Schlumberger

Dual Burst
Thermal Decay Time Log

COUNTY Columbia
FIELD Mist
LOCATION 303.79S and 1768.59 E
WELL Columbia County #23-22
COMPANY Oregon Natural Gas

COMPANY	Oregon Natural Gas
WELL	Columbia County #23-22
FIELD	Mist
COUNTY	Columbia
STATE	Oregon

LOCATION
303.79'S and 1768.59'E
from West 1/4 corner

Other Services:
CBL-GR
PERF-I J

API SERIAL NO.	**SECT.**	**TWP.**	**RANGE**
	22	6N	5W

Permanent Datum	Ground Level	**Elev.**	565.8 F	**Elev.: K.B.**577.2 F
Log Measured From	Kelly Bushing	11.4 F	**above Perm. Datum**	**D.F.**
Drilling Measured From	Kelly Bushing			**G.L.**565.8 F

Date	17-JAN-1996			
Run No.	ONE			
Depth Driller	1530.0 F			
Depth Logger (Schl.)	1541.0 F			
Btm. Log Interval	1534.0 F			
Top Log Interval	500.0 F			
Type Fluid in Hole	WATER			
Salinity NaCl				
Density	8.50 LB/G			
Fluid Level				
Max. Rec. Temp.				
Deviation				
Logger on Bottom	10:18 17-JAN-1996			
Equip. / Location	8305	Evanston WY		
Recorded By	Scott Pilch			
Witnessed By	Clayton Roth/Todd Thomas			
BOREHOLE RECORD				
Bit Size	7 7/8"			
Depth				
CASING & TUBING RECORD				
Size	5 1/2"			
Weight	15.5000 LB/F			
Casing Top-Driller				
Casing Top-Logger				
Casing Shoe-Driller	1530.0 F			
Casing-Logger	1541.0 F			

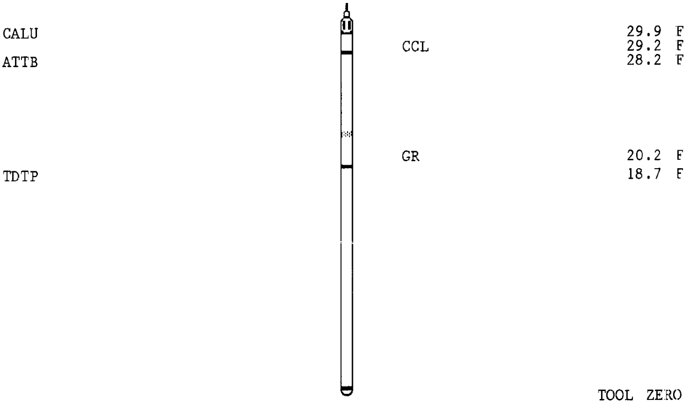
The well name, location and borehole reference data were furnished by the customer.

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 wilful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretations 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.

Run No.	ONE	
Service Order No.	532864	
Logging Speed	1800.0 F/HR	
EQUIPMENT DATA		
Tool Number 1	TDT-P 4301	
Tool Number 2	ATT-B 1512	
Tool Number 3	CAL-U 433	
Tool Number 4	ATM-AA 286	
Tool Number 5		
Tool Number 6		
Tool Number 7		
Tool Number 8		
Tool Number 9		
Tool Number 10		
Tool Number 11		
Tool Number 12		

REMARKS:
Correlated to SWS DIL run 16-December-1983.

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 32.9 F.
TOTAL TOOL STRING WEIGHT IS 147. LB IN AIR.

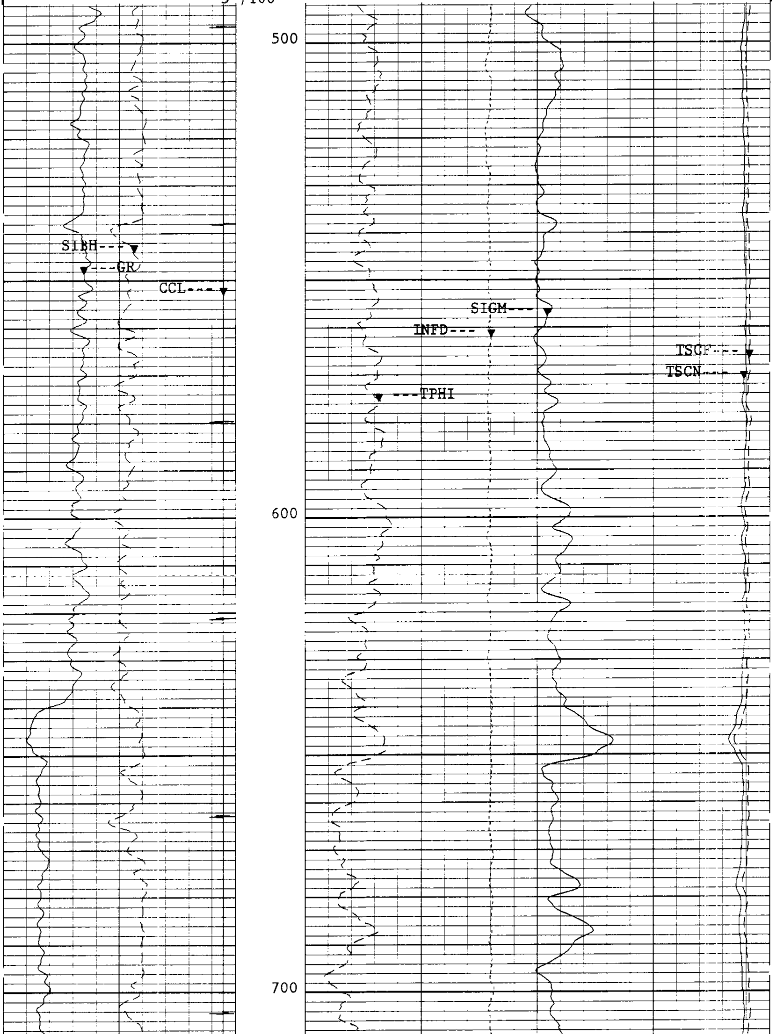
Main Log

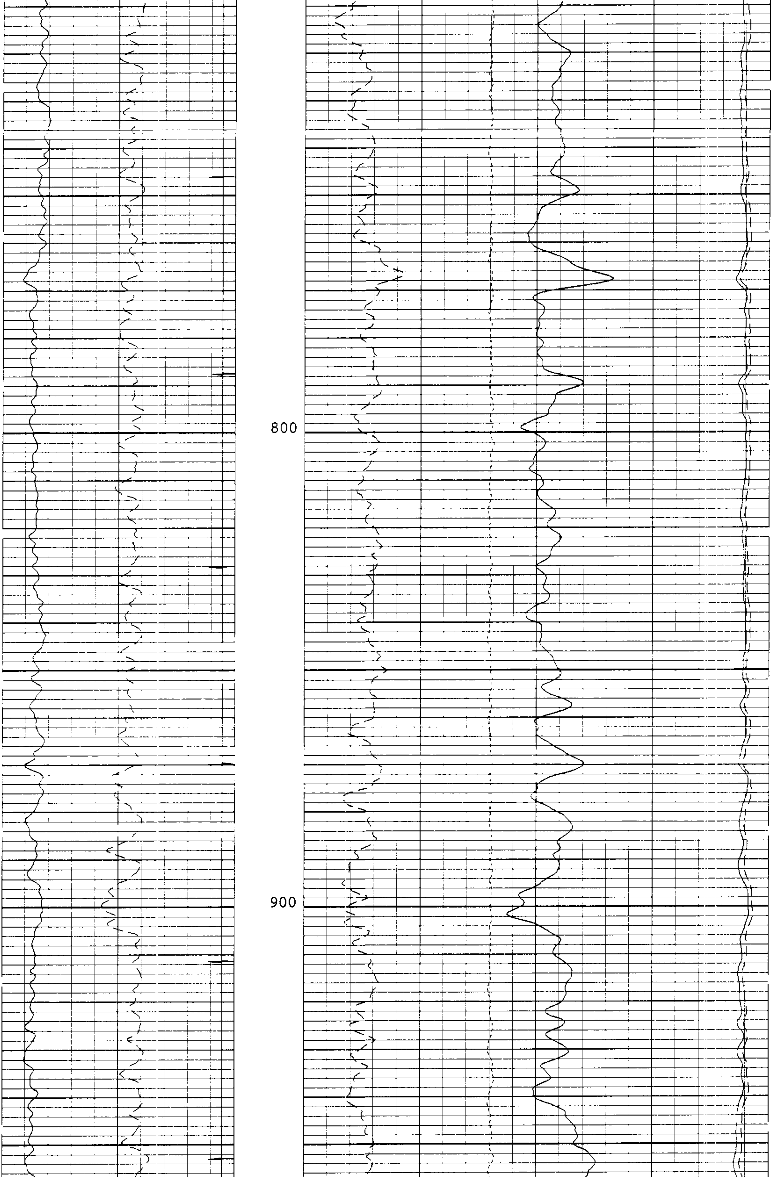
Curve	Left	Right
SIBH(CU)	100.00	0.0
GR(GAPI)	0.0	150.00
CCL	-19.00	1.0000
INFD(CPS)	1500.0	0.0
TSCF(CPS)	12000.	0.0
TPHI	.60000	0.0
TSCN(CPS)	30000.	0.0
SIGM(CU)	60.000	0.0

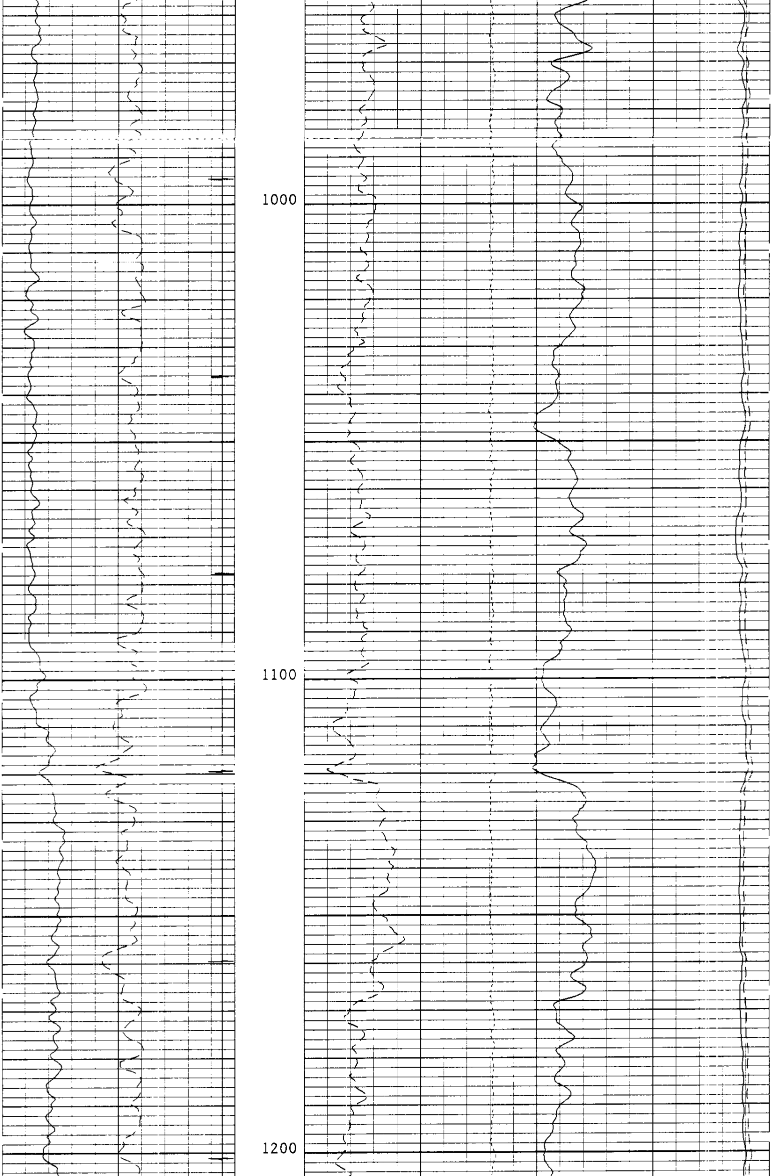
CP 44.2 FILE 1 17-JAN-1996 10:53

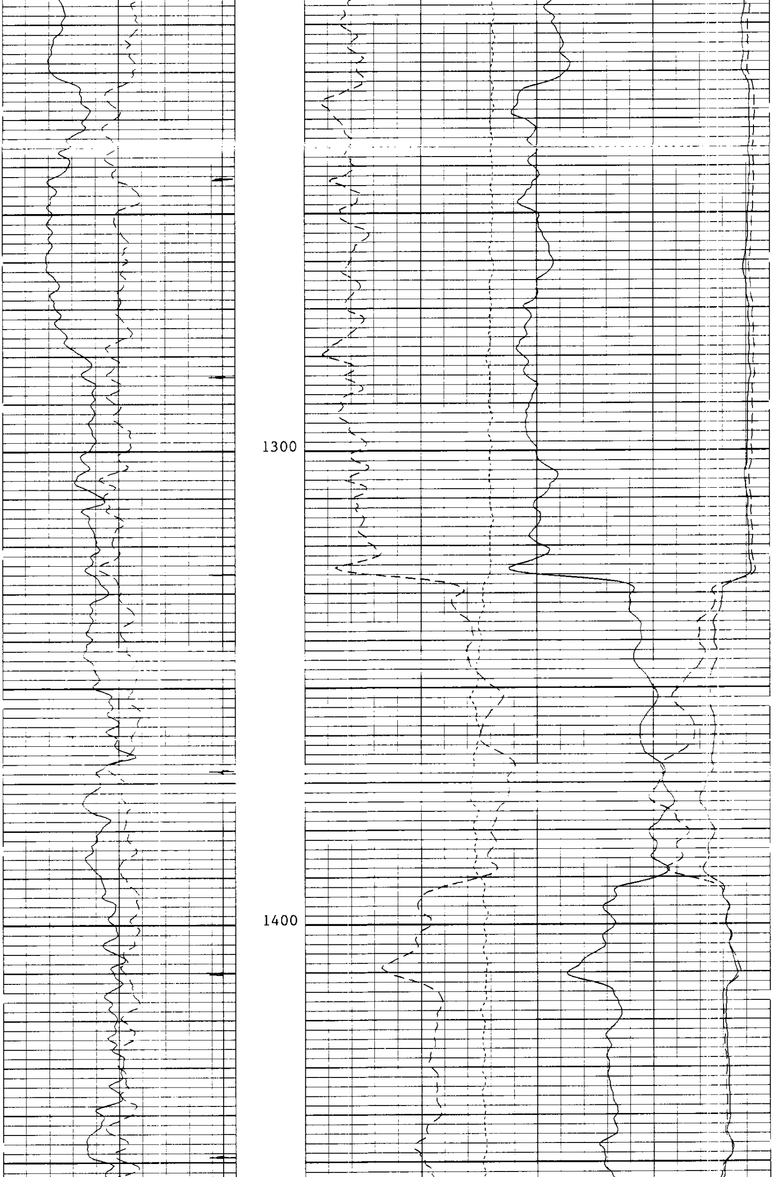
INPUT FILE(S)	CREATION DATE
7	17-JAN-1996 11:40

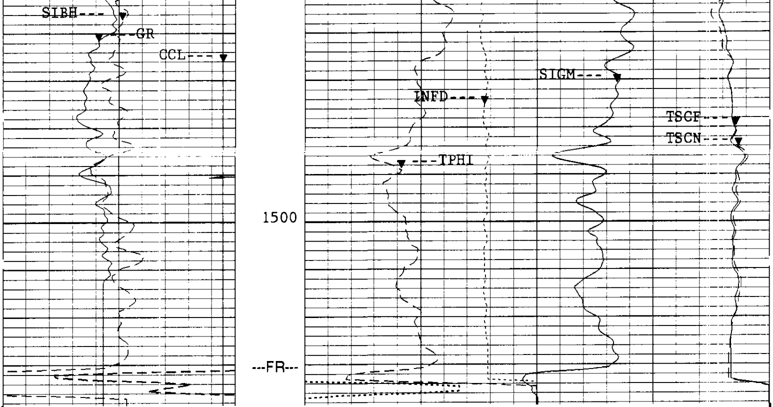
5"/100'











5"/100' ----TD--- = 1541

CP 44.2 FILE 1 17-JAN-1996 10:41

INPUT FILE(S) CREATION DATE
7 17-JAN-1996 11:40

SIBH(CU)		INFD(CPS)		TSCF(CPS)	
100.00	0.0	1500.0	0.0	12000.	0.0
GR(GAPI)		TPHI		TSCN(CPS)	
0.0	150.00	.60000	0.0	30000.	0.0
CCL		SIGM(CU)			
-19.00	1.0000	60.000			0.0

SENSOR MEASURE POINT TO TOOL ZERO

EXP	-5.0	FEET	ATTB	20.3	FEET
CALU	29.2	FEET	DTT	-5.0	FEET
TDTP	6.7	FEET			

PARAMETERS

PARAMETER	VALUE	UNIT
PP - Playback Processing	NORM	
DO - Depth Offset for Logical Unit LI1	-2.00000	F
WMUD - Weight of Mud	8.50000	LB/G
TD - Total Depth	2000.00	F
MOT - Minitron On Time	33.0000	HR
DFPC - Depth Filter Processing Constant	2	
RGAI - Ratio Gain	1.00000	
BGAS - Formation Volume Factor of Gas	650.000	CPS
STBY - OXYGEN ACTIVATION NEUTRON PULSE OFF TIME	60.0000	S
PULS - North Pulse or Mark	10.0000	S
CWEI - Casing Weight	15.5000	LB/F
GTSE - Generalized Temperature Selection	HPT	
SHT - Surface Hole Temperature	80.0000	DEGF
BHT - Bottom Hole Temperature	95.0000	DEGF

NCJT	NGT Calibration Jig Type	GSRE	
FCHD	Flag for Cased Hole Diameter	CSID	
PTHR	Positive Spinner Threshold	10.0000	F/MN
NTHR	Negative Spinner Threshold	-10.0000	F/MN
TIRA	Threshold Intercept Ratio	.500000	
VPCF	Velocity Profile Correction Factor	.830000	
DEVI	Hole Deviation	0.0	DEG
FDSH	Fluid Density Shift	0.0	G/C3
QIOP	Flow Interpretation Option	FLOW	
TCSH	Thru Tubing Caliper Shift	0.0	IN
MATR	Matrix	SAND	
BS	Bit Size	7.87500	IN
BHS	BoreHole Status (Open or Cased)	CASE	
CSIZ	Casing Size	5.50000	IN

Repeat Section

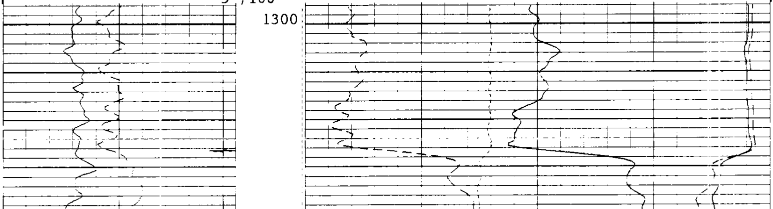
DATA ACQUIRED LOGGING UP

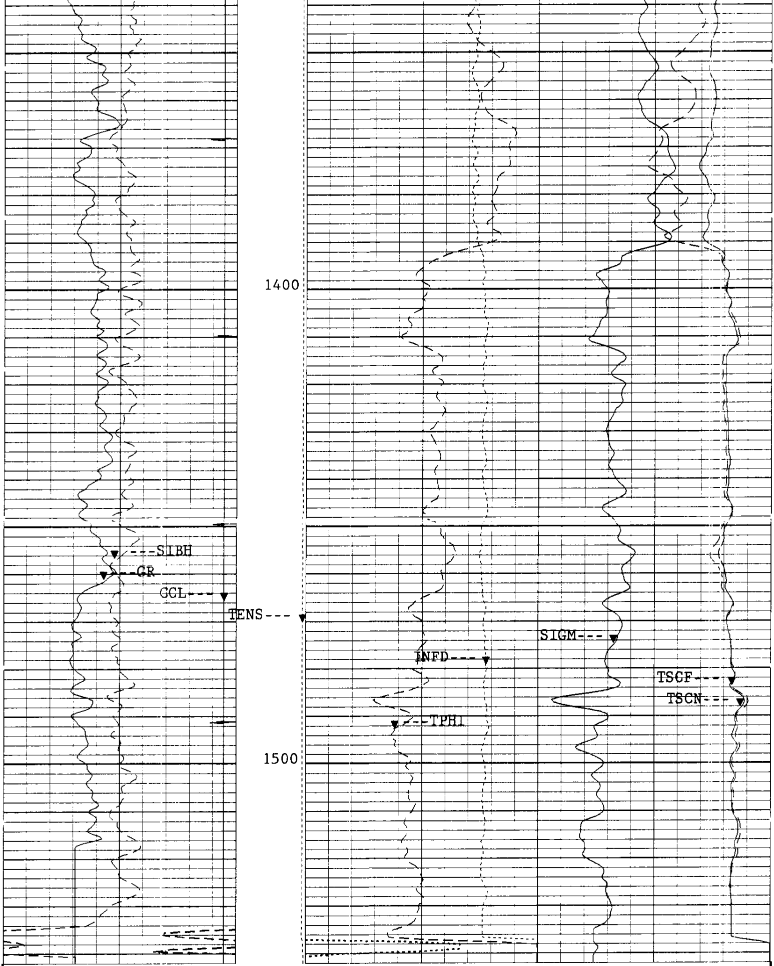
MINITRON "ON" TIME (MOT): 33.1392 HR

Curve	Left	Right
TENS(LBF)	10000.	0.0
SIBH(CU)	100.00	0.0
GR(GAPI)	0.0	150.00
CCL	-19.00	1.0000
INFD(CPS)	1500.0	0.0
TPHI	.60000	0.0
SIGM(CU)	60.000	0.0
TSCF(CPS)	12000.	0.0
TSCN(CPS)	30000.	0.0

CP 44.2 FILE 6 17-JAN-1996 10:09 (UP)

5"/100'





5"/100'

CP 44.2 FILE 6 17-JAN-1996 10:00 (UP)

Curve	Left	Right
TENS(LBF)	10000.	0.0
SIBH(CU)	100.00	0.0
GR(GAPI)	0.0	150.00
CCL	-19.00	1.0000
INFD(CPS)	1500.0	0.0
TPHI	.60000	0.0
SIGM(CU)	60.000	0.0
TSCF(CPS)	12000.	0.0
TSCN(CPS)	30000	0.0

SENSOR MEASURE POINT TO TOOL ZERO

EXP -5.0 FEET
CALU 29.2 FEET
TDTP 6.7 FEET

ATTB 20.3 FEET
DTT -5.0 FEET

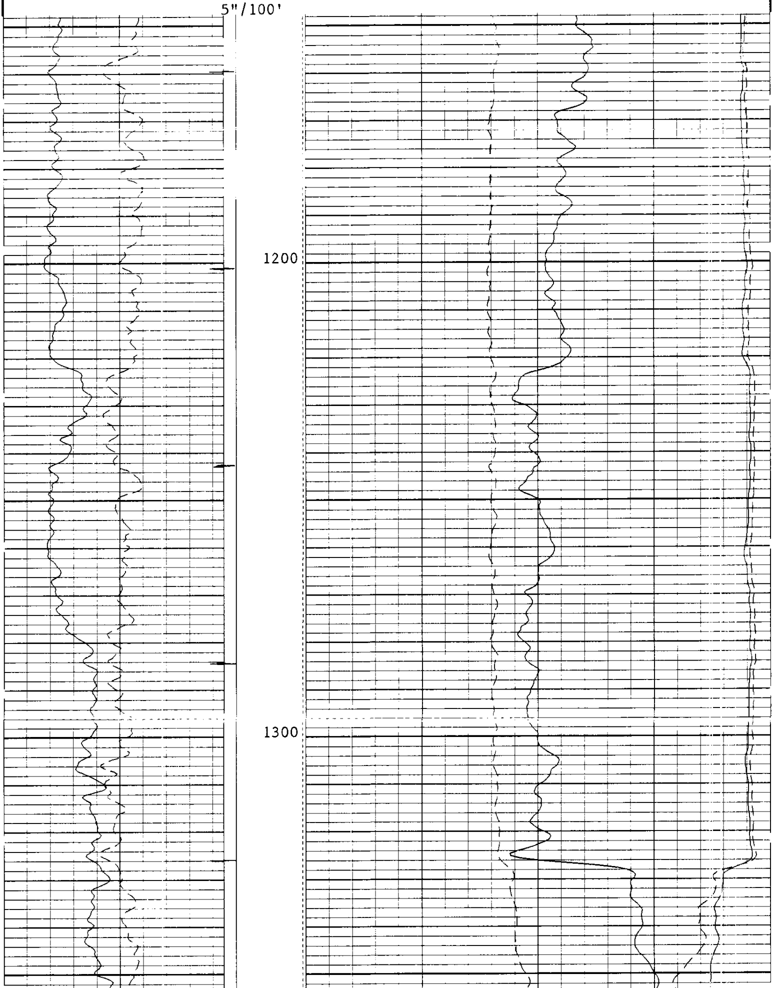
PARAMETERS

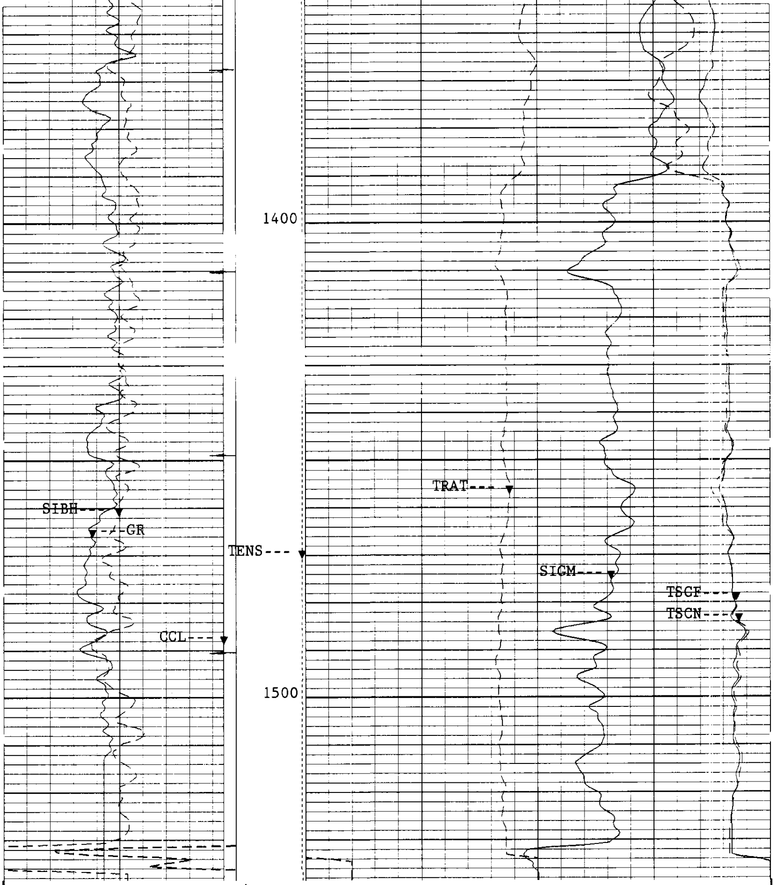
PARAMETER	VALUE	UNIT
WMUD - Weight of Mud	8.50000	LB/G
TD - Total Depth	2000.00	F
MOT - Minitron On Time	33.0000	HR
DFPC - Depth Filter Processing Constant	2	
RGAI - Ratio Gain	1.00000	
BGAS - Formation Volume Factor of Gas	650.000	CPS
STBY - OXYGEN ACTIVATION NEUTRON PULSE OFF TIME	60.0000	S
PULS - North Pulse or Mark	10.0000	S
CWEI - Casing Weight	15.5000	LB/F
GTSE - Generalized Temperature Selection	HPT	
SHT - Surface Hole Temperature	80.0000	DEGF
BHT - Bottom Hole Temperature	95.0000	DEGF
NCJT - NGT Calibration Jig Type	GSRE	
FCHD - Flag for Cased Hole Diameter	CSID	
PTHR - Positive Spinner Threshold	10.0000	F/MN
NTHR - Negative Spinner Threshold	-10.0000	F/MN
TIRA - Threshold Intercept Ratio	.500000	
VPCF - Velocity Profile Correction Factor	.830000	
DEVI - Hole Deviation	0.0	DEG
FDSH - Fluid Density Shift	0.0	G/C3
QIOP - Flow Interpretation Option	FLOW	
TCSH - Thru Tubing Caliper Shift	0.0	IN
MATR - Matrix	SAND	
BS - Bit Size	7.87500	IN
BHS - BoreHole Status (Open or Cased)	CASE	
CSIZ - Casing Size	5.50000	IN

Curve	Left	Right
TENS(LBF)	10000.	0.0
SIBH(CU)	100.00	0.0
GR(GAPI)	0.0	150.00
CCL	-19.00	1.0000
TRAT	6.0000	1.0000
SIGM(CU)	60.000	0.0
TSCF(CPS)	12000.	0.0
TSCN(CPS)	30000.	0.0

CP 44.2 FILE 9 17-JAN-1996 11:00

INPUT FILE(S) CREATION DATE
7 17-JAN-1996 10:09





5"/100'

CP 44.2 FILE 9 17-JAN-1996 10:59

INPUT FILE(S) CREATION DATE
7 17-JAN-1996 10:09

	TENS(LBF) 10000. 0.0		
SIBH(CU) 100.00 0.0			TSCF(CPS) 12000. 0.0
GR(GAPI) 0.0 150.00		TRAT 6.0000 1.0000	TSCN(CPS) 30000. 0.0
CCL -19.00 1.0000		SIGM(CU) 60.000	0.0

SENSOR MEASURE POINT TO TOOL ZERO

EXP	-5.0	FEET	ATTB	20.3	FEET
CALU	29.2	FEET	DTT	-5.0	FEET
TDTP	6.7	FEET			

PARAMETERS

PARAMETER	VALUE	UNIT
PP - Playback Processing	NORM	
DO - Depth Offset for Logical Unit LI1	-2.00000	F
WMUD - Weight of Mud	8.50000	LB/G
TD - Total Depth	2000.00	F
MOT - Minitron On Time	33.7126	HR
DFPC - Depth Filter Processing Constant	2	
RGAI - Ratio Gain	1.00000	
BGAS - Formation Volume Factor of Gas	650.000	CPS
STBY - OXYGEN ACTIVATION NEUTRON PULSE OFF TIME	60.0000	S
PULS - North Pulse or Mark	10.0000	S
CWEI - Casing Weight	15.5000	LB/F
GTSE - Generalized Temperature Selection	HPT	
SHT - Surface Hole Temperature	80.0000	DEGF
BHT - Bottom Hole Temperature	95.0000	DEGF
NCJT - NGT Calibration Jig Type	GSRE	
FCHD - Flag for Cased Hole Diameter	CSID	
PTHR - Positive Spinner Threshold	10.0000	F/MN
NTHR - Negative Spinner Threshold	-10.0000	F/MN
TIRA - Threshold Intercept Ratio	.500000	
VPCF - Velocity Profile Correction Factor	.830000	
DEVI - Hole Deviation	0.0	DEG
FDSH - Fluid Density Shift	0.0	G/C3
QIOP - Flow Interpretation Option	FLOW	
TCSH - Thru Tubing Caliper Shift	0.0	IN
MATR - Matrix	SAND	
BS - Bit Size	7.87500	IN
BHS - BoreHole Status (Open or Cased)	CASE	
CSIZ - Casing Size	5.50000	IN

COMPANY	Oregon Natural Gas			**SCHL.**	**FR**	1534.0 F
				SCHL.	**TD**	1541.0 F
WELL	Columbia County #23-22			**DRLR.**	**TD**	1530.0 F
				Elev:	**KB**	577.2 F
FIELD	Mist				**DF**	
COUNTY	Columbia	**STATE**	Oregon		**GL**	565.8 F

Schlumberger

Dual Burst
Thermal Decay Time Log