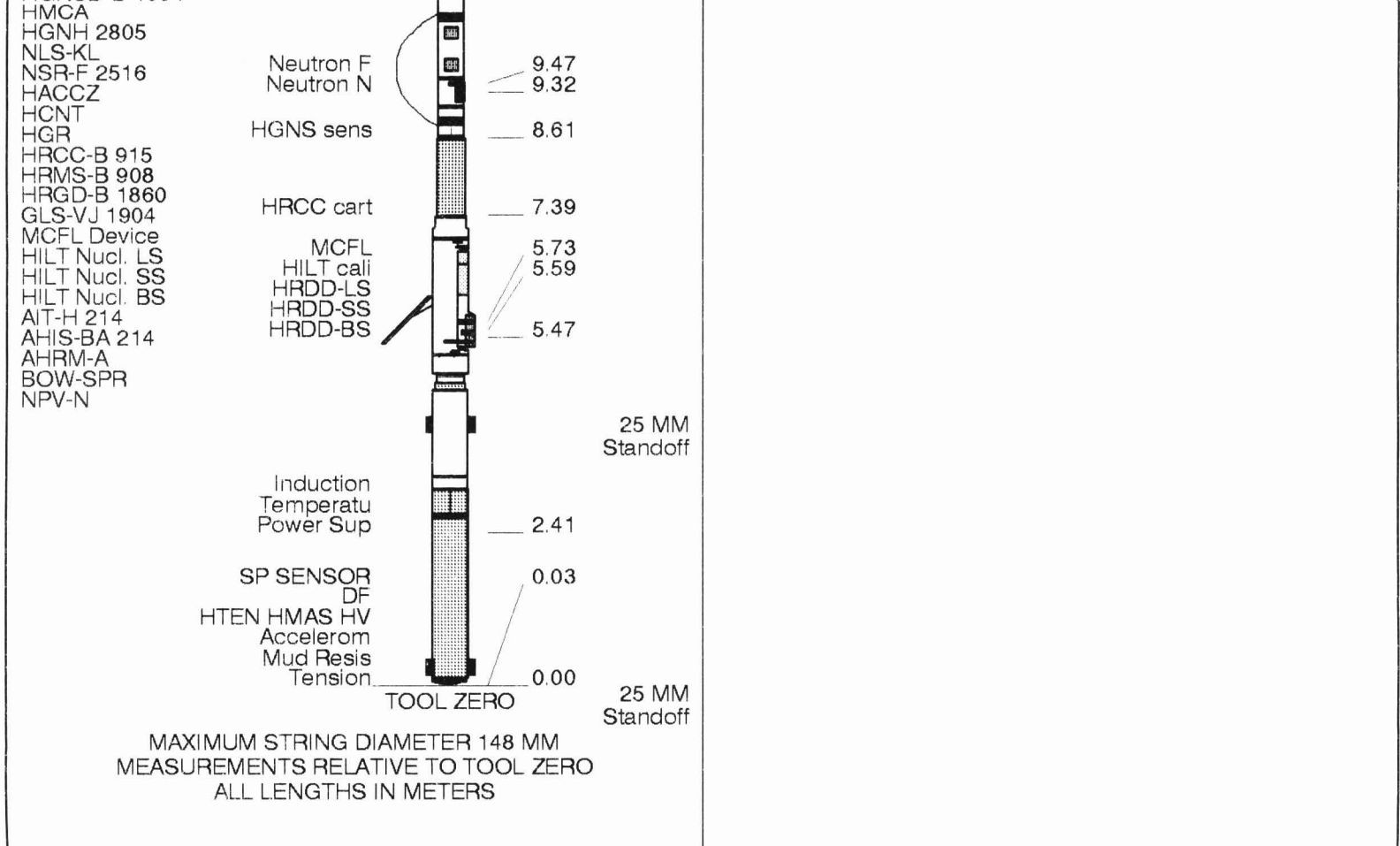


Company: APACHE CANADA LTD. Well: APACHE PARAMOUNT LAC MAUNOIR C-34 Field: UNDEFINED Province: NORTHWEST TERRITORIES		Schlumberger PLATFORM EXPRESS: COMPENSATED NEUTRON DUAL LITHODENSITY LOG	
Province: NORTHWEST TERRITORIES	Field: UNDEFINED	Location: UWID: 300C346720125000	Well: APACHE PARAMOUNT LAC MAUNOIR C-34
Company: APACHE CANADA LTD.	LOCATION UWID: 300C346720125000 LSD: C-34 Permanent Datum: GROUND LEVEL Log Measured From: KELLY BUSHING Drilling Measured From: KELLY BUSHING		
API Serial No. WID: 1995	Latitude: 67 DEG 13' 02.171"	Elev: K.B. 628 m G.L. 622.8 m D.F. 627.7 m	Longitude: 126 DEG 06' 55.649"
Logging Date	20-Feb-2004	Run Number	ONE
Depth Driller	945 m	Schlumberger Depth	945 m
Bottom Log Interval	939.5 m	Top Log Interval	20 m
Casing Driller Size @ Depth	244.500 mm	@	451 m
Casing Schlumberger	451 m		
Bit Size	216.000 mm	INVERT	
Type Fluid In Hole	1100 kg/m3	Viscosity	110 s
Density		Fluid Loss	
Source Of Sample	NO SAMPLE		
FM @ Measured Temperature			
RMF @ Measured Temperature			
Source RMF			
FM @ MRT	NO SAMPLE	NO SAMPLE	
Maximum Recorded Temperatures	12 degC		
Circulation Stopped	20-Feb-2004	Time	20:30
Logger On Bottom	21-Feb-2004	Time	5:00
Unit Number	3139	Location	NORMAN WELLS
Recorded By	KELLY RONCIN		
Witnessed By	TOM HEBERT		

DEPTH SUMMARY LISTING			
Date Created: 21-FEB-2004 5:50:23			
Depth System Equipment			
Depth Measuring Device		Tension Device	Logging Cable
Type:	IDW-B	Type:	CMTD-B/A
Serial Number:	5825	Serial Number:	3139
Calibration Date:	10-SEP-2003	Calibration Date:	22-JAN-2004
Calibrator Serial Number:	4	Calibrator Serial Number:	2000
Calibration Cable Type:	7-39P	Calibration Gain:	0.96
Wheel Correction 1:	-2	Calibration Offset:	1175.00
Wheel Correction 2:	-3		
			Type: 7-39P
			Serial Number: 1180
			Length: 5299.86 M
			Conveyance Method: Wireline
			Rig Type: LAND
Depth Control Parameters			
Log Sequence:	First Log In the Well		
Rig Up Length At Surface:	62.50 M		
Rig Up Length At Bottom:	62.50 M		
Rig Up Length Correction:	0.00 M		
Stretch Correction:	0.70 M		
Tool Zero Check At Surface:	0.00 M		
Depth Control Remarks			
1. CALIBRATED IDW WHEELS USED AS PRIMARY DEPTH CONTROL			
2.			
3.			
4.			
5.			
6.			

DISCLAIMER THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.					
OTHER SERVICES1			OTHER SERVICES2		
OS1: PEX-AIT-LDT			OS1:		
OS2: OBMI-DSI-EMS-GR			OS2:		
OS3: HIRES			OS3:		
OS4: LOGNET			OS4:		
OS5:			OS5:		
REMARKS: RUN NUMBER 1			REMARKS: RUN NUMBER 2		
AIT RAN ECCENTERED USING 25 MM STANDOFFS					
AIT RAN IN COMPUTE MUD RESISTIVITY MODE WITH 1&2 FOOT VERTICAL RESOLUTION					
CNL RAN ECCENTERED USING 90 DEGREE OFFSET BOWSPRINGS					
CVL COMPUTED USING HILT AND LDT CALIPERS WITH FCD=177.8 MM					
HIRES PASS TD-620 M AS PER CLIENT REQUEST					
LIMESTONE PLAYBACK PERFORMED TD-CASING					
DOLOMITE PLAYBACK PERFORMED TD-CASING					
CNL-GR LOGGED TO SURFACE					
BOREHOLE STATUS CHANGED TO CASED AT 445 M					
GR SPIKE AT 391 M DUE TO ACTIVATED FORMATION.					
TOOLS STATIONARY AT 391 M TO WARM UP PRIOR TO BEING RUN INTO OPENHOLE					
PRINTS: 1 FIELD 7 FINAL					
OPERATORS: FRANK MACEACHERN / RANDALL PROSSER / BRENT O'CONNELL					
RIG: AKITA SAHTU 51					
MAX DEV: °0 DEGREES					
RUN 1			RUN 2		
SERVICE ORDER #:		10764787	SERVICE ORDER #:		
PROGRAM VERSION:		11C0-305	PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION					
RUN 1			RUN 2		
SURFACE EQUIPMENT					
WITM (DTS)-A					
GSR-U/Y					
NCT-B					
CNB-AB					
NCS-VB 4546					
DOWNHOLE EQUIPMENT					
LEH-QT		21.56			
LEH-QT					
DTC-H	CTEM	20.39			
ECH-KC 9302	ToolStatus	19.76			
DTA-A		19.76			
ECH-MEAA 1729					
DTA-A 27					
LDT-D		18.54			
GSR-J 2043					
PGD-G 3745					
NSC-F 1868					
ECH-MKA					
DRS-E 723					
PDH-L					
	Caliper	14.07			
	LS	14.04			
	SS	13.89			
AH-90		13.25			
AH-107		12.97			
AH-107 2814					
AH-107		12.36			
AH-107 32					
AH-FAKE	HGNS HTEM	11.76			
HILTB-FTB	HMCA	11.48			
HGNSD-B 1934	Gamma-Ray	11.25			



Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_009LUP	FN:18	PRODUCER	21-Feb-2004 04:46	949.1 M	1.4 M
BACKUP	AIT_TLD_MCFL_CNL_009LUP	FN:19	PRODUCER	21-Feb-2004 04:55	949.1 M	1.4 M
CUST	AIT_TLD_MCFL_CNL_009LUC	FN:20	CUSTOMER	21-Feb-2004 04:46	949.1 M	1.4 M

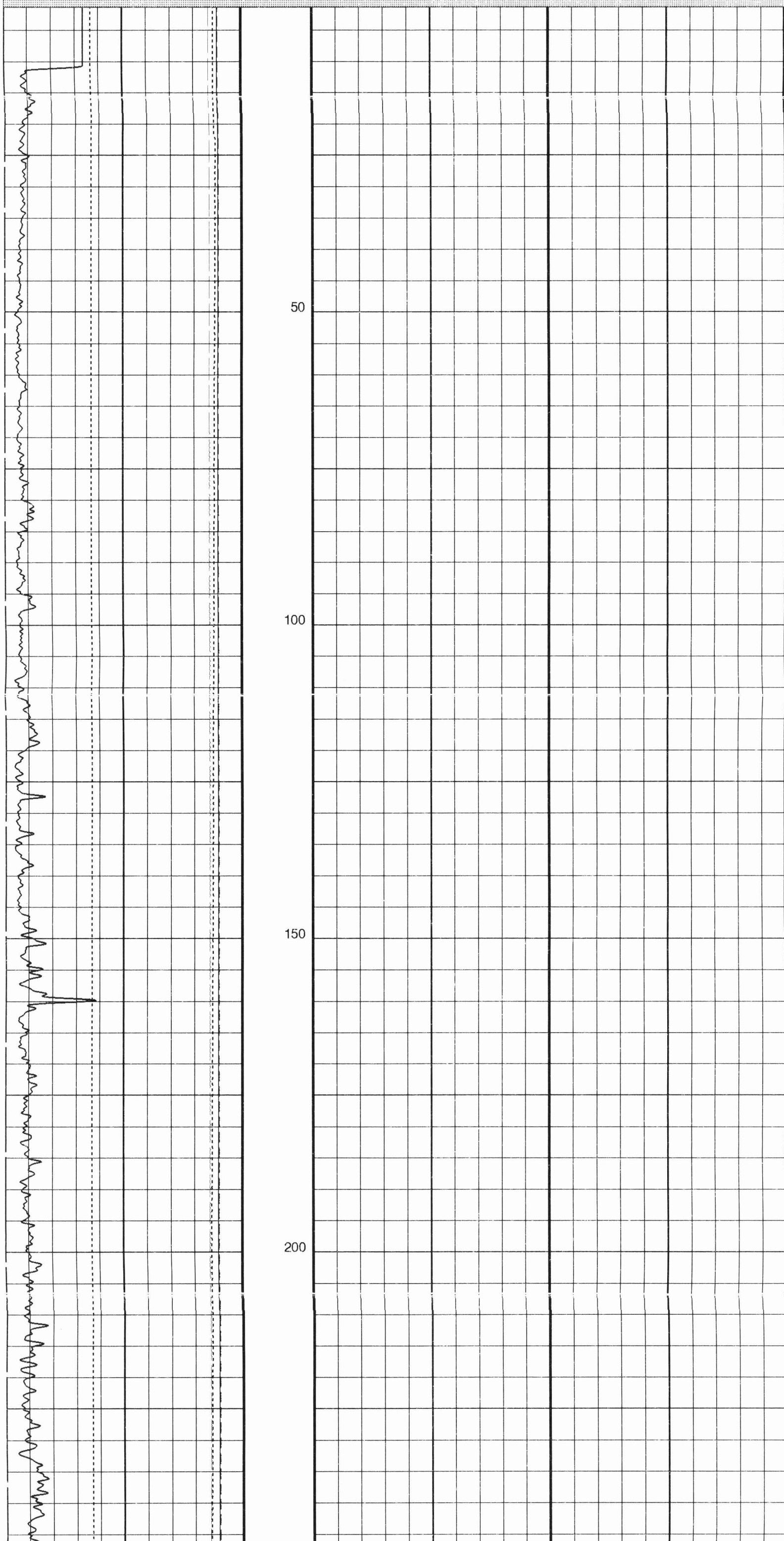
Integrated Hole/Cement Volume Summary	
Hole Volume =	13.67 M3
Cement Volume =	5.81 M3 (assuming 177.80 MM casing O.D.)
Computed from	944.9 M to 451.1 M using data channel(s) CALI HCAL

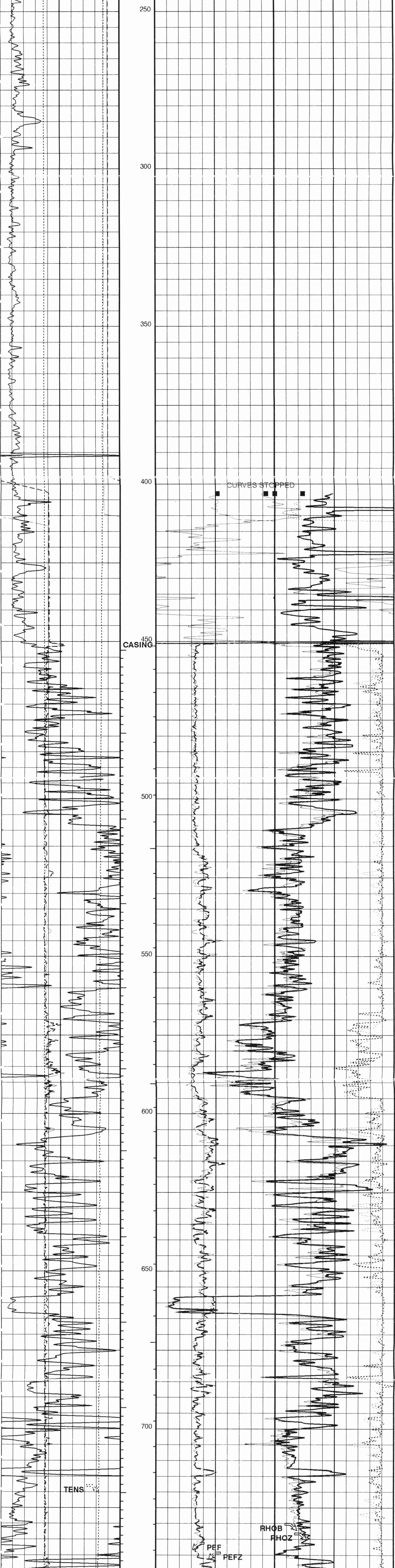
OP System Version: 11C0-305			
MCM			
HILTB-FTB	11C0-305	LDT-D	11C0-305
DTA-A	OP11-KP1	DTC-H	11C0-305

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

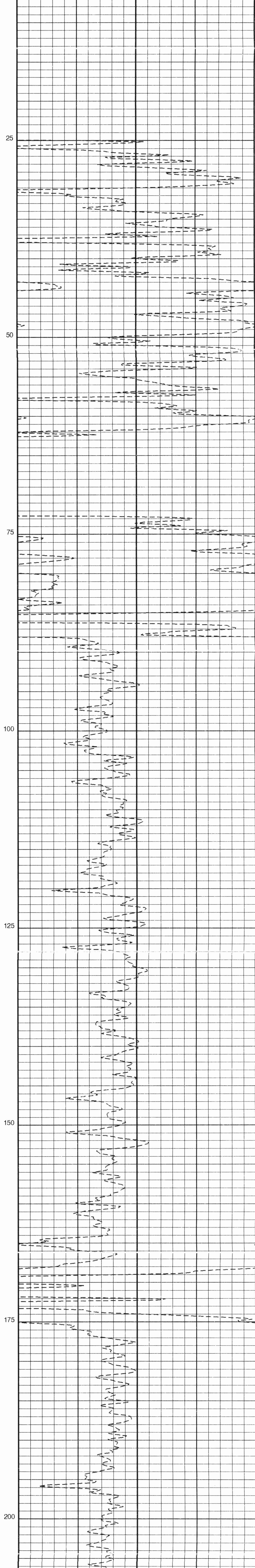
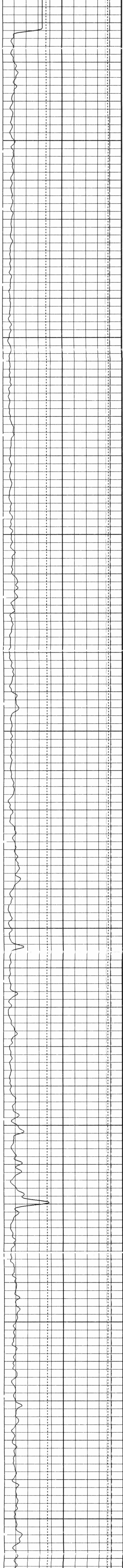
Time Mark Every 60 S	
Tension (TENS)	
25000 (N)	0
Caliper (HCAL)	
125 (MM)	375
Gamma Ray (GR)	
0 (GAPI)	150
Bit Size (BS)	
125 (MM)	375
Caliper (CALI)	
125 (MM)	375
Bulk Density (RHOB)	
2000 (K/M3)	3000
Std. Res. Formation Density (RHOZ)	
2000 (K/M3)	3000
PhotoElectric Factor (PEF)	
0 (----)	10 450 (K/M3) -50
Std. Res. Formation Pe (PEFZ)	
0 (----)	10 450 (K/M3) -50

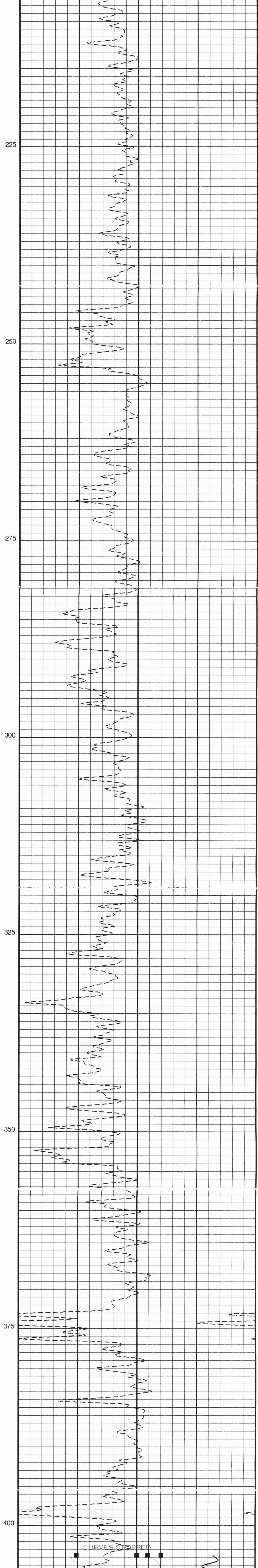
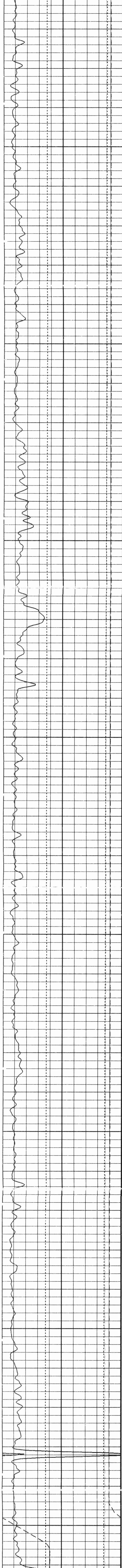
MAIN PASS: *** PEX & LDT - DUAL DENSITY ***

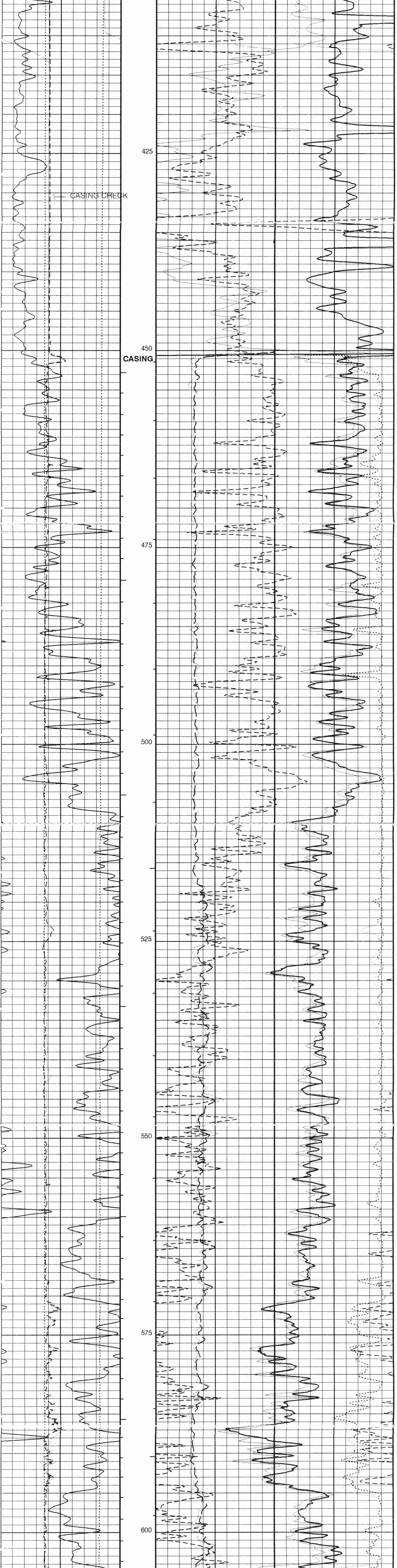


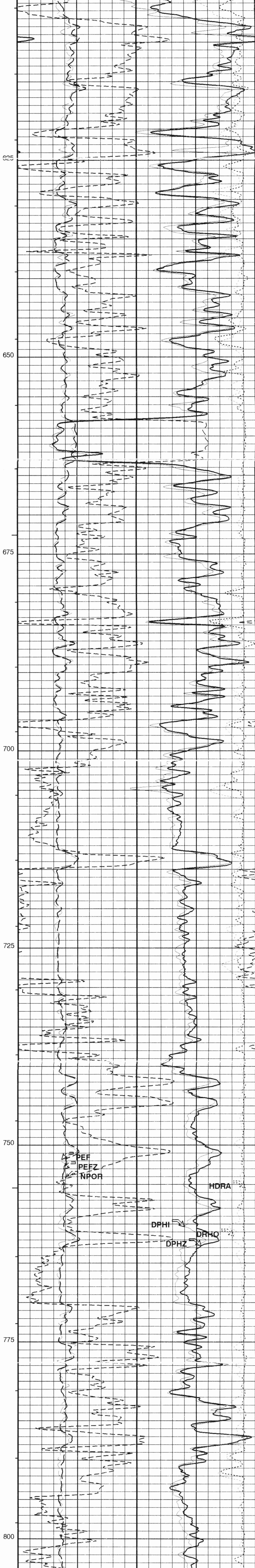
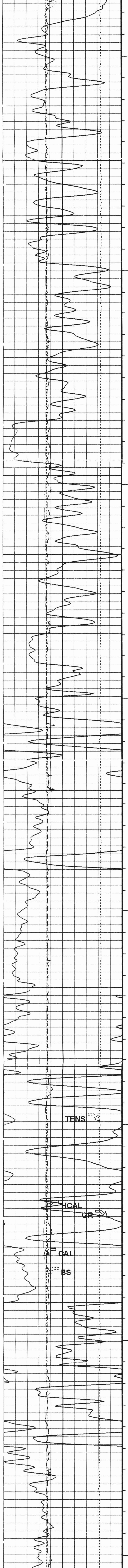


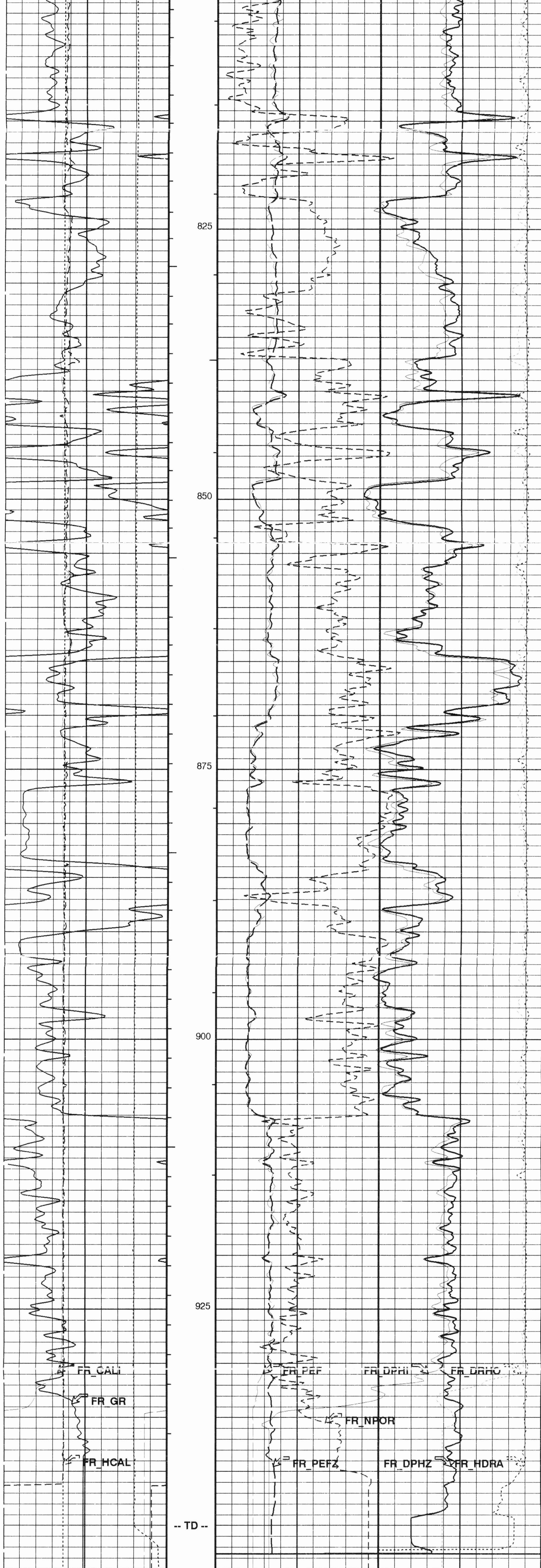
[illegible]











MAIN PASS: *** PEX & LDT - SANDSTONE 2650 KG/M3 ***

125	Caliper (CALI)	375
(MM)		
125	Bit Size (BS)	375
(MM)		
0	Gamma Ray (GR)	150
(GAPI)		
125	Caliper (HCAL)	375
(MM)		
	Tension (TENS)	0
25000 (N)		

0.45	Alpha Processed Neutron Porosity (NPOR)	-0.15
(V/V)		
0.45	Std. Res. Density Porosity (DPHZ)	-0.15
(V/V)		
0.45	Density Porosity (DPHI)	-0.15
(V/V)		
0	Std. Res. Formation Pe (PEFZ)	10 450
(----)		
	Bulk Density Correction (DRHO)	-50
(K/M3)		
0	PhotoElectric Factor (PEF)	10 450
(----)		
	Density Correction (HDRA)	-50
(K/M3)		

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

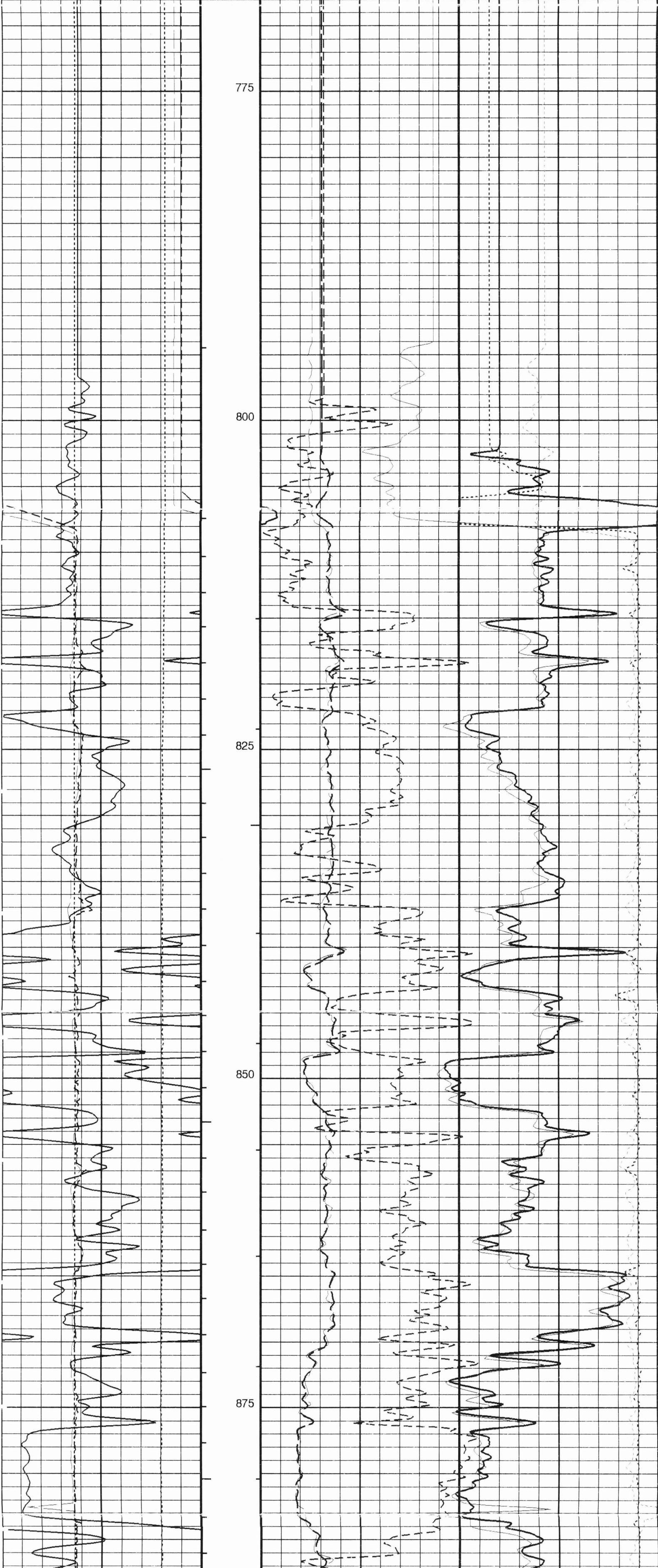
DLIS Name	Description	Value
HILTB-FTB: High resolution Logging Tool-DTS		
BHFL	Borehole Fluid Type	OIL
BHS	Borehole Status	OPEN
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
DHC	Density Hole Correction	BS
DPPM	Density Porosity Processing Mode	HIRS
FD	Fluid Density	1000
FSAL	Formation Salinity	-50000
GCSE	Formation Salinity Correction Option	NO
GDEP	Generalized Caliper Selection	HCAL
GGRD	Average Angular Deviation of Borehole from Normal	0
HSCD	Geothermal Gradient	0.018227
MATR	Hole Size Correction Option	YES
MCCO	Rock Matrix for Neutron Porosity Corrections	SANDSTONE
MCOR	Mud Cake Correction Option	NO
MDEN	Mud Correction	NATU
MWCO	Matrix Density	2650
NAAC	Mud Weight Correction Option	NO
NMT	HRDD APS Activation Correction	NO
NPRM	HILT Nuclear Mud Type	NOBARITE
NSAR	HRDD Processing Mode	HiRes
PTCO	HRDD Depth Sampling Rate	25.4
SDAT	Pressure/Temperature Correction Option	NO
SHT	Standoff Data Source	SOCN
SOCN	Surface Hole Temperature	20
SOCO	Standoff Distance	3.175
	Standoff Correction Option	YES
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
MDEN	Matrix Density	2650

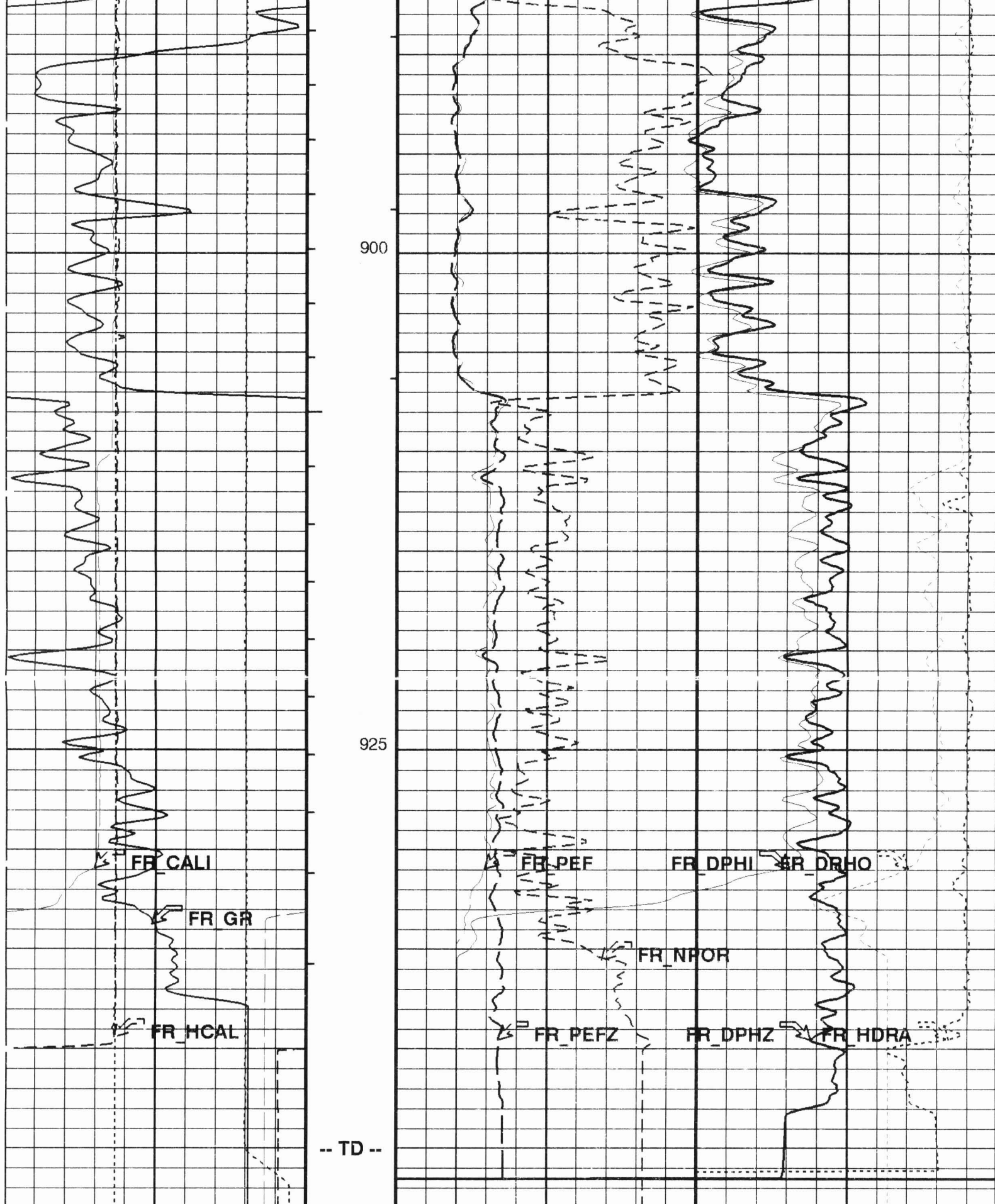
WMUD	STI: Stuck Tool Indicator	Mud Weight	1100	K/M3
LBFR		Trigger for MAXIS First Reading Label	TDL	
TDD		Total Depth - Driller	945.00	M
TDL		Total Depth - Logger	945.00	M
	HOLEV: Integrated Hole/Cement Volume			
BHS		Borehole Status	OPEN	
FCD		Future Casing (Outer) Diameter	177.8	MM
GCSE		Generalized Caliper Selection	HCAL	
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	
MATR		Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
SHT		Surface Hole Temperature	20	DEGC
	System and Miscellaneous			
BS		Bit Size	216.000	MM
BSAL		Borehole Salinity	-50000.00	PPM
CSIZ		Current Casing Size	244.500	MM
CWEI		Casing Weight	59.50	KG/M
DFD		Drilling Fluid Density	1100.00	K/M3
DORL		Depth Offset for Repeat Analysis	0.0	M
MST		Mud Sample Temperature	-50000.00	DEGC
RMFS		Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
TD		Total Depth	945	M
Format: PORO_SAND		Vertical Scale: 1:240		Graphics File Created: 21-Feb-2004 04:46
OP System Version: 11C0-305				
MCM				
HILTB-FTB	11C0-305	LDT-D	11C0-305	
DTA-A	OP11-KP1	DTC-H	11C0-305	
Output DLIS Files				
DEFAULT	AIT_TLD_MCFL_CNL_009LUP	FN:18	PRODUCER	21-Feb-2004 04:46
BACKUP	AIT_TLD_MCFL_CNL_009LUP	FN:19	PRODUCER	21-Feb-2004 04:55
CUST	AIT_TLD_MCFL_CNL_009LUC	FN:20	CUSTOMER	21-Feb-2004 04:46

Input DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_007LUP	FN:12	PRODUCER	21-Feb-2004 04:26	947.3 M	766.5 M
Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_008PUP	FN:15	PRODUCER	21-Feb-2004 04:44	948.1 M	767.9 M
BACKUP	AIT_TLD_MCFL_CNL_008PUP	FN:16	PRODUCER	21-Feb-2004 04:53	948.1 M	767.9 M
CUST	AIT_TLD_MCFL_CNL_008PUC	FN:17	CUSTOMER	21-Feb-2004 04:44	948.1 M	767.9 M

Integrated Hole/Cement Volume Summary	
Hole Volume = 4.84 M3	
Cement Volume = 0.95 M3 (assuming 177.80 MM casing O.D.)	
Computed from 944.9 M to 788.4 M using data channel(s) CALI HCAL	

OP System Version: 11C0-305							
MCM							
HILTB-FTB		11C0-305		LDT-D		11C0-305	
DTA-A		OP11-KP1		DTC-H		11C0-305	
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)		PhotoElectric Factor (PEF)		Density Correction (HDRA)			
25000 (N) 0		0 (----) 10 450		0 (K/M3) -50			
Caliper (HCAL)		Std. Res. Formation Pe (PEFZ)		Bulk Density Correction (DRHO)			
125 (MM) 375		0 (----) 10 450		0 (K/M3) -50			
Gamma Ray (GR)		Density Porosity (DPHI)					
0 (GAPI) 150		0.45 (V/V) -0.15					
Bit Size (BS)		Std. Res. Density Porosity (DPHZ)					
125 (MM) 375		0.45 (V/V) -0.15					
Caliper (CALI)		Alpha Processed Neutron Porosity (NPOR)					
125 (MM) 375		0.45 (V/V) -0.15					





REPEAT SECTION: *** PEX & LDT - SANDSTONE 2650 KG/M3 ***

125	Caliper (CALI) (MM)	375	0.45	Alpha Processed Neutron Porosity (NPOR) (V/V)	-0.15
125	Bit Size (BS) (MM)	375	0.45	Std. Res. Density Porosity (DPHZ) (V/V)	-0.15
0	Gamma Ray (GR) (GAPI)	150	0.45	Density Porosity (DPHI) (V/V)	-0.15
125	Caliper (HCAL) (MM)	375	0	Std. Res. Formation Pe (PEFZ) (----	10 450
	Tension (TENS) 25000 (N)	0		Bulk Density Correction (DRHO) (K/M3)	-50
			0	PhotoElectric Factor (PEF) (----	10 450
				Density Correction (HDRA) (K/M3)	-50

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		
BHFL	Borehole Fluid Type	OIL
BHS	Borehole Status	OPEN
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
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
GCSE	Generalized Caliper Selection	HCAL
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
HSCO	Hole Size Correction Option	YES
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE
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
SHT	Surface Hole Temperature	20 DEGC
SOCN	Standoff Distance	3.175 MM
SOCO	Standoff Correction Option	YES
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	1100 K/M3
STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	TDL
TDD	Total Depth - Driller	945.00 M
TDL	Total Depth - Logger	945.00 M
HOLEV: Integrated Hole/Cement Volume		
BHS	Borehole Status	OPEN
FCO	Future Casing (Outer) Diameter	177.8 MM
GCSE	Generalized Caliper Selection	HCAL
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
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE
SHT	Surface Hole Temperature	20 DEGC
System and Miscellaneous		
BS	Bit Size	216.000 MM
BSAL	Borehole Salinity	-50000.00 PPM
CSIZ	Current Casing Size	244.500 MM
CWEI	Casing Weight	59.50 KG/M
DFD	Drilling Fluid Density	1100.00 K/M3
DO	Depth Offset for Playback	0.7 M
MST	Mud Sample Temperature	-50000.00 DEGC
PP	Playback Processing	NORMAL
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000 OHMM
TD	Total Depth	945 M

Format: REPEAT_SECTION_SAND

Vertical Scale: 1:240

Graphics File Created: 21-Feb-2004 04:44

OP System Version: 11C0-305

MCM

HILTB-FTB	11C0-305	LDT-D	11C0-305
DTA-A	OP11-KP1	DTC-H	11C0-305

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_007LUP	FN:12	PRODUCER	21-Feb-2004 04:26	947.3 M	786.5 M
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Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_008PUP	FN:15	PRODUCER	21-Feb-2004 04:44
BACKUP	AIT_TLD_MCFL_CNL_008PUP	FN:16	PRODUCER	21-Feb-2004 04:53
CUST	AIT_TLD_MCFL_CNL_008PUC	FN:17	CUSTOMER	21-Feb-2004 04:44

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_009LUP	FN:18	PRODUCER	21-Feb-2004 04:46	949.1 M	1.4 M
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Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_034PUP	FN:90	PRODUCER	21-Feb-2004 13:03	949.1 M	572.6 M
BACKUP	AIT_TLD_MCFL_CNL_034PUP	FN:91	PRODUCER	21-Feb-2004 13:12	949.1 M	572.6 M
CUST	AIT_TLD_MCFL_CNL_034PUP	FN:92	PRODUCER	21-Feb-2004 13:03	949.1 M	572.6 M

Integrated Hole/Cement Volume Summary

Hole Volume = 12.40 M3

Cement Volume = 3.86 M3 (assuming 177.80 MM casing O.D.)

Computed from 944.9 M to 601.1 M using data channel(s) CALI HCAL

OP System Version: 11C0-305

MCM

HILTB-FTB	11C0-305	LDT-D	11C0-305
DTA-A	OP11-KP1	DTC-H	11C0-305

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) 25000 (N)	0	0	H. Res. Formation Pe (PEF8) (----	10 450	Density Correction (HDRA) (K/M3)	-50
	Gamma Ray (EHGR) (GAPI)	150	0	HiRes PhotoElectric Factor (HPEF) (----	10 450	Bulk Density Correction (DRHO) (K/M3)	-50
	Caliper (HCAL) (MM)	375	0.45	HiRes Density Porosity (HDPH) (V/V)			-0.15
	Bit Size (BS) (MM)	375	0.45	H. Res. Density Porosity (DPH8) (V/V)			-0.15
	Caliper (CALI) (MM)	375	0.45	HiRes NPOR (HNPO) (V/V)			-0.15

HIRESOLUTION PASS: *** PEX & LDT - SANDSTONE 2650 KG/M3 ***

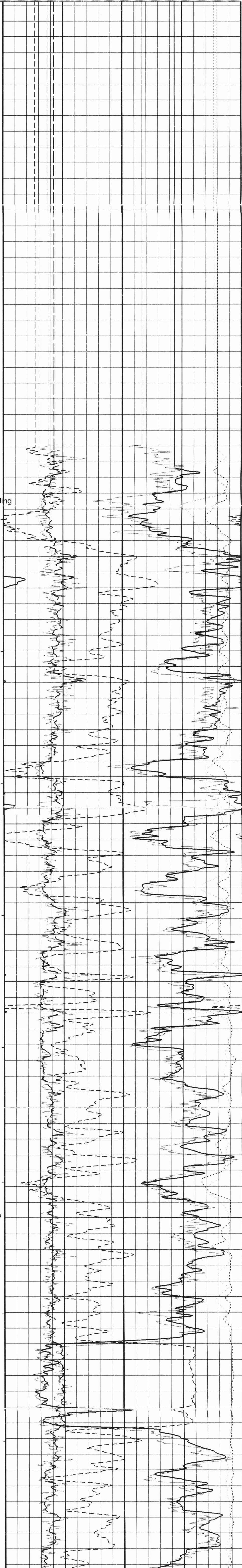
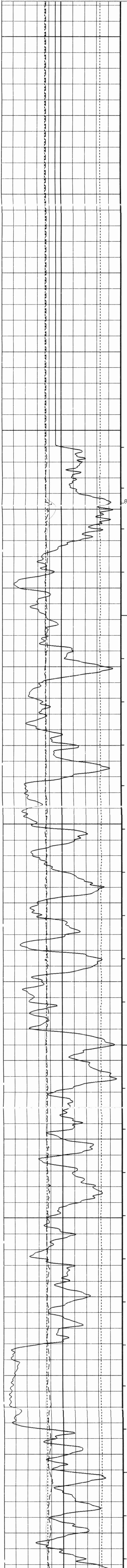
575

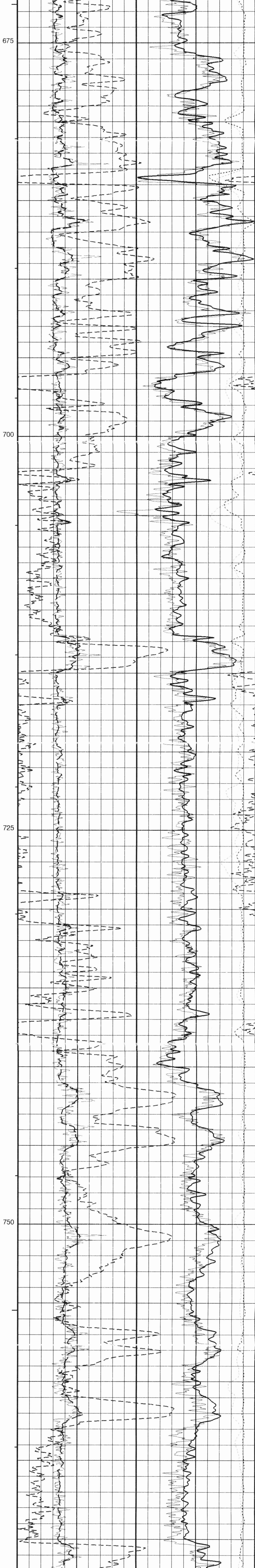
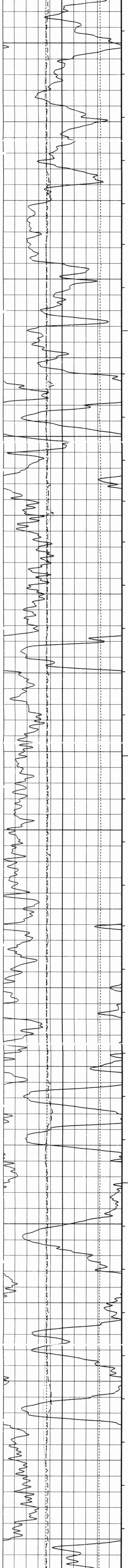
600

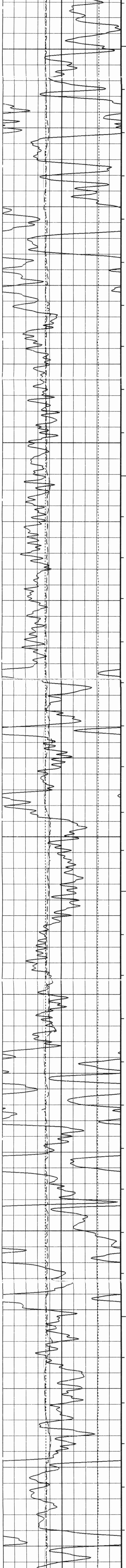
Last Reading

625

650





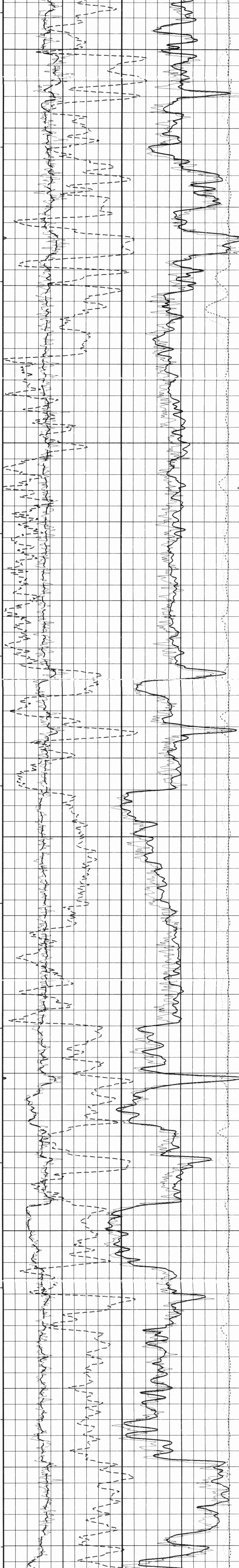


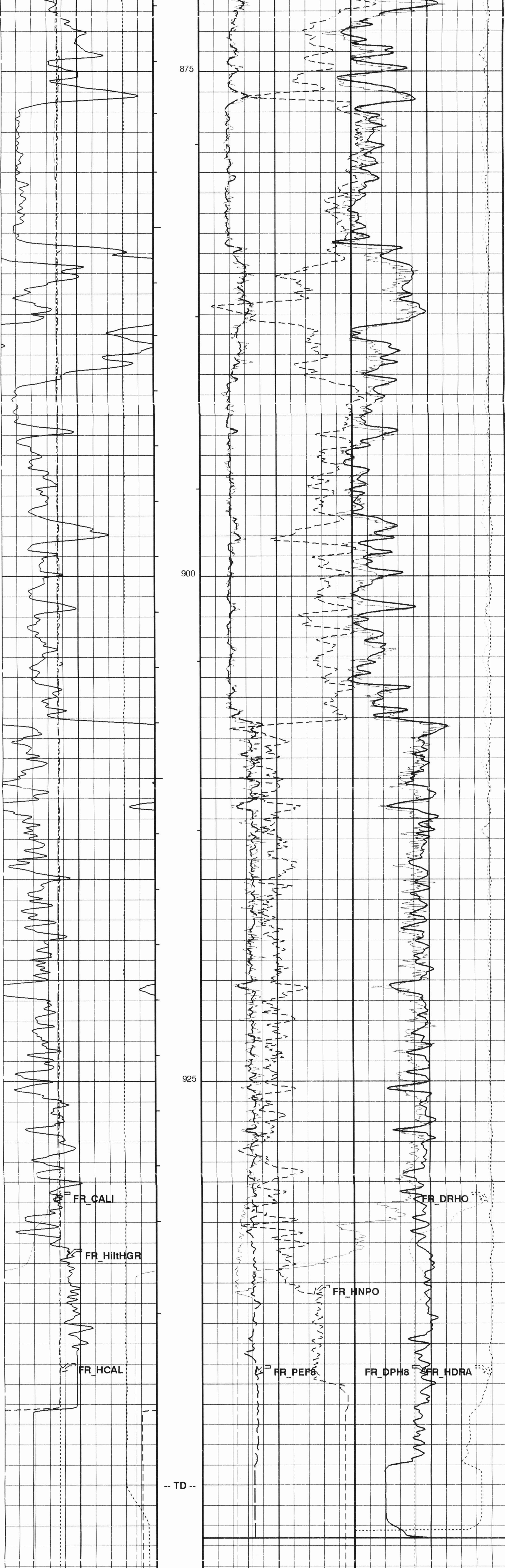
775

800

825

850





HIRESOLUTION PASS: *** PEX & LDT - SANDSTONE 2650 KG/M3 ***

Caliper (CALI) (MM)		375	HiRes NPOR (HNPO) (V/V)		-0.15
Bit Size (BS) (MM)		375	H. Res. Density Porosity (DPH8) (V/V)		-0.15
Caliper (HCAL) (MM)		375	HiRes Density Porosity (HDPH) (V/V)		-0.15
Gamma Ray (EHGR) (GAPI)		150	HiRes PhotoElectric Factor (HPEF) (----	Bulk Density Correction (DRHO) (K/M3)	-50
Tension (TENS) 25000 (N)		0	H. Res. Formation Pe (PEF8) (----	Density Correction (HDRA) (K/M3)	-50

PIP SUMMARY

- └ Integrated 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			
BHFL	Borehole Fluid Type	OIL	
BHS	Borehole Status	OPEN	
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
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	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix for Neutron Porosity Corrections	SANDSTONE	
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	25.4	MM
NSAR	HRDD Depth Sampling Rate	NO		
PTCO	Pressure/Temperature Correction Option	SOCN	20	DEGC
SDAT	Standoff Data Source		3.175	MM
SHT	Surface Hole Temperature		YES	
SOCN	Standoff Distance			
SOCO	Standoff Correction Option			
LDT-D: Litho Density - D	Borehole Fluid Medium	LIQUID		
BFM	Density Hole Correction	BS		
DHC	Density Porosity Processing Mode	HIRS		
DPPM	Fluid Density	1000		K/M3
FD	Matrix Density	2650		K/M3
MDEN	Mud Weight	1100		K/M3
WMUD	STI: Stuck Tool Indicator			
LBFR	Trigger for MAXIS First Reading Label	TDL		
TDD	Total Depth - Driller	945.00		M
TDL	Total Depth - Logger	945.00		M
HOLEV: Integrated Hole/Cement Volume	Borehole Status	OPEN		
BHS	Future Casing (Outer) Diameter	177.8		MM
FCD	Generalized Caliper Selection	HCAL		
GCSE	Average Angular Deviation of Borehole from Normal	0		DEG
GDEV	Geothermal Gradient	0.018227		DC/M
GGRD	Integrated Hole Volume Caliper Selection	CALI/HCAL		
HVCS	Rock Matrix for Neutron Porosity Corrections	SANDSTONE		
MATR	Surface Hole Temperature	20		DEGC
SHT	System and Miscellaneous			
BS	Bit Size	216.000		MM
BSAL	Borehole Salinity	-50000.00		PPM
CSIZ	Current Casing Size	244.500		MM
CWEI	Casing Weight	59.50		KG/M
DFD	Drilling Fluid Density	1100.00		K/M3
DO	Depth Offset for Playback	0.0		M
MST	Mud Sample Temperature	-50000.00		DEGC
PP	Playback Processing	NORMAL		
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000		OHMM
TD	Total Depth	945		M

Format: HIRES_PORO
Vertical Scale: 1:120
Graphics File Created: 21-Feb-2004 13:03

OP System Version: 11C0-305						
MCM						
HILTB-FTB	11C0-305	LDT-D	11C0-305			
DTA-A	OP11-KP1	DTC-H	11C0-305			
Input DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_009LUP	FN:18	PRODUCER	21-Feb-2004 04:46	949.1 M	1.4 M
Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_034PUP	FN:90	PRODUCER	21-Feb-2004 13:03		
BACKUP	AIT_TLD_MCFL_CNL_034PUP	FN:91	PRODUCER	21-Feb-2004 13:12		
CUST	AIT_TLD_MCFL_CNL_034PUP	FN:92	PRODUCER	21-Feb-2004 13:03		

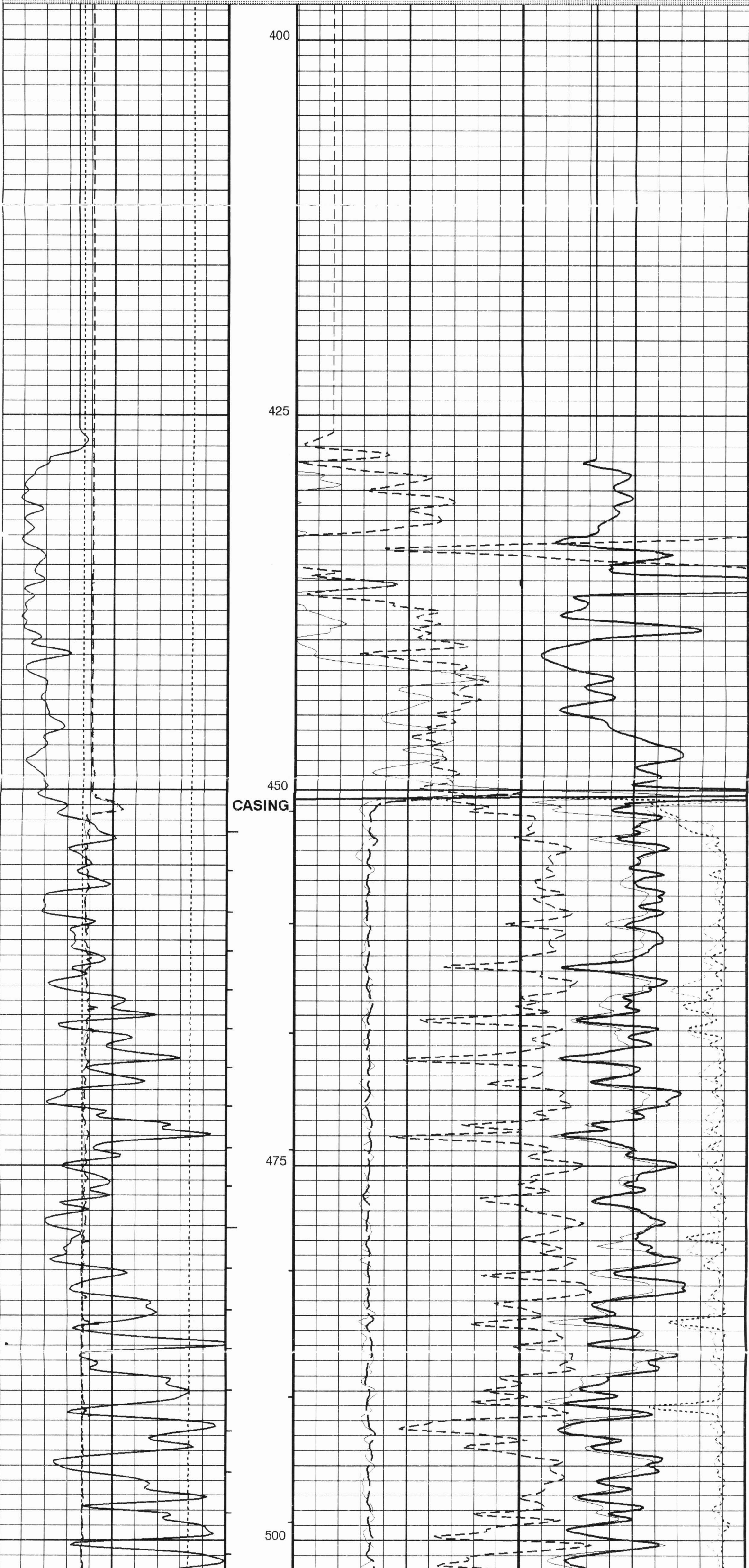
Input DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_009LUP	FN:18	PRODUCER	21-Feb-2004 04:46	949.1 M	1.4 M
Output DLIS Files						
DEFAULT	AIT_TLD_MCFL_CNL_032PUP	FN:84	PRODUCER	21-Feb-2004 12:59	949.1 M	397.5 M
BACKUP	AIT_TLD_MCFL_CNL_032PUP	FN:85	PRODUCER	21-Feb-2004 13:08	949.1 M	397.5 M
CUST	AIT_TLD_MCFL_CNL_032PUP	FN:86	PRODUCER	21-Feb-2004 12:59	949.1 M	397.5 M

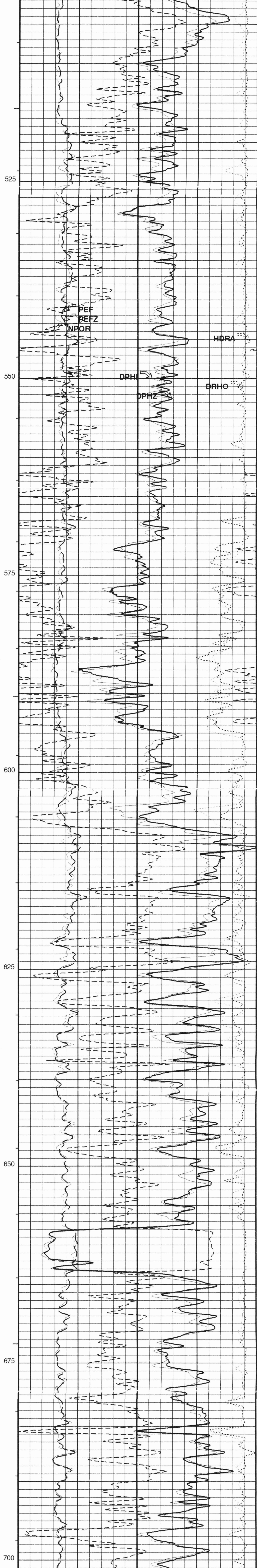
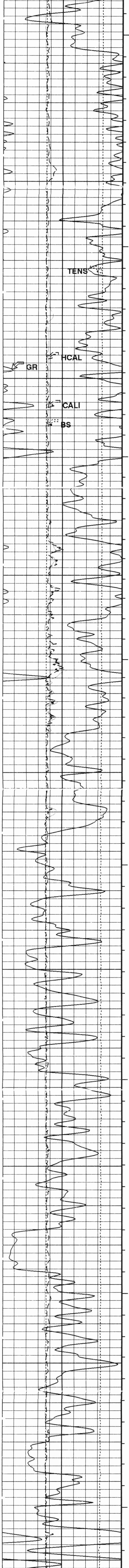
Integrated Hole/Cement Volume Summary	
Hole Volume =	18.07 M3
Cement Volume =	5.81 M3 (assuming 177.80 MM casing O.D.)
Computed from	944.9 M to 451.1 M using data channel(s) CALI HCAL

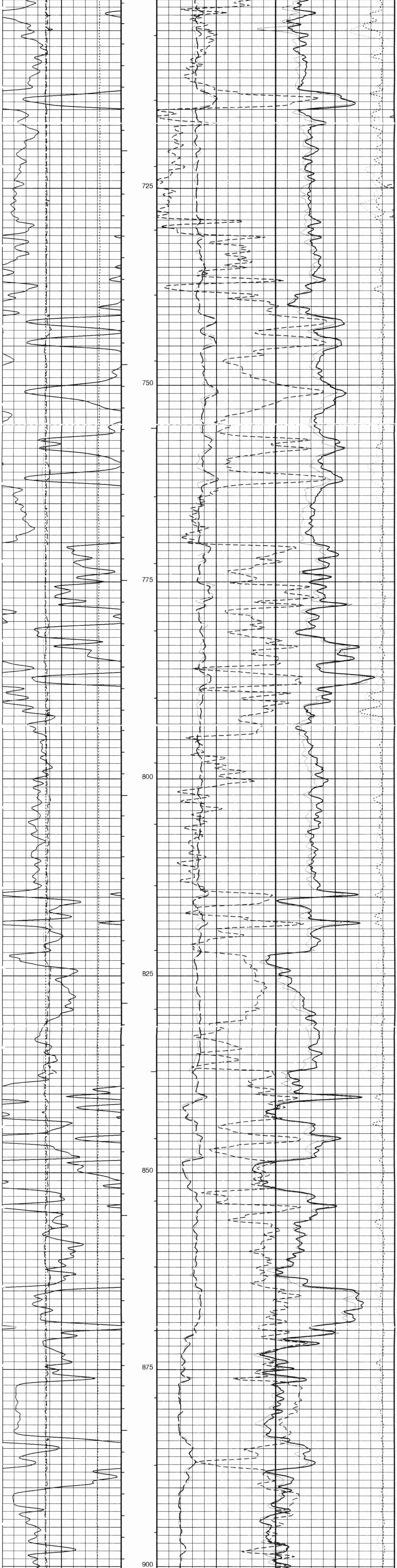
OP System Version: 11C0-305			
MCM			
HILTB-FTB	11C0-305	LDT-D	11C0-305
DTA-A	OP11-KP1	DTC-H	11C0-305

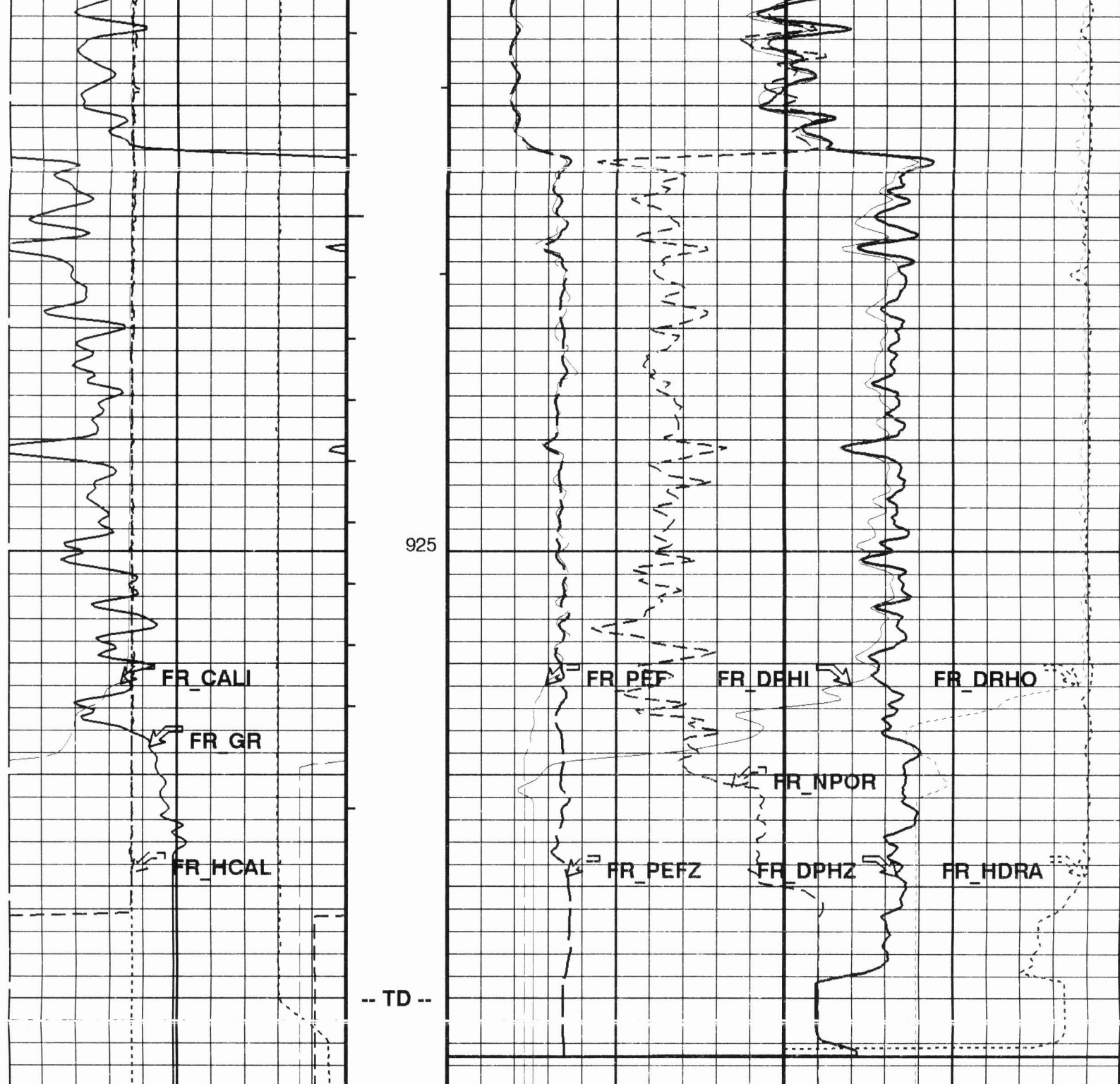
PIP SUMMARY			
└ Integrated Hole Volume Minor Pip Every 0.1 M3			
└ Integrated Hole Volume Major Pip Every 1 M3			
└ Integrated Cement Volume Minor Pip Every 0.1 M3			
└ Integrated Cement Volume Major Pip Every 1 M3			
Time Mark Every 60 S			
Tension (TENS)		PhotoElectric Factor (PEF)	
25000 (N)	0	0	10 450
Caliper (HCAL)		Density Correction (HDRA)	
125 (MM)	375	0	-50
Gamma Ray (GR)		Std. Res. Formation Pe (PEFZ)	
0 (GAPI)	150	0	10 450
Bit Size (BS)		Bulk Density Correction (DRHO)	
125 (MM)	375	0	-50
Caliper (CALI)		Density Porosity (DPHI)	
125 (MM)	375	0.45	-0.15
		Std. Res. Density Porosity (DPHZ)	
		0.45	-0.15
		Alpha Processed Neutron Porosity (NPOR)	
		0.45	-0.15

PLAYBACK SECTION: *** PEX & LDT - LIMESTONE 2710 KG/M3 ***









PLAYBACK SECTION: *** PEX & LDT - LIMESTONE 2710 KG/M3 ***

Caliper (CALI) (MM)	125	375	Alpha Processed Neutron Porosity (NPOR) (V/V)	0.45	-0.15
Bit Size (BS) (MM)	125	375	Std. Res. Density Porosity (DPHZ) (V/V)	0.45	-0.15
Gamma Ray (GR) (GAPI)	0	150	Density Porosity (DPHI) (V/V)	0.45	-0.15
Caliper (HCAL) (MM)	125	375	Std. Res. Formation Pe (PEFZ) (----	0	10 450
Tension (TENS) 25000 (N)	0		Bulk Density Correction (DRHO) (K/M3)		-50
			PhotoElectric Factor (PEF) (----	0	10 450
			Density Correction (HDRA) (K/M3)		-50

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	
BHFL	Borehole Fluid Type	OIL
BHS	Borehole Status	OPEN
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
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
GCSE	Generalized Caliper Selection	HCAL
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
HSCO	Hole Size Correction Option	YES
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
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
SHT	Surface Hole Temperature	20 DEGC
SOCN	Standoff Distance	3.175 MM
SOCO	Standoff Correction Option	YES
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	1100 K/M3
STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	TDL
TDD	Total Depth - Driller	945.00 M
TDL	Total Depth - Logger	945.00 M
HOLEV: Integrated Hole/Cement Volume		
BHS	Borehole Status	OPEN
FCD	Future Casing (Outer) Diameter	177.8 MM
GCSE	Generalized Caliper Selection	HCAL
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
MATR	Rock Matrix for Neutron Porosity Corrections	LIMESTONE
SHT	Surface Hole Temperature	20 DEGC
System and Miscellaneous		
BS	Bit Size	216.000 MM
BSAL	Borehole Salinity	-50000.00 PPM
CSIZ	Current Casing Size	244.500 MM
CWEI	Casing Weight	59.50 KG/M
DFD	Drilling Fluid Density	1100.00 K/M3
DO	Depth Offset for Playback	0.0 M
MST	Mud Sample Temperature	-50000.00 DEGC
PP	Playback Processing	NORMAL
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000 OHMM
TD	Total Depth	945 M

Format: PORO_LIME Vertical Scale: 1:240

Graphics File Created: 21-Feb-2004 12:59

OP System Version: 11C0-305

MCM

HILTB-FTB	11C0-305	LDT-D	11C0-305
DTA-A	OP11-KP1	DTC-H	11C0-305

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_009LUP	FN:18	PRODUCER	21-Feb-2004 04:46	949.1 M	1.4 M
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Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_032PUP	FN:84	PRODUCER	21-Feb-2004 12:59		
BACKUP	AIT_TLD_MCFL_CNL_032PUP	FN:85	PRODUCER	21-Feb-2004 13:08		
CUST	AIT_TLD_MCFL_CNL_032PUP	FN:86	PRODUCER	21-Feb-2004 12:59		

Input DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_009LUP	FN:18	PRODUCER	21-Feb-2004 04:46	949.1 M	1.4 M
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Output DLIS Files

DEFAULT	AIT_TLD_MCFL_CNL_033PUP	FN:87	PRODUCER	21-Feb-2004 13:01	949.1 M	397.5 M
BACKUP	AIT_TLD_MCFL_CNL_033PUP	FN:88	PRODUCER	21-Feb-2004 13:10	949.1 M	397.5 M
CUST	AIT_TLD_MCFL_CNL_033PUP	FN:89	PRODUCER	21-Feb-2004 13:01	949.1 M	397.5 M

Integrated Hole/Cement Volume Summary

Hole Volume = 18.07 M3
Cement Volume = 5.81 M3 (assuming 177.80 MM casing O.D.)
Computed from 944.9 M to 451.1 M using data channel(s) CALI HCAL

OP System Version: 11C0-305

MCM

HILTB-FTB	11C0-305	LDT-D	11C0-305
DTA-A	OP11-KP1	DTC-H	11C0-305

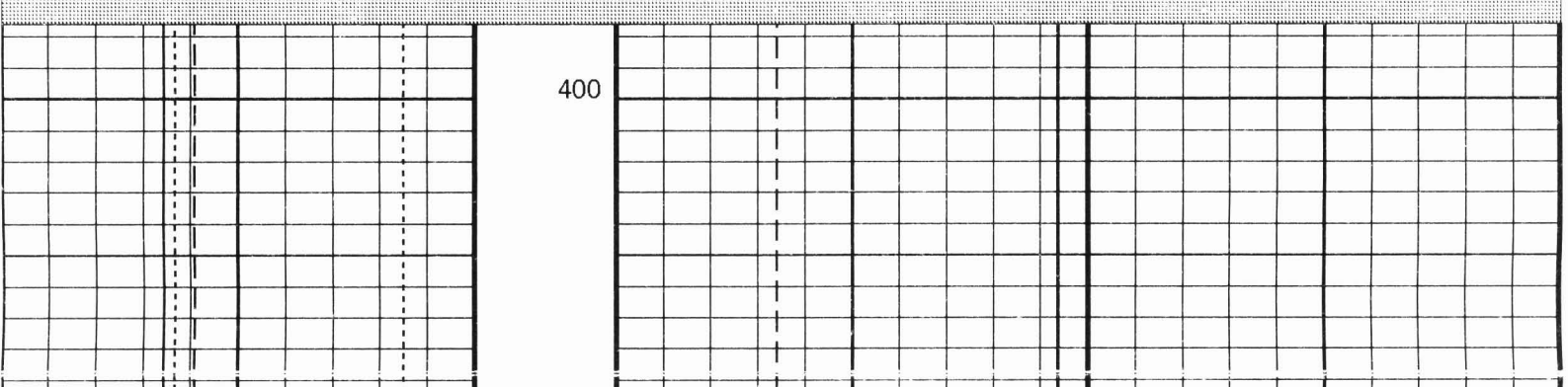
PIP SUMMARY

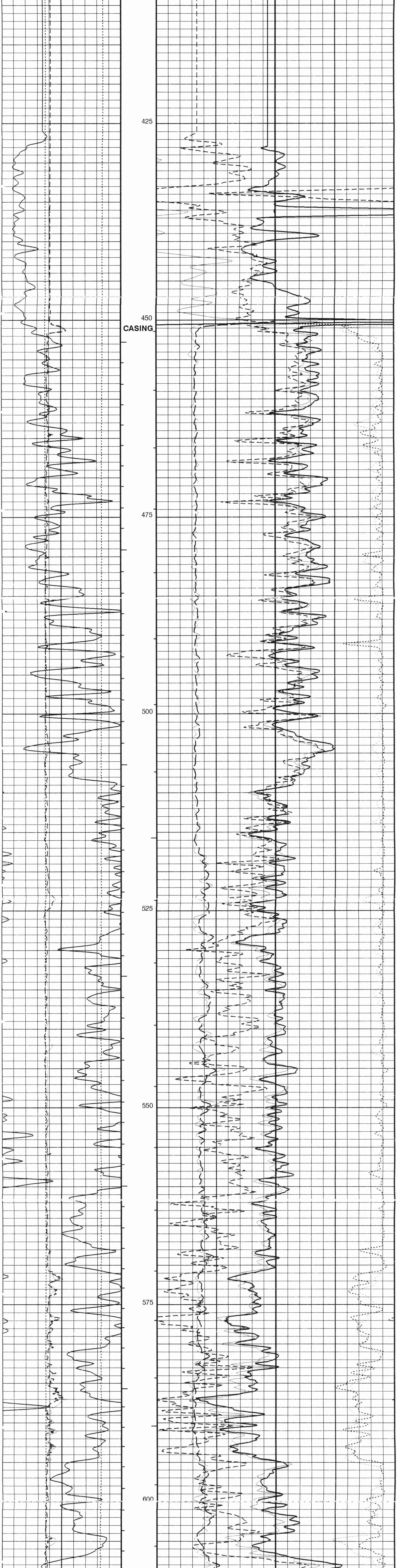
- └ Integrated Hole Volume Minor Pip Every 0.1 M3
- └ Integrated Hole Volume Major Pip Every 1 M3
- └ Integrated Cement Volume Minor Pip Every 0.1 M3
- └ Integrated Cement Volume Major Pip Every 1 M3

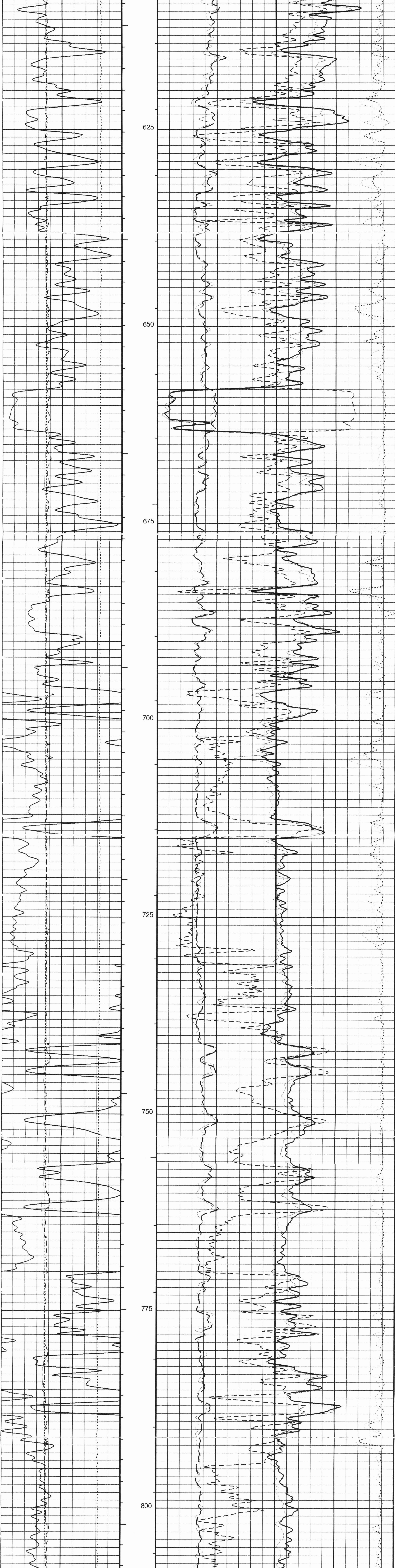
Time Mark Every 60 S

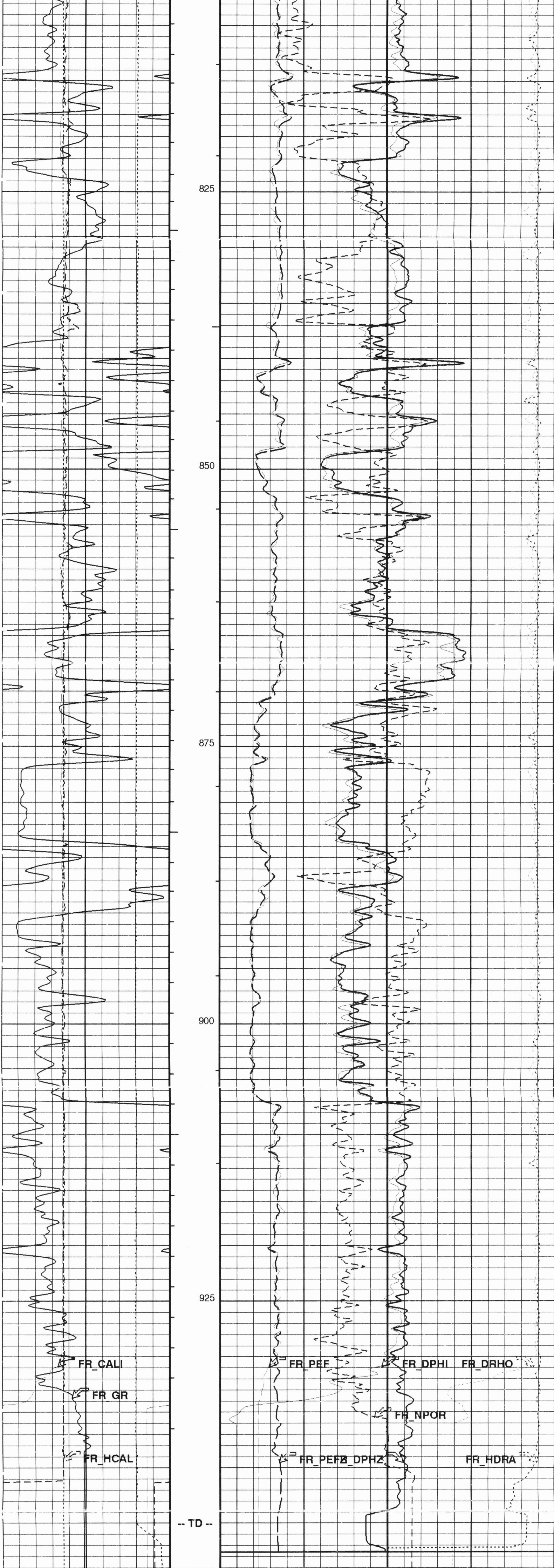
	Tension (TENS)		PhotoElectric Factor (PEF)	Density Correction (HDRA)
	25000 (N)	0	0 (----	10 450 (K/M3) -50
Caliper (HCAL)			Std. Res. Formation Pe (PEFZ)	Bulk Density Correction (DRHO)
125 (MM)		375	0 (----	10 450 (K/M3) -50
Gamma Ray (GR)				Density Porosity (DPHI)
0 (GAPI)		150	0.45 (V/V)	-0.15
Bit Size (BS)				Std. Res. Density Porosity (DPHZ)
125 (MM)		375	0.45 (V/V)	-0.15
Caliper (CALI)				Alpha Processed Neutron Porosity (NPOR)
125 (MM)		375	0.45 (V/V)	-0.15

PLAYBACK SECTION: *** PEX & LDT - DOLOMITE 2850 KG/M3 ***









PLAYBACK SECTION: *** PEX & LDT - DOLOMITE 2850 KG/M3 ***

Caliper (CALI) (MM)			Alpha Processed Neutron Porosity (NPOR) (V/V)		
125		375	0.45		-0.15
Bit Size (BS) (MM)			Std. Res. Density Porosity (DPHZ) (V/V)		
125		375	0.45		-0.15
Gamma Ray (GR) (GAPI)			Density Porosity (DPHI) (V/V)		
0		150	0.45		-0.15
Caliper (HCAL) (MM)			Std. Res. Formation Pe (PEFZ) (----		
125		375	0	10 450	Bulk Density Correction (DRHO) (K/M3)
Tension (TENS) 25000 (N)			PhotoElectric Factor (PEF) (----		
		0	0	10 450	Density Correction (HDRA) (K/M3)

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		
BHFL	Borehole Fluid Type	OIL
BHS	Borehole Status	OPEN
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
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
GCSE	Generalized Caliper Selection	HCAL
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GGRD	Geothermal Gradient	0.018227 DC/M
HSCD	Hole Size Correction Option	YES
MATR	Rock Matrix for Neutron Porosity Corrections	DOLOMITE
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
SHT	Surface Hole Temperature	20 DEGC
SOCN	Standoff Distance	3.175 MM
SOCO	Standoff Correction Option	YES
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	1100 K/M3
STI: Stuck Tool Indicator		
LBFR	Trigger for MAXIS First Reading Label	TDL
TDD	Total Depth - Driller	945.00 M
TDL	Total Depth - Logger	945.00 M

HOLEV: Integrated Hole/Cement Volume		OPEN	
BHS	Borehole Status	177.8	MM
FCD	Future Casing (Outer) Diameter	HCAL	
GCSE	Generalized Caliper Selection	0	DEG
GDEV	Average Angular Deviation of Borehole from Normal	0.018227	DC/M
GGRD	Geothermal Gradient	CALI/HCAL	
HVCS	Integrated Hole Volume Caliper Selection	DOLOMITE	
MATR	Rock Matrix for Neutron Porosity Corrections	20	DEGC
SHT	Surface Hole Temperature		
System and Miscellaneous			
BS	Bit Size	216.000	MM
BSAL	Borehole Salinity	-50000.00	PPM
CSIZ	Current Casing Size	244.500	MM
CWEI	Casing Weight	59.50	KG/M
DFD	Drilling Fluid Density	1100.00	K/M3
DO	Depth Offset for Playback	0.0	M
MST	Mud Sample Temperature	-50000.00	DEGC
PP	Playback Processing	NORMAL	
RMFS	Resistivity of Mud Filtrate Sample	-50000.0000	OHMM
TD	Total Depth	945	M
Format: PORO_DOLO		Vertical Scale: 1:240	
		Graphics File Created: 21-Feb-2004 13:01	
OP System Version: 11C0-305			
MCM			
HILTB-FTB	11C0-305	LDT-D	11C0-305
DTA-A	OP11-KP1	DTC-H	11C0-305
Input DLIS Files			
DEFAULT	AIT_TLD_MCFL_CNL_009LUP	FN:18	PRODUCER 21-Feb-2004 04:46 949.1 M 1.4 M
Output DLIS Files			
DEFAULT	AIT_TLD_MCFL_CNL_033PUP	FN:87	PRODUCER 21-Feb-2004 13:01
BACKUP	AIT_TLD_MCFL_CNL_033PUP	FN:88	PRODUCER 21-Feb-2004 13:10
CUST	AIT_TLD_MCFL_CNL_033PUP	FN:89	PRODUCER 21-Feb-2004 13:01

Calibration and Check Summary							
Measurement	Nominal	Master	Before	After	Change	Limit	Units
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Electronics Calibration Check - Thru Cal Mag. & Phase							
Master: 11-Jan-2004 18:19 Before: 21-Feb-2004 3:45							
Thru Cal Magnitude - 0	0	0.6159	0.6238	N/A	N/A	N/A	V
Thru Cal Magnitude - 1	0	1.263	1.279	N/A	N/A	N/A	V
Thru Cal Magnitude - 2	0	0.6267	0.6347	N/A	N/A	N/A	V
Thru Cal Magnitude - 3	0	0.7081	0.7174	N/A	N/A	N/A	V
Thru Cal Magnitude - 4	0	1.329	1.346	N/A	N/A	N/A	V
Thru Cal Magnitude - 5	0	1.919	1.943	N/A	N/A	N/A	V
Thru Cal Magnitude - 6	0	1.922	1.947	N/A	N/A	N/A	V
Thru Cal Magnitude - 7	0	1.377	1.394	N/A	N/A	N/A	V
Phase - 0	0	65.97	66.19	N/A	N/A	N/A	DEG
Phase - 1	0	64.94	65.16	N/A	N/A	N/A	DEG
Phase - 2	0	61.10	61.32	N/A	N/A	N/A	DEG
Phase - 3	0	60.30	60.52	N/A	N/A	N/A	DEG
Phase - 4	0	53.79	54.00	N/A	N/A	N/A	DEG
Phase - 5	0	51.96	52.16	N/A	N/A	N/A	DEG
Phase - 6	0	51.92	52.12	N/A	N/A	N/A	DEG
Phase - 7	0	48.48	48.64	N/A	N/A	N/A	DEG
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Electronics Calibration Check - Auxilliary							
Master: 11-Jan-2004 18:19 Before: 21-Feb-2004 3:45							
Array Induction SPA Plus	990.5	997.5	997.3	N/A	N/A	N/A	MV
Array Induction SPA Zero	0	0.2305	0.2384	N/A	N/A	N/A	MV
Array Induction Temperature PI	0.9150	0.9239	0.9238	N/A	N/A	N/A	V
Array Induction Temperature Ze	0	0.0002323	0.0002414	N/A	N/A	N/A	V
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Test Loop Gain Correction							
Master: 11-Jan-2004 18:19							
Test Loop Gain Magnitude - 0	0	1.019	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 1	0	1.017	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 2	0	1.015	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 3	0	1.014	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 4	0	0.9981	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 5	0	0.9868	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 6	0	0.9997	N/A	N/A	N/A	N/A	V
Test Loop Gain Magnitude - 7	0	1.006	N/A	N/A	N/A	N/A	V
Phase - 0	0	0.4294	N/A	N/A	N/A	N/A	DEG
Phase - 1	0	0.5291	N/A	N/A	N/A	N/A	DEG
Phase - 2	0	0.005692	N/A	N/A	N/A	N/A	DEG
Phase - 3	0	0.1272	N/A	N/A	N/A	N/A	DEG
Phase - 4	0	-0.009129	N/A	N/A	N/A	N/A	DEG
Phase - 5	0	-0.1061	N/A	N/A	N/A	N/A	DEG
Phase - 6	0	0.3198	N/A	N/A	N/A	N/A	DEG
Phase - 7	0	-0.1423	N/A	N/A	N/A	N/A	DEG
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Sonde Error Correction							
Master: 11-Jan-2004 18:19							
R Sonde Error Correction - 0	0	-37.90	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 1	0	168.0	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 2	0	111.8	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 3	0	64.01	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 4	0	23.15	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 5	0	13.62	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 6	0	8.867	N/A	N/A	N/A	N/A	MM/M
R Sonde Error Correction - 7	0	-0.5816	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 0	0	-39.61	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 1	0	132.9	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 2	0	68.86	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 3	0	140.6	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 4	0	-41.23	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 5	0	-6.873	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 6	0	4.019	N/A	N/A	N/A	N/A	MM/M
X Sonde Error Correction - 7	0	-2.271	N/A	N/A	N/A	N/A	MM/M
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Mud Gain Correction							
Master: 11-Jan-2004 18:19							
Coarse - Mag, Real, Imag - 0	0	1.000	N/A	N/A	N/A	N/A	
Coarse - Mag, Real, Imag - 1	0	1.000	N/A	N/A	N/A	N/A	
Coarse - Mag, Real, Imag - 2	0	1.000	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 0	0	1.000	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 1	0	1.000	N/A	N/A	N/A	N/A	
Fine - Mag, Real, Imag - 2	0	1.000	N/A	N/A	N/A	N/A	
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Stab Measurement Summary							
Before: 19-Feb-2004 19:59							
BS Window Ratio	0.7522	N/A	0.7552	N/A	N/A	N/A	
BS Window Sum	11230	N/A	11250	N/A	N/A	N/A	CPS
SS Window Ratio	0.4807	N/A	0.4797	N/A	N/A	N/A	
SS Window Sum	11140	N/A	11130	N/A	N/A	N/A	CPS
LS Window Ratio	0.2940	N/A	0.3020	N/A	N/A	N/A	
LS Window Sum	1251	N/A	1241	N/A	N/A	N/A	CPS
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Photo-multiplier High Voltages Calibrations							
Before: 19-Feb-2004 19:59							
BS PM High Voltage (Command)	1876	N/A	1814	N/A	N/A	N/A	V
SS PM High Voltage (Command)	1923	N/A	1989	N/A	N/A	N/A	V
LS PM High Voltage (Command)	1957	N/A	1992	N/A	N/A	N/A	V
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Crystal Quality Resolutions Calibration							
Before: 19-Feb-2004 19:59							
BS Crystal Resolution	11.52	N/A	11.16	N/A	N/A	N/A	%
SS Crystal Resolution	10.11	N/A	11.06	N/A	N/A	N/A	%
LS Crystal Resolution	9.105	N/A	8.905	N/A	N/A	N/A	%
High resolution Integrated Logging Tool-DTS Wellsite Calibration - MCFL Calibration							
Before: 19-Feb-2004 19:50							
Raw B0 Resistivity	3875	N/A	3856	N/A	N/A	N/A	OHMM
Raw B1 Resistivity	3830	N/A	3835	N/A	N/A	N/A	OHMM
Raw B2 Resistivity	3830	N/A	3849	N/A	N/A	N/A	OHMM
High resolution Integrated Logging Tool-DTS Wellsite Calibration - HILT Caliper Calibration							
Before: 19-Feb-2004 19:43							
HILT Caliper Zero Measurement	203.2	N/A	199.9	N/A	N/A	N/A	MM
HILT Caliper Plus Measurement	304.8	N/A	307.5	N/A	N/A	N/A	MM
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Detector Calibration							
Before: 19-Feb-2004 19:43							
Gamma Ray Background	30.00	N/A	25.35	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkg)	175.0	N/A	175.0	N/A	N/A	15.91	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Zero Measurement							
Master: 16-Jan-2004 11:48 Before: 19-Feb-2004 19:45							
CNTC Background	26.04	26.04	25.69	N/A	N/A	3.906	CPS
CFTC Background	27.25	27.25	30.38	N/A	N/A	4.088	CPS
High resolution Integrated Logging Tool-DTS Wellsite Calibration - Accelerometer Calibration							
Before: 21-Feb-2004 3:41							
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: 15-Feb-2004 1:11							
Rho Aluminum	2596	2595	--	--	--	--	K/M3
Rho Magnesium	1686	1687	--	--	--	--	K/M3
Pe Aluminum	2.570	2.590	--	--	--	--	
Pe Magnesium	2.650	2.624	--	--	--	--	
High resolution Integrated Logging Tool-DTS Master Calibration - Deviation Summary							
Master: 15-Feb-2004 1:11							
BS Average Deviation	0	0.4211	--	--	--	--	%
BS Max Deviation	0	1.134	--	--	--	--	%
SS Average Deviation	0	0.3113	--	--	--	--	%
SS Max Deviation	0	0.5818	--	--	--	--	%
LS Average Deviation	0	0.7596	--	--	--	--	%
LS Max Deviation	0	1.947	--	--	--	--	%
High resolution Integrated Logging Tool-DTS Master Calibration - Tank Measurement							
Master: 16-Jan-2004 11:48							
Thermal Near Corr. (Tank)	6031	6037	--	--	--	--	CPS
Thermal Far Corr. (Tank)	2793	2542	--	--	--	--	CPS
CNTC/CFTC (Tank)	2.159	2.375	--	--	--	--	
High resolution Integrated Logging Tool-DTS Master Calibration - Tank Measurement							
Master: 16-Jan-2004 11:48							
Thermal Near Corr. (Tank)	6031	6037	--	--	--	--	CPS
Thermal Far Corr. (Tank)	2793	2542	--	--	--	--	CPS
CNTC/CFTC (Tank)	2.159	2.375	--	--	--	--	
Litho Density - D Wellsite Calibration - Background Measurement							
Master: 23-Jan-2004 12:21 Before: 19-Feb-2004 20:30							
LL Background	20.00	15.91	15.81	N/A	N/A	1.000	CPS
LU Background	76.00	55.35	55.74	N/A	N/A	1.000	CPS
LS Background	57.00	46.09	45.68	N/A	N/A	1.000	CPS
LITH Background	5.500	4.497	4.483	N/A	N/A	0.3000	CPS
SS1 Background	16.00	14.79	14.67	N/A	N/A	0.5000	CPS
SS2 Background	11.00	9.968	10.00	N/A	N/A	0.5000	CPS
Litho Density - D Wellsite Calibration - Tool Quality Control Information HV							
Master: 23-Jan-2004 12:21 Before: 19-Feb-2004 20:30							
LSHV Background	1500	1402	1403	N/A	N/A	N/A	V
SSHV Background	1500	1286	1290	N/A	N/A	N/A	V
Litho Density - D Wellsite Calibration - Detectors Resolution From BKG Measurements							
Master: 23-Jan-2004 12:21 Before: 19-Feb-2004 20:30							
LS Resolution Background	8.000	8.482	8.512	N/A	N/A	N/A	
SS Resolution Background	8.000	8.538	8.532	N/A	N/A	N/A	
Litho Density - D Wellsite Calibration - Caliper Calibration							
Before: 19-Feb-2004 20:26							
Caliper Small Ring	203.2	N/A	170.5	N/A	N/A	N/A	MM
Caliper Large Ring	304.8	N/A	280.6	N/A	N/A	N/A	MM
Litho Density - D Master Calibration - Aluminum Measurement							
Master: 23-Jan-2004 13:08							
LL Aluminum	90.00	83.18	--	--	--	--	CPS
LU Aluminum	135.0	123.7	--	--	--	--	CPS
LS Aluminum	155.0	145.1	--	--	--	--	CPS
LITH Aluminum	50.00	50.24	--	--	--	--	CPS
SS1 Aluminum	175.0	171.3	--	--	--	--	CPS
SS2 Aluminum	260.0	239.4	--	--	--	--	CPS
Litho Density - D Master Calibration - Litholog Measurement							
Master: 23-Jan-2004 12:48							
LL Iron	80.00	82.18	--	--	--	--	CPS
LU Iron	120.0	122.9	--	--	--	--	CPS
LS Iron	135.0	143.6	--	--	--	--	CPS
LITH Iron	30.00	35.77	--	--	--	--	CPS
SS1 Iron	155.0	172.8	--	--	--	--	CPS
SS2 Iron	245.0	237.0	--	--	--	--	CPS

Master: 23-Jan-2004 13:09	0.6500	0.6722	--	--	--	--
QRIS Calculated	0.7200	0.7157	--	--	--	--
QRSS Calculated	0.3900	0.3464	--	--	--	--
QLRI Calculated	1.390	1.391	--	--	--	--
QLIR Calculated	1.000	1.019	--	--	--	--
QR Calculated						

The GLS-VJ source activity is acceptable.

The HGNS Neutron Master Calibration was done with the following parameters :

NCT-B Water Temperature 20.2 DEGC.
Thermal Housing Size 85.700 MM.

High resolution Integrated Logging Tool-DTS / Equipment Identification

Primary Equipment:

Array Induction Tool - H	AIT - H	214
Rm/SP Bottom Nose	AHRM - A	
Array Induction Sonde	AHIS - BA	214
HILT high-Resolution Mechanical Sonde	HRMS - B	908
HILT Rxo Gamma-ray Device	HRGD - B	1860
HILT Nuclear Back-Scatter Detector	HILT -	
HILT Nuclear Short-Spacing Detector	HILT -	
HILT Nuclear Long-Spacing Detector	HILT -	

Auxiliary Equipment:

High resolution Integrated Logging Tool-DTS Wellsite Calibration						
Electronics Calibration Check - Thru Cal Mag. & Phase						
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG
0	Master	0.6159		0.6050	65.97	
	Before	0.6238			66.19	
1	Master	1.263		1.270	64.94	
	Before	1.279			65.16	
2	Master	0.6267		0.6230	61.10	
	Before	0.6347			61.32	
3	Master	0.7081		0.7040	60.30	
	Before	0.7174			60.52	
4	Master	1.329		1.337	53.79	
	Before	1.346			54.00	
5	Master	1.919		1.955	51.96	
	Before	1.943			52.16	
6	Master	1.922		1.955	51.92	
	Before	1.947			52.12	
7	Master	1.377		1.415	48.48	
	Before	1.394			48.64	
		60.00 %		140.0 %	Nom -60.00	Nom + 60.00
		(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Maximum)

Master: 11-Jan-2004 18:19

Before: 21-Feb-2004 3:45

High resolution Integrated Logging Tool-DTS Wellsite Calibration					
Electronics Calibration Check - Auxiliary					
Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value
Master		997.5	Master		0.2305
Before		997.3	Before		0.2384
941.0		990.5	-50.00		50.00
(Minimum)		(Nominal)	(Minimum)		(Maximum)
Phase	Array Induction Temperature Plus V	Value	Phase	Array Induction Temperature Zero V	Value
Master		0.9239	Master		0.0002323
Before		0.9238	Before		0.0002414
0.8700		0.9150	-0.05000		0.05000
(Minimum)		(Nominal)	(Minimum)		(Maximum)

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High resolution Integrated Logging Tool-DTS Wellsite Calibration				
Test Loop Gain Correction				
Idx	Value	Test Loop Gain Magnitude V	Value	Phase DEG
0	1.019		0.4294	
		0.9500		
		(Minimum)		
		1.000		
		(Nominal)		
		1.050		
		(Maximum)		
1	1.017		0.5231	
		0.9500		
		(Minimum)		
		1.000		
		(Nominal)		
		1.050		
		(Maximum)		
2	1.015		0.005692	
		0.9500		
		(Minimum)		
		1.000		
		(Nominal)		
		1.050		
		(Maximum)		
3	1.014		0.1272	
		0.9500		
		(Minimum)		
		1.000		
		(Nominal)		
		1.050		
		(Maximum)		
4	0.9981		-0.009129	
		0.9500		
		(Minimum)		
		1.000		
		(Nominal)		
		1.050		
		(Maximum)		
5	0.9868		-0.1061	
		0.9500		
		(Minimum)		
		1.000		
		(Nominal)		
		1.050		
		(Maximum)		
6	0.9997		0.3198	
		0.9500		
		(Minimum)		
		1.000		
		(Nominal)		
		1.050		
		(Maximum)		
7	1.006		-0.1423	
		0.9500		
		(Minimum)		
		1.000		
		(Nominal)		
		1.050		
		(Maximum)		

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High resolution Integrated Logging Tool-DTS Wellsite Calibration				
Sonde Error Correction				
Idx	Value	R Sonde Error Correction MM/M	Value	X Sonde Error Correction MM/M
0	-37.90		-39.61	
		-231.0		
		(Minimum)		
		-56.00		
		(Nominal)		
		119.0		
		(Maximum)		
1	168.0		132.9	
		114.0		
		(Minimum)		
		159.0		
		(Nominal)		
		204.0		
		(Maximum)		
2	111.8		68.86	
		66.00		
		(Minimum)		
		111.0		
		(Nominal)		
		156.0		
		(Maximum)		
3	64.01		140.6	
		39.00		
		(Minimum)		
		64.00		
		(Nominal)		
		89.00		
		(Maximum)		
4	23.15		-41.23	
		15.00		
		(Minimum)		
		25.00		
		(Nominal)		
		35.00		
		(Maximum)		
5	13.62		-6.873	
		4.000		
		(Minimum)		
		14.00		
		(Nominal)		
		24.00		
		(Maximum)		
6	8.867		4.019	
		5.000		
		(Minimum)		
		10.00		
		(Nominal)		
		15.00		
		(Maximum)		
7	-0.5616		-2.271	
		-5.000		
		(Minimum)		
		0		
		(Nominal)		
		5.000		
		(Maximum)		

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High resolution Integrated Logging Tool-DTS Wellsite Calibration				
Mud Gain Correction				
Idx	Value	Coarse - Mag, Real, Imag	Value	Fine - Mag, Real, Imag
0	1.000		1.000	
		0.8000		
		(Minimum)		
		1.000		
		(Nominal)		
		1.200		
		(Maximum)		
1	1.000		1.000	
		0.8000		
		(Minimum)		
		1.000		
		(Nominal)		
		1.200		
		(Maximum)		
2	1.000		1.000	
		0.8000		
		(Minimum)		
		1.000		
		(Nominal)		
		1.200		
		(Maximum)		

Master: 11-Jan-2004 18:19

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			0.7552	Before			0.4797	Before			0.3020
	0.7146 (Minimum)	0.7522 (Nominal)	0.7898 (Maximum)		0.4566 (Minimum)	0.4807 (Nominal)	0.5047 (Maximum)		0.2793 (Minimum)	0.2940 (Nominal)	0.3087 (Maximum)
Phase	BS Window Sum CPS		Value	Phase	SS Window Sum CPS		Value	Phase	LS Window Sum CPS		Value
Before			11250	Before			11130	Before			1241
	10670 (Minimum)	11230 (Nominal)	11790 (Maximum)		10590 (Minimum)	11140 (Nominal)	11700 (Maximum)		1189 (Minimum)	1251 (Nominal)	1314 (Maximum)
Reference: 10 Feb 2004 10:52											

High resolution Integrated Logging Tool-DTS Wellsite Calibration						
Zero Measurement						
Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value	
Master		26.04	Master		27.25	
Before		25.69	Before		30.36	
5.000	26.04	40.00	5.000	27.25	40.00	
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	
Master: 16-Jan-2004 11:48			Before: 19-Feb-2004 19:45			

High resolution Integrated Logging Tool-DTS Wellsite Calibration			
Accelerometer Calibration			
Phase	Z-Axis Acceleration M/S2	Value	
Before		9.814	
9.610	9.810	10.01	
(Minimum)	(Nominal)	(Maximum)	
Before: 21-Feb-2004 3:41			

High resolution Integrated Logging Tool-DTS Master Calibration							
Electronics Calibration Check - Thru Cal Mag. & Phase							
Idx	Phase	Value	Thru Cal Magnitude V	Nominal	Value	Phase DEG	Nominal
0	Master	0.6159		0.6050	65.97		71.00
1	Master	1.263		1.270	64.94		70.00
2	Master	0.6267		0.6230	61.10		66.00
3	Master	0.7081		0.7040	60.30		65.00
4	Master	1.329		1.337	53.79		59.00
5	Master	1.919		1.955	51.96		57.00
6	Master	1.922		1.955	51.92		57.00
7	Master	1.377		1.415	48.48		53.00
		60.00 %	140.0 %		Nom -60.00	Nom + 60.00	
		(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Master: 11-Jan-2004 18:19							

High resolution Integrated Logging Tool-DTS Master Calibration					
Electronics Calibration Check - Auxiliary					
Phase	Array Induction SPA Plus MV	Value	Phase	Array Induction SPA Zero MV	Value
Master		997.5	Master		0.2305
941.0	990.5	1040	-50.00	0	50.00
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Phase	Array Induction Temperature Plus V	Value	Phase	Array Induction Temperature Zero V	Value
Master		0.9239	Master		0.0002323
0.8700	0.9150	0.9600	-0.05000	0	0.05000
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Master: 11-Jan-2004 18:19					

High resolution Integrated Logging Tool-DTS Master Calibration					
Test Loop Gain Correction					
Idx	Value	Test Loop Gain Magnitude V	Value	Phase DEG	
0	1.019		0.4294		
	0.9500	1.000	-3.000	0	3.000
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
1	1.017		0.5291		
	0.9500	1.000	-3.000	0	3.000
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
2	1.015		0.005692		
	0.9500	1.000	-3.000	0	3.000
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
3	1.014		0.1272		
	0.9500	1.000	-3.000	0	3.000
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
4	0.9981		-0.009129		
	0.9500	1.000	-3.000	0	3.000
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
5	0.9868		-0.1061		
	0.9500	1.000	-3.000	0	3.000
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
6	0.9997		0.3198		
	0.9500	1.000	-3.000	0	3.000
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
7	1.006		-0.1423		
	0.9500	1.000	-3.000	0	3.000
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
Master: 11-Jan-2004 18:19					

High resolution Integrated Logging Tool-DTS Master Calibration					
Sonde Error Correction					
Idx	Value	R Sonde Error Correction MM/M	Value	X Sonde Error Correction MM/M	
0	-37.90		-39.61		
	-231.0	-56.00	-2250	0	2250
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
1	168.0		132.9		
	114.0	159.0	-625.0	0	625.0
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
2	111.8		68.86		
	66.00	111.0	-350.0	0	350.0
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
3	64.01		140.6		
	39.00	64.00	-250.0	0	250.0
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
4	23.15		-41.23		
	15.00	25.00	-63.00	0	63.00
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
5	13.62		-6.873		
	4.000	14.00	-50.00	0	50.00
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
6	8.867		4.019		
	5.000	10.00	-30.00	0	30.00
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
7	-0.5816		-2.271		
	-5.000	0	-30.00	0	30.00
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
Master: 11-Jan-2004 18:19					

High resolution Integrated Logging Tool-DTS Master Calibration					
Mud Gain Correction					
Idx	Value	Coarse - Mag. Real, Imag	Value	Fine - Mag. Real, Imag	
0	1.000		1.000		
	0.8000	1.000	0.8000	1.000	1.200
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
1	1.000		1.000		
	0.8000	1.000	0.8000	1.000	1.200
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
2	1.000		1.000		
	0.8000	1.000	0.8000	1.000	1.200
	(Minimum)	(Nominal)	(Minimum)	(Nominal)	(Maximum)
Master: 11-Jan-2004 18:19					

High resolution Integrated Logging Tool-DTS Master Calibration					
Inversion results					
Phase	Rho Aluminum K/M3	Value	Phase	Rho Magnesium K/M3	Value
Master		2595	Master		1687
2596	2596	2606	1676	1686	1696
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Phase	Pe Aluminum	Value	Phase	Pe Magnesium	Value
Master		2.590	Master		2.624
2.470	2.570	2.670	2.550	2.650	2.750
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)
Master: 15-Feb-2004 1:11					

High resolution Integrated Logging Tool-DTS Master Calibration							
Deviation Summary							
Phase	BS Average Deviation %	Value	Phase	SS Average Deviation %	Value	Phase	LS Average Deviation %
Master		0.4211	Master		0.3113	Master	
-0.6000	0	0.6000	-1.000	0	1.000	-1.500	0
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)
Phase	BS Max Deviation %	Value	Phase	SS Max Deviation %	Value	Phase	LS Max Deviation %
Master		1.134	Master		0.5818	Master	
-1.600	0	1.600	-2.500	0	2.500	-3.500	0
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)
Master: 15-Feb-2004 1:11							

High resolution Integrated Logging Tool-DTS Master Calibration							
Tank Measurement							
Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)
Master		6037	Master		2542	Master	
5000	6031	7200	2075	2793	3125	2120	2159
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)
Master: 16-Jan-2004 11:48							

High resolution Integrated Logging Tool-DTS Master Calibration							
Tank Measurement							
Phase	Thermal Near Corr. (Tank) CPS	Value	Phase	Thermal Far Corr. (Tank) CPS	Value	Phase	CNTC/CFTC (Tank)
Master		6037	Master		2542	Master	
5000	6031	7200	2075	2793	3125	2120	2159
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)
Master: 16-Jan-2004 11:48							

Litho Density - D / Equipment Identification			
Primary Equipment:			
Nuclear Services Cartridge	NSC - F	1868	
Powered Gamma Detector	PGD - G	3745	
Gamma Source Radioactive	GSR - J	2043	
Auxiliary Equipment:			
Density Resistivity Sonde	DRS - E	723	
Electronics Cartridge Housing	ECH - MKA		
Powered Detector Housing	PDH - L		

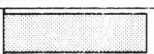
Litho Density - D Wellsite Calibration							
Background Measurement							
Phase	LL Background CPS	Value	Phase	LU Background CPS	Value	Phase	LS Background CPS
Master		15.91	Master		60.35	Master	
Before		15.81	Before		59.74	Before	
15.00	20.00	25.00	58.00	76.00	94.00	43.00	57.00
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)
Phase	LTH Background CPS	Value	Phase	CS1 Background CPS	Value	Phase	CS2 Background CPS
Master		4.497	Master		14.79	Master	
Before		4.483	Before		14.67	Before	
4.000	5.500	7.000	12.00	16.00	19.50	8.000	11.00
(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)	(Maximum)	(Minimum)	(Nominal)
Master: 23-Jan-2004 12:21				Before: 19-Feb-2004 20:30			

Litho Density - D Wellsite Calibration					
Detectors Resolution From BKG Measurements					
Phase	LS Resolution Background	Value	Phase	SS Resolution Background	Value

Master			8.482	Master			8.538
Before			8.512	Before			8.532
5.000 (Minimum)	8.000 (Nominal)	11.50 (Maximum)		5.000 (Minimum)	8.000 (Nominal)	11.50 (Maximum)	
Master: 23-Jan-2004 12:21				Before: 19-Feb-2004 20:30			

Litho Density - D Master Calibration							
Aluminum Measurement							
Phase	LL Aluminum CPS		Value	Phase	LU Aluminum CPS		Value
Master			83.18	Master			123.7
	70.00 (Minimum)	90.00 (Nominal)	125.0 (Maximum)		100.0 (Minimum)	135.0 (Nominal)	194.0 (Maximum)
Phase	LITH Aluminum CPS		Value	Phase	SS1 Aluminum CPS		Value
Master			50.24	Master			171.3
	35.00 (Minimum)	50.00 (Nominal)	74.00 (Maximum)		125.0 (Minimum)	175.0 (Nominal)	256.0 (Maximum)
Phase	LS Aluminum CPS		Value	Phase	SS2 Aluminum CPS		Value
Master			145.1	Master			239.4
	120.0 (Minimum)	155.0 (Nominal)	217.0 (Maximum)		210.0 (Minimum)	260.0 (Nominal)	353.0 (Maximum)
Master: 23-Jan-2004 13:08							

Litho Density - D Master Calibration							
Litholog Measurement							
Phase	LL Iron CPS		Value	Phase	LU Iron CPS		Value
Master			82.18	Master			122.9
	60.00 (Minimum)	80.00 (Nominal)	114.0 (Maximum)		85.00 (Minimum)	120.0 (Nominal)	177.0 (Maximum)
Phase	LITH Iron CPS		Value	Phase	SS1 Iron CPS		Value
Master			35.77	Master			172.8
	15.00 (Minimum)	30.00 (Nominal)	51.00 (Maximum)		105.0 (Minimum)	155.0 (Nominal)	234.0 (Maximum)
Phase	LS Iron CPS		Value	Phase	SS2 Iron CPS		Value
Master			143.6	Master			237.0
	100.0 (Minimum)	135.0 (Nominal)	193.0 (Maximum)		190.0 (Minimum)	245.0 (Nominal)	325.0 (Maximum)
Master: 23-Jan-2004 12:48							

Litho Density - D Master Calibration							
Spectrum Quality Ratios							
Phase	QRLS Calculated		Value	Phase	QRSS Calculated		Value
Master			0.6722	Master			0.7157
	0.6000 (Minimum)	0.6500 (Nominal)	0.7000 (Maximum)		0.6200 (Minimum)	0.7200 (Nominal)	0.8200 (Maximum)
Phase	QLIR Calculated		Value	Phase	QR Calculated		Value
Master			1.391	Master			1.019
	1.290 (Minimum)	1.390 (Nominal)	1.450 (Maximum)		0.9800 (Minimum)	1.000 (Nominal)	1.020 (Maximum)
Master: 23-Jan-2004 13:09							

Company: **APACHE CANADA LTD.**

Schlumberger

Well: **APACHE PARAMOUNT LAC MAUNOIR C-34**

Field: **UNDEFINED**

Province: **NORTHWEST TERRITORIES**

PLATFORM EXPRESS:
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