Schlumberger

DUAL INDUCTION-SFL-SONIC

[illegible]

COUNTY	COLUMBIA
FIELD	MIST
LOCATION	1092'S AND 1965'E
WELL	"C.E.R." #11-16-64
COMPANY	NAHAMA & WEAGANT ENERGY C

COMPANY NAHAMA & WEAGANT ENERGY COMPAN

WELL "C.E.R." #11-16-64

FIELD MIST

COUNTY COLUMBIA **STATE** OREGON

LOCATION 1092'S AND 1965'E
FROM NW CORNER

Other Services:
DIL-BHC-GR
LDT-CNL-GR
SHDT

API SERIAL NO.	SECT.	TWP.	RANGE
	16	6N	4W

Permanent Datum	GL	Elev.	1448.0 F		Elev.: K.B.1460.0 F
Log Measured From	KB	11.5 F	above Perm. Datum		D.F.
Drilling Measured From	KB				G.L.1448.0 F

Date	10-OCT-90			
Run No.	ONE			
Depth Driller	2338.0 F			
Depth Logger (Schl.)	2338.0 F			
Btm. Log Interval	2332.0 F			
Top Log Interval	590.0 F			
Casing-Driller	8 5/8 @ 592.0 F		@	@
Casing-Logger	590.0 F			
Bit Size	7 7/8"			
Type Fluid in Hole	GEL POLYMER			
Dens. | Visc.	9.20 LB/G	47.0 S		
pH | Fld. Loss	8.0	4.8 C3		
Source of Sample	FLOWLINE			
Rm @ Meas. Temp.	4.390 OHMM @ 66.0 DEGF		@	
Rmf @ Meas. Temp.	5.700 OHMM @ 46.0 DEGF		@	
Rmc @ Meas. Temp.	5.100 OHMM @ 46.0 DEGF		@	
Source: Rmf | Rmc	MEASURED	MEASURED		
Rm @ BHT	3.601 OHMM @ 82.0 DEGF		@	
TIME Circulation Ended	07:00 10-10			
TIME Logger on Bottom	10:00 10-10			
Max. Rec. Temp.	82.0 DEGF			
Equip. | Location	8504	SACRAMENTO		
Recorded By	SCOTT PILCH / JOHN LOPEZ			
Witnessed By	VAUGHAN, PARKER (SEE REMARKS)			

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.	560669	
Drilling Fluid Level	5.0 F	
Salinity	500.0 PPM	
Rmf @ BHT	3.394 OHMM @ 82.0 DEGF	@
Rmc @ BHT	3.037 OHMM @ 82.0 DEGF	@
Logging Speed	3600.0 F/HR	
EQUIPMENT DATA		
Tool Number 1	DIS-EC 2179	
Tool Number 2	DIC-DA 1078	
Tool Number 3	SLS-RC 1325	
Tool Number 4	SLC-FA 1321	
Tool Number 5	MCD-DA 1237	
Tool Number 6	SGC-JC 3206	
Tool Number 7	IEM-BD 232	
Tool Number 8	SLM-DA 428	
Tool Number 9	NLM-BC 418	
Tool Number 10		
Tool Number 11		
Tool Number 12		

REMARKS:

1.5 INCH STANDOFF ON DIL

SONIC CENTRALIZED WITH CME-Z'S.

WITNESSED BY: J. VAUGHAN, D. PARKER

T. THOMAS, M. CHALMERS

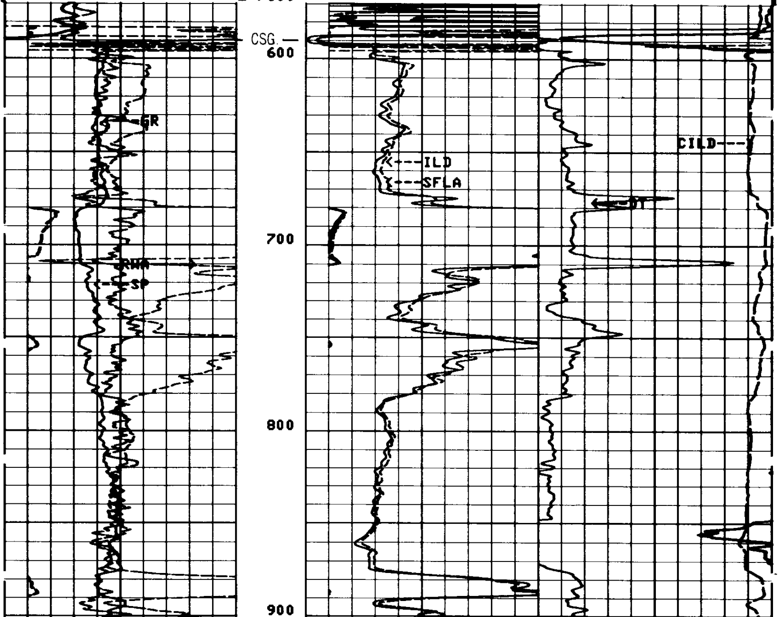
GR (GAPI) 0.0 150.00	ILD (OHMM) 0.0 30.000	
RWA (OHMM) 0.0 3.0000	SFLA(OHMM) 0.0 6.0000	CILD(MM/M) 1000.0 0.0
SP (MV) -100.0 0.0	SFLA(OHMM) 0.0 30.000	DT (US/F) 150.00 50.000

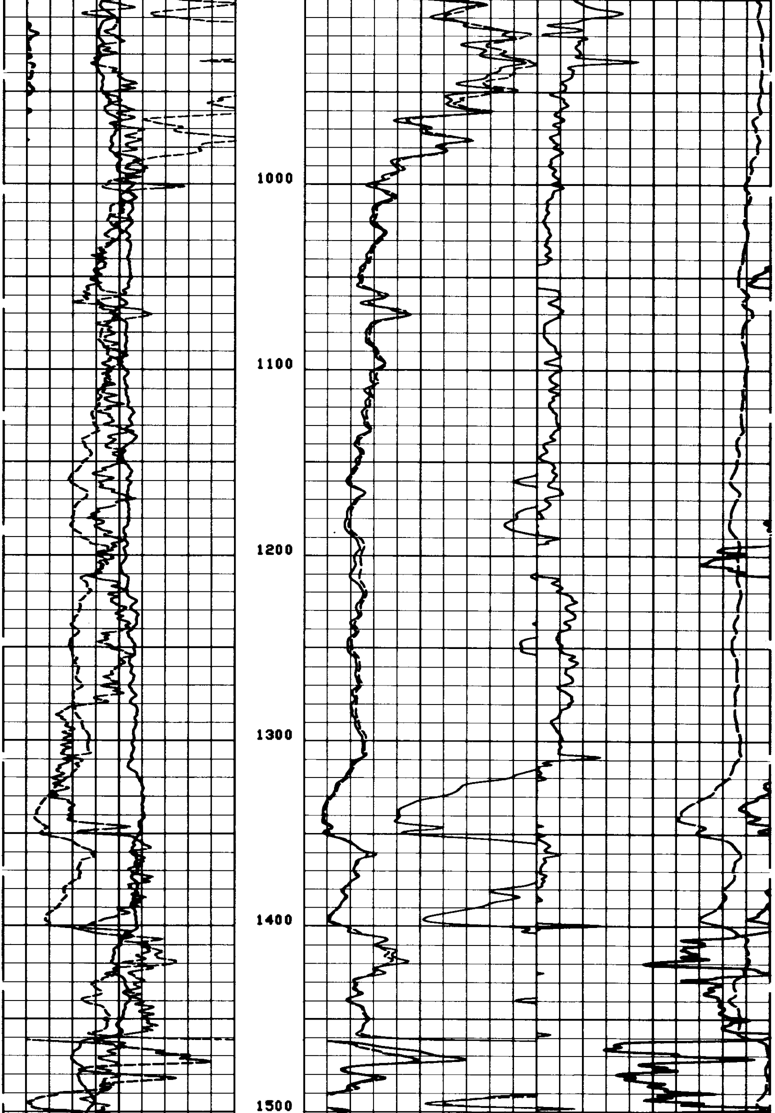
CP 32.2 FILE 18 10-OCT-1990 10:35

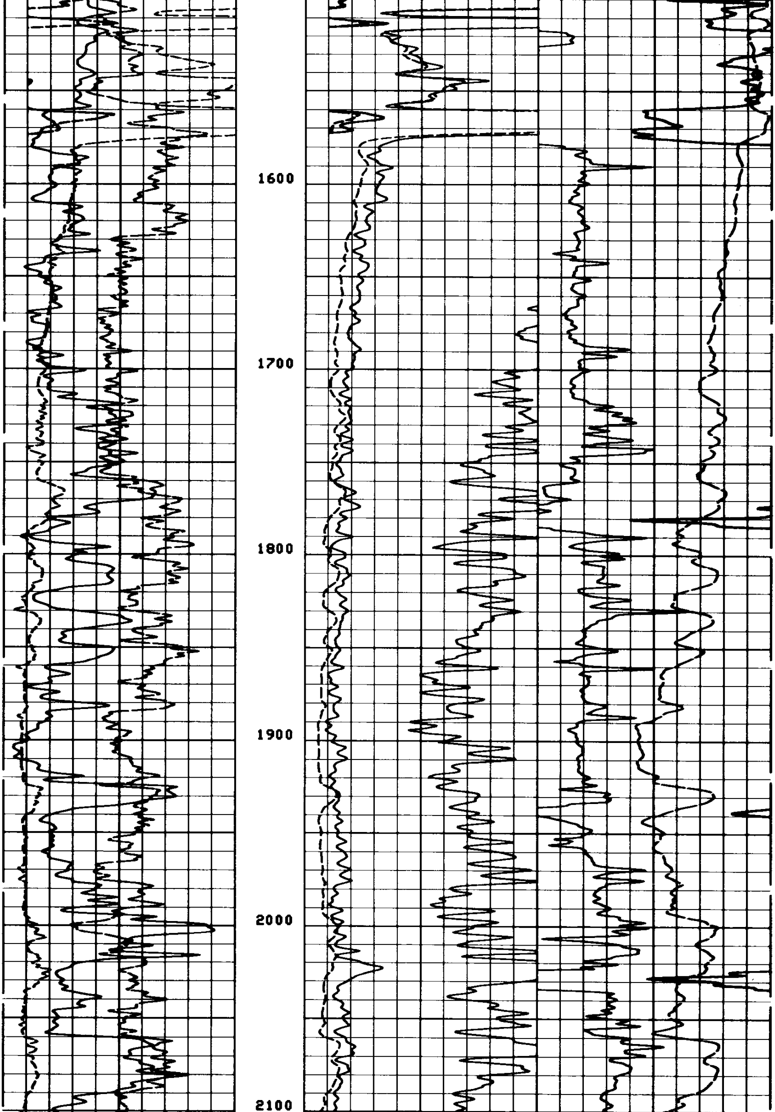
INPUT FILE(S)
15

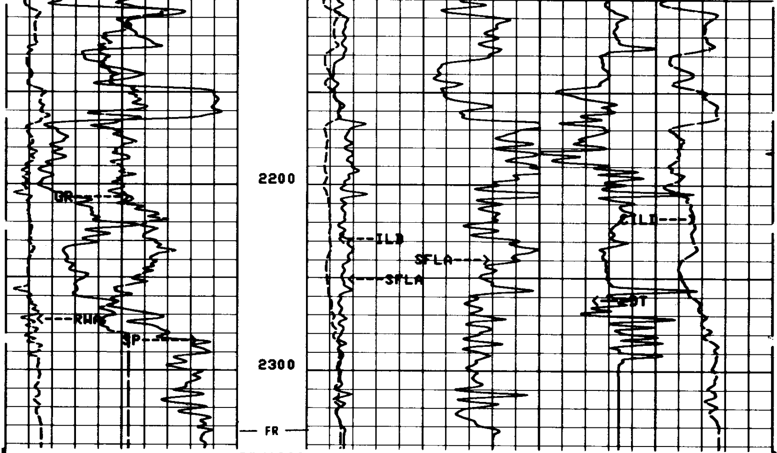
DATA ACQUIRED
10-OCT-1990 10:29

2"/100'









2"/100'

CP 32.2 FILE 18 10-OCT-1990 10:32

INPUT FILE(S)
15

DATA ACQUIRED
10-OCT-1990 10:00

Curve	Left	Right
GR (GAPI)	0.0	150.00
RWA (OHMM)	0.0	3.0000
SP (MV)	-100.0	0.0
ILD (OHMM)	0.0	30.000
SFLA(OHMM)	0.0	6.0000
SFLA(OHMM)	0.0	30.000
CILD(MM/M)	1000.0	0.0
DT (US/F)	150.00	50.000

SENSOR MEASURE POINT TO TOOL ZERO

SRAT	41.7	FEET	AMPL	44.1	FEET
CBFS	43.1	FEET	CBL	44.1	FEET
TT2	44.1	FEET	TT1	43.1	FEET
TT4	39.3	FEET	TT3	40.3	FEET
TT	44.1	FEET	TO	44.1	FEET
CBSL	44.1	FEET	TTSL	44.1	FEET
CALI	31.9	FEET	GR	64.7	FEET
ILM	6.1	FEET	ILD	9.9	FEET
SP	2.5	FEET	SFL	6.8	FEET
TENS	2.5	FEET	SPAR	2.5	FEET
NOIS	2.5	FEET			

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	NORM		DO	0.0	F
WMUD	9.20000	LB/G	MSEC	6.80000	MM/M
SBR	1.00000	OHMM	DSEC	4.10000	MM/M
FCD	4.50000	IN	FPHI	SPHI	
DWCO	512		DSIN	5	US
DDEL	200	US	DTF	189.000	US/F
DTM	56.0000	US/F	CDTS	100.000	
SPFS	R-H		BS	7.87500	IN
BHS	OPEN				

EVENT MARK SUMMARY:

OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
IHV	10.0000 F3	LEFT EDGE
ITT	.00100000 S	RIGHT EDGE

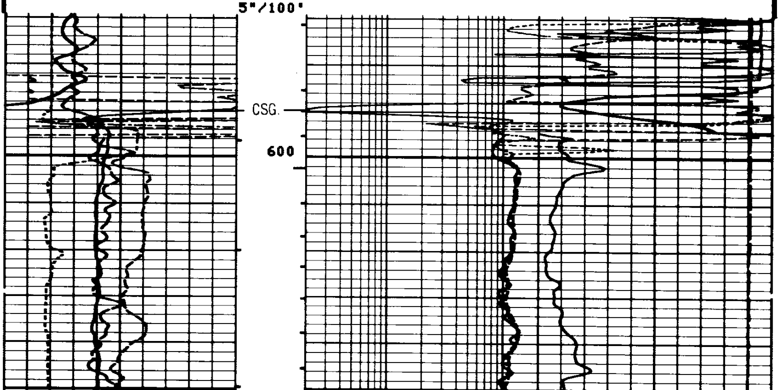
HOLE VOLUME = 532.670 F3
FROM 2338.0 TO 592.0 FEET

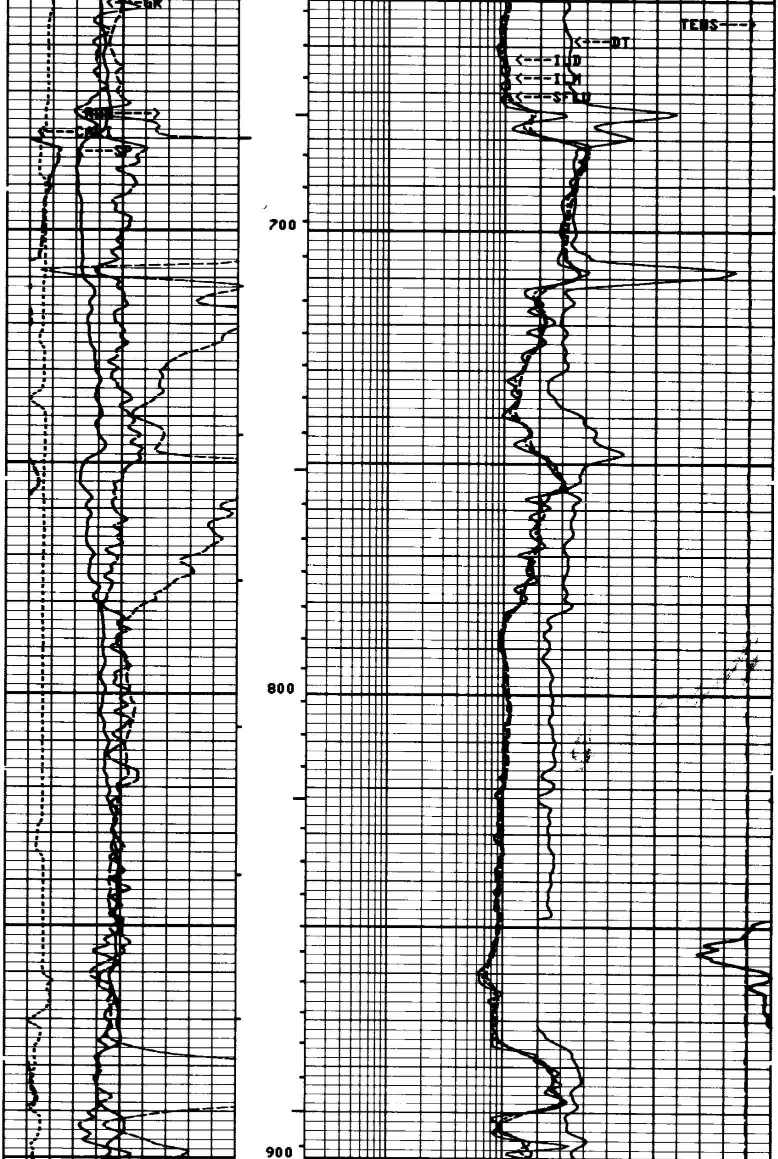
CHANGED PARAMETERS

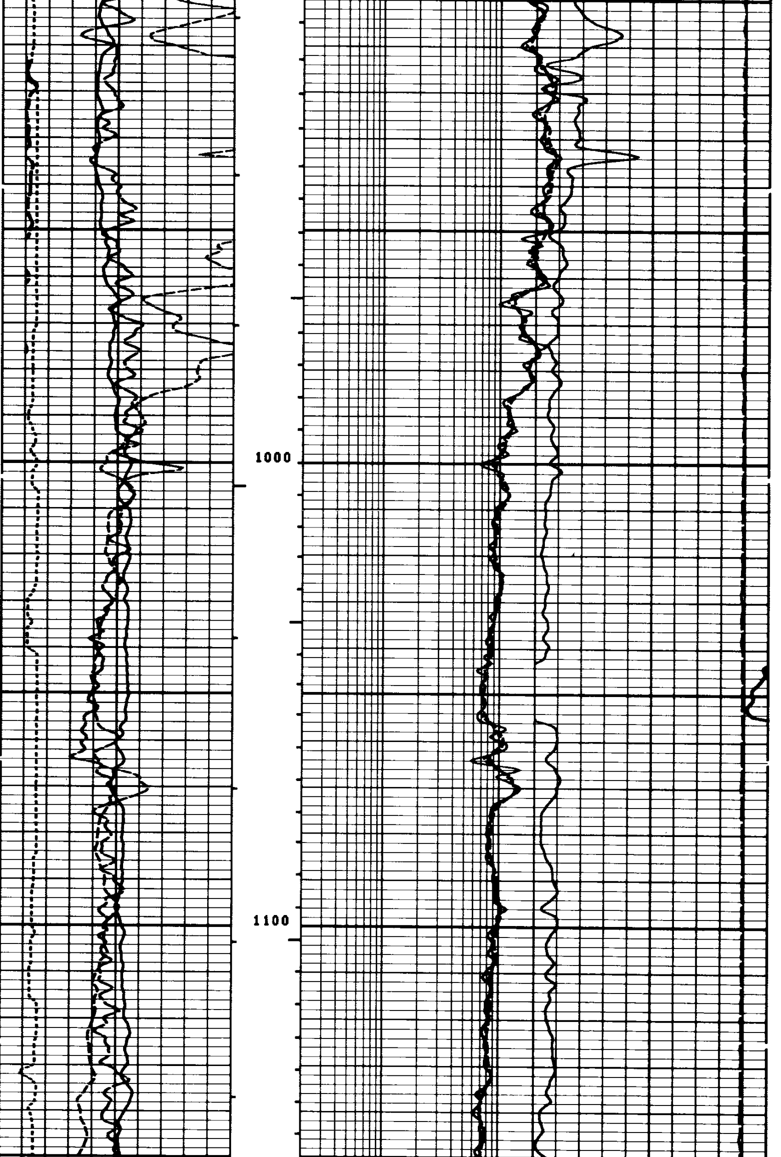
NAME	VALUE	UNIT	DEPTH (F)	NAME	VALUE	UNIT	DEPTH (F)
FCD	4.50000	IN	1629.5				

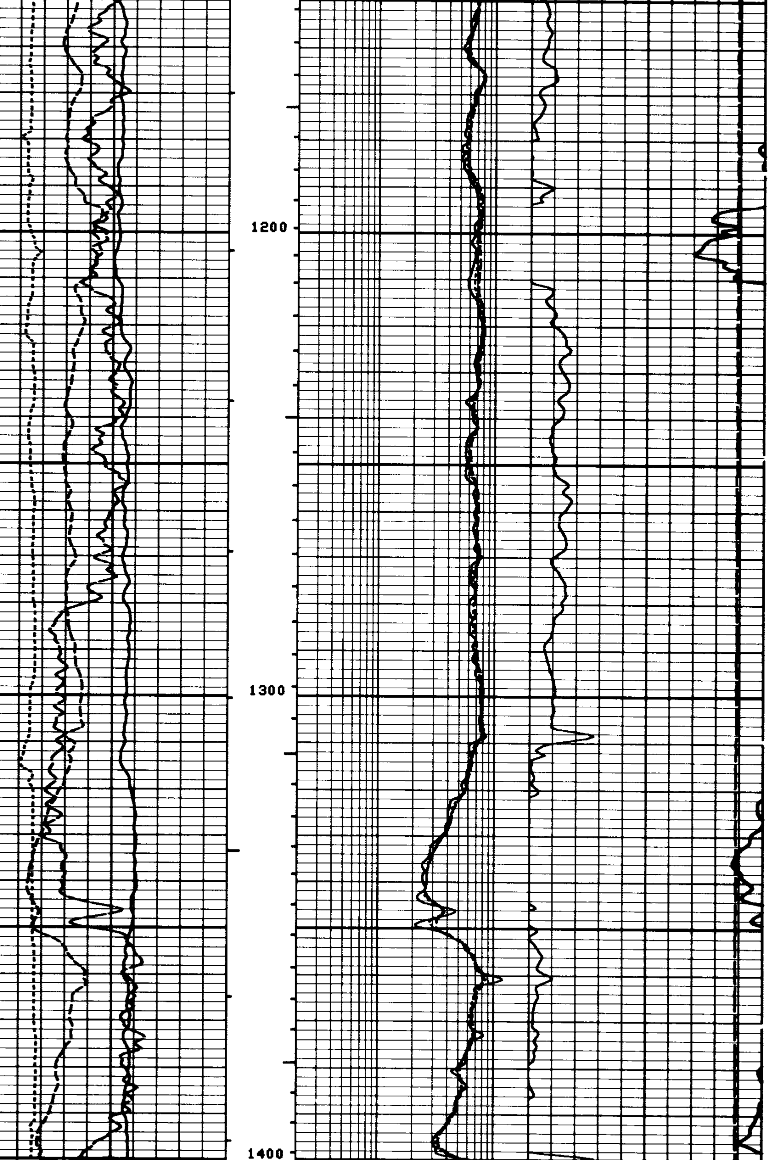
GR (GAPI)	0.0	150.00
RHA (OHMM)	0.0	3.0000
CALI(IN)	6.0000	16.000
SP (MV)	-100.0	0.0
TENS(LBF)	10000.	0.0
DT (US/F)	150.00	50.000
ILD (OHMM)	.20000	2000.0
ILM (OHMM)	.20000	2000.0
SFLU(OHMM)	.20000	2000.0

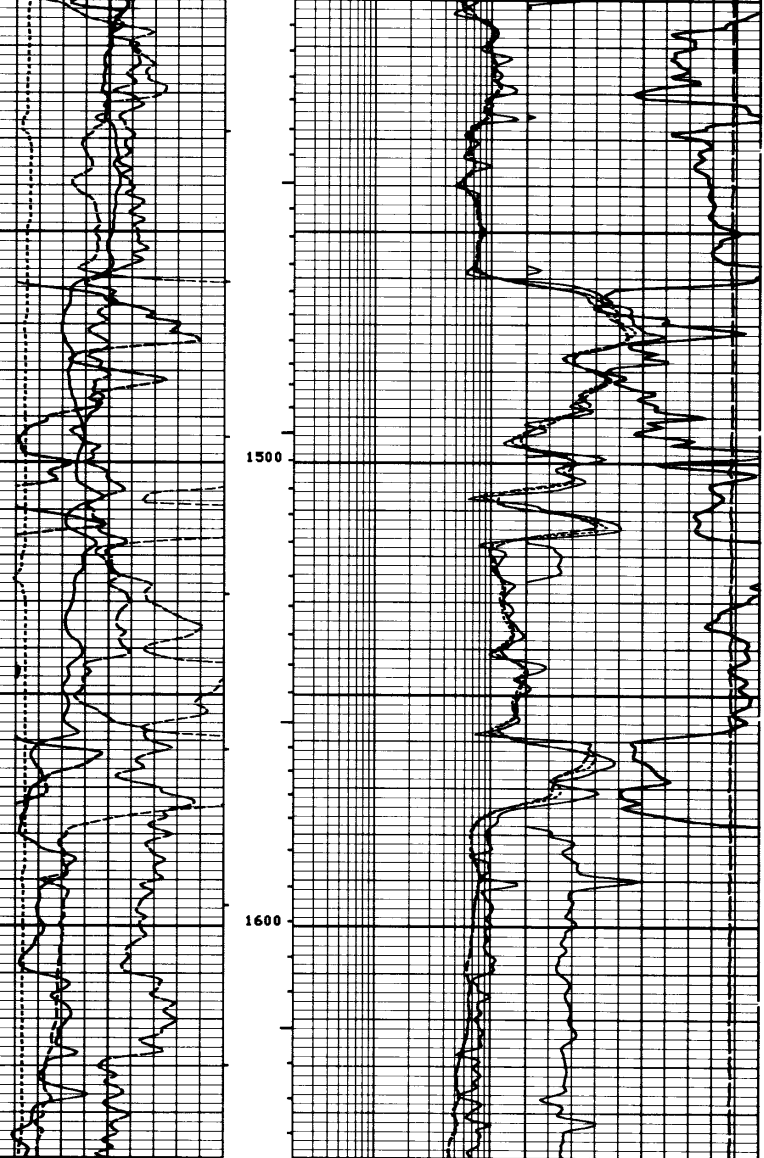
CP 32.2 FILE 15 10-OCT-1990 10:29

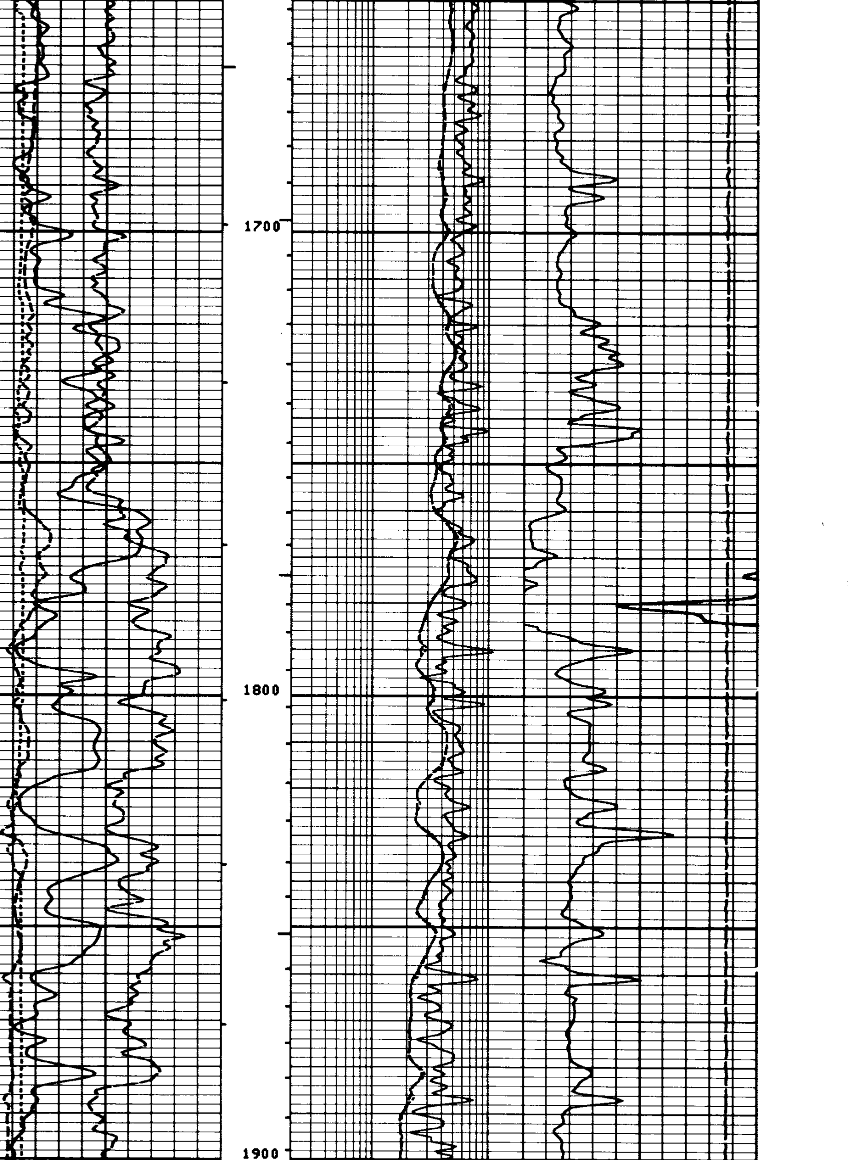


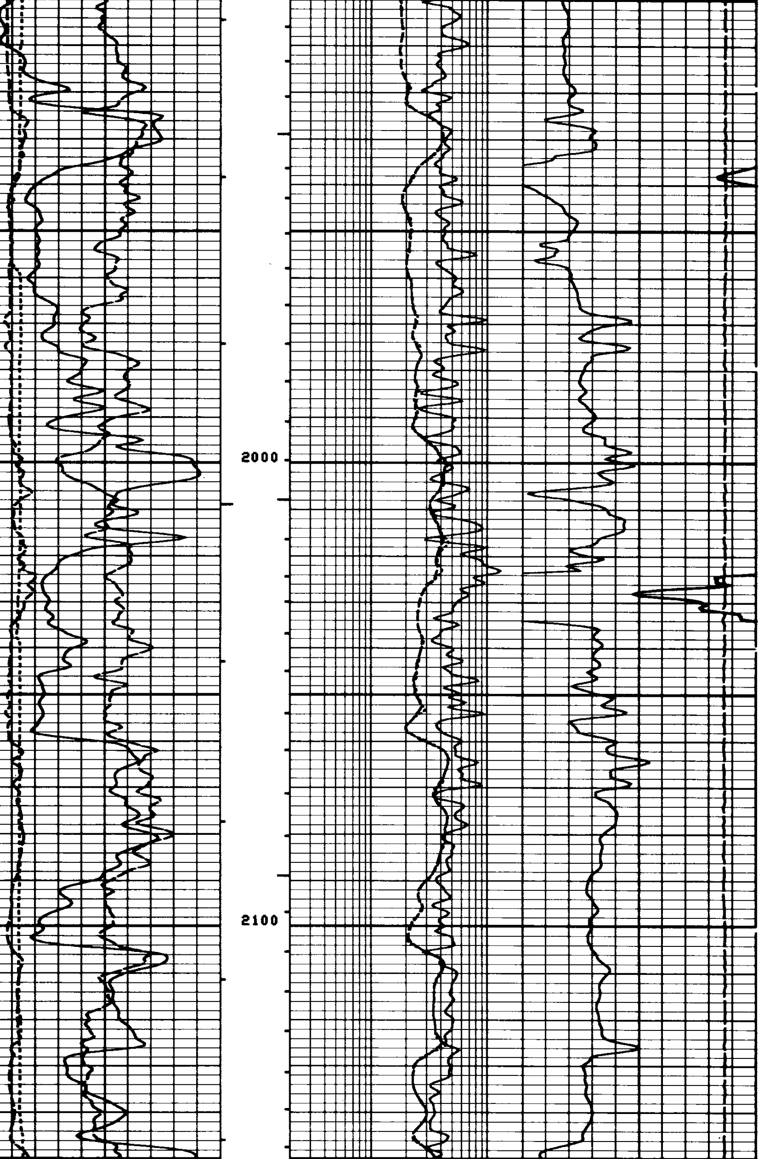


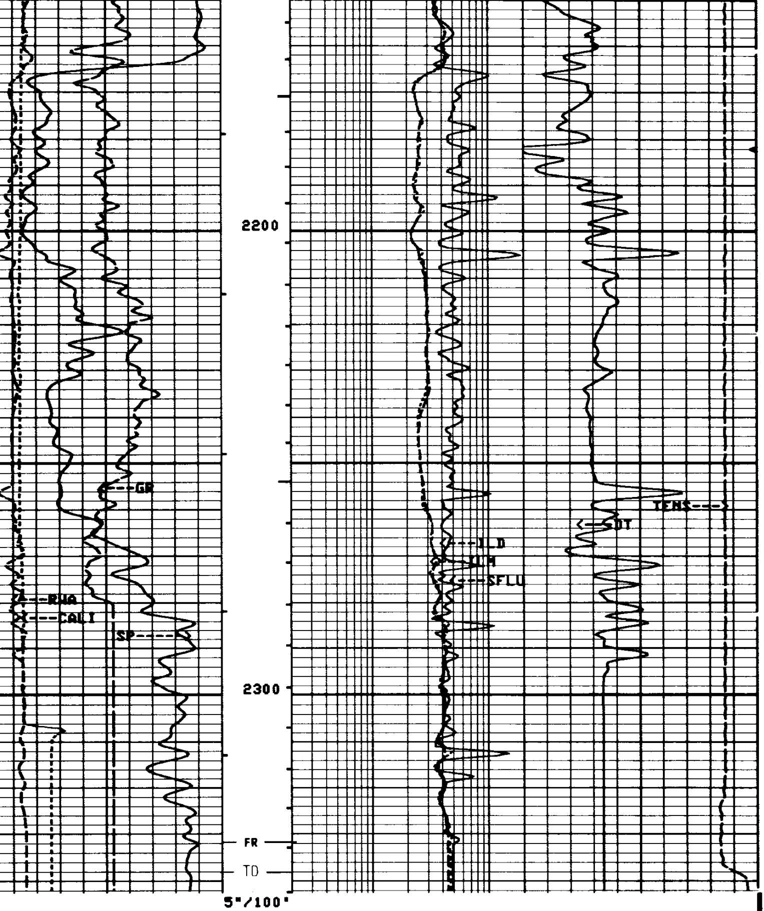












CP 32.2 FILE 15 10-OCT-1990 10:00

TENS(LBF)	10000.	0.0
DT (US/F)	150.00	50.000
GR (GAPI)	0.0	150.00
RWA (OHMM)	0.0	3.0000
CALI(IN)	6.0000	16.000
SP (MV)	-100.0	0.0
ILD (OHMM)	.20000	2000.0
ILM (OHMM)	.20000	2000.0
SFLU(OHMM)	.20000	2000.0

SENSOR MEASURE POINT TO TOOL ZERO

```
SRAT 41.7  FEET                      AMPL 44.1  FEET
CBFS 43.1  FEET                      CBL  44.1  FEET
TT2  44.1  FEET                      TT1  43.1  FEET
TT4  39.3  FEET                      TT3  40.3  FEET
TT   44.1  FEET                      T0   44.1  FEET
CBSL 44.1  FEET                      TTSL 44.1  FEET
CALI 31.9  FEET                      GR   64.7  FEET
ILM   6.1  FEET                      ILD   9.9  FEET
SP    2.5  FEET                      SFL   6.8  FEET
TENS  2.5  FEET                      SPAR  2.5  FEET
NOIS  2.5  FEET
```

PARAMETERS

```
NAME  VALUE       UNIT               NAME  VALUE       UNIT

WMUD 9.20000      LB/G               MSEC 6.80000      MM/M
SBR  1.00000      OHMM               DSEC 4.10000      MM/M
FCD  5.50000      IN                 FPHI SPHI
DWCO 512                             DSIN 5            US
DDEL 200          US                 DTF  189.000      US/F
DTM  56.0000      US/F               CDTS 100.000
SPFS R-H                             BS   7.87500      IN
BHS  OPEN
```

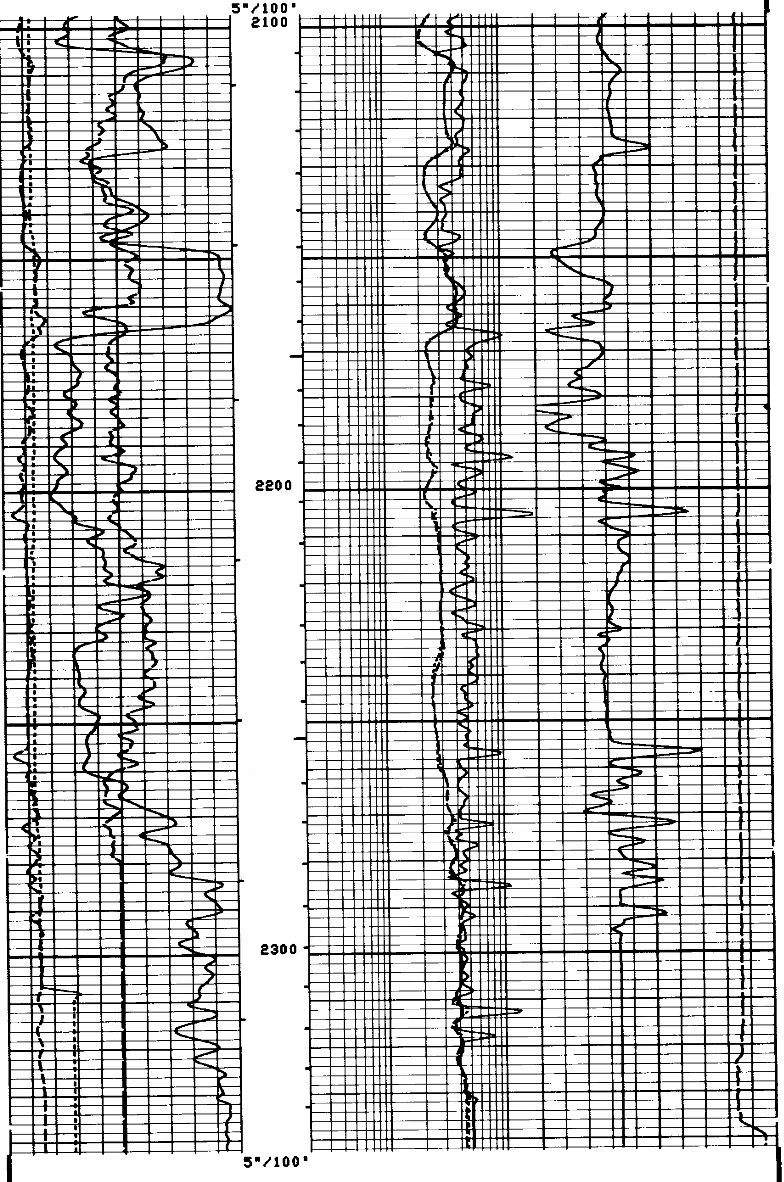
```
EVENT MARK SUMMARY:

OUTPUT  INTERVAL       DEPTH TRACK
        BETWEEN PIPS   EDGE

IHV     10.0000 F3     LEFT EDGE
ITT     .00100000 S    RIGHT EDGE
```

```
CEMENT VOLUME = 34.7842 F3   (ASSUMING 5.50000 IN   O.D. CASING)
HOLE VOLUME =   74.6289 F3
FROM  2338.0 TO  2096.5 FEET
```

```
                                                            TENS(LBF )
                                                      10000.             0.0
       GR  (GAPI)                                           DT  (US/F)
0.0                 150.00                            150.00          50.000
       RWA (OHMM)                            ILD (OHMM)
0.0                 3.0000        .20000                              2000.0
       CALI(IN  )                            ILM (OHMM)
6.0000              16.000        .20000                              2000.0
       SP  (MV  )                            SFLU(OHMM)
-100.0                 0.0        .20000                              2000.0
```

REPEAT SECTION

```
CP 32.2            FILE   14       10-OCT-1990 09:59
```



```
  CP 32.2            FILE    14          10-OCT-1990 09:55

                                                   TENS(LBF )
                                          10000.                 0.0
      GR   (GAPI)                                  DT   (US/F)
0.0                  150.00               150.00                50.000
      RWA (OHMM)                                ILD (OHMM)
0.0                  3.0000        .20000                       2000.0
      CALI(IN  )                                ILM (OHMM)
6.0000               16.000        .20000                       2000.0
      SP   (MV   )                              SFLU(OHMM)
-100.0                  0.0        .20000                       2000.0
```

```
                    SENSOR MEASURE POINT TO TOOL ZERO

          SRAT 41.7   FEET                        AMPL  44.1   FEET
          CBFS 43.1   FEET                        CBL   44.1   FEET
          TT2  44.1   FEET                        TT1   43.1   FEET
          TT4  39.3   FEET                        TT3   40.3   FEET
          TT   44.1   FEET                        TO    44.1   FEET
          CBSL 44.1   FEET                        TTSL  44.1   FEET
          CALI 31.9   FEET                        GR    64.7   FEET
          ILM   6.1   FEET                        ILD    9.9   FEET
          SP    2.5   FEET                        SFL    6.8   FEET
          TENS  2.5   FEET                        SPAR   2.5   FEET
          NOIS  2.5   FEET
```

```
                              PARAMETERS

        NAME   VALUE       UNIT                  NAME   VALUE      UNIT

        WMUD 9.20000       LB/G                  MSEC 6.80000      MM/M
        SBR  1.00000       OHMM                  DSEC 4.10000      MM/M
        FCD  5.50000       IN                    FPHI SPHI
        DWCO 512                                 DSIN 5            US
        DDEL 200           US                    DTF   189.000     US/F
        DTM  56.0000       US/F                  CDTS 100.000
        SPFS R-H                                 BS    7.87500     IN
        BHS  OPEN
```

```
                BEFORE SURVEY CALIBRATION SUMMARY


     PERFORMED:     10-OCT-1990 09:52
     PROGRAM FILE: ISN     (VERSION    32.2     89/01/19   88/11/16)


   DITD                 ELECTRONICS CALIBRATION SUMMARY

                MEASURED                        CALIBRATED
              ZERO     PLUS                 ZERO        PLUS           UNITS
      ILD     -.72     544.9                0.0         503.7           MM/M
      ILM     1.06     525.4                0.0         499.9           MM/M
      SFL     1.01     528.0                0.0         500.0           MM/M

   ILD SONDE ERROR CORRECTION :            4.1 MM/M
   ILM SONDE ERROR CORRECTION :            6.8 MM/M

   ZERO: 10-OCT-1990 09:50  PLUS: 10-OCT-1990 09:51  COMP: 10-OCT-1990 09:51


   SGTE                 DETECTOR CALIBRATION SUMMARY

                MEASURED
              BKGD     JIG           CALIBRATED           UNITS
      GR       85      240              165               GAPI
```

```
BACK: 09-OCT-1990 14:16    JIG: 09-OCT-1990 14:18   COMP: 09-OCT-1990 14:18

MCDB                 CALIPER CALIBRATION SUMMARY

             MEASURED                      CALIBRATED
           SMALL   LARGE                 SMALL     LARGE        UNITS
  CALI     7.81    12.4                  8.00      12.0          IN

SMALL: 09-OCT-1990 14:11 LARGE: 09-OCT-1990 14:12 COMP: 09-OCT-1990 14:12

    CP 32.2             FILE    13       10-OCT-1990 09:52
                 AFTER SURVEY TOOL CHECK SUMMARY


  PERFORMED:     10-OCT-1990 10:31
  PROGRAM FILE: ISN     (VERSION     32.2     89/01/19   88/11/16)

DITD                          TOOL   CHECK

                      ZERO                        PLUS
            BEFORE             AFTER       BEFORE       AFTER      UNITS
   ILD        0.0               .2         503.7        504.0      MM/M
   ILM        0.0              -.3         499.9        498.4      MM/M
   SFL        0.0              -.2         500.0        498.2      MM/M

ILD SONDE ERROR CORRECTION :           4.1 MM/M
ILM SONDE ERROR CORRECTION :           6.8 MM/M

BEFORE SURVEY:              ZERO: 10-OCT-1990 09:50   PLUS: 10-OCT-1990 09:51
AFTER SURVEY CHECK:         ZERO: 10-OCT-1990 10:31   PLUS: 10-OCT-1990 10:31

    CP 32.2             FILE    17       10-OCT-1990 10:31

                  SHOP SUMMARY


  PERFORMED:     02-OCT-1990 09:46
  PROGRAM FILE: SHOP    (VERSION     32.2     88/12/01   88/11/16)


DITD                 ELECTRONICS CALIBRATION SUMMARY

               TEST LOOP CALIBRATION            TOOL CHECK
            MEASURED          CALIBRATED         CALIBRATED
          ZERO     PLUS     ZERO      PLUS      ZERO       PLUS     UNITS
   ILD    -2.7     537.6    0.0       500.0     0.0        503.7    MM/M
   ILM    -6.7     514.7    0.0       500.0     0.0        499.9    MM/M
ILD   SONDE ERROR CORRECTION :          4.1  MM/M
ILM   SONDE ERROR CORRECTION :          6.8  MM/M

                        (IS:2179, IC:1078)
```

COMPANY	NAHAMA & WEAGANT ENERGY COMPAN		**SCHL.**	FR	2332.0 F
			SCHL.	TD	2338.0 F
WELL	"C.E.R." #11-16-64		**DRLR.**	TD	2338.0 F
FIELD	MIST		**Elev:**	KB	1460.0 F
				DF	
COUNTY	COLUMBIA	**STATE** OREGON		GL	1448.0 F

Schlumberger

DUAL INDUCTION-SFL-SONIC