Neverstill 33-30-65

HALLIBURTON
LOGGING SERVICES, INC.
FINAL PRINT

DUAL INDUCTION
ACOUSTIC VELOCITY
GAMMA RAY LOG

5"=100'

COMPANY ______________
WELL ________________
FIELD _______________
COUNTY __________ ST __

COMPANY D Y OIL INC.

WELL NEVERSTILL 33-30

FIELD MIST

COUNTY COLUMBIA STATE OR

API NO. 36-009-00256
LOCATION :
307 FEET SOUTH AND
1255 FEET WEST FROM THE
NORTHEAST CORNER OF:
SEC. 30 TWP 6N RGE 5W

OTHER SERVICES
DSN/SDL/GR

PERMANENT DATUM G.L. ELEV. 507.7
LOG MEASURED FROM K.B. 11.4FT.ABOVE PERM.DATUM
DRILLING MEASURED FROM KELLY BUSHING

ELEV.:K.B. 519.1
D.F. -----
G.L. 507.7

DATE	08/03/89			
RUN NO.	ONE			
DEPTH-DRILLER	2225			
DEPTH- LOGGER	2223			
BTM. LOG INTER.	2220			
TOP LOG INTER.	381			
CASING-DRILLER.	8 5/8@381	@	@	@
CASING- LOGGER	381			
BIT SIZE	7 7/8			
TYPE FLUID IN HOLE	GEL LIGNO-	SULFINATE		
DENS. : VISC	10.0 :60	:	:	:
PH : FLUID LOSS	9.5 :7.2	:	:	:
SOURCE OF SAMPLE	CIRCULATED			
RM @ MEAS. TEMP.	3.0 @72	@	@	@
RMF @ MEAS. TEMP.	2.7 @72	@	@	@
RMC @ MEAS. TEMP.	2.0 @70	@	@	@
SOURCE RMF : RMC	MEAS.:MEAS.	:	:	:
RM @ BHT	2.09 @106	@	@	@
TIME SINCE CIRC.	4 HOURS			
TIME ON BOTTOM	11:45 AM			
MAX. REC. TEMP.	106 @BHT	@	@	@
EQUIP. : LOCATION	2890 :WDLND	:	:	:
RECORDED BY	B.JOHNSON			
WITNESSED BY	DAN YANKE	D. LEAVITT		

Fold He e

Service Ticket No.: 12116 API Serial No.: 36-009-00256 PGM Version: 1.31 PC

Change in Mud Type or Additional Samples

Date/Sample No.	/ / :	/ / :
Depth-Driller		
Type Fluid in Hole		
Dens. : Visc.	:	:
pH. : Fluid Loss	:	:
Source of Sample		
Rm @ Meas.Temp.	@	@
Rmf @ Meas.Temp.	@	@
Rmc @ Meas.Temp.	@	@
Source: Rmf:Rmc	:	:
Rm @ BHT	2.09 @106	@
Rmf @ BHT	1.89 @106	@
Rmc @ BHT	1.36 @106	@

RESISTIVITY SCALE CHANGES

Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA

Run No	Tool Type & No	Pad Type	Tool Pos.	Other
ONE	DUAL #W109432	N/A	1.5 S.O.	---
ONE	SGRD #W108932	N/A	1.5 S.O.	---

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.	ONE	Run No.	N/A	Run No.	N/A
Serial No.	W108594	Serial No.	W112458	Serial No.	W109740	Serial No.	W108749
Model No.	432	Model No.	M305	Model No.	465	Model No.	434
Diameter	3 5/8	No.of Cent.	FOUR	Diameter	4 1/2	Diameter	3 5/8
Detector Model No.	N/A	Spacing	1 FOOT	Log Type	GAMMA	Log Type	NEUTRON
Type	SCINT.			Source Type	CS137	Source Type	AM241BE
Length	4 IN.	LSA	Y	Serial No.	118	Serial No.	66
Distance To Source	N/A	FWDA	N	Strength	1.5CU	Strength	19.5CU

LOGGING DATA

GENERAL				GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run	Depth		Speed	Scale		Scale			Scale			Scale		
No.	From	To	Ft/Min	L	R	L	R	Matrix	L	R	Matrix	L	R	Matrix
ONE	2223	381	30	0	150	150.	50	57.						
					API			US/FT						

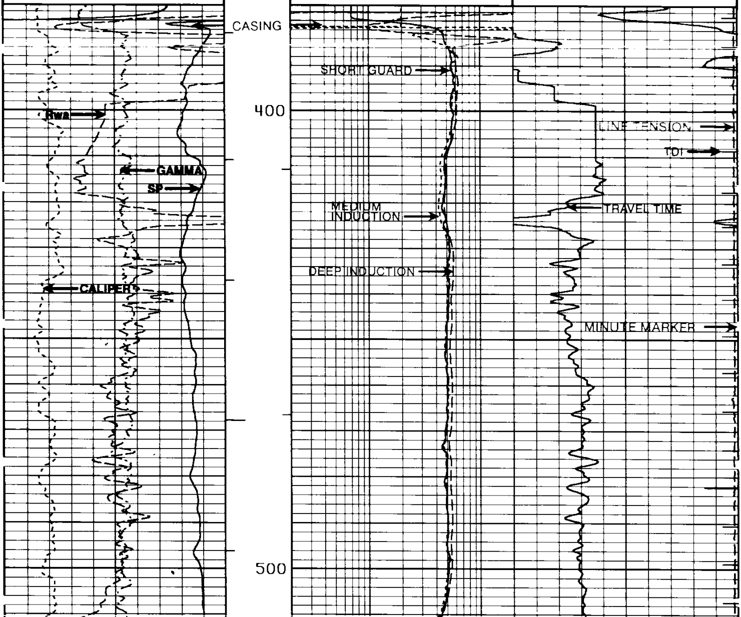
Remarks: ANNUALR HOLE VOLUME CALCULATED USING 5 1/2 INCH CASING.

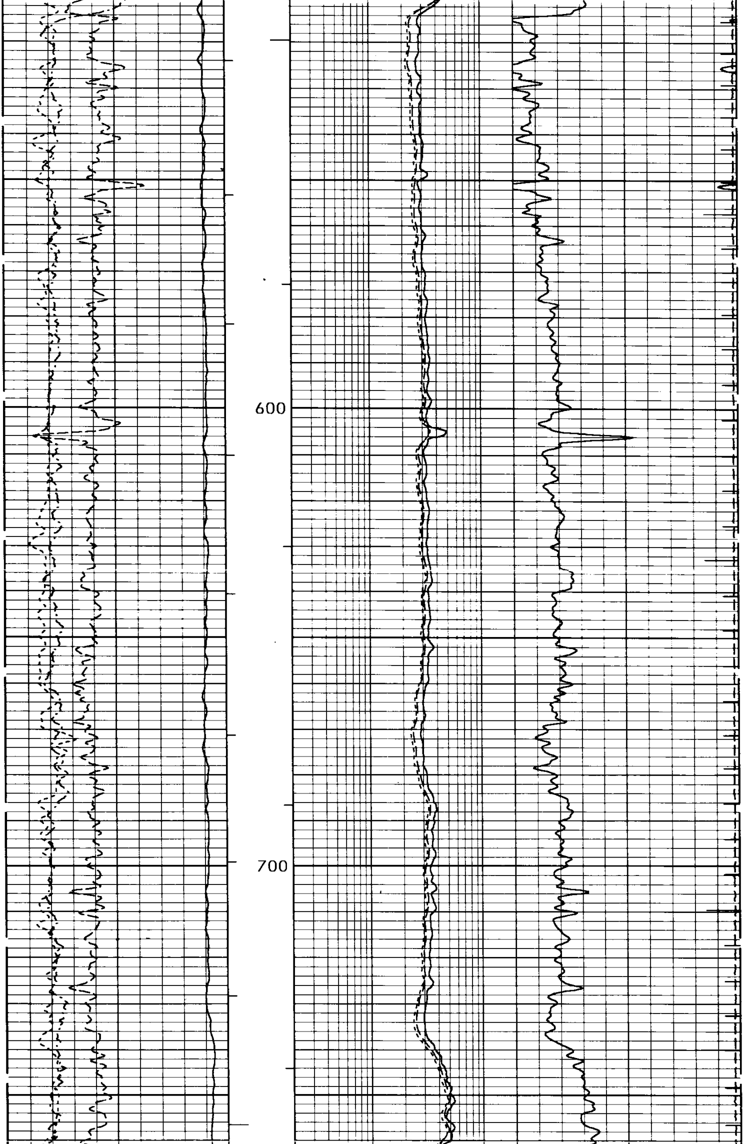
CREW ON LOCATION: EMERSON, JOHNSON, KIBBE.

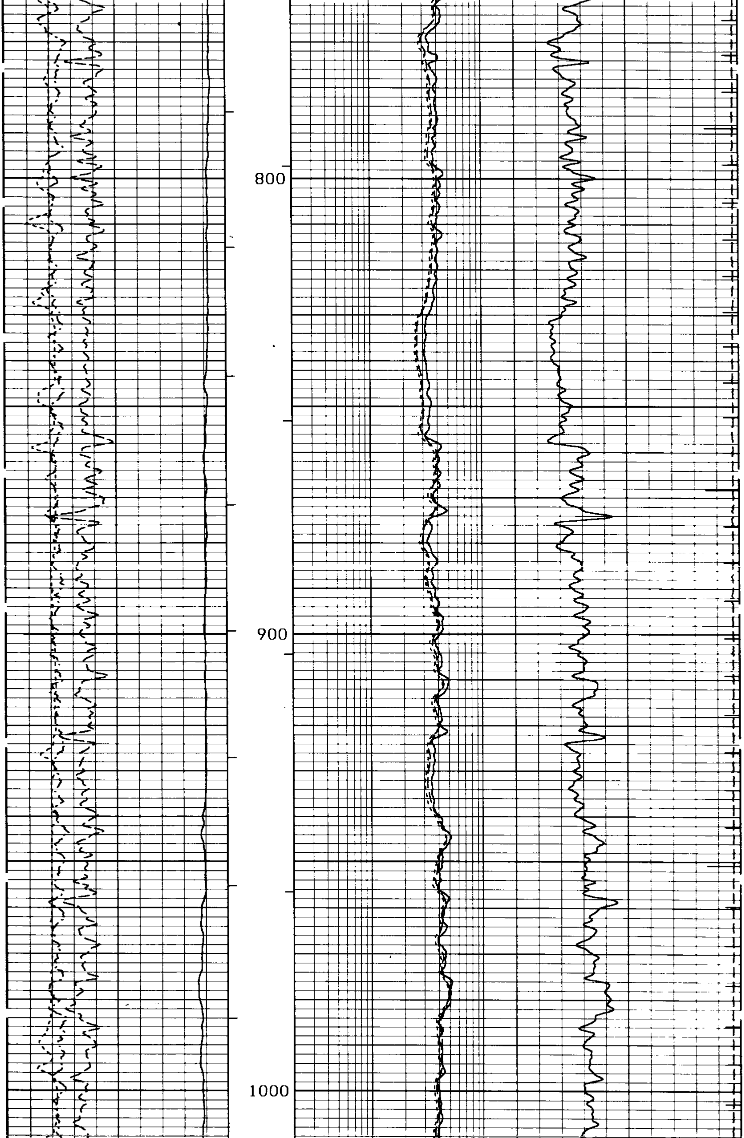
THANK YOU FOR USING HALLIBURTON LOGGING SERVICES!!

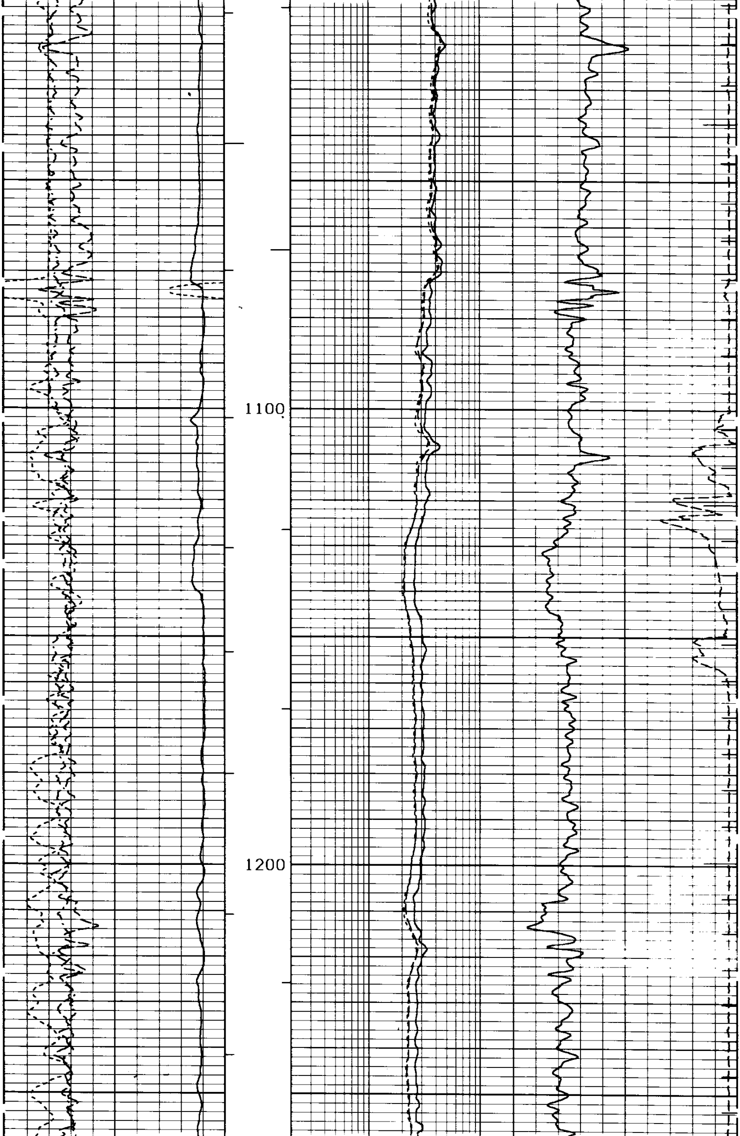
Halliburton Logging Services, Inc. does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by HLS personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions or recommendations agrees that HLS is not responsible except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

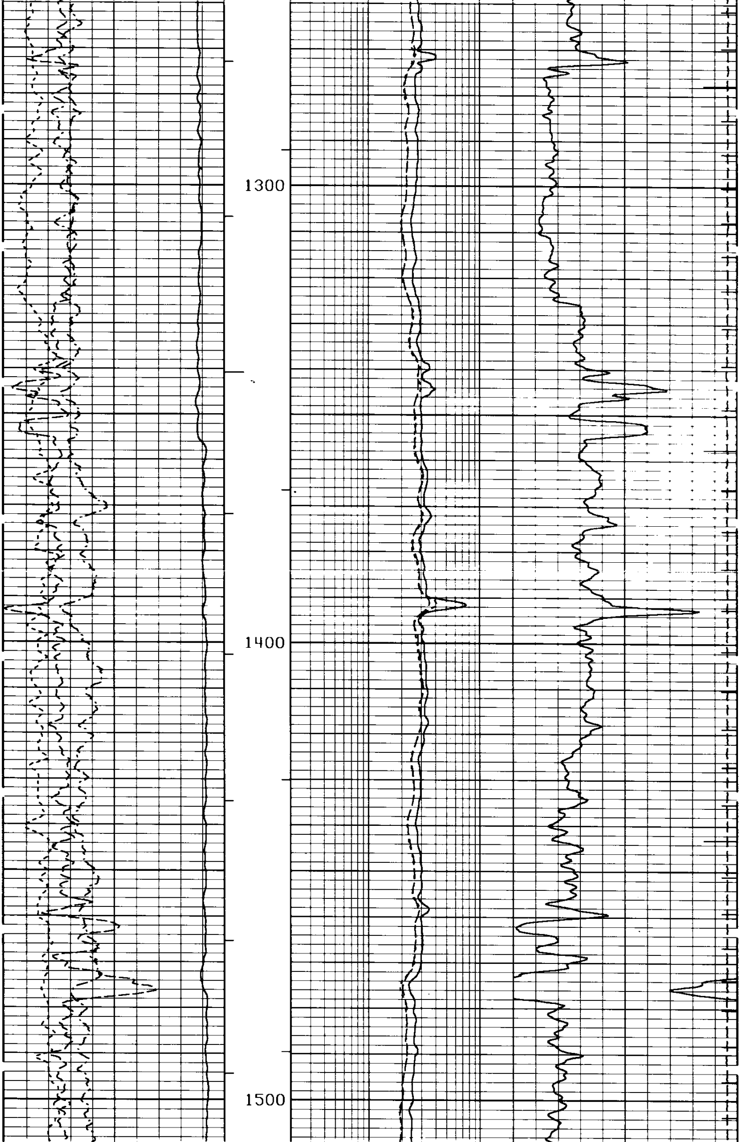
GAMMA 0 API 150		
CALIPER 6 INCHES 16	DEEP .2 OHM-M 20	TENSION 11000 POUNDS 1000
SP -]10[+	MEDIUM .2 OHM-M 20	100 <TDI< 0
RWA 0 OHM-M 3	GUARD .2 OHM-M 20	DELTA-T 150 USEC 50

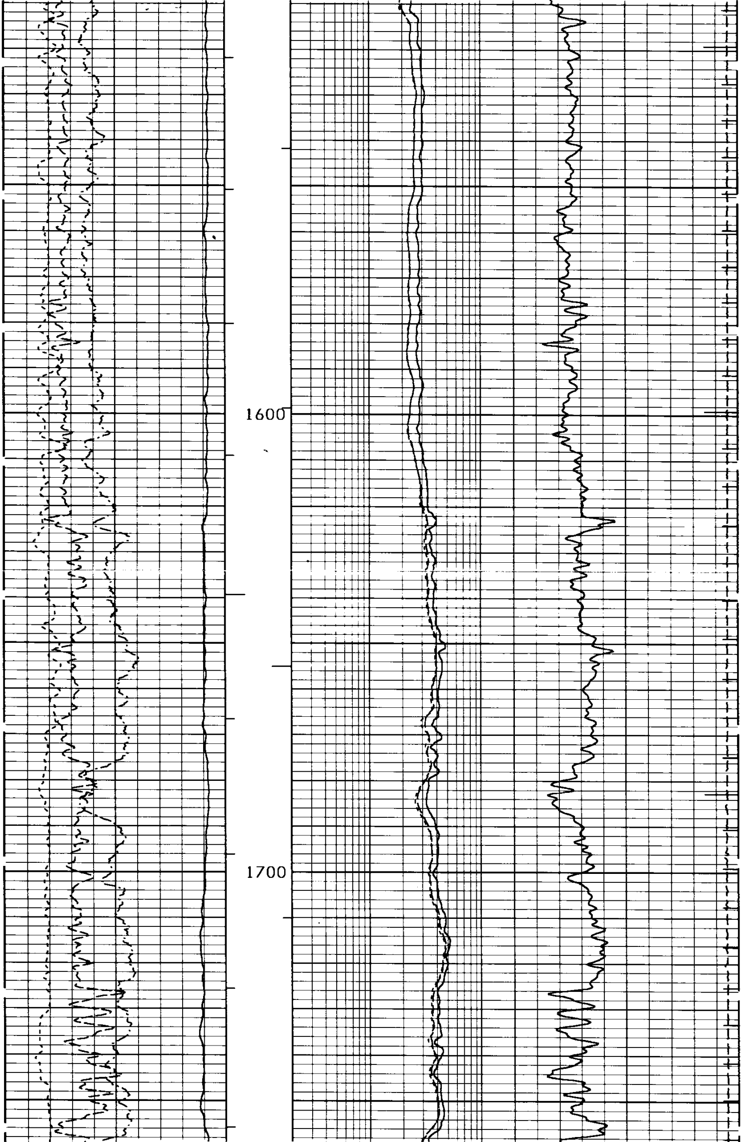


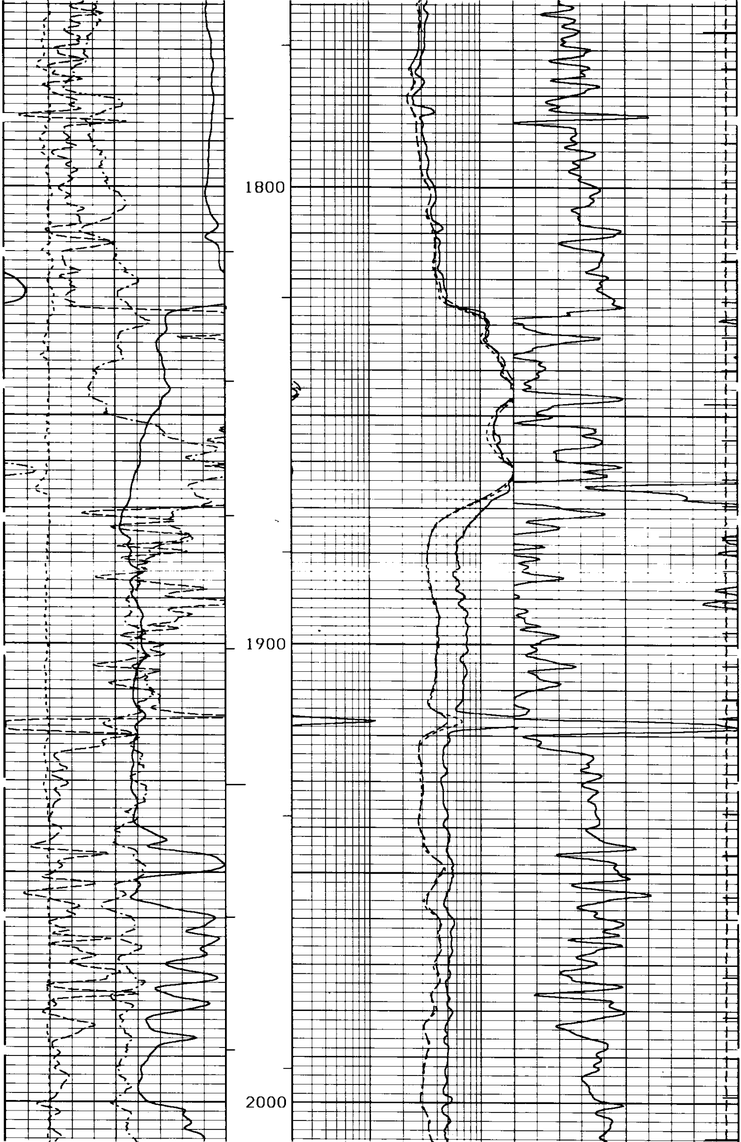


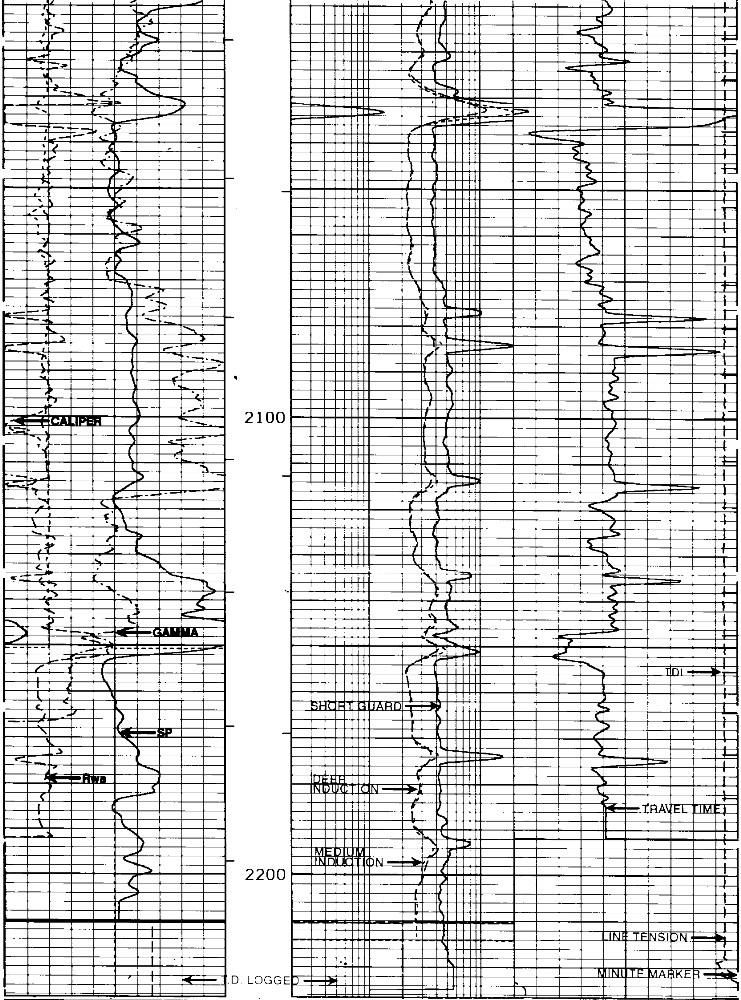












GAMMA

0 API 150

CALIPER

6 INCHES 16

SP

REPEAT SECTION

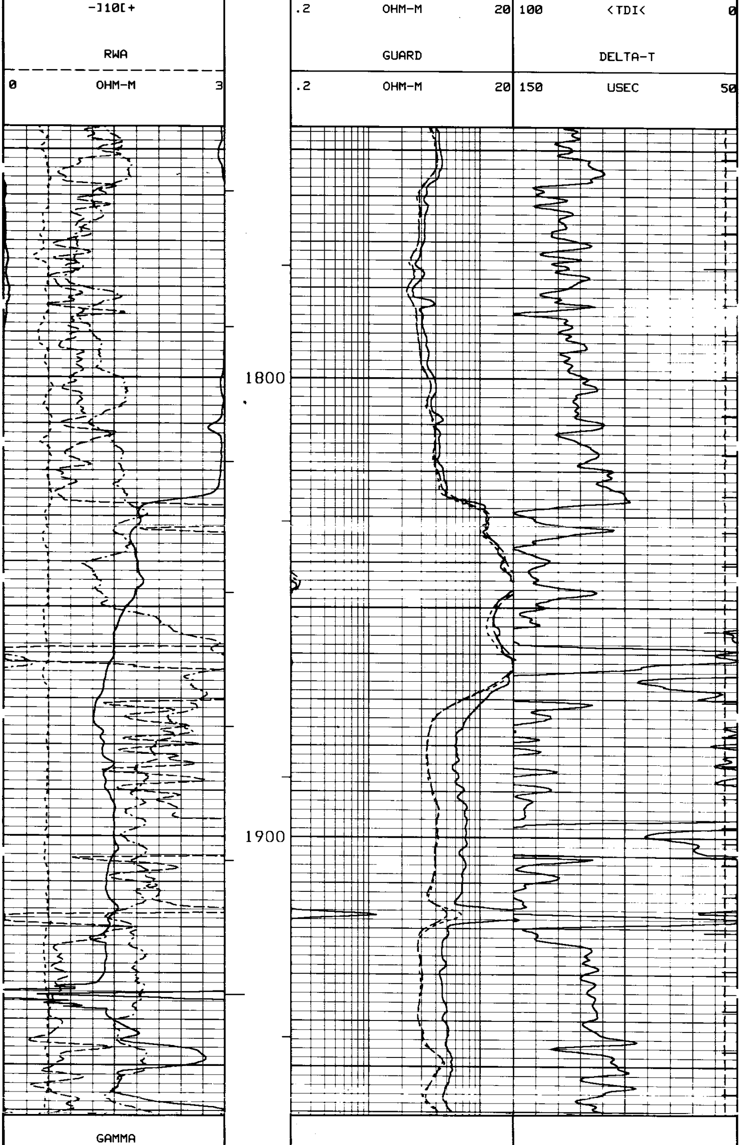
DEEP

.2 OHM-M 20

MEDIUM

TENSION

11000 POUNDS 1000



```
0          API          150                            DEEP                          TENSION
         CALIPER
6         INCHES         16     .2          OHM-M            20  11000      POUNDS          1000

           SP                                 MEDIUM

         -]10[+                 .2          OHM-M            20  100         <TDI<             0

           RWA                                GUARD                         DELTA-T

0          OHM-M           9    .2          OHM-M            20  150         USEC             50

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                 SHORT GUARD   SHOP CALIBRATION SUMMARY
PERFORMED:  09:48:59  07/31/89    LAST SHOP CALIBRATION:   10:27:25  06/19/89
SERIAL NUMBER: 108932             PROGRAM VERSION: 1.31 PC
MODEL: #405
PERFORMED BY: JOHNSON
                         MEASURED        CALIBRATED          UNITS
                         --------        ----------          -----
EXT. CAL. POINT #1          1.995           2.000            OHM-M
EXT. CAL. POINT #2         20.017          20.000            OHM-M
EXT. CAL. POINT #3        200.280         200.000            OHM-M
INTERNAL REFERENCE         19.955          19.937            OHM-M

                 SHORT GUARD  BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  05:27:55  08/03/89    LAST SHOP CALIBRATION:   09:48:59  07/31/89

                           SHOP            FIELD             UNITS
                         --------        ---------          ------
INTERNAL REFERENCE         19.937          19.928            OHM-M


                 SHORT GUARD  AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  13:38:31  08/03/89    LAST SHOP CALIBRATION:   09:48:59  07/31/89

                          BEFORE           AFTER             UNITS
                         --------        ---------           -----
INTERNAL REFERENCE         19.928          19.924            OHM-M


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                DUAL INDUCTION  SHOP CALIBRATION SUMMARY
PERFORMED:  10:27:38  07/31/89    LAST SHOP CALIBRATION:   10:40:38  06/19/89
SERIAL NUMBER: 109432             PROGRAM VERSION: 1.31 PC
MODEL: #412
PERFORMED BY: JOHNSON

                            DEEP INDUCTION        MEDIUM INDUCTION
                         MEASURED  CALIBRATED   MEASURED  CALIBRATED    UNITS
                         --------------------   --------------------   -------
TOOL ZERO                   -.247       .000       .000        .000    MMHOS/M
INTERNAL REFERENCE        497.852    497.656    502.355     508.321    MMHOS/M
WHEEL                     499.909    500.000    494.096     500.000    MMHOS/M
MANDREL BASE                3.985      3.837      6.383       6.431    MMHOS/M

                DUAL INDUCTION BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  05:29:24  08/03/89    LAST SHOP CALIBRATION:   10:27:38  07/31/89

                            DEEP INDUCTION        MEDIUM INDUCTION
                            SHOP     FIELD        SHOP      FIELD       UNITS
                         --------------------   --------------------   -------
TOOL ZERO                    .000       .820       .000       -.235    MMHOS/M
INTERNAL REFERENCE        497.656    500.881    508.320     508.256    MMHOS/M
MANDREL BASE                3.837      3.837      6.431       6.431    MMHOS/M

                DUAL INDUCTION AFTER SURVEY FIELD CHECK SUMMARY
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PERFORMED:  13:39:57  08/03/89    LAST SHOP CALIBRATION:   10:27:38  07/31/89

                                   DEEP INDUCTION          MEDIUM INDUCTION
                                  BEFORE     AFTER       BEFORE      AFTER       UNITS
                                ---------------------  ---------------------    -------
TOOL ZERO                           .820       .940       -.235       -.202     MMHOS/M
INTERNAL REFERENCE               500.880    501.977     508.255     509.275     MMHOS/M
MANDREL BASE                       3.837      3.837       6.431       6.431     MMHOS/M


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                     GAMMA   SHOP CALIBRATION SUMMARY
PERFORMED:  08:37:05  07/07/89    LAST SHOP CALIBRATION:   11:51:26  06/07/89
SERIAL NUMBER: 108594             PROGRAM VERSION: 1.31 PC
MODEL: #432          FIELD CALIBRATOR: #2141
PERFORMED BY: JOHNSON

                                   MEASURED         CALIBRATED          UNITS
                                   --------         ----------          -----
BACKGROUND                            16                15             API-CPS
BACKGROUND+CALIBRATOR                276               273             API-CPS
CALIBRATOR                           260               258             API-CPS

                     GAMMA  BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  05:25:42  08/03/89    LAST SHOP CALIBRATION:   08:37:05  07/07/89
FIELD CALIBRATOR: #2141

                                     SHOP             FIELD             UNITS
                                   --------         ----------          -----
BACKGROUND                            15                16             API-CPS
BACKGROUND+CALIBRATOR                273               276             API-CPS
CALIBRATOR                           258.              260             API-CPS

                     GAMMA  AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  13:47:03  08/03/89    LAST SHOP CALIBRATION:   08:37:05  07/07/89

                                    BEFORE            AFTER             UNITS
                                   --------         ----------          -----
BACKGROUND                            16                19             API-CPS
BACKGROUND+CALIBRATOR                276               275             API-CPS
CALIBRATOR                           260               257             API-CPS


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                    CALIPER   SHOP CALIBRATION SUMMARY
PERFORMED:  10:24:30  05/29/89    LAST SHOP CALIBRATION:   10:23:36  04/26/89
SERIAL NUMBER: TAN                PROGRAM VERSION: 1.31 PC
MODEL: #202
PERFORMED BY: MCDANIEL

                                   MEASURED         CALIBRATED          UNITS
                                   --------         ----------          -----
VALUE 1                              8.206             8.000            INCHES
VALUE 2                             15.759            16.000            INCHES

                    CALIPER  BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  05:18:22  08/03/89    LAST SHOP CALIBRATION:   10:24:30  05/29/89

                                     SHOP             FIELD             UNITS
                                   --------         ---------           -----
VALUE 1                              8.000             7.942            INCHES

                    CALIPER  AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  13:36:51  08/03/89    LAST SHOP CALIBRATION:   10:24:30  05/29/89

                                    BEFORE            AFTER             UNITS
                                   --------         ---------           -----
VALUE 1                              7.942             7.948            INCHES


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                    TENSION   SHOP CALIBRATION SUMMARY
PERFORMED:  11:29:28  08/03/89    LAST SHOP CALIBRATION:   05:16:36  08/03/89
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SERIAL NUMBER: TOP                    PROGRAM VERSION: 1.31 PC


                                 H L S CALIBRATION SUMMARY TABLE
                                 -------------------------------

  SERVICE or SIGNAL            SHOP      BEFORE     AFTER      CHANGE    TOLERANCE
-----------------------     ---------  ---------  ---------   --------  ---------
GUARD                          19.937     19.928     19.924       .004     +/-.80
DEEP INDUCTION                497.656    500.880    501.977     -1.096     +/- 20
MEDIUM INDUCTION              508.320    508.255    509.275     -1.020     +/- 20
GAMMA                         258        260        257          3         +/- 9.0
CALIPER VALUE 1                 8.000      7.942      7.948      -.006     +/- 0.50
```

EVENTS

```
  1 11: 1:21 00000 >DATE OF LOG: MMDD                   8 3
  2 11: 4:20 00000 >PLS SOFTWARE REVISION              1.31
  3 11: 4:20 00000 >CURRENT REVISION UPDATE NUMBER PC
  4 11:34: 1 01254 >CASING SIZE O.D. (INCHES)           5.500+0
  5 11:34: 1 01255 >BIT SIZE? (INCHES)                  7.875+0
  6 11:34: 3 01262 >DT-MATRIX(40=DOL<DT<70=SHALY)       5.700+1
  7 11:34: 4 01264 >DT SHALE (100=MIN<DT<160=MAX)       1.000+2
  8 11:34: 4 01265 >FOR FORMATION FACTOR(.5<A<2.5)      1.000+0
  9 11:34: 4 01266 >FOR FORMATION FACTOR(1.2<M<2.5)     2.000+0
 10 11:34:16 01304 >FOR FORMATION FACTOR(.5<A<2.5)      8.100-1
 11 11:34:17 01309 >>LOG PARAMETERS UPDATED HERE
 12 11:46:21 02227 >LOGGING SECTION NO.                        1
 13 11:47:13 02226 >"HALTING" END OF SECTION
 14 11:55:44 02229 >LOGGING SECTION NO.                        2
 15 12: 3:53 01993 >"HALTING" END OF SECTION
 16 12: 3:55 01993 >"HALTING" END OF SECTION
 17 12: 6:23 02228 >LOGGING SECTION NO.                        3
 18 12: 7:14 02209 >"HALTING" END OF SECTION
 19 12:10:32 02228 >LOGGING SECTION NO.                        4
 20 12:27: 0 01744 >"HALTING" END OF SECTION
 21 12:31:24 02227 >LOGGING SECTION NO.                        5
 22 13:35:17 00376 >"HALTING" END OF SECTION
 23 13:35:17 00376 >"HALTING" END OF SECTION
```