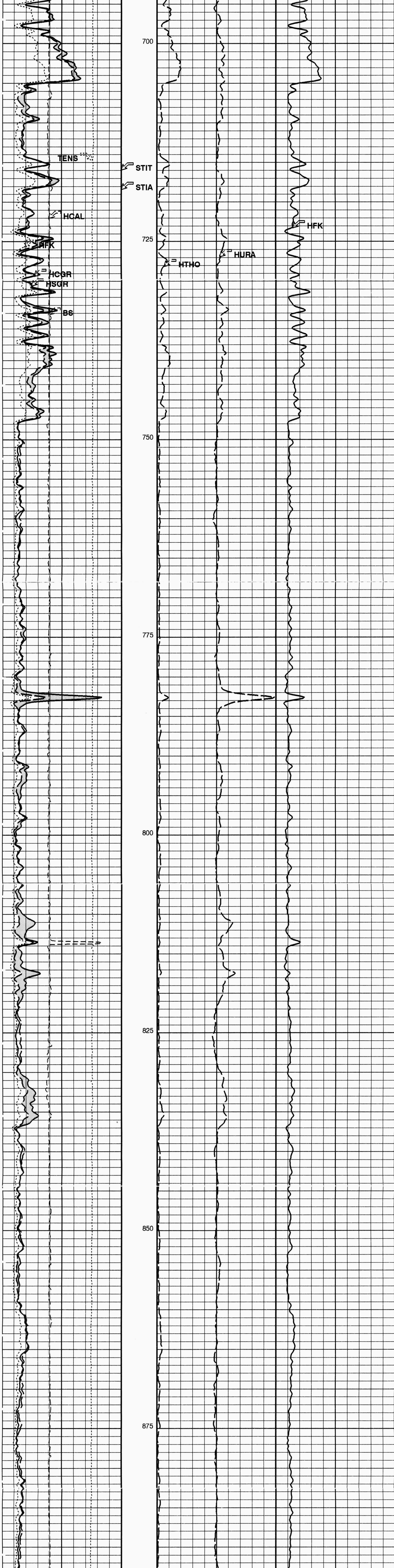
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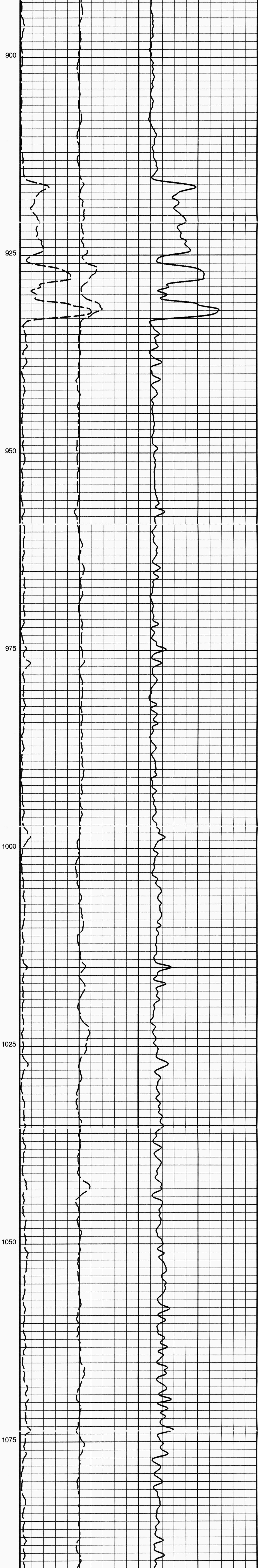
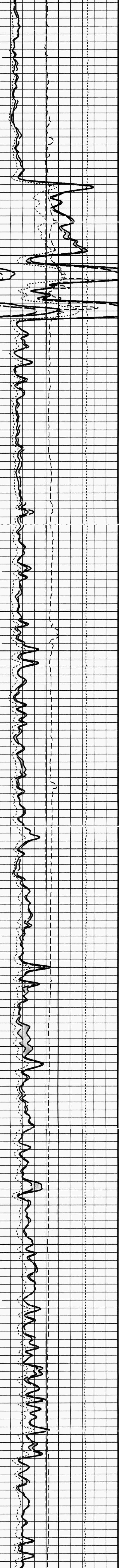
625

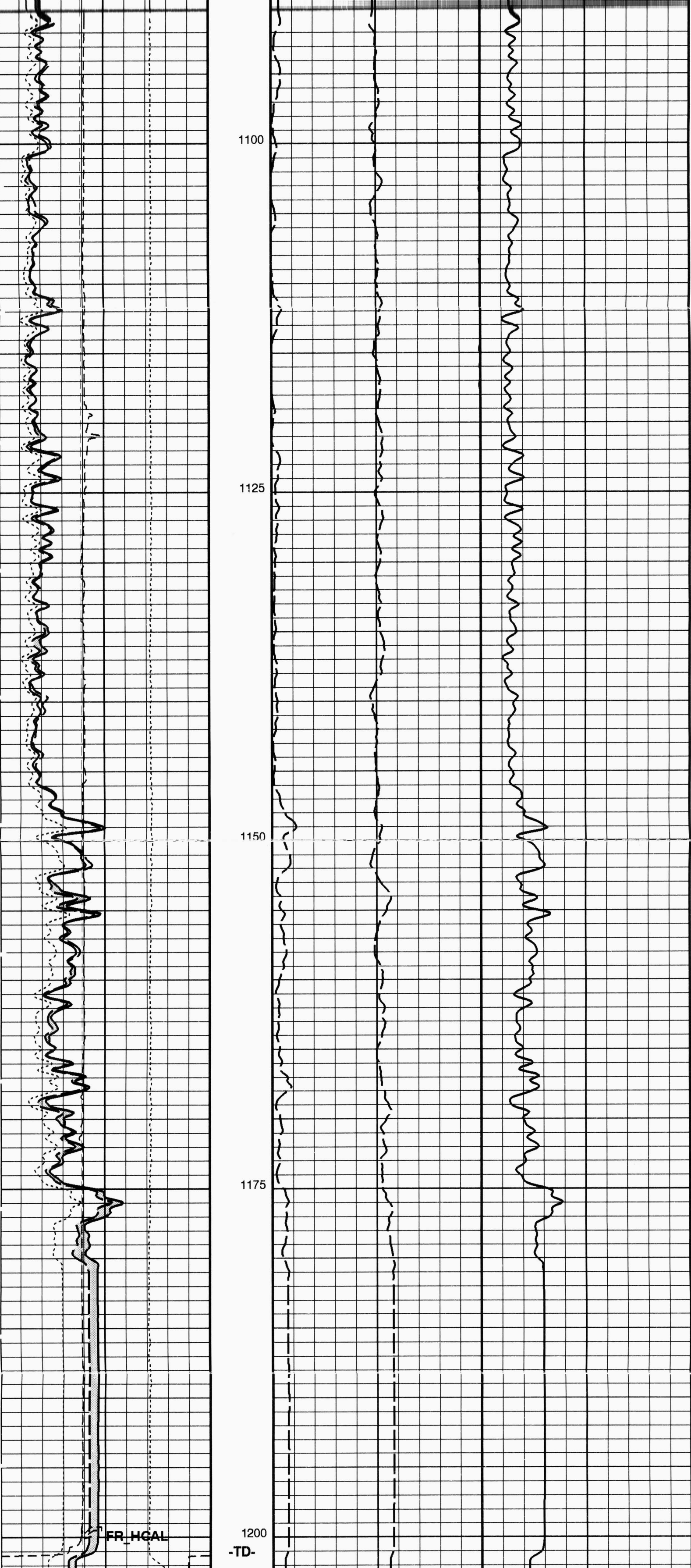
650

675









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

PIP SUMMARY

Time Mark Every 60 S

Parameters			
DLIS Name	Description	Value	
BHS	HILTH-FTB: High resolution Integrated Logging Tool-DTS	OPEN	
GCSE	Borehole Status	HCAL	
BHS	HRLT-B: High Resolution Laterolog Array - B	OPEN	
GCSE	Borehole Status	HCAL	
BHS	HILTH2-FTB: High resolution Integrated Logging Tool-DTS2	OPEN	
GCSE	Borehole Status	HCAL	
BHS	HNGS-BA: Hostile Natural Gamma Ray Sonde	1	
BAR1	HNGS Detector 1 Barite Constant	1	
BAR2	HNGS Detector 2 Barite Constant	0	
BHK	HNGS Borehole Potassium Correction Concentration	OPEN	
BHS	Borehole Status	0	
CSD1	Inner Casing Outer Diameter	0	
CSD2	Outer Casing Outer Diameter	0	
CSW1	Inner Casing Weight	0	
CSW2	Outer Casing Weight	0	
DBCC	HNGS Barite Constant Correction Flag	NONE	
GCSE	Generalized Caliper Selection	HCAL	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	0.026445	
HALF	HNGS Alpha Filter Length	1524	
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	
S2BI	HNGS Detector 2 Calibration Bismuth Count Rate	1.3	
SGRC	HNGS Standard Gamma-Ray Correction Flag	YES	
TPOS	Tool Position	ECCE	
VBA1	HNGS Detector 1 Variable Barite Factor Running Average	0.991349	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.999198	
DIR:	Directional Survey Computation		
SPVD	TVD of Starting Point	0	
TIMD	Along hole depth of Tie-in Point	348	
TIVD	TVD of Tie-in Point	348	
HOLEV:	Integrated Hole/Cement Volume		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
STI:	Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	1.524	
TDD	Total Depth - Driller	1200.00	
TDL	Total Depth - Logger	1201.00	
	System and Miscellaneous		
BS	Bit Size	222.000	
DFD	Drilling Fluid Density	1180.00	
DO	Depth Offset for Playback	0.0	
DORL	Depth Offset for Repeat Analysis	0.0	
PP	Playback Processing	RECOMPUTE	

Format: HNGSNGT_S5 Vertical Scale: 1:240 Graphics File Created: 23-Feb-2008 18:53

OP System Version: 15C0-309			
MCM			
HILTH-FTB	SRPC-3402-Q3_2007	HRLT-B	15C0-309
HILTH2-FTB	SRPC-3402-Q3_2007	HNGC-B	SPC-3530-NUCL
HNGS-BA	SPC-3530-NUCL	DTC-H	15C0-309
SPA-A	9936		

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_011LUP	FN:17	PRODUCER	23-Feb-2008 16:24	1202.4 M	-13.7 M
Output DLIS Files						
DEFAULT	TLD_MCFL_CNL_HRLA_013PUP	FN:21	PRODUCER	23-Feb-2008 18:53		
BACKUP	TLD_MCFL_CNL_HRLA_013PUP	FN:22	PRODUCER	23-Feb-2008 18:53		

Company: PETRO-CANADA	Well: PETRO-CANADA BLACKWATER KWIJIKA M-59
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Input DLIS Files						
DEFAULT	TLD_MCFL_CNL_HRLA_011LUP	FN:17	PRODUCER	23-Feb-2008 16:24	1202.4 M	-13.7 M
DEFAULT	TLD_MCFL_CNL_HRLA_012PUP	FN:19	PRODUCER	23-Feb-2008 18:38	1205.5 M	1074.1 M
Output DLIS Files						
DEFAULT	TLD_MCFL_CNL_HRLA_013PUP	FN:21	PRODUCER	23-Feb-2008 18:53		
BACKUP	TLD_MCFL_CNL_HRLA_013PUP	FN:22	PRODUCER	23-Feb-2008 18:53		

OP System Version: 15C0-309				
MCM				
HILTH-FTB	SRPC-3402-Q3_2007	HRLT-B	15C0-309	
HILTH2-FTB	SRPC-3402-Q3_2007	HNGC-B	SPC-3530-NUCL	
HNGS-BA	SPC-3530-NUCL	DTC-H	15C0-309	
SPA-A	9936			



PIP SUMMARY

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
FTB	HILTH-FTB: High resolution Integrated Logging Tool-DTS	GREEN

BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
BHS	HRLT-B: High Resolution Laterolog Array - B	OPEN	
GCSE	Borehole Status	HCAL	
BHS	Generalized Caliper Selection	OPEN	
GCSE	HILTH2-FTB: High resolution Integrated Logging Tool-DTS2	HCAL	
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
	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	HCAL	
H1P	HNGS Detector 1 Allow/Disallow In Processing	ALLOW	
H2P	HNGS Detector 2 Allow/Disallow In Processing	ALLOW	
HABK	HNGS Borehole Potassium Running Average	0.026445	
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	0.991349	
VBA2	HNGS Detector 2 Variable Barite Factor Running Average	0.999198	
	DIR: Directional Survey Computation		
SPVD	TVD of Starting Point	0	M
TIMD	Along-hole depth of Tie-in Point	348	M
TIVD	TVD of Tie-in Point	348	M
	HOLEV: Integrated Hole/Cement Volume		
BHS	Borehole Status	OPEN	
GCSE	Generalized Caliper Selection	HCAL	
	System and Miscellaneous		
BS	Bit Size	222.000	MM
DFD	Drilling Fluid Density	1180.00	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: 23-Feb-2008 18:53			
OP System Version: 15C0-309			
MCM			
HILTH-FTB	SRPC-3402-Q3_2007	HRLT-B	15C0-309
HILTH2-FTB	SRPC-3402-Q3_2007	HNGC-B	SPC-3530-NUCL
HNGS-BA	SPC-3530-NUCL	DTC-H	15C0-309
SPA-A	9936		
Input DLIS Files			
DEFAULT	TLD_MCFL_CNL_HRLA_011LUP	FN:17	PRODUCER 23-Feb-2008 16:24 1202.4 M -13.7 M
DEFAULT	TLD_MCFL_CNL_HRLA_012PUP	FN:19	PRODUCER 23-Feb-2008 18:38 1205.5 M 1074.1 M
Output DLIS Files			
DEFAULT	TLD_MCFL_CNL_HRLA_013PUP	FN:21	PRODUCER 23-Feb-2008 18:53
BACKUP	TLD_MCFL_CNL_HRLA_013PUP	FN:22	PRODUCER 23-Feb-2008 18:53

Calibration and Check Summary							
Measurement	Nominal	Master	Before	After	Change	Limit	Units
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Stab Measurement Summary							
Before: 22-Feb-2008 10:39							
BS Window Ratio	0.7422	N/A	0.7431	N/A	N/A	N/A	CPS
BS Window Sum	29980	N/A	30020	N/A	N/A	N/A	
SS Window Ratio	0.4886	N/A	0.4888	N/A	N/A	N/A	
SS Window Sum	12830	N/A	12820	N/A	N/A	N/A	CPS
LS Window Ratio	0.2997	N/A	0.2984	N/A	N/A	N/A	CPS
LS Window Sum	1524	N/A	1522	N/A	N/A	N/A	
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Photo-multiplier High Voltages Calibrations							
Before: 22-Feb-2008 10:39							
BS PM High Voltage (Command)	1366	N/A	1359	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1294	N/A	1303	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1244	N/A	1249	N/A	N/A	N/A	V
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Crystal Quality Resolutions Calibration							
Before: 22-Feb-2008 10:39							
BS Crystal Resolution	10.62	N/A	10.61	N/A	N/A	N/A	%
SS Crystal Resolution	9.106	N/A	9.391	N/A	N/A	N/A	%
LS Crystal Resolution	8.132	N/A	8.035	N/A	N/A	N/A	%
High resolution Integrated Logging Tool-DTS Wellsite Calibration - MCFL Calibration							
Before: 22-Feb-2008 10:34							
Raw B0 Resistivity	3875	N/A	3882	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3836	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3837	N/A	N/A	N/A	OHMM
High resolution Integrated Logging Tool-DTS Wellsite Calibration - HILT Caliper Calibration							
Before: 22-Feb-2008 10:32							
HILT Caliper Zero Measurement	200.0	N/A	184.6	N/A	N/A	N/A	MM
HILT Caliper Plus Measurement	306.0	N/A	303.3	N/A	N/A	N/A	MM
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Detector Calibration							
Before: 22-Feb-2008 13:39							
Gamma Ray Background	30.00	N/A	10.57	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkg)	180.7	N/A	180.7	N/A	N/A	16.43	GAPI
Gamma Ray (Calibrated)	162.0	N/A	162.0	N/A	N/A	15.00	GAPI
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Zero Measurement							
Master: 15-Jan-2008 15:00 Before: 22-Feb-2008 13:32							
CNTC Background	26.64	26.64	26.88	N/A	N/A	3.996	CPS
CFTC Background	26.42	26.42	27.40	N/A	N/A	3.963	CPS
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Ratio Measurement							
Master: 15-Jan-2008 15:00							
Thermal Near Corr. (Tank)	5800	6123	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2400	2592	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.362	N/A	N/A	N/A	N/A	
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Accelerometer Calibration							
Before: 23-Feb-2008 14:50							
Z-Axis Acceleration	9.810	N/A	9.811	N/A	N/A	N/A	M/S2
High resolution Integrated Logging Tool-DTS Master Calibration - Inversion results							
Master: 15-Feb-2008 14:33							
Rho Aluminum	2596	2598	--	--	--	--	K/M3
Rho Magnesium	1686	1687	--	--	--	--	K/M3
Pe Aluminum	2.570	2.555	--	--	--	--	
Pe Magnesium	2.650	2.616	--	--	--	--	
High resolution Integrated Logging Tool-DTS Master Calibration - Deviation Summary							
Master: 15-Feb-2008 14:33							
BS Average Deviation	0	0.4449	--	--	--	--	%
BS Max Deviation	0	1.303	--	--	--	--	%
SS Average Deviation	0	0.2374	--	--	--	--	%
SS Max Deviation	0	0.6135	--	--	--	--	%
LS Average Deviation	0	0.6376	--	--	--	--	%
LS Max Deviation	0	1.442	--	--	--	--	%
High Resolution Laterolog Array - B Wellsite Calibration - HRLT M01							
Before: 23-Feb-2008 14:50							
HRLT M0-M1 Voltage Plus - 0	0	N/A	-321.1	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 1	0	N/A	-368.7	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 2	0	N/A	-338.6	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 3	0	N/A	-337.3	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 4	0	N/A	-324.0	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 5	0	N/A	-327.7	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 6	0	N/A	359.4	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 7	0	N/A	-322.7	N/A	N/A	9.681	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT M12							
Before: 23-Feb-2008 14:50							
HRLT M1-M2 Voltage Plus - 0	0	N/A	1765	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 1	0	N/A	2019	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 2	0	N/A	1851	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 3	0	N/A	1846	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 4	0	N/A	1777	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 5	0	N/A	1800	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 6	0	N/A	-1976	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 7	0	N/A	1781	N/A	N/A	53.42	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT M23							
Before: 23-Feb-2008 14:50							
HRLT M2-M3 Voltage Plus - 0	0	N/A	1749	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 1	0	N/A	2018	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 2	0	N/A	1851	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 3	0	N/A	1849	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 4	0	N/A	1772	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 5	0	N/A	1795	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 6	0	N/A	-1963	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 7	0	N/A	1781	N/A	N/A	53.42	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT V34							
Before: 23-Feb-2008 14:50							
HRLT A3-A4 Voltage Plus - 0	0	N/A	68930	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 1	0	N/A	79220	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 2	0	N/A	72960	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 3	0	N/A	73170	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 4	0	N/A	70140	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 5	0	N/A	71070	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 6	0	N/A	-75920	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 7	0	N/A	70000	N/A	N/A	2100	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT V45							
Before: 23-Feb-2008 14:50							
HRLT A4-A5 Voltage Plus - 0	0	N/A	68800	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 1	0	N/A	79010	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 2	0	N/A	72780	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 3	0	N/A	73000	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 4	0	N/A	69990	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 5	0	N/A	70920	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 6	0	N/A	-75720	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 7	0	N/A	70000	N/A	N/A	2100	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT V56							
Before: 23-Feb-2008 14:50							
HRLT A5-A6 Voltage Plus - 0	0	N/A	69210	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 1	0	N/A	79600	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 2	0	N/A	73290	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 3	0	N/A	73480	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 4	0	N/A	70410	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 5	0	N/A	71340	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 6	0	N/A	-76280	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 7	0	N/A	70000	N/A	N/A	2100	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT VTP							
Before: 23-Feb-2008 14:50							
HRLT Torpedo-M0 Voltage - 0	0	N/A	-68600	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 1	0	N/A	-79280	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 2	0	N/A	-73020	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 3	0	N/A	-73260	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 4	0	N/A	-70220	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 5	0	N/A	-71150	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 6	0	N/A	75910	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 7	0	N/A	-70000	N/A	N/A	2100	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT VBD							
Before: 23-Feb-2008 14:50							
HRLT Bridle#9-M0 Voltage - 0	0	N/A	-68580	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 1	0	N/A	-79240	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 2	0	N/A	-72990	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 3	0	N/A	-73230	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 4	0	N/A	-70220	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 5	0	N/A	-71150	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 6	0	N/A	75880	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 7	0	N/A	-70000	N/A	N/A	2100	UV
High Resolution Laterolog Array - B Wellsite Calibration - HRLT ISO							
Before: 23-Feb-2008 14:50							
HRLT Source Current Plus - 0	0	N/A	286.2	N/A	N/A	8.520	UA
HRLT Source Current Plus - 1	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 2	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 3	0	N/A	281.1	N/A	N/A	8.520	UA

HRLT Source Current Plus - 4	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 5	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 6	0	N/A	281.1	N/A	N/A	8.520	UA
HRLT Source Current Plus - 7	0	N/A	281.1	N/A	N/A	8.520	UA
High Resolution Laterolog Array - B Wellsite Calibration - HRLT MV							
Before: 23-Feb-2008 14:50							
HRLT Vertical Voltage PI - 0	0	N/A	-323.0	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 1	0	N/A	-361.3	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 2	0	N/A	-331.3	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 3	0	N/A	-328.4	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 4	0	N/A	-312.8	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 5	0	N/A	-331.8	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 6	0	N/A	366.8	N/A	N/A	9.681	UV
HRLT Vertical Voltage PI - 7	0	N/A	-322.7	N/A	N/A	9.681	UV
High resolution Integrated Logging Tool-DTS2 Wellsite Calibration - Stab Measurement Summary							
Before: 22-Feb-2008 13:21							
BS2 Window Ratio	0.7383	N/A	0.7364	N/A	N/A	N/A	CPS
BS2 Window Sum	26790	N/A	26850	N/A	N/A	N/A	
SS2 Window Ratio	0.4880	N/A	0.4877	N/A	N/A	N/A	CPS
SS2 Window Sum	12320	N/A	12280	N/A	N/A	N/A	
LS2 Window Ratio	0.2973	N/A	0.3011	N/A	N/A	N/A	CPS
LS2 Window Sum	1478	N/A	1470	N/A	N/A	N/A	
High resolution Integrated Logging Tool-DTS2 Wellsite Calibration - Photo-multiplier High Voltages Calibrations							
Before: 22-Feb-2008 13:21							
BS2 PM High Voltage (Command)	1403	N/A	1390	N/A	N/A	N/A	V
SS2 PM High Voltage (Command)	1315	N/A	1297	N/A	N/A	N/A	V
LS2 PM High Voltage (Command)	1334	N/A	1323	N/A	N/A	N/A	V
High resolution Integrated Logging Tool-DTS2 Wellsite Calibration - Crystal Quality Resolutions Calibration							
Before: 22-Feb-2008 13:21							
BS2 Crystal Resolution	11.04	N/A	10.88	N/A	N/A	N/A	%
SS2 Crystal Resolution	9.084	N/A	9.371	N/A	N/A	N/A	%
LS2 Crystal Resolution	8.323	N/A	8.459	N/A	N/A	N/A	%
High resolution Integrated Logging Tool-DTS2 Wellsite Calibration - MCFL2 Calibration							
Before: 22-Feb-2008 13:13							
Raw B0 Resistivity	3875	N/A	3842	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3815	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3819	N/A	N/A	N/A	OHMM
High resolution Integrated Logging Tool-DTS2 Wellsite Calibration - HILT2 Caliper Calibration							
Before: 22-Feb-2008 13:09							
HILT2 Caliper Zero Measurement	200.0	N/A	176.5	N/A	N/A	N/A	MM
HILT2 Caliper Plus Measurement	306.0	N/A	290.3	N/A	N/A	N/A	MM
High resolution Integrated Logging Tool-DTS2 Master Calibration - Inversion results							
Master: 22-Feb-2008 12:27							
Rho Aluminum	2596	2601	--	--	--	--	K/M3
Rho Magnesium	1686	1686	--	--	--	--	K/M3
Pe Aluminum	2.570	2.561	--	--	--	--	
Pe Magnesium	2.650	2.617	--	--	--	--	
High resolution Integrated Logging Tool-DTS2 Master Calibration - Deviation Summary							
Master: 22-Feb-2008 12:27							
BS2 Average Deviation	0	0.2741	--	--	--	--	%
BS2 Max Deviation	0	1.036	--	--	--	--	%
SS2 Average Deviation	0	0.3569	--	--	--	--	%
SS2 Max Deviation	0	1.416	--	--	--	--	%
LS2 Average Deviation	0	0.5074	--	--	--	--	%
LS2 Max Deviation	0	1.283	--	--	--	--	%
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 1 Check							
Master: 4-Jan-2008 9:55 Before: 22-Feb-2008 14:24							
Na 511 Peak Loc	40.00	39.78	39.66	N/A	N/A	1.000	%
Na 511 Peak Res	15.50	15.38	14.95	N/A	N/A	2.000	
High Voltage	1150	1258	1238	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	143.7	143.5	N/A	N/A	7.000	%
Na 1785 Peak Res	8.500	8.442	7.671	N/A	N/A	2.000	
Temperature	15.50	22.14	13.05	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	35.30	33.55	N/A	N/A	8.000	CPS
Hostile Natural Gamma Ray Sonde Wellsite Calibration - Detector 2 Check							
Master: 4-Jan-2008 9:55 Before: 22-Feb-2008 14:24							
Na 511 Peak Loc	40.00	39.66	39.58	N/A	N/A	1.000	%
Na 511 Peak Res	15.50	14.86	16.08	N/A	N/A	2.000	
High Voltage	1150	1273	1255	N/A	N/A	N/A	V
Na 1785 Peak Loc	142.6	142.7	143.1	N/A	N/A	7.000	%
Na 1785 Peak Res	8.500	8.234	8.070	N/A	N/A	2.000	
Temperature	15.50	21.49	12.34	N/A	N/A	N/A	DEGC
Na Count Rate	45.00	35.28	33.40	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: 22-Feb-2008 14:24							
Coincidence Count Rate Ratio	1.000	1.001	1.004	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	6.765	--	--	--	--	CPS
Background Count Rate	142.5	82.05	--	--	--	--	
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	--	--	--	--	CPS
Background Count Rate	142.5	80.00	--	--	--	--	
Gain Ratio	1.000	1.013	--	--	--	--	
The GLS-VJ source activity is acceptable.							
The HGNS Neutron Master Calibration was done with the following parameters :							
NCT-B Water Temperature	19.4	DEGC.					
Thermal Housing Size	85.750	MM.					
NSR-F serial number	5196						
The GLS-VJ2 source activity is acceptable.							

High resolution Integrated Logging Tool-DTS / Equipment Identification			
Primary Equipment:			
HILT high-Resolution Mechanical Sonde	HRMS - H	4719	
HILT Rxo Gamma-ray Device	HRGD - H	4751	
HILT Micro Cylindrically Focused Log Dev	MCFL - H		
GR Logging Source	GLS - VJ	5041	
HILT High Res. Control Cartridge	HRCC - H	4722	
HILT Gamma-Ray Neutron Sonde-DTS	HGNS - H	4738	
HGNS Gamma-Ray Device	HGR -		
HGNS Neutron Detector with Alpha Source	HCNT - H		
Auxiliary Equipment:			
Neutron Calibration Tank	NCT - B		
Gamma Source Radioactive	GSR - U/Y	11	
HGNS Housing	HGNH -	3811	

High resolution Integrated Logging Tool-DTS Wellsite Calibration											
Stab Measurement Summary											
Phase	BS Window Ratio		Value	Phase	SS Window Ratio		Value	Phase	LS Window Ratio		Value
Before			0.7431	Before			0.4888	Before			0.2984
	0.7051 (Minimum)	0.7422 (Nominal)	0.7793 (Maximum)		0.4642 (Minimum)	0.4886 (Nominal)	0.5131 (Maximum)		0.2848 (Minimum)	0.2997 (Nominal)	0.3147 (Maximum)
Phase	BS Window Sum CPS		Value	Phase	SS Window Sum CPS		Value	Phase	LS Window Sum CPS		Value
Before			30020	Before			12820	Before			1522
	28480 (Minimum)	29980 (Nominal)	31480 (Maximum)		12190 (Minimum)	12830 (Nominal)	13470 (Maximum)		1448 (Minimum)	1524 (Nominal)	1600 (Maximum)
Before: 22-Feb-2008 10:39											

High resolution Integrated Logging Tool-DTS Wellsite Calibration														
Photo-multiplier High Voltages Calibrations														
Phase	BS PM High Voltage (Command) V			Value	Phase	SS PM High Voltage (Command) V			Value	Phase	LS PM High Voltage (Command) V			Value
Before				1359	Before				1303	Before				1249
	1266 (Minimum)	1366 (Nominal)	1466 (Maximum)			1194 (Minimum)	1294 (Nominal)	1394 (Maximum)			1144 (Minimum)	1244 (Nominal)	1344 (Maximum)	
Before: 22-Feb-2008 10:39														

High resolution Integrated Logging Tool-DTS Wellsite Calibration											
Crystal Quality Resolutions Calibration											
Phase	BS Crystal Resolution %		Value	Phase	SS Crystal Resolution %		Value	Phase	LS Crystal Resolution %		Value
Before			10.61	Before			9.391	Before			8.035
	9.623 (Minimum)	10.62 (Nominal)	11.62 (Maximum)		8.106 (Minimum)	9.106 (Nominal)	10.11 (Maximum)		7.132 (Minimum)	8.132 (Nominal)	9.132 (Maximum)
Before: 22-Feb-2008 10:39											

High resolution Integrated Logging Tool-DTS Wellsite Calibration											
MCFL Calibration											
Phase	Raw B0 Resistivity OHMM		Value	Phase	Raw B1 Resistivity OHMM		Value	Phase	Raw B2 Resistivity OHMM		Value
Before			3882	Before			3836	Before			3837
	3565 (Minimum)	3875 (Nominal)	4185 (Maximum)		3524 (Minimum)	3830 (Nominal)	4136 (Maximum)		3524 (Minimum)	3830 (Nominal)	4136 (Maximum)
Before: 22-Feb-2008 10:34											

High resolution Integrated Logging Tool-DTS Wellsite Calibration					
HILT Caliper Calibration					
Phase	HILT Caliper Zero Measurement MM	Value	Phase	HILT Caliper Plus Measurement MM	Value
Before		184.6	Before		303.3
	150.0 (Minimum) 200.0 (Nominal) 250.0 (Maximum)			229.5 (Minimum) 306.0 (Nominal) 382.5 (Maximum)	
Before: 22-Feb-2008 10:32					

High resolution Integrated Logging Tool-DTS Wellsite Calibration								
Detector Calibration								
Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		10.57	Before		180.7	Before		162.0
0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)	164.3 (Minimum)	180.7 (Nominal)	197.2 (Maximum)	147.0 (Minimum)	162.0 (Nominal)	177.0 (Maximum)
Before: 22-Feb-2008 13:39								

High resolution Integrated Logging Tool-DTS Wellsite Calibration					
Zero Measurement					
Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		26.64	Master		26.42
Before		26.88	Before		27.40
	5.000 (Minimum) 26.64 (Nominal) 40.00 (Maximum)			5.000 (Minimum) 26.42 (Nominal) 40.00 (Maximum)	
Master: 15-Jan-2008 15:00 Before: 22-Feb-2008 13:32					

High resolution Integrated Logging Tool-DTS Wellsite Calibration														
Ratio Measurement														
Phase	Thermal Near Corr. (Tank) CPS			Value	Phase	Thermal Far Corr. (Tank) CPS			Value	Phase	CNTC/CFTC (Tank)			Value
Master				61.23	Master				2592	Master				2.362
	4700 (Minimum)	5800 (Nominal)	6900 (Maximum)			1900 (Minimum)	2400 (Nominal)	2900 (Maximum)			2.120 (Minimum)	2.159 (Nominal)	2.540 (Maximum)	
Master: 15-Jan-2008 15:00														

High resolution Integrated Logging Tool-DTS		
Wellsite Calibration		
Accelerometer Calibration		
Phase	Z-Axis Acceleration M/S2	Value
Before		9.811
9.810 (Minimum)	9.810 (Nominal)	10.01 (Maximum)
Before: 23-Feb-2008 14:50		

0.9500 (Minimum)	1.000 (Nominal)	1.050 (Maximum)
Master: 4-Jan-2008 9:55		
Before: 22-Feb-2008 14:24		

Hostile Natural Gamma Ray Sonde Master Calibration

Detector 1 Calibration

Detector 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 40.00 43.00				201.0 209.6 218.3				5.000 7.000 9.000			
(Minimum) (Nominal) (Maximum)				(Minimum) (Nominal) (Maximum)				(Minimum) (Nominal) (Maximum)			
Phase	Background Count Rate CPS		Value	Phase	Gain Ratio		Value				
Master			82.05	Master			1.009				
10.00 142.5 265.0				0.9400 1.000 1.060							
(Minimum) (Nominal) (Maximum)				(Minimum) (Nominal) (Maximum)							
Master: 4-Jan-2008 9:50											

Hostile Natural Gamma Ray Sonde Master Calibration

Detector 2 Calibration

Detector 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											

DTS Telemetry Tool / Equipment Identification

Primary Equipment:

DTC-H Auxiliary Cartridge
DTC-H Telemetry Cartridge

DTCH - A 9397
DTCH - A 9397

Auxiliary Equipment:

DTCH Telemetry Cartridge Housing

ECH - KC 10485

Company: **PETRO-CANADA**

Well: **PETRO-CANADA BLACKWATER KWIJKA M-59**

Field: **KWIJKA**

Province: **NORTHWEST TERRITORIES**

MD

Schlumberger

MD

**HOSTILE ENVIRONMENT
NATURAL GAMMA RAY LOG**