Schlumberger

CONTINUOUS DIPMETER

COUNTY	COLUMBIA
FIELD	MIST
LOCATION	1092'S AND 1365'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 1365'E FROM NW CORNER			Other Services: DIL-BHC-GR LDT-CNL-GR SHDT
API SERIAL NO.	SECT. 16	TWP. 6N	RANGE 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	2335.0 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	11:40 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	
Magnetic Declination		
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	SHDS-B 789	
Tool Number 2	SHDI-BB 797	
Tool Number 3	SHDC-B 723	
Tool Number 4	TCC-B 1312	
Tool Number 5	CCSM-AB 1317	
Tool Number 6		
Tool Number 7		
Tool Number 8		
Tool Number 9		
Tool Number 10		
Tool Number 11		
Tool Number 12		

REMARKS:

WITNESSED BY: J. VAUGHAN, D. PARKER
T. THOMAS, M. CHALMERS

EVENT MARK SUMMARY:

OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
IHV	10.0000 F3	LEFT EDGE
ICV	10.0000 F3	RIGHT EDGE

SPEED CORRECTION NOT APPLIED

CEMENT VOLUME = 308.069 F3 (ASSUMING 4.50000 IN O.D. CASING)
HOLE VOLUME = 500.909 F3
FROM 2338.0 TO 592.0 FEET

NO KNUCKLE JOINT IS USED (SOFF = -1)

RB CURVE DISALLOWED WHEN DEVI LESS THAN 0.5 DEG

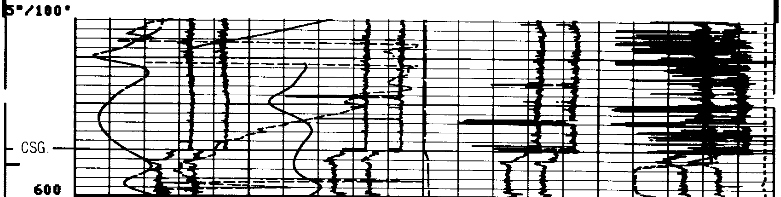
HAZI CURVE DISALLOWED WHEN DEVI LESS THAN 0.5 DEG

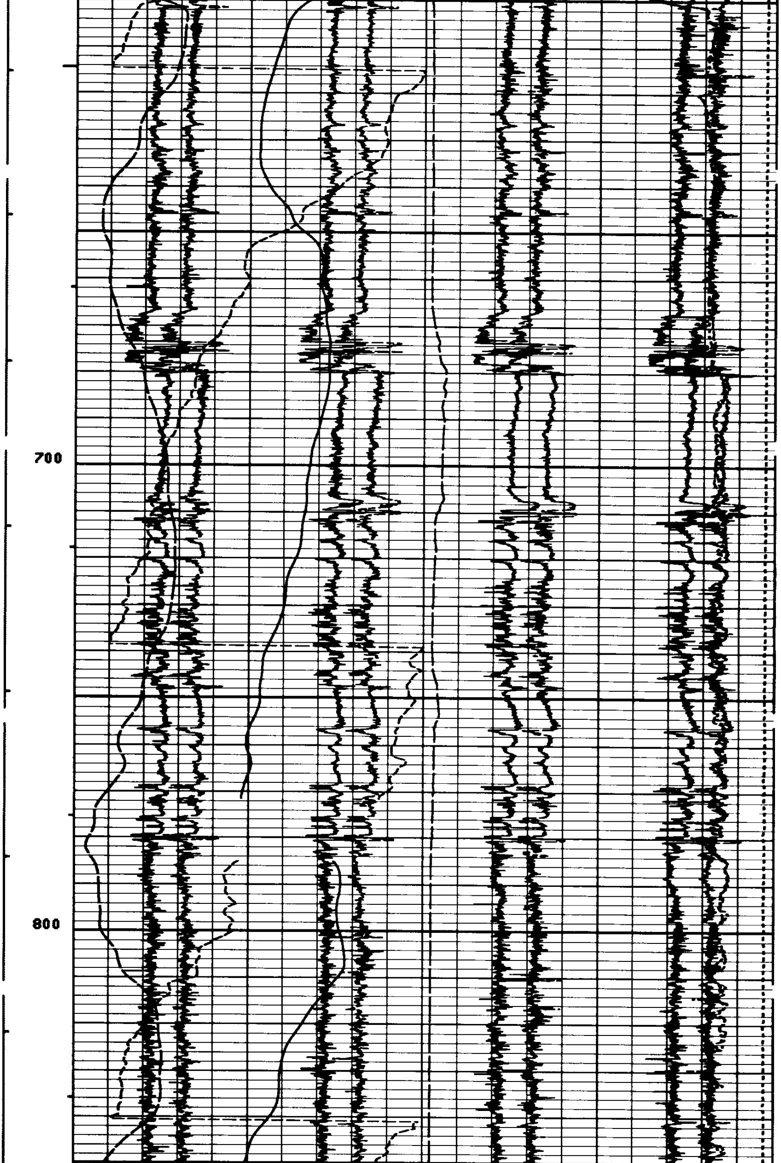
RB1A -1000. 4000.0	RB2A -1000. 4000.0	EV (V) 0.0 50.000	TENS(LBF) 10000. 0.0
RDB1 0.0 5000.0	RDB2 0.0 5000.0	RB3A -1000. 4000.0	RB4A -1000. 4000.0
RB (DEG) -40.00 360.00		RDB3 0.0 5000.0	RDB4 0.0 5000.0
HAZI(DEG) -40.00 360.00		C2 (IN) 24.000 4.0000	
DEVI(DEG) 0.0 10.000		C1 (IN) 24.000 4.0000	

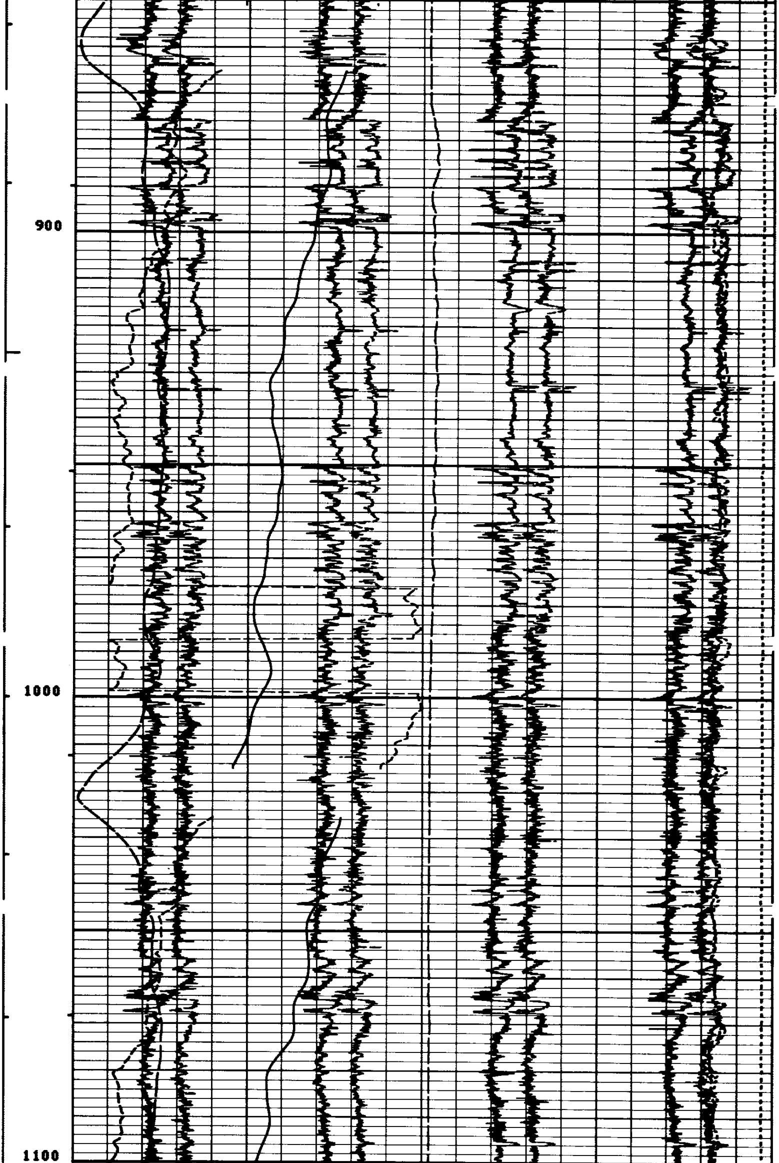
CP 32.2A FILE 28 10-OCT-1990 12:44

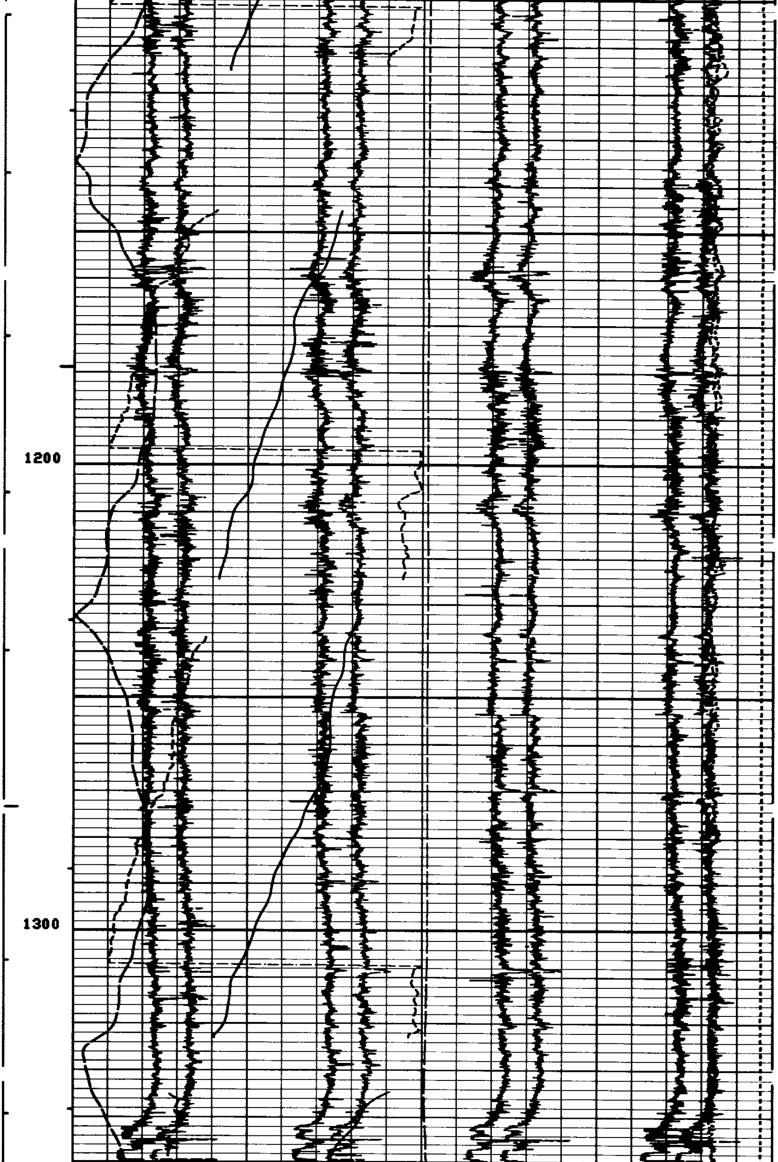
INPUT FILE(S)
25

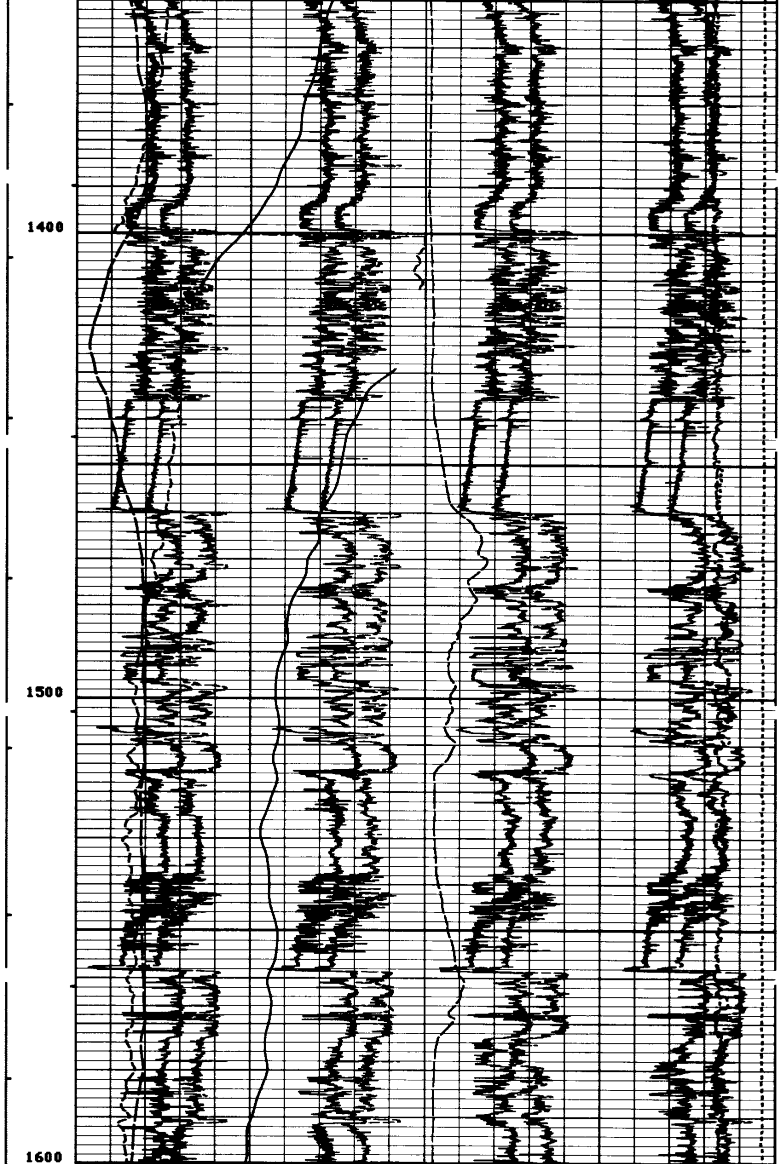
DATA ACQUIRED
10-OCT-1990 12:11

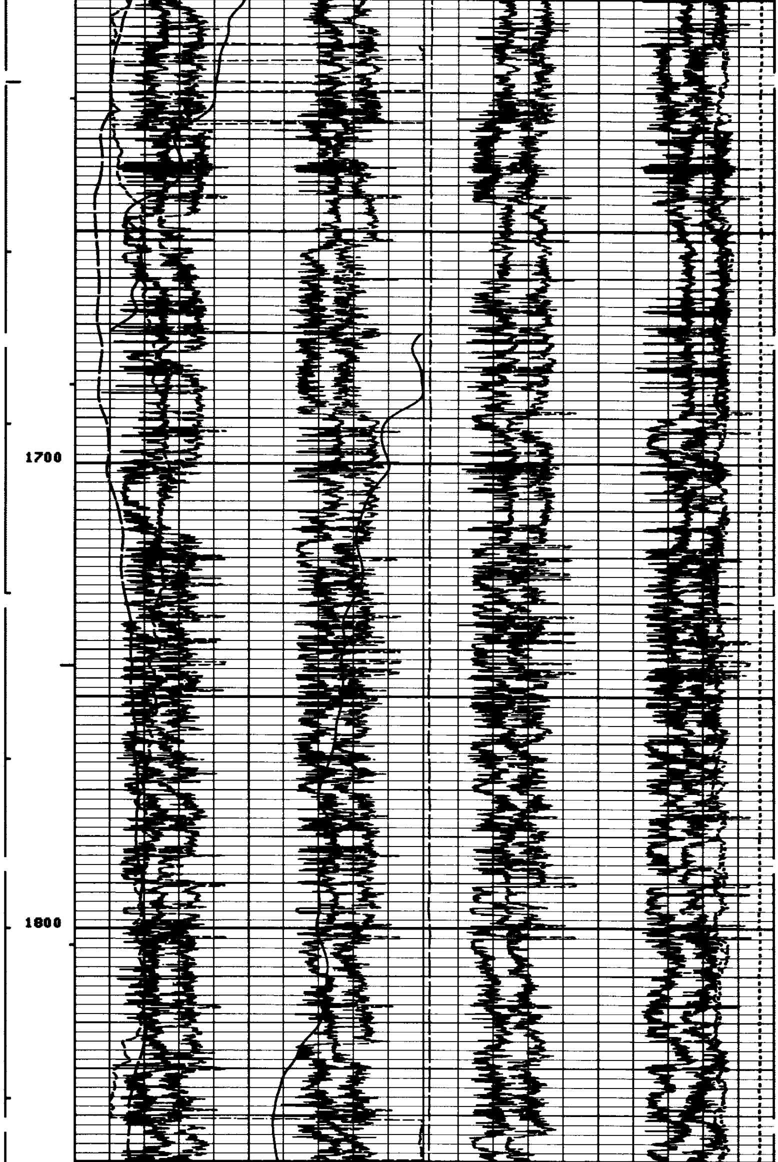


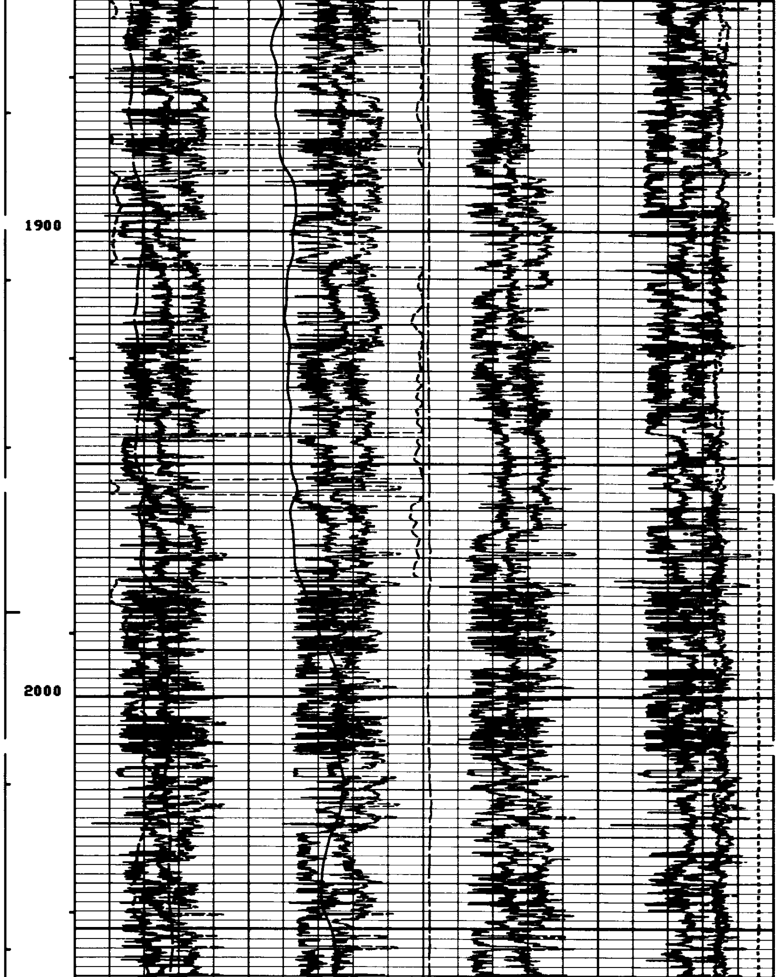


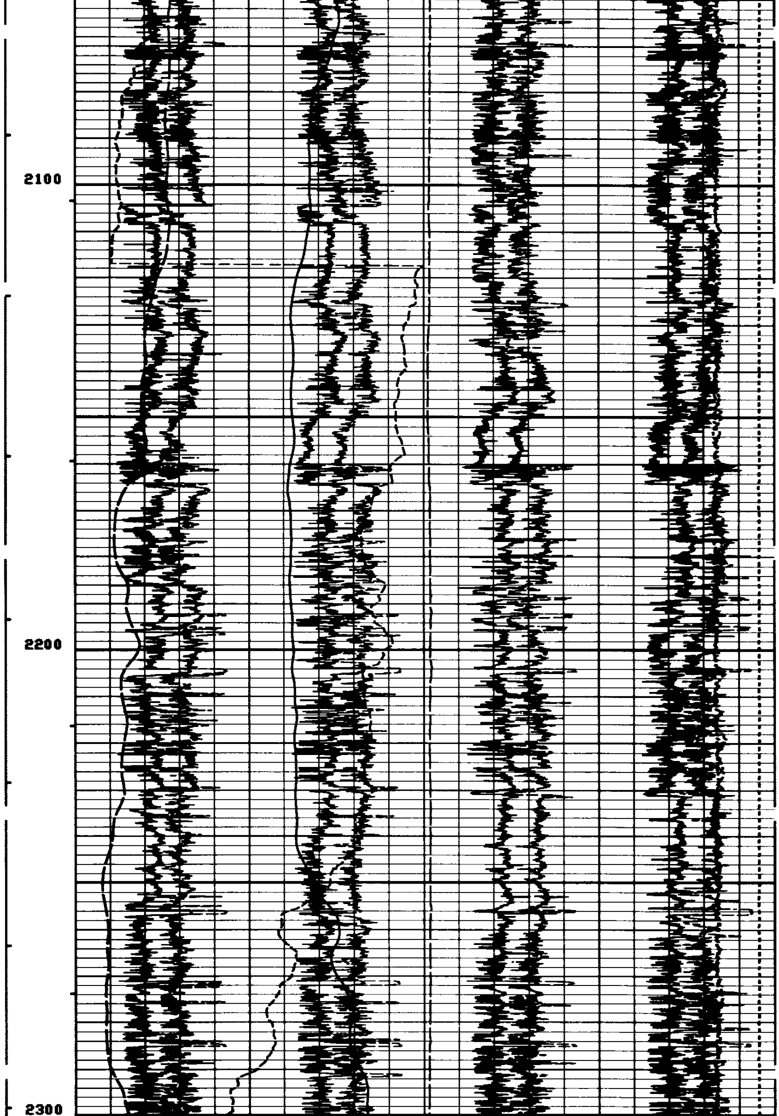


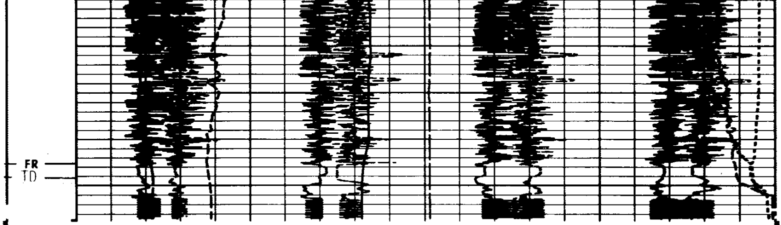












5"/100'

CP 32.2A FILE 28 10-OCT-1990 12:21

INPUT FILE(S)
25

DATA ACQUIRED
10-OCT-1990 11:40

RB1A		RB2A		EV (V)		TENS(LBF)	
-1000.	4000.0	-1000.	4000.0	0.0	50.000	10000.	0.0
RDB1		RDB2		RB3A		RB4A	
0.0	5000.0	0.0	5000.0	-1000.	4000.0	-1000.	4000.0
RB (DEG)				RDB3		RDB4	
-40.00			360.00	0.0	5000.0	0.0	5000.0
HAZI(DEG)				C2 (IN)			
-40.00			360.00	24.000			4.0000
DEVI(DEG)				C1 (IN)			
0.0			10.000	24.000			4.0000

SENSOR MEASURE POINT TO TOOL ZERO

SHDW 1.2 FEET
RSHD 1.2 FEET

TENS -2.7 FEET
ZB 1.2 FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
PP	RECO		DO	0.0	F
MFIN	.550000	DER	MDEC	20.0000	DEG
MINC	68.0000	DEG	SHDS	B	
SHDI	BB		VREF	-5.00000	V
FCDD	1.		SOFF	-1.00000	IN
IDFO	RAW		ODFO	LIS	
ICMO	OPEN		AFMO	HAMM	
XMOD	AUTO		XGAI	2	
XOFF	0		FCD	4.50000	IN
SPCR	DISA		BS	7.87500	IN
BHS	OPEN				

EVENT MARK SUMMARY:

OUTPUT	INTERVAL BETWEEN PIPS	DEPTH TRACK EDGE
IHV	10.0000 F3	LEFT EDGE
ICV	10.0000 F3	RIGHT EDGE

SPEED CORRECTION NOT APPLIED

```
CEMENT VOLUME = 40.1178 F3   (ASSUMING 4.50000 IN   O.D. CASING)
HOLE VOLUME =   66.5145 F3
FROM  2338.0 TO  2099.0 FEET
```

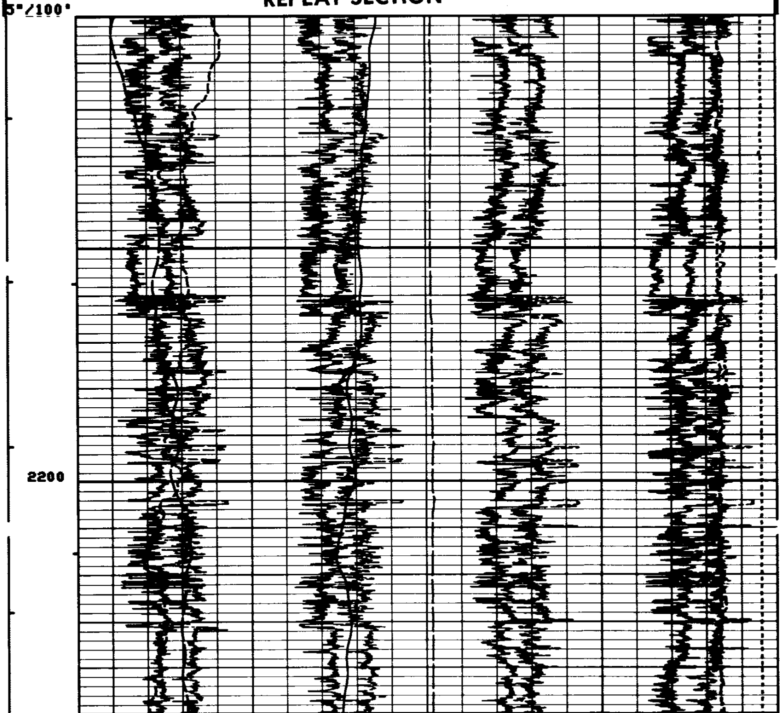
```
NO KNUCKLE JOINT IS USED (SOFF = -1)
```

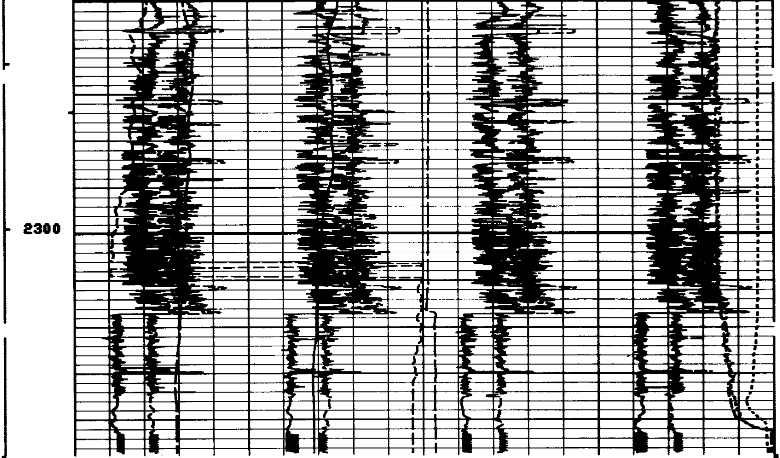
RB1A	RB2A	EV (V)	TENS(LBF)
-1000. 4000.0	-1000. 4000.0	0.0 50.000	10000. 0.0
RDB1	RDB2	RB3A	RB4A
0.0 5000.0	0.0 5000.0	-1000. 4000.0	-1000. 4000.0
RB (DEG)		RDB3	RDB4
-40.00 360.00		0.0 5000.0	0.0 5000.0
HAZI(DEG)		C2 (IN)	
-40.00 360.00		24.000 4.0000	
DEVI(DEG)		C1 (IN)	
0.0 10.000		24.000 4.0000	

```
CP 32.2A           FILE    27        10-OCT-1990 12:20

        INPUT FILE(S)                DATA ACQUIRED
        24                           10-OCT-1990 11:38
```

REPEAT SECTION





5"/100"

CP 32.2A FILE 27 10-OCT-1990 12:17

INPUT FILE(S) 24
DATA ACQUIRED 10-OCT-1990 11:33

RB1A		RB2A		EV (V)		TENS(LBF)	
-1000.	4000.0	-1000.	4000.0	0.0	50.000	10000.	0.0
RDB1		RDB2		RB3A		RB4A	
0.0	5000.0	0.0	5000.0	-1000.	4000.0	-1000.	4000.0
RB (DEG)				RDB3		RDB4	
-40.00			360.00	0.0	5000.0	0.0	5000.0
HAZI(DEG)				C2 (IN)			
-40.00			360.00	24.000			4.0000
DEVI(DEG)				C1 (IN)			
0.0			10.000	24.000			4.0000

SENSOR MEASURE POINT TO TOOL ZERO

SHDW 1.2 FEET
RSHD 1.2 FEET
TENS -2.7 FEET
ZB 1.2 FEET

PARAMETERS

NAME	VALUE	UNIT
PP	RECO	
MFIN	.550000	OER
MINC	68.0000	DEG
SHDI	BB	
FCDD	1.	
IDFO	RAW	
ICMO	OPEN	
XMOD	AUTO	
XOFF	0	
SPCR	DISA	
BHS	OPEN	

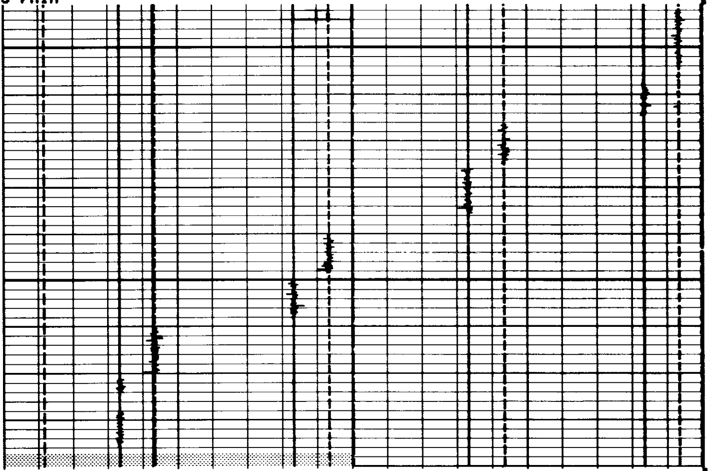
NAME	VALUE	UNIT
DO	0.0	F
MDEC	20.0000	DEG
SHDS	B	
VREF	-5.00000	V
SOFF	-1.00000	IN
ODFO	LIS	
AFMO	HAMM	
XGAI	2	
FCD	4.50000	IN
BS	7.87500	IN

NO KNUCKLE JOINT IS USED (SOFF = -1)

RB1A		RB2A		EV (V)		TENS(LBF)	
-1000.	4000.0	-1000.	4000.0	0.0	50.000	10000.	0.0
RDB1		RDB2		RB3A		RB4A	
0.0	5000.0	0.0	5000.0	-1000.	4000.0	-1000.	4000.0
RB (DEG)				RDB3		RDB4	
-40.00			360.00	0.0	5000.0	0.0	5000.0
HAZI(DEG)				C2 (IN)			
-40.00			360.00	24.000			4.0000
DEVI(DEG)				C1 (IN)			
0.0			10.000	24.000			4.0000

CP 32.2A FILE 8 09-OCT-1990 14:06

2.33333"/MIN



2.33333"/MIN

CP 32.2A FILE 8 09-OCT-1990 14:03

RB1A		RB2A		EV (V)		TENS(LBF)	
-1000.	4000.0	-1000.	4000.0	0.0	50.000	10000.	0.0
RDB1		RDB2		RB3A		RB4A	
0.0	5000.0	0.0	5000.0	-1000.	4000.0	-1000.	4000.0
RB (DEG)				RDB3		RDB4	
-40.00			360.00	0.0	5000.0	0.0	5000.0
HAZI(DEG)				C2 (IN)			
-40.00			360.00	24.000			4.0000
DEVI(DEG)				C1 (IN)			
0.0			10.000	24.000			4.0000

```
                    SENSOR MEASURE POINT TO TOOL ZERO

        SHDW   1.2   FEET                        TENS -4.0   FEET
        RSHD   1.2   FEET                        ZB      1.2   FEET
```

```
                                   PARAMETERS

      NAME   VALUE        UNIT                NAME   VALUE        UNIT

      SPEE 2800           F/HR                MFIN .540000        [illegible]
      MDEC 20.0000        DEG                 MINC 68.0000        DEG
      SHDS B                                  SHDI BB
      VREF -5.00000       V                   FCDD 1.
      SOFF -1.00000       IN                  IDFO RAW
      ODFO RAW                                ICMO OPEN
      AFMO HAMM                               XMOD MANU
      XGAI 0                                  XOFF 0
      FCD  5.50000        IN                  SPCR DISA
      BS   7.87500        IN                  BHS  OPEN
```

```
                BEFORE SURVEY CALIBRATION SUMMARY


   PERFORMED:     09-OCT-1990 14:02
   PROGRAM FILE: SHDT   (VERSION    32.2A    89/03/23   88/11/16)


  SHDT                CALIPER CALIBRATION SUMMARY

               MEASURED                      CALIBRATED
             SMALL    LARGE                SMALL      LARGE        UNITS
      C1     6.49     10.4                 8.00       12.0          IN
      C2     6.85     10.8                 8.00       12.0          IN

  SMALL: 09-OCT-1990 14:00 LARGE: 09-OCT-1990 14:02 COMP: 09-OCT-1990 14:02

      CP 32.2A          FILE    7        09-OCT-1990 14:02
```

COMPANY	NAHAMA & WEAGANT ENERGY COMPAN			SCHL.	FR	2836.0 F
WELL	"C.E.R." #11-16-64			SCHL.	TD	2838.0 F
FIELD	MIST			DRLR.	TD	2838.0 F
				Elev:	KB	1460.0 F
					DF	
COUNTY	COLUMBIA	STATE	OREGON		GL	1448.0 F

Schlumberger

CONTINUOUS DIPMETER