CFI 13-06-55

HALLIBURTON LOGGING SERVICES, INC.

FINAL PRINT

DUAL INDUCTION ACOUSTIC VELOCITY LOG

5" = 100'   2" = 100'

COMPANY ______________
WELL ________________
FIELD _______________
COUNTY __________ ST __

COMPANY D Y OIL INC.

WELL FORREST CAV. NO.13-6

FIELD MIST

COUNTY COLUMBIA

STATE OR OTHER SERVICES

API NO. 36-009-00257
LOCATION :
2352 FEET NORTH AND
684 FEET EAST FROM THE
SOUTHWET CORNER OF:
SEC. 6 TWP 5N RGE 5W

PERMANENT DATUM G.L. ELEV. 1232.0
LOG MEASURED FROM K.B. 11.4FT.ABOVE PERM.DATUM
DRILLING MEASURED FROM KELLY BUSHING

ELEV.:K.B. 1243.4
D.F. -----
G.L. 1232.0

CONFIDENTIAL

DATE	08/12/89			
RUN NO.	ONE			
DEPTH-DRILLER	1796			
DEPTH- LOGGER	1793			
BTM. LOG INTER.	1790			
TOP LOG INTER.	358			
CASING-DRILLER	8 5/8@359	@	@	@
CASING- LOGGER	358			
BIT SIZE	7 7/8			
TYPE FLUID IN HOLE	LIG-SULF	GEL		
DENS. : VISC	10.2 :44	:		:
PH : FLUID LOSS	10.0 :6.0	:		:
SOURCE OF SAMPLE	CIRCULATED			
RM @ MEAS. TEMP.	2.9 @75	@	@	@
RMF @ MEAS. TEMP.	2.8 @75	@	@	@
RMC @ MEAS. TEMP.	2.4 @73	@	@	@
SOURCE RMF : RMC	MEAS.:MEAS.	:	:	:
RM @ BHT	2.16 @103	@	@	@
TIME SINCE CIRC.	2 HOURS			
TIME ON BOTTOM	10:15 AM			
MAX. REC. TEMP.	103 @BHT	@	@	@
EQUIP. : LOCATION	2890 :WDLND	:	:	
RECORDED BY	B.JOHNSON			
WITNESSED BY	B.PORTWOOD			

Fold Here

Service Ticket No.: 12119   API Serial No.: 36-009-00257   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	2.16 @103	@
Rmf @ BHT	2.09 @103	@
Rmc @ BHT	1.74 @103	@

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.	W108581	Serial No.	W112462	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	1793	358	30	0	150	150.	50.	57.						
								US/FT						

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

CREW: JEFFREY, KIBBE

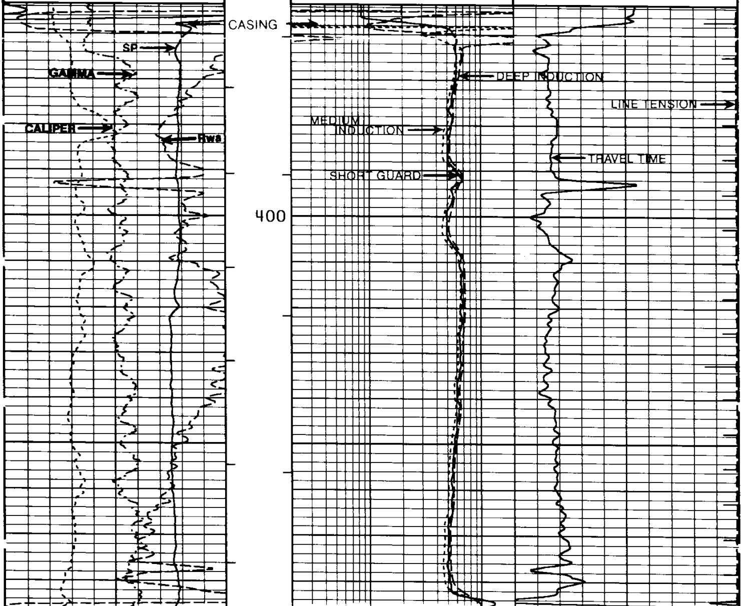
THANK YOU FOR USING HALLIBURTON LOGGING SERVICES!!

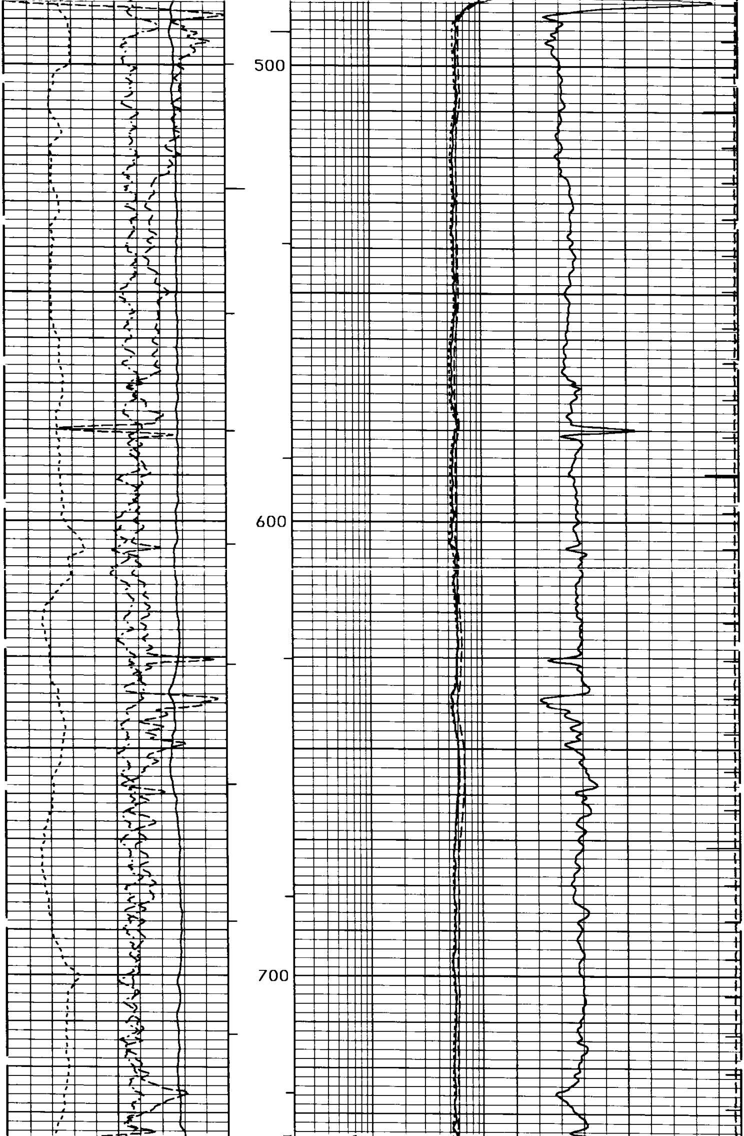
Halliburton Logging Services, Inc. does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by HLS personnel or which may appear on the log or in any other form. Any user of such data, interpretations, 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.

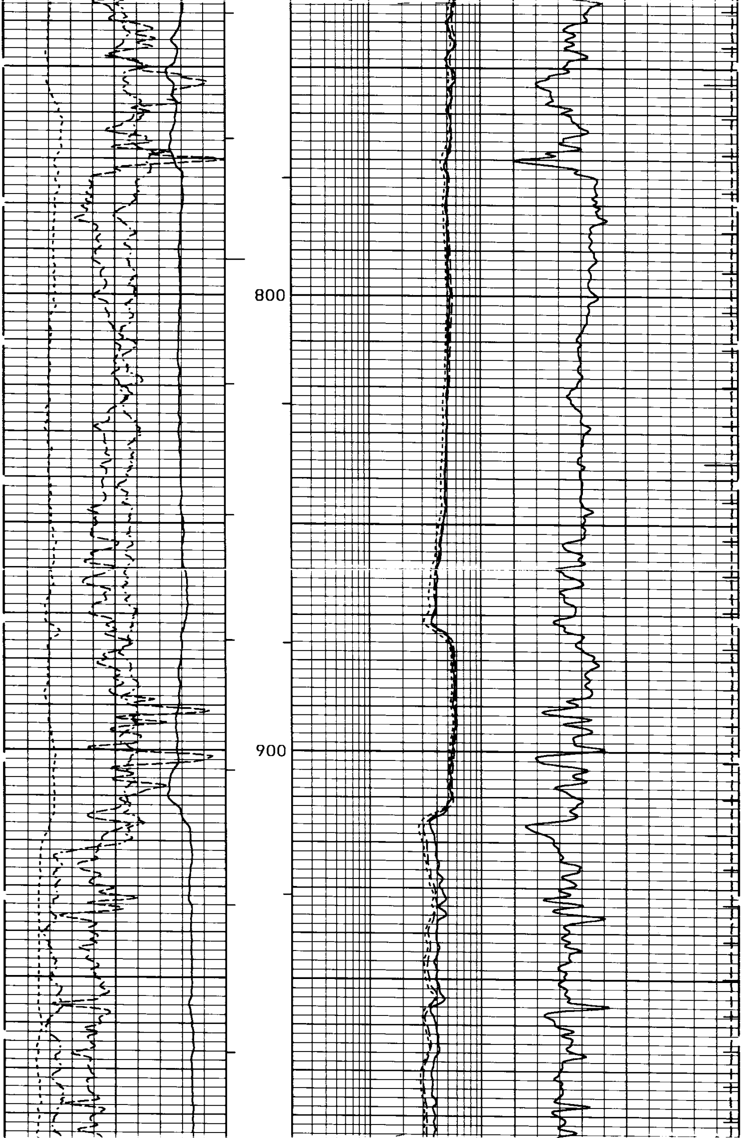
5″=100′

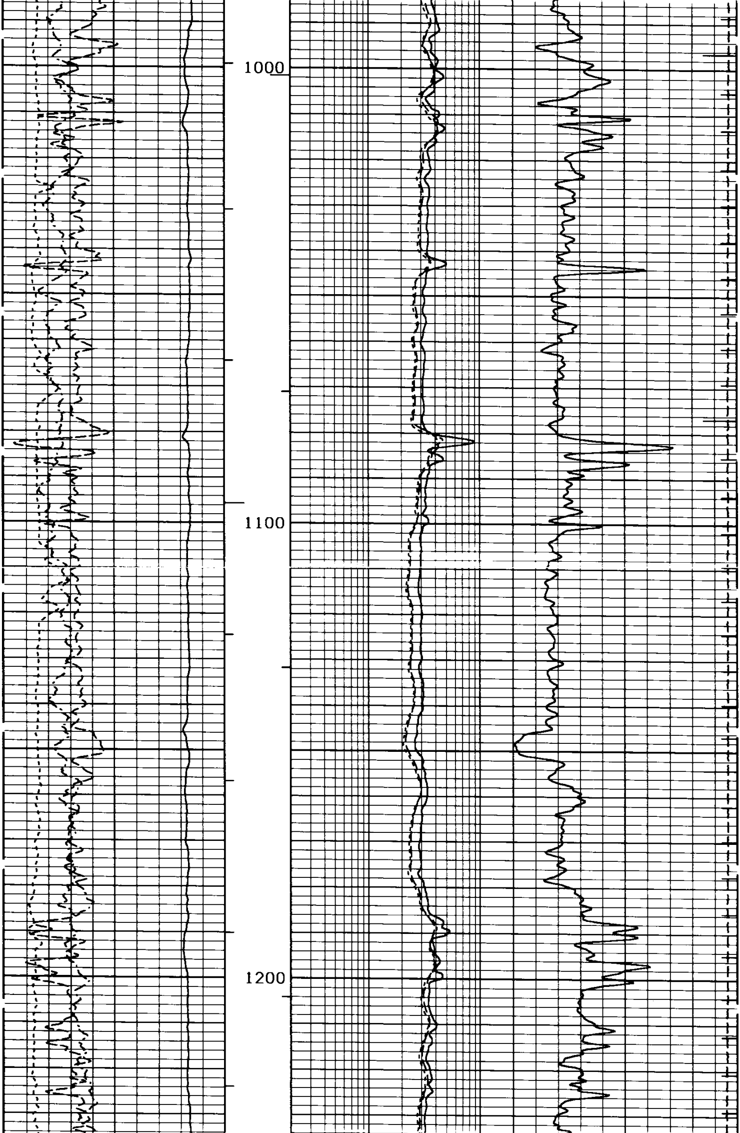
	GAMMA	
0	API	150
	CALIPER	
6	INCHES	16
	SP	
	-]10[+	
	RWA	
0	OHM-M	3

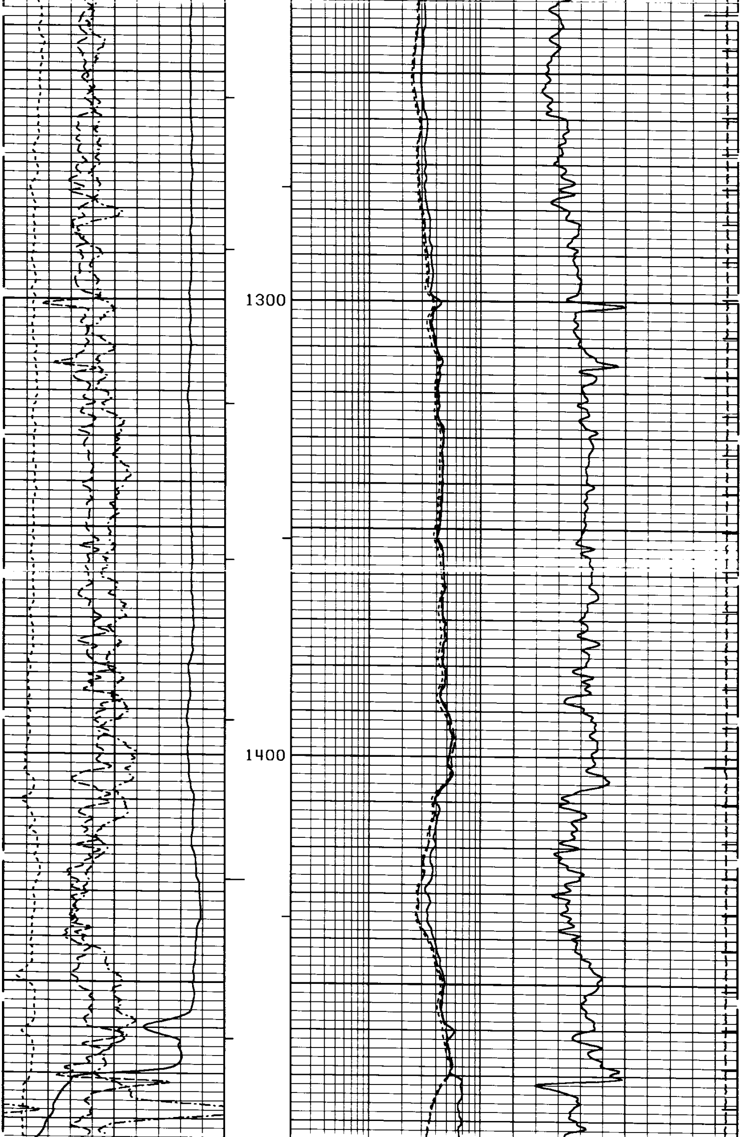
	DEEP			TENSION	
.2	OHM-M	20	11000	POUNDS	1000
	MEDIUM				
.2	OHM-M	20	100	<TDI<	0
	GUARD			DELTA-T	
.2	OHM-M	20	150	USEC	50

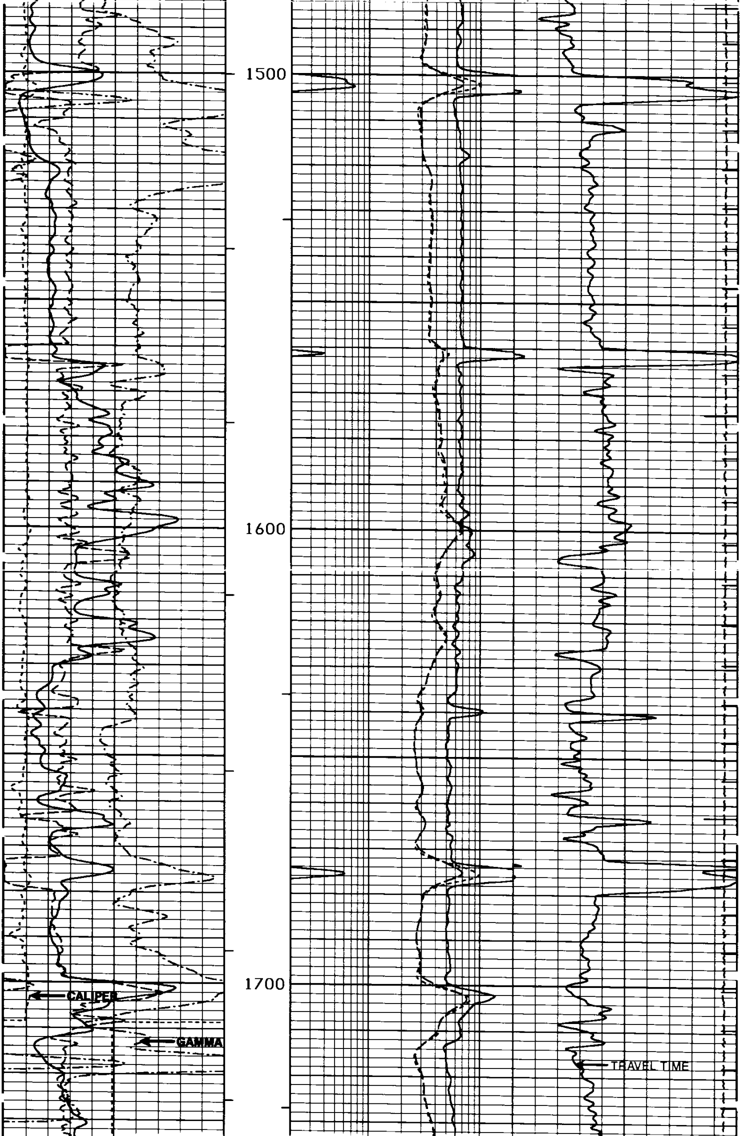


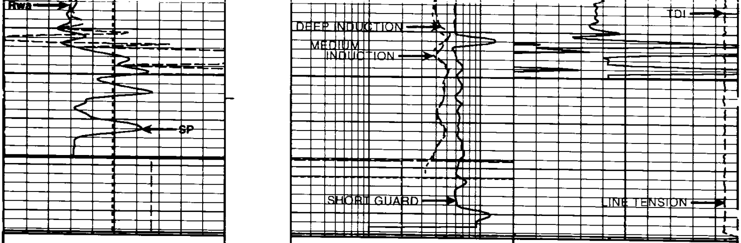






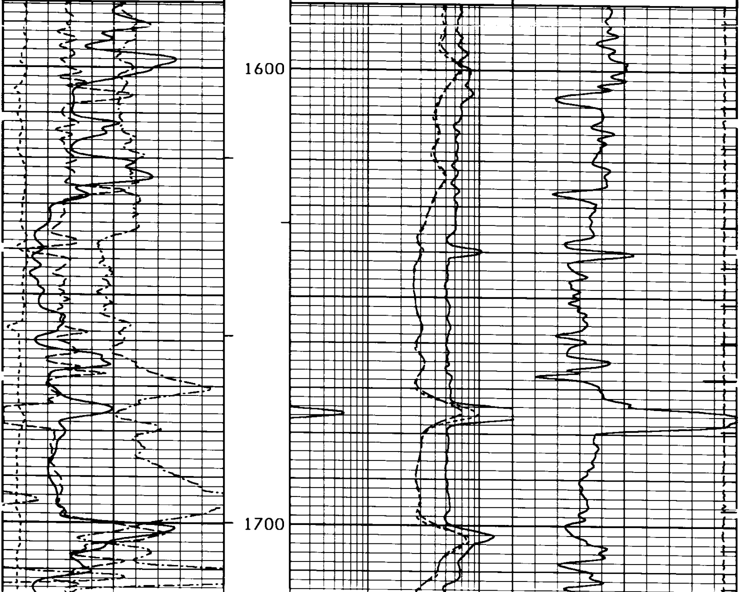


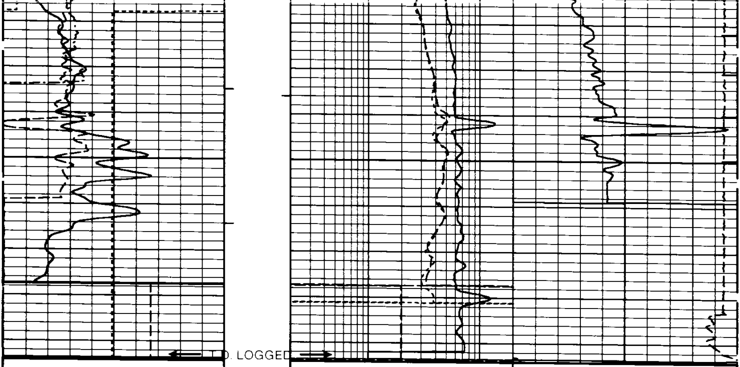




GAMMA		
0 API 150		
CALIPER	DEEP	TENSION
6 INCHES 16	.2 OHM-M 20	11000 POUNDS 1000
SP	MEDIUM	
-]10[+	.2 OHM-M 20	100 <TDI< 0
RWA	GUARD	DELTA-T
0 OHM-M 3	.2 OHM-M 20	150 USEC 50

REPEAT SECTION





	GAMMA	
0	API	150
	CALIPER	
6	INCHES	16
	SP	
	-]10[+	
	RWA	
0	OHM-M	3

	DEEP	
.2	OHM-M	20
	MEDIUM	
.2	OHM-M	20
	GUARD	
.2	OHM-M	20

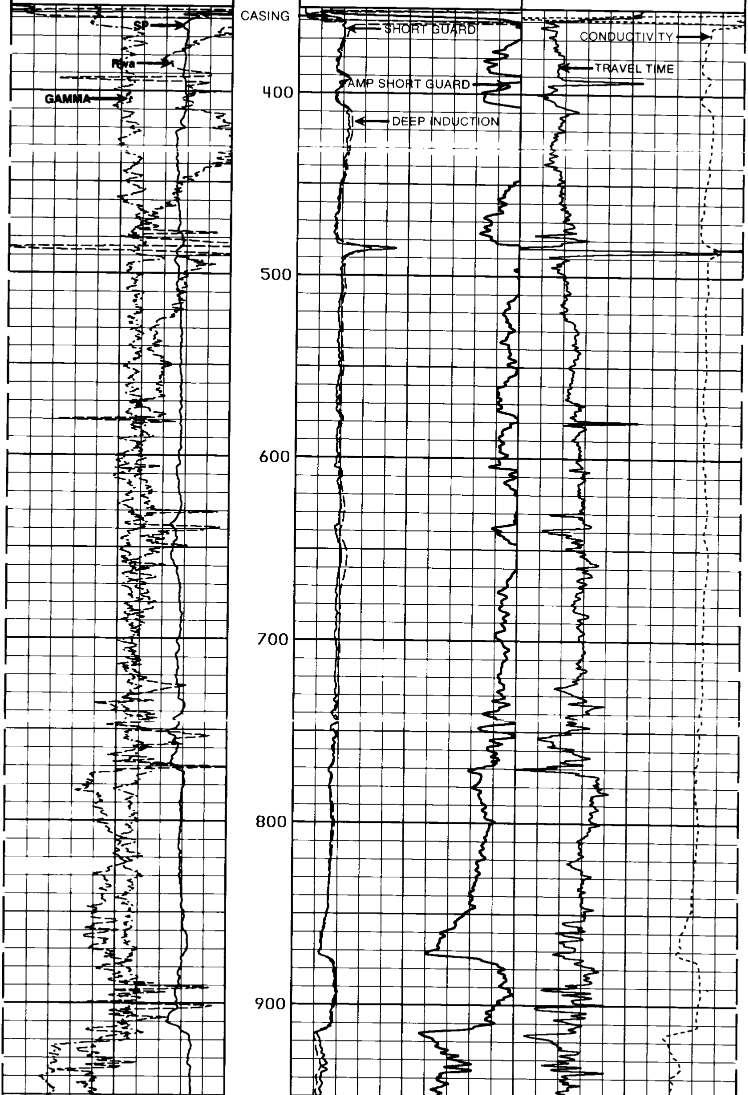
	TENSION	
11000	POUNDS	1000
100	<TDI<	0
	DELTA-T	
150	USEC	50

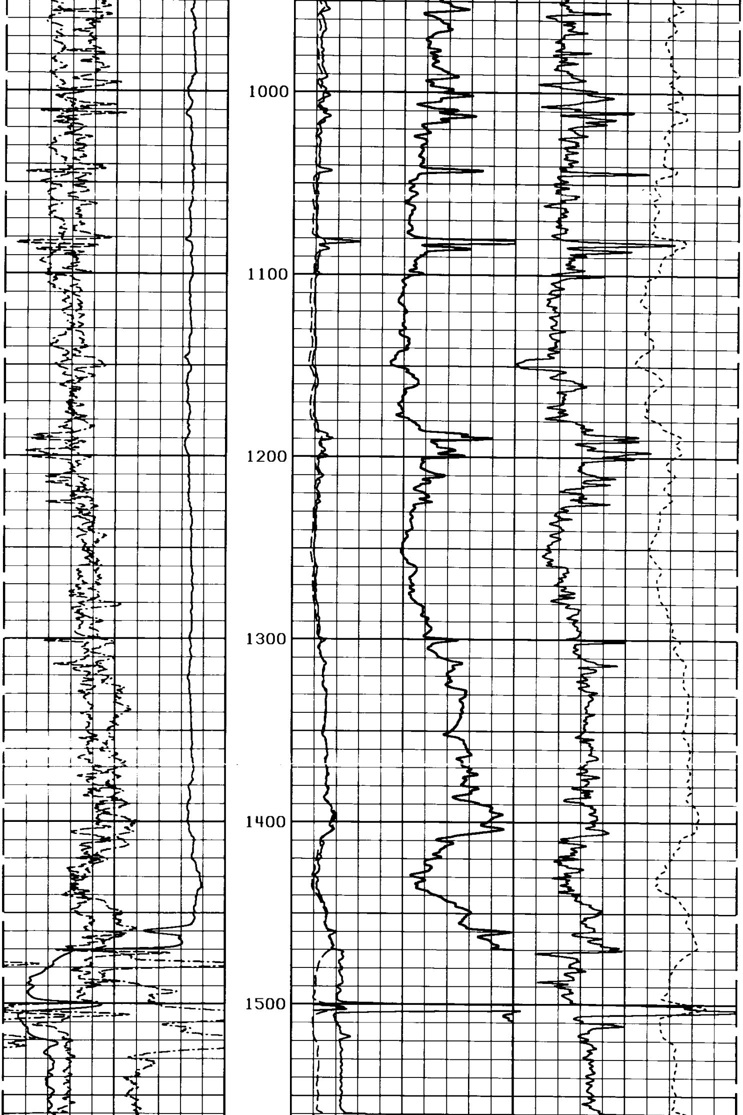
2″ = 100′

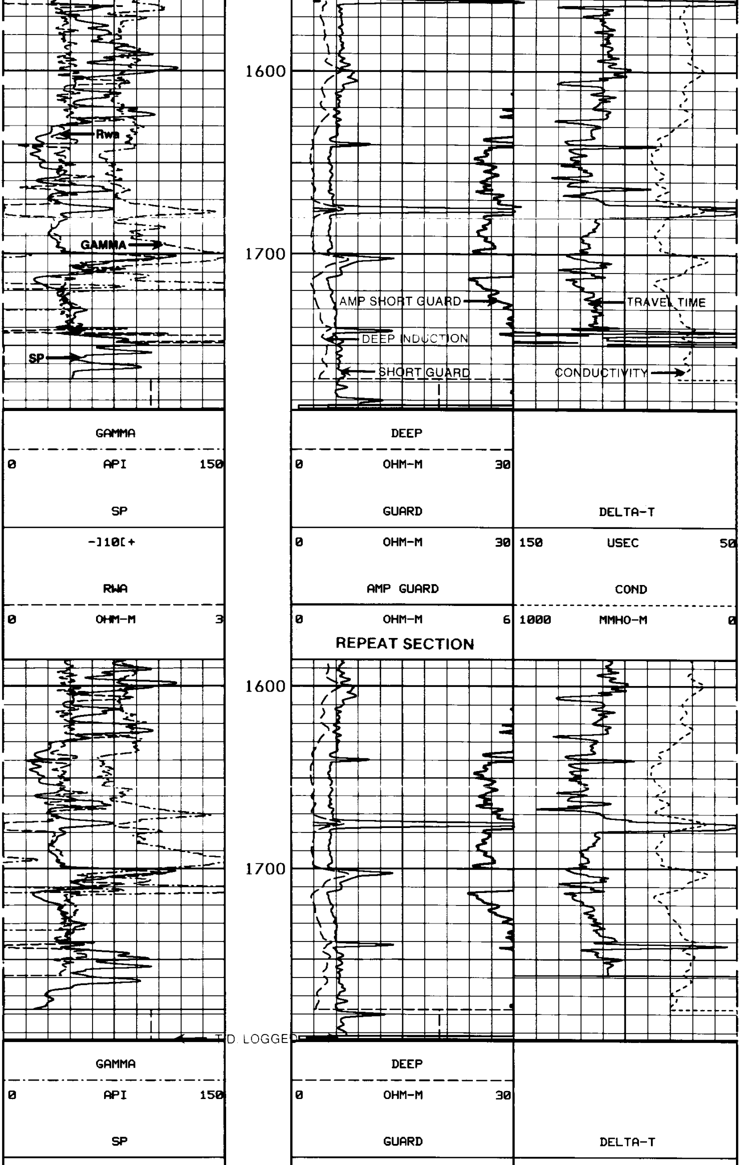
	GAMMA	
0	API	150
	SP	
	-]10[+	
	RWA	
0	OHM-M	3

	DEEP	
0	OHM-M	30
	GUARD	
0	OHM-M	30
	AMP GUARD	
0	OHM-M	6

	DELTA-T	
150	USEC	50
	COND	
1000	MMHO-M	0







```
        -]10[+                  0        OHM-M       30 150        USEC         50

         RWA                             AMP GUARD                 COND
 ----------------------
 0       OHM-M        3         0        OHM-M        6 1000       MMHO-M        0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                  SHORT GUARD   SHOP CALIBRATION SUMMARY
 PERFORMED:  14:26:45  08/10/89    LAST SHOP CALIBRATION:   09:48:59  07/31/89
 SERIAL NUMBER: 108932             PROGRAM VERSION: 1.31 PC
 MODEL: #405
 PERFORMED BY: LAWRENCE
                            MEASURED        CALIBRATED          UNITS
                            --------        ----------          -----
 EXT. CAL. POINT #1           2.000            2.000            OHM-M
 EXT. CAL. POINT #2          19.977           20.000            OHM-M
 EXT. CAL. POINT #3         207.994          200.000            OHM-M
 INTERNAL REFERENCE          19.899           19.936            OHM-M

                  SHORT GUARD  BEFORE SURVEY FIELD CHECK SUMMARY
 PERFORMED:  09:55:21  08/12/89    LAST SHOP CALIBRATION:   14:26:45  08/10/89

                              SHOP            FIELD             UNITS
                            --------        ---------          ------
 INTERNAL REFERENCE          19.936           19.964            OHM-M


                  SHORT GUARD  AFTER SURVEY FIELD CHECK SUMMARY
 PERFORMED:  11:19:08  08/12/89    LAST SHOP CALIBRATION:   14:26:45  08/10/89

                             BEFORE           AFTER             UNITS
                            --------        ---------           -----
 INTERNAL REFERENCE          19.964           19.949            OHM-M


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                 DUAL INDUCTION  SHOP CALIBRATION SUMMARY
 PERFORMED:  14:34:51  08/10/89    LAST SHOP CALIBRATION:   10:27:38  07/31/89
 SERIAL NUMBER: 109432             PROGRAM VERSION: 1.31 PC
 MODEL: #412
 PERFORMED BY: LAWRENCE

                              DEEP INDUCTION         MEDIUM INDUCTION
                           MEASURED   CALIBRATED   MEASURED   CALIBRATED     UNITS
                           ---------------------   ---------------------   -------
 TOOL ZERO                     .374        .000        .015        .000    MMHOS/M
 INTERNAL REFERENCE         498.456     497.455     507.187     504.156    MMHOS/M
 WHEEL                      501.149     500.000     502.045     500.000    MMHOS/M
 MANDREL BASE                 3.462       3.634       6.415       5.642    MMHOS/M

                 DUAL INDUCTION BEFORE SURVEY FIELD CHECK SUMMARY
 PERFORMED:  09:56:43  08/12/89    LAST SHOP CALIBRATION:   14:34:51  08/10/89

                              DEEP INDUCTION         MEDIUM INDUCTION
                              SHOP      FIELD        SHOP        FIELD       UNITS
                           ---------------------   ---------------------   -------
 TOOL ZERO                     .000        .389        .000       -.161    MMHOS/M
 INTERNAL REFERENCE         497.454     499.232     504.156     505.701    MMHOS/M
 MANDREL BASE                 3.634       3.634       5.642       5.642    MMHOS/M

                 DUAL INDUCTION AFTER SURVEY FIELD CHECK SUMMARY
 PERFORMED:  11:21:20  08/12/89    LAST SHOP CALIBRATION:   14:34:51  08/10/89

                              DEEP INDUCTION         MEDIUM INDUCTION
                            BEFORE      AFTER      BEFORE        AFTER       UNITS
                           ---------------------   ---------------------   -------
 TOOL ZERO                     .389        .676       -.161       -.144    MMHOS/M
 INTERNAL REFERENCE         499.231     500.614     505.700     506.922    MMHOS/M
 MANDREL BASE                 3.634       3.634       5.642       5.642    MMHOS/M
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                        GAMMA   SHOP CALIBRATION SUMMARY
PERFORMED:  14:24:17  08/08/89    LAST SHOP CALIBRATION:   08:37:05  07/07/89
SERIAL NUMBER: 108594             PROGRAM VERSION: 1.31 PC
MODEL: #432            FIELD CALIBRATOR: #2141
PERFORMED BY: MCDANIEL

                           MEASURED        CALIBRATED          UNITS
                           --------        ----------          -----
BACKGROUND                    13               13              API-CPS
BACKGROUND+CALIBRATOR        269              271              API-CPS
CALIBRATOR                   257              258              API-CPS

                        GAMMA  BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  09:53:09  08/12/89    LAST SHOP CALIBRATION:   14:24:17  08/08/89
FIELD CALIBRATOR: #2141

                             SHOP            FIELD             UNITS
                           --------        ----------          -----
BACKGROUND                    13               24              API-CPS
BACKGROUND+CALIBRATOR        271              286              API-CPS
CALIBRATOR                   258              261              API-CPS

                        GAMMA  AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  11:33:23  08/12/89    LAST SHOP CALIBRATION:   14:24:17  08/08/89

                            BEFORE            AFTER            UNITS
                           --------        ----------          -----
BACKGROUND                    24               22              API-CPS
BACKGROUND+CALIBRATOR        286              284              API-CPS
CALIBRATOR                   261              262              API-CPS


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                        CALIPER   SHOP CALIBRATION SUMMARY
PERFORMED:  14:00:58  08/07/89    LAST SHOP CALIBRATION:   10:24:30  05/29/89
SERIAL NUMBER: TAN                PROGRAM VERSION: 1.31 PC
MODEL: #202
PERFORMED BY: JOHNSON

                           MEASURED        CALIBRATED          UNITS
                           --------        ----------          -----
VALUE 1                       8.038           8.000            INCHES
VALUE 2                      16.000          16.000            INCHES

                        CALIPER  BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  09:45:58  08/12/89    LAST SHOP CALIBRATION:   14:00:58  08/07/89

                             SHOP            FIELD             UNITS
                           --------        ---------           -----
VALUE 1                       8.000           7.959            INCHES

                        CALIPER  AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  11:20:01  08/12/89    LAST SHOP CALIBRATION:   14:00:58  08/07/89

                            BEFORE            AFTER            UNITS
                           --------        ---------           -----
VALUE 1                       7.959           8.187            INCHES


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                        TENSION   SHOP CALIBRATION SUMMARY
PERFORMED:  09:42:48  08/12/89    LAST SHOP CALIBRATION:   20:30:47  08/09/89
SERIAL NUMBER: TOP                PROGRAM VERSION: 1.31 PC


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

   SERVICE or SIGNAL         SHOP      BEFORE      AFTER     CHANGE   TOLERANCE
------------------------ ---------- --------- ---------- -------- ---------
GUARD                       19.936    19.964     19.949      .014    +/-.80
DEEP INDUCTION             497.454   499.231    500.614    -1.383    +/- 20
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MEDIUM INDUCTION                504.156    505.700    506.922    -1.221      +/- 20
GAMMA                           258        261        262          0         +/- 9.0
CALIPER VALUE 1                   8.000      7.959      8.187     -.227      +/- 0.50
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EVENTS

```
 1 10: 6:18 00000 >DATE OF LOG: MMDD                    812
 2 10: 9:20 00000 >PLS SOFTWARE REVISION               1.31
 3 10: 9:20 00000 >CURRENT REVISION UPDATE NUMBER PC
 4 10:14:55 01578 >CASING SIZE O.D. (INCHES)           5.500+0
 5 10:14:55 01578 >BIT SIZE? (INCHES)                  7.875+0
 6 10:14:57 01583 >DT-MATRIX(40=DOL<DT<70=SHALY)       5.700+1
 7 10:14:58 01583 >DT-SHALE (100=MIN<DT<160=MAX)       1.000+2
 8 10:14:58 01584 >FOR FORMATION FACTOR(.5<A<2.5)      1.000+0
 9 10:14:58 01585 >FOR FORMATION FACTOR(1.2<M<2.5)     2.000+0
10 10:15: 7 01600 >FOR FORMATION FACTOR(.5<A<2.5)      8.100-1
11 10:15: 8 01603 >>LOG PARAMETERS UPDATED HERE
12 10:17:36 01794 >LOGGING SECTION NO.                      1
13 10:25:16 01585 >"HALTING" END OF SECTION
14 10:25:18 01584 >"HALTING" END OF SECTION
15 10:29: 4 01785 >LOGGING SECTION NO.                      2
16 11:16:19 00353 >"HALTING" END OF SECTION
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