

SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:			10829928 12C0-301			SERVICE ORDER #: PROGRAM VERSION: FLUID LEVEL:		
LOGGED INTERVAL		START	STOP	LOGGED INTERVAL		START	STOP	
EQUIPMENT DESCRIPTION								
RUN 1				RUN 2				
SURFACE EQUIPMENT GSR-U/Y NCT-B CNB-AB NCS-VB WITM (DTS)-A								
DOWNHOLE EQUIPMENT								
LEH-QT LEH-QT 1908				26.78				
AH-169				25.89				
SPA-A SPA-A		SP SPARC	24.88	25.49				
DTC-H ECH-KC 9803		CTEM TelStatus ToolStatu	23.99 23.35	24.27				
DTA-A ECH-KE 8006 DTA-AA 8006				23.35				
LDT-D GSR-J 2043 PGD-G 1867 NSC-E 1868 ECH-MKA 1872 DRS-E 723 PDH-L 3745				22.13				
		Caliper LS SS	17.66 17.64 17.49					
AH-DTB TERM				16.85				
AH-90 DEG				16.55				
AH-107				15.94				
HRLT-B HRLH-B HRLC-B AH-270				15.33 25 MM Standoff				
		High Res.	11.75					
				25 MM Standoff				
HILTB-FTB AH-107 AH-107 HGNSD-B 1934 HMCA HGNH 2805 NLS-KL 2516 NSR-F 2516 HACCZ HCNT HGR HRCC-B 915 HRMS-B 908 HRGD-B 1860 GLS-VJ 1904 MCFL Device HILT Nucl. LS HILT Nucl. SS				HGNS HTEM HMCA Gamma-Ray Neutron F Neutron N HGNS sens HRCC cart MCFL HILT cali HRDD-LS HRDD-SS HRDD-BS DF HTEN HMAS HV Accelerom Tension		7.96 6.74 6.51 4.73 4.58 3.87 2.65 1.00 0.85 0.73 0.00		
BNS-CCS				0.14				
TOOL ZERO								
MAXIMUM STRING DIAMETER 143 MM MEASUREMENTS RELATIVE TO TOOL ZERO ALL LENGTHS IN METERS								

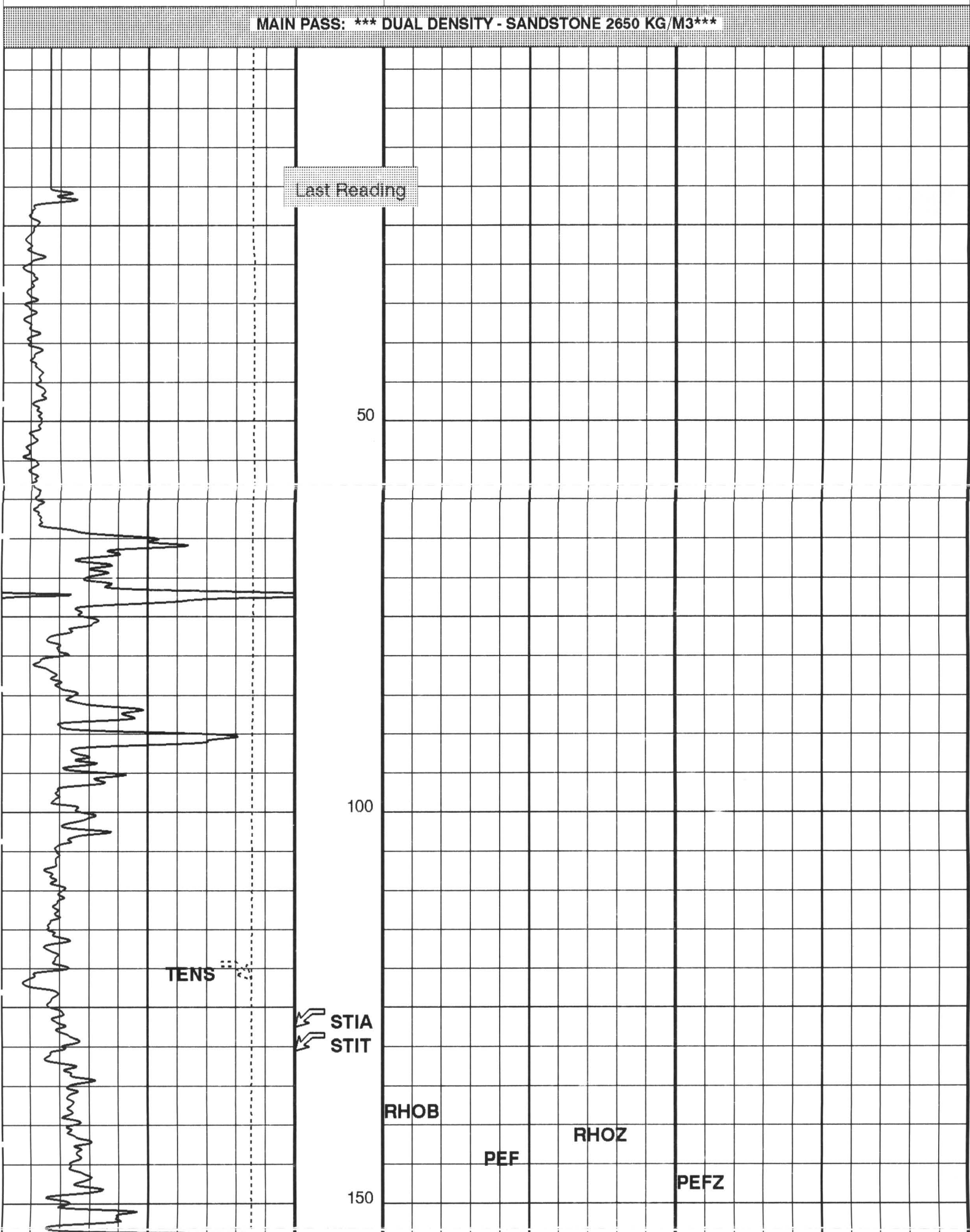
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Output DLIS Files						
DEFAULT	TLD_MCFL_CNL_HRLA_054PUP	FN:61	PRODUCER	09-Mar-2005 18:14	1013.9 M	2.1 M
OPTICAL	TLD_MCFL_CNL_HRLA_054PUP	FN:62	PRODUCER	09-Mar-2005 18:14	1013.9 M	2.1 M

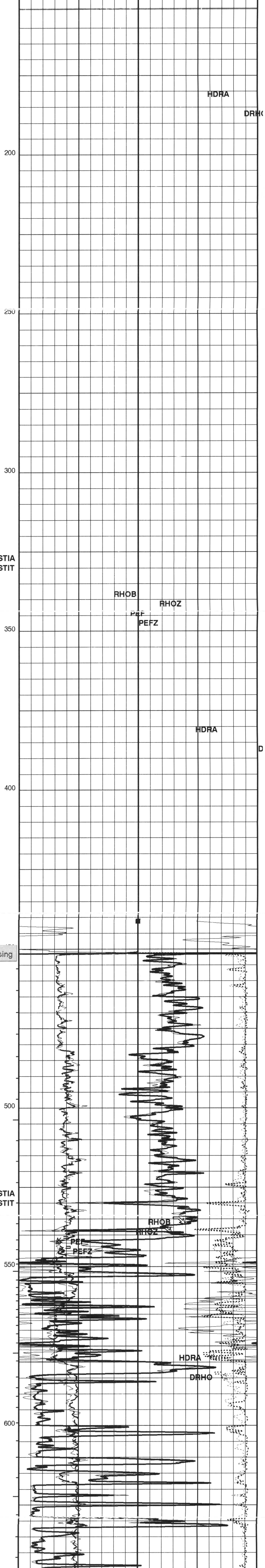
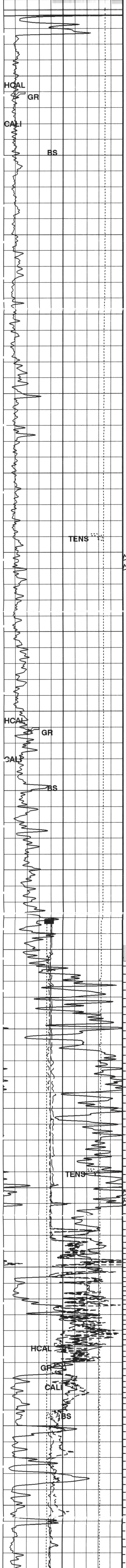
Integrated Hole/Cement Volume Summary	
Hole Volume = 22.65 M3	
Cement Volume = 8.76 M3 (assuming 177.80 MM casing O.D.)	
Computed from 1010.6 M to 451.6 M using data channel(s) CALI HCAL	

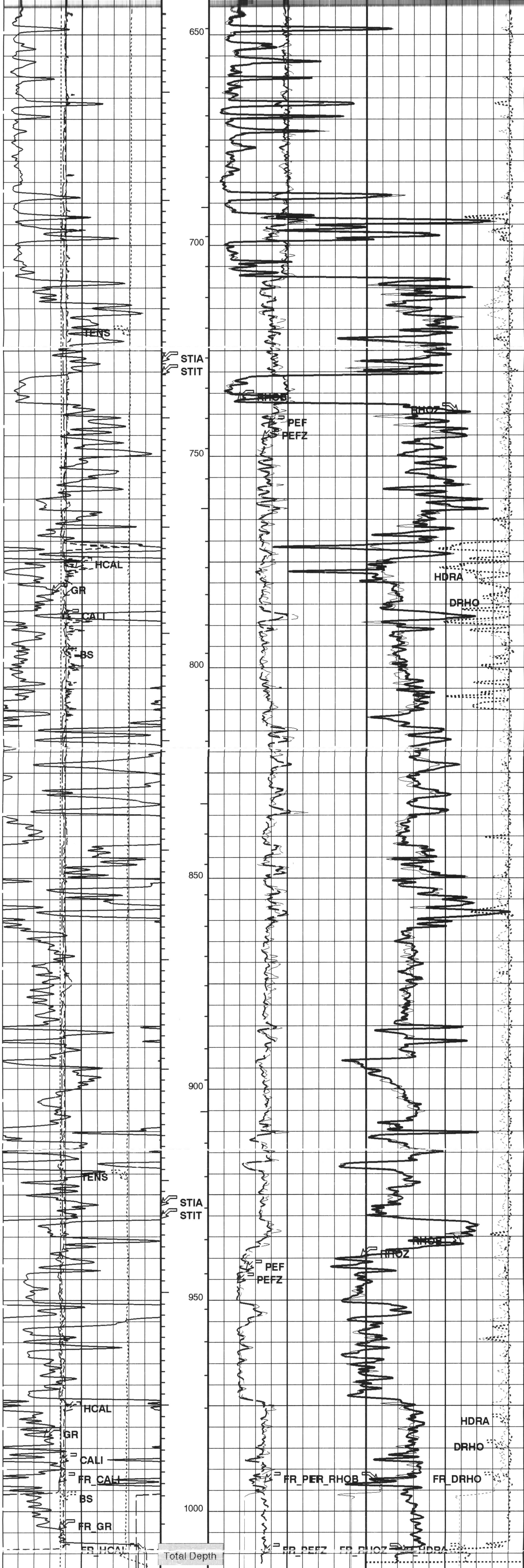
OP System Version: 12C0-301			
MCM			
HILTB-FTB	SRPC-2699-HILT	HRLT-B	12C0-301
LDT-D	12C0-301	DTA-A	12C0-301
DTC-H	12C0-301	SPA-A	12C0-301

PIP SUMMARY	
└ Integrated Hole Volume Minor Pip Every 0.1 M3	
└ Integrated Hole Volume Major Pip Every 1 M3	
└ Integrated Cement Volume Minor Pip Every 0.1 M3	
└ Integrated Cement Volume Major Pip Every 1 M3	

Time Mark Every 60 S	
Tension (TENS) (N)	0
Caliper (HCAL) (MM)	375
Gamma Ray (GR) (GAPI)	150
Caliper (CALI) (MM)	375
Bit Size (BS) (MM)	375
Bulk Density (RHOB) (K/M3)	
2000 3000	
Std. Res. Formation Density (RHOZ) (K/M3)	
2000 3000	
PhotoElectric Factor (PEF) (----	Density Correction (HDRA) (K/M3)
0 10 450	-50
Std. Res. Formation Pe (PEFZ) (----	Bulk Density Correction (DRHO) (K/M3)
0 10 450	-50







MAIN PASS: *** DUAL DENSITY - SANDSTONE 2650 KG/M3***

125	Bit Size (BS)	375
(MM)		
125	Caliper (CALI)	375
(MM)		
0	Gamma Ray (GR)	150
(GAPI)		
125	Caliper (HCAL)	375
(MM)		
50000	Tension (TENS)	0
(N)		

Std. Res. Formation Pe (PEFZ)			Bulk Density Correction (DRHO)		
0	(----	10	450	(K/M3)	-50
PhotoElectric Factor (PEF)			Density Correction (HDRA)		
0	(----	10	450	(K/M3)	-50
Std. Res. Formation Density (RHOZ)					
2000	(K/M3)				3000
Bulk Density (RHOZ)					
2000	(K/M3)				3000

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
HILTB-FTB: High resolution Integrated Logging Tool-DTS		
DFB	HILT Nuclear Mud Base	Water
DHC	Density Hole Correction	BS
DPPM	Density Porosity Processing Mode	HIRS
FD	Fluid Density	1000 K/M3
MDEN	Matrix Density	2650 K/M3
NAAC	HRDD APS Activation Correction	OFF
NMT	HILT Nuclear Mud Type	NOBARITE
NPRM	HRDD Processing Mode	HIRS
NSAR	HRDD Depth Sampling Rate	25.4 MM
LDT-D: Litho Density - D		
BSM	Borehole Fluid Medium	LIQUID
DHC	Density Hole Correction	BS
DPPM	Density Porosity Processing Mode	HIRS
FD	Fluid Density	1000 K/M3
MDEN	Matrix Density	2650 K/M3
WMUD	Mud Weight	1270 K/M3
HOLEV: Integrated Hole/Cement Volume		
FCD	Future Casing (Outer) Diameter	177.8 MM
HVCS	Integrated Hole Volume Caliper Selection	CALI/HCAL
STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	TDL
STKT	STI Stuck Threshold	1.524 M
TDD	Total Depth - Driller	1011.00 M
TDL	Total Depth - Logger	1010.70 M
System and Miscellaneous		
BS	Bit Size	216.000 MM

OP System Version: 12C0-301				
MCM				
HILTB-FTB	SRPC-2699-HILT	HRLT-B	12C0-301	
LDT-D	12C0-301	DTA-A	12C0-301	
DTC-H	12C0-301	SPA-A	12C0-301	

Input DLIS Files				
DEFAULT	TLD_MCFL_CNL_HRLA_048LUP	FN:53	PRODUCER	09-Mar-2005 17:02

Output DLIS Files				
DEFAULT	TLD_MCFL_CNL_HRLA_054PUP	FN:61	PRODUCER	09-Mar-2005 18:14
OPTICAL	TLD_MCFL_CNL_HRLA_054PUP	FN:62	PRODUCER	09-Mar-2005 18:14

Input DLIS Files				
DEFAULT	TLD_MCFL_CNL_HRLA_048LUP	FN:53	PRODUCER	09-Mar-2005 17:02 1013.9 M 1.7 M

Output DLIS Files				
DEFAULT	TLD_MCFL_CNL_HRLA_054PUP	FN:61	PRODUCER	09-Mar-2005 18:14 1013.9 M 2.1 M
OPTICAL	TLD_MCFL_CNL_HRLA_054PUP	FN:62	PRODUCER	09-Mar-2005 18:14 1013.9 M 2.1 M

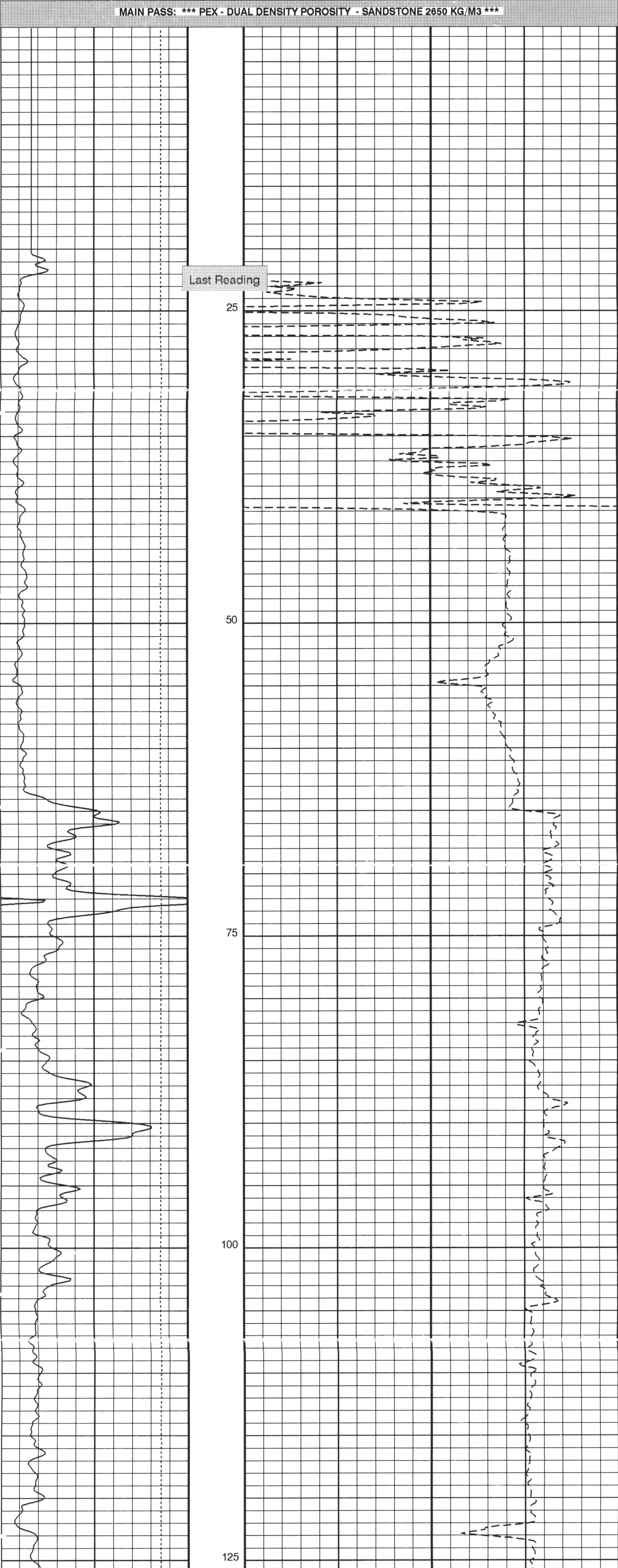
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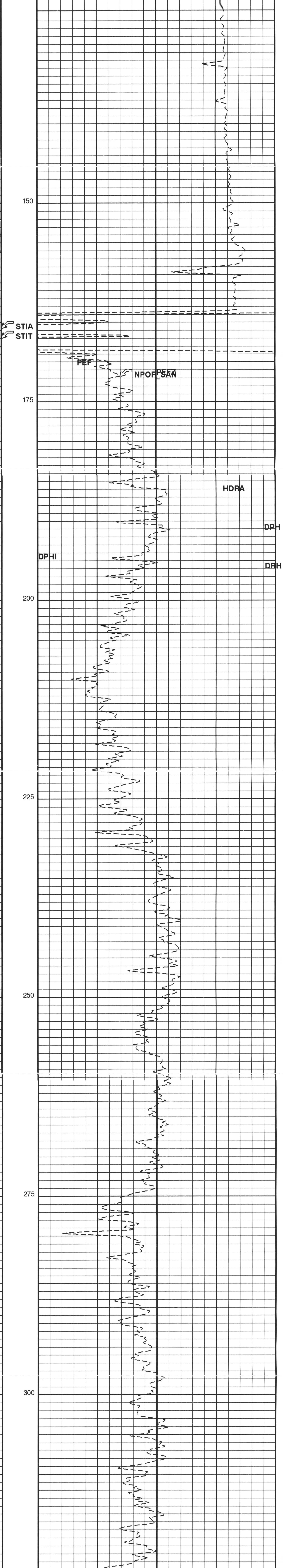
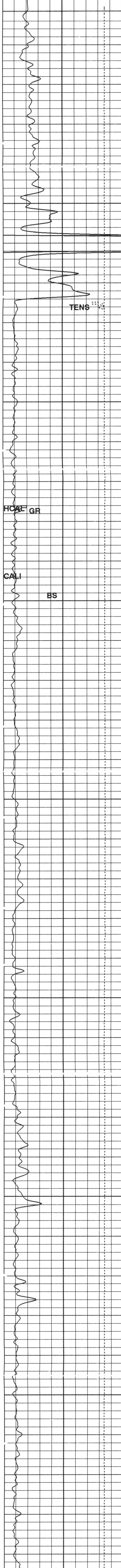
OP System Version: 12C0-301				
MCM				
HILTB-FTB	SRPC-2699-HILT	HRLT-B	12C0-301	
LDT-D	12C0-301	DTA-A	12C0-301	
DTC-H	12C0-301	SPA-A	12C0-301	

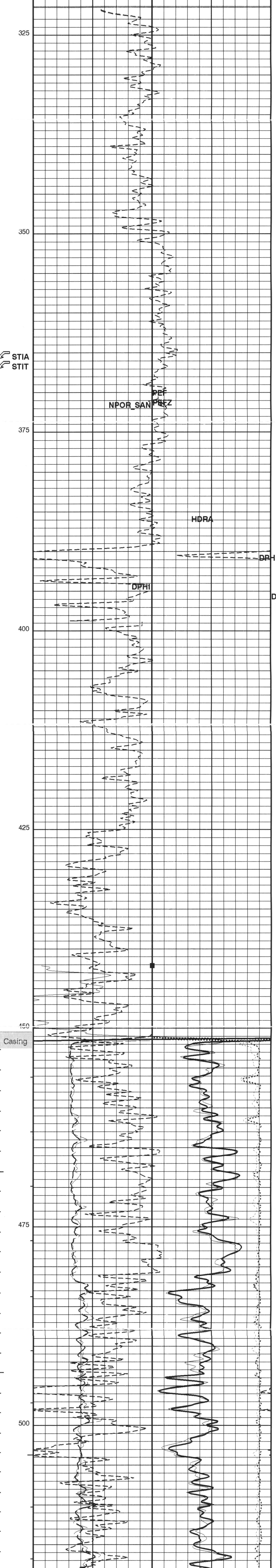
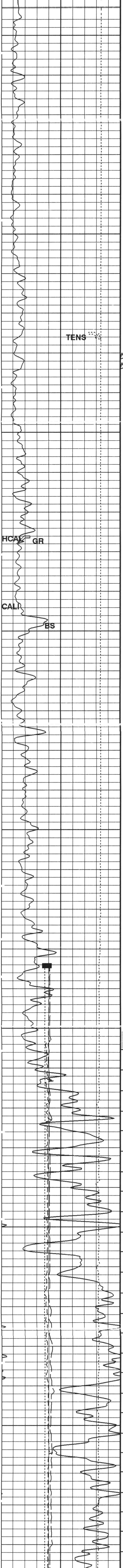
Changed Parameter Summary			
DLIS Name	New Value	Previous Value	Depth & Time
BHS	CASED	OPEN	452.0 18:18:51

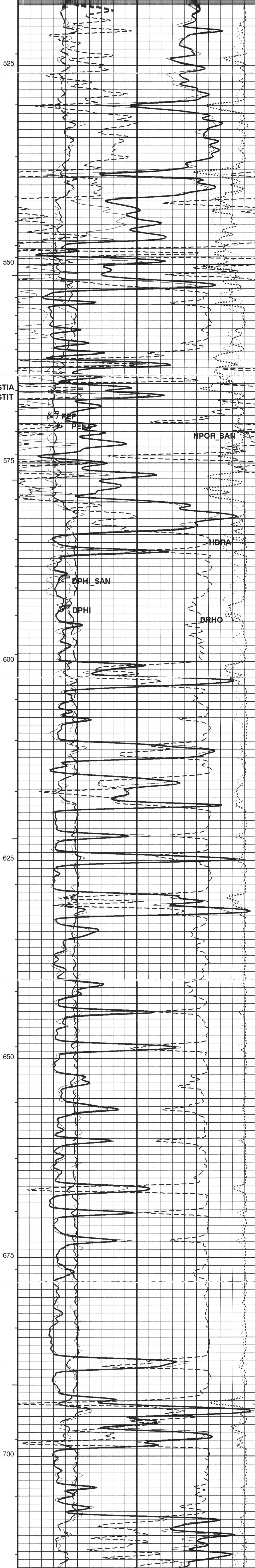
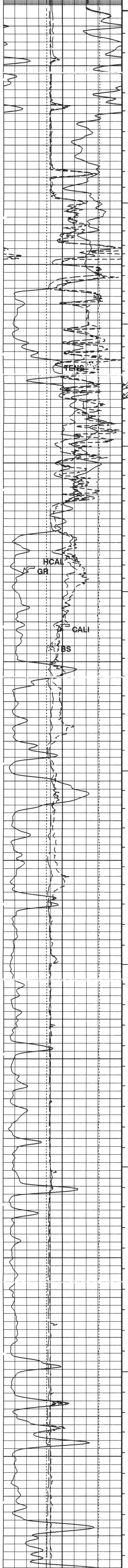
PIP SUMMARY			
→ Integrated Cement Volume Major Pip Every 1 M3			
→ Integrated Cement Volume Minor Pip Every 0.1 M3			
→ Integrated Hole Volume Major Pip Every 1 M3			
→ Integrated Hole Volume Minor Pip Every 0.1 M3			

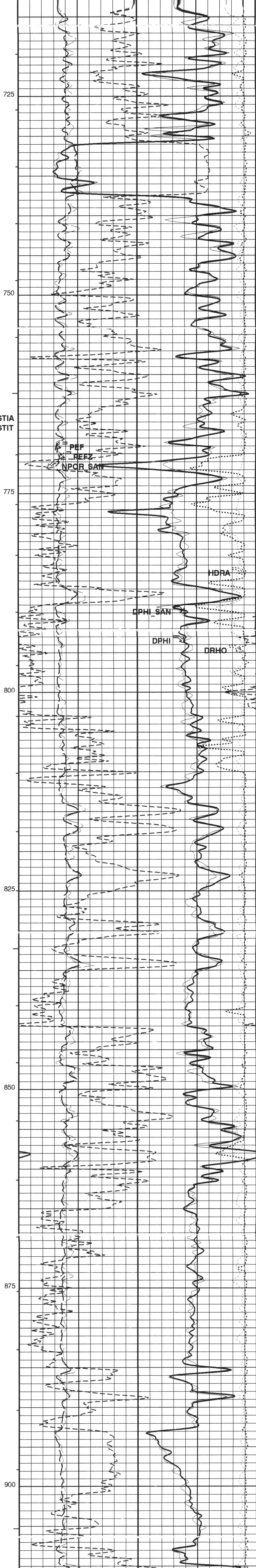
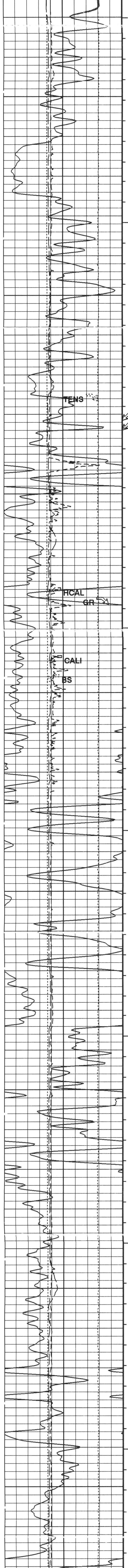
☒ Time Mark Every 60 S			
Tension (TENS)		PhotoElectric Factor (PEF)	Density Correction (HDRA)
50000 (N) 0		0 (----) 10 450	(K/M3) -50
Caliper (HCAL)		NPOR for SAND (NPOR_SAN)	
125 (MM) 375		0.45 (V/V) -0.15	
Gamma Ray (GR)		DPHI for SAND (DPHI_SAN)	
0 (GAPI) 150		0.45 (V/V) -0.15	
Caliper (CALI)		Std. Res. Formation Pe (PEFZ)	Bulk Density Correction (DRHO)
125 (MM) 375		0 (----) 10 450	(K/M3) -50
Bit Size (BS)		Density Porosity (DPHI)	
125 (MM) 375		0.45 (V/V) -0.15	

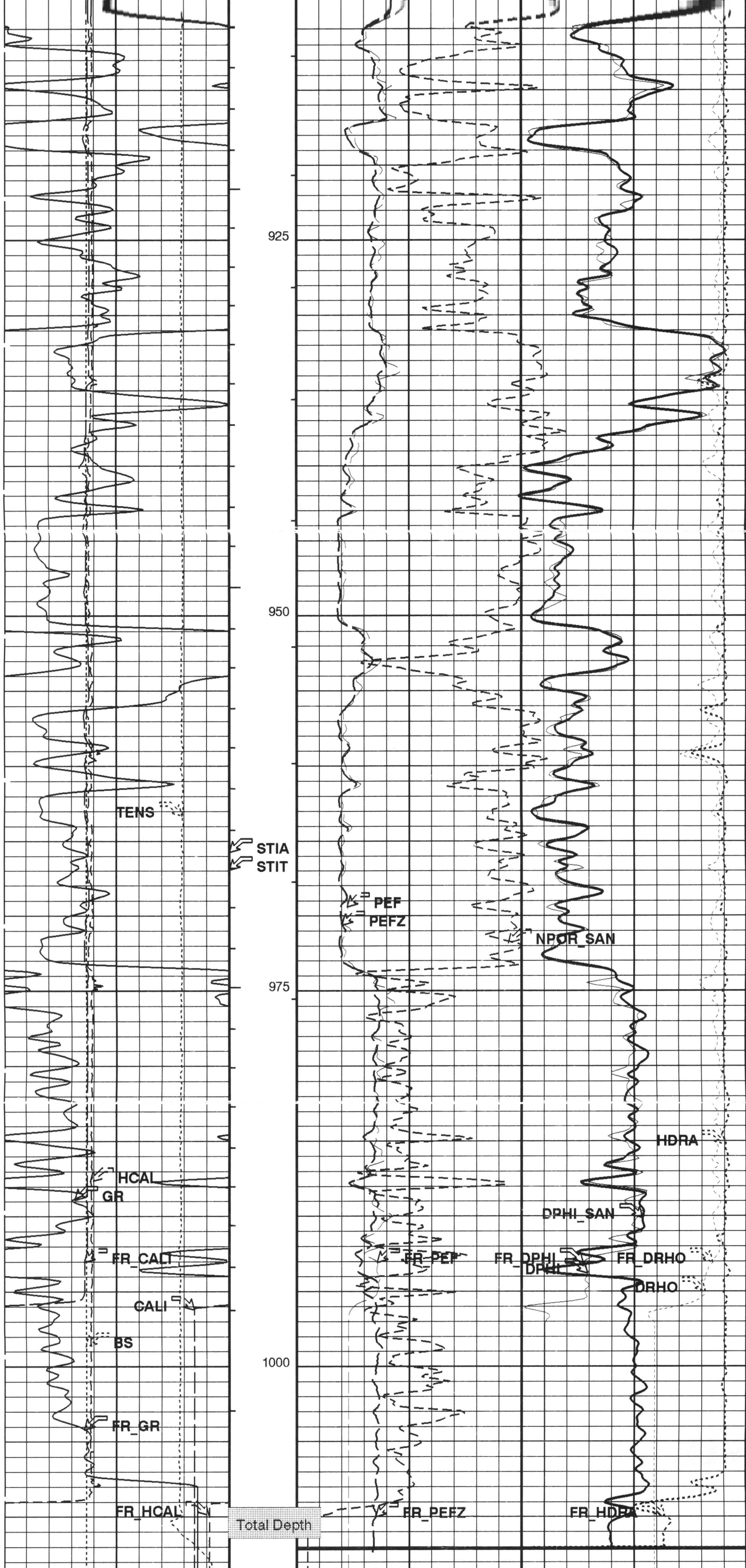












MAIN PASS: *** PEX - DUAL DENSITY POROSITY - SANDSTONE 2650 KG/M3 ***

125	Bit Size (BS) (MM)	375
125	Caliper (CALI) (MM)	375
0	Gamma Ray (GR) (GAPI)	150
125	Caliper (HCAL) (MM)	375
50000	Tension (TENS) (N)	0

0.45	Density Porosity (DPHI) (V/V)	-0.15
0	Std. Res. Formation Pe (PEFZ) (---)	10 450 (K/M3) -50
0.45	DPHI for SAND (DPHI_SAN) (V/V)	-0.15
0.45	NPOR for SAND (NPOR_SAN) (V/V)	-0.15
0	PhotoElectric Factor (PEF) (---)	10 450 (K/M3) -50

PIP SUMMARY

- Integrated Cement Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Hole Volume Minor Pip Every 0.1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
HILTB-FTB: High resolution Integrated Logging Tool-DTS		
BHFL	Borehole Fluid Type	WATER
BHS	Borehole Status	OPEN
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
DFB	HILT Nuclear Mud Base	Water
DHC	Density Hole Correction	BS
DPPM	Density Porosity Processing Mode	HIRS
FD	Fluid Density	1000 K/M3
FSAL	Formation Salinity	-50000 PPM
FSCO	Formation Salinity Correction Option	NO
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
HSCO	Hole Size Correction Option	YES
MCCO	Mud Cake Correction Option	NO
MCOR	Mud Correction	NATU
MDEN	Matrix Density	2650 K/M3
MWCO	Mud Weight Correction Option	NO
NAAC	HRDD APS Activation Correction	OFF
NMT	HILT Nuclear Mud Type	NOBARITE
NPRM	HRDD Processing Mode	HiRes
NSAR	HRDD Depth Sampling Rate	25.4 MM
PICO	Pressure/Temperature Correction Option	NO
SDAT	Standoff Data Source	SOCN
SOCN	Standoff Distance	3.175 MM
SOCO	Standoff Correction Option	YES
HRLT-B: High Resolution Laterolog Array - B		
BHS	Borehole Status	OPEN
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
LDT-D: Litho Density - D		
BFM	Borehole Fluid Medium	LIQUID
DHC	Density Hole Correction	BS
DPPM	Density Porosity Processing Mode	HIRS
FD	Fluid Density	1000 K/M3
MDEN	Matrix Density	2650 K/M3
WMUD	Mud Weight	1270 K/M3
HOLEV: Integrated Hole/Cement Volume		
BHS	Borehole Status	OPEN
FCD	Future Casing (Outer) Diameter	177.8 MM
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
HVCS	Integrated Hole Volume Caliper Selection	CALI/HCAL
STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	TDL
STKT	STI Stuck Threshold	1.524 M
TDD	Total Depth - Driller	1011.00 M
TDL	Total Depth - Logger	1010.70 M
System and Miscellaneous		
BS	Bit Size	216.000 MM
BSAL	Borehole Salinity	-50000.00 PPM
DO	Depth Offset for Playback	0.0 M
DORL	Depth Offset for Repeat Analysis	0.0 M
PP	Playback Processing	NORMAL
TD	Total Depth	1010.7 M

Format: PORO-SAND Vertical Scale: 1:240

Graphics File Created: 09-Mar-2005 18:14

OP System Version: 12C0-301

MCM

HILTB-FTB	SRPC-2699-HILT	HRLT-B	12C0-301
LDT-D	12C0-301	DTA-A	12C0-301
DTC-H	12C0-301	SPA-A	12C0-301

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_048LUP	FN:53	PRODUCER	09-Mar-2005 17:02
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Output DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_054PUP	FN:61	PRODUCER	09-Mar-2005 18:14
OPTICAL	TLD_MCFL_CNL_HRLA_054PUP	FN:62	PRODUCER	09-Mar-2005 18:14

Input DLIS Files

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Output DLIS Files

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OP System Version: 12C0-301

MCM

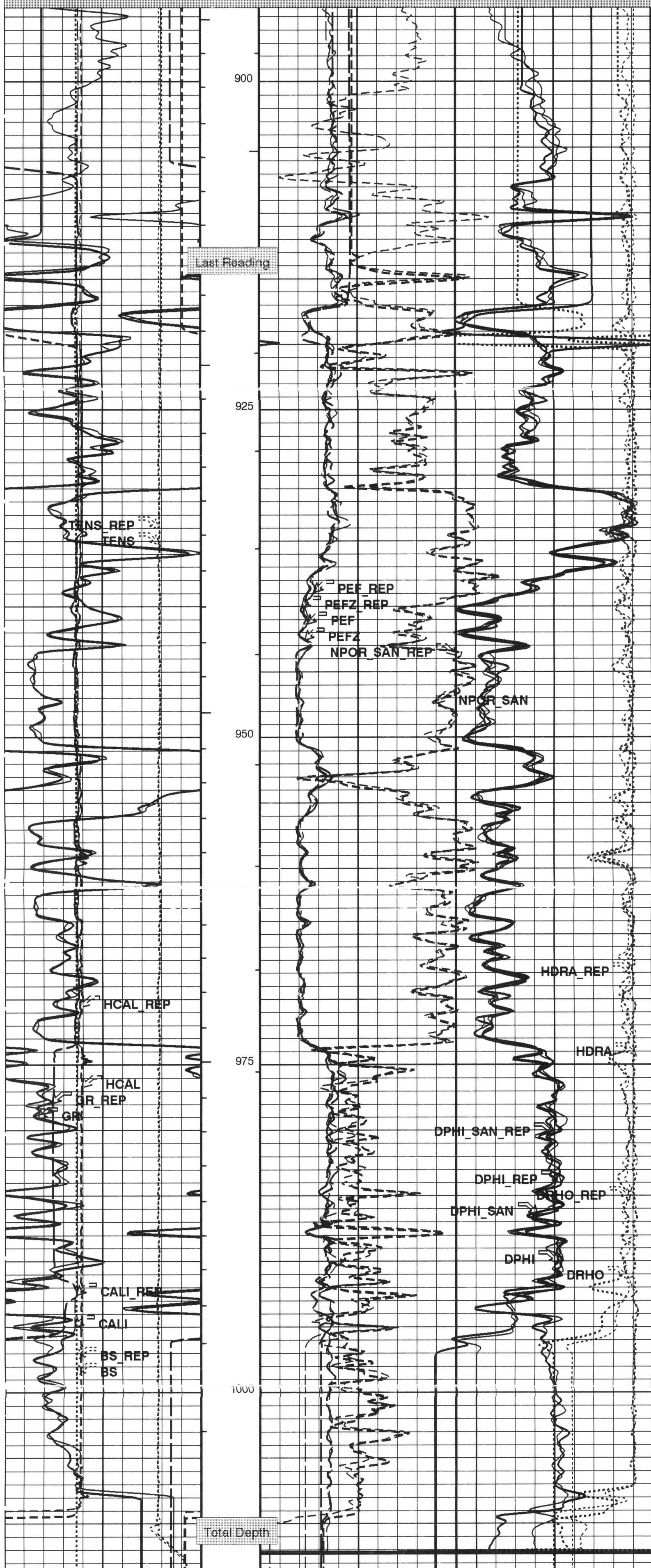
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LDT-D	12C0-301	DTA-A	12C0-301
DTC-H	12C0-301	SPA-A	12C0-301

PIP SUMMARY

- Integrated Cement Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Hole Volume Minor Pip Every 0.1 M3

Time Mark Every 60 S TENS REP Curve (TENS REP) 50000 (N) 0	PEF REP Curve (PEF REP) 0 (----) 10 450 HDRA REP Curve (HDRA REP) (K/M3) -50
HCAL REP Curve (HCAL REP) 125 (MM) 375	PEFZ REP Curve (PEFZ REP) 0 (----) 10 450 DRHO REP Curve (DRHO REP) (K/M3) -50
GR REP Curve (GR REP) 0 (GAPI) 150	NPOR SAN REP Curve (NPOR SAN REP) 0.45 (V/V) -0.15
CALI REP Curve (CALI REP) 125 (MM) 375	DPHI SAN REP Curve (DPHI SAN REP) 0.45 (V/V) -0.15
BS REP Curve (BS REP) 125 (MM) 375	DPHI REP Curve (DPHI REP) 0.45 (V/V) -0.15

REPEAT ANALYSIS: *** PEX - DUAL DENSITY POROSITY - SANDSTONE 2650 KG/M3 ***



REPEAT ANALYSIS: *** PEX - DUAL DENSITY POROSITY - SANDSTONE 2650 KG/M3 ***

BS REP Curve (BS REP) 125 (MM) 375	DPHI REP Curve (DPHI REP) 0.45 (V/V) -0.15
CALI REP Curve (CALI REP) 125 (MM) 375	DPHI SAN REP Curve (DPHI SAN REP) 0.45 (V/V) -0.15
GR REP Curve (GR REP) 0 (GAPI) 150	NPOR SAN REP Curve (NPOR SAN REP) 0.45 (V/V) -0.15
HCAL REP Curve (HCAL REP) 125 (MM) 375	PEFZ REP Curve (PEFZ REP) 0 (----) 10 450 DRHO REP Curve (DRHO REP) (K/M3) -50
TENS REP Curve (TENS REP) 50000 (N) 0	PEF REP Curve (PEF REP) 0 (----) 10 450 HDRA REP Curve (HDRA REP) (K/M3) -50

PIP SUMMARY

- Integrated Cement Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Hole Volume Minor Pip Every 0.1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
HILTB-FTB	High resolution Integrated Logging Tool-DTS	
BHFL	Borehole Fluid Type	WATER
BHS	Borehole Status	OPEN
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
DFB	HILT Nuclear Mud Base	Water
DHC	Density Hole Correction	BS
DPPM	Density Porosity Processing Mode	HIRS
FD	Fluid Density	1000
FSAL	Formation Salinity	-50000
FSCO	Formation Salinity Correction Option	NO
GDEV	Average Angular Deviation of Borehole from Normal	0
GGRD	Geothermal Gradient	0.018227
HSCO	Hole Size Correction Option	YES
MCCO	Mud Cake Correction Option	NO

MCON	Mud Correction	2650	K/M3
MDEN	Matrix Density	NO	
MWCO	Mud Weight Correction Option	OFF	
NAAC	HRDD APS Activation Correction	NOBARITE	
NMT	HILT Nuclear Mud Type	HiRes	
NPRM	HRDD Processing Mode	25.4	MM
NSAR	HRDD Depth Sampling Rate	NO	
PTCO	Pressure/Temperature Correction Option	SOCN	
SDAT	Standoff Data Source	3.175	MM
SOCN	Standoff Distance	YES	
SOCO	Standoff Correction Option		
	HRLT-B: High Resolution Laterolog Array - B	OPEN	
BHS	Borehole Status	0	DEG
GDEV	Average Angular Deviation of Borehole from Normal	0.018227	DC/M
GGRD	Geothermal Gradient		
	LDT-D: Litho Density - D		
BFM	Borehole Fluid Medium	LIQUID	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1000	K/M3
MDEN	Matrix Density	2650	K/M3
WMUD	Mud Weight	1270	K/M3
	HOLEV: Integrated Hole/Cement Volume		
BHS	Borehole Status	OPEN	
FCD	Future Casing (Outer) Diameter	177.8	MM
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
HVCS	Integrated Hole Volume Caliper Selection	CALI/HCAL	
	STI: Stick Tool Indicator		
TDL	Total Depth - Logger	1010.70	M
	System and Miscellaneous		
BS	Bit Size	216.000	MM
BSAL	Borehole Salinity	-50000.00	PPM
DO	Depth Offset for Playback	0.0	M
DORL	Depth Offset for Repeat Analysis	0.0	M
PP	Playback Processing	NORMAL	
TD	Total Depth	1010.7	M

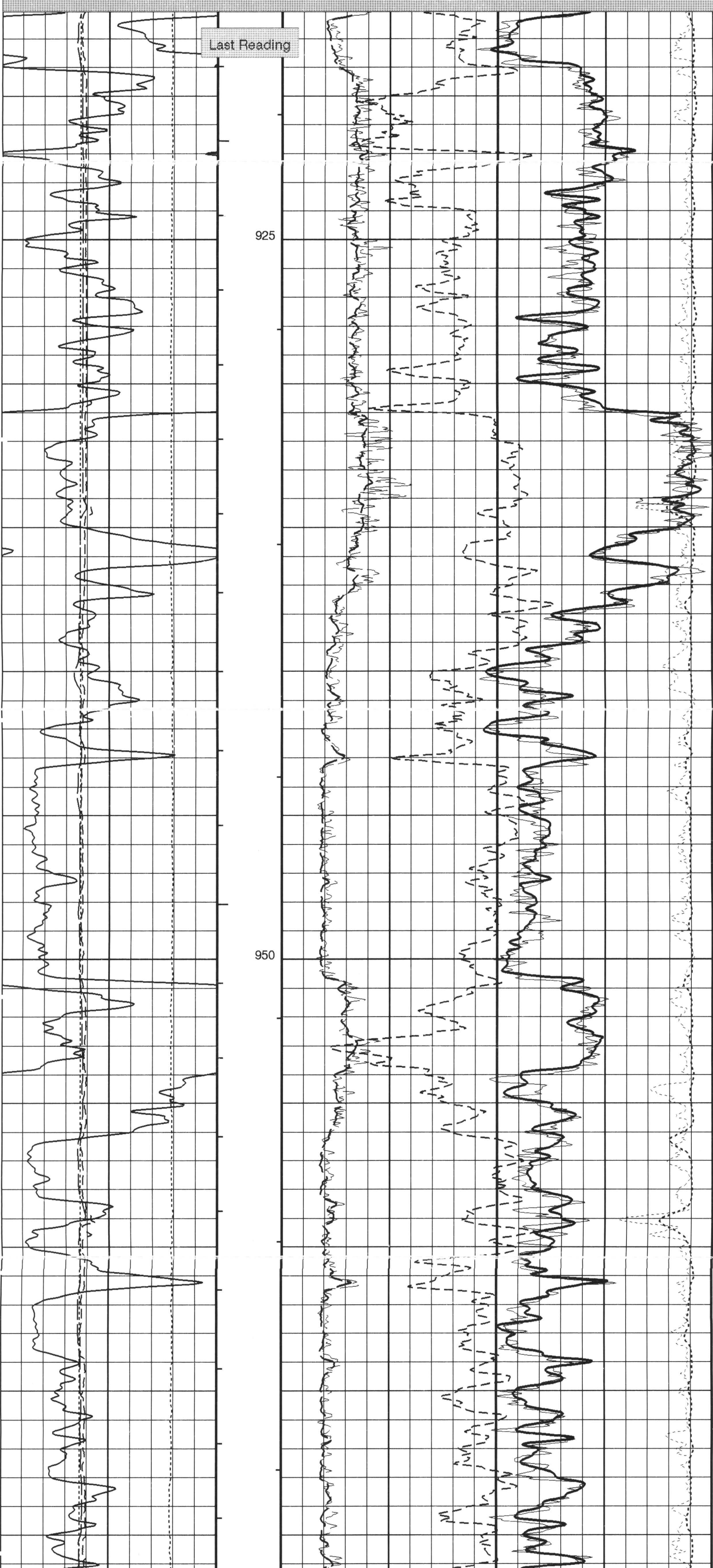
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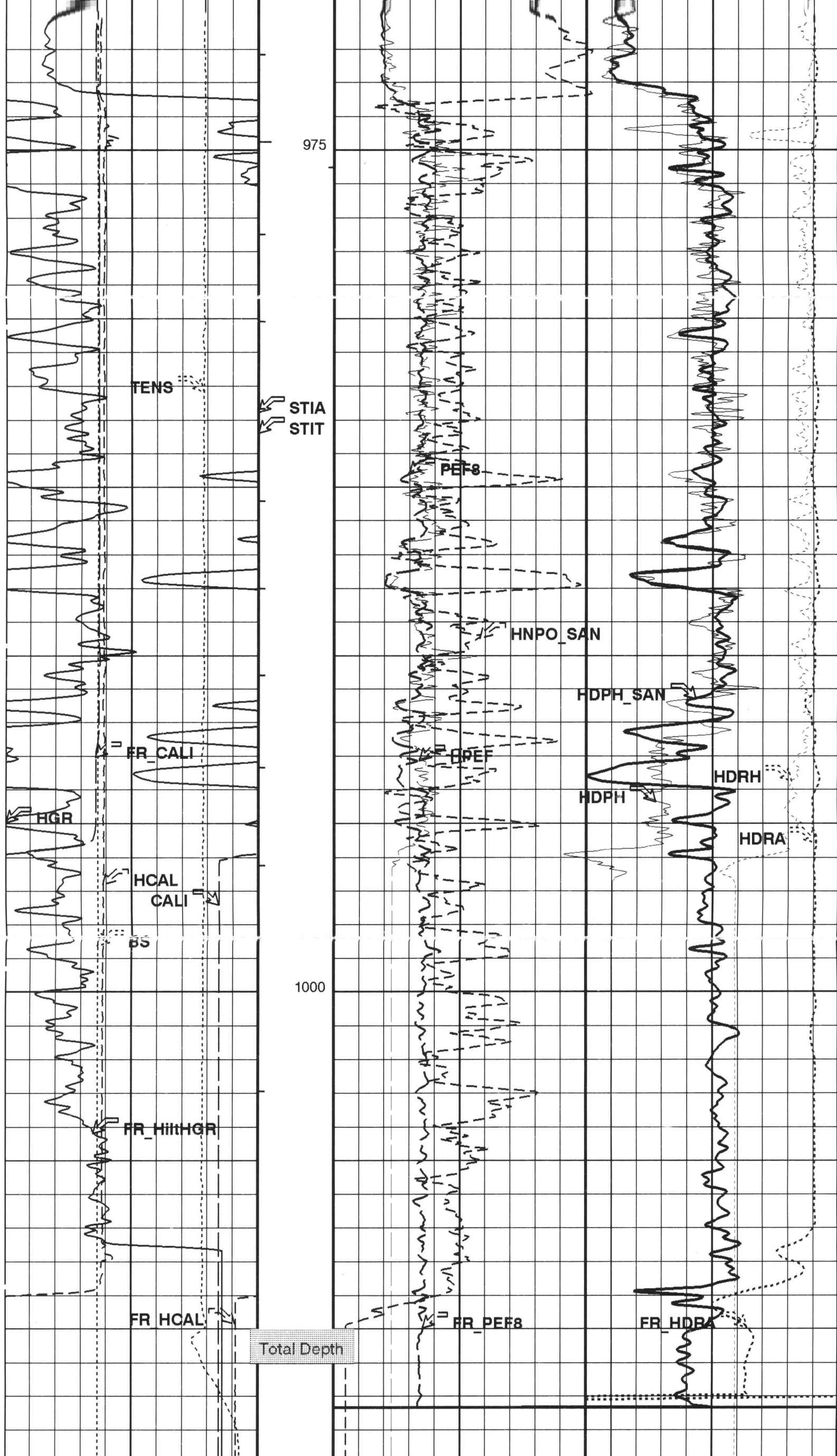
OP System Version: 12C0-301					
MCM					
HILTB-FTB	SRPC-2699-HILT	HRLT-B	12C0-301		
LDT-D	12C0-301	DTA-A	12C0-301		
DTC-H	12C0-301	SPA-A	12C0-301		
Input DLIS Files					
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DEFAULT	TLD_MCFL_CNL_HRLA_050PUP	FN:55	PRODUCER	09-Mar-2005 17:39	1014.1 M 894.3 M
Output DLIS Files					
DEFAULT	TLD_MCFL_CNL_HRLA_054PUP	FN:61	PRODUCER	09-Mar-2005 18:14	
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Input DLIS Files					
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LDT-D	12C0-301	DTA-A	12C0-301		
DTC-H	12C0-301	SPA-A	12C0-301		

PIP SUMMARY					
Integrated Cement Volume Major Pip Every 1 M3 Integrated Cement Volume Minor Pip Every 0.1 M3 Integrated Hole Volume Major Pip Every 1 M3 Integrated Hole Volume Minor Pip Every 0.1 M3					
Time Mark Every 60 S Tension (TENS) 50000 (N) 0 Gamma Ray (HGR) 0 (GAPI) 150 Caliper (HCAL) 125 (MM) 375 Caliper (CALI) 125 (MM) 375 Bit Size (BS) 125 (MM) 375 HNPO for SAND (HNPO_SAN) 0.45 (V/V) -0.15 HDPH for SAND (HDPH_SAN) 0.45 (V/V) -0.15 H. Res. Formation Pe (PEF8) 0 (----) 10 450 HiRes Bulk Density Correction (HDRH) (K/M3) -50 HiRes PhotoElectric Factor (HPEF) 0 (----) 10 450 Density Correction (HDRA) (K/M3) -50 HiRes Density Porosity (HDPH) 0.45 (V/V) -0.15					

HIRES PASS: *** PEX - DUAL DENSITY POROSITY - SANDSTONE 2650 KG/M3 ***





HIRES PASS: *** PEX - DUAL DENSITY POROSITY - SANDSTONE 2650 KG/M3 ***

Bit Size (BS)		
125	(MM)	375
Caliper (CALI)		
125	(MM)	375
Caliper (HCAL)		
125	(MM)	375
Gamma Ray (HGR)		
0	(GAPI)	150
Tension (TENS)		
50000	(N)	0

HiRes Density Porosity (HDPH)		
0.45	(V/V)	-0.15
HiRes PhotoElectric Factor (HPEF)		Density Correction (HDRA)
0	(----	10 450 (K/M3) -50
H. Res. Formation Pe (PEF8)		HiRes Bulk Density Correction (HDRH)
0	(----	10 450 (K/M3) -50
HDPH for SAND (HDPH_SAN)		
0.45	(V/V)	-0.15
HNPO for SAND (HNPO_SAN)		
0.45	(V/V)	-0.15

PIP SUMMARY

- └ Integrated Cement Volume Major Pip Every 1 M3
- └ Integrated Cement Volume Minor Pip Every 0.1 M3
- └ Integrated Hole Volume Major Pip Every 1 M3
- └ Integrated Hole Volume Minor Pip Every 0.1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
HILTB-FTB: High resolution Integrated Logging Tool-DTS		
BHFL	Borehole Fluid Type	WATER
BHS	Borehole Status	OPEN
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
DFB	HILT Nuclear Mud Base	Water
DHC	Density Hole Correction	BS
DPPM	Density Porosity Processing Mode	HIRS
FD	Fluid Density	1000 K/M3
FSAL	Formation Salinity	-50000 PPM
FSCO	Formation Salinity Correction Option	NO
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
HSCD	Hole Size Correction Option	YES
MCCO	Mud Cake Correction Option	NO
MCOR	Mud Correction	NATU
MDEN	Matrix Density	2650 K/M3
MWCO	Mud Weight Correction Option	NO
NAAC	HRDD APS Activation Correction	OFF
NMT	HILT Nuclear Mud Type	NOBARITE
NPRM	HRDD Processing Mode	HiRes
NSAR	HRDD Depth Sampling Rate	25.4 MM
PTCO	Pressure/Temperature Correction Option	NO
SDAT	Standoff Data Source	SOCN
SOCN	Standoff Distance	3.175 MM
SOCO	Standoff Correction Option	YES
HRLT-B: High Resolution Laterolog Array - B		
BHS	Borehole Status	OPEN
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
LDT-D: Litho Density - D		
BFM	Borehole Fluid Medium	LIQUID
DHC	Density Hole Correction	BS
DPPM	Density Porosity Processing Mode	HIRS
FD	Fluid Density	1000 K/M3
MDEN	Matrix Density	2650 K/M3
WMUD	Mud Weight	1270 K/M3
HOLEV: Integrated Hole/Cement Volume		
BHS	Borehole Status	OPEN
FCD	Future Casing (Outer) Diameter	177.8 MM
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
HVCS	Integrated Hole Volume Caliper Selection	CALI/HCAL
STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	TDL
STKT	STI Stuck Threshold	1.524 M
TDD	Total Depth - Driller	1011.00 M
TDL	Total Depth - Logger	1010.70 M
System and Miscellaneous		
BS	Bit Size	216.000 MM
BSAL	Borehole Salinity	-50000.00 PPM
DO	Depth Offset for Playback	0.0 M
DORL	Depth Offset for Repeat Analysis	0.0 M
PP	Playback Processing	NORMAL
TD	Total Depth	1010.7 M

Format: HIRES-SAND Vertical Scale: 1:120

Graphics File Created: 09-Mar-2005 18:14

OP System Version: 12C0-301

MCM

HILTB-FTB	SRPC-2699-HILT	HRLT-B	12C0-301
LDT-D	12C0-301	DTA-A	12C0-301
DTC-H	12C0-301	SPA-A	12C0-301

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_048LUP	FN:53	PRODUCER	09-Mar-2005 17:02
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Output DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_054PUP	FN:61	PRODUCER	09-Mar-2005 18:14
OPTICAL	TLD_MCFL_CNL_HRLA_054PUP	FN:62	PRODUCER	09-Mar-2005 18:14

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_054PUP	FN:61	PRODUCER	09-Mar-2005 18:14	1013.9 M	2.1 M
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Output DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_057PUP	FN:65	PRODUCER	09-Mar-2005 18:31	1013.9 M	425.3 M
OPTICAL	TLD_MCFL_CNL_HRLA_057PUP	FN:66	PRODUCER	09-Mar-2005 18:31	1013.9 M	425.3 M

Integrated Hole/Cement Volume Summary

Hole Volume = 22.65 M3
Cement Volume = 8.76 M3 (assuming 177.80 MM casing O.D.)
Computed from 1010.6 M to 451.6 M using data channel(s) CALI HCAL

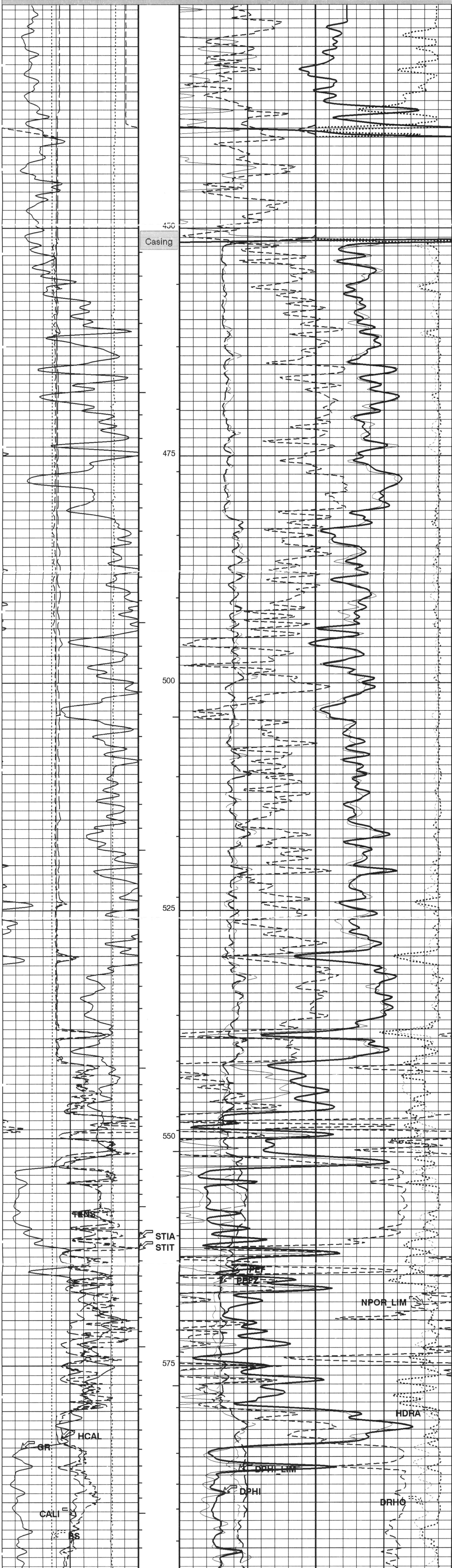
OP System Version: 12C0-301

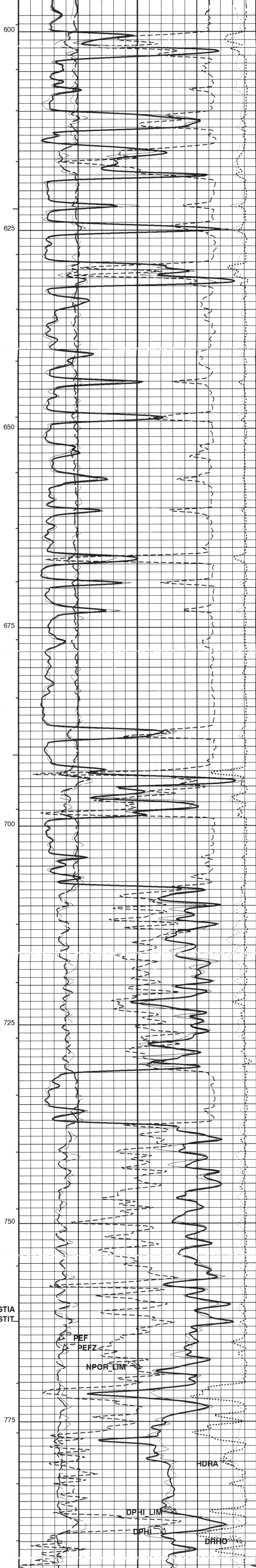
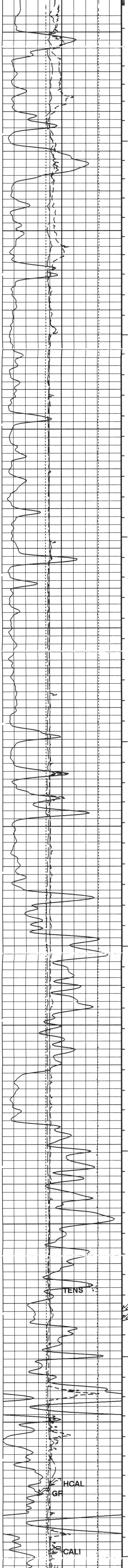
MCM

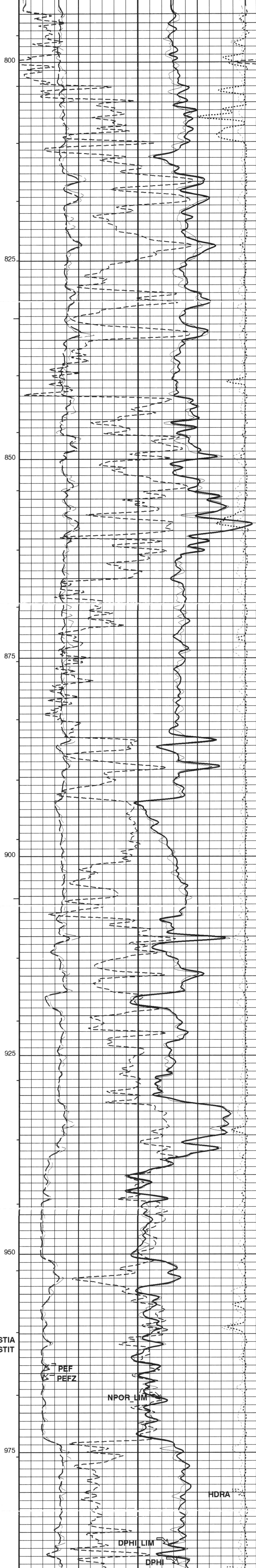
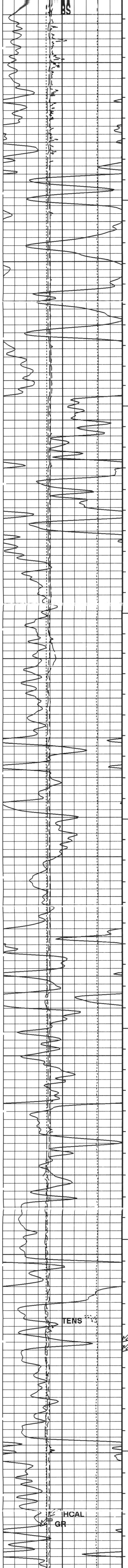
HILTB-FTB	SRPC-2699-HILT	HRLT-B	12C0-301
LDT-D	12C0-301	DTA-A	12C0-301

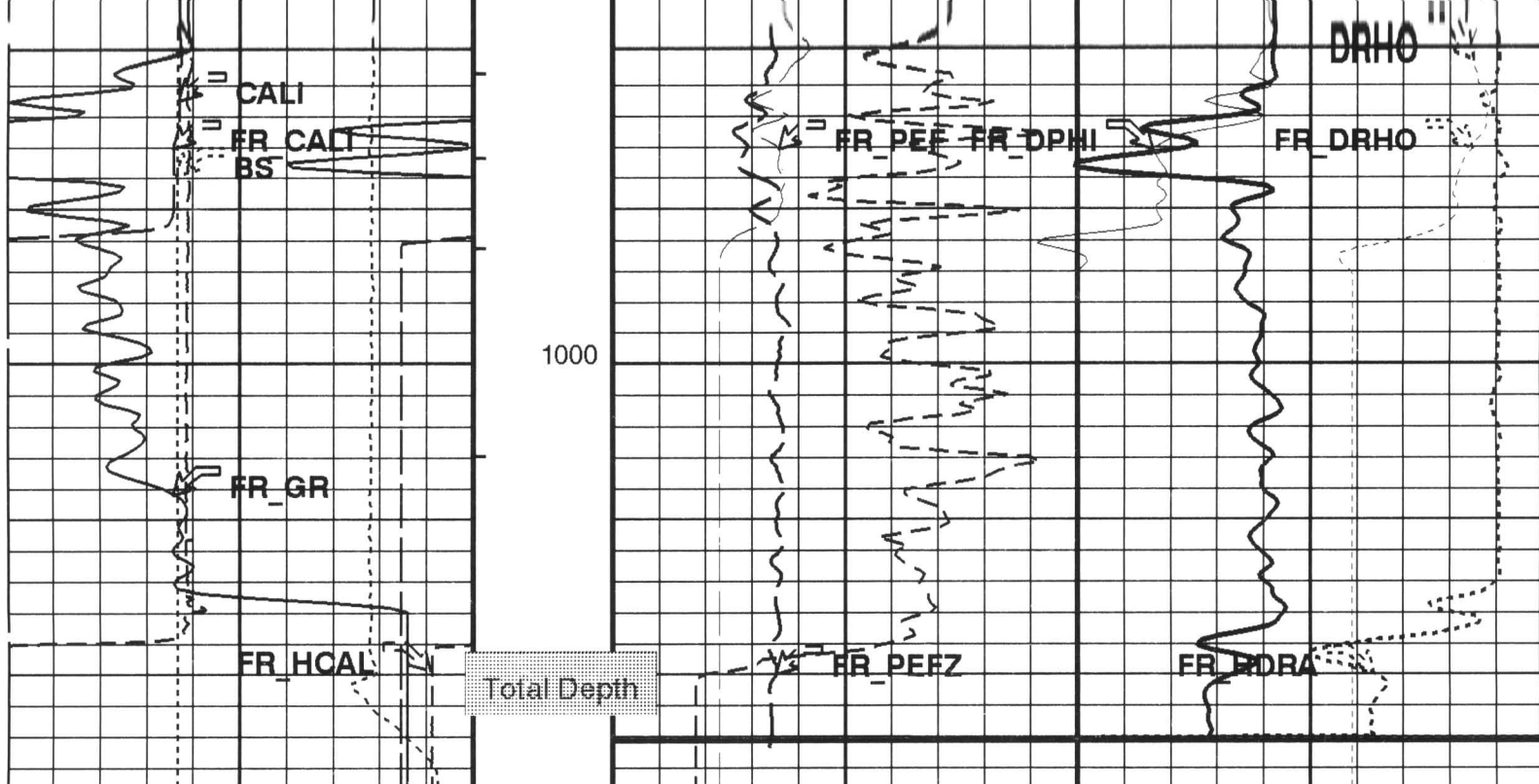
PIP SUMMARY					
└ Integrated Cement Volume Major Pip Every 1 M3					
└ Integrated Cement Volume Minor Pip Every 0.1 M3					
└ Integrated Hole Volume Major Pip Every 1 M3					
└ Integrated Hole Volume Minor Pip Every 0.1 M3					
Time Mark Every 60 S					
Tension (TENS) (N)		PhotoElectric Factor (PEF) (----		Density Correction (HDRA) (K/M3)	
50000		0		10 450	
Caliper (HCAL) (MM)		NPOR for LIME (NPOR LIM) (V/V)			
125		0.45		-0.15	
Gamma Ray (GR) (GAPI)		DPHI for LIME (DPHI LIM) (V/V)			
0		0.45		-0.15	
Caliper (CALI) (MM)		Std. Res. Formation Pe (PEFZ) (----		Bulk Density Correction (DRHO) (K/M3)	
125		0		10 450	
Bit Size (BS) (MM)		Density Porosity (DPHI) (V/V)			
125		0.45		-0.15	

PLAYBACK SECTION: *** PEX - DUAL DENSITY POROSITY - LIMESTONE 2710 KG/M3 ***









PLAYBACK SECTION: *** PEX - DUAL DENSITY POROSITY - LIMESTONE 2710 KG/M3 ***

Bit Size (BS) (MM)		Density Porosity (DPHI) (V/V)	
125	375	0.45	-0.15
Caliper (CALI) (MM)		Std. Res. Formation Pe (PEFZ) (---)	
125	375	0	10 450
Gamma Ray (GR) (GAPI)		Bulk Density Correction (DRHO) (K/M3)	
0	150		-50
Caliper (HCAL) (MM)		DPHI for LIME (DPHI_LIM) (V/V)	
125	375	0.45	-0.15
Tension (TENS) (N)		NPOR for LIME (NPOR_LIM) (V/V)	
50000	0	0.45	-0.15
		PhotoElectric Factor (PEF) (---)	
		0	10 450
		Density Correction (HDRA) (K/M3)	
			-50

PIP SUMMARY

- Integrated Cement Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Hole Volume Minor Pip Every 0.1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
HILTB-FTB: High resolution Integrated Logging Tool-DTS		
BHFL	Borehole Fluid Type	WATER
BHS	Borehole Status	OPEN
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
DFB	HILT Nuclear Mud Base	Water
DHC	Density Hole Correction	BS
DPPM	Density Porosity Processing Mode	HIRS
FD	Fluid Density	1000 K/M3
FSAL	Formation Salinity	-50000 PPM
FSCO	Formation Salinity Correction Option	NO
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
HSCO	Hole Size Correction Option	YES
MCCO	Mud Cake Correction Option	NO
MCOR	Mud Correction	NATU
MDEN	Matrix Density	2710 K/M3
MWCO	Mud Weight Correction Option	NO
NAAC	HRDD APS Activation Correction	OFF
NMT	HILT Nuclear Mud Type	NOBARITE
NPRM	HRDD Processing Mode	HiRes
NSAR	HRDD Depth Sampling Rate	25.4 MM
PTCO	Pressure/Temperature Correction Option	NO
SDAT	Standoff Data Source	SOCN
SOCN	Standoff Distance	3.175 MM
SOCO	Standoff Correction Option	YES
HRLT-B: High Resolution Laterolog Array - B		
BHS	Borehole Status	OPEN
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
LDT-D: Litho Density - D		
BFM	Borehole Fluid Medium	LIQUID
DHC	Density Hole Correction	BS
DPPM	Density Porosity Processing Mode	HIRS
FD	Fluid Density	1000 K/M3
MDEN	Matrix Density	2710 K/M3
WMUD	Mud Weight	1270 K/M3
HOLEV: Integrated Hole/Cement Volume		
BHS	Borehole Status	OPEN
FCD	Future Casing (Outer) Diameter	177.8 MM
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
HVCS	Integrated Hole Volume Caliper Selection	CALI/HCAL
STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	TDL
STKT	STI Stuck Threshold	1.524 M
TDD	Total Depth - Driller	1011.00 M
TDL	Total Depth - Logger	1010.70 M
System and Miscellaneous		
BS	Bit Size	216.000 MM
BSAL	Borehole Salinity	-50000.00 PPM
DO	Depth Offset for Playback	0.0 M
PP	Playback Processing	RECOMPUTE
TD	Total Depth	1010.7 M

Format: PORO-LIME Vertical Scale: 1:240

Graphics File Created: 09-Mar-2005 18:31

OP System Version: 12C0-301

MCM

HILTB-FTB	SRPC-2699-HILT	HRLT-B	12C0-301
LDT-D	12C0-301	DTA-A	12C0-301
DTC-H	12C0-301	SPA-A	12C0-301

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_054PUP	FN:61	PRODUCER	09-Mar-2005 18:14	1013.9 M	2.1 M
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Output DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_057PUP	FN:65	PRODUCER	09-Mar-2005 18:31		
OPTICAL	TLD_MCFL_CNL_HRLA_057PUP	FN:66	PRODUCER	09-Mar-2005 18:31		

Input DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_054PUP	FN:61	PRODUCER	09-Mar-2005 18:14	1013.9 M	2.1 M
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Output DLIS Files

DEFAULT	TLD_MCFL_CNL_HRLA_058PUP	FN:67	PRODUCER	09-Mar-2005 18:38	1013.9 M	425.3 M
OPTICAL	TLD_MCFL_CNL_HRLA_058PUP	FN:68	PRODUCER	09-Mar-2005 18:38	1013.9 M	425.3 M

Integrated Hole/Cement Volume Summary

Hole Volume = 22.65 M3
Cement Volume = 8.76 M3 (assuming 177.80 MM casing O.D.)
Computed from 1010.6 M to 451.6 M using data channel(s) CALI HCAL

OP System Version: 12C0-301

MCM

HILTB-FTB	SRPC-2699-HILT	HRLT-B	12C0-301
LDT-D	12C0-301	DTA-A	12C0-301
DTC-H	12C0-301	SPA-A	12C0-301

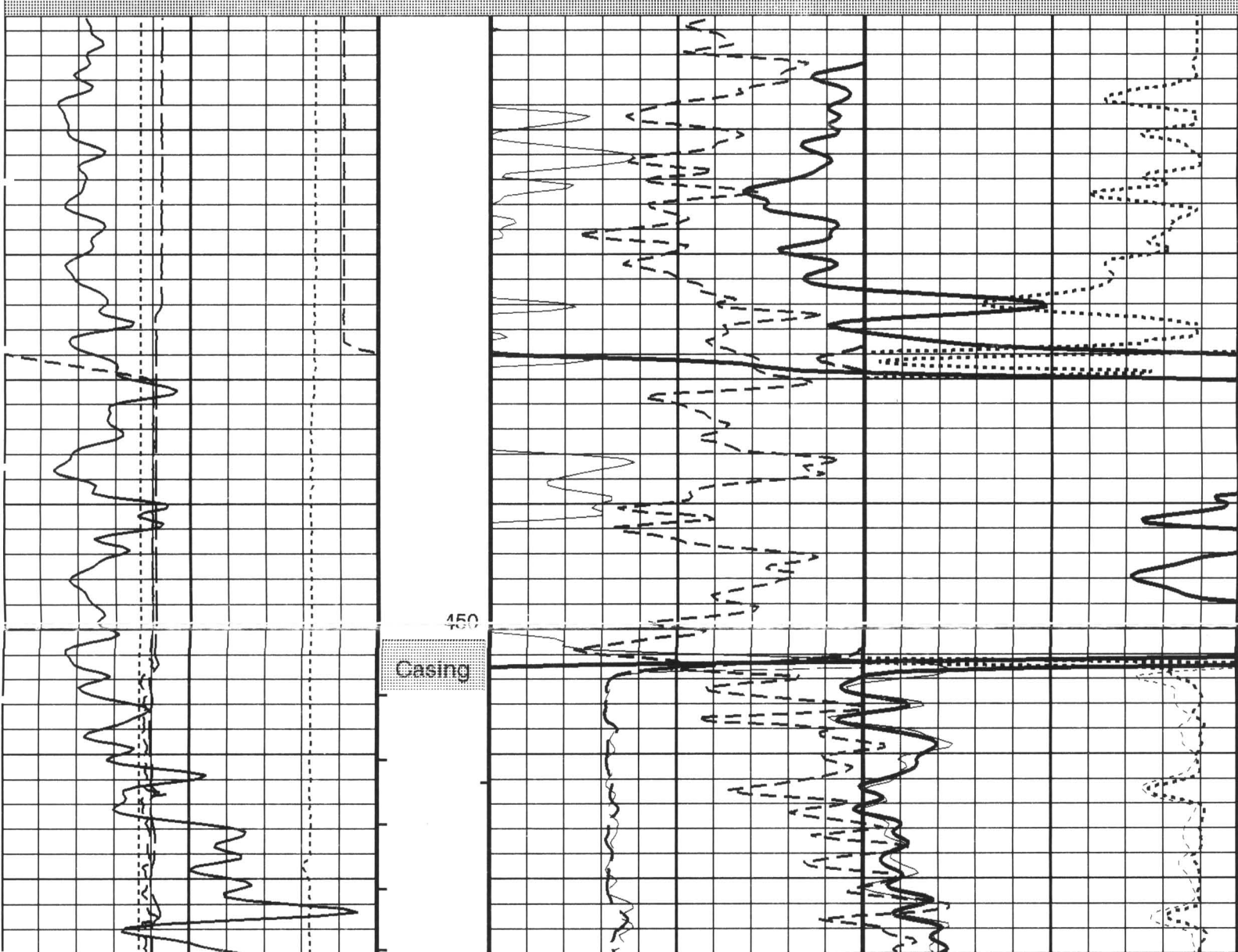
PIP SUMMARY

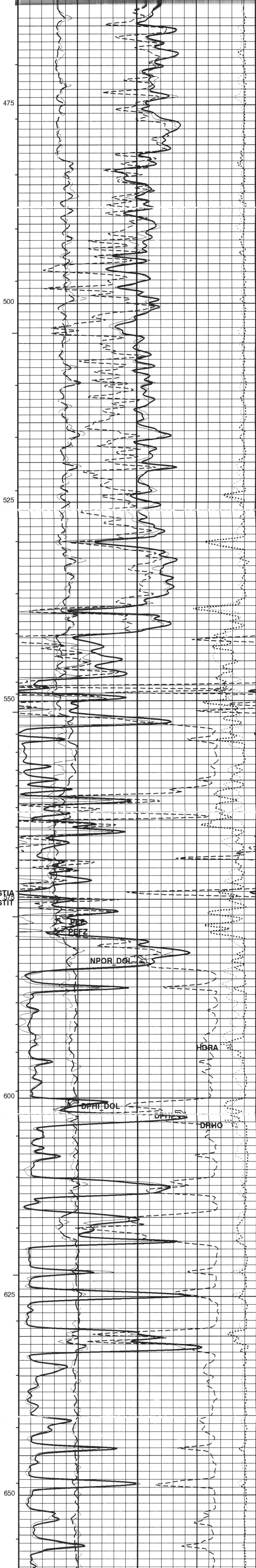
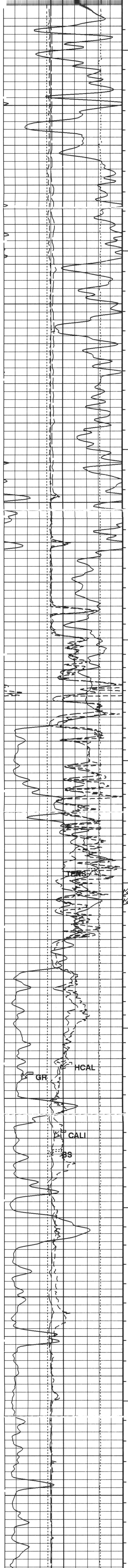
- Integrated Cement Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Hole Volume Minor Pip Every 0.1 M3

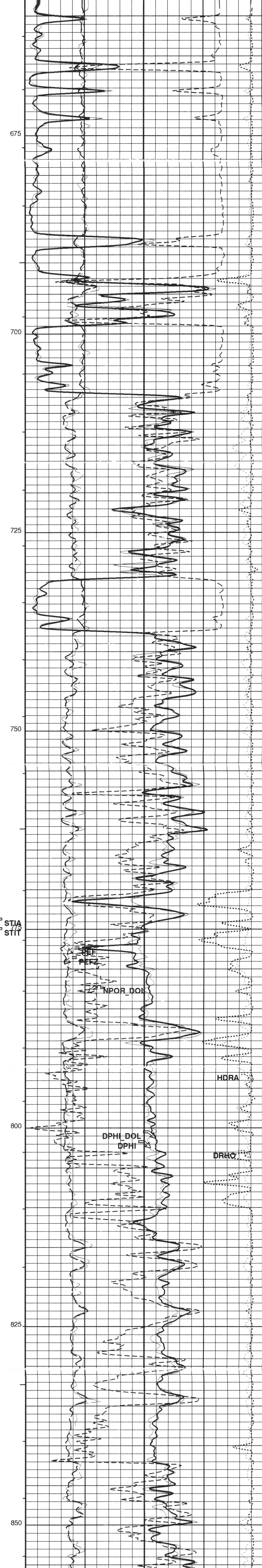
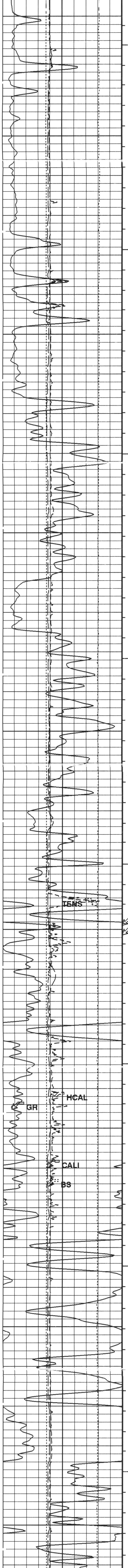
Time Mark Every 60 S

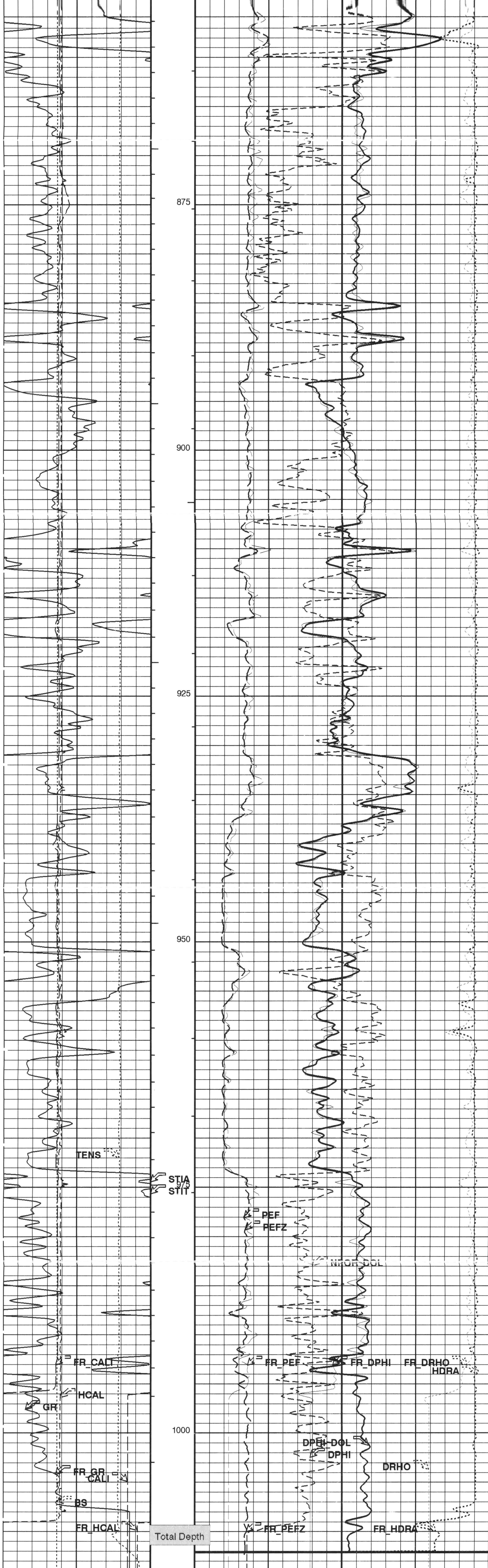
Tension (TENS) (N)		PhotoElectric Factor (PEF) (---)		Density Correction (HDRA) (K/M3)	
50000	0	0	10 450		-50
Caliper (HCAL) (MM)		NPOR for DOLO (NPOR_DOL) (V/V)			
125	375	0.45			
Gamma Ray (GR) (GAPI)		DPHI for DOLO (DPHI_DOL) (V/V)			
0	150	0.45			
Caliper (CALI) (MM)		Std. Res. Formation Pe (PEFZ) (---)		Bulk Density Correction (DRHO) (K/M3)	
125	375	0	10 450		
Bit Size (BS) (MM)		Density Porosity (DPHI) (V/V)			
125	375	0.45			

PLAYBACK SECTION: *** PEX - DUAL DENSITY POROSITY - DOLOMITE 2850 KG/M3 ***









PLAYBACK SECTION: *** PEX - DUAL DENSITY POROSITY - DOLOMITE 2850 KG/M3 ***

Bit Size (BS) (MM)	125	375
Caliper (CALI) (MM)	125	375
Gamma Ray (GR) (GAPI)	0	150
Caliper (HCAL) (MM)	125	375
Tension (TENS) (N)	50000	0
Density Porosity (DPHI) (V/V)	0.45	-0.15
Std. Res. Formation Pe (PEFZ) (---)	0	10 450
Bulk Density Correction (DRHO) (K/M3)	-50	
DPHI for DOLO (DPHI_DOL) (V/V)	0.45	-0.15
NPOR for DOLO (NPOR_DOL) (V/V)	0.45	-0.15
PhotoElectric Factor (PEF) (---)	0	10 450
Density Correction (HDRA) (K/M3)	-50	

PIP SUMMARY

- Integrated Cement Volume Major Pip Every 1 M3
- Integrated Cement Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
- Integrated Hole Volume Minor Pip Every 0.1 M3

Time Mark Every 60 S

Parameters		
DLIS Name	Description	Value
HILTB-FTB:	High resolution Integrated Logging Tool-DTS	
BHFL	Borehole Fluid Type	WATER
BHS	Borehole Status	OPEN
CCCO	Borehole Salinity Correction Option	NO
CCCB	Casing & Cement Thickness Correction Option	NO
DFB	HILT Nuclear Mud Base	Water
DHC	Density Hole Correction	BS
DPPM	Density Porosity Processing Mode	HIRS
FD	Fluid Density	1000
FSAL	Formation Salinity	-50000
FSCO	Formation Salinity Correction Option	K/M3
GDEV	Average Angular Deviation of Borehole from Normal	NO
GGRD	Geothermal Gradient	0
HSCC	Hole Size Correction Option	DEG
		0.018227
		DC/M
		YES

MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2850	K/M3
MWCO	Mud Weight Correction Option	NO	
NAAC	HRDD APS Activation Correction	OFF	
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	HiRes	
NSAR	HRDD Depth Sampling Rate	25.4	MM
PTCO	Pressure/Temperature Correction Option	NO	
SDAT	Standoff Data Source	SOCN	
SOCN	Standoff Distance	3.175	MM
SOCO	Standoff Correction Option	YES	
HRLT-B: High Resolution Laterolog Array - B			
BHS	Borehole Status	OPEN	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
LDT-D: Litho Density - D			
BFM	Borehole Fluid Medium	LIQUID	
DHC	Density Hole Correction	BS	
DPPM	Density Porosity Processing Mode	HIRS	
FD	Fluid Density	1000	K/M3
MDEN	Matrix Density	2850	K/M3
WMUD	Mud Weight	1270	K/M3
HOLEV: Integrated Hole/Cement Volume			
BHS	Borehole Status	OPEN	
FCD	Future Casing (Outer) Diameter	177.8	MM
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
HVCS	Integrated Hole Volume Caliper Selection	CALI/HCAL	
STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL	
STKT	STI Stuck Threshold	1.524	M
TDD	Total Depth - Driller	1011.00	M
TDL	Total Depth - Logger	1010.70	M
System and Miscellaneous			
BS	Bit Size	216.000	MM
BSAL	Borehole Salinity	-50000.00	PPM
DO	Depth Offset for Playback	0.0	M
PP	Playback Processing	RECOMPUTE	
TD	Total Depth	1010.7	M
Format: PORO_DOLO Vertical Scale: 1:240 Graphics File Created: 09-Mar-2005 18:38			
OP System Version: 12C0-301			
MCM			
HILTB-FTB	SRPC-2699-HILT	HRLT-B	12C0-301
LDT-D	12C0-301	DTA-A	12C0-301
DTC-H	12C0-301	SPA-A	12C0-301
Input DLIS Files			
DEFAULT	TLD_MCFL_CNL_HRLA_054PUP	FN:61	PRODUCER 09-Mar-2005 18:14 1013.9 M 2.1 M
Output DLIS Files			
DEFAULT	TLD_MCFL_CNL_HRLA_058PUP	FN:67	PRODUCER 09-Mar-2005 18:38
OPTICAL	TLD_MCFL_CNL_HRLA_058PUP	FN:68	PRODUCER 09-Mar-2005 18:38

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-2005 12:56							
BS Window Ratio	0.7547	N/A	0.7472	N/A	N/A	N/A	CPS
BS Window Sum	11010	N/A	10990	N/A	N/A	N/A	
SS Window Ratio	0.4791	N/A	0.4821	N/A	N/A	N/A	
SS Window Sum	10880	N/A	10860	N/A	N/A	N/A	CPS
LS Window Ratio	0.3064	N/A	0.2946	N/A	N/A	N/A	CPS
LS Window Sum	1222	N/A	1215	N/A	N/A	N/A	
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Photo-multiplier High Voltages Calibrations							
Before: 22-Feb-2005 12:56							
BS PM High Voltage (Command)	1804	N/A	1845	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1973	N/A	1932	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1966	N/A	1951	N/A	N/A	N/A	V
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Crystal Quality Resolutions Calibration							
Before: 22-Feb-2005 12:56							
BS Crystal Resolution	11.16	N/A	11.41	N/A	N/A	N/A	%
SS Crystal Resolution	10.96	N/A	10.37	N/A	N/A	N/A	%
LS Crystal Resolution	8.932	N/A	9.041	N/A	N/A	N/A	%
High resolution Integrated Logging Tool-DTS Wellsite Calibration - MCFL Calibration							
Before: 22-Feb-2005 12:58							
Raw B0 Resistivity	3875	N/A	3859	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3832	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3845	N/A	N/A	N/A	OHMM
High resolution Integrated Logging Tool-DTS Wellsite Calibration - HILT Caliper Calibration							
Before: 22-Feb-2005 12:51							
HILT Caliper Zero Measurement	203.2	N/A	200.4	N/A	N/A	N/A	MM
HILT Caliper Plus Measurement	304.8	N/A	309.4	N/A	N/A	N/A	MM
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Detector Calibration							
Before: 22-Feb-2005 12:51							
Gamma Ray Background	30.00	N/A	27.33	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkg)	179.4	N/A	179.4	N/A	N/A	16.31	GAPI
Gamma Ray (Calibrated)	166.0	N/A	166.0	N/A	N/A	15.00	GAPI
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Zero Measurement							
Master: 6-Feb-2005 18:07 Before: 22-Feb-2005 12:53							
CNTC Background	25.18	25.18	26.37	N/A	N/A	3.777	CPS
CFTC Background	29.57	29.57	31.52	N/A	N/A	4.436	CPS
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Ratio Measurement							
Master: 6-Feb-2005 18:07							
Thermal Near Corr. (Tank)	6031	6047	N/A	N/A	N/A	N/A	CPS
Thermal Far Corr. (Tank)	2793	2566	N/A	N/A	N/A	N/A	CPS
CNTC/CFTC (Tank)	2.159	2.357	N/A	N/A	N/A	N/A	
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Accelerometer Calibration							
Before: 9-Mar-2005 16:11							
Z-Axis Acceleration	9.810	N/A	9.814	N/A	N/A	N/A	M/S2
High resolution Integrated Logging Tool-DTS Master Calibration - Inversion results							
Master: 6-Feb-2005 16:04							
Rho Aluminum	2596	2597	--	--	--	--	K/M3
Rho Magnesium	1686	1686	--	--	--	--	K/M3
Pe Aluminum	2.570	2.585	--	--	--	--	
Pe Magnesium	2.650	2.620	--	--	--	--	
High resolution Integrated Logging Tool-DTS Master Calibration - Deviation Summary							
Master: 6-Feb-2005 16:04							
BS Average Deviation	0	0.3633	--	--	--	--	%
BS Max Deviation	0	0.8726	--	--	--	--	%
SS Average Deviation	0	0.2896	--	--	--	--	%
SS Max Deviation	0	0.6813	--	--	--	--	%
LS Average Deviation	0	0.7166	--	--	--	--	%
LS Max Deviation	0	1.854	--	--	--	--	%
High Resolution Laterolog Array - B Wellsite Calibration - HRLT M01							
Before: 9-Mar-2005 16:20							
HRLT M0-M1 Voltage Plus - 0	0	N/A	-316.4	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 1	0	N/A	-326.5	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 2	0	N/A	-323.8	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 3	0	N/A	-328.3	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 4	0	N/A	-314.2	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 5	0	N/A	-320.9	N/A	N/A	9.681	UV
HRLT M0-M1 Voltage Plus - 6	0	N/A	-314.5	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: 9-Mar-2005 16:20							
HRLT M1-M2 Voltage Plus - 0	0	N/A	1681	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 1	0	N/A	1736	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 2	0	N/A	1718	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 3	0	N/A	1741	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 4	0	N/A	1668	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 5	0	N/A	1706	N/A	N/A	53.42	UV
HRLT M1-M2 Voltage Plus - 6	0	N/A	-1679	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: 9-Mar-2005 16:20							
HRLT M2-M3 Voltage Plus - 0	0	N/A	1680	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 1	0	N/A	1744	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 2	0	N/A	1728	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 3	0	N/A	1755	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 4	0	N/A	1677	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 5	0	N/A	1715	N/A	N/A	53.42	UV
HRLT M2-M3 Voltage Plus - 6	0	N/A	-1676	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: 9-Mar-2005 16:20							
HRLT A3-A4 Voltage Plus - 0	0	N/A	67990	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 1	0	N/A	70540	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 2	0	N/A	70100	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 3	0	N/A	71450	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 4	0	N/A	68150	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 5	0	N/A	69680	N/A	N/A	2100	UV
HRLT A3-A4 Voltage Plus - 6	0	N/A	-66840	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: 9-Mar-2005 16:20							
HRLT A4-A5 Voltage Plus - 0	0	N/A	67990	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 1	0	N/A	70370	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 2	0	N/A	69980	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 3	0	N/A	71380	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 4	0	N/A	68130	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 5	0	N/A	69660	N/A	N/A	2100	UV
HRLT A4-A5 Voltage Plus - 6	0	N/A	-66680	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: 9-Mar-2005 16:20							
HRLT A5-A6 Voltage Plus - 0	0	N/A	68110	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 1	0	N/A	70750	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 2	0	N/A	70280	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 3	0	N/A	71610	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 4	0	N/A	68280	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 5	0	N/A	69800	N/A	N/A	2100	UV
HRLT A5-A6 Voltage Plus - 6	0	N/A	-67040	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: 9-Mar-2005 16:20							
HRLT Torpedo-M0 Voltage - 0	0	N/A	-67600	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 1	0	N/A	-70560	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 2	0	N/A	-70100	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 3	0	N/A	-71480	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 4	0	N/A	-68170	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 5	0	N/A	-69690	N/A	N/A	2100	UV
HRLT Torpedo-M0 Voltage - 6	0	N/A	66830	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: 9-Mar-2005 16:20							
HRLT Bridle#9-M0 Voltage - 0	0	N/A	-67630	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 1	0	N/A	-70650	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 2	0	N/A	-70170	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 3	0	N/A	-71550	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 4	0	N/A	-68220	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 5	0	N/A	-69730	N/A	N/A	2100	UV
HRLT Bridle#9-M0 Voltage - 6	0	N/A	66910	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: 9-Mar-2005 16:20							
HRLT Source Current Plus - 0	0	N/A	282.2	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

Litho Density - D Wellsite Calibration - Background MeasurementLitho Density - D Wellsite Calibration - Tool Quality Control Information HVLitho Density - D Wellsite Calibration - Detectors Resolution From BKG MeasurementsLitho Density: B.Wellsite Calibration Caliper Calibration

LS Aluminum	155.0
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Litho Density - D Master Calibration - Litholog MeasurementLitho Density - D Master Calibration - Spectrum Quality Ratios[illegible]

The GLS-VJ source activity is acceptable.

NON-F serial number 2010

20101010 10:00:00 10:00:00

091016, 22-1-60-2005 12.56

High Resolution Laterolog Array - B / Equipment Identification

Primary Equipment:
HRLT Sonde

HRLS - B

Auxiliary Equipment:
HRLT lower Housing
HRLT Lower Cartridge
HRLT upper Housing
HRLT Upper Cartridge

HRLH - B
HRLC - B
HRLH - B
HRUC - B

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT M01						
Idx	Phase	HRLT M0-M1 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-316.4	-322.7	-274.3	-371.1
1	Before		-326.5	-322.7	-274.3	-371.1
2	Before		-323.8	-322.7	-274.3	-371.1
3	Before		-328.3	-322.7	-274.3	-371.1
4	Before		-314.2	-322.7	-274.3	-371.1
5	Before		-320.9	-322.7	-274.3	-371.1
6	Before		314.5	322.7	371.1	274.3
7	Before		-322.7	-322.7	-274.3	-371.1
(Minimum) (Nominal) (Maximum)						

Before: 9-Mar-2005 16:20

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT M12						
Idx	Phase	HRLT M1-M2 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1681	1781	2048	1514
1	Before		1736	1781	2048	1514
2	Before		1718	1781	2048	1514
3	Before		1741	1781	2048	1514
4	Before		1668	1781	2048	1514
5	Before		1706	1781	2048	1514
6	Before		-1679	-1781	-1514	-2048
7	Before		1781	1781	2048	1514
(Minimum) (Nominal) (Maximum)						

Before: 9-Mar-2005 16:20

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT M23						
Idx	Phase	HRLT M2-M3 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		1680	1781	2048	1514
1	Before		1744	1781	2048	1514
2	Before		1728	1781	2048	1514
3	Before		1755	1781	2048	1514
4	Before		1677	1781	2048	1514
5	Before		1715	1781	2048	1514
6	Before		-1676	-1781	-1514	-2048
7	Before		1781	1781	2048	1514
(Minimum) (Nominal) (Maximum)						

Before: 9-Mar-2005 16:20

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT V34						
Idx	Phase	HRLT A3-A4 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		67990	70000	80500	59500
1	Before		70540	70000	80500	59500
2	Before		70100	70000	80500	59500
3	Before		71450	70000	80500	59500
4	Before		68150	70000	80500	59500
5	Before		69680	70000	80500	59500
6	Before		-66840	-70000	-59500	-80500
7	Before		70000	70000	80500	59500
(Minimum) (Nominal) (Maximum)						

Before: 9-Mar-2005 16:20

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT V45						
Idx	Phase	HRLT A4-A5 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		67990	70000	80500	59500
1	Before		70370	70000	80500	59500
2	Before		69980	70000	80500	59500
3	Before		71380	70000	80500	59500
4	Before		68130	70000	80500	59500
5	Before		69660	70000	80500	59500
6	Before		-66680	-70000	-59500	-80500
7	Before		70000	70000	80500	59500
(Minimum) (Nominal) (Maximum)						

Before: 9-Mar-2005 16:20

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT V55						
Idx	Phase	HRLT A5-A6 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		68110	70000	80500	59500
1	Before		70750	70000	80500	59500
2	Before		70280	70000	80500	59500
3	Before		71610	70000	80500	59500
4	Before		68280	70000	80500	59500
5	Before		69800	70000	80500	59500
6	Before		-67040	-70000	-59500	-80500
7	Before		70000	70000	80500	59500
(Minimum) (Nominal) (Maximum)						

Before: 9-Mar-2005 16:20

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT VTP						
Idx	Phase	HRLT Torpedo-M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-67600	-70000	-59500	-80500
1	Before		-70560	-70000	-59500	-80500
2	Before		-70100	-70000	-59500	-80500
3	Before		-71480	-70000	-59500	-80500
4	Before		-68170	-70000	-59500	-80500
5	Before		-69690	-70000	-59500	-80500
6	Before		66830	70000	80500	59500
7	Before		-70000	-70000	-59500	-80500
(Minimum) (Nominal) (Maximum)						

Before: 9-Mar-2005 16:20

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT V50						
Idx	Phase	HRLT Bricle#9-M0 Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-67630	-70000	-59500	-80500
1	Before		-70650	-70000	-59500	-80500
2	Before		-70170	-70000	-59500	-80500
3	Before		-71550	-70000	-59500	-80500
4	Before		-68220	-70000	-59500	-80500
5	Before		-69730	-70000	-59500	-80500
6	Before		66910	70000	80500	59500
7	Before		-70000	-70000	-59500	-80500
(Minimum) (Nominal) (Maximum)						

Before: 9-Mar-2005 16:20

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT ISO						
Idx	Phase	HRLT Source Current Plus UA	Value	Nominal	Maximum	Minimum
0	Before		282.2	284.0	326.6	241.4
1	Before		281.1	281.1	323.3	238.9
2	Before		281.1	281.1	323.3	238.9
3	Before		281.1	281.1	323.3	238.9
4	Before		281.1	281.1	323.3	238.9
5	Before		281.1	281.1	323.3	238.9
6	Before		281.1	281.1	323.3	238.9
7	Before		281.1	281.1	323.3	238.9
(Minimum) (Nominal) (Maximum)						

Before: 9-Mar-2005 16:20

High Resolution Laterolog Array - B Wellsite Calibration						
HRLT MV						
Idx	Phase	HRLT Vertical Voltage Plus UV	Value	Nominal	Maximum	Minimum
0	Before		-318.2	-322.7	-274.3	-371.1
1	Before		-320.1	-322.7	-274.3	-371.1
2	Before		-316.7	-322.7	-274.3	-371.1
3	Before		-319.7	-322.7	-274.3	-371.1
4	Before		-303.3	-322.7	-274.3	-371.1
5	Before		-324.9	-322.7	-274.3	-371.1
6	Before		320.6	322.7	371.1	274.3

7	Before		-322.7	-322.7	-274.3	-371.1
		(Minimum)	(Nominal)	(Maximum)		
Before: 9-Mar-2005 16:20						

Litho Density - D / Equipment Identification

Primary Equipment:

Nuclear Services Cartridge
Powered Gamma Detector
Gamma Source Radioactive

NSC - E 1868
PGD - G 1867
GSR - J 2043

Auxiliary Equipment:

Density Resistivity Sonde
Electronics Cartridge Housing
Powered Detector Housing

DRS - E 723
ECH - MKA 1872
PDH - L 3745

Litho Density - D Wellsite Calibration														
Background Measurement														
Phase	LL Background CPS			Value	Phase	LU Background CPS			Value	Phase	LS Background CPS			Value
Master				15.47	Master				58.80	Master				44.87
Before				15.55	Before				58.49	Before				44.80
15.00 20.00 25.00					58.00 76.00 94.00					43.00 57.00 72.00				
(Minimum) (Nominal) (Maximum)					(Minimum) (Nominal) (Maximum)					(Minimum) (Nominal) (Maximum)				
Phase	LITH Background CPS			Value	Phase	SS1 Background CPS			Value	Phase	SS2 Background CPS			Value
Master				4.459	Master				14.36	Master				9.763
Before				4.341	Before				14.38	Before				9.721
4.000 5.500 7.000					12.00 16.00 19.50					8.000 11.00 13.50				
(Minimum) (Nominal) (Maximum)					(Minimum) (Nominal) (Maximum)					(Minimum) (Nominal) (Maximum)				
Master: 6-Feb-2005 16:40						Before: 22-Feb-2005 12:55								

Litho Density - D Wellsite Calibration							
Detectors Resolution From BKG Measurements							
Phase	LS Resolution Background		Value	Phase	SS Resolution Background		Value
Master			8.467	Master			8.566
Before			8.510	Before			8.593
5.000 (Minimum)			8.000 (Nominal)	11.50 (Maximum)			
5.000 (Minimum)			8.000 (Nominal)	11.50 (Maximum)			
Master: 6-Feb-2005 16:40				Before: 22-Feb-2005 12:55			

Litho Density - D Master Calibration														
Aluminum Measurement														
Phase	LL Aluminum CPS			Value	Phase	LU Aluminum CPS			Value	Phase	LS Aluminum CPS			Value
Master				80.84	Master				119.1	Master				140.4
	70.00 (Minimum)	90.00 (Nominal)	125.0 (Maximum)		100.0 (Minimum)	135.0 (Nominal)	194.0 (Maximum)		120.0 (Minimum)	155.0 (Nominal)	217.0 (Maximum)			
Phase	LITH Aluminum CPS			Value	Phase	SS1 Aluminum CPS			Value	Phase	SS2 Aluminum CPS			Value
Master				49.94	Master				162.1	Master				232.9
	35.00 (Minimum)	50.00 (Nominal)	74.00 (Maximum)		125.0 (Minimum)	175.0 (Nominal)	256.0 (Maximum)		210.0 (Minimum)	260.0 (Nominal)	353.0 (Maximum)			
Master: 6-Feb-2005 17:14														

Litho Density - D Master Calibration														
Litholog Measurement														
Phase	LL Iron CPS			Value	Phase	LU Iron CPS			Value	Phase	LS Iron CPS			Value
Master				77.30	Master				113.9	Master				134.3
	60.00 (Minimum)	80.00 (Nominal)	114.0 (Maximum)		85.00 (Minimum)	120.0 (Nominal)	177.0 (Maximum)		100.0 (Minimum)	135.0 (Nominal)	193.0 (Maximum)			
Phase	LITH Iron CPS			Value	Phase	SS1 Iron CPS			Value	Phase	SS2 Iron CPS			Value
Master				34.31	Master				154.3	Master				222.2
	15.00 (Minimum)	30.00 (Nominal)	51.00 (Maximum)		105.0 (Minimum)	155.0 (Nominal)	234.0 (Maximum)		130.0 (Minimum)	245.0 (Nominal)	325.0 (Maximum)			
Master: 6-Feb-2005 16:59														

Litho Density - D Master Calibration																	
Spectrum Quality Ratios																	
Phase	QRLS Calculated			Value	Phase	QRSS Calculated			Value	Phase	QRLI Calculated			Value			
Master				0.6787	Master				0.6962	Master				0.3557			
0.6000 (Minimum)				0.6500 (Nominal)	0.7000 (Maximum)	0.6200 (Minimum)				0.7200 (Nominal)	0.8200 (Maximum)	0.2900 (Minimum)				0.3900 (Nominal)	0.4500 (Maximum)
Phase	QLIR Calculated			Value	Phase	QR Calculated			Value								
Master				1.392	Master				0.9952								
1.290 (Minimum)				1.390 (Nominal)	1.450 (Maximum)	0.9800 (Minimum)									1.000 (Nominal)	1.020 (Maximum)	
Master: 6-Feb-2005 17:15																	

Company: APACHE CANADA LTD.

Schlumberger

Well: APACHE PARAMOUNT LAC MAUNOIR E-35

Field: NWT

Territory: NORTHWEST TERRITORIES

*** MD ***

PLATFORM EXPRESS
COMPENSATED NEUTRON