COUNTY	COLUMBIA
FIELD	MIST
LOCATION	1579'N & 1370'E
WELL	"JR BURGER JOHNSTON" #24-19-65 R
COMPANY	NAHAMA AND WEAGANT ENERGY CO

Schlumberger

DUAL INDUCTION-SFL-SONIC

COMPANY	NAHAMA AND WEAGANT ENERGY CO.		
WELL	"JR BURGER JOHNSTON" #24-19-65 RD#1		
FIELD	MIST		
COUNTY	COLUMBIA	**STATE**	OREGON

LOCATION	1579'N & 1370'E FROM SW CORNER OF:			**Other Services:** DIL/BHC/GR
API SERIAL NO. 36-009-00315	**SECT.** 19	**TWP.** 6N	**RANGE** 5W	

Permanent Datum	GL	**Elev.**	628.3 F	**Elev.: K.B.** 638.3 F
Log Measured From	KB	10.0 F	**above Perm. Datum**	**D.F.** 637.3 F
Drilling Measured From	KB			**G.L.** 628.3 F

Date		19-AUG-93				
Run No.		ONE				
Depth Driller		2882.0 F				
Depth Logger (Schl.)		2878.0 F				
Btm. Log Interval		2872.0 F				
Top Log Interval		502.0 F				
Casing-Driller		8 5/8	@ 502.0 F	@		@
Casing-Logger		502.0 F				
Bit Size		7 7/8	@ 2882.0 F	@		@
Type Fluid in Hole		GEL/POLYMER				
Dens.	**Visc.**	9.50 LB/G	44.0 S			
pH	**Fld. Loss**	9.0	6.0 C3			
Source of Sample		FLOWLINE				
Rm @ Meas. Temp.		1.820 OHMM	@ 84.0 DEGF	@		
Rmf @ Meas. Temp.		1.920 OHMM	@ 80.0 DEGF	@		
Rmc @ Meas. Temp.		1.530 OHMM	@ 79.0 DEGF	@		
Source: Rmf	**Rmc**	MEASURED	MEASURED			
Rm @ BHT		1.593 OHMM	@ 97.0 DEGF	@		
TIME	**Circulation Ended**	08:30 19-AUG 93				
	Logger on Bottom	13:17 19-AUG 93				
Max. Rec. Temp.		97.0 DEGF				
Equip.	**Location**	8271	SACRAMENTO			
Recorded By		ROANE THORPE				
Witnessed By		ROB LUCAS				

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

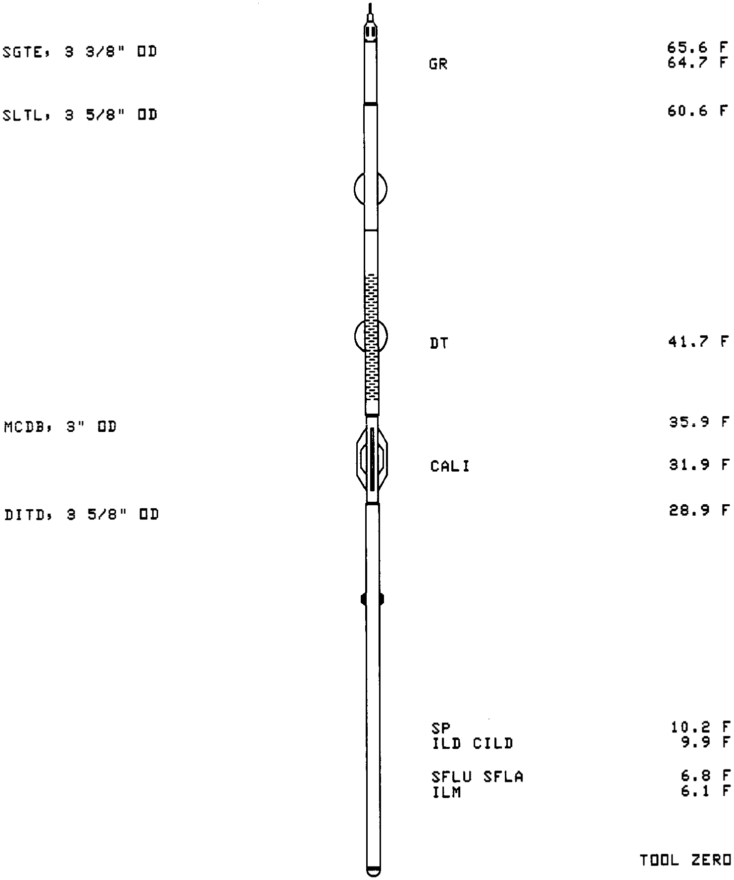
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or wilful negligence on our part, be liable or responsible for any loss, costs, 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.	624494			
Drilling Fluid Level	5.0 F			
Salinity	650.0 PPM			
Rmf @ BHT	1.606 OHMM	@ 97.0 DEGF		@
Rmc @ BHT	1.265 OHMM	@ 97.0 DEGF		@
Logging Speed	3600.0 F/HR			
EQUIPMENT DATA				
Tool Number 1	DIS-EC 1422			
Tool Number 2	DIC-DA 1149			
Tool Number 3	SLS-WA 1464			
Tool Number 4	SLC-MA 114			
Tool Number 5	MCD-B 1237			
Tool Number 6	SGC-JC 4148			
Tool Number 7	IEM-BD 1317			
Tool Number 8	SLM-DA 443			
Tool Number 9	NLM-BC 456			
Tool Number 10				
Tool Number 11				
Tool Number 12				

REMARKS:

TWO 1.5" STANDOFFS RUN ON INDUCTION TOOL
TWO CMEZ CENTRALIZERS RUN ON SONIC TOOL
1 1.5" STANDOFF RUN ON SONIC TOOL

LOGGING TOOL STRING SKETCH



```
TOTAL TOOL STRING LENGTH IS 69.2 F.
TOTAL TOOL STRING WEIGHT IS 993. LB IN AIR.
```

MAIN LOG

```
ACCUMULATED INTEGRATION VALUES SUMMARY:

Integrated Hole Volume:    529.802 F3    FROM 2878.00 F    TO 966.000 F
Integrated Cement Volume: 318.627 F3    FROM 2878.00 F    TO 966.000 F
  (ASSUMING 4.50000 IN   O.D. CASING)
Integrated Transit Time:  .214410 S     FROM 2878.00 F    TO 966.000 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
```

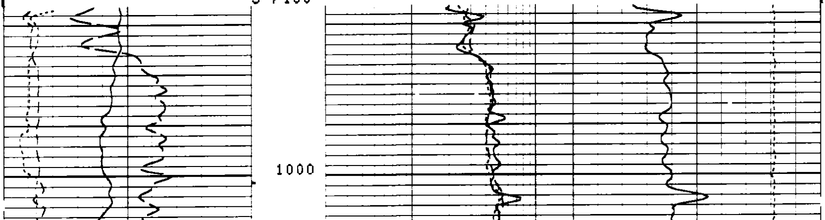
TENS(LBF)
10000. 0.0
DT(US/F)
150.00 50.000

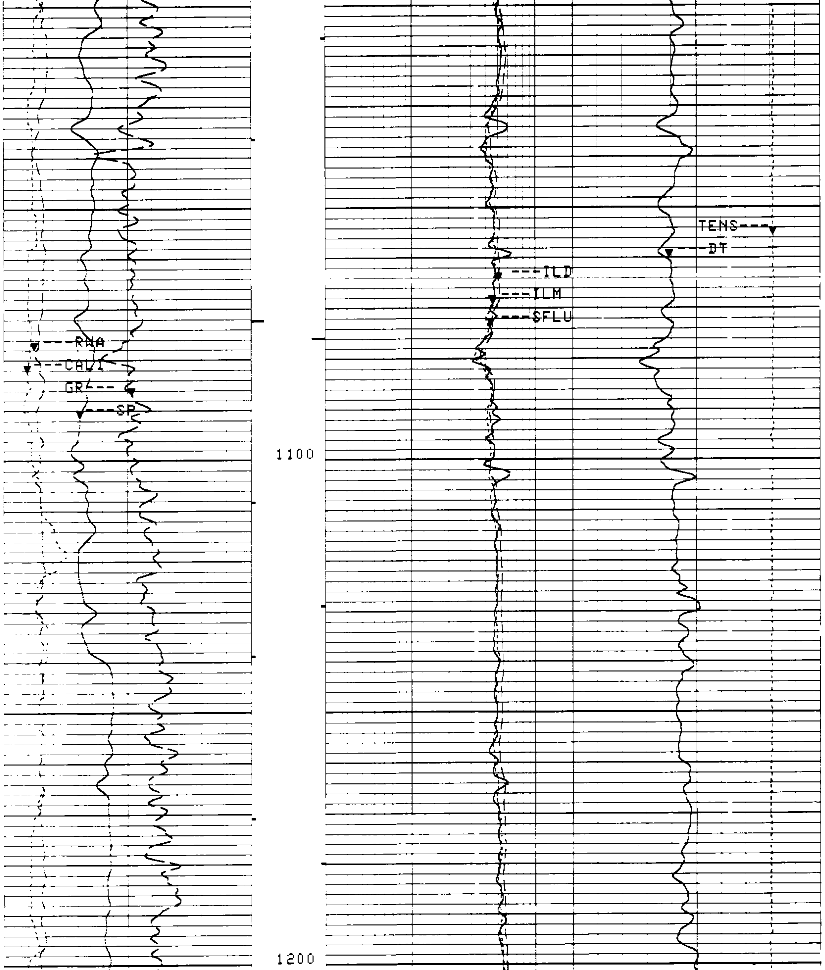
RWA(OHMM)
0.0 3.0000
CALI(IN)
6.0000 16.000
GR(GAPI)
0.0 150.00
SP(MV)
-150.0 0.0

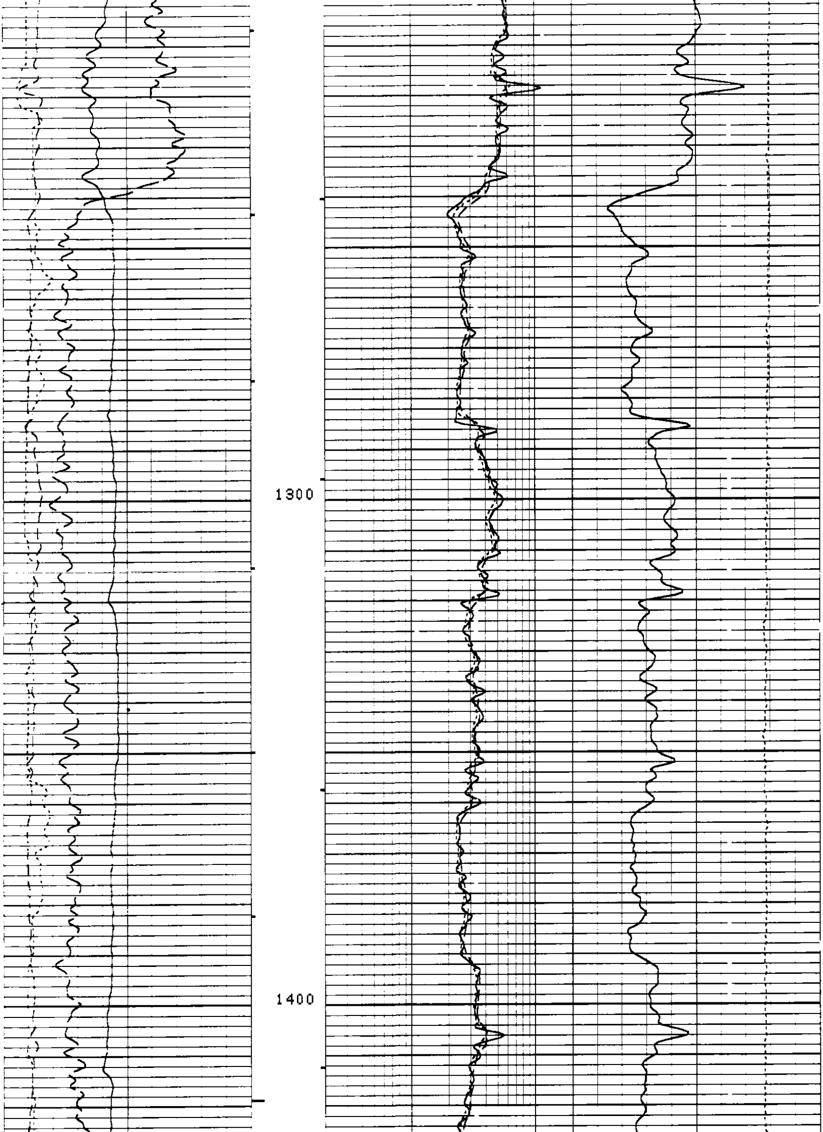
ILD(OHMM)
.20000 2000.0
ILM(OHMM)
.20000 2000.0
SFLU(OHMM)
.20000 2000.0

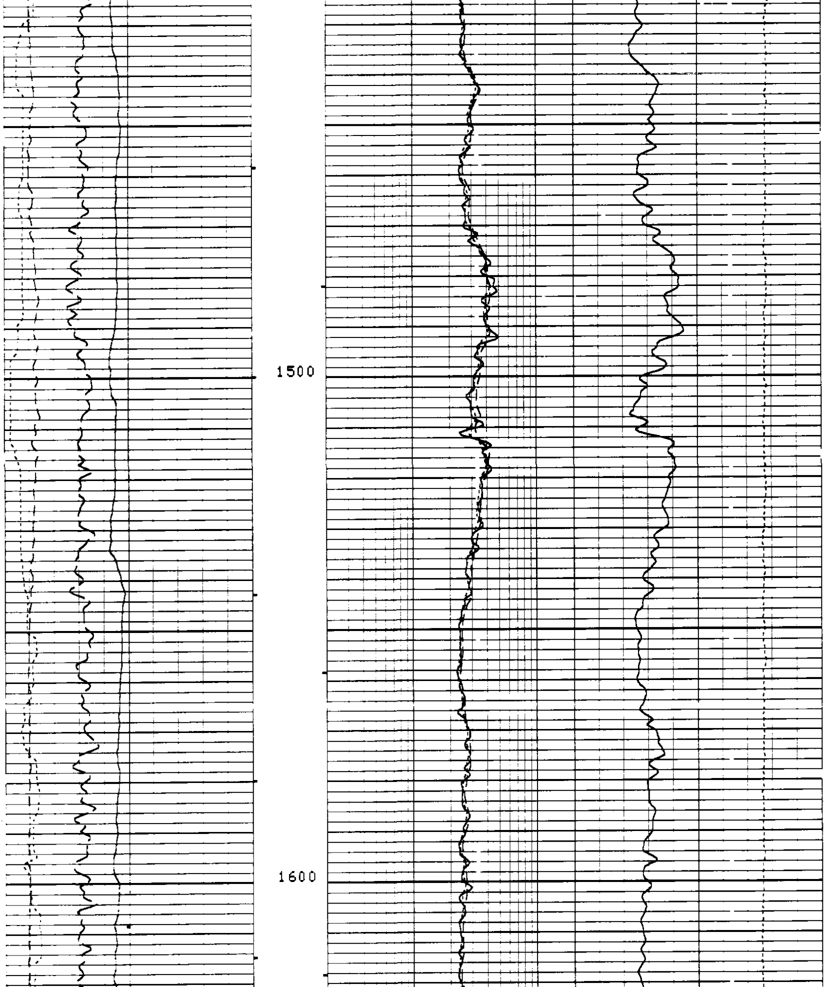
```
CP 38.2            FILE    12        19-AUG-1993 14:03

                   INPUT FILE(S)     CREATION DATE
                        8            19-AUG-1993 13:16
```

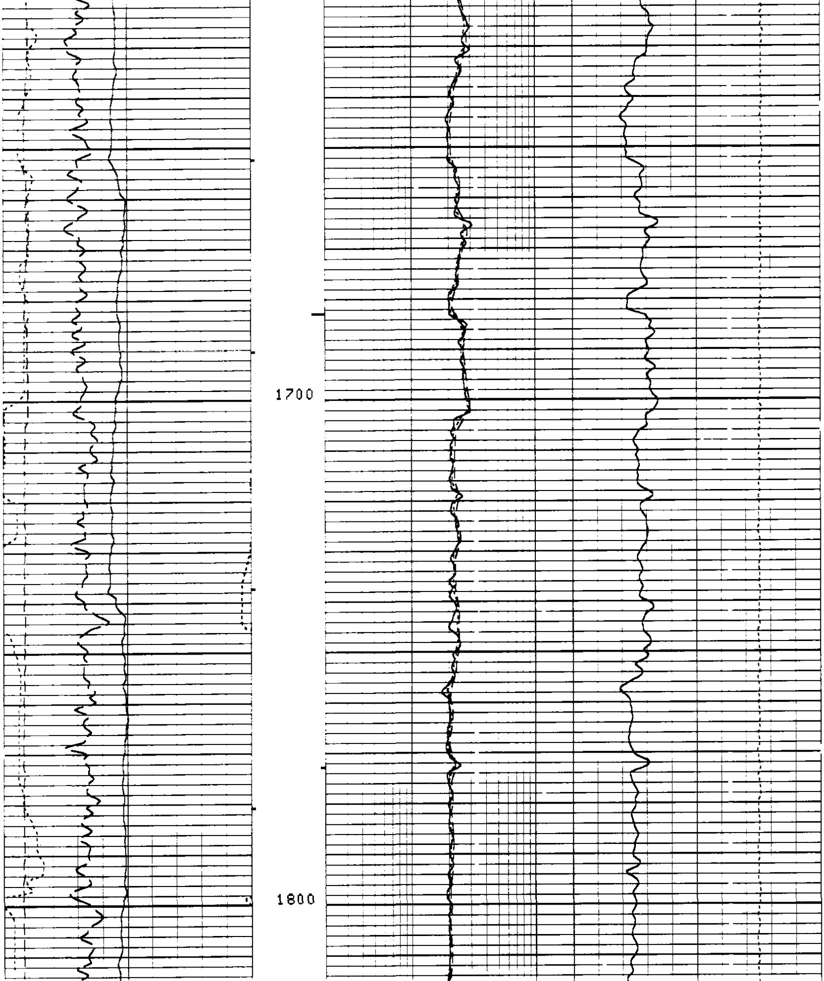
5"/100'

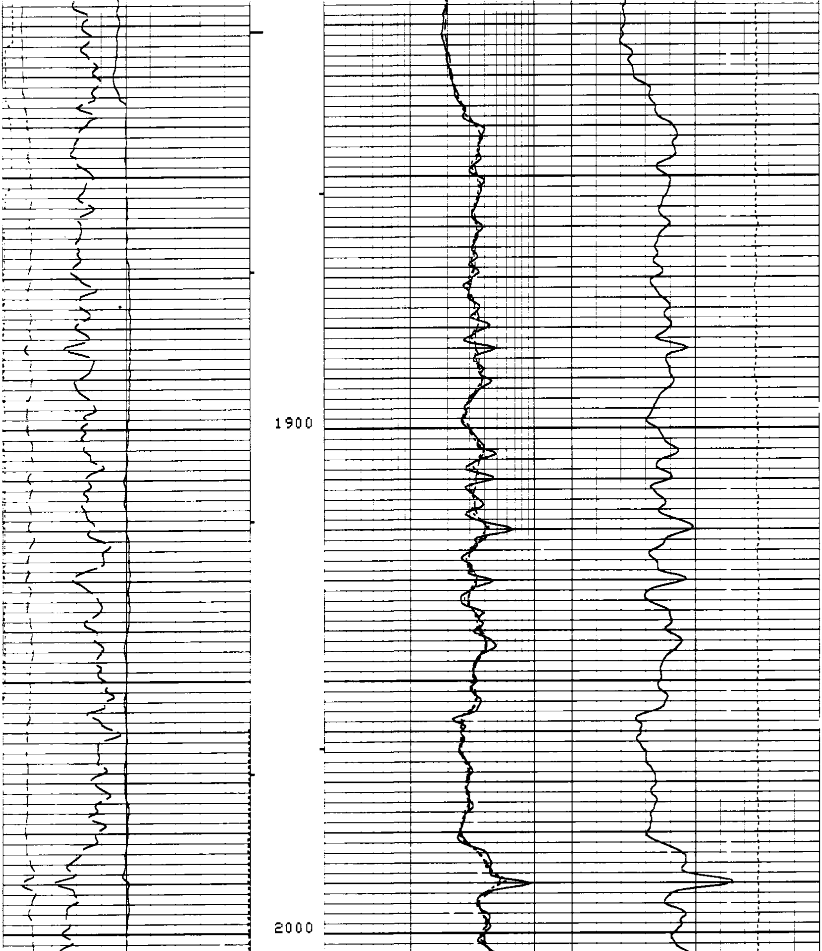


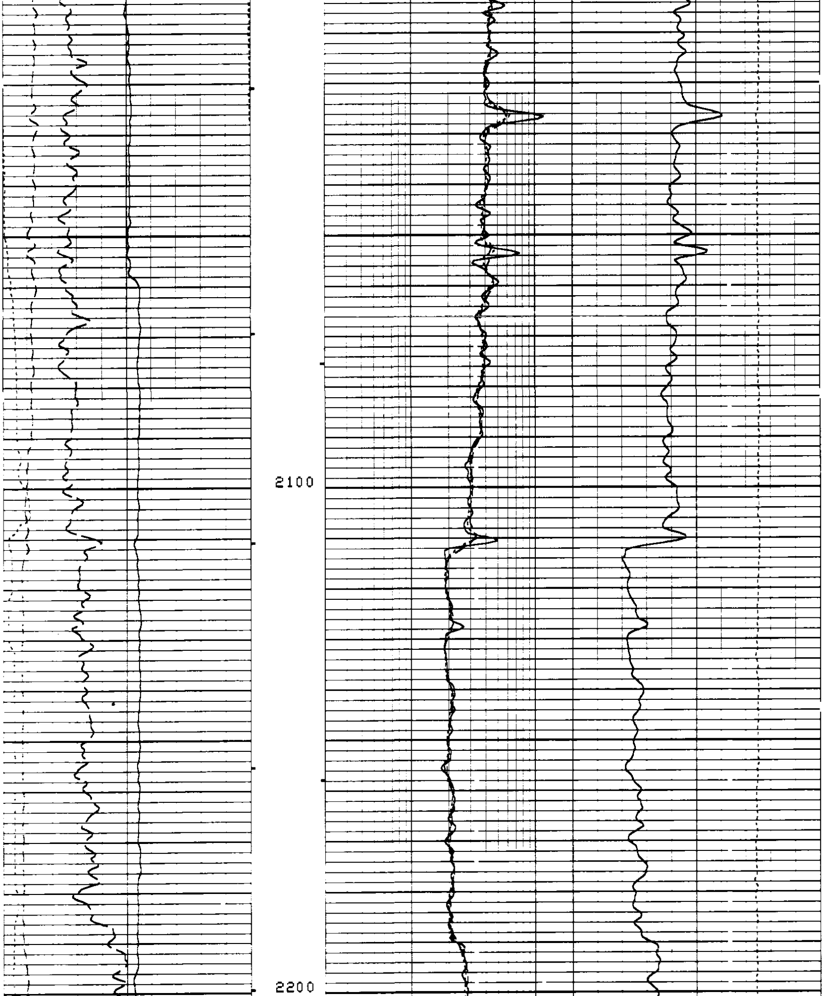


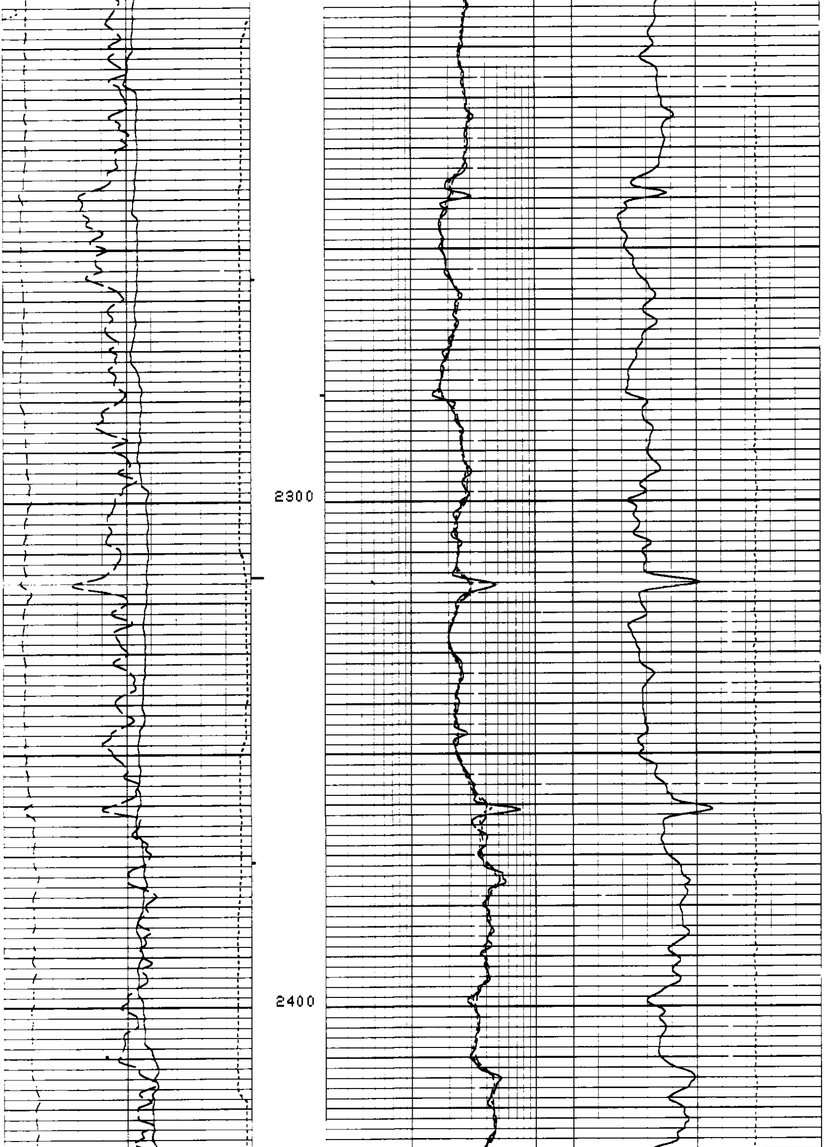


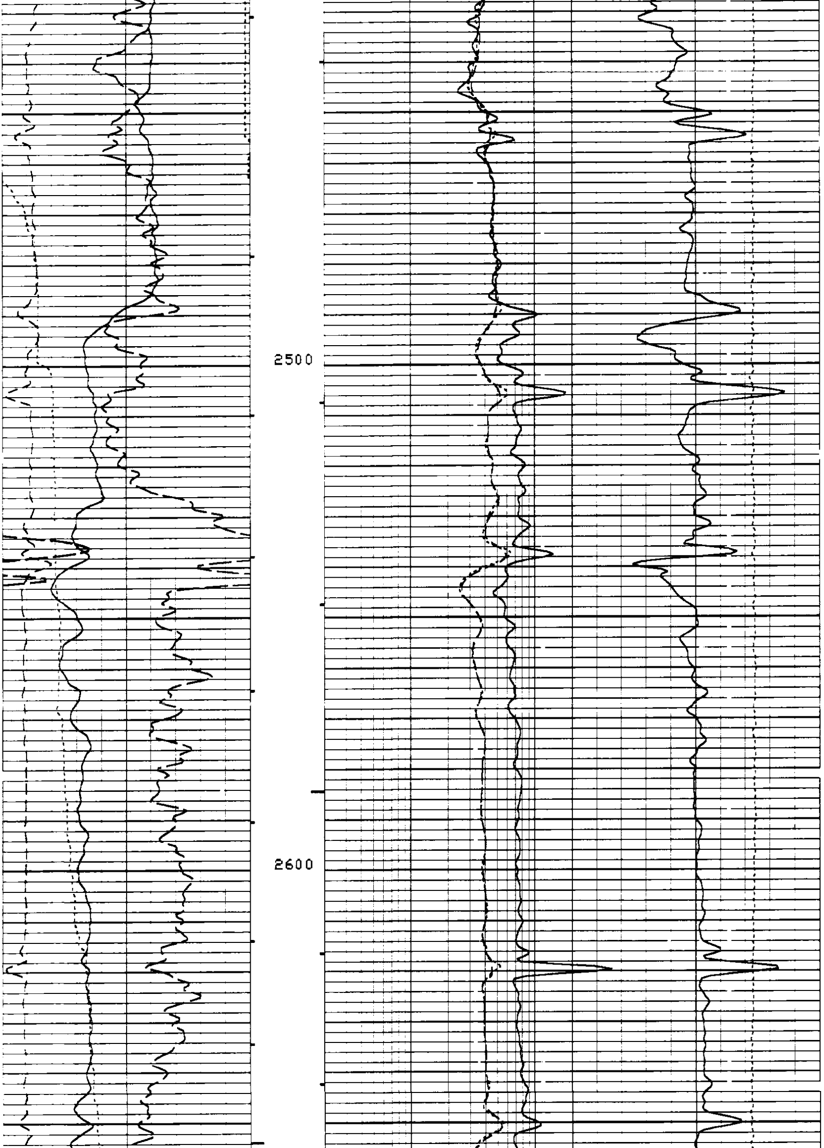


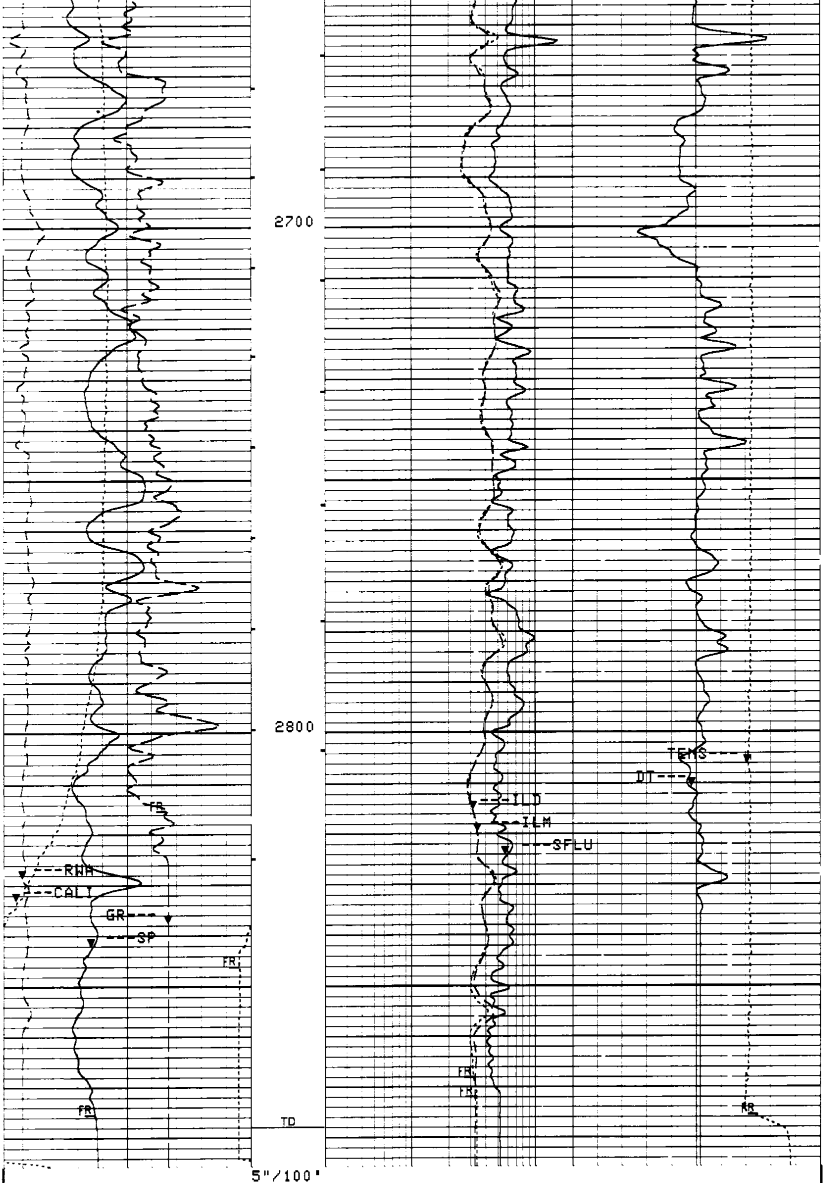












CP 38.2 FILE 12 19-AUG-1993 13:58

INPUT FILE(S) CREATION DATE
8 19-AUG-1993 13:16

TENS(LBF)	10000.	0.0
DT(US/F)	150.00	50.000
RWA(OHMM)	0.0	3.0000
CALI(IN)	6.0000	16.000
ILD(OHMM)	.20000	2000.0
GR(GAPI)	0.0	150.00
ILM(OHMM)	.20000	2000.0
SP(MV)	-150.0	0.0
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	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	9.50000	LB/G
MSEC	7.50000	MM/M	SBR	1.00000	OHMM
DSEC	4.40000	MM/M	FCD	4.50000	IN
NCJT	GSRY		FPHI	SPHI	
DWCD	512		DSIN	5	US
DDEL	200	US	BS	7.87500	IN
BHS	OPEN				

REPEAT SECTION

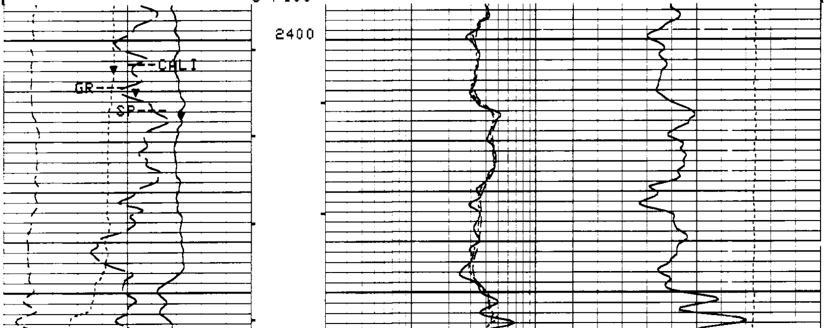
```
ACCUMULATED INTEGRATION VALUES SUMMARY:

Integrated Hole Volume:   75.8317 F3    FROM 2628.50 F     TO 2392.50 F
Integrated Cement Volume: 49.8215 F3    FROM 2628.50 F     TO 2392.50 F
  (ASSUMING 4.50000 IN   O.D. CASING)
Integrated Transit Time:  .0242596 S    FROM 2628.50 F     TO 2392.50 F
```

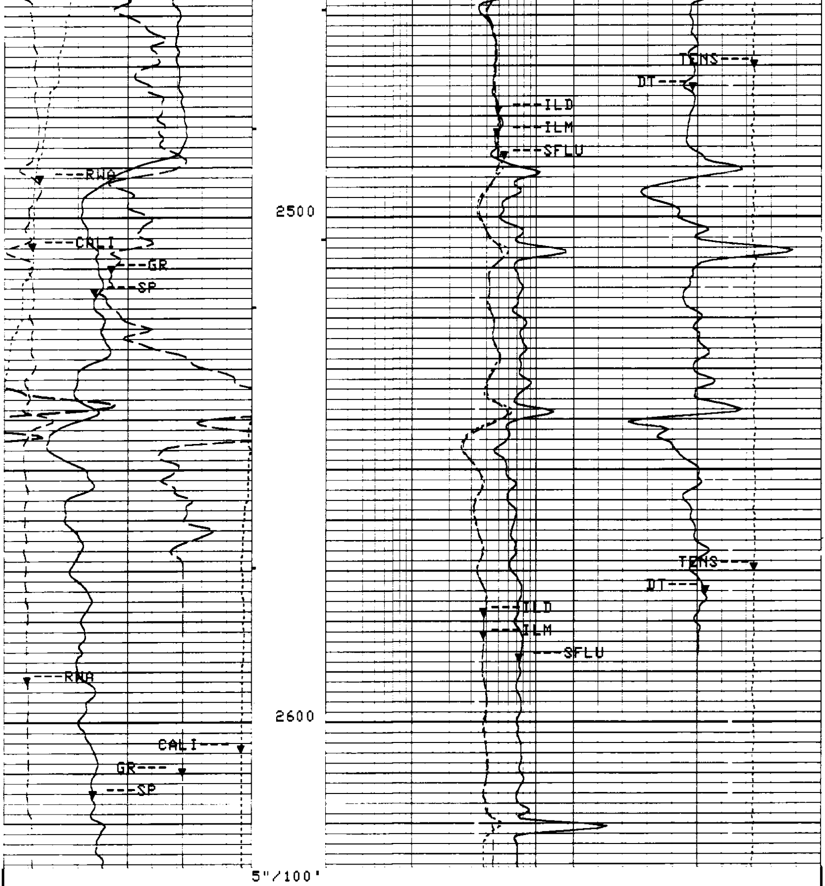
```
EVENT MARK SUMMARY:

OUTPUT                           INTERVAL         DEPTH TRACK
                                 BETWEEN PIPS     EDGE

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

Curve	Left	Right
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

CP 38.2   FILE 6   19-AUG-1993 13:09   (UP)

5"/100'





CP 38.2 FILE 6 19-AUG-1993 13:05 (UP)

RWA(OHMM)	0.0	3.0000
CALI(IN)	6.0000	16.000
GR(GAPI)	0.0	150.00
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

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	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		WMUD	9.50000	LB/G
MSEC	7.50000	MM/M	SBR	1.00000	OHMM
DSEC	4.40000	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: 19-AUG-1993 13:55
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          .4        501.6      500.8    MM/M
   ILM        0.0         -.2        499.0      497.8    MM/M
   SFL        0.0         -.2        500.0      499.6    MM/M

ILD SONDE ERROR CORRECTION :       4.4 MM/M
ILM SONDE ERROR CORRECTION :       7.5 MM/M

BEFORE SURVEY:           ZERO: 19-AUG-1993 12:51  PLUS: 19-AUG-1993 12:52
AFTER SURVEY CHECK:      ZERO: 19-AUG-1993 13:54  PLUS: 19-AUG-1993 13:55

   CP 38.2            FILE   11      19-AUG-1993 13:55


               BEFORE SURVEY CALIBRATION SUMMARY


  PERFORMED:    19-AUG-1993 12:53
  PROGRAM FILE: ISN    (VERSION    38.2    92/10/12  92/10/12)


DITD            ELECTRONICS CALIBRATION SUMMARY

             MEASURED                   CALIBRATED
           ZERO    PLUS                 ZERO      PLUS         UNITS
   ILD      .10   510.5                0.0      501.6         MM/M
   ILM      .21   525.8                0.0      499.0         MM/M
   SFL      .03   523.3                0.0      500.0         MM/M

ILD SONDE ERROR CORRECTION :       4.4 MM/M
ILM SONDE ERROR CORRECTION :       7.5 MM/M

ZERO: 19-AUG-1993 12:51  PLUS: 19-AUG-1993 12:52  COMP: 19-AUG-1993 12:52


SGTE            DETECTOR CALIBRATION SUMMARY

             MEASURED
           BKGD    JIG          CALIBRATED         UNITS
    GR      34      192            165               GAPI

BACK: 19-AUG-1993 12:35   JIG: 19-AUG-1993 12:38  COMP: 19-AUG-1993 12:38


MCDB            CALIPER CALIBRATION SUMMARY

             MEASURED                   CALIBRATED
           SMALL   LARGE                SMALL     LARGE        UNITS
  CALI     8.46   11.18                8.00      12.00         IN

SMALL: 19-AUG-1993 11:56 LARGE: 19-AUG-1993 11:57 COMP: 19-AUG-1993 11:57

   CP 38.2            FILE    5      19-AUG-1993 12:52



                SHOP SUMMARY


  PERFORMED:    14-JUL-1993 14:24
  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  -2.8     486.9     0.0       500.0      0.0       501.6   MM/M
   ILM  -7.8     503.0     0.0       500.0      0.0       499.0   MM/M
 ILD  SONDE ERROR CORRECTION :       4.4 MM/M
 ILM  SONDE ERROR CORRECTION :       7.5 MM/M

                      (IS:1422, IC:1149)

   CP 38.2           FILE    8       14-JUL-1998 14:24
```

COMPANY	NAHAMA AND WEAGANT ENERGY CO.			**SCHL.**	**FR**	2872.0 F
				SCHL.	**TD**	2878.0 F
WELL	"JR BURGER JOHNSTON" #24-19-65 RD#1			**DRLR.**	**TD**	2882.0 F
				Elev:	**KB**	638.3 F
FIELD	MIST				**DF**	637.3 F
COUNTY	COLUMBIA	**STATE**	OREGON		**GL**	628.3 F

DUAL INDUCTION-SFL-SONIC

Schlumberger