3-10
EDITADO

WORKING FILE W/TERS

COMPANY: PETROTECH PERUANA S.A.

WELL: LO6-23

FIELD: LOBITOS

RIG: PEPESA 48 COUNTRY: PERU

RIG: PEPESA 48
Field: LOBITOS
Location: N 9508656.83
Well: LO6-23
Company: PETROTECH PERUANA S.A.

Schlumberger

HALS-MSFL-LDL-CNL-GR
RESISTIVITY LOG
SCALE: 2" / 100 '

LOCATION	N 9508656.83 E 459054.52	Elev.:	K.B. 50 ft G.L. 0 ft D.F. 49 ft
	Permanent Datum: MSL	Elev.:	0 ft
	Log Measured From: MSL	50.0 ft	above Perm. Datum
	Drilling Measured From: DRILLFLOOR		
DEPARTMENT: PIURA	Max. Well Deviation 31 deg	Longitude W 81 22 8.641	Latitude S 4 26 42.554

Logging Date		7-JUN-2001				
Run Number		1				
Depth Driller		9040 ft				
Schlumberger Depth		9036 ft				
Bottom Log Interval		8975 ft				
Top Log Interval		5308 ft				
Casing Driller Size @ Depth		9.625 in	@	5313 ft	@	
Casing Schlumberger		5308 ft				
Bit Size		8.500 in				
Type Fluid In Hole		FLO DRILL				
MUD Density	Viscosity	12.4 lbm/gal	60 s			
Fluid Loss	PH	5 cm3	10.6			
Source Of Sample		PRESS				
RM @ Measured Temperature		0.200 ohm.m	@	73 degF	@	
RMF @ Measured Temperature		0.140 ohm.m	@	73 degF	@	
RMC @ Measured Temperature		0.736 ohm.m	@	73 degF	@	
Source RMF	RMC	PRESS	PRESS			
RM @ MRT	RMF @ MRT	0.102 @ 150	0.071 @ 150		@	@
Maximum Recorded Temperatures		150 degF	150	150		
Circulation Stopped	Time	7-JUN-2001		1:30		
Logger On Bottom	Time	7-JUN-2001		10:12		
Unit Number	Location	5002	TAL / PCE / NSA			
Recorded By		Claudia Delgado / RubenCardenas				
Witnessed By		Victor Delgado				

WORKING FILE
GEOSCIENCES

GEOSCIENCES
File

	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				
Fluid Loss	PH				
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					

DEPTH SUMMARY LISTING

Date Created: 9-JUN-2001 19:39:29

Depth System Equipment

Depth Measuring Device		Tension Device		Logging Cable	
Type:	IDW-B	Type:	CMTD-B/A	Type:	7-46P
Serial Number:	4997	Serial Number:	2097	Serial Number:	6220
Calibration Date:	dd-MMM-yyyy	Calibration Date:	22-JAN-2001	Length:	17000.00 FT
Calibrator Serial Number:	0	Calibrator Serial Number:	-999	Conveyance Method:	Wireline
Calibration Cable Type:	7-46P	Calibration Gain:	0.91	Rig Type:	Offshore_Fixed
Wheel Correction 1:	-2	Calibration Offset	630.00		
Wheel Correction 2:	-2				

Depth Control Parameters

Log Sequence:	First Log In the Well
Rig Up Length At Surface:	228.00 FT
Rig Up Length At Bottom:	223.00 FT
Rig Up Length Correction:	5.00 FT
Stretch Correction:	14.00 FT
Tool Zero Check At Surface:	3.00 FT

Depth Control Remarks

1. IDW USED AS PRIMARY DEPTH REFERENCE
2.
3.
4.
5.
6.

OTHER SERVICES1	OTHER SERVICES2
OS1: BG&IS	OS1:
OS2: SAT	OS2:
OS3: CST	OS3:
OS4:	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
1. The purpose of this log is to evaluatethe presence of hydrocarbons.	
2. Tools run according to tool sketch.	
3. Mud properties : Barite, Chlorides; 26 500 ppm.	
4. First run in hole.	
5. Neutron porosity corrected for environmental effects. PTCO, FSCO,	
SOCO, MWCO, MCCO, HSCO,FSCO,BSCO corrections applied.	
6. Washout zones: 5300'-5420', 5650'-6000'.7000'-7900' MSFL reads mud interval 2	
7. Maximum depth reached: 9036 ft.	

RUN 1		RUN 2	
SERVICE ORDER #:		SERVICE ORDER #:	
PROGRAM VERSION:	9C1-303	PROGRAM VERSION:	
FLUID LEVEL:	0 ft	FLUID LEVEL:	

LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

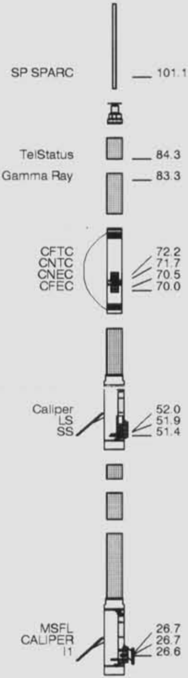
RUN 1

SURFACE EQUIPMENT

LCM-AA 729
CNB-AB 313
NCT-B
NCS-VB
GSR-U/Y 1871
WITM (CTS)-A

DOWNHOLE EQUIPMENT

BSP BRT-S	170.2
LEH-QT LEH-QT	90.2
TCC-BF BLUE ECH-KC 2920	87.3
SGT-L BLUE SGH-K 2358 SGC-SA 1644	84.3
CNT-G BLUE CND-NA 372 NLS-KL NSR-F 2254 CNC-GA 149 CNH-G 372 BOW-SPR	78.8
LDT-D GSR-J PGD-G 1795 NSC-E 1771 ECH-MKA 1734 DRS-C 6977 PDH-L 4927	66.7
AH-107	49.3
AH-CME-AG AH-CME-AG 3	47.3
SRT-C SRE-D ECH-KQ DRS-C SRA-A	43.6



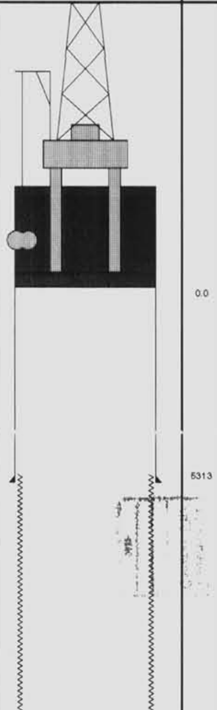
RUN 2

Tool	Sensor	Offset	Length
HILTB-DTB BLUE HTBCC 941 HMCA HALS-B 823	HMCA HALS-B	21.8 13.2	23.8
AH-XXX AH-XXX			5.7
BNS-NG	HMAS HV DF Tension HTEN	0.0	2.0

TOOL ZERO

MAXIMUM STRING DIAMETER 4.50 IN
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN FEET

LO6-23



Production String	in OD	in ID	ft MD	Well Schematic	ft MD	in OD	in ID	Casing String
Kelly Bushing Elevation			50.0					
Derrick Floor Elevation			49.0					
Mean Sea Level			0.0					
Seismic Gun depth below MSL			5					
					0.0	9625.00	8.765	Casing String
					5313	9625.00	8.765	Casing Shoe Borehole Segment

9040ft

Schlumberger

MAIN LOG

MAXIS 500 Field Log

Input DLIS Files

DEFAULT	HILTB .010	FN:8	PRODUCER	09-Jun-2001 15:39	8975.0 FT	39.5 FT

Output DLIS Files

DEFAULT	HILTB .012	FN:10	PRODUCER	09-Jun-2001 16:56	8975.0 FT	39.5 FT

Integrated Hole/Cement Volume Summary

Hole Volume = 2797.04 F3

Cement Volume = 2192.80 F3 (assuming 5.50 IN casing O.D.)

Computed from 8975.0 FT to 5313.0 FT using data channel(s) CALI

OP System Version: 9C1-303

MCM

HILTB-DTB	OP91-kp2	SRT-C	OP91-kp2
LDT-D	OP91-kp2	CNT-G	OP91-kp2
SGT-L	OP91-kp2	TCC-BF	OP91-kp2
BSP	OP91-kp2		

Changed Parameter Summary

DLIS Name	New Value	Previous Value	Depth & Time
MDEN	2.71 G/C3	2.68 G/C3	8975.0 16:57:00
	2.71 G/C3	2.71 G/C3	8800.0 16:57:11
	2.71 G/C3	2.71 G/C3	7780.0 16:57:38
	2.71 G/C3	2.71 G/C3	6340.0 16:58:16
	2.68 G/C3	2.71 G/C3	5680.0 16:58:33

PIP SUMMARY

⊢ Integrated Hole Volume Minor Pip Every 10 F3

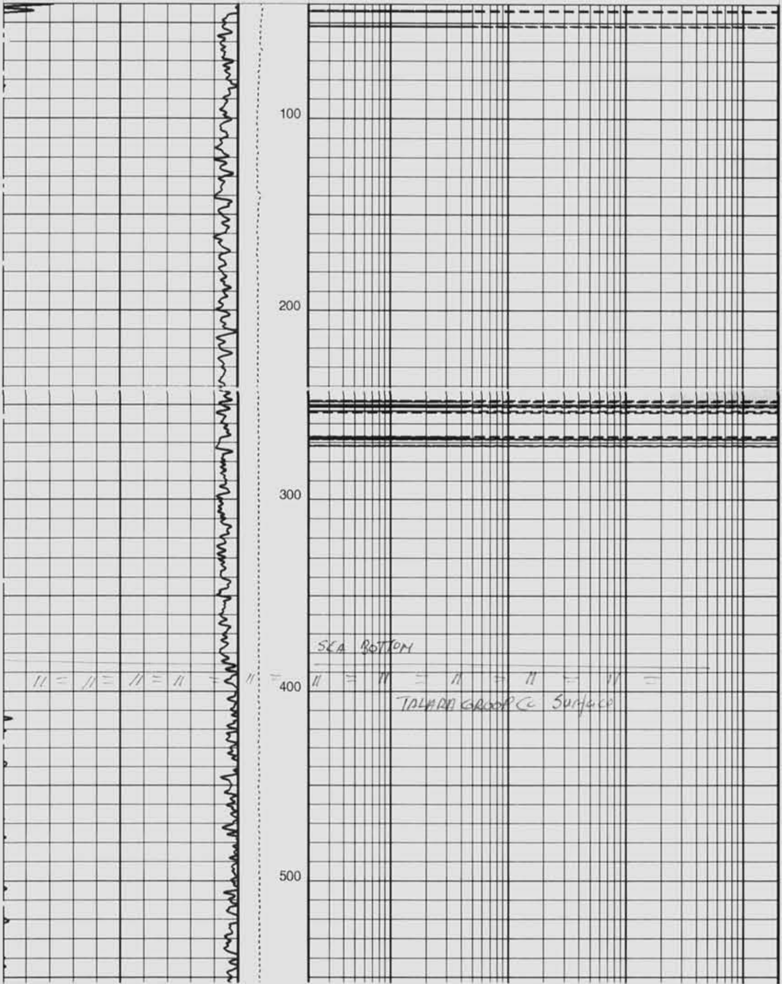
⊢ Integrated Hole Volume Major Pip Every 100 F3

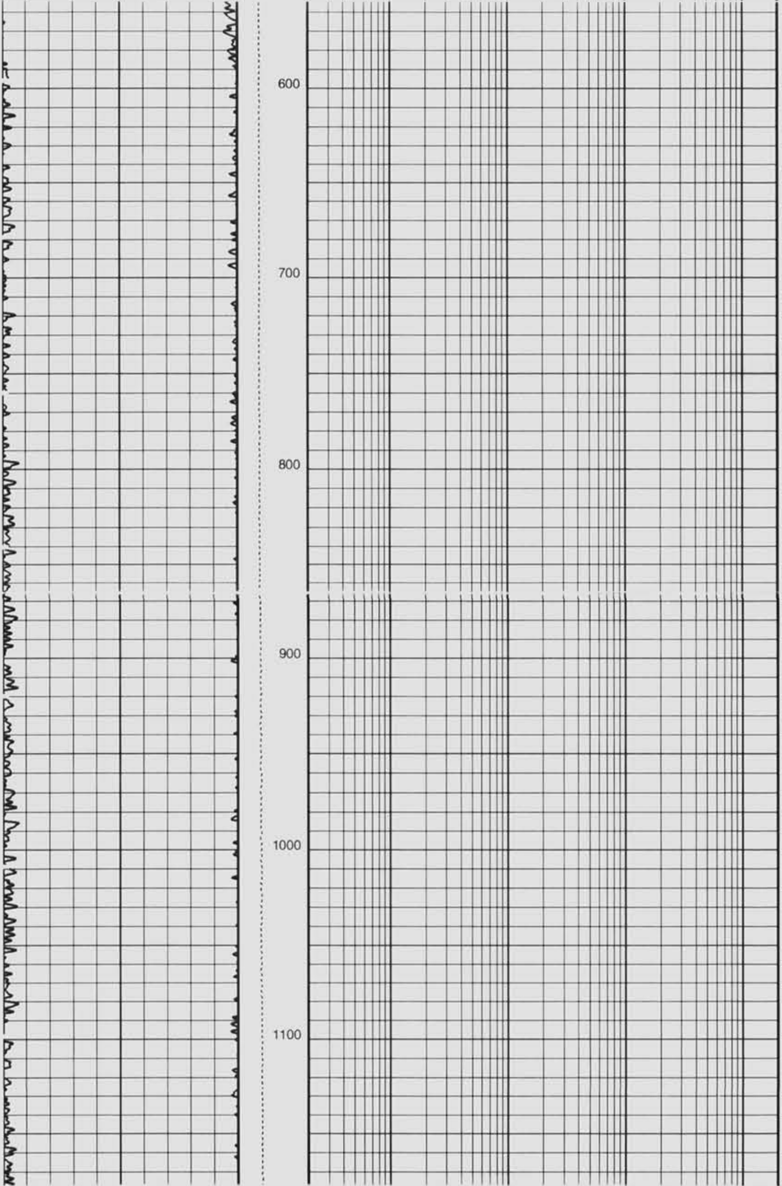
⊣ Integrated Cement Volume Minor Pip Every 10 F3

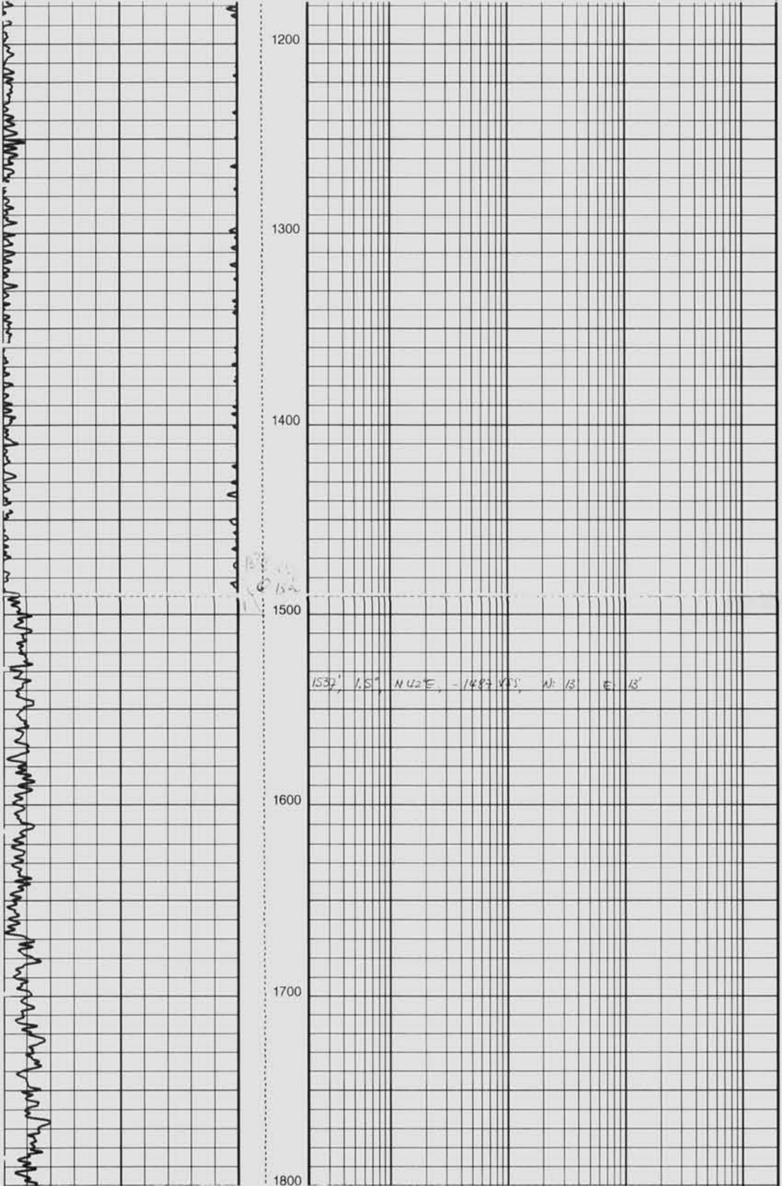
⊣ Integrated Cement Volume Major Pip Every 100 F3

▶ Time Mark Every 60 S

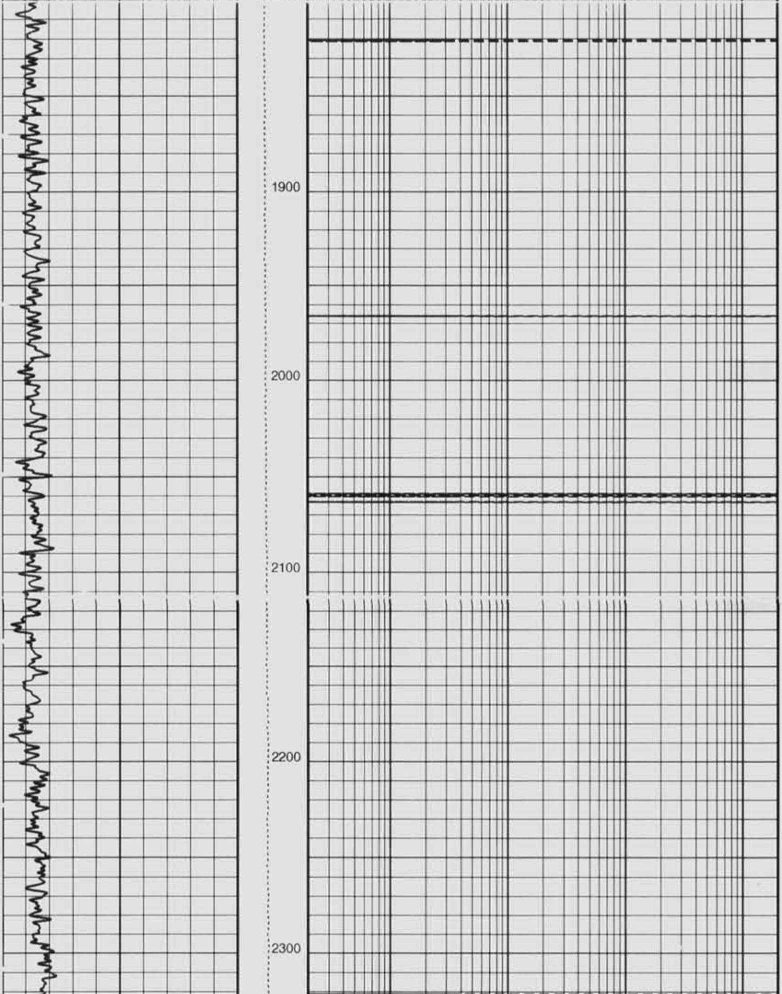
Filtered Mud Resistivity from Deep Meas. (HRM) (OHMM) 0 0.2	Calibrated Downhole Force (CDF) (LBF) -200 1800	
Washout From BS to CALI	Tool/Tot. Drag From D3T to STIA	Micro SFL Resistivity (MSFL) (OHMM) 0.2 2000
Gamma Ray (ECGR) (GAPI) 20 120	Cable Drag From STIA to STIT	HILT/HALS True Resistivity (HART) (OHMM) 0.2 2000
Caliper (CALI) (IN) 6 16	Stuck Stretch (STIT) (F) 0 50	Laterolog Shallow Resistivity (HLLS) (OHMM) 0.2 2000
Bit Size (BS) (IN) 8 18	Tension (TENS) (LBF) 0 8000	Laterolog Deep Resistivity (HLLD) (OHMM) 0.2 2000

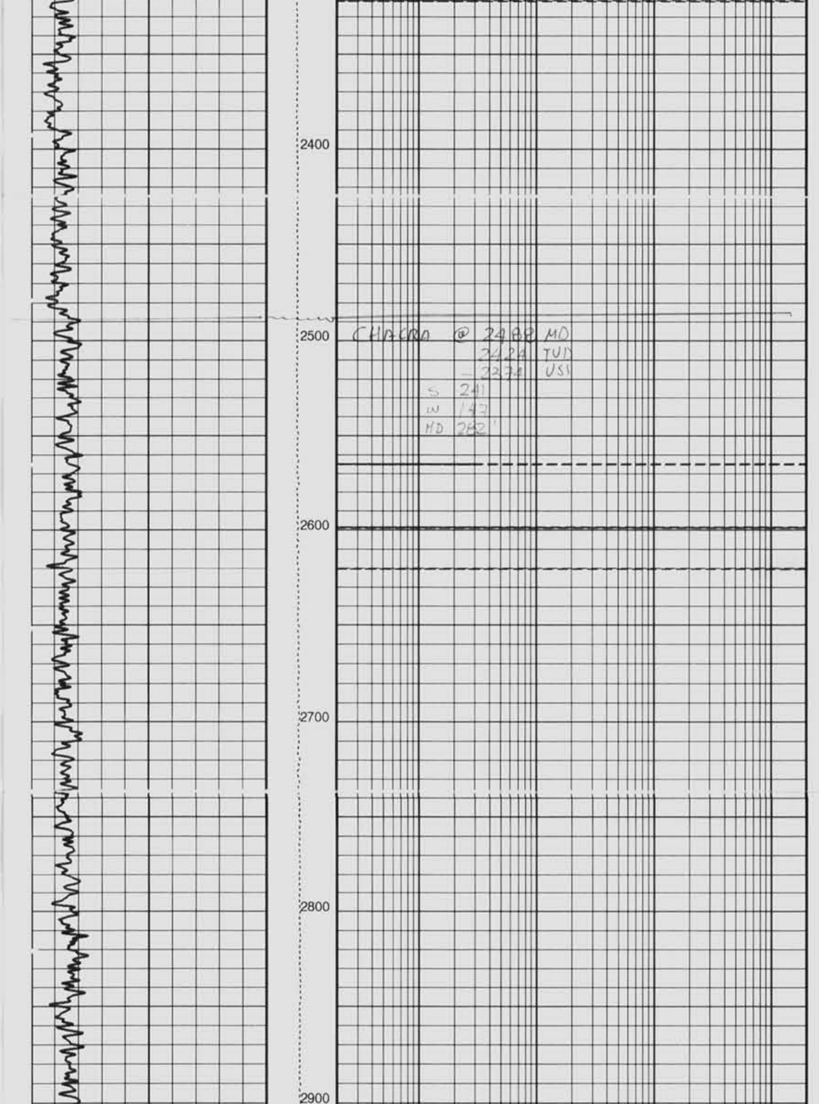


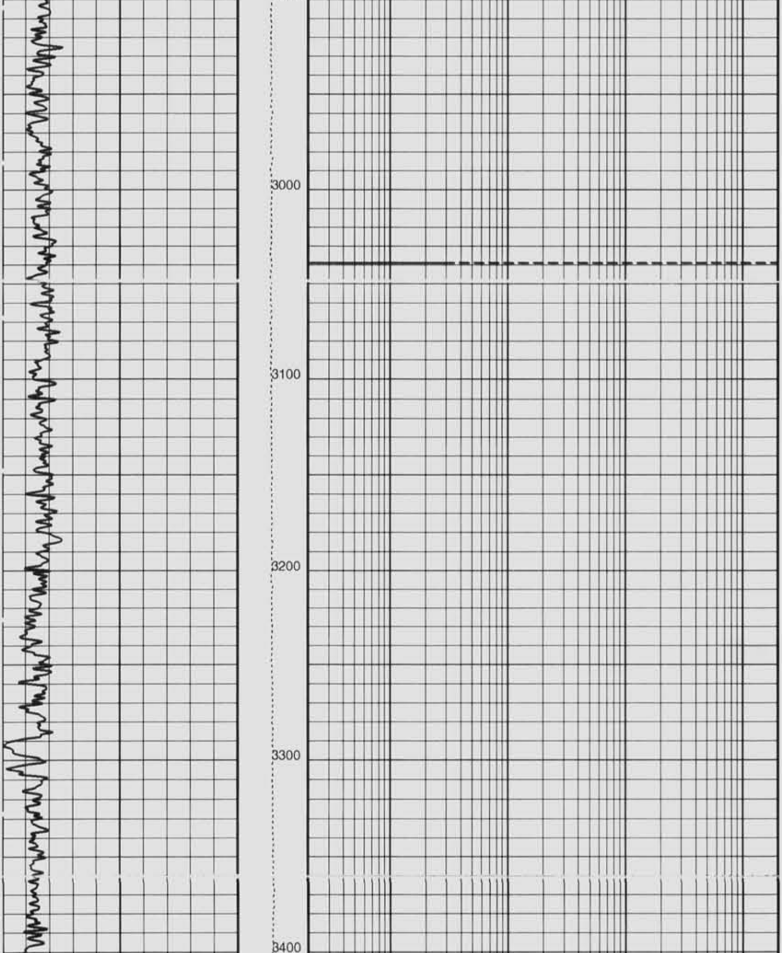


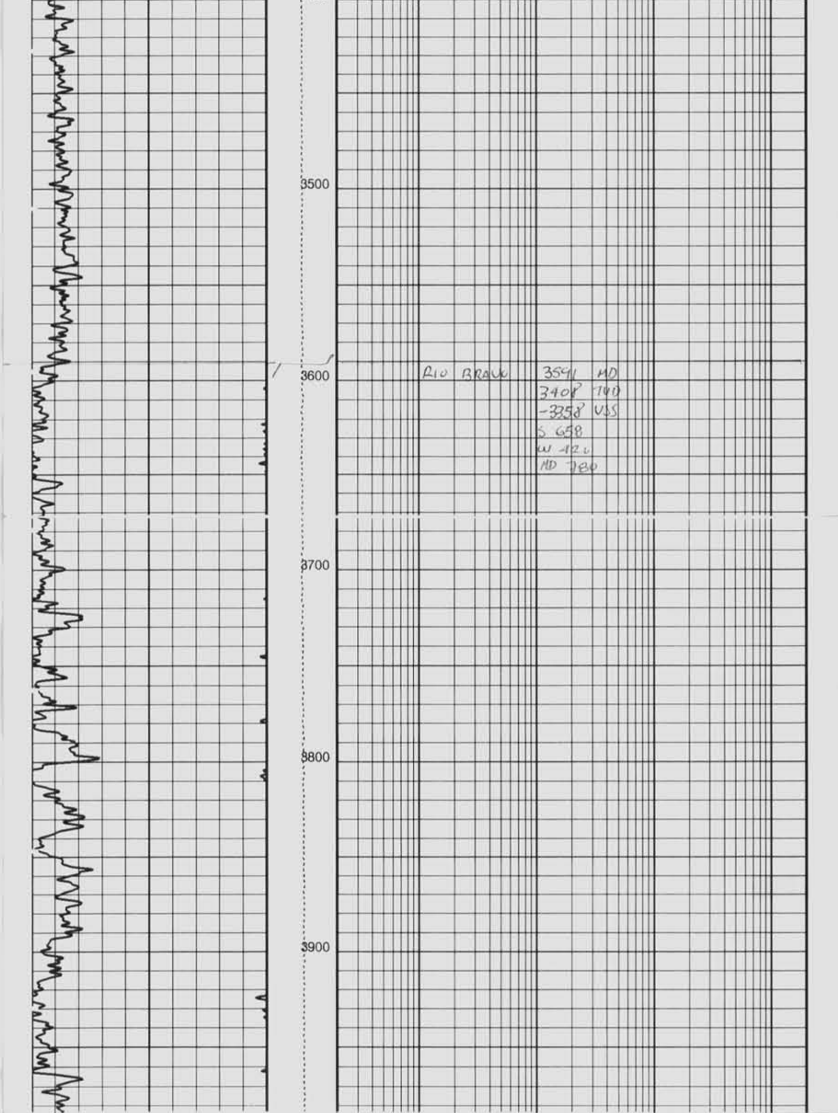


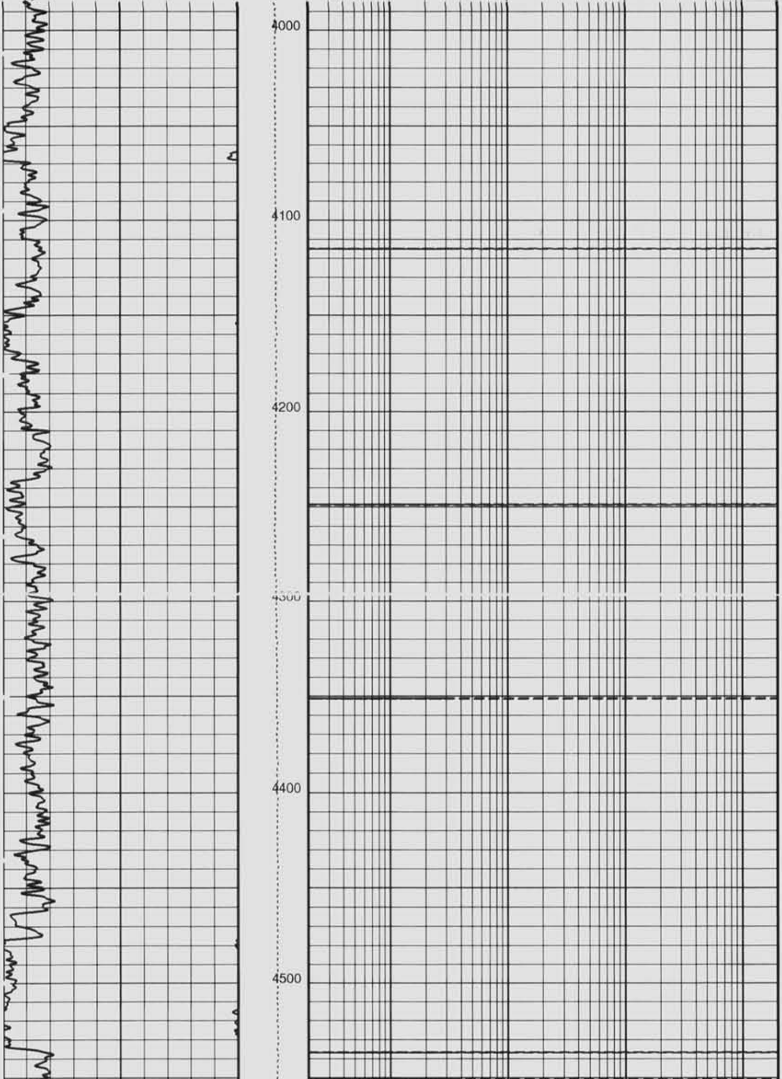
1537', 1.5°, N42°E, -1487 VSS, N: 13' E: 13'

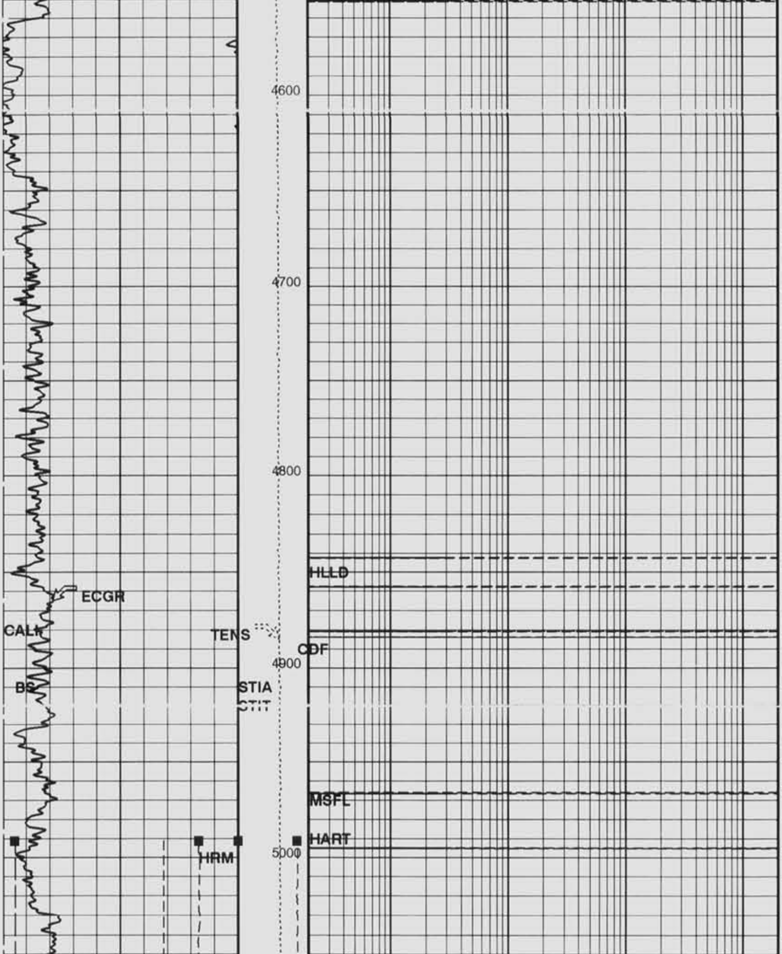


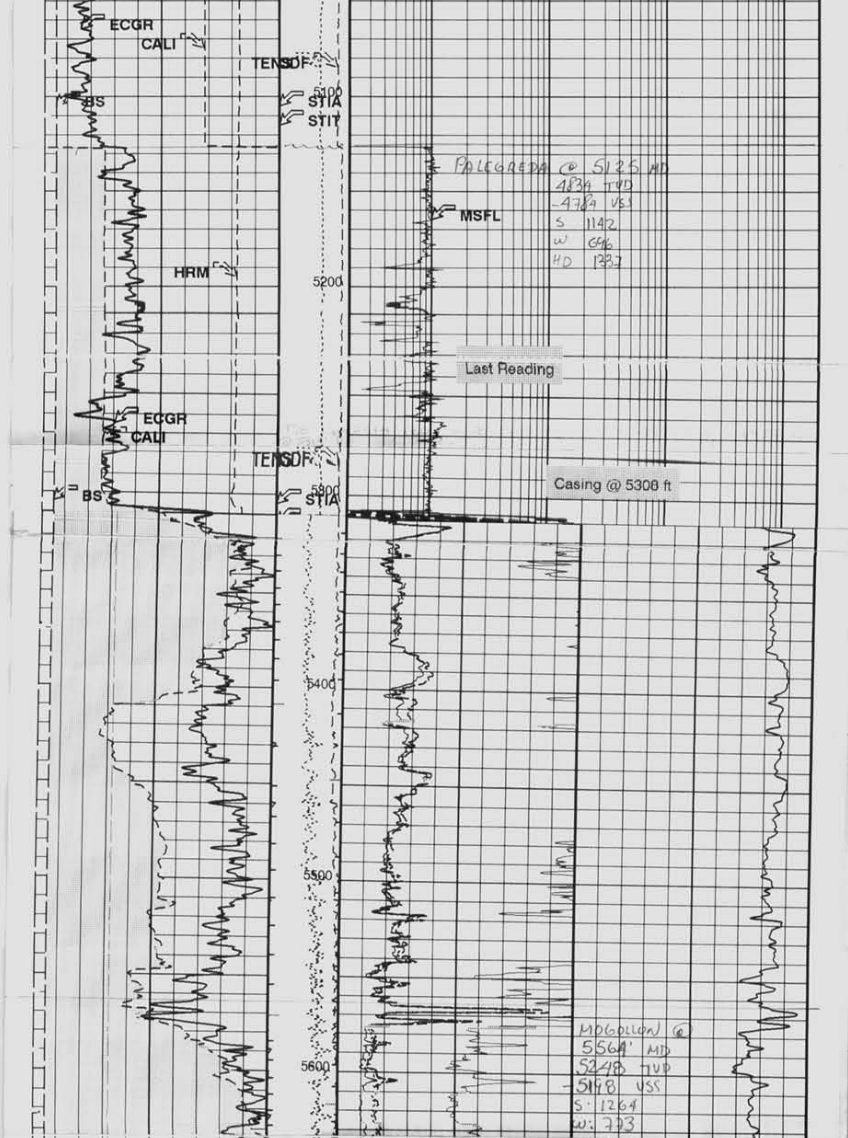






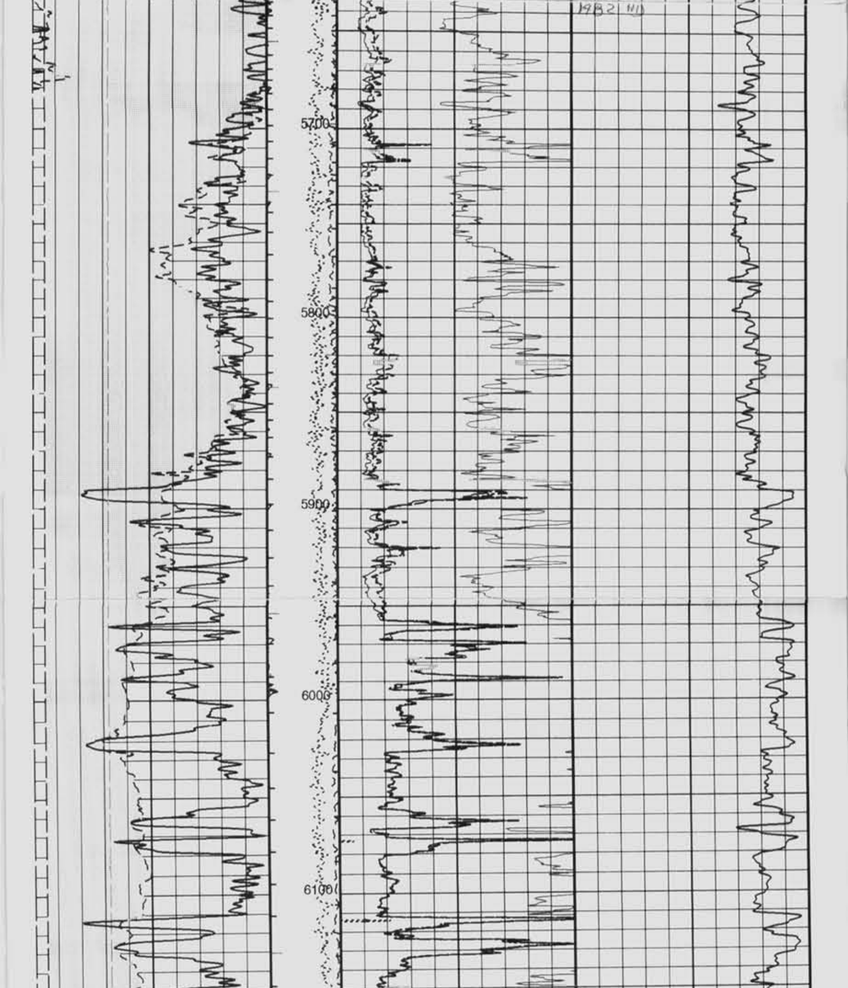


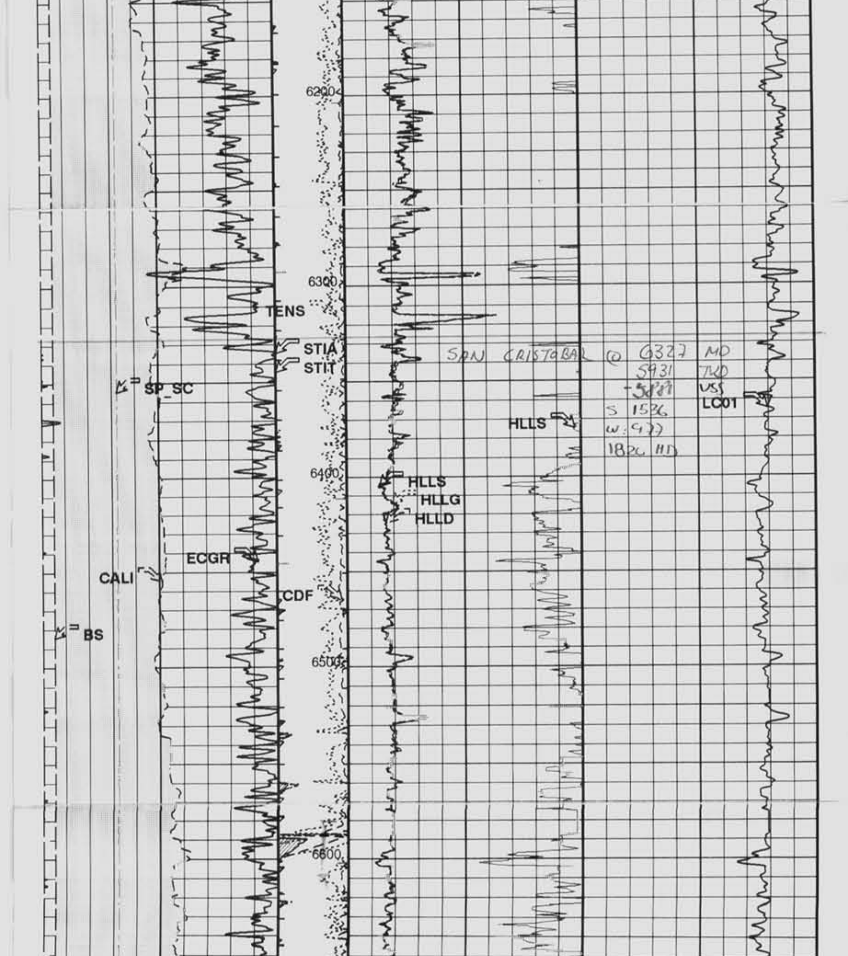




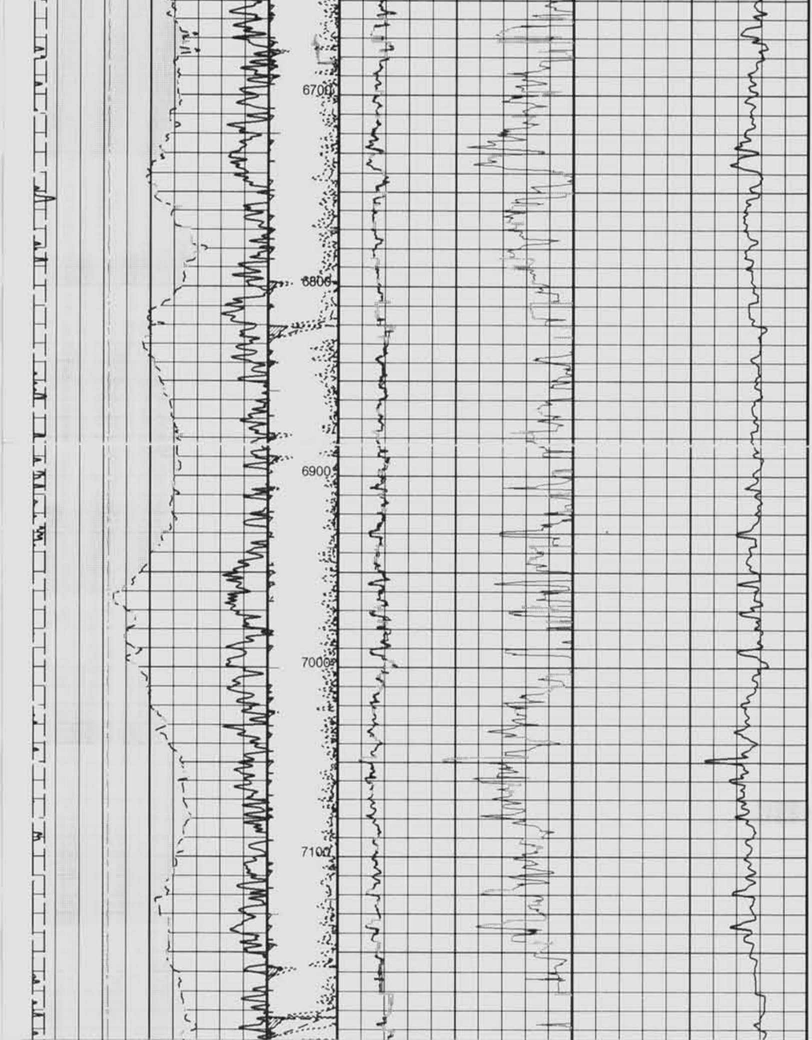
PALEGREDA @ 5125 MD
4834 TVD
-4784 VSS
S 1142
W 646
HD 1337

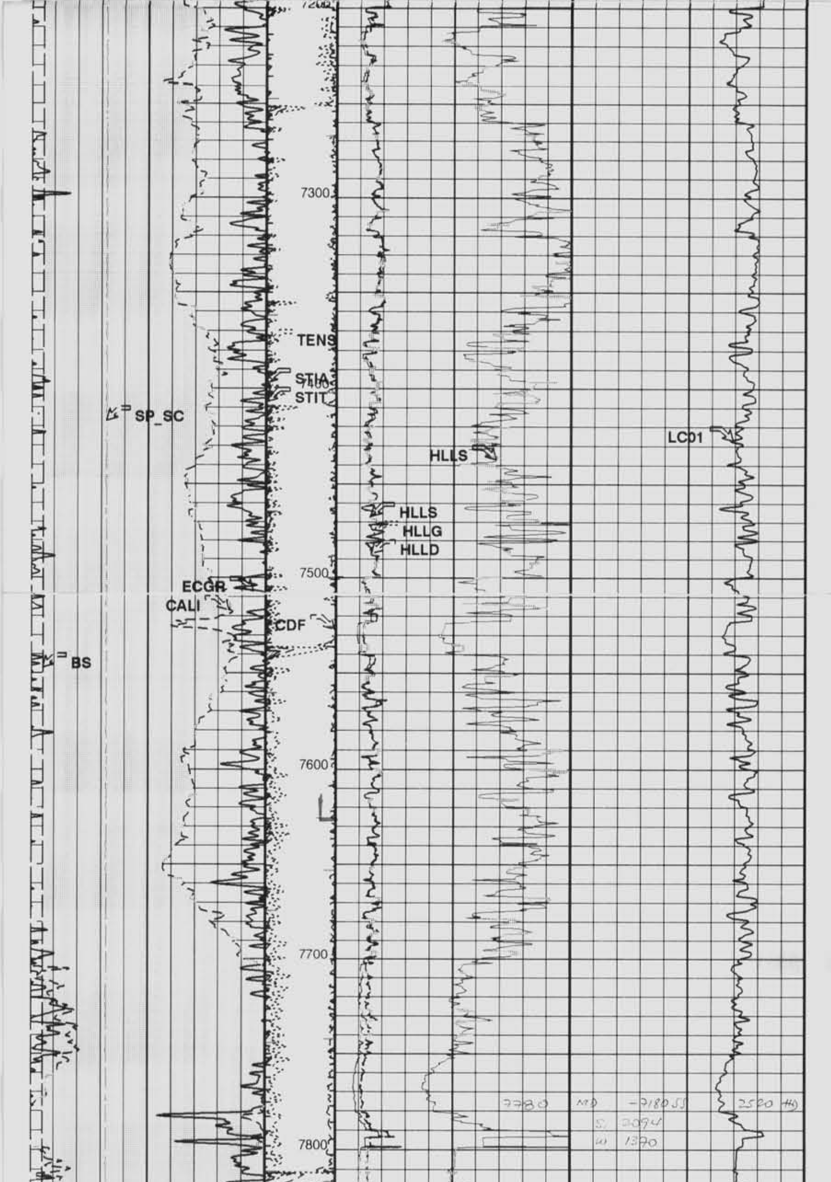
MOGOLLON @
5564' MD
5248 TVD
-5198 VSS
S: 1264
W: 733



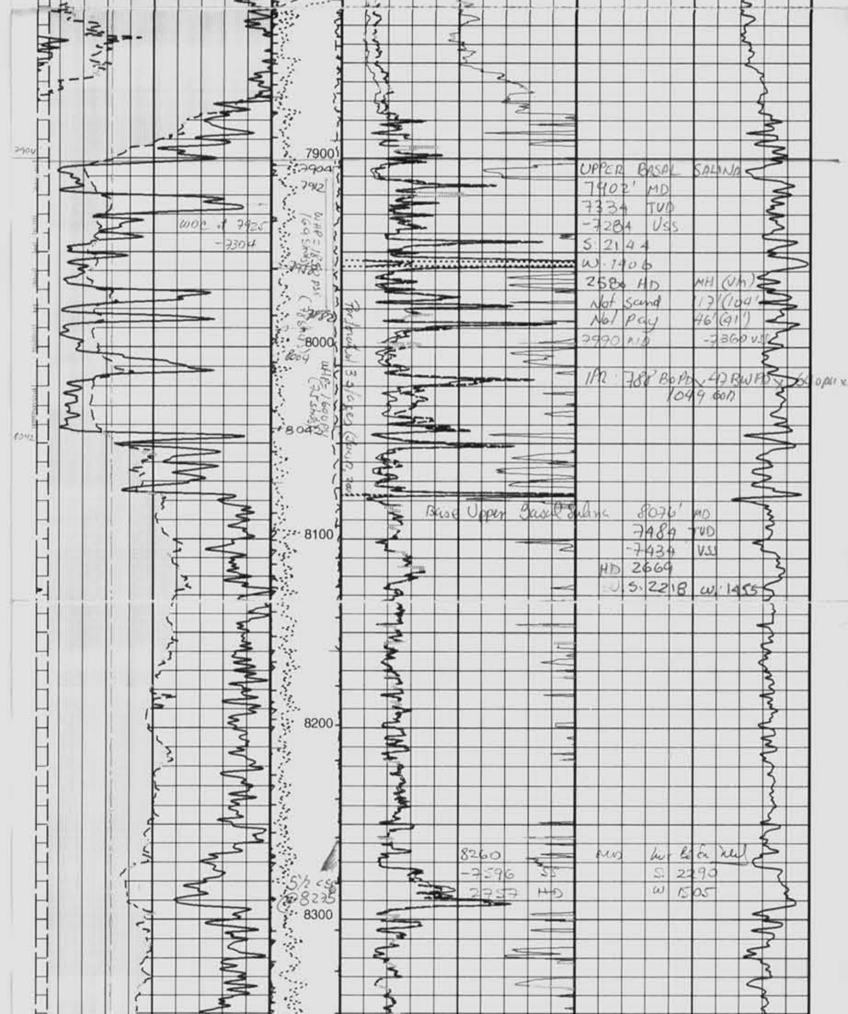


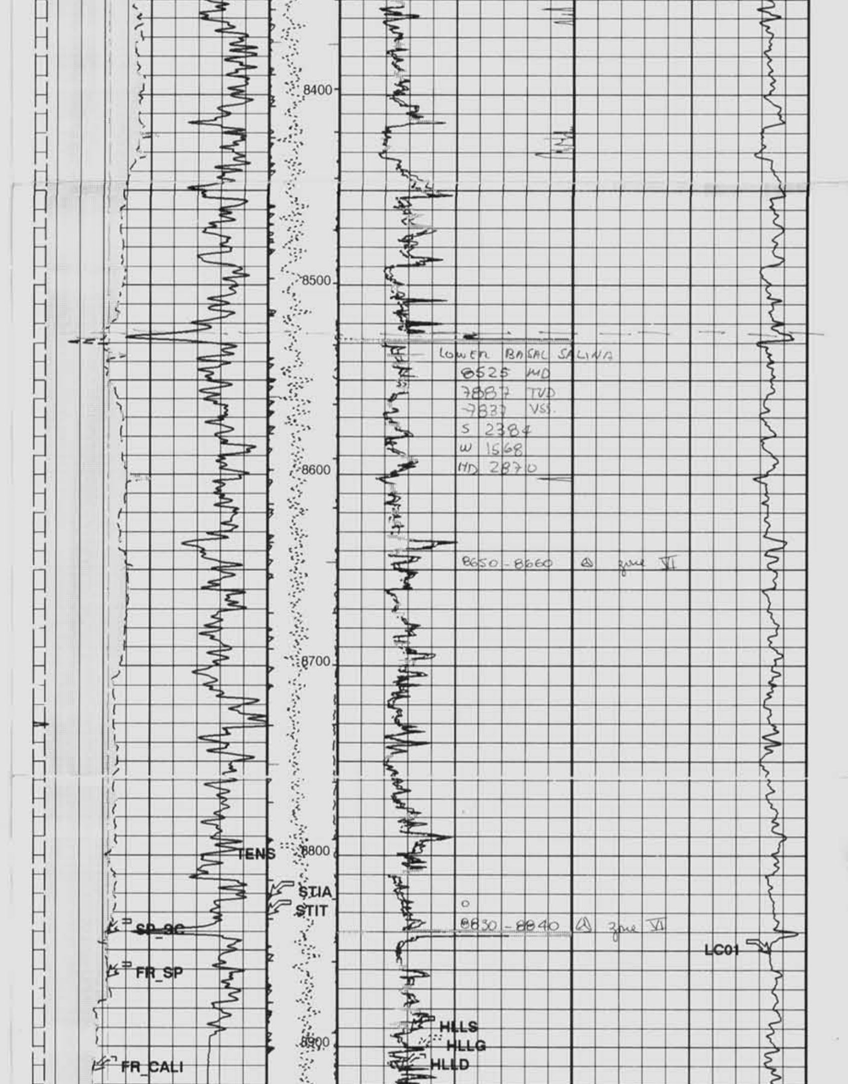
SAN CRISTOBAL @ 6327 MD
5931 TVD
-5881 VSS
S 1536
W: 977
1826 HD





7780 MD -7180 SS 2520 HD
S 2094
W 1370





LOWER BASAL SALINA
8525 MD
7887 TVD
-7837 VSS.
S 2384
W 1568
HD 2870

8650 - 8660 Ⓐ zone VI

8830 - 8840 Ⓐ zone VI

SP (SP_SC) -80 (MV) 20	Tension (TENS) (LBF) 0 2000	Laterolog Deep Resistivity (HLLD) 0 (OHMM) 50	Laterolog Shallow Conductivity (LC01) 500 (MMHO) 0 FTD: 9040
Bit Size (BS) 8 (IN) 18	Stuck Stretch (STIT) 0 (F) 50	Laterolog Groningen Resistivity (HLLG) 0 (OHMM) 50	Poly 9000-9010 Δ Zone VI 8362 TVD -8312' VSS 3048 HD S 2554 W 1664
Caliper (CALI) 6 (IN) 16	Cable Drag From STIA to STIT	Laterolog Shallow Resistivity (HLLS) 0 (OHMM) 50	
Gamma Ray (ECGR) 20 (GAPI) 120	Tool/Tot. Drag From D3T to STIA	Laterolog Shallow Resistivity (HLLS) 0 (OHMM) 10	
Washout From BS to CALI	Calibrated Downhole Force (CDF) (LBF) -200 1800		

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	
ARIP_LTS	HALS Long Tool String Correction	OFF	
ARIP_SHOULDER	HALS Shoulder Correction	OFF	
BHCC	HALS Borehole Correction	ON	
BHS	Borehole Status	OPEN	
BHT	Bottom Hole Temperature (used in calculations)	150	DEGF
BS	Bit Size	8.500	IN
CWEI	Casing Weight	43.53	LB/F
DHOP	Diameter & Eccentering used in HALS Borehole Corrections	BitSize_Eccentered	
DO	Depth Offset for Logical Unit 1	-87.0	FT
GCSE	Generalized Caliper Selection	CALI	
GRCC	HALS Groningen Correction	OFF	
HMSO	HALS Mechanical Standoff	1.5	IN
HSCM	HILT Speed Correction Mode	NO_SC	
HSTI	STI Uses HILT Acceleration	YES	
ISSBAR	SGT Nuclear Mud Type	BARITE	
LBFR	Trigger for MAXIS First Reading Label	STI	
PP	Playback Processing	NORMAL	
SOGR	SGT Standoff Distance	0	IN
STKT	STI Stuck Threshold	2.5	FT
TCOR	HALS TLC Correction	OFF	
TDD	Total Depth - Driller	9040.00	FT
TDL	Total Depth - Logger	9048.00	FT
UNSPK	HALS Despiking Filter Option	OFF	
UNSPK_THOLD	HALS Despiking Filter Threshold (in %)	20	%
UNSPK_WINDOW	HALS Despiking Filter Window (inches)	6	IN

Format: HALS_CLASSIC_CON_S2 Vertical Scale: 2" per 100' Graphics File Created: 07-Jun-2001 20:46

OP System Version: 9C1-303

MCM

HILTB-DTB	OP91-kp2	SRT-C	OP91-kp2
LDT-D	OP91-kp2	CNT-G	OP91-kp2
SGT-L	OP91-kp2	TCC-BF	OP91-kp2
BSP	OP91-kp2		

Input DLIS Files

DEFAULT	HILTB .023	FN:27	PRODUCER	07-Jun-2001 10:12	9062.0 FT	5213.0 FT

Output DLIS Files

DEFAULT	HILTB .043	FN:52	PRODUCER	07-Jun-2001 20:46

COMPANY: PETROTECH PERUANA S.A.

WELL: LO6-23
FIELD: LOBITOS
RIG: PEPESA 48
COUNTRY: PERU

BOTTOM LOG INTERVAL	9063 ft
SCHLUMBERGER DEPTH	9048 ft
DEPTH DRILLER	9040 ft
KELLY BUSHING	50 ft
DRILL FLOOR	49 ft
GROUND LEVEL	0 ft

Schlumberger

HALS-MSFL-LDL-CNL-GR
HALS RESISTIVITY
SCALE: 2" / 100 '