Schlumberger

DUAL AXIS CALIPER BOREHOLE PROFILE LOG

COUNTY	DESCHUTES
FIELD	NEWBERRY KGRA
LOCATION	400' E & 1500'S OF NW CORNER SEC. 21
WELL	NEWBERRY 23-22
COMPANY	C. E. EXPLORATION

COMPANY C. E. EXPLORATION

WELL NEWBERRY 23-22

FIELD NEWBERRY KGRA

COUNTY DESCHUTES **STATE** OREGON

LOCATION 400' E & 1500'S OF NW CORNER SEC. 21

Other Services: SHDT-GR

API SERIAL NO.	SECT.	TWP.	RANGE
N/A	21	21 S	12 E

Permanent Datum GROUND LEVEL **Elev.** 6365.1 F
Log Measured From KELLY BUSHING 30.0 F **above Perm. Datum**
Drilling Measured From KELLY BUSHING

Elev.: K.B.6395.1 F
D.F.6394.1 F
G.L.6365.1 F

Date		11-DEC-1995			
Run No.		ONE			
Depth Driller		9602.0 F			
Depth Logger (Schl.)		9100.0 F			
Btm. Log Interval		9100.0 F			
Top Log Interval		4410.0 F			
Casing-Driller		13 3/8"	@ 4418.0 F	@	@
Casing-Logger		4410.0 F			
Bit Size		12 1/4"	@	@	@
Type Fluid in Hole		LSND			
Dens.	**Visc.**	8.90 LB/G	37.0 S		
pH	**Fld. Loss**	10.0	11.8 C3		
Source of Sample		FLOWLINE			
Rm @ Meas. Temp.		2.450 OHMM	@ 62.0 DEGF	@	
Rmf @ Meas. Temp.		2.200 OHMM	@ 61.0 DEGF	@	
Rmc @ Meas. Temp.		3.340 OHMM	@ 64.0 DEGF	@	
Source: Rmf	**Rmc**	MEASURED	MEASURED		
Rm @ BHT		.441 OHMM	@ 376. DEGF	@	
TIME	**Circulation Ended**	03:30 11-DEC-1995			
TIME	**Logger on Bottom**	11-DEC-1995 15:22			
Max. Rec. Temp.		376. DEGF			
Equip.	**Location**	8357	LONG BEACH		
Recorded By		G. TRACY			
Witnessed By		FRED PULKA			

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 willful 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.	624590		
Drilling Fluid Level	0.0 F		
Salinity	400.0 PPM		
Rmf @ BHT	.391 OHMM	@ 376. DEGF	@
Rmc @ BHT	.619 OHMM	@ 376. DEGF	@
Logging Speed	1600.0 F/HR		

EQUIPMENT DATA

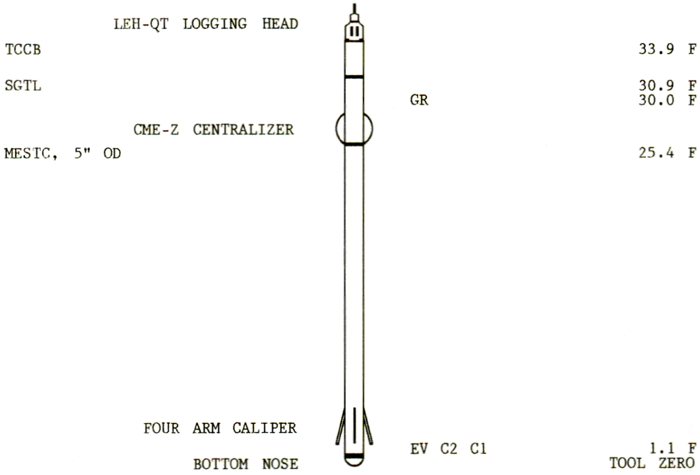
Tool Number 1	MESTC	
Tool Number 2	GPIT	
Tool Number 3	SGTL	
Tool Number 4	TCCB	
Tool Number 5	SHDT	
Tool Number 6		
Tool Number 7		
Tool Number 8		
Tool Number 9		
Tool Number 10		
Tool Number 11		
Tool Number 12		

REMARKS:

FMS QUIT WORKING CORRECTLY DUE TO HIGH BOREHOLE
TEMPERATURE. DIPMETER RUN FROM 5700' TO CASING.
DIPMETER PAD 2 MAY BE FLOATING FROM 5430' TO 5340'.
LOG CORRELATED TO HLS DIRECTIONAL RUN 11/4/95.

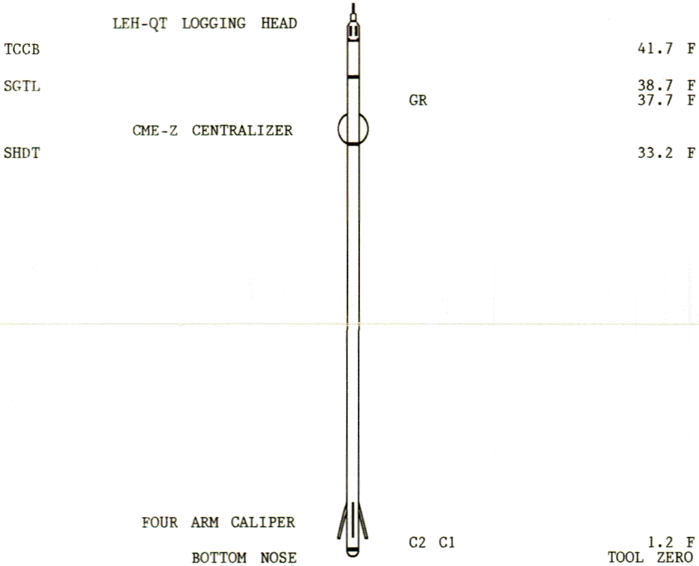
CREW: RAY & SAULSBERRY

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 37.4 F.
TOTAL TOOL STRING WEIGHT IS 594. LB IN AIR.

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 45.2 F.
TOTAL TOOL STRING WEIGHT IS 592. LB IN AIR.

```
FILES SPLICED        SPLICE DEPTH

5  TO 6                6649.0 F
6  TO 14               5329.0 F
```

```
SPEED CORRECTION NOT APPLIED
```

```
ACCUMULATED INTEGRATION VALUES SUMMARY:

Integrated Hole Volume:    1060.00 F3    FROM 9102.50 F    TO 4418.00 F
Integrated Cement Volume: 410.250 F3    FROM 9102.50 F    TO 4418.00 F
  (ASSUMING 9.62500 IN   O.D. CASING)
```

```
EVENT MARK SUMMARY:

OUTPUT                          INTERVAL        DEPTH TRACK
                                BETWEEN PIPS    EDGE

Integrated Hole Volume          10.0000 F3      LEFT EDGE
Integrated Cement Volume        10.0000 F3      RIGHT EDGE
```

Curve	Left	Right
DEVI(DEG)	0.0	50.000
AZIM(DEG)	-40.00	360.00
P1AZ(DEG)	-40.00	360.00
C1(IN)	10.000	20.000
BS(IN)	10.000	20.000
GR(GAPI)	0.0	150.00

Curve	Left	Right
BS(IN)	20.000	0.0
C1(IN)	20.000	0.0
FCD(IN)	20.000	0.0

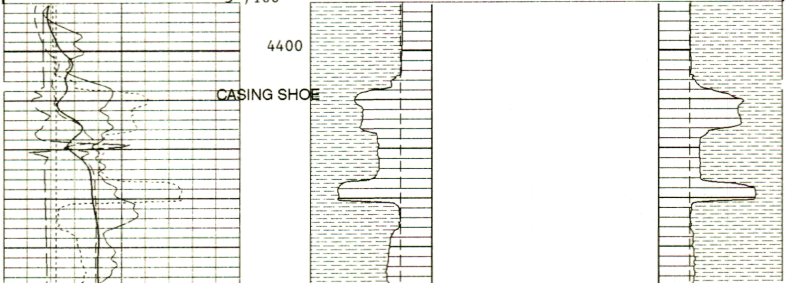
Curve	Left	Right
BS(IN)	0.0	20.000
C2(IN)	0.0	20.000
FCD(IN)	0.0	20.000

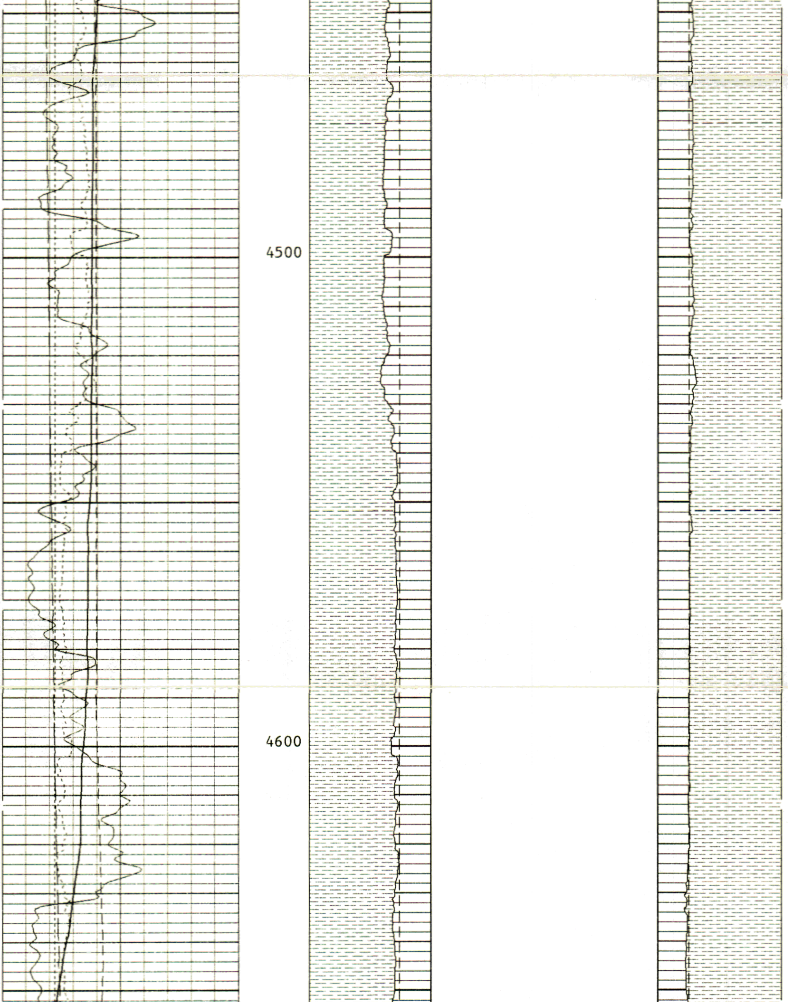
CASING	▨ FORMATION
▨ FORMATION	CASING

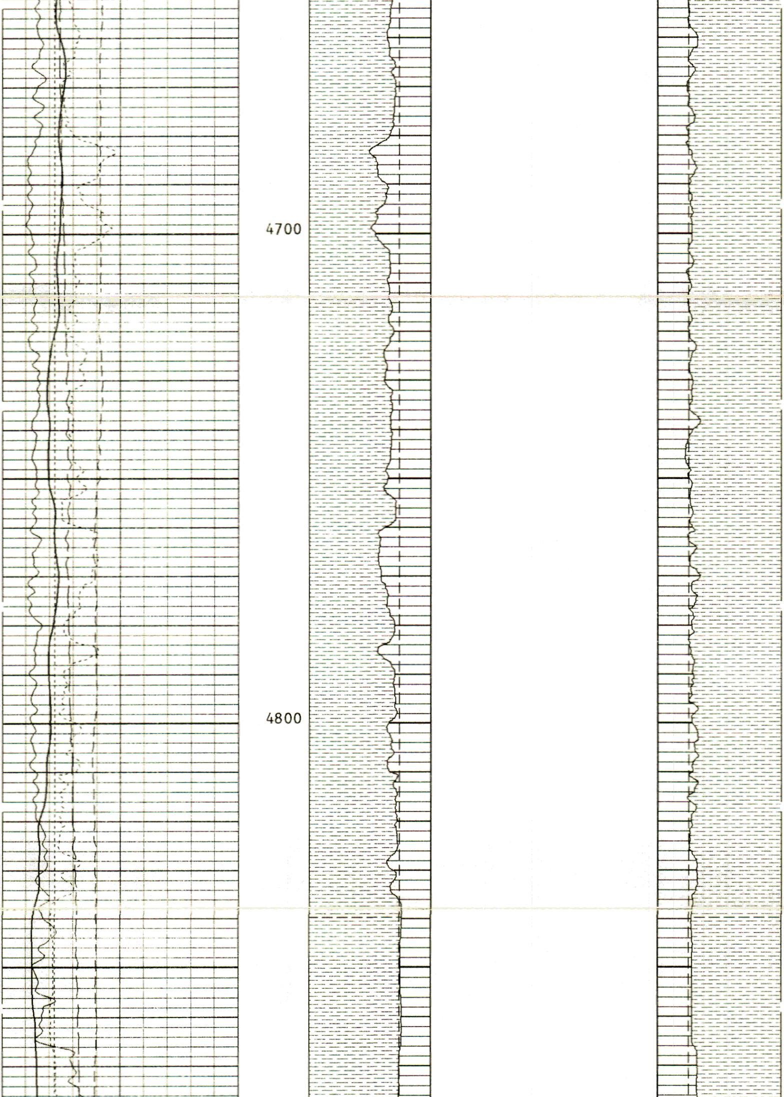
```
CP 41.004        FILE    20         12-DEC-1995 00:33

                 INPUT FILE(S)      CREATION DATE
                    14              11-DEC-1995 21:09
```

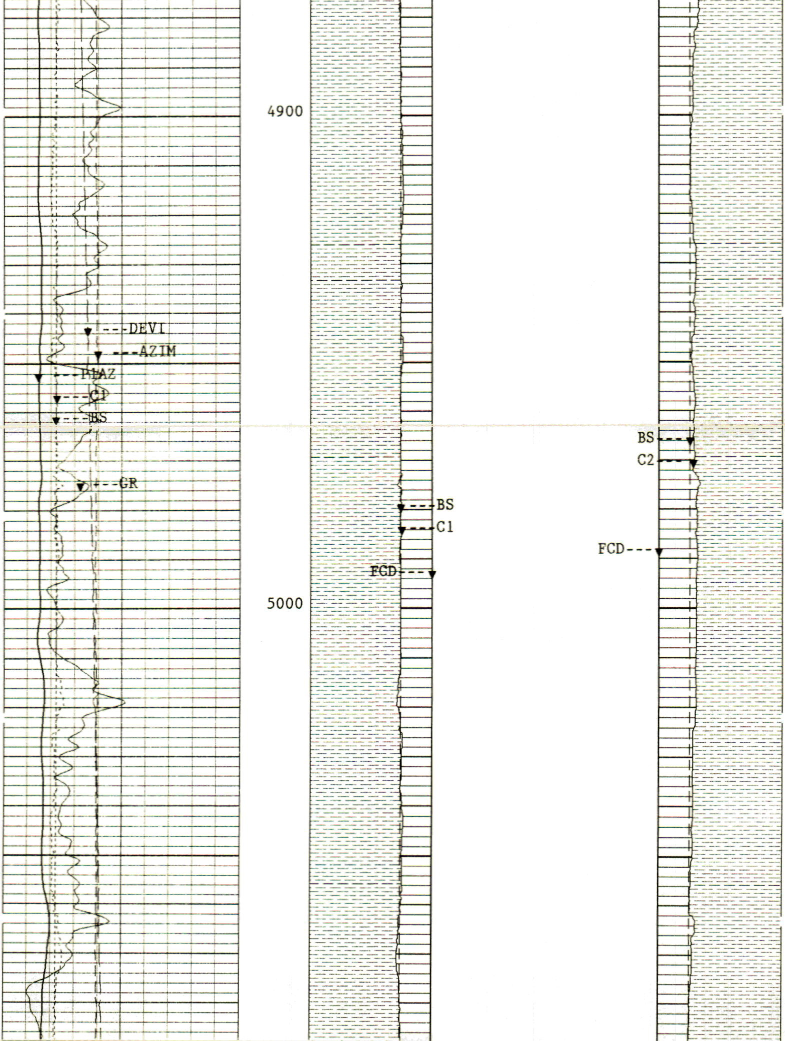
BOREHOLE PROFILE LOG

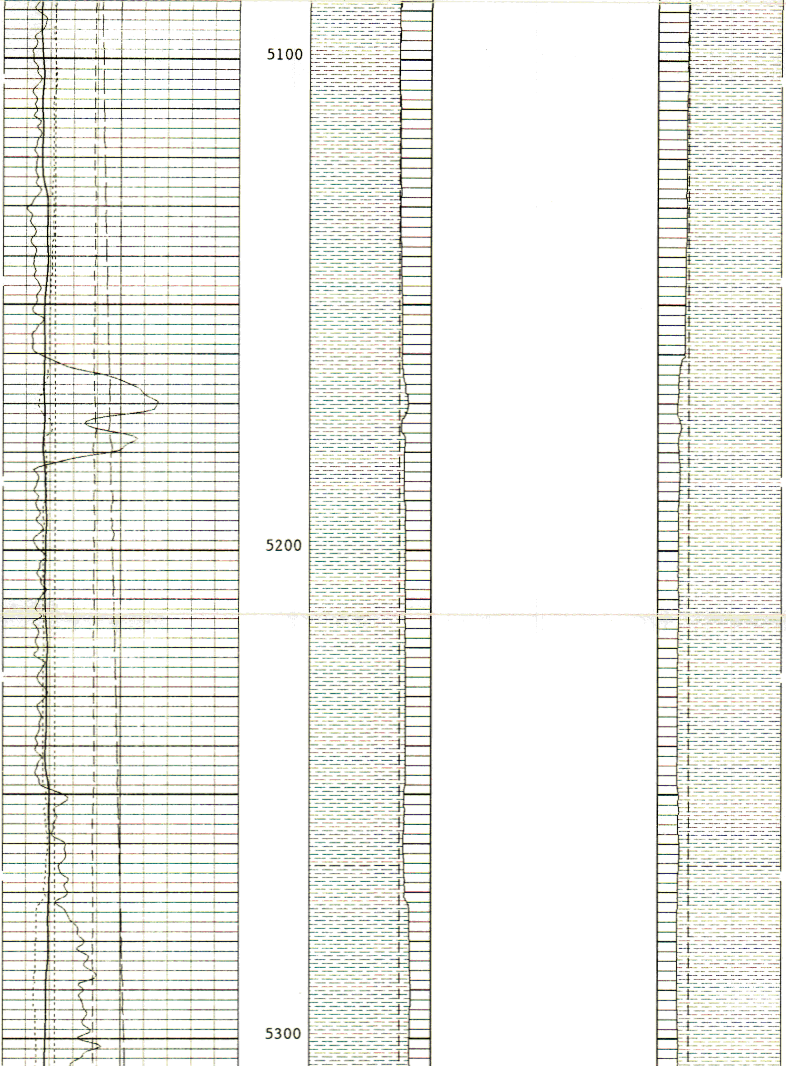
5"/100'

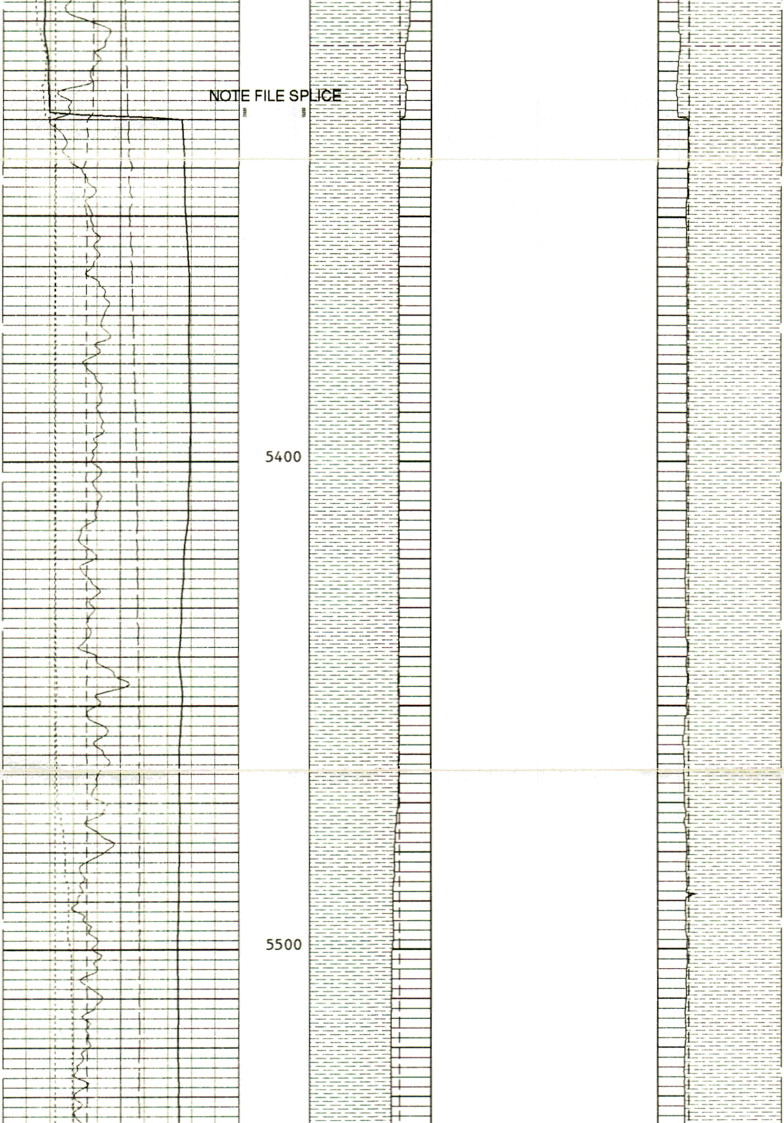


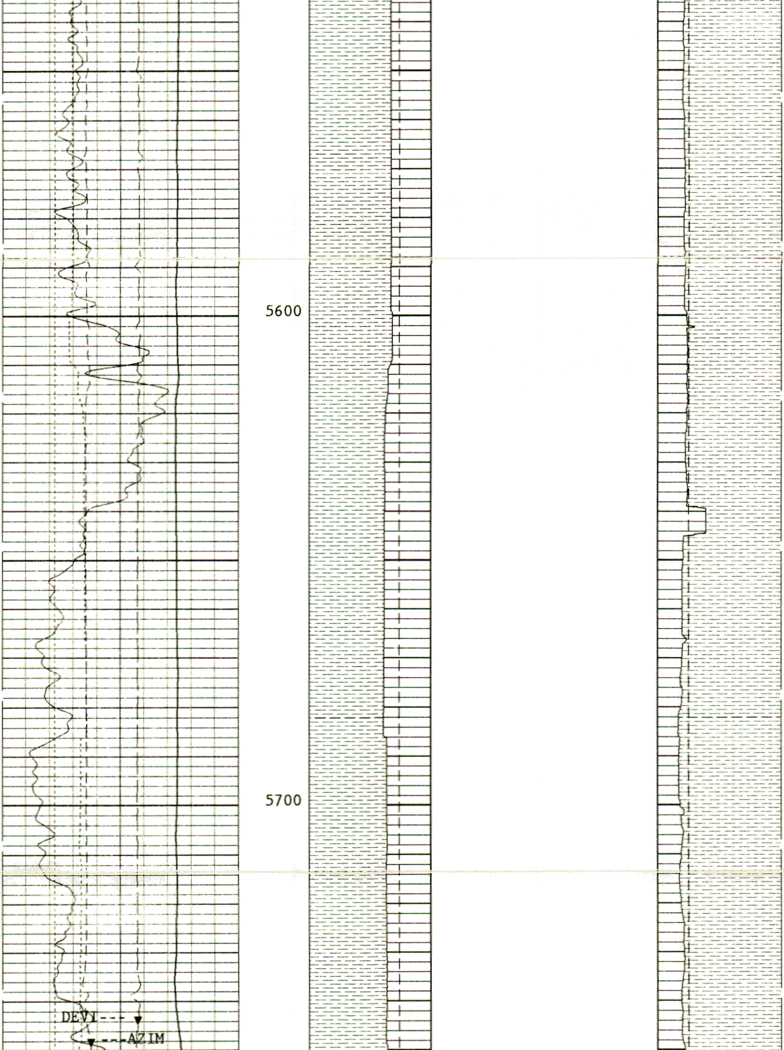


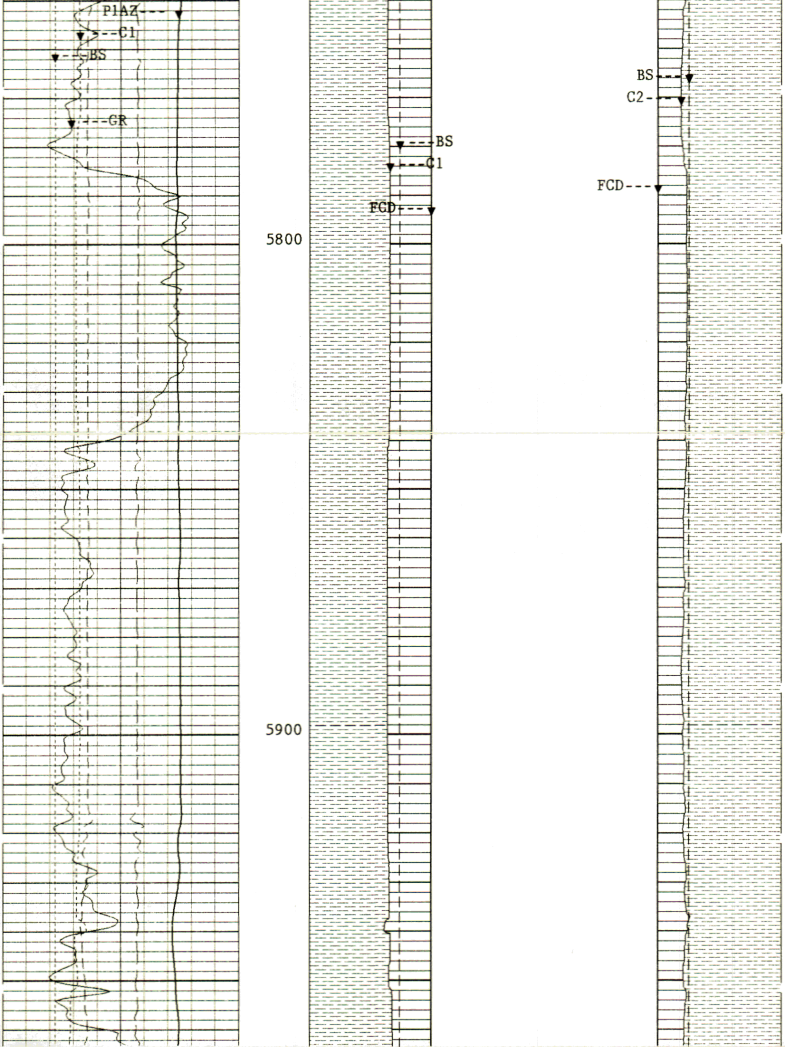


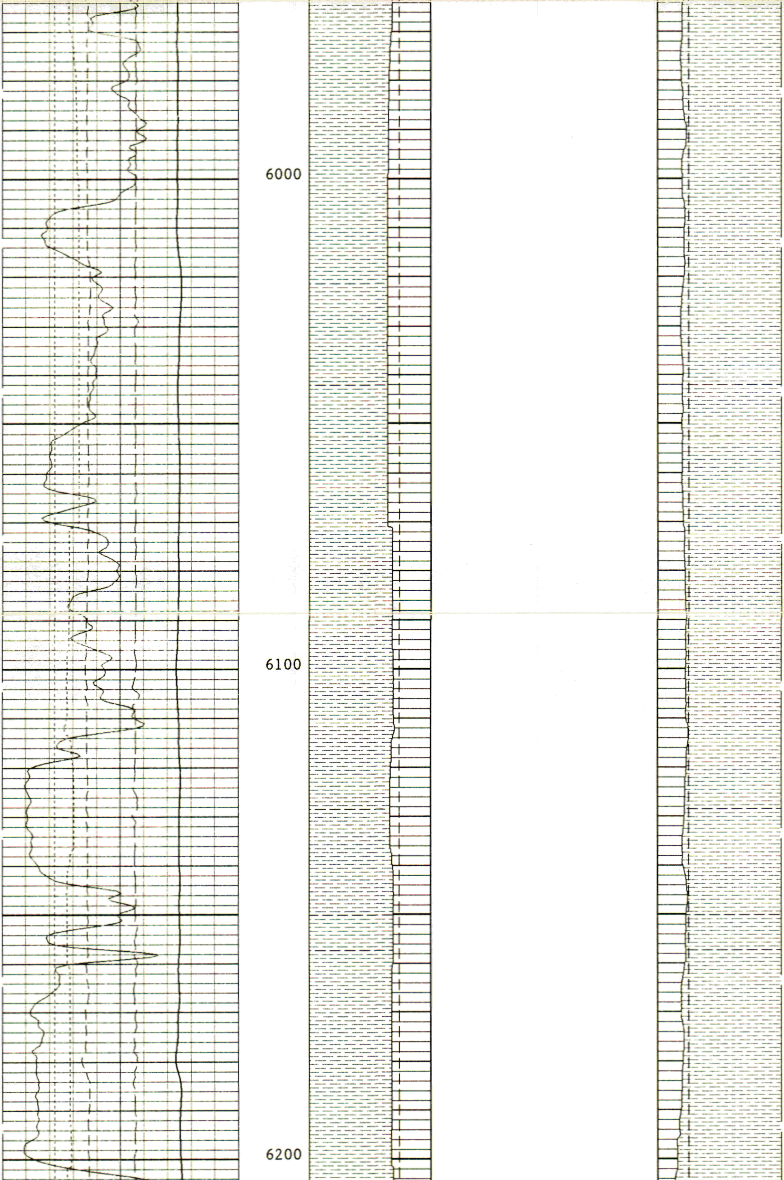


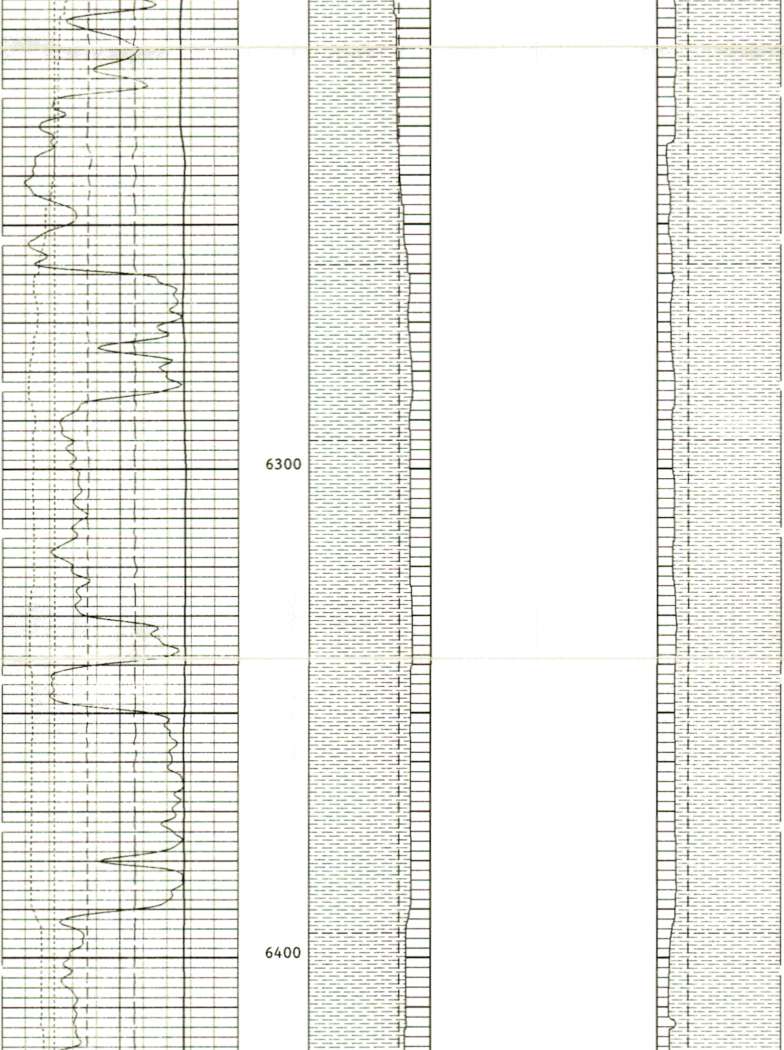


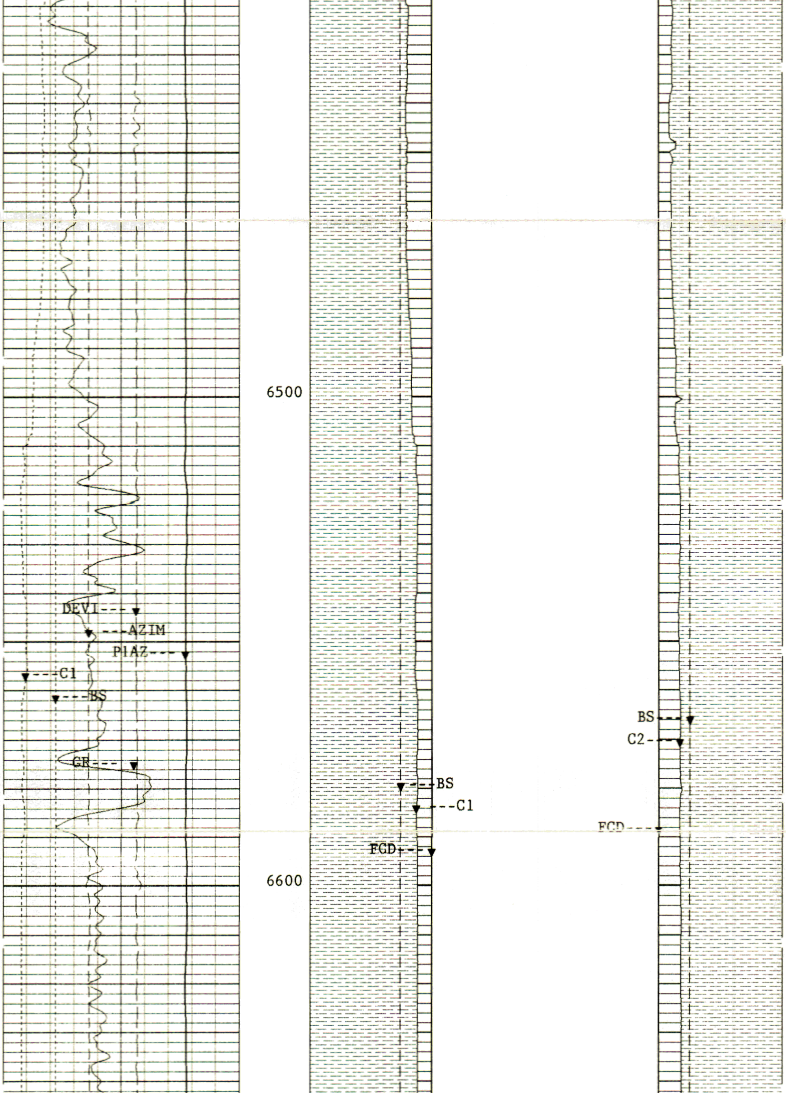


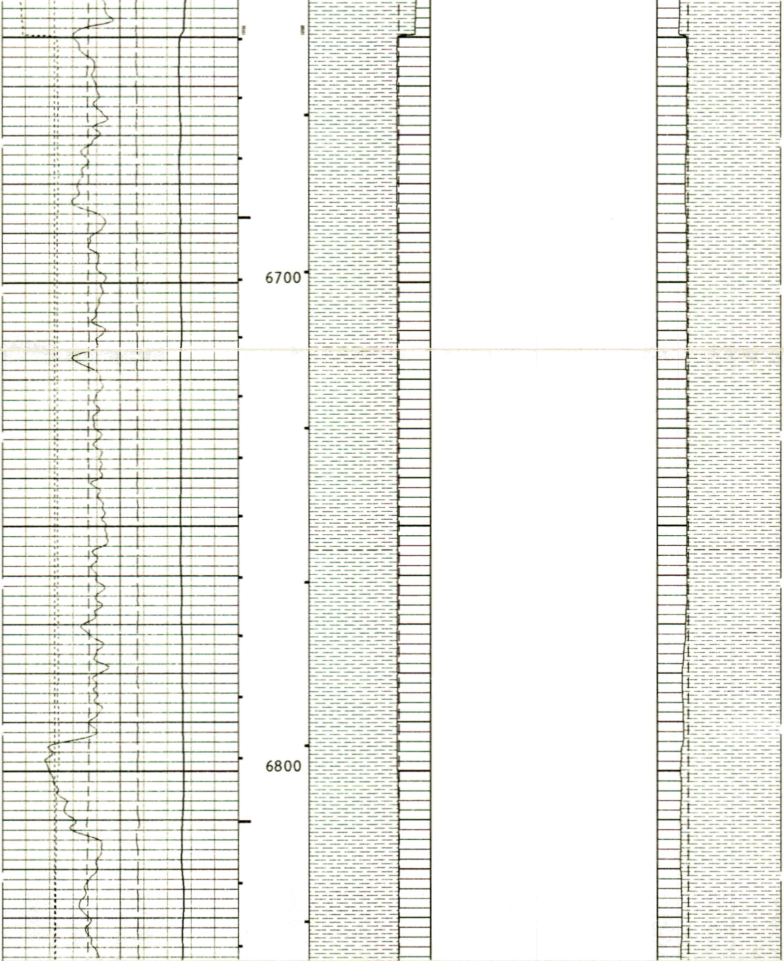


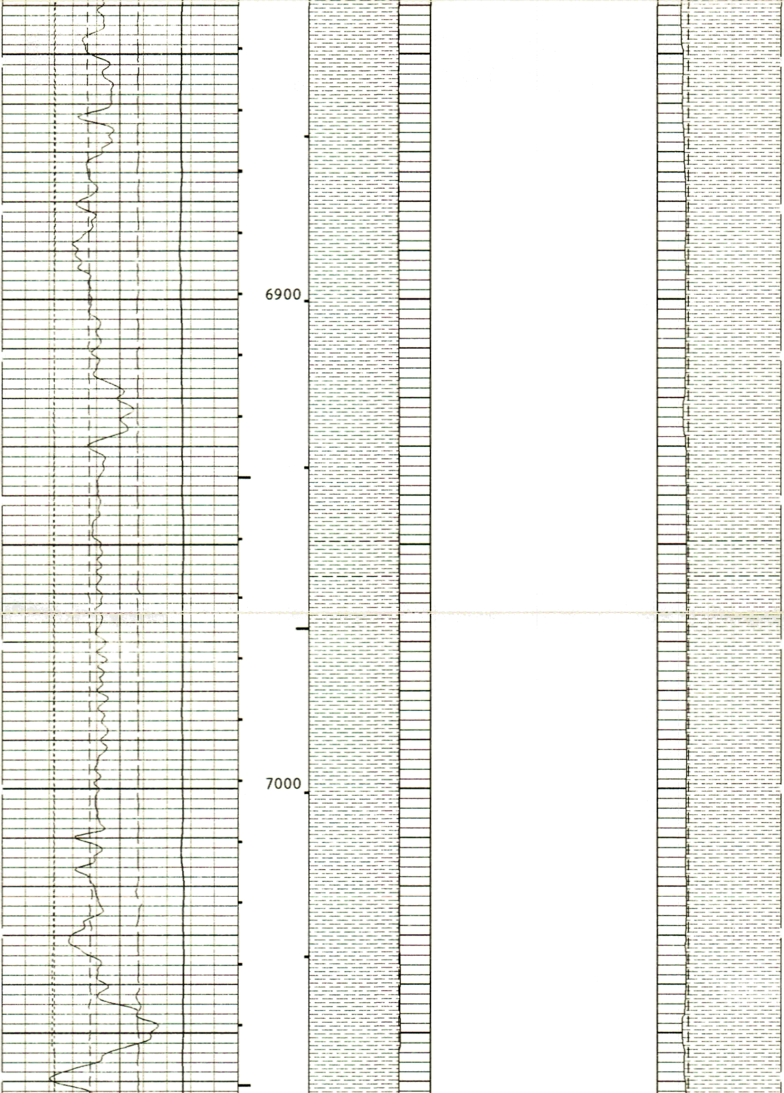


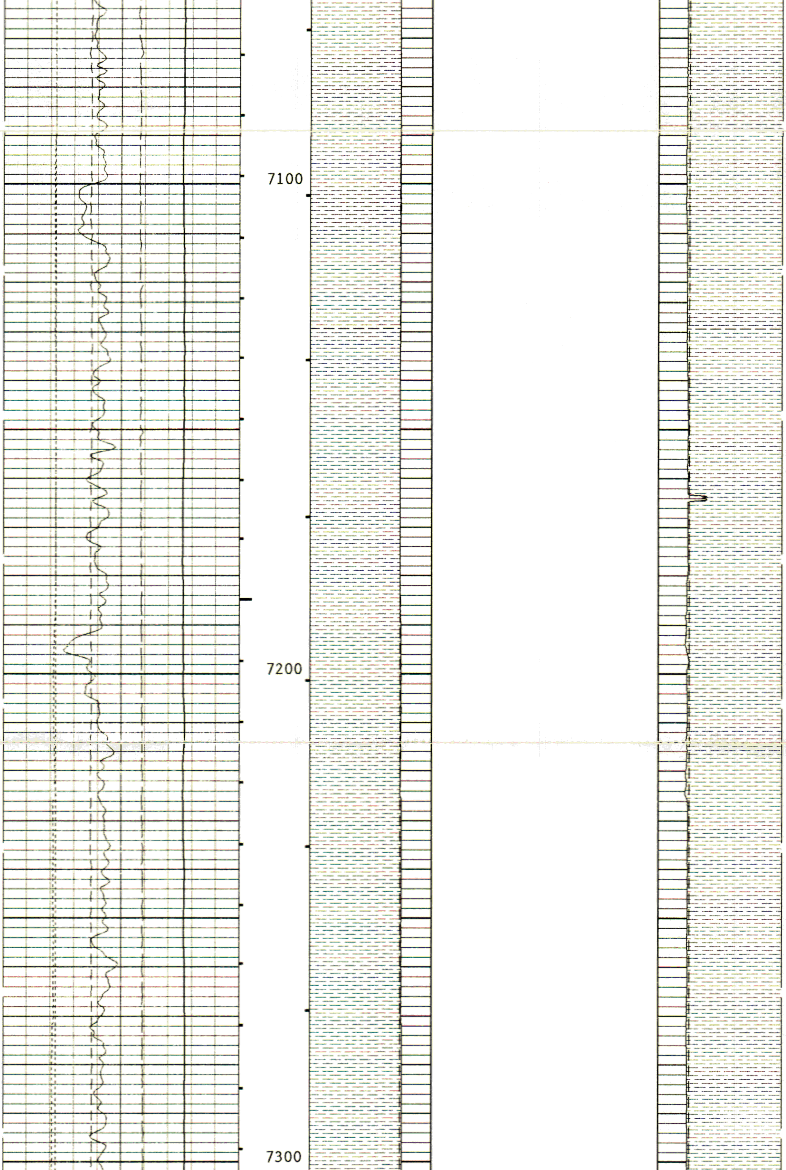


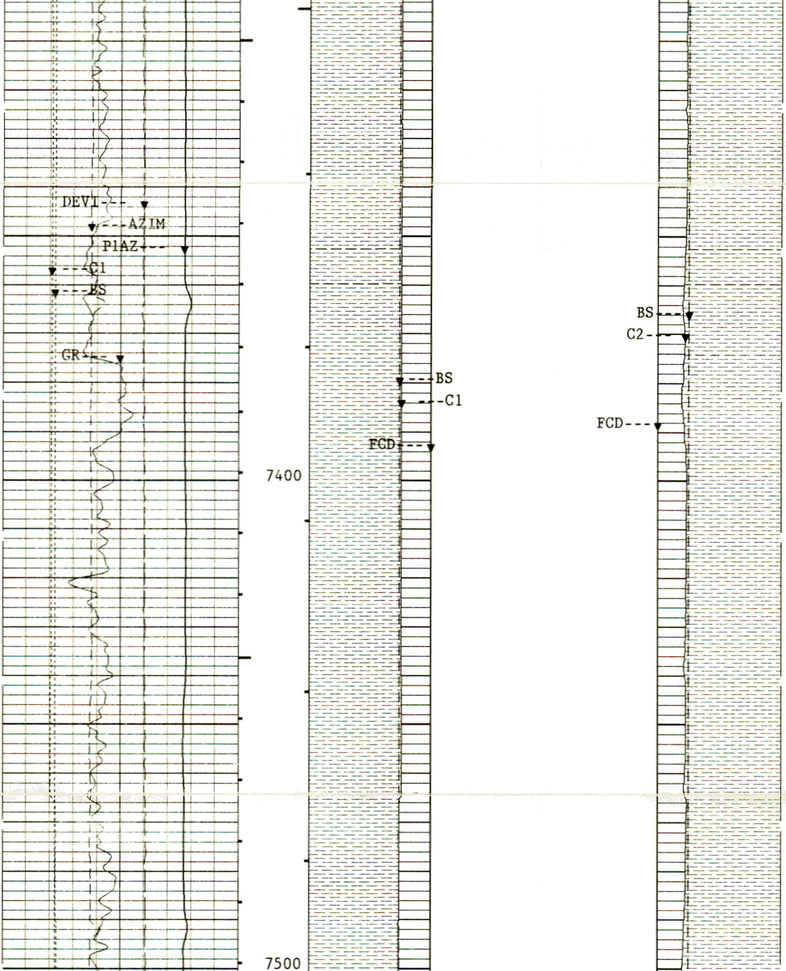


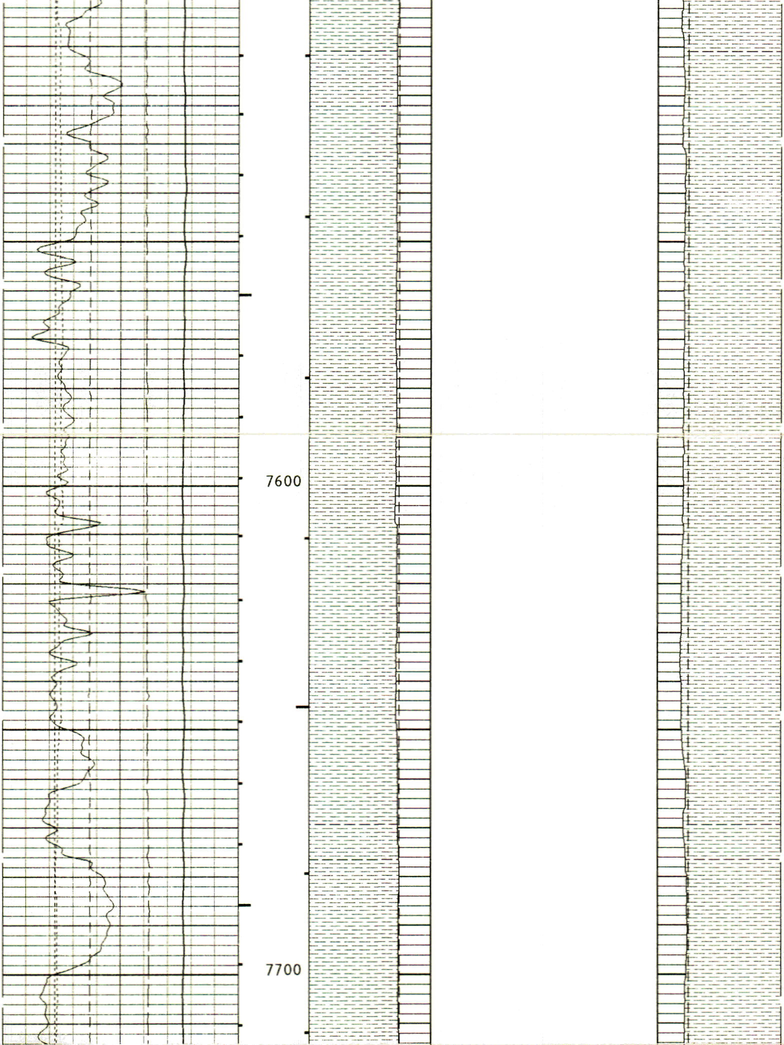


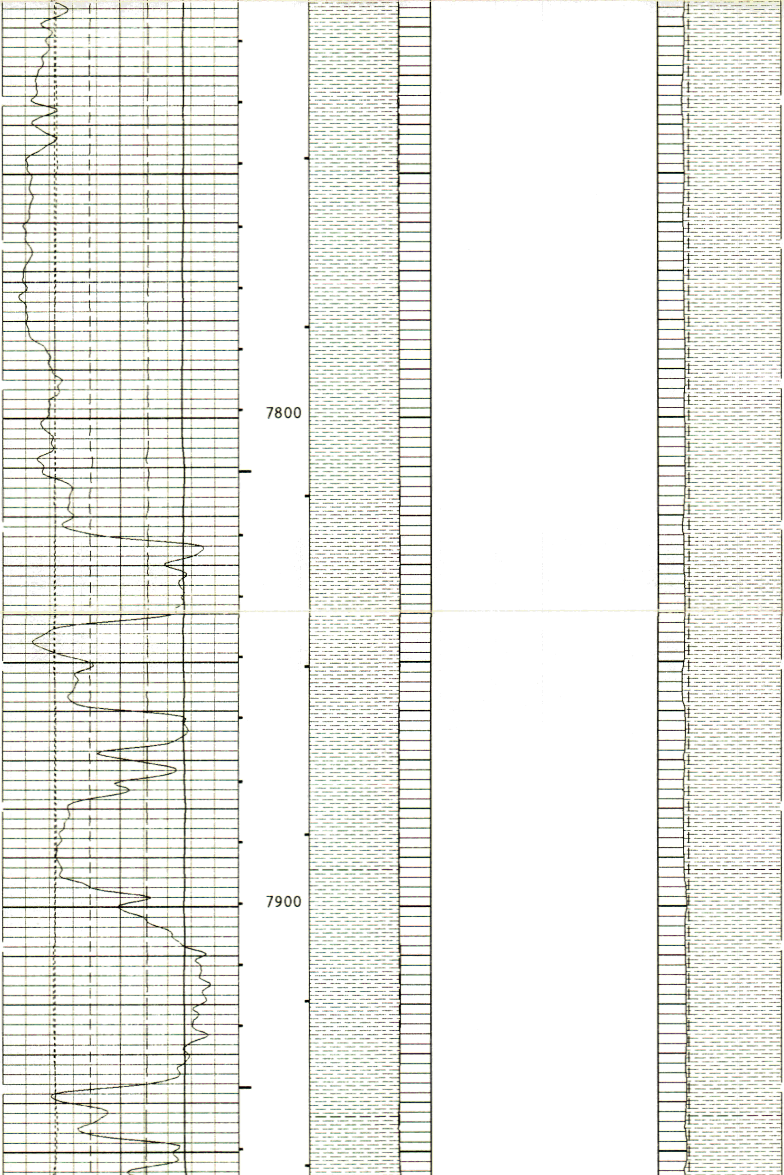


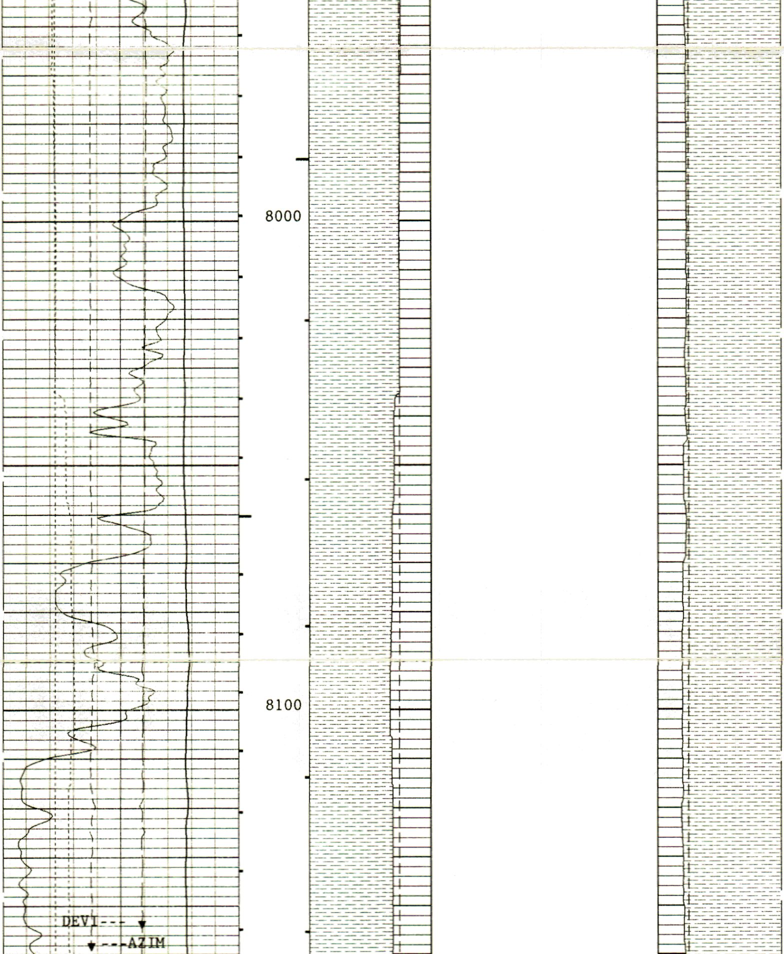


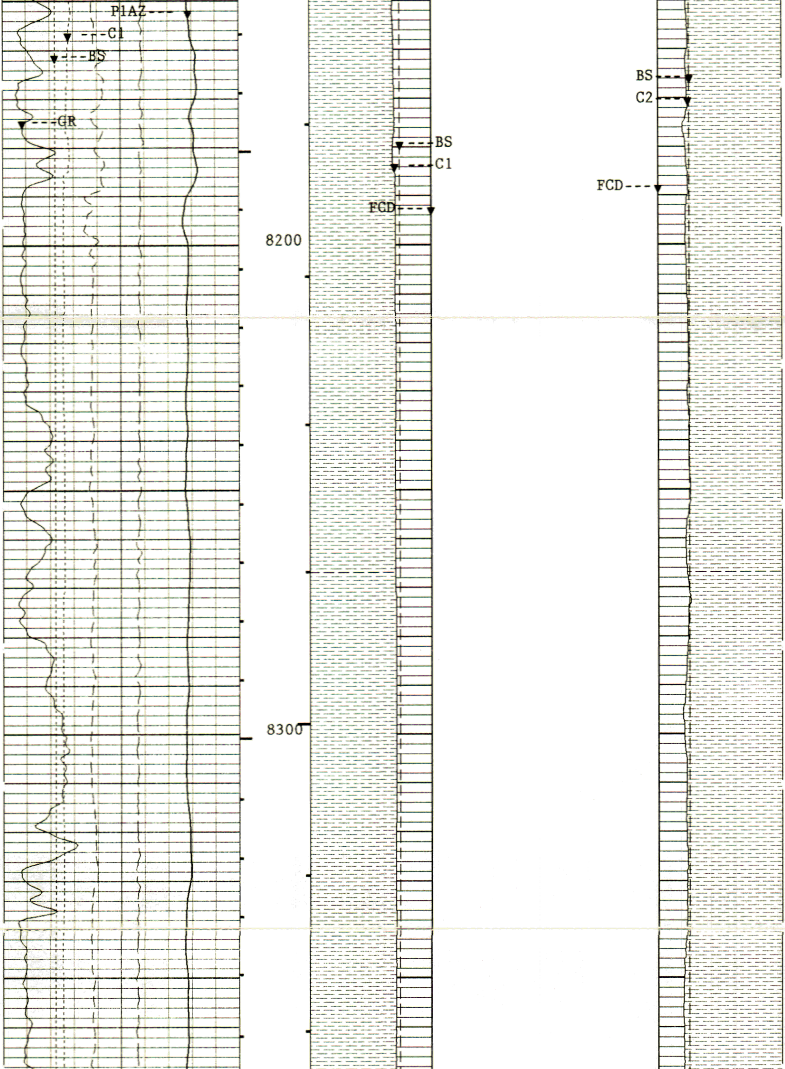


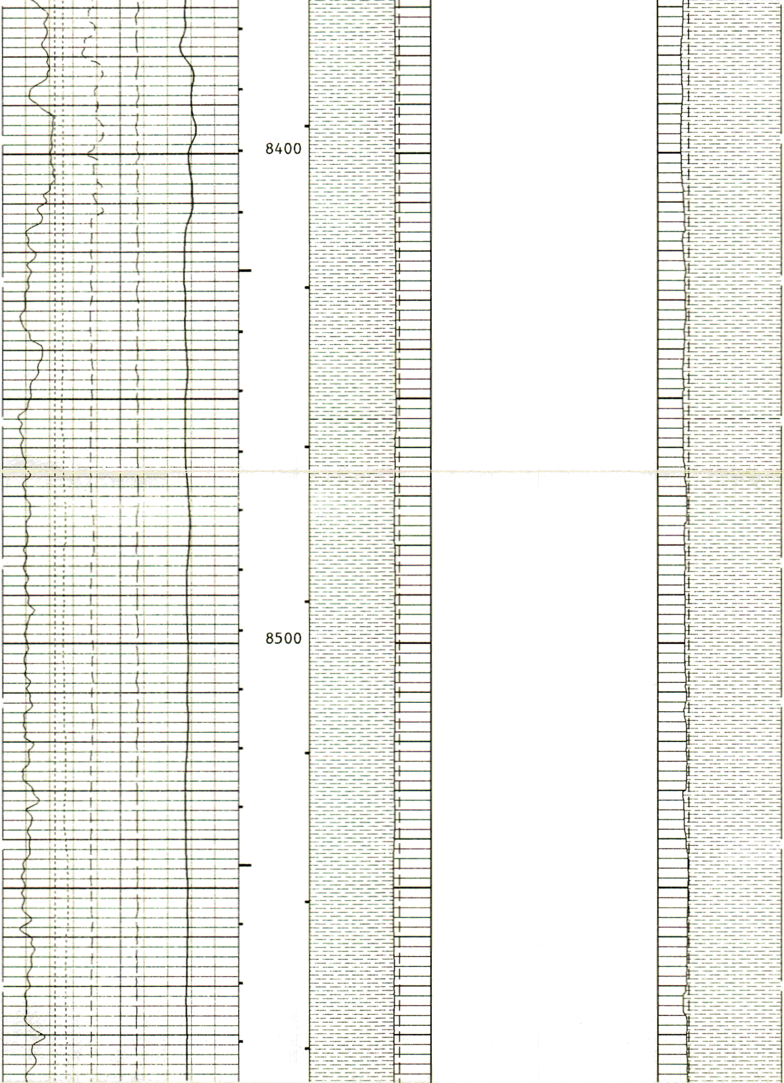


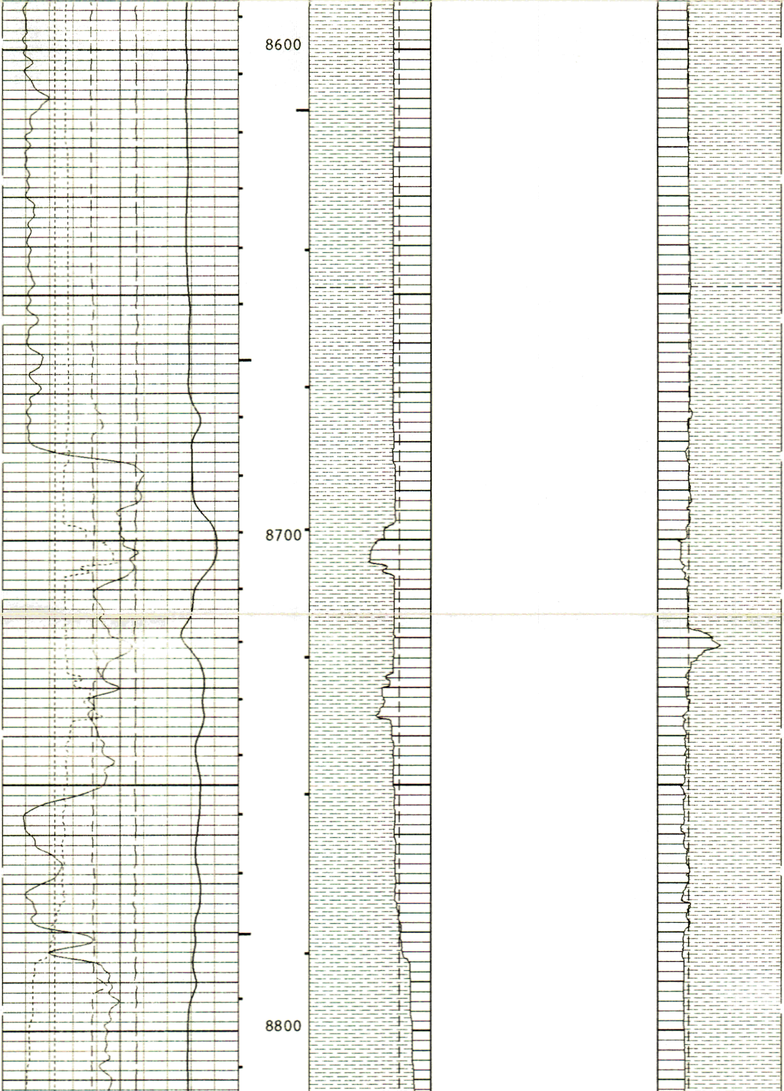


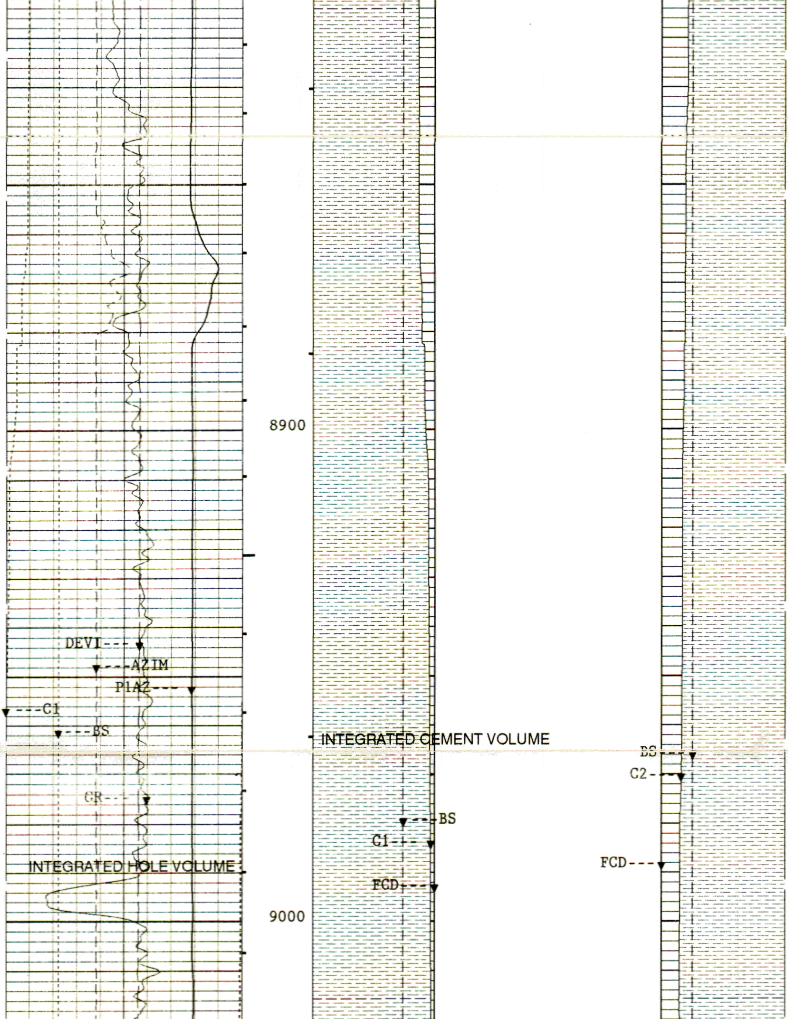


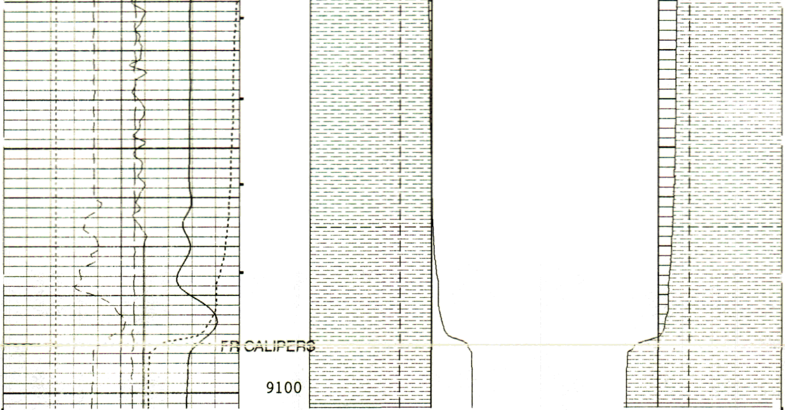












5"/100'

CP 41.004

FILE 20

11-DEC-1995 23:47

INPUT FILE(S)
5

CREATION DATE
11-DEC-1995 15:38

BOREHOLE PROFILE LOG

CASING	FORMATION
FORMATION	CASING

DEVI(DEG)
0.0 50.000
AZIM(DEG)
-40.00 360.00
P1AZ(DEG)
-40.00 360.00
C1(IN)
10.000 20.000
BS(IN)
10.000 20.000
GR(GAPI)
0.0 150.00

BS(IN)
20.000 0.0
C1(IN)
20.000 0.0
FCD(IN)
20.000 0.0

BS(IN)
0.0 20.000
C2(IN)
0.0 20.000
FCD(IN)
0.0 20.000

SENSOR MEASURE POINT TO TOOL ZERO

TENS	-2.9	FEET	GR	30.0	FEET
C2	1.1	FEET	C1	1.1	FEET
MRPD	1.1	FEET	MDRB	1.1	FEET
MRPB	1.1	FEET	MRPC	1.1	FEET
AX	1.1	FEET	MRPA	1.1	FEET
AZ	1.1	FEET	AY	1.1	FEET
FY	1.1	FEET	FX	1.1	FEET
FCAX	1.1	FEET	FZ	1.1	FEET
FCAZ	1.1	FEET	FCAY	1.1	FEET
FTIM	1.1	FEET			

```
                          PARAMETERS

     NAME   VALUE        UNIT                  NAME   VALUE       UNIT

     PADT  .500000       DEG                   PP     OFF
     DO     0.0          F                     NCJT  GSRY
     FCSR  0.1"                                AFMO  HAMM
     ICMO  AUTO                                MDEC  17.5760      DEG
     GLM   DIPM                                ICSD  -50000.0     F
     RBS   AUTO                                PTYP  MEC
     MLM   1800                                SOFF  -1.00000     IN
     CSR   .6"                                 ODFO  LIS
     XMOD  AUTO                                XGAI  3
     XOFF  0                                   FCD   9.62500      IN
     SPCR  DISA                                BS    12.2500      IN
     BHS   OPEN
```

```
            BEFORE SURVEY CALIBRATION SUMMARY


  PERFORMED:     11-DEC-1995 20:34
  PROGRAM FILE: TDIP    (VERSION    41.004   94/05/03   94/05/03)


SHDT            CALIPER CALIBRATION SUMMARY

          MEASURED                        CALIBRATED
        SMALL    LARGE                  SMALL      LARGE        UNITS
  C1     7.31    11.51                  8.00       12.00         IN
  C2     7.57    11.73                  8.00       12.00         IN

SMALL: 11-DEC-1995 20:30 LARGE: 11-DEC-1995 20:33 COMP: 11-DEC-1995 20:33


SGTL            DETECTOR CALIBRATION SUMMARY

          MEASURED
        BKGD     JIG          CALIBRATED          UNITS
  GR     22      177             165              GAPI

BACK: 10-DEC-1995 23:37   JIG: 10-DEC-1995 23:48   COMP: 10-DEC-1995 23:48

   CP 41.004          FILE    12        11-DEC-1995 20:33



            BEFORE SURVEY CALIBRATION SUMMARY


  PERFORMED:     11-DEC-1995 08:45
  PROGRAM FILE: TDIP    (VERSION    41.004   94/05/03   94/05/03)


SGTL            DETECTOR CALIBRATION SUMMARY

          MEASURED
        BKGD     JIG          CALIBRATED          UNITS
  GR     22      177             165              GAPI

BACK: 10-DEC-1995 23:37   JIG: 10-DEC-1995 23:48   COMP: 10-DEC-1995 23:48


GPIC            CALIBRATION SUMMARY
```

```
  MAGNETOMETER MANUFACTURER CODE:              3
  MAGNETOMETER SERIAL NUMBER:                 10
  MAGNETOMETER REFERENCE TEMPERATURE :        20.0  DEGC


 GPIC             CALIBRATION SUMMARY

  ACCELEROMETER MANUFACTURER CODE:              3
  ACCELEROMETER SERIAL NUMBER:                472
  ACCELEROMETER REFERENCE TEMPERATURE :        20.0  DEGC


 MEST             CALIBRATION SUMMARY

             MEASURED                     CALIBRATED
           SMALL   LARGE               SMALL     LARGE       UNITS
     C1    8.65    12.72               8.00      12.00        IN
     C2    8.45    12.38               8.00      12.00        IN

 SMALL: 10-DEC-1995 23:41 LARGE: 10-DEC-1995 23:46 COMP: 10-DEC-1995 23:46

    CP 41.004         FILE     0       11-DEC-1995 08:45
```

COMPANY	C. E. EXPLORATION			**SCHL.**	**FR**	9100.0 F
				SCHL.	**TD**	9100.0 F
WELL	NEWBERRY 23-22			**DRLR.**	**TD**	9602.0 F
FIELD	NEWBERRY KGRA			**Elev:**	**KB**	6395.1 F
					DF	6394.1 F
COUNTY	DESCHUTES	**STATE**	OREGON		**GL**	6365.1 F

Schlumberger

DUAL AXIS CALIPER
BOREHOLE PROFILE LOG