Schlumberger

DUAL INDUCTION - SFL
BHC SONIC

COUNTY	COLUMBIA
FIELD	MIST
LOCATION	982.7 S & 890.6E
WELL	"GRUB CREEK JOHNSTON #11-30-65
COMPANY	NAHAMA AND WEAGANT ENERGY CO.

COMPANY NAHAMA AND WEAGANT ENERGY CO.

WELL "GRUB CREEK JOHNSTON" #11-30-65

FIELD MIST

COUNTY COLUMBIA **STATE** OREGON

LOCATION 982.7'S & 890.6'E
FROM NW CORNER OF:

Permit 495

Other Services: DIL/BHC/GR

API SERIAL NO.	SECT.	TWP.	RANGE
36-009-00317	30	6N	5W

Permanent Datum	GL	**Elev.**	633.7 F	**Elev.: K.B.643.7 F**
Log Measured From	KB	10.0 F	**above Perm. Datum**	**D.F.642.7 F**
Drilling Measured From	KB			**G.L.633.7 F**

Date	31-OCT-1993			
Run No.	ONE			
Depth Driller	2794.0 F			
Depth Logger (Schl.)	2791.0 F			
Btm. Log Interval	2785.0 F			
Top Log Interval	517.0 F			
Casing-Driller	8 5/8 @ 517.0 F		@	@
Casing-Logger	517.0 F			
Bit Size	7 7/8 @ 2794.0 F		@	@
Type Fluid in Hole	GEL/BENEX			
Dens. | **Visc.**	9.90 LB/G	43.0 S		
pH | **Fld. Loss**	7.0			
Source of Sample	FLOWLINE			
Rm @ Meas. Temp.	1.940 OHMM @ 74.0 DEGF		@	
Rmf @ Meas. Temp.	3.370 OHMM @ 56.0 DEGF		@	
Rmc @ Meas. Temp.	2.150 OHMM @ 56.0 DEGF		@	
Source: Rmf | **Rmc**	MEASURED	MEASURED		
Rm @ BHT	1.378 OHMM @ 107. DEGF		@	
TIME **Circulation Ended**	10:00 31-OCT-93			
TIME **Logger on Bottom**	13:00 31-OCT-93			
Max. Rec. Temp.	107. DEGF			
Equip. | **Location**	8504	SACRAMENTO		
Recorded By	M.DEMSKIE			
Witnessed By	R.LUCAS/B.PINOTTI			

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

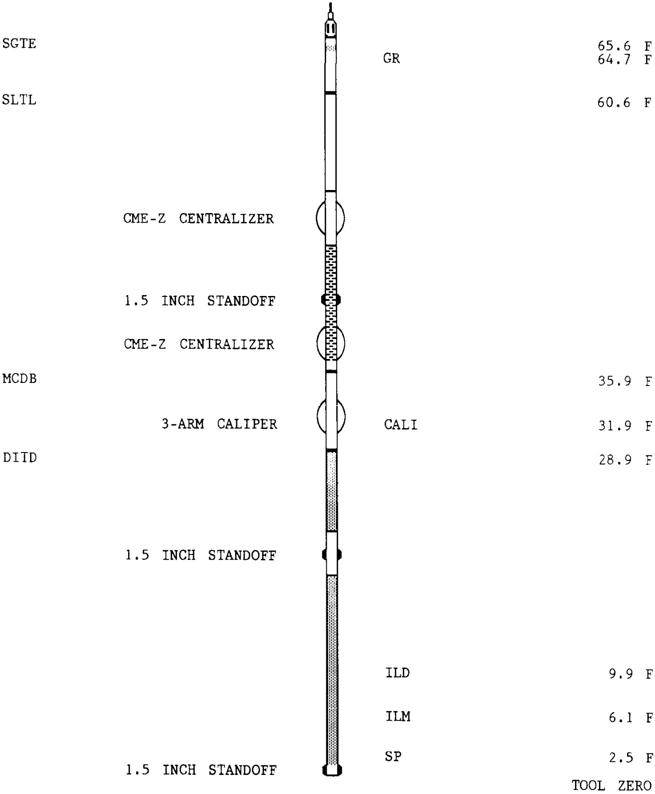
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.	624384	
Drilling Fluid Level	5.0 F	
Salinity	650.0 PPM	
Rmf @ BHT	1.862 OHMM @ 107. DEGF	@
Rmc @ BHT	1.188 OHMM @ 107. DEGF	@
Logging Speed	3600.0 F/HR	
EQUIPMENT DATA		
Tool Number 1	DIS-EC 1342	
Tool Number 2	DIC-DA 1386	
Tool Number 3	MCD-D 1237	
Tool Number 4	SLC-MA 114	
Tool Number 5	SLS-WA 1464	
Tool Number 6	SGC-JC 4148	
Tool Number 7	IEM-BD 1349	
Tool Number 8	SLM-DA 428	
Tool Number 9	NLM-BC 207	
Tool Number 10		
Tool Number 11		
Tool Number 12		

REMARKS:

1.5" STANDOFFS RUN ON INDUCTION TOOL
CMEZ CENTRALIZERS RUN ON SONIC TOOL
THANK YOU FOR CHOOSING SCHLUMBERGER

LOGGING TOOL STRING SKETCH



TOTAL TOOL STRING LENGTH IS 68.6 F.
TOTAL TOOL STRING WEIGHT IS 993. LB IN AIR.

Main Log - 5"/100'

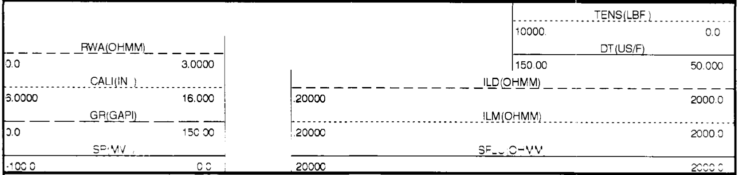
```
ACCUMULATED INTEGRATION VALUES SUMMARY:

Integrated Hole Volume:   738.641 F3    FROM 2791.00 F    TO 517.000 F
Integrated Cement Volume: 487.485 F3    FROM 2791.00 F    TO 517.000 F
  (ASSUMING 4.50000 IN   O.D. CASING)
Integrated Transit Time:  .271432 S     FROM 2791.00 F    TO 517.000 F
```

```
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
```



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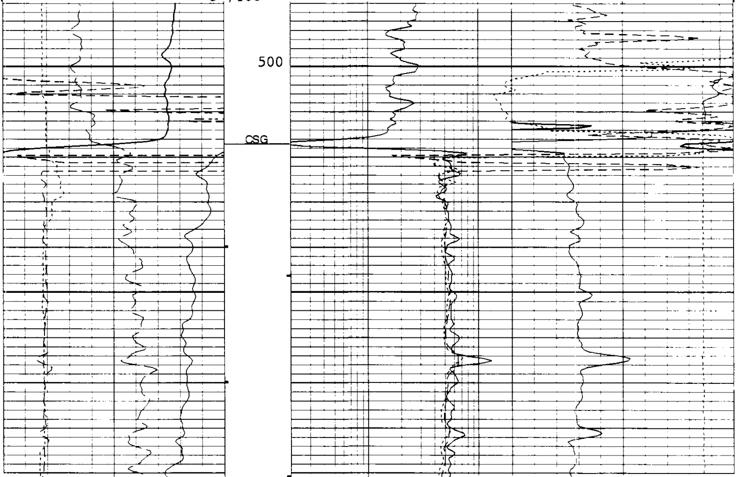
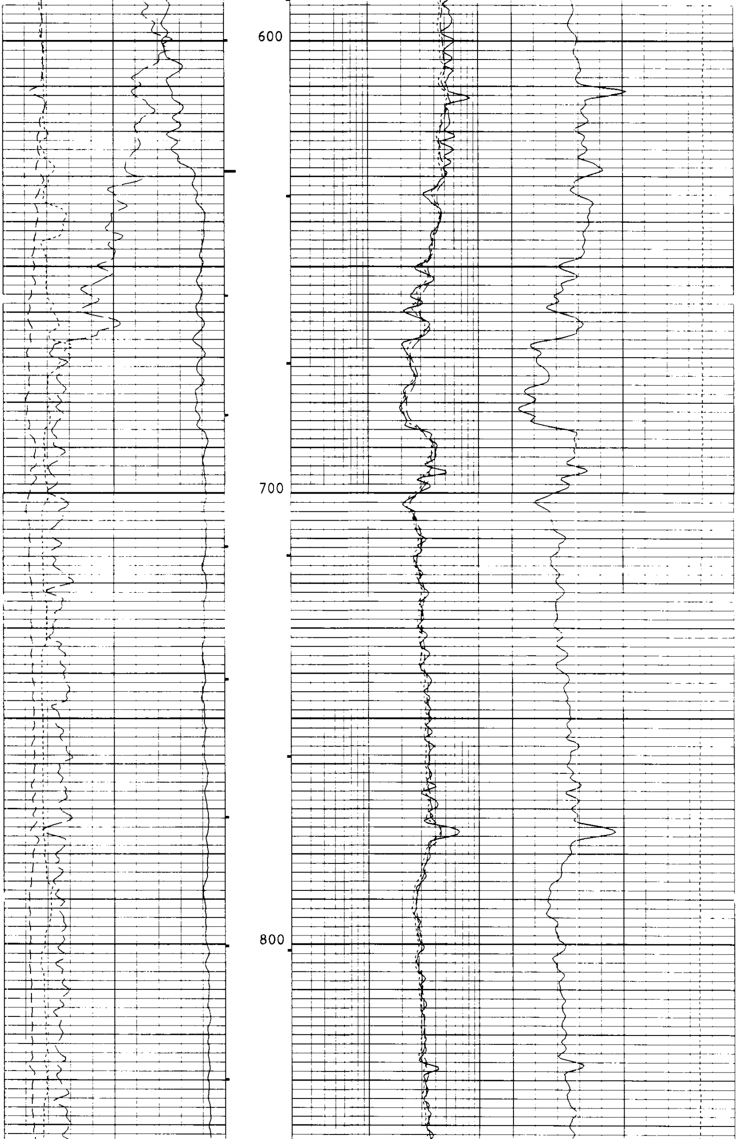
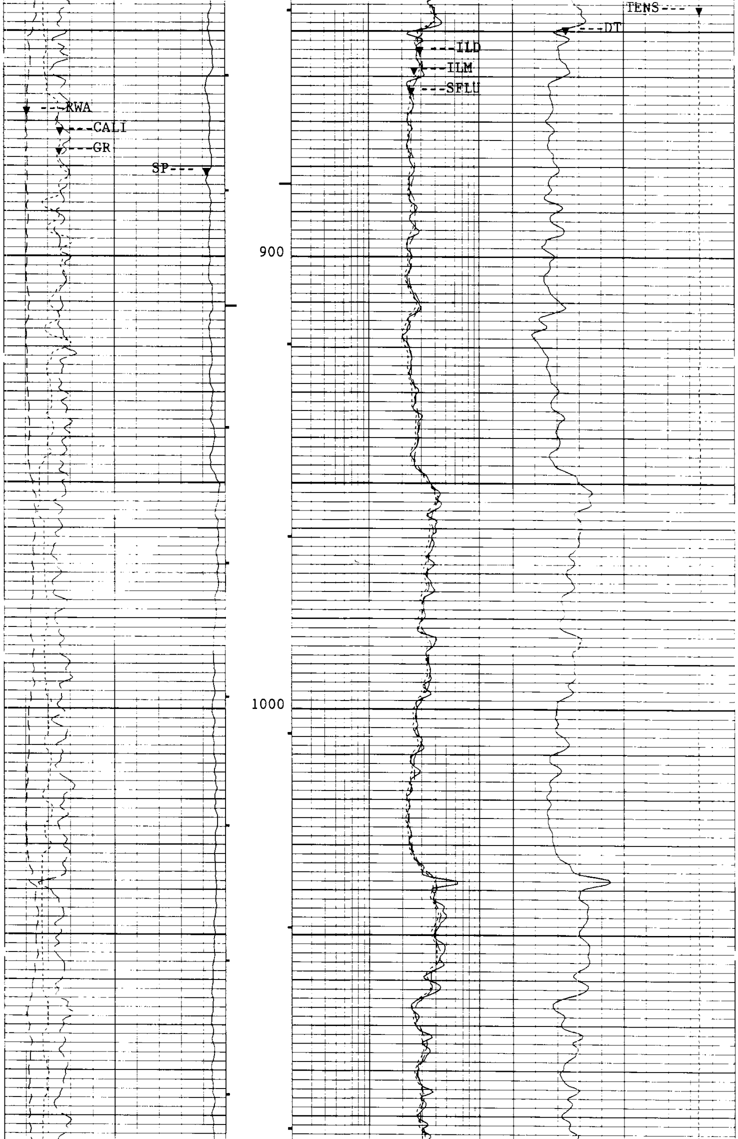
    CP 38.2            FILE     2       31-OCT-1993 14:57

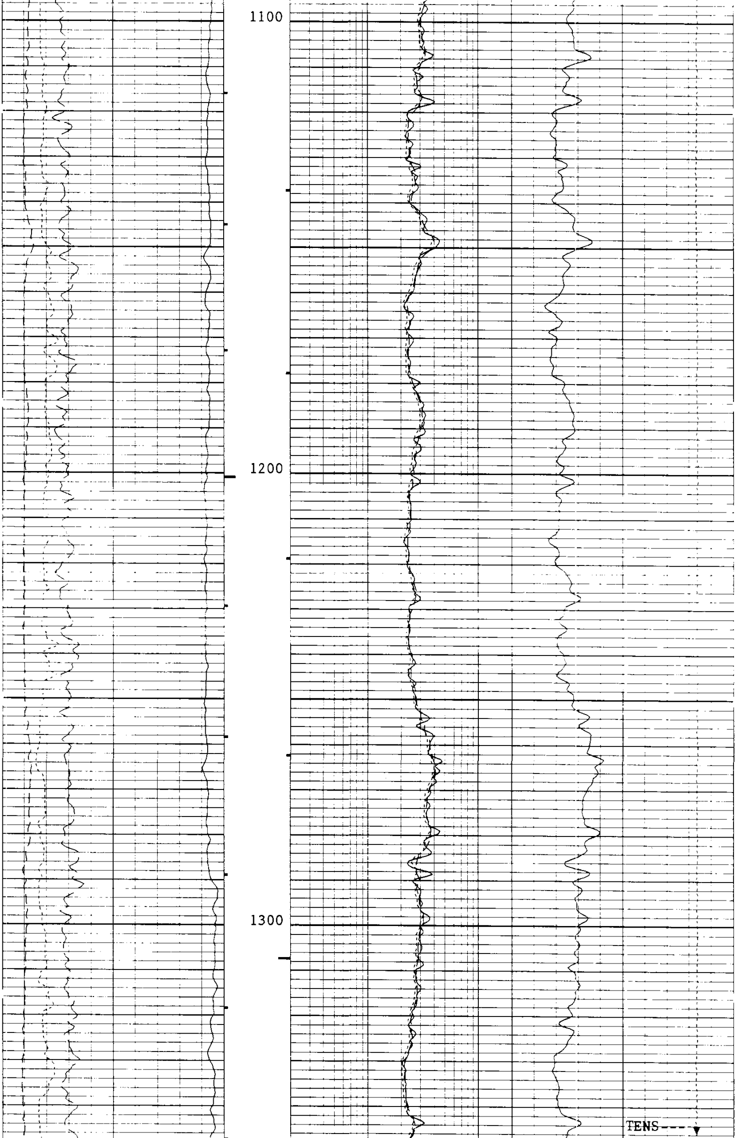
                       INPUT FILE(S)    CREATION DATE
                            7           31-OCT-1993 14:48

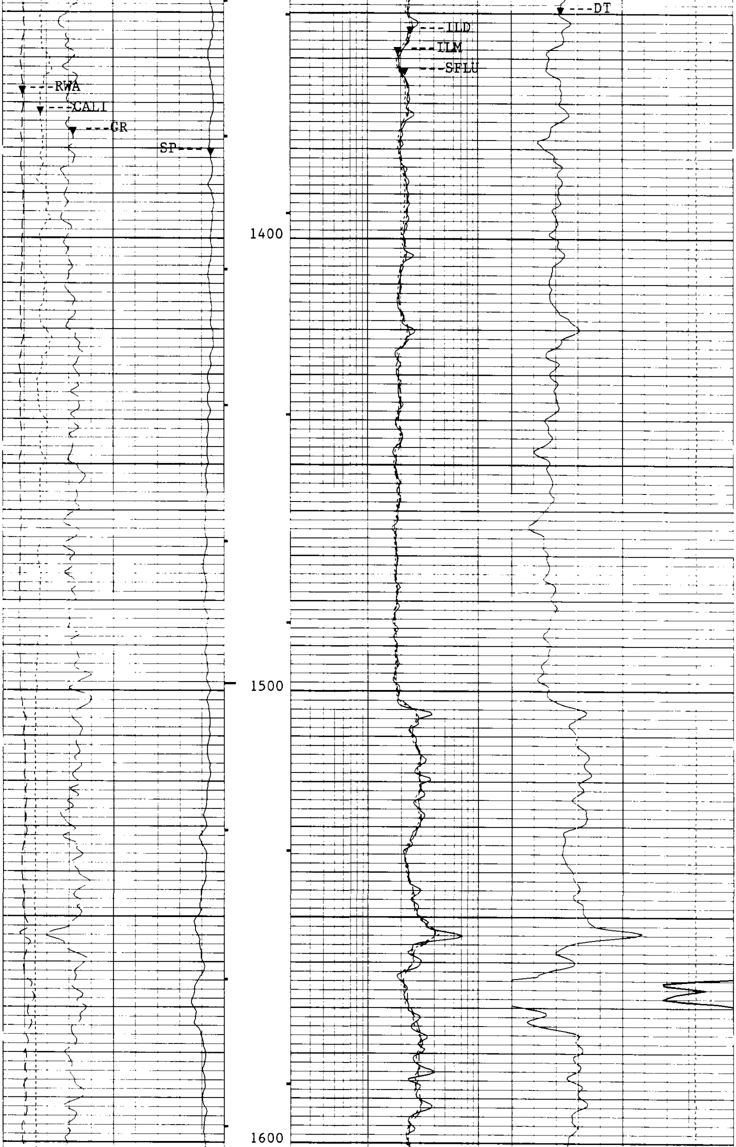
                       5"/100'
```

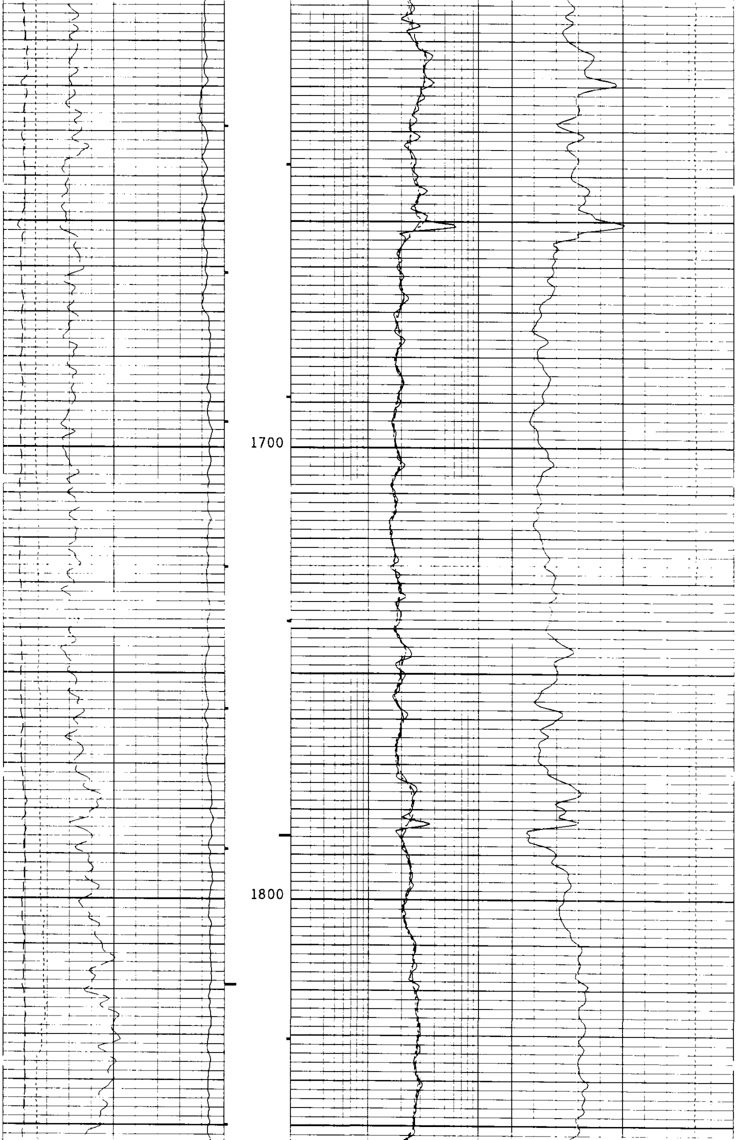


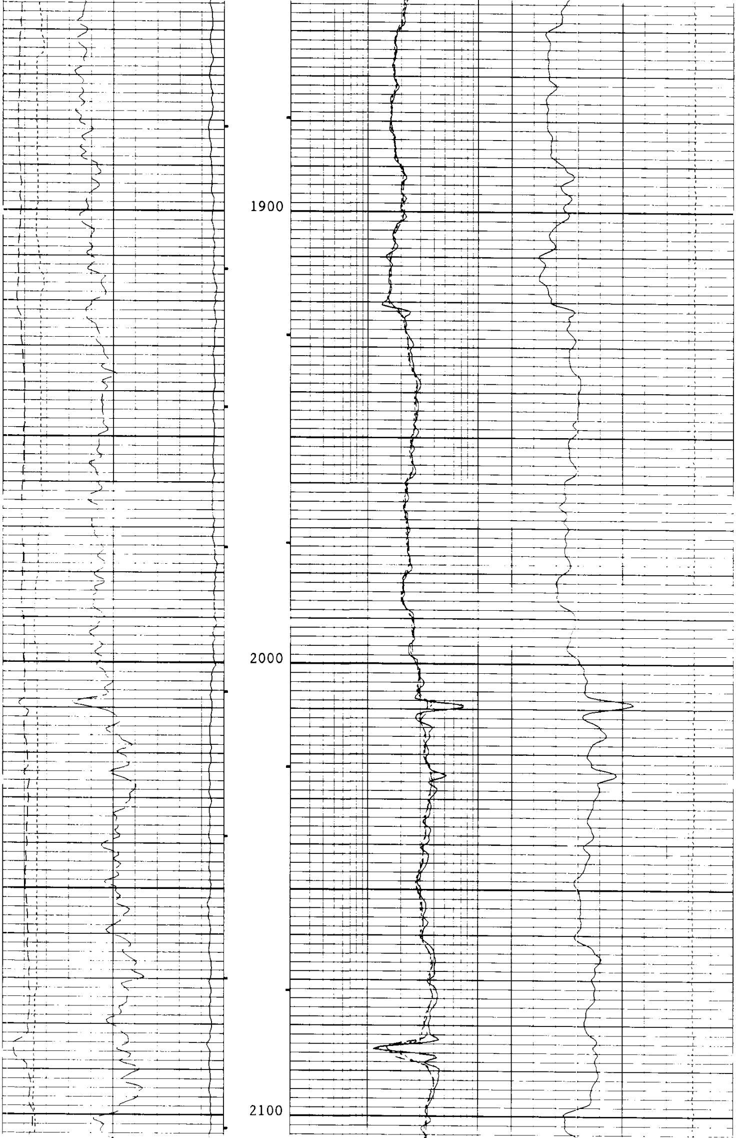


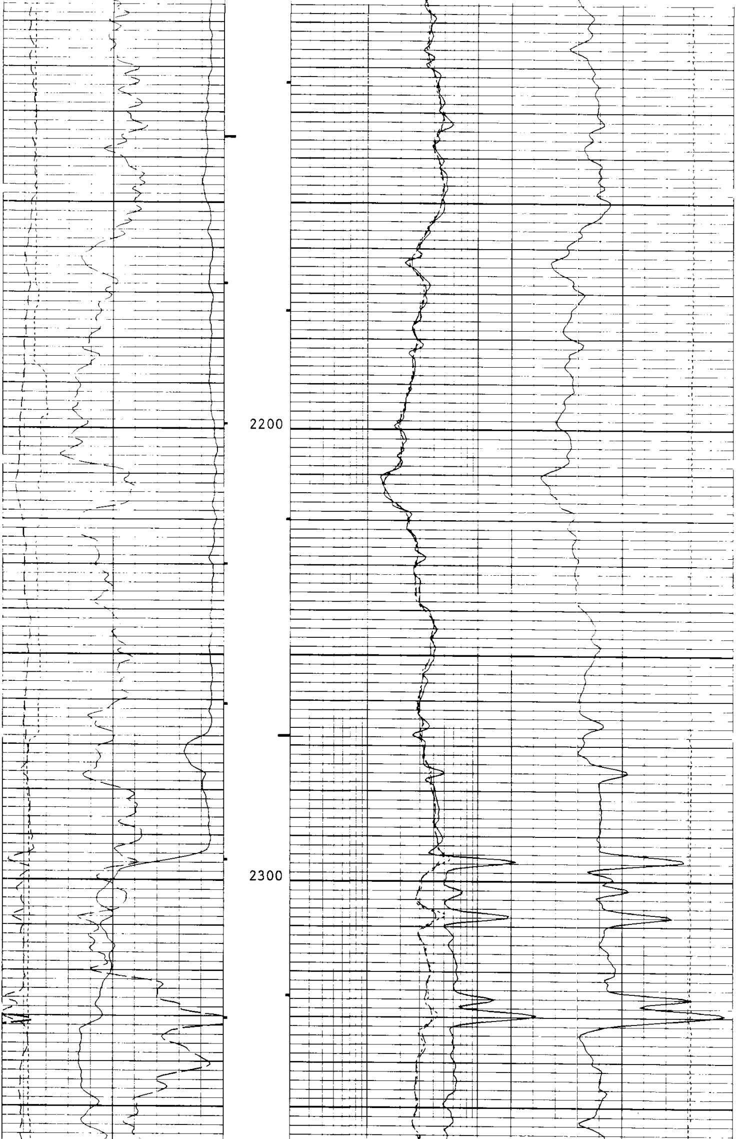


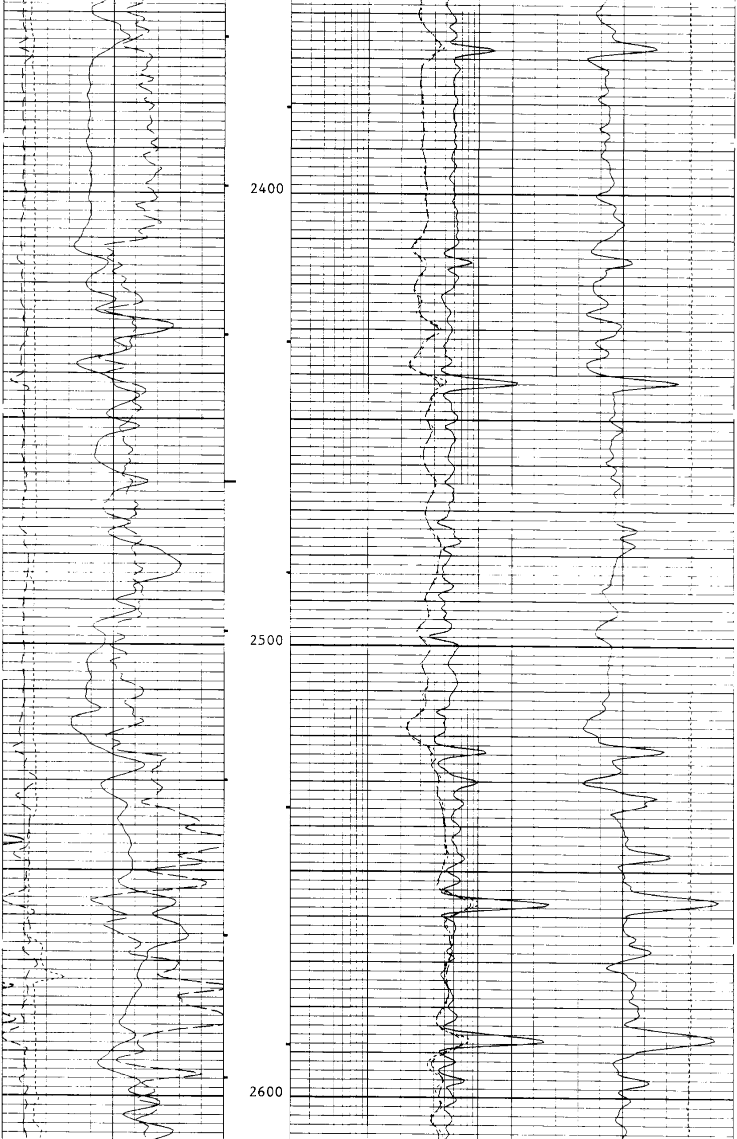


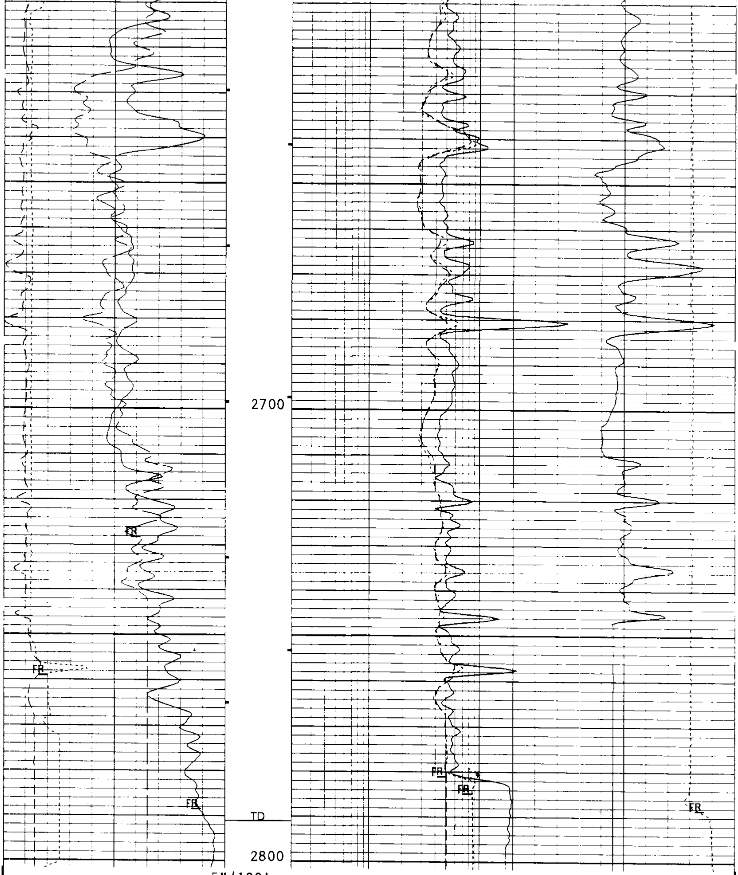












5"/100'

CP 38.2 FILE 2 31-OCT-1993 14:48

INPUT FILE(S) CREATION DATE
7 31-OCT-1993 14:48

TENS(LBF)
10000. 0.0

DT(US/F)
150.00 50.000

RWA(OHMM)
0.0 3.0000

CALI(IN)
6.0000 16.000

GR(GAPI)
0.0 150.00

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                      TO   44.1  FEET
CBSL 44.1  FEET                      TTSL 44.1  FEET
CALI 31.9  FEET                      GR   62.7  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

SMB   DISA                          VDLR  2IN
TOCA  DISA                          RATE  15          HZ
DG    /5                            DETE  E2
NMSG  180         US                CBLG  35          US
AMPL  2                             CBL   UT
WFM   1                             SS    FAST
TOD   DISA                          DTF   189.000     US/F
DTM   56.0000     US/F              CDTS  100.000
SPFS  R-H                           PP    NORM
DO    0.0         F                 WMUD  9.90000     LB/G
MSEC  8.00000     MM/M              SBR   1.00000     OHMM
DSEC  6.70000     MM/M              FCD   4.50000     IN
NCJT  GSRY                          FPHI  SPHI
DWCO  512                           DSIN  5           US
DDEL  200         US                BS    7.87500     IN
BHS   OPEN
```

Repeat Section - 5"/100

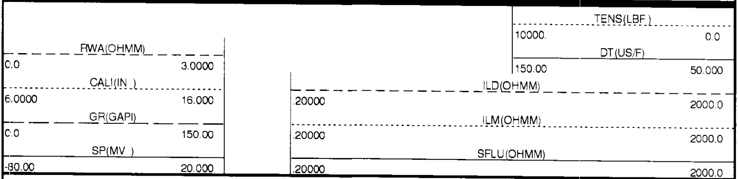
```
ACCUMULATED INTEGRATION VALUES SUMMARY:

Integrated Hole Volume:    101.409 F3    FROM 2522.50 F    TO 2192.00 F
Integrated Cement Volume: 64.9064 F3    FROM 2522.50 F    TO 2192.00 F
  (ASSUMING 4.50000 IN   O.D. CASING)
Integrated Transit Time:   .0359404 S    FROM 2522.50 F    TO 2192.00 F
```

```
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
```



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CP 38.2          FILE    1        31-OCT-1993 14:34
```
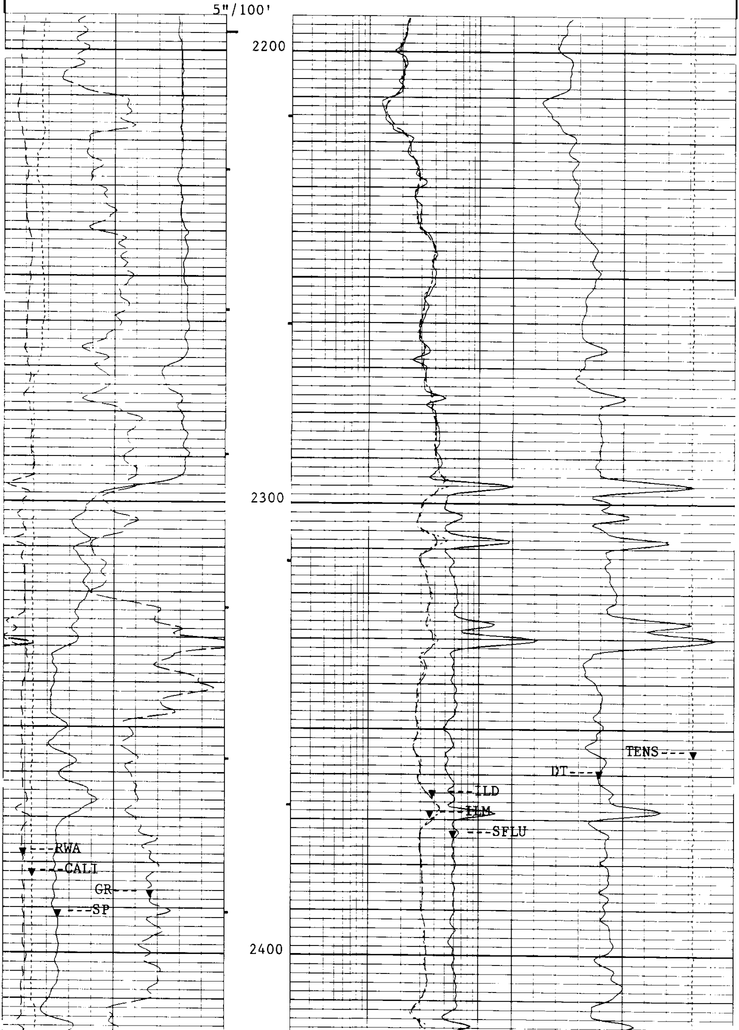
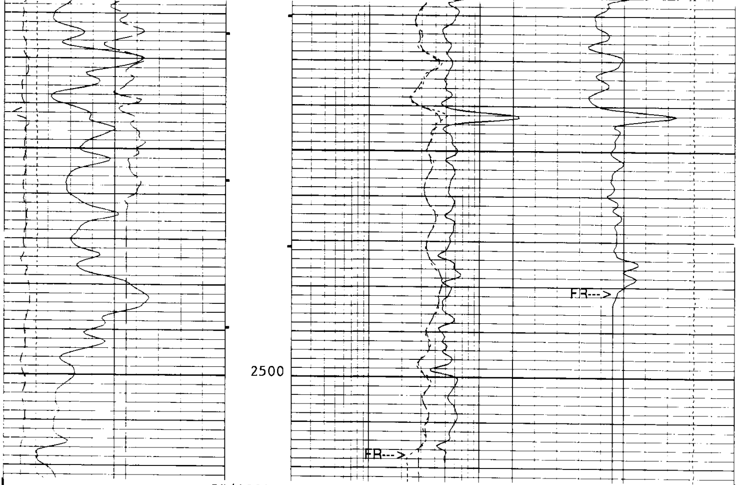

INPUT FILE(S)	CREATION DATE
5	31-OCT-1993 14:24





5"/100'

CP 38.2 FILE 1 31-OCT-1993 14:33

INPUT FILE(S) CREATION DATE
5 31-OCT-1993 14:24

TENS(LBF)
10000 0.0
DT(US/F)
150.00 50.000

RWA(OHMM)
0.0 3.0000
CALI(IN)
6.0000 16.000
GR(GAPI)
0.0 150.00
SP(MV)
-80.00 20.000

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
CBFS	43.1	FEET
TT2	44.1	FEET
TT4	39.3	FEET
TT	44.1	FEET
CBSL	44.1	FEET
CALI	31.9	FEET
ILM	6.1	FEET
SP	2.5	FEET
TENS	2.5	FEET
NOIS	2.5	FEET
AMPL	44.1	FEET
CBL	44.1	FEET
TT1	43.1	FEET
TT3	40.3	FEET
T0	44.1	FEET
TTSL	44.1	FEET
GR	62.7	FEET
ILD	9.9	FEET
SFL	6.8	FEET
SPAR	2.5	FEET

```
                             PARAMETERS

     NAME  VALUE       UNIT                  NAME  VALUE       UNIT

     SMB   DISA                              VDLR  2IN
     TOCA  DISA                              RATE  15          HZ
     DG    /5                                DETE  E2
     NMSG  180         US                    CBLG  35          US
     AMPL  2                                 CBL   UT
     WFM   1                                 SS    FAST
     TOD   DISA                              DTF   189.000     US/F
     DTM   56.0000     US/F                  CDTS  100.000
     SPFS  R-H                               PP    NORM
     DO    0.0         F                     WMUD  9.90000     LB/G
     MSEC  8.00000     MM/M                  SBR   1.00000     OHMM
     DSEC  6.70000     MM/M                  FCD   4.50000     IN
     NCJT  GSRY                              FPHI  SPHI
     DWCO  512                               DSIN  5           US
     DDEL  200         US                    BS    7.87500     IN
     BHS   OPEN
```

Calibration Summary

```
              AFTER SURVEY TOOL CHECK SUMMARY


   PERFORMED:     31-OCT-1993 14:57
   PROGRAM FILE: ISN     (VERSION    38.2    92/10/12  92/10/12)


 DITD                      TOOL  CHECK

                   ZERO                       PLUS
           BEFORE         AFTER         BEFORE      AFTER      UNITS
   ILD       0.0            .2          496.4       490.9      MM/M
   ILM       0.0            .0          495.7       491.7      MM/M
   SFL       0.0           -.1          500.0       484.4      MM/M

 ILD SONDE ERROR CORRECTION :        6.7 MM/M
 ILM SONDE ERROR CORRECTION :        8.0 MM/M

 BEFORE SURVEY:              ZERO: 31-OCT-1993 13:59  PLUS: 31-OCT-1993 14:00
 AFTER SURVEY CHECK:         ZERO: 31-OCT-1993 14:55  PLUS: 31-OCT-1993 14:56

    CP 38.2            FILE    9      31-OCT-1993 14:56


              BEFORE SURVEY CALIBRATION SUMMARY


   PERFORMED:     31-OCT-1993 14:01
   PROGRAM FILE: ISN     (VERSION    38.2    92/10/12  92/10/12)


 DITD              ELECTRONICS CALIBRATION SUMMARY
```

```
                 MEASURED                        CALIBRATED
               ZERO     PLUS               ZERO         PLUS          UNITS
      ILD       .05     538.3               0.0         496.4          MM/M
      ILM       .01     525.5               0.0         495.7          MM/M
      SFL       .24     522.7               0.0         500.0          MM/M

 ILD SONDE ERROR CORRECTION :          6.7 MM/M
 ILM SONDE ERROR CORRECTION :          8.0 MM/M

 ZERO: 31-OCT-1993 13:59  PLUS: 31-OCT-1993 14:00  COMP: 31-OCT-1993 14:00


 SGTE             DETECTOR CALIBRATION SUMMARY

                 MEASURED
               BKGD     JIG          CALIBRATED          UNITS
    GR          40      201             165              GAPI

 BACK: 31-OCT-1993 12:15   JIG: 31-OCT-1993 12:21  COMP: 31-OCT-1993 12:21


 MCDB             CALIPER CALIBRATION SUMMARY

                 MEASURED                        CALIBRATED
               SMALL    LARGE              SMALL        LARGE         UNITS
   CALI        7.63     10.92              8.00         12.00          IN

 SMALL: 31-OCT-1993 11:33 LARGE: 31-OCT-1993 11:36 COMP: 31-OCT-1993 11:36

   CP 38.2            FILE    4       31-OCT-1993 14:00



                  SHOP SUMMARY


   PERFORMED:     14-OCT-1993 08:46
   PROGRAM FILE: SHOP    (VERSION    38.2     92/10/12   92/10/12)


 DITD             ELECTRONICS CALIBRATION SUMMARY

                    TEST LOOP CALIBRATION            TOOL CHECK
                 MEASURED          CALIBRATED        CALIBRATED
               ZERO     PLUS     ZERO      PLUS     ZERO      PLUS    UNITS
      ILD      -6.3     501.2    0.0       500.0    0.0       496.4   MM/M
      ILM      -8.8     518.8    0.0       500.0    0.0       495.7   MM/M
 ILD  SONDE ERROR CORRECTION :          6.7 MM/M
 ILM  SONDE ERROR CORRECTION :          8.0 MM/M

                        (IS:1342, IC:1422)

   CP 38.2            FILE    2       14-OCT-1993 08:46
```

COMPANY	NAHAMA AND WEAGANT ENERGY CO.			SCHL.	FR	2785.0 F
				SCHL.	TD	2791.0 F
WELL	"GRUB CREEK JOHNSTON" #11-30-65			DRLR.	TD	2794.0 F
FIELD	MIST			Elev:	KB	643.7 F
					DF	642.7 F
COUNTY	COLUMBIA	**STATE**	OREGON		GL	633.7 F

Schlumberger

DUAL INDUCTION - SFL
BHC SONIC