Western Atlas International
A Litton Dresser Company
Atlas Wireline Services

DUAL INDUCTION FOCUSED LOG

FILE NO. 2926

API NO.

5" = 100'

COMPANY ARCO OIL & GAS

WELL (FT (C. E. R.)23-16-64

FIELD MIST

COUNTY COLUMBIA STATE OREGON

LOCATION:
1644.8' NORTH & 2170.4' EAST OF THE SOUTHWEST CORNER OF:

SEC 16 TWP 6N RGE 4W

OTHER SERVICES
BHC AL-CR-CAL

PERMANENT DATUM GROUND LEVEL ELEV. 1046.8
LOGGING MEASURED FROM K. B. 10 FT. ABOVE P.D.
DRILLING MEASURED FROM K. B.

ELEVATIONS
KB 1056.81'
DF ---
GL 1046.81'

FINAL PRINT

DATE	10/05/88				
RUN	1				
SERVICE ORDER	159110				
DEPTH-DRILLER	1775'				
DEPTH-LOGGER	1773'				
BOTTOM LOGGED INTERVAL	1771'				
TOP LOGGED INTERVAL	817'				
CASING - DRILLER	9 5/8"	@ 820'	@	@	@
CASING - LOGGER	817'				
BIT SIZE	8 1/2"				
TYPE FLUID IN HOLE	E - Z MUD				
DENSITY / VISCOSITY	10.0	45			
PH / FLUID LOSS	9.0	6.0			
SOURCE OF SAMPLE	FLOWLINE				
RM AT MEAS. TEMP.	4.54	@ 65	@	@	@
RMF AT MEAS. TEMP.	3.69	@ 65	@	@	@
RMC AT MEAS. TEMP.	4.91	@ 65	@	@	@
SOURCE OF RMF / RMC	MEASURED	MEASURED			
RM AT BHT	---	@ < 100	@	@	@
TIME SINCE CIRCULATION	2 HRS.				
MAX. REC. TEMP. DEG. F	< 100				
EQUIP. NO. / LOC.	HL 6406	SACRAMENTO			
RECORDED BY	TORGERSON				
WITNESSED BY	J. W. THOMPSON				

FOLD HERE

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT, BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASURMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

REMARKS RUN (1)

VOLUME COMPUTED FOR 7" CASING

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIAL NO.	SERIES NO.	POSITION
1	1	DIFL	33304	1503XA	1.5" S.O.
1	1	AC	79726	1609-1603	CENT.
1	1	GR	60484	1309XA	CENT.
1	1	CAL	79090	4209XA	CENT.

PARAMETERS

NAME	DEPTH INTERVAL	VALUE	UNITS
A	1779 TO 756	1.000	
M	1779 TO 756	2.000	
CASI	1779 TO 756	7.000	INCH
DELT F	1779 TO 756	189.000	MICS FT
DELT M	1779 TO 756	55.500	MICS FT
DELT S	1779 TO 756	100.000	MICS FT

DISPLAY SCALE CHANGES

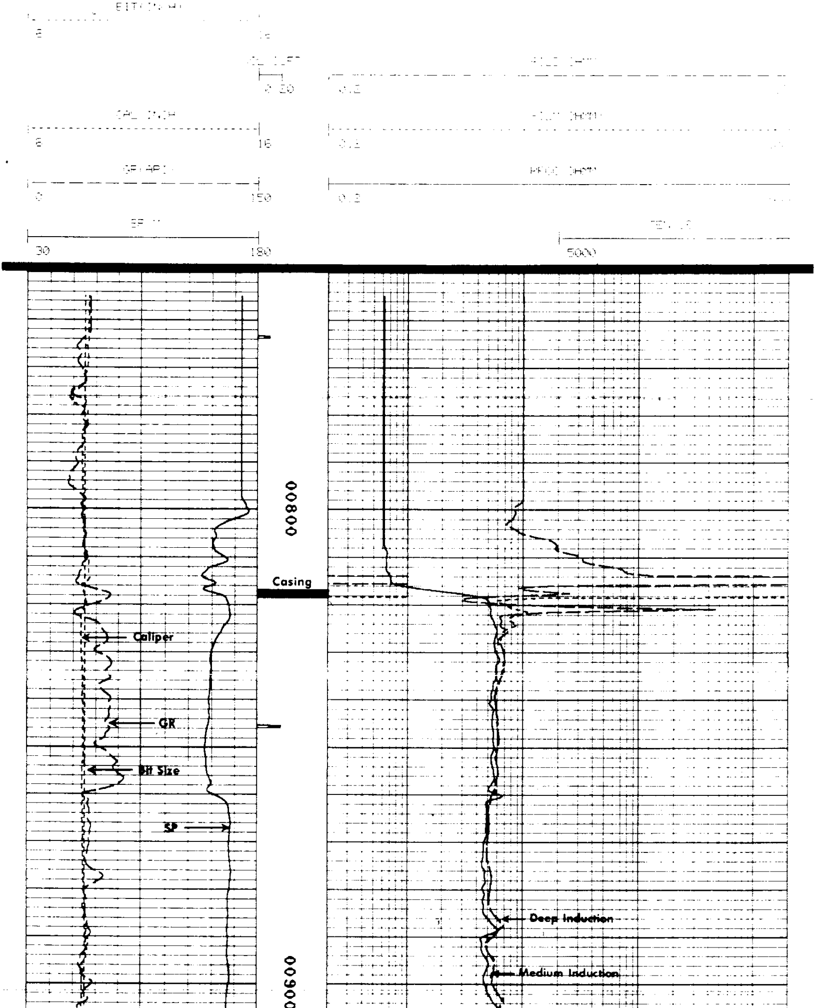
*** NONE ***

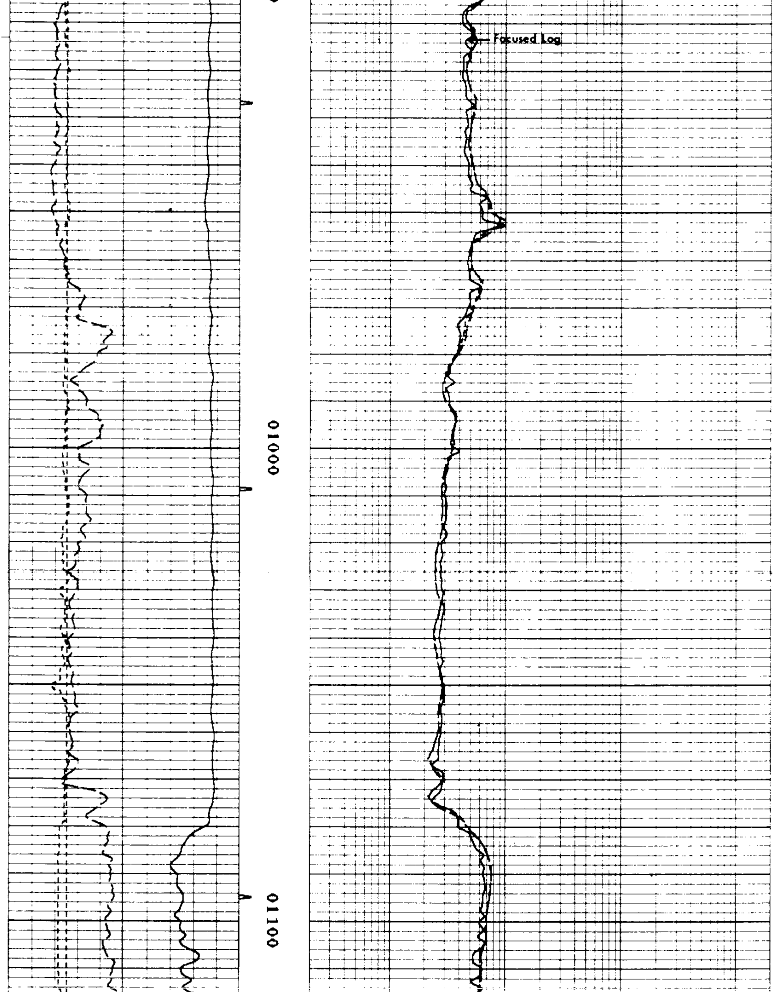
COMPANY: ARCO OIL & GAS   RUN: 1

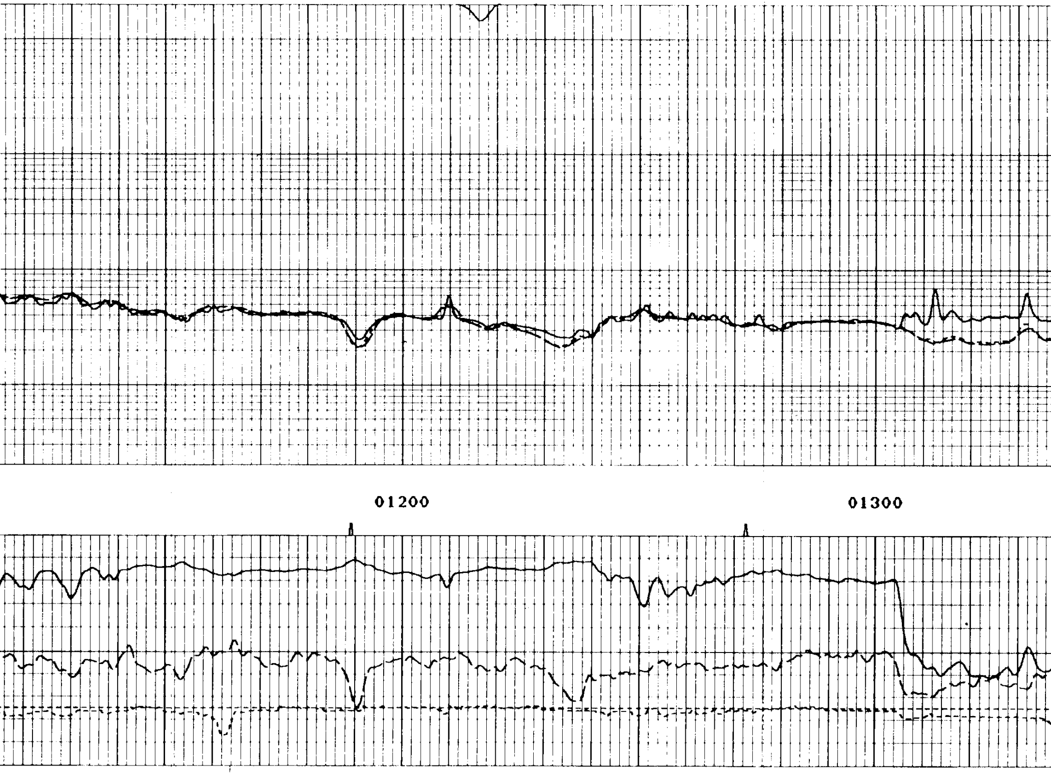
WELL NAME: I. E. R. 33-16-64   TRIP: 1

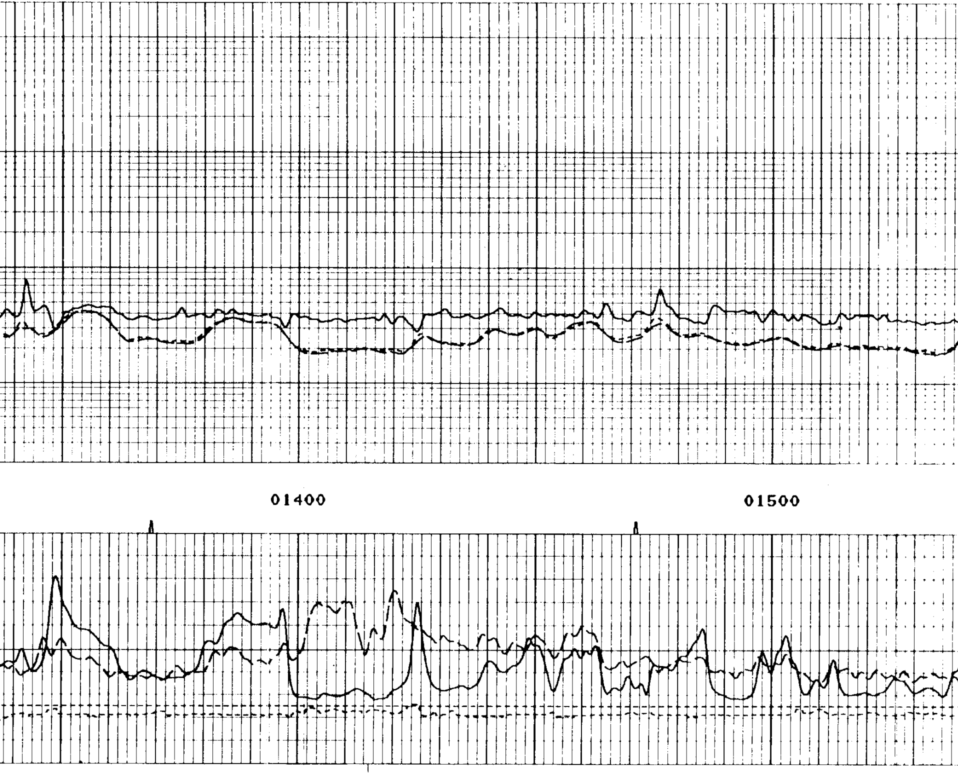
SERVICE: [illegible]   FILE: 2   DATE: 10 3 88   TIME: 15:53:0

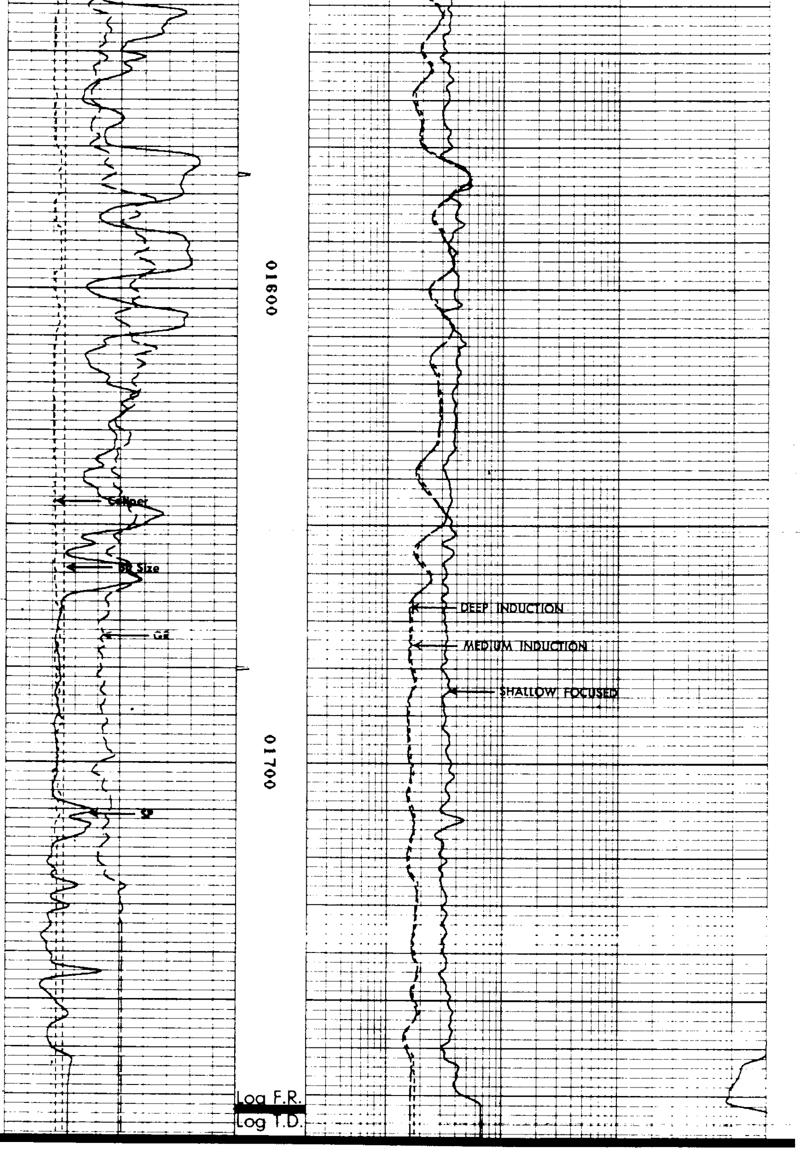
REVISION: RE 3AL RE 3503 VER 3   MODE: PLAYBACK











```
6                                              16

                                            VOL CUFT                                RILD OHMM
                                            ----      ------------------------------------------------------------
                                            0.20      0.2                                                     2000

              CAL INCH                                                              RILM OHMM
- - - - - - - - - - - - - - - - - - - -      ..........................................................
6                                       16    0.2

              GR API                                                                RFOC OHMM
-----------------------------------------     ------------------------------------------------------------
0                                      150    0.2                                                     2000

              SP MV                                                                   TEN LB
|---------------------------------------|                                 |-----------------------------------
30                                     180                                 5000                               0
```

```
                 PARAMETERS

  NAME       DEPTH INTERVAL      VALUE      UNITS
--------   --------------    ----------  ---- --
A             1730 TO  3141        1.000
M             1730 TO  3141        2.000
BS            1730 TO  3141        7.875  INCH
DELT F        1730 TO  3141      189.000  US/FT
DELT M        1730 TO  3141       55.500  US/FT
DELT S        1730 TO  3141      100.000  US/FT
```

```
          DISPLAY SCALE CHANGES

               *** NONE ***
```

```
COMPANY:      ARCO OIL & GAS                                               RUN:  1

WELL NAME:  [illegible] 23-12-84                                           TRIP: 1

SERVICE:      [illegible]           FILE:   1         DATE:  10  3 88       TIME:  14:35: [illegible]

RE [illegible]   [illegible]  3503  SP 3
```

REPEAT SECTION

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MODE: PLAYBACK
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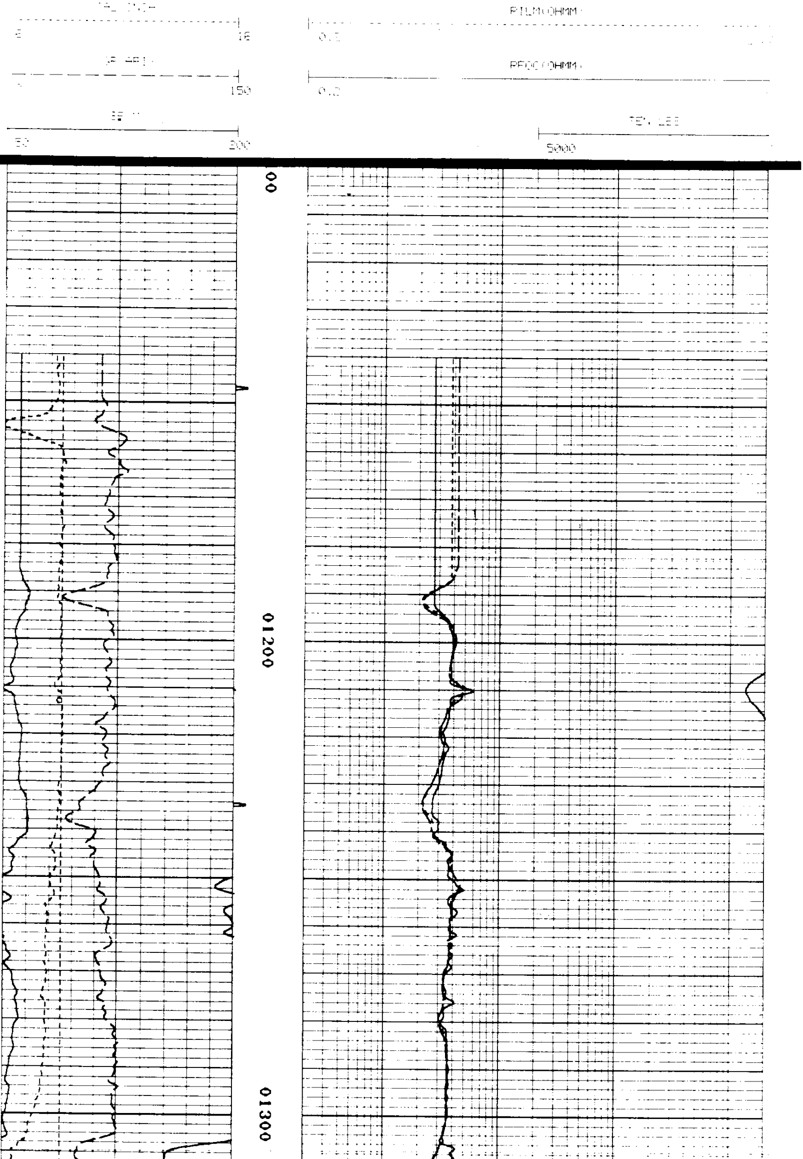
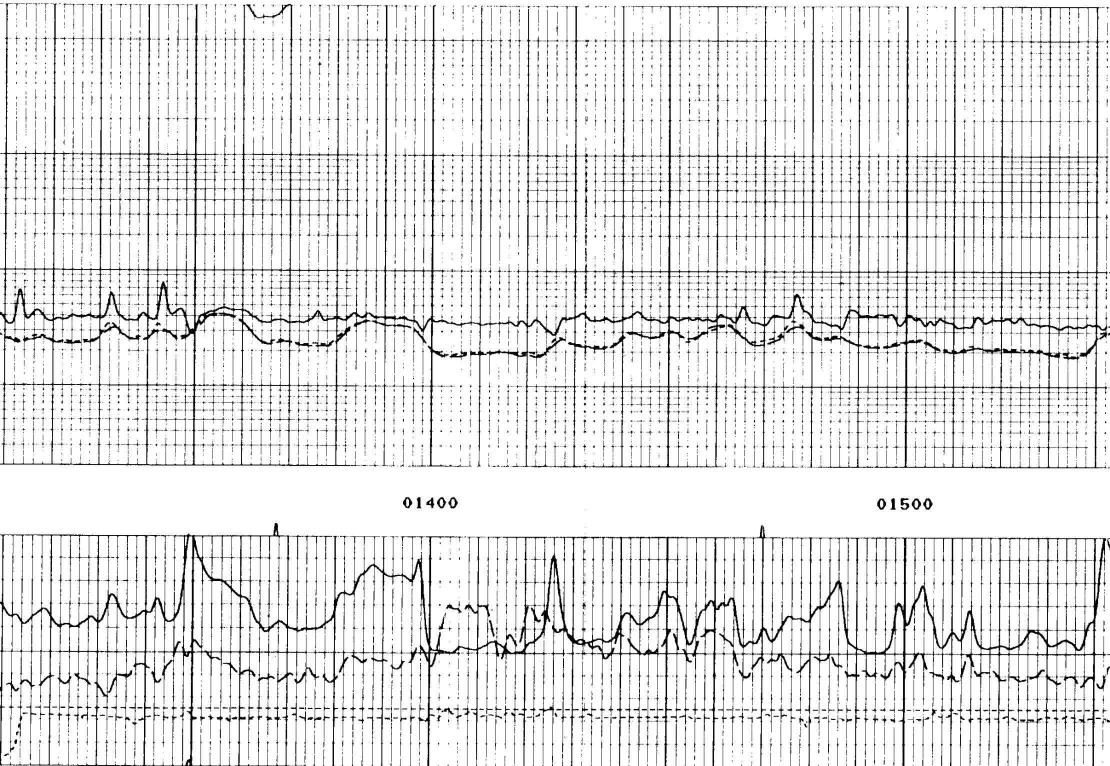
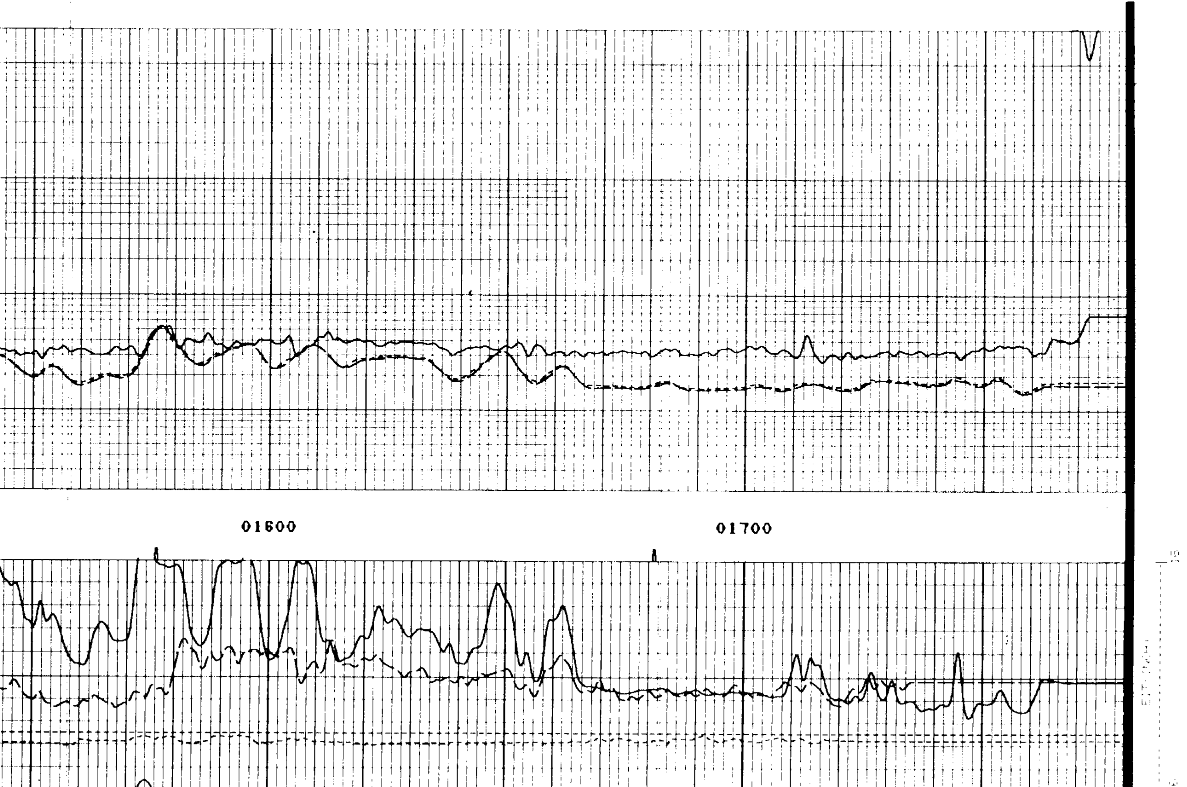
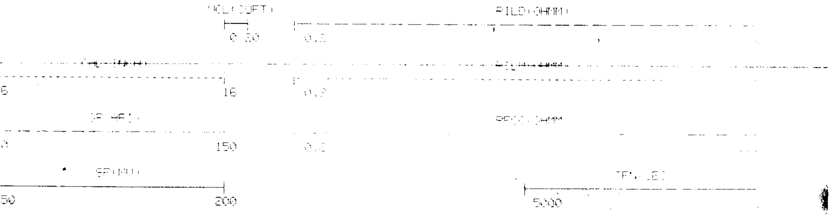
```
        BIT INCH
- - - - - - - - - - - - - - - - - - - - - - - - -|
6                                               16

                                     VOL CUFT                                  RILD OHMM
                                     ----
                                     0.20         0.2
```









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****************************************
*                                      *
*  CALIBRATION/VERIFICATION SUMMARIES  *
*  DATE 10/03/88        TIME 16:28:58  *
*  RUN  1               TRIP 1         *
*                                      *
****************************************


     LOG NAME DIFL    ASSET NO. 33304    UNIT NO. HL 6406
  CALIBRATION ENTERED ON  10/03/88 AT 14:22:35

CURVE   MILLIVOLTS    SCALING FACTORS   ENGINEERING VALUES   UNITS
         LOW    HIGH   ADD.    MULT.        LOW        HIGH
----  -------------- ---------------- ------------------ ----

     DATE 08/16/88         CALIBRATION         TIME 14:02:34

CILD      -0.3   492.7   1.250    1.9747      1.000     500.000 MMHO
CILM      -2.3   509.0   3.079    2.2026      1.000     500.000 MMHO
CFOC       2.5   497.0  -1.559    2.4625      1.000     500.000 MMHO

     DATE 08/16/88   PRIMARY VERIFICATION     TIME 14:03:57

CILD      -0.1   491.7   1.250    1.9747      1.191     498.200 MMHO
CILM      -0.0   506.4   3.079    2.2026      3.133     497.327 MMHO
CFOC       4.7   503.8  -1.559    2.4625      3.186     506.895 MMHO

     DATE 10/03/88   BEFORE LOG VERIFICATION    TIME 14:24:55

CILD       0.1   494.0   1.105    1.9662      1.191     498.200 MMHO
CILM       0.4   506.9   2.707    2.2020      3.133     497.327 MMHO
CFOC       4.7   481.4  -1,830    2.5784      3.186     506.895 MMHO

     DATE 10/03/88    AFTER LOG VERIFICATION    TIME 15:43:17

CILD       0.2   495.4   1.105    1.9662      1.260     499.757 MMHO
CILM       0.4   506.8   2.707    2.2020      3.133     497.206 MMHO
CFOC       4.8   479.0  -1.830    2.5784      3.370     504.331 MMHO


     LOG NAME GR      ASSET NO. 60484P   UNIT NO. HL6406
  CALIBRATION ENTERED ON  10/03/88 AT 13:39:38

CURVE   COUNTS/SEC.   SCALING FACTORS   ENGINEERING VALUES   UNITS
         LOW    HIGH   ADD.    MULT.        LOW        HIGH
----  -------------- ---------------- ------------------ ----

     DATE 09/02/88         CALIBRATION         TIME 17:18:30

GR        73.8   295.5   0.000    0.6766      0.000     150.000 API


     DATE 10/03/88    AFTER LOG VERIFICATION    TIME 16:26:15

GR       143.9   362.4   0.000    0.6766     97.344     245.230 API
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```
      LOG NAME CAL    ASSET NO. 79090    UNIT NO. HL 6406
   CALIBRATION ENTERED ON  10/03/88 AT 13:39:12

CURVE   MILLIVOLTS     SCALING FACTORS    ENGINEERING VALUES   UNITS
         LOW    HIGH   ADD.    MULT.         LOW       HIGH
----  -------------- ------------------ -------------------- ----

      DATE 09/02/88          CALIBRATION           TIME 17:17:18

CAL     3442.5  8350.9    1.792    0.0090       6.000      12.000 INCH



      DATE 10/03/88     AFTER LOG VERIFICATION     TIME 16:25:01

CAL     3663.0  8337.0    1.792    0.0090       6.270      11.983 INCH
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