CC 12-02-65 + RD 1

COMPANY: Enerfin Resources Northwest

WELL: C.C. 12-02-65 (Lindbleu)

FIELD: Mist Gas

COUNTY: Columbia **STATE:** Oregon

COUNTY: Columbia
Field: Mist Gas
Location: 570.79' N & 751.27' E from
Well: C.C. 12-02-65 (Lindbleu)
Company: Enerfin Resources Northwest

Schlumberger

Platform Express
Array Induction/SP/GR/ML
Neutron/Density/Sonic

LOCATION

570.79' N & 751.27' E from the West Quarter center		Elev.:	K.B. 918.8 ft G.L. 908.8 ft D.F.
Permanent Datum:	Ground Level	Elev.:	908.8 ft
Log Measured From:	Kelly Bushing	10.0 ft	above Perm. Datum
Drilling Measured From:	Kelly Bushing		

API Serial No.	SECTION	TOWNSHIP	RANGE
	2	6N	5W

Logging Date	13-OCT-1999			
Run Number	1			
Depth Driller	2731 ft			
Schlumberger Depth	2727 ft			
Bottom Log Interval	2719 ft			
Top Log Interval	478 ft			
Casing Driller Size @ Depth	7.000 in	@ 479 ft	@	
Casing Schlumberger	478 ft			
Bit Size	6.250 in			
Type Fluid In Hole	Ligno-Sulfate			
MUD Density / Viscosity	9.4 lbm/gal	39 s		
MUD Fluid Loss / PH	4.8 cm3	9.5		
MUD Source Of Sample	Pit			
RM @ Measured Temperature	1.040 ohm.m	@ 76 degF	@	
RMF @ Measured Temperature	1.110 ohm.m	@ 68 degF	@	
RMC @ Measured Temperature	1.120 ohm.m	@ 66 degF	@	
Source RMF / RMC	Press	Press		
RM @ MRT / RMF @ MRT	0.814 @ 99	0.785 @ 99	@	@
Maximum Recorded Temperatures	99 degF			
Circulation Stopped / Time	13-OCT-1999	11:00		
Logger On Bottom / Time	13-OCT-1999			
Unit Number / Location	3152	Sacramento		
Recorded By	Clayton Campbell			
Witnessed By	Dave Huggins/Rob Lucas			

	Run 1	Run 2	Run 3	Run 4

Logging Date				
Run Number				
Depth Driller				
Schlumberger Depth				
Bottom Log Interval				
Top Log Interval				
Casing Driller Size @ Depth		@		@
Casing Schlumberger				
Bit Size				
Type Fluid In Hole				
MUD Density / Viscosity				
MUD Fluid Loss / PH				
MUD Source Of Sample				
RM @ Measured Temperature		@		@
RMF @ Measured Temperature		@		@
RMC @ Measured Temperature		@		@
Source RMF / RMC				
RM @ MRT / RMF @ MRT	@	@	@	@
Maximum Recorded Temperatures				
Circulation Stopped / Time				
Logger On Bottom / Time				
Unit Number / Location				
Recorded By				
Witnessed By				

ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATIONS, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. THESE INTERPRETATIONS ARE ALSO SUBJECT TO CLAUSE 4 OF OUR GENERAL TERMS AND CONDITIONS AS SET OUT IN OUR CURRENT PRICE SCHEDULE.

OTHER SERVICES1	OTHER SERVICES2
OS1: Neutron	OS1:
OS2: Density	OS2:
OS3:	OS3:
OS4:	OS4:
OS5:	OS5:

REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
0.5 inch standoffs used on array induction tool	
2 CME-Z centralizers used on BHC sonic sonde	
logs calculated on a sandstone matrix (2.65 g/cc 56 us/ft)	
cement volume calculated assuming 2.875 inch production casing	
Rig: John Taylor Drilling #7	

	RUN 1		RUN 2
SERVICE ORDER #:	6075797	SERVICE ORDER #:	
PROGRAM VERSION:	9C0-413	PROGRAM VERSION:	
FLUID LEVEL:		FLUID LEVEL:	

LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

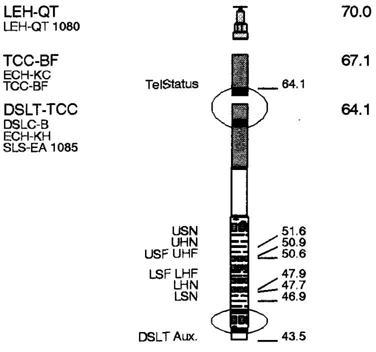
RUN 1	RUN 2

SURFACE EQUIPMENT

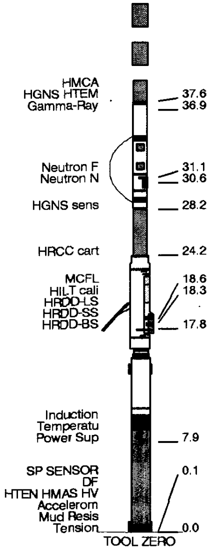
GSR-U/Y
NCT-B
CNB-AB
NCS-VB

WITM (CTS)-A

DOWNHOLE EQUIPMENT



AH-107 AH-107		43.5
AH-107 AH-107		41.5
HILTB-DTB HTBCC HMCA HGNS-CAN-B HGNS-H 828 NLS-KL NSR-F 2289 HACCZ HCNT HGR HRCC-B 723 HRMS-B 723 HRGD 723 GLS-VJ 1924 MCFL Device HILT Nucl. LS HILT Nucl. SS HILT Nucl. BS AIT-H 112 AHIS-BA BOW-SPR NPV-N		39.5



0.5 IN
Standoff

0.5 IN
Standoff

MAXIMUM STRING DIAMETER 4.88 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

Schlumberger

Main Pass 2" = 100'

MAXIS 500 Field Log

Input DLIS Files

DEFAULT	**HILTB .005**	**FN:4**	**PRODUCER**	**13-Oct-1999 13:57**	**2730.0 FT**	**270.0 FT**

Integrated Hole/Cement Volume Summary

Hole Volume = 496.19 ft3
Cement Volume = 394.73 ft3 (assuming 2.88 in casing O.D.)
Computed from 2729.5 ft to 480.0 ft

OP System Version: 9C0-413

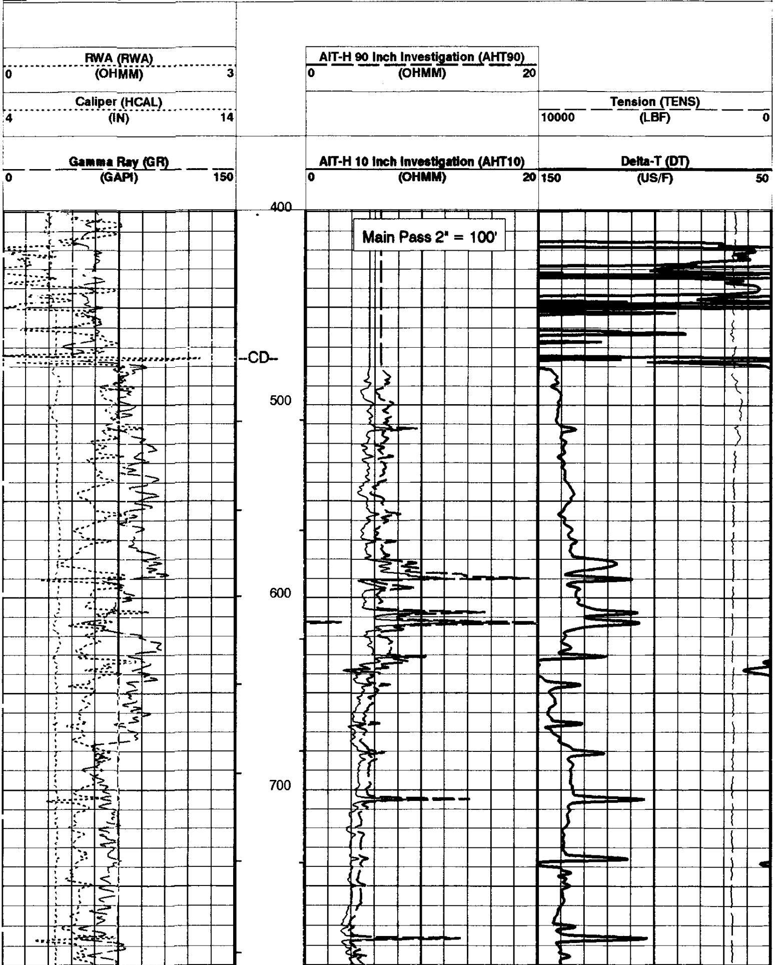
MCM

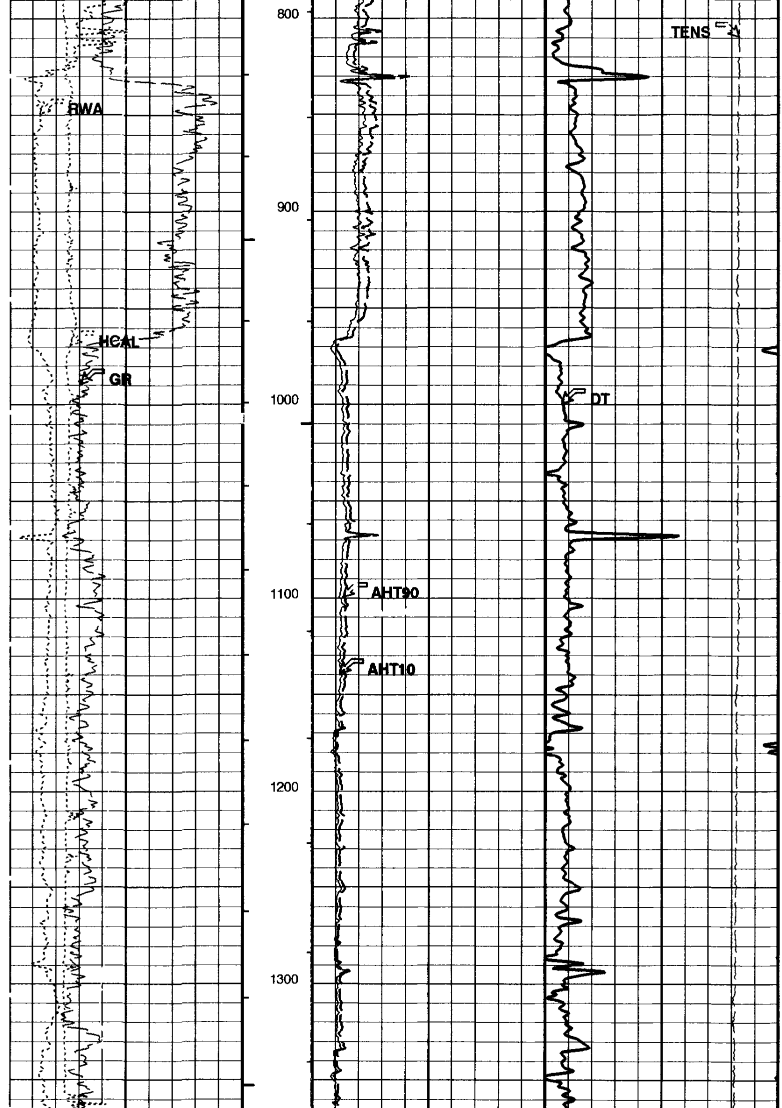
HILTB	**OP9-KP2**	**DSLT-BA**	**OP9-KP2**
TCCBF	**OP9-KP2**		

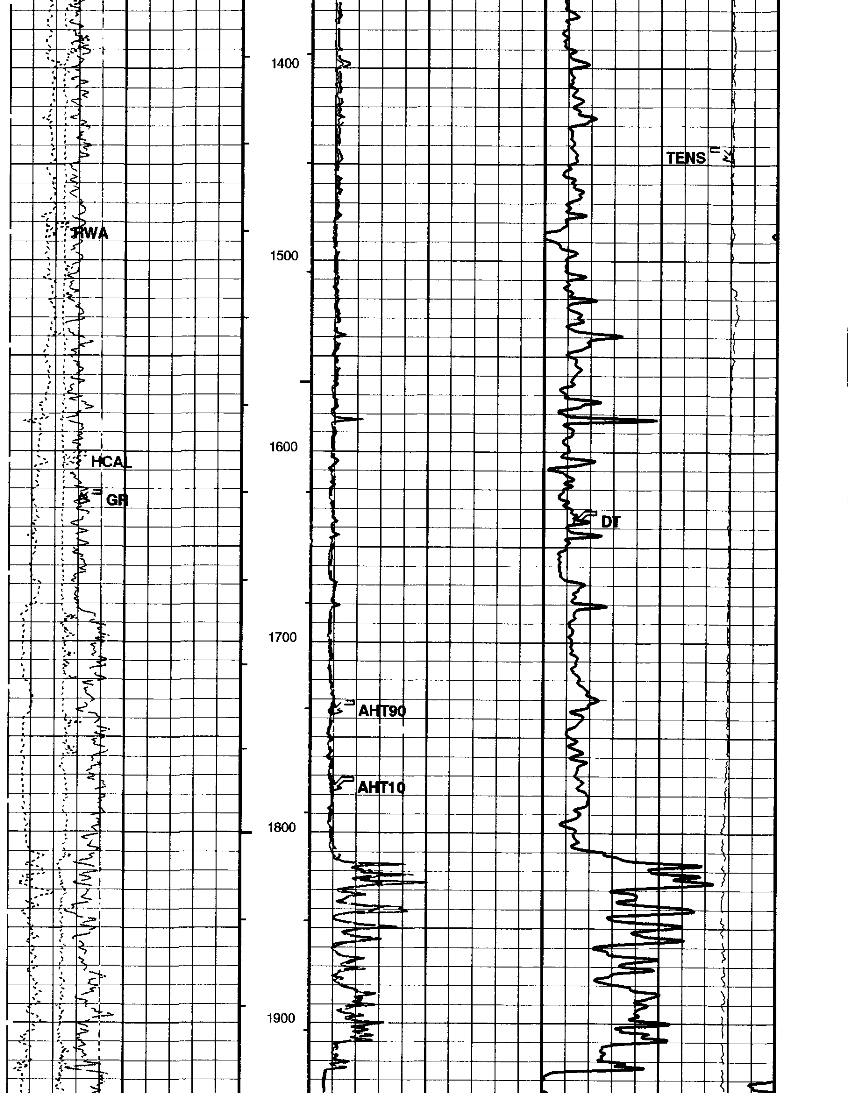
PIP SUMMARY

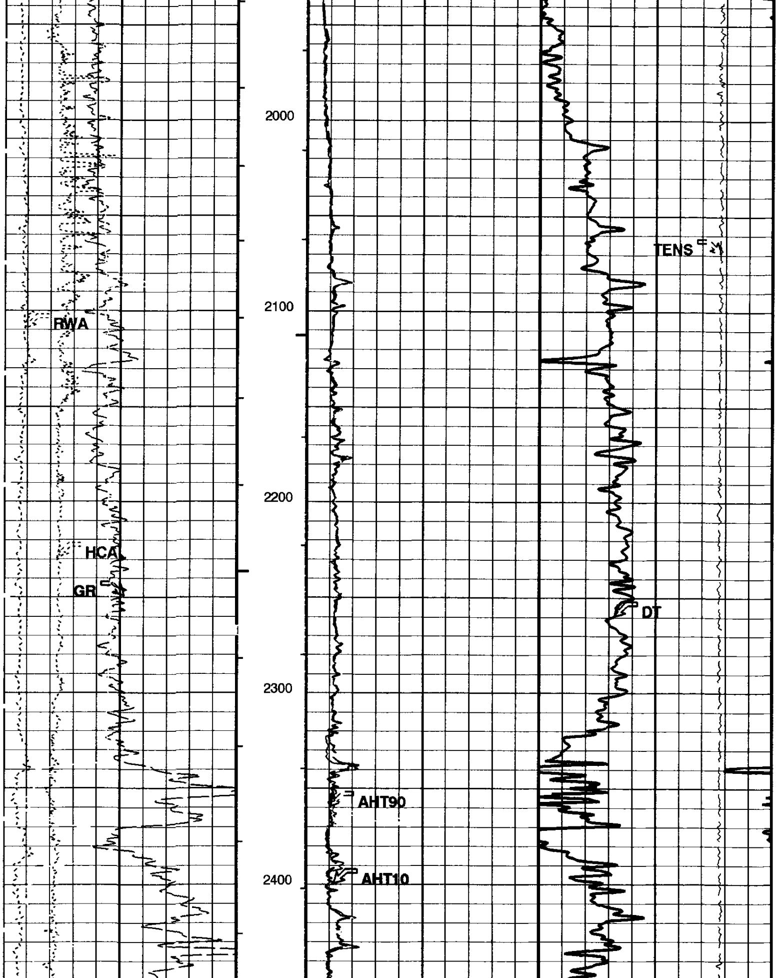
⊢ Integrated Hole Volume Minor Pip Every 10 F3
⊢ Integrated Hole Volume Major Pip Every 100 F3
⊣ Integrated Cement Volume Minor Pip Every 10 F3
⊣ Integrated Cement Volume Major Pip Every 100 F3

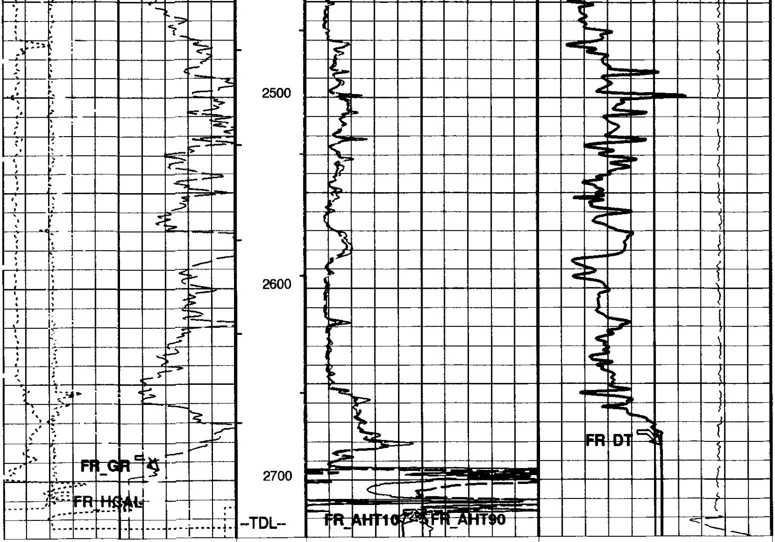
Time Mark Every 60 S











Gamma Ray (GR)
0 (GAPI) 150

Caliper (HCAL)
4 (IN) 14

RWA (RWA)
0 (OHMM) 3

AIT-H 10 Inch Investigation (AHT10)
0 (OHMM) 20

AIT-H 90 Inch Investigation (AHT90)
0 (OHMM) 20

Delta-T (DT)
150 (US/F) 50

Tension (TENS)
10000 (LBF) 0

PIP SUMMARY

⊢ Integrated Hole Volume Minor Pip Every 10 F3
⊢ Integrated Hole Volume Major Pip Every 100 F3
⊣ Integrated Cement Volume Minor Pip Every 10 F3
⊣ Integrated Cement Volume Major Pip Every 100 F3

▮ Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
AHBHM	AIT-H Borehole Correction Mode	2_COMPUTESTANDOFF	
AHBHV	AIT-H Borehole Correction Code Version Number	870	
AHBLM	AIT-H Basic Logs Mode	6_ONE_TWO_AND_FOUR	
AHBLV	AIT-H Basic Logs Code Version Number	973	
AHBPO	AIT-H Basic Logs Processing Option	STANDARD_PROCESSING	
AHCDE	AIT-H Casing Detection Enable	YES	
AHCEN	AIT-H Tool Centering Flag (in Borehole)	ECCENTERED	
AHFRSV	AIT-H Response Set Version for Four ft Resolution	30.66.23.11	
AHMRF	AIT-H Mud Resistivity Factor	1.000	
AHORSV	AIT-H Response Set Version for One ft Resolution	30.66.23.11	
AHRFV	AIT-H Radial Profiling Code Version Number	700	
AHRPV	AIT-H Radial Parametrization Code Version Number	710	
AHSAP	AIT-H Suspend Answer Product Processing	0_NOSUSPENSION	
AHSTA	AIT-H Tool Standoff	0.500	in
AHTRSV	AIT-H Response Set Version for Two ft Resolution	30.66.23.11	
ARTS	AIT Rt Selection (for ALLRES computation)	13_AHT90	
BHT	Bottom Hole Temperature (used in calculations)	97.000	degF
BS	Bit Size	6.750	in

DFD	Drilling Fluid Density	9.400	lbm/gal
DHC	Density Hole Correction	BS	
DTCM	Delta-T Computation Mode	FULL	
FEXP	Form Factor Exponent	2.000	
FNUM	Form Factor Numerator	1.000	
FPHI	Form Factor Porosity Source	DPHZ	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0.000	deg
GGRD	Geothermal Gradient	0.010	degF/ft
GRSE	Generalized Mud Resistivity Selection	AHMF	
GTSE	Generalized Temperature Selection	TEMP	
HSCM	HILT Speed Correction Mode	TSCD_SPEED_CORRECTION	
HSTI	STI Uses HILT Acceleration	YES	
MODE	Sonic Firing Mode	BHC	
MST	Mud Sample Temperature	76.000	degF
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	STDRES	
NSAR	HRDD Depth Sampling Rate	1.000	in
RMFS	Resistivity of Mud Filtrate Sample	1.110	ohm.m
RTCO	RTCO - Rt Invasion Correction	YES	
RW	Resistivity of Connate Water	1.000	ohm.m
SHT	Surface Hole Temperature	68.000	degF
SPDR	SP Drift	0.000	mV/ft
SPNV	SP Next Value	-20.000	mV
TD	Total Depth	2731.0	ft
TWS	Temperature of Connate Water Sample	100.0	degF

Format: AITSON_S2 Vertical Scale: 2" per 100' Graphics File Created: 13-Oct-1999 14:47

OP System Version: 9C0-413

MCM

HILTB	OP9-KP2	DSLT-BA	OP9-KP2
TCCBF	OP9-KP2		

Input DLIS Files

DEFAULT HILTB .005 FN:4 PRODUCER 13-Oct-1999 13:57 2730.0 FT 270.0 FT

Schlumberger

Main Pass 5" = 100'

MAXIS 500 Field Log

Input DLIS Files

DEFAULT HILTB .005 FN:4 PRODUCER 13-Oct-1999 13:57 2730.0 FT 270.0 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 496.19 ft3

Cement Volume = 394.73 ft3 (assuming 2.88 in casing O.D.)

Computed from 2729.5 ft to 480.0 ft

OP System Version: 9C0-413

MCM

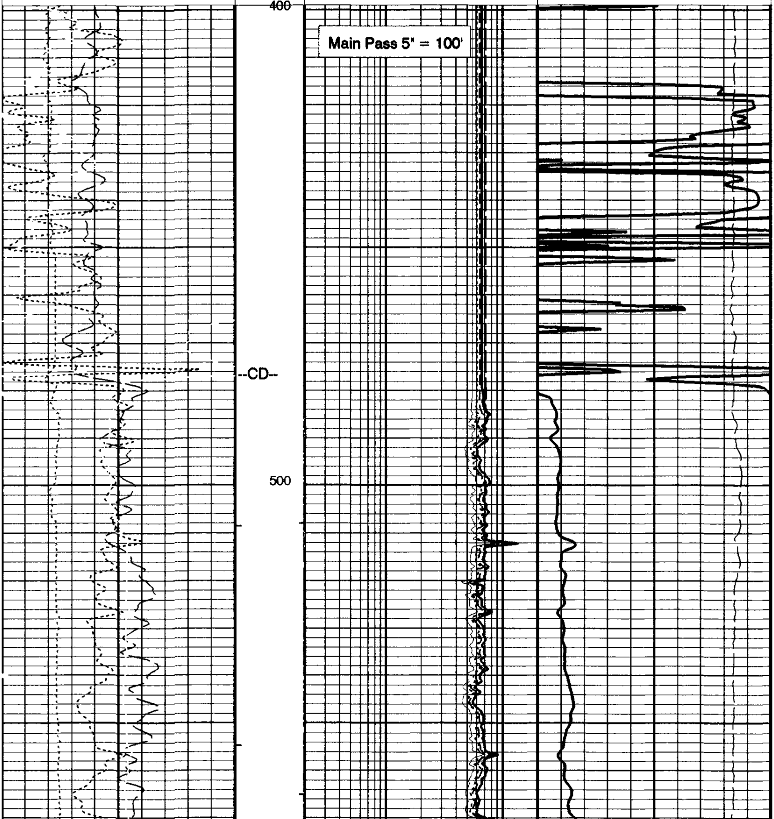
HILTB	OP9-KP2	DSLT-BA	OP9-KP2
TCCBF	OP9-KP2		

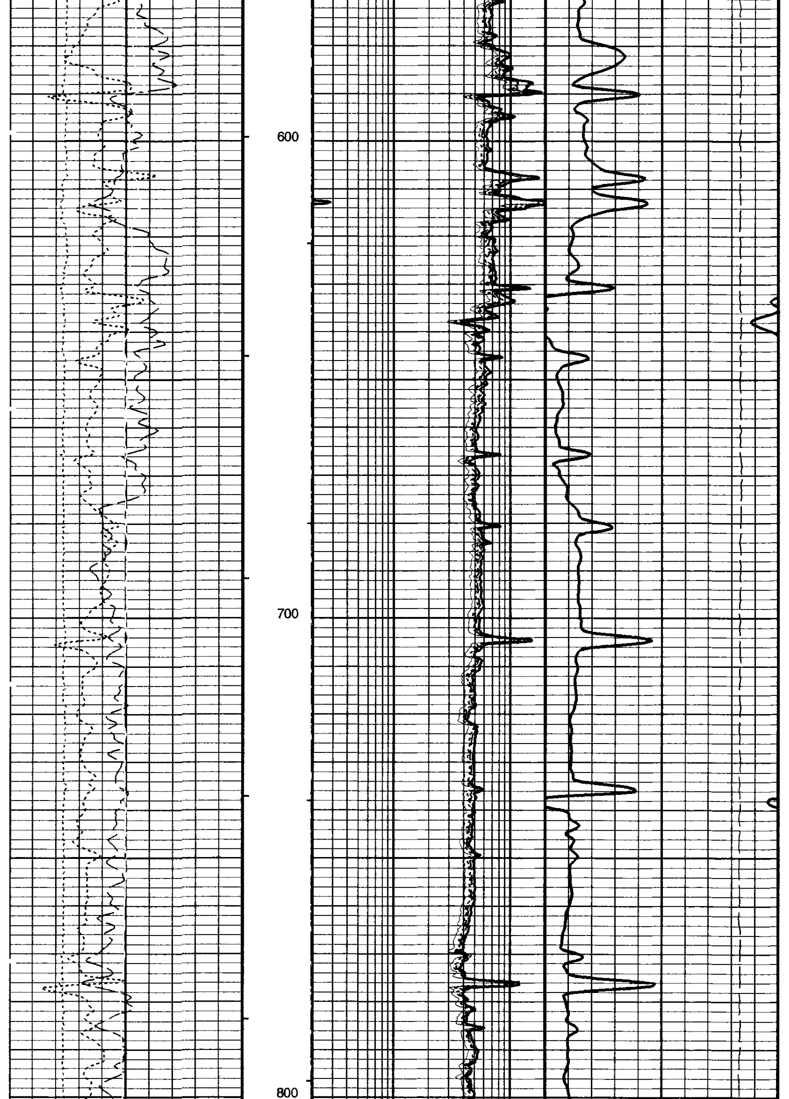
PIP SUMMARY

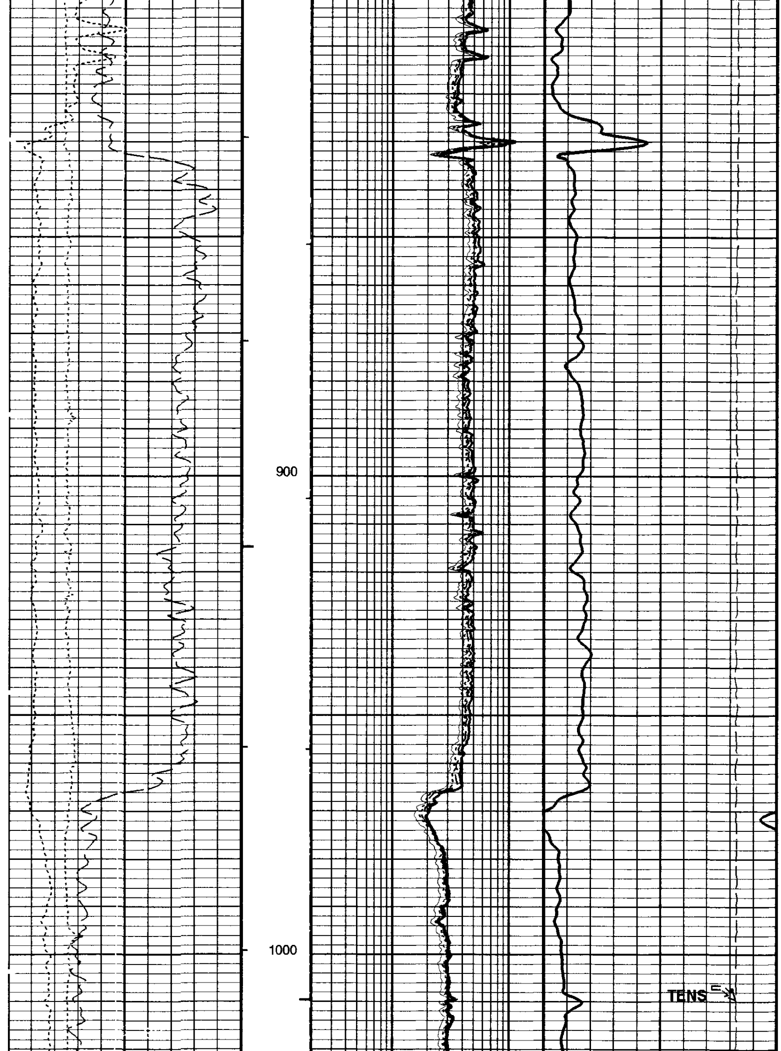
⊢ Integrated Hole Volume Minor Pip Every 10 F3
⊢ Integrated Hole Volume Major Pip Every 100 F3
⊣ Integrated Cement Volume Minor Pip Every 10 F3
⊣ Integrated Cement Volume Major Pip Every 100 F3

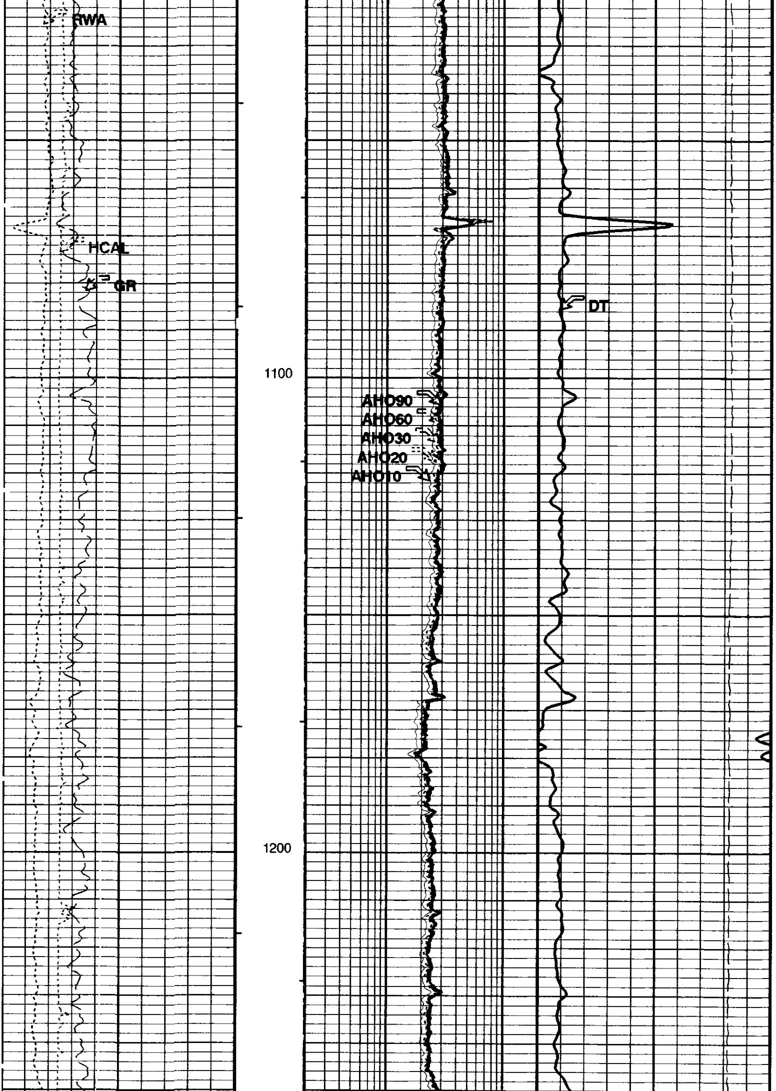
▶ Time Mark Every 60 S

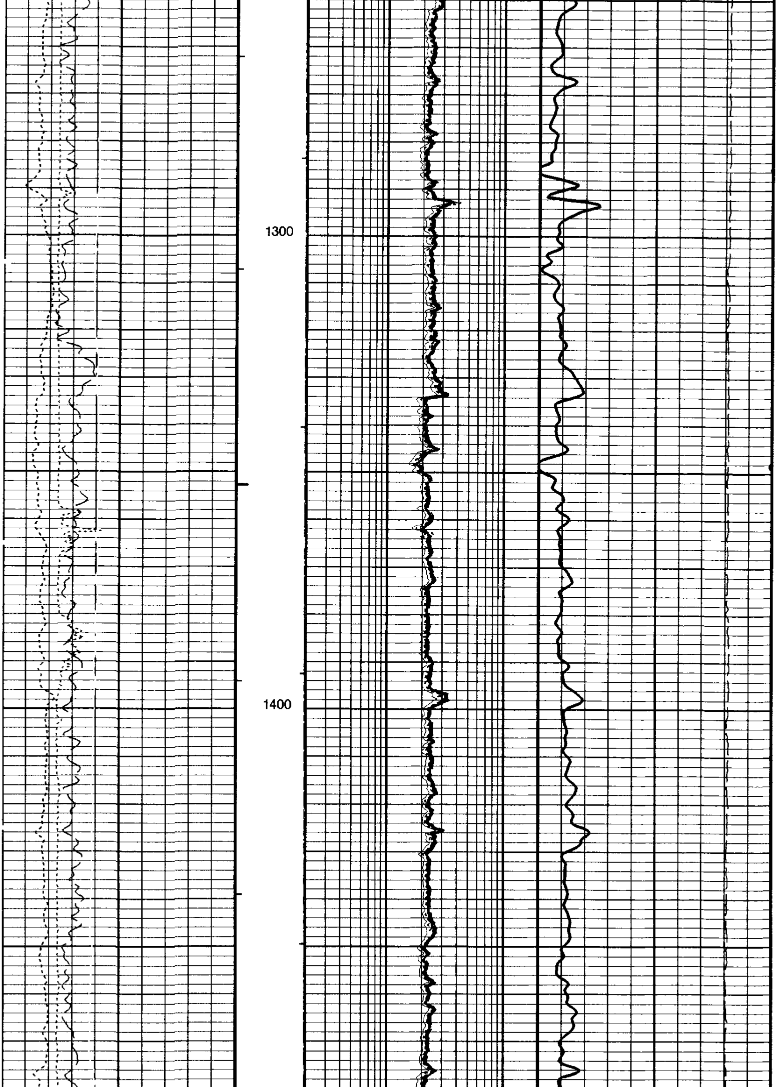
Track 1			Track 2			Track 3		
			AIT-H 90 Inch Investigation (AHO90)					
			0.2	(OHMM)	20			
			AIT-H 60 Inch Investigation (AHO60)					
			0.2	(OHMM)	20			
RWA (RWA)			AIT-H 30 Inch Investigation (AHO30)					
0	(OHMM)	3	0.2	(OHMM)	20			
Caliper (HCAL)			AIT-H 20 Inch Investigation (AHO20)			Tension (TENS)		
4	(IN)	14	0.2	(OHMM)	20	10000	(LBF)	0
Gamma Ray (GR)			AIT-H 10 Inch Investigation (AHO10)			Delta-T (DT)		
0	(GAPI)	150	0.2	(OHMM)	20	150	(US/F)	50

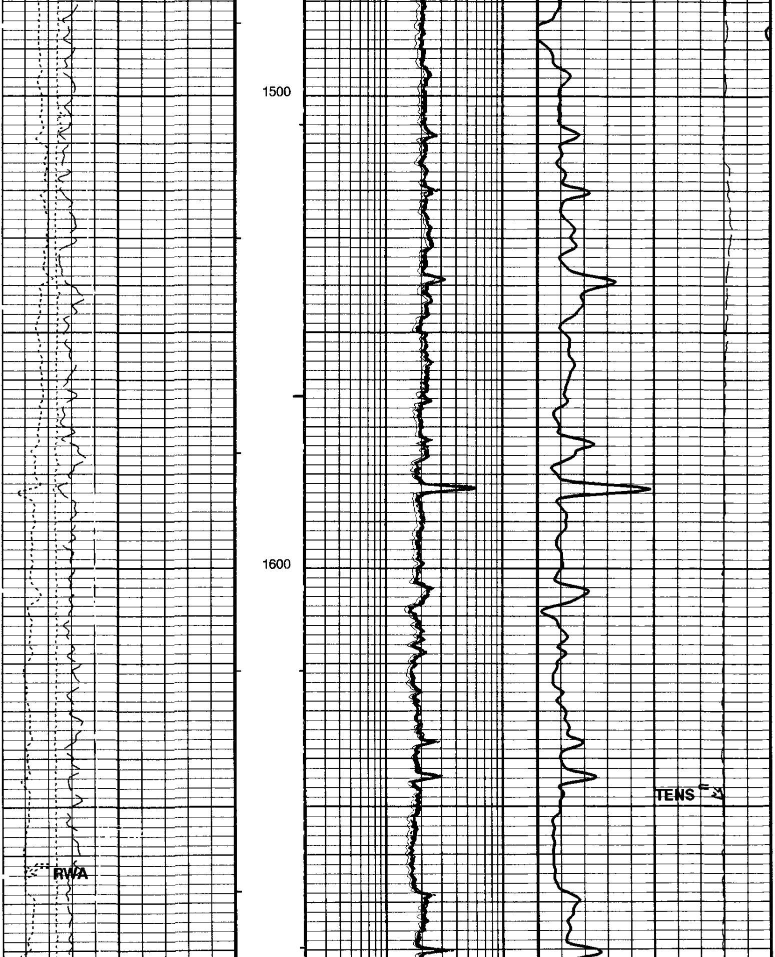


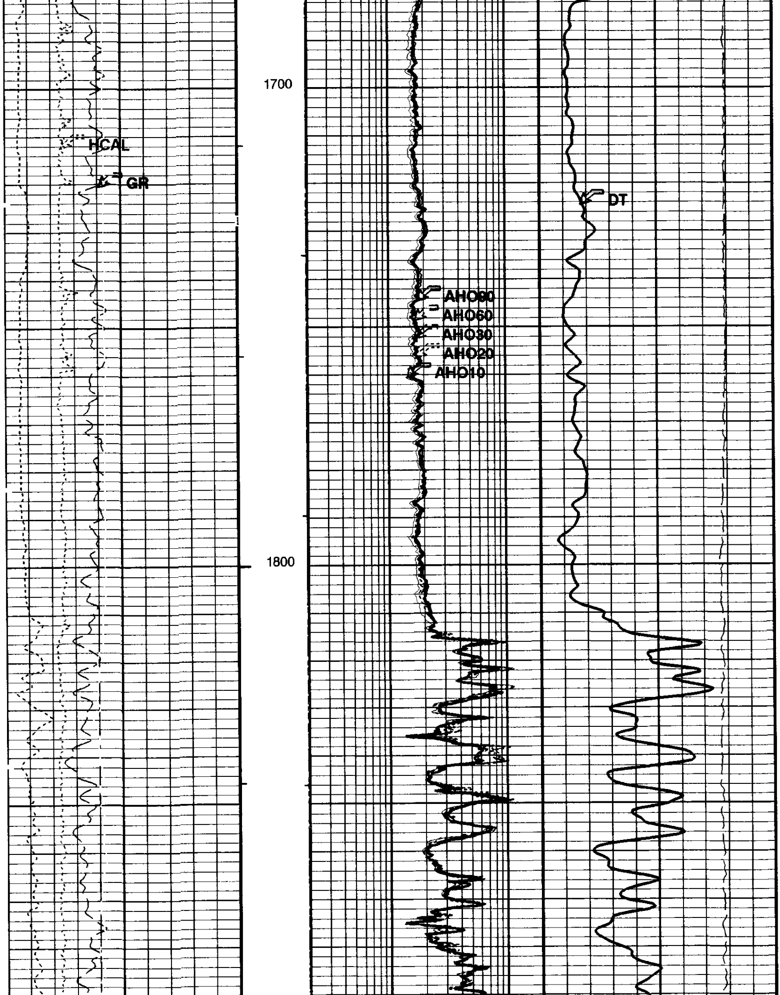


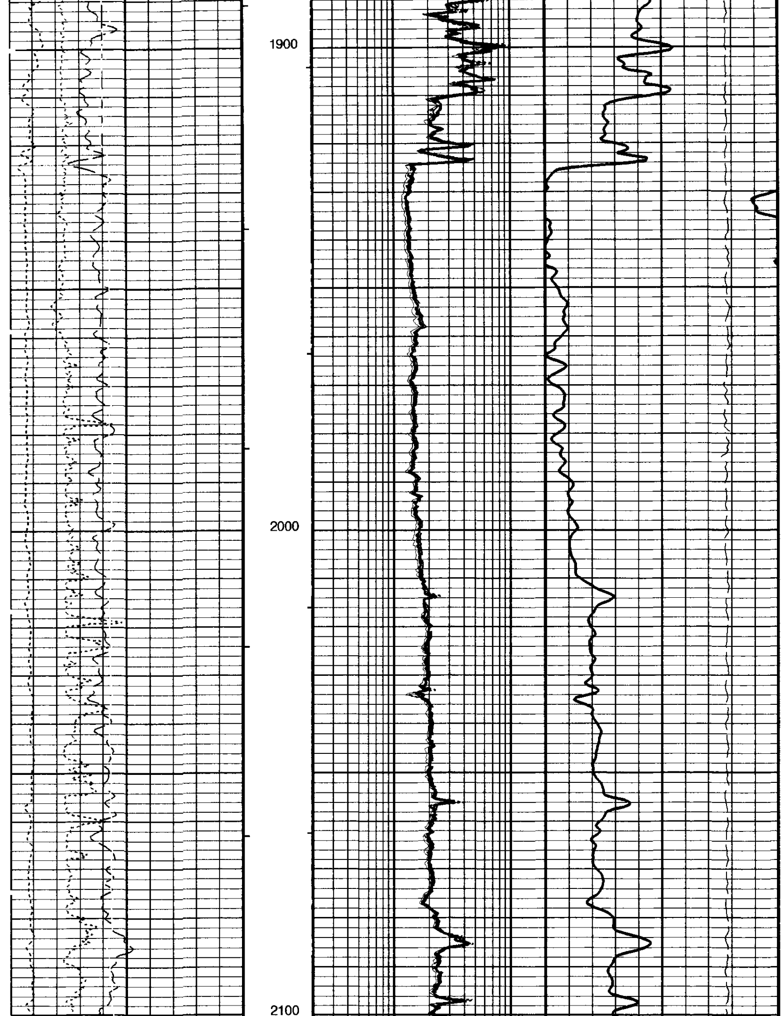


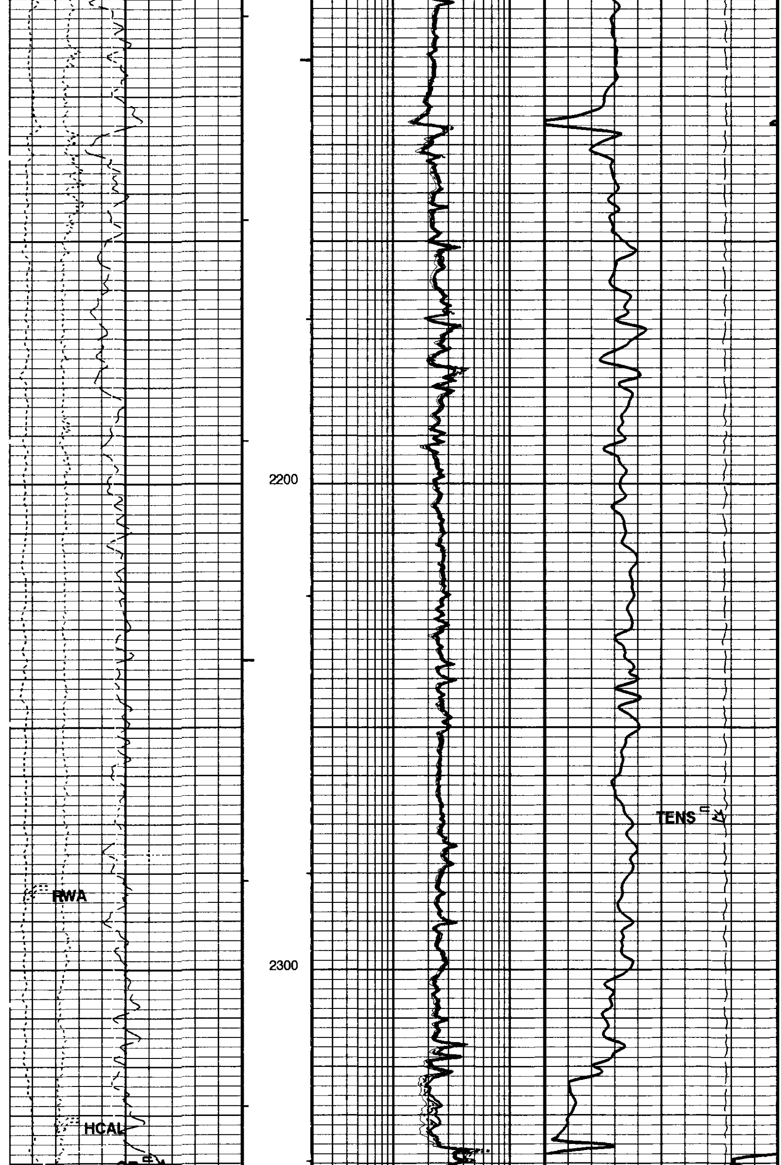


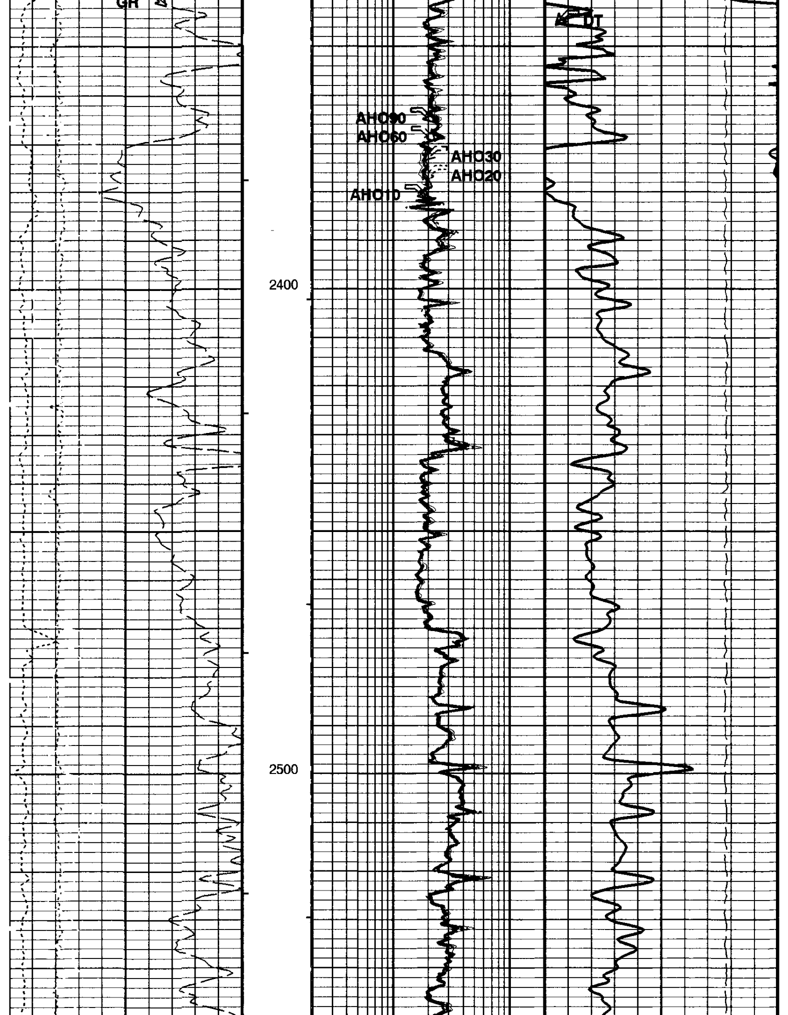


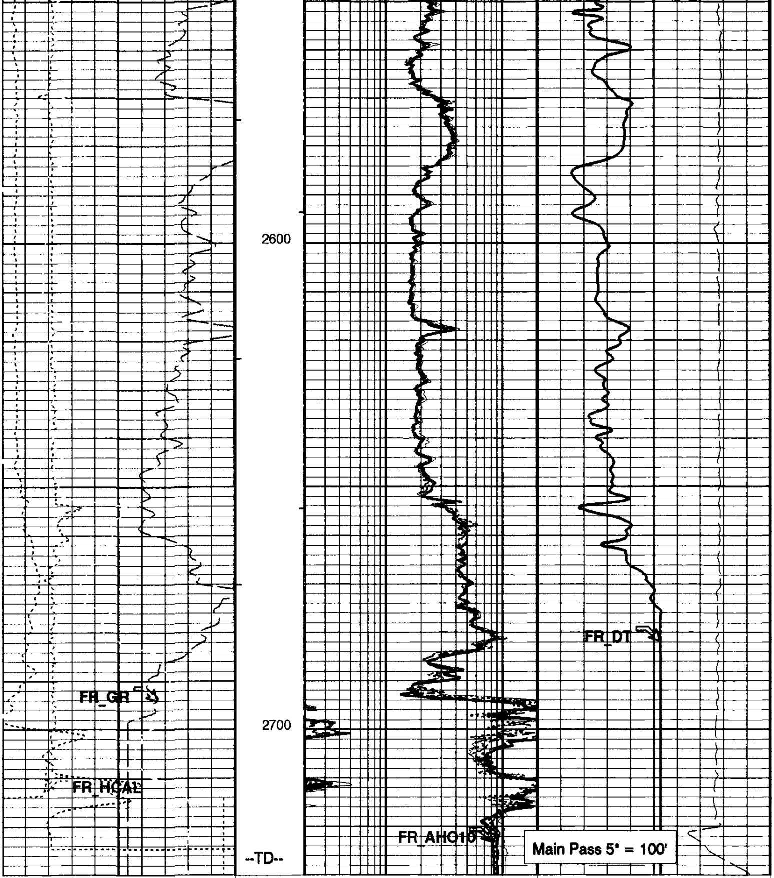












Gamma Ray (GR)	AIT-H 10 Inch Investigation (AHO10)	Delta-T (DT)
0 (GAPI) 150	0.2 (OHMM) 20	150 (US/F) 50
Caliper (HCAL)	AIT-H 20 Inch Investigation (AHO20)	Tension (TENS)
4 (IN) 14	0.2 (OHMM) 20	10000 (LBF) 0
RWA (RWA)	AIT-H 30 Inch Investigation (AHO30)	
0 (OHMM) 3	0.2 (OHMM) 20	
	AIT-H 60 Inch Investigation (AHO60)	
	0.2 (OHMM) 20	
	AIT-H 90 Inch Investigation (AHO90)	
	0.2 (OHMM) 20	

PIP SUMMARY

⊢ Integrated Hole Volume Minor Pip Every 10 F3
⊢ Integrated Hole Volume Major Pip Every 100 F3
⊣ Integrated Cement Volume Minor Pip Every 10 F3
⊣ Integrated Cement Volume Major Pip Every 100 F3

■ Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
AHBHM	AIT-H Borehole Correction Mode	2_COMPUTESTANDOFF	
AHBHV	AIT-H Borehole Correction Code Version Number	870	
AHBLM	AIT-H Basic Logs Mode	6_ONE_TWO_AND_FOUR	
AHBLV	AIT-H Basic Logs Code Version Number	973	
AHBPO	AIT-H Basic Logs Processing Option	STANDARD_PROCESSING	
AHCDE	AIT-H Casing Detection Enable	YES	
AHCEN	AIT-H Tool Centering Flag (in Borehole)	ECCENTERED	
AHFRSV	AIT-H Response Set Version for Four ft Resolution	30.66.23.11	
AHMRF	AIT-H Mud Resistivity Factor	1.000	
AHORSV	AIT-H Response Set Version for One ft Resolution	30.66.23.11	
AHRFV	AIT-H Radial Profiling Code Version Number	700	
AHRPV	AIT-H Radial Parametrization Code Version Number	710	
AHSAP	AIT-H Suspend Answer Product Processing	0_NOSUSPENSION	
AHSTA	AIT-H Tool Standoff	0.500	in
AHTRSV	AIT-H Response Set Version for Two ft Resolution	30.66.23.11	
ARTS	AIT Rt Selection (for ALLRES computation)	13_AHT90	
BHT	Bottom Hole Temperature (used in calculations)	97.000	degF
BS	Bit Size	6.750	in
DFD	Drilling Fluid Density	9.400	lbm/gal
DHC	Density Hole Correction	BS	
DTCM	Delta-T Computation Mode	FULL	
FEXP	Form Factor Exponent	2.000	
FNUM	Form Factor Numerator	1.000	
FPHI	Form Factor Porosity Source	DPHZ	
GCSE	Generalized Caliper Selection	HCAL	
GDEV	Average Angular Deviation of Borehole from Normal	0.000	deg
GGRD	Geothermal Gradient	0.010	degF/ft
GRSE	Generalized Mud Resistivity Selection	AHMF	
GTSE	Generalized Temperature Selection	TEMP	
HSCM	HILT Speed Correction Mode	TSCD_SPEED_CORRECTION	
HSTI	STI Uses HILT Acceleration	YES	
MODE	Sonic Firing Mode	BHC	
MST	Mud Sample Temperature	76.000	degF
NMT	HILT Nuclear Mud Type	NOBARITE	
NPRM	HRDD Processing Mode	STDRES	
NSAR	HRDD Depth Sampling Rate	1.000	in
RMFS	Resistivity of Mud Filtrate Sample	1.110	ohm.m
RTCO	RTCO - Rt Invasion Correction	YES	
RW	Resistivity of Connate Water	1.000	ohm.m
SHT	Surface Hole Temperature	68.000	degF
SPDR	SP Drift	0.000	mV/ft
SPNV	SP Next Value	-20.000	mV
TD	Total Depth	2731.0	ft
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Format: AITSON   Vertical Scale: 5" per 100'   Graphics File Created: 13-Oct-1999 14:47

OP System Version: 9C0-413

MCM

HILTB	OP9-KP2	DSLT-BA	OP9-KP2
TCCBF	OP9-KP2		

Input DLIS Files

DEFAULT   HILTB .005   FN:4   PRODUCER   13-Oct-1999 13:57   2730.0 FT   270.0 FT

COMPANY:	Enerfin Resources Northwest	BOTTOM LOG INTERVAL	2719 ft
		SCHLUMBERGER DEPTH	2727 ft
WELL:	C.C. 12-02-65 (Lindbleu)	DEPTH DRILLER	2731 ft
FIELD:	Mist Gas	KELLY BUSHING	918.8 ft
COUNTY:	Columbia	DRILL FLOOR	
STATE:	Oregon	GROUND LEVEL	908.8 ft

Schlumberger

-END-

Platform Express
Array Induction/SP/GR/ML
Neutron/Density/Sonic