ATLAS WIRELINE SERVICES

DUAL INDUCTION FOCUSED LOG

FILE NO.

API NO.

5" = 100'

COMPANY OREGON NATURAL GAS CORP
WELL IW 23B-3
FIELD MIST
COUNTY COLUMBIA STATE OR.

LOCATION:
615' S & 1591' E OF THE
W 1/4 CORNER OF
SEC3 TWP6N RGE5W

OTHER SERVICES
DIP
GR/CN/COL

PERMANENT DATUM GL ELEV. 1073.1
LOGGING MEASURED FROM KB 11.4 FT. ABOVE P.D.
DRILLING MEASURED FROM KB

ELEVATIONS
KB 1084.5
DF
GL 1073.1'

DATE	6/27/88		7/8/88					
RUN	1		TWO					
SERVICE ORDER	158840		158845					
DEPTH-DRILLER	2651'		2974'					
DEPTH-LOGGER	2646'		2968'					
BOTTOM LOGGED INTERVAL	2644'		2966'					
TOP LOGGED INTERVAL	571'		2614					
CASING - DRILLER	13 3/8"	@ 571'	8 5/8"	@ 2620'	@		@	
CASING - LOGGER	571'		2614'					
BIT SIZE	12.25		7 7/8"					
TYPE FLUID IN HOLE	GEL/DRISPAC		KCL POLYMER					
DENSITY / VISCOSITY	9.5	49	8.6	40				
PH / FLUID LOSS	8.5	4.4	10.5	10.8				
SOURCE OF SAMPLE	FLOWLINE		FLOWLINE					
RM AT MEAS. TEMP.	1.27	@ 64	0.243	@ 88 F	@		@	
RMF AT MEAS. TEMP.	0.98	@ 65	0.19	@ 88 F	@		@	
RMC AT MEAS. TEMP.	1.64	@ 64	0.282	@ 88 F	@		@	
SOURCE OF RMF / RMC	MEAS	MEAS	MEAS	MEAS				
RM AT BHT	0.75	@ 108 F	0.19	@ 112 F	@		@	
TIME SINCE CIRCULATION	4 HRS		2 HRS					
MAX. REC. TEMP. DEG. F	108		112 F					
EQUIP. NO. / LOC.	HL 6406	SAC	HL 6406	SAC				
RECORDED BY	B. WELCH		B. WELCH					
WITNESSED BY	MR. THOMAS;		MR. THOMAS;					

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.

Western Atlas International
A Litton/Dresser Company

ATLAS WIRELINE SERVICES

REMARKS RUN (1)

BHV COMPUTED FOR 8 5/8" CSG

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIAL NO.	SERIES NO.	POSITION
1	1	DIFL	72831	1503	1.5″ SO
1	1	AC	79726	1603	CENT
1	1	GR			
1	1	CAL	79090	4209	CENT

REMARKS RUN (2)

SP SCALE 5 MV PER CD PER CUSTOMER REQUEST

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIAL NO.	SERIES NO.	POSITION

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      CURVE DELAYS

CURVE   DELAY  UNITS
-----   -----  -----

 CFOC       0  FT,IN
 CILM     6,0  FT,IN
 CILD     9,3  FT,IN
 SP       9,3  FT,IN
 GR      43,6  FT,IN
 CAL     46,6  FT,IN
 ACQ     27,0  FT,IN
 AC      27,0  FT,IN
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                 PARAMETERS

  NAME     DEPTH INTERVAL    VALUE      UNITS
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A           2654 TO   567       0.620

M           2654 TO   567       2.150

O.D.        2654 TO   567       8.625  INCH

DEL-T F     2654 TO   567     185.000  MICS/FT

DEL-T M     2654 TO   567      54.000  MICS/FT

DEL-T S     2654 TO   567     110.000  MICS/FT
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          DISPLAY SCALE CHANGES

               *** NONE ***
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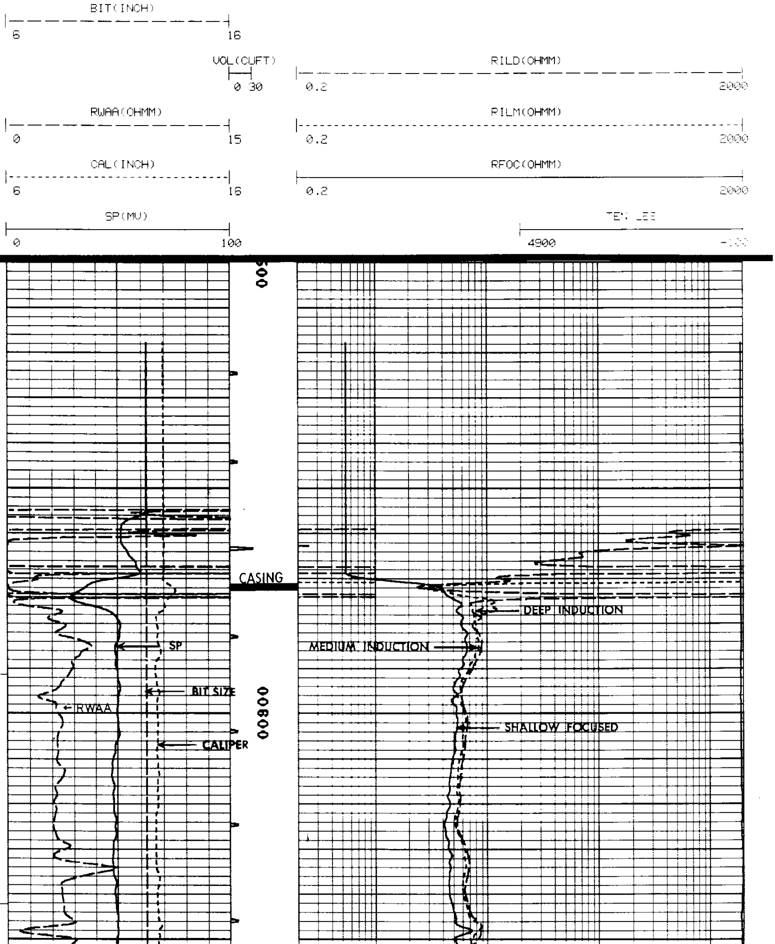
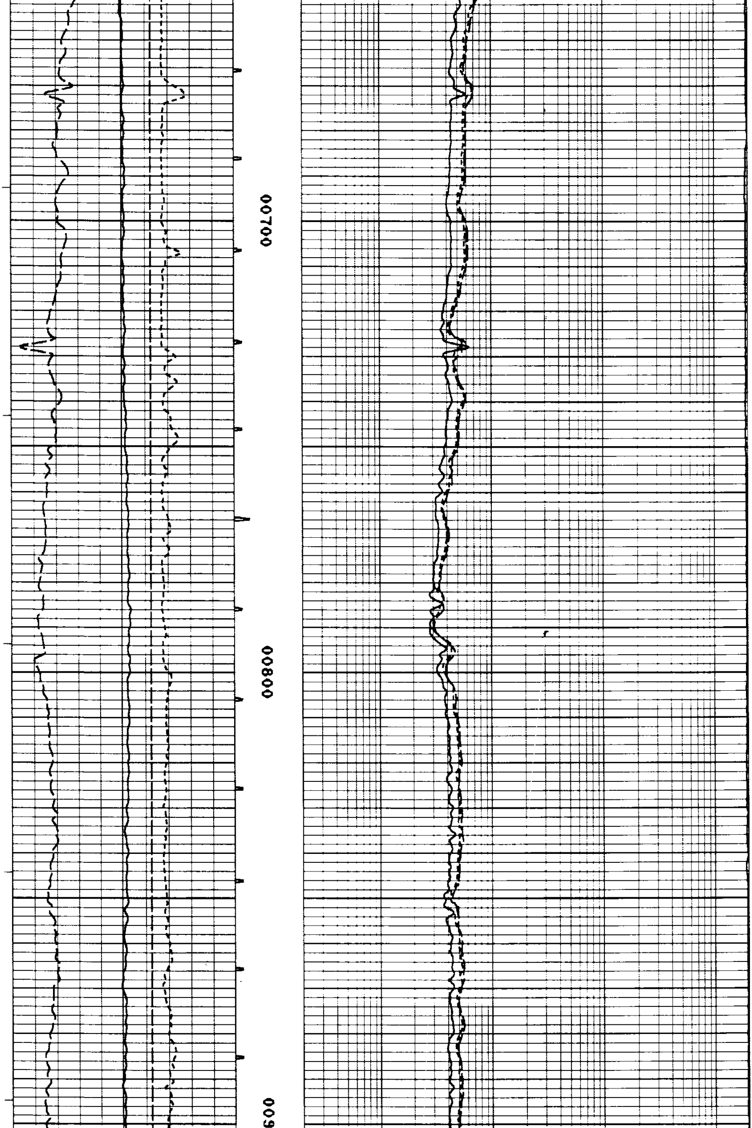
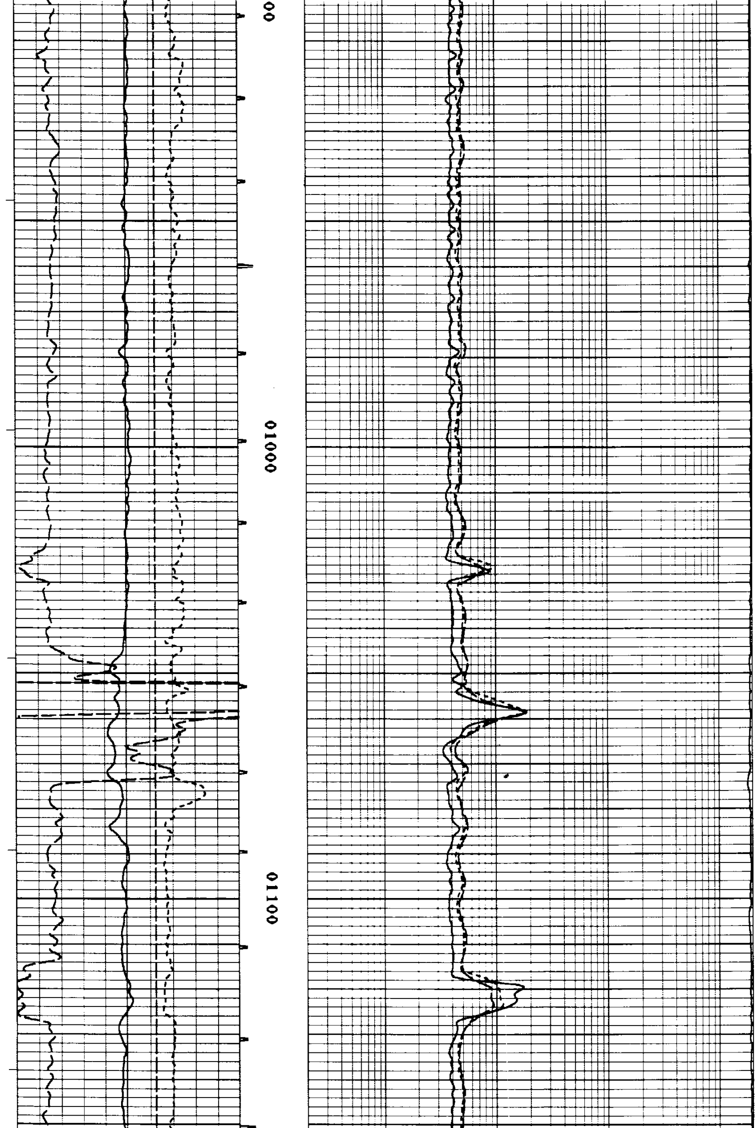
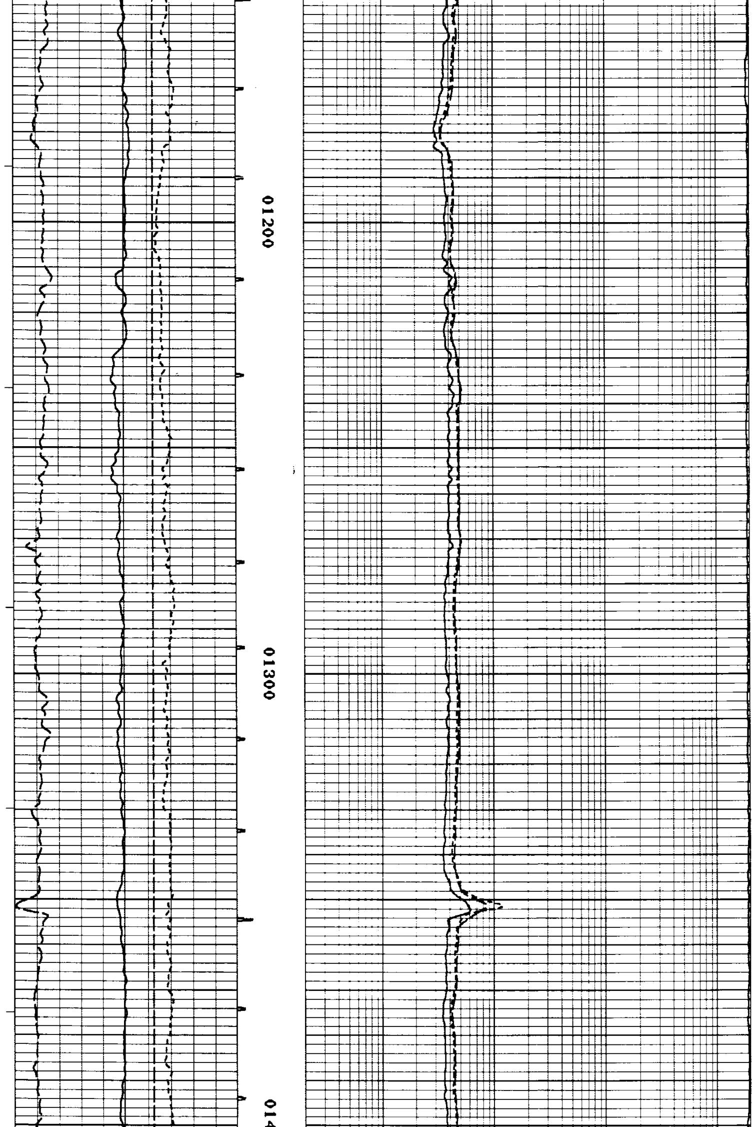
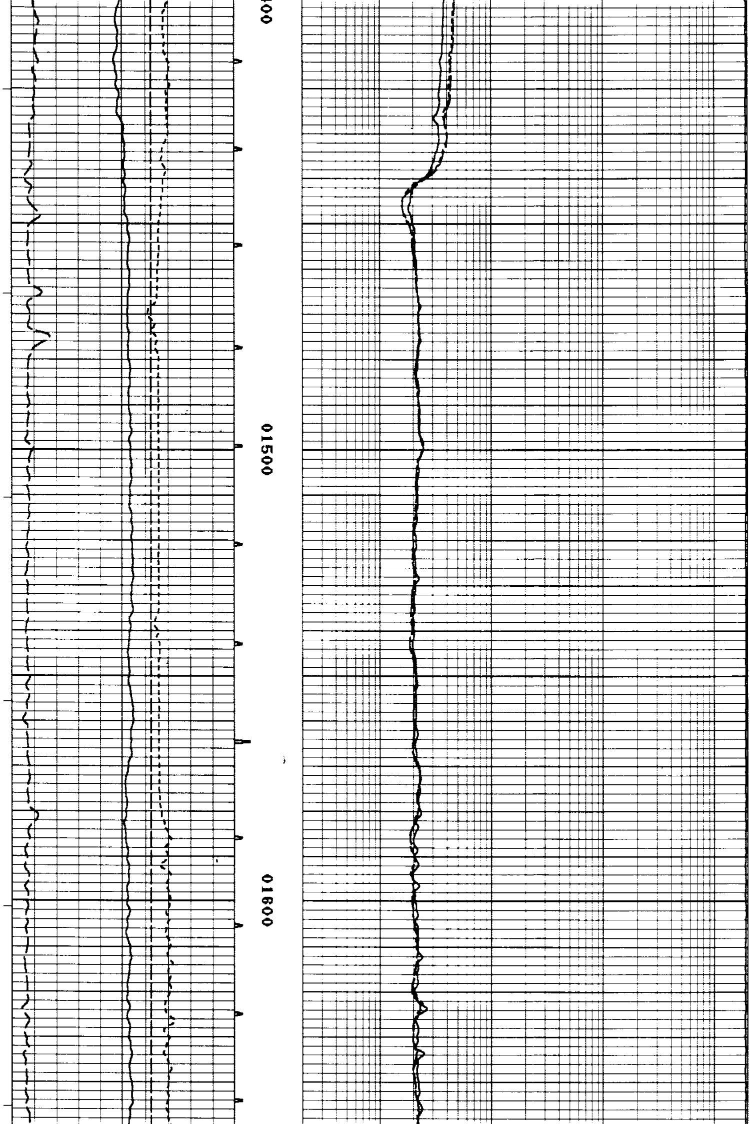
COMPANY: OREGON NATURAL GAS CORP
RUN: 1
WELL NAME: IW 23B-3
TRIP: 1
SERVICE: KC214N
FILE: 2
DATE: 06/27/88
TIME: 03:40:02
REVISION: FSYSAL REV GS08 VER 2
MODE: RECORD

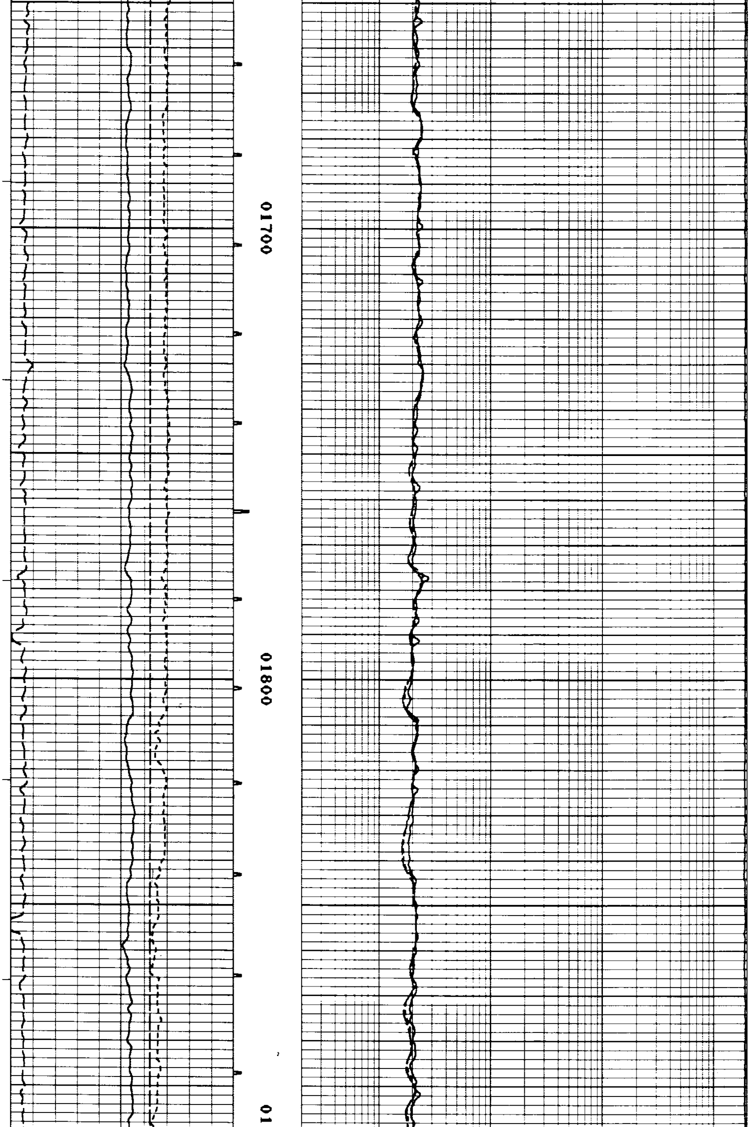


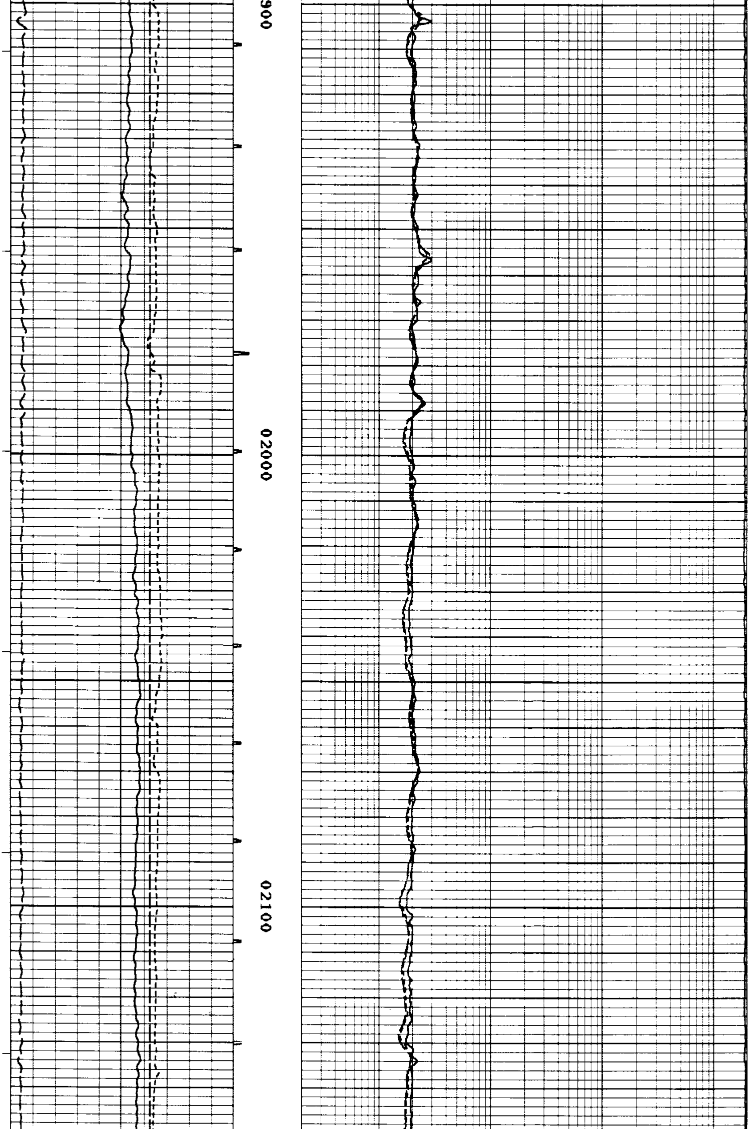


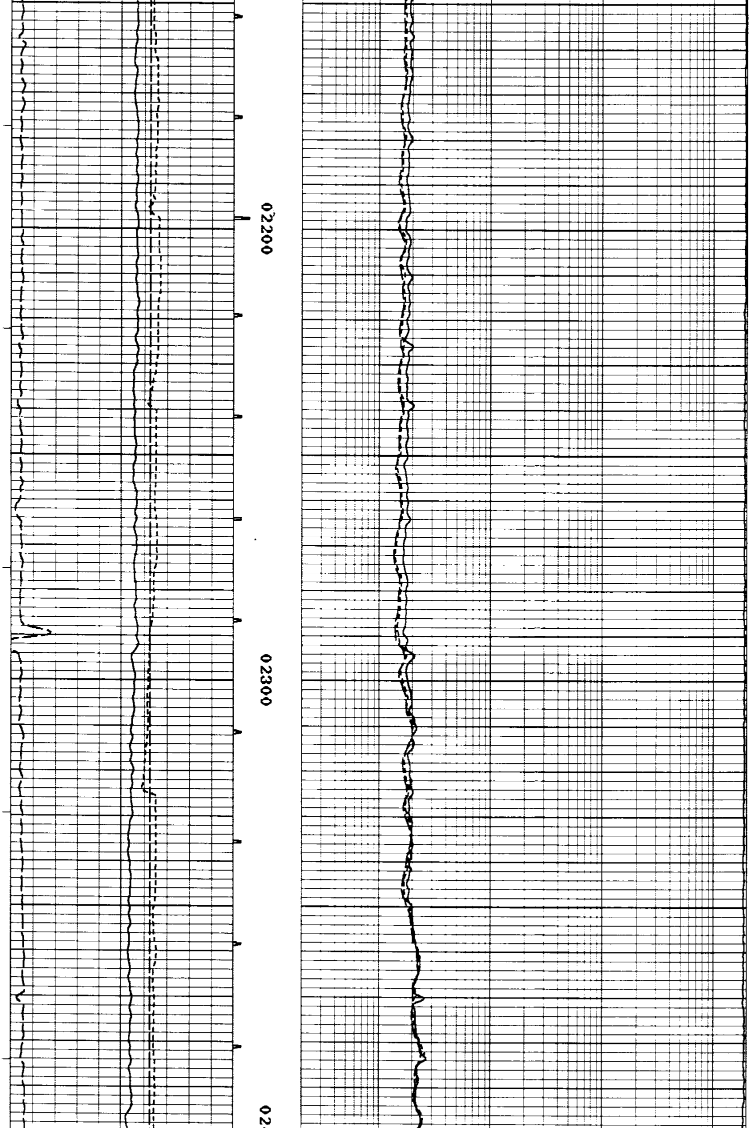


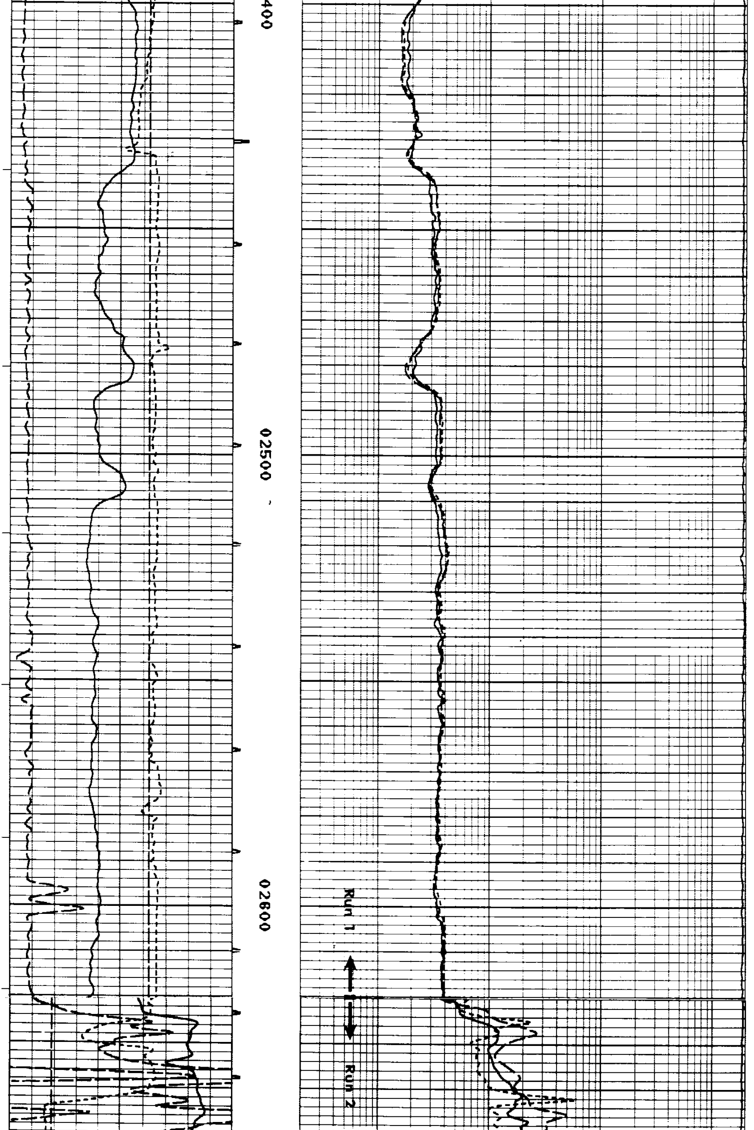


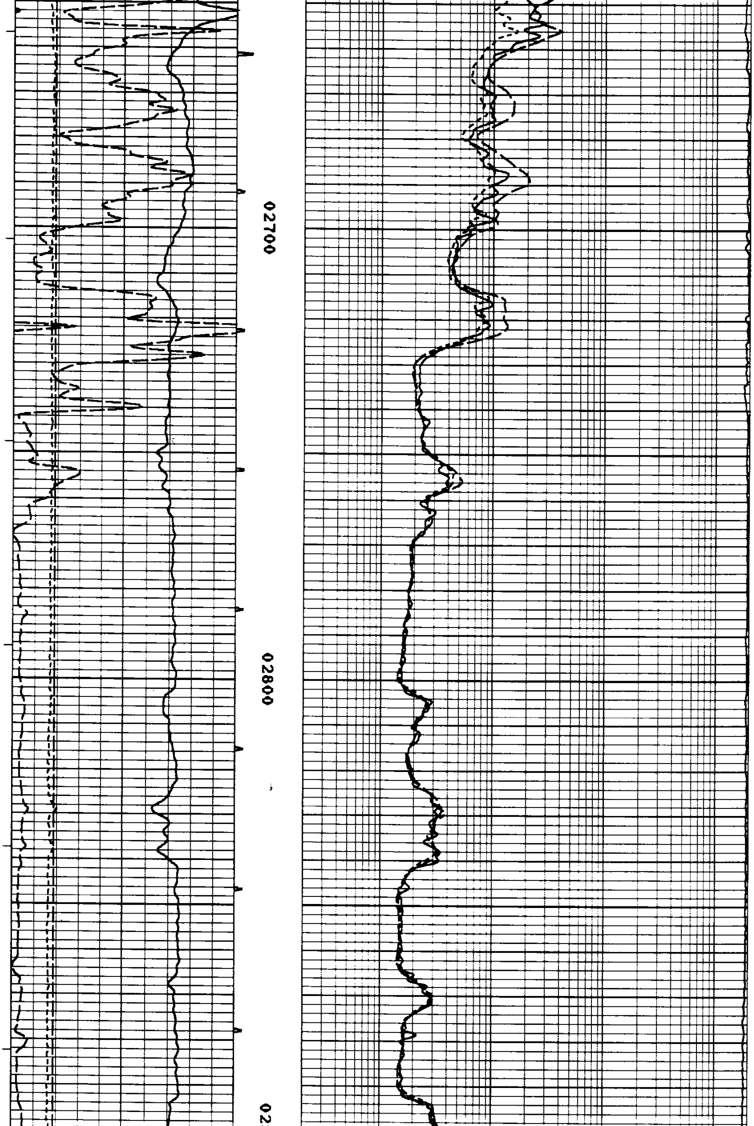


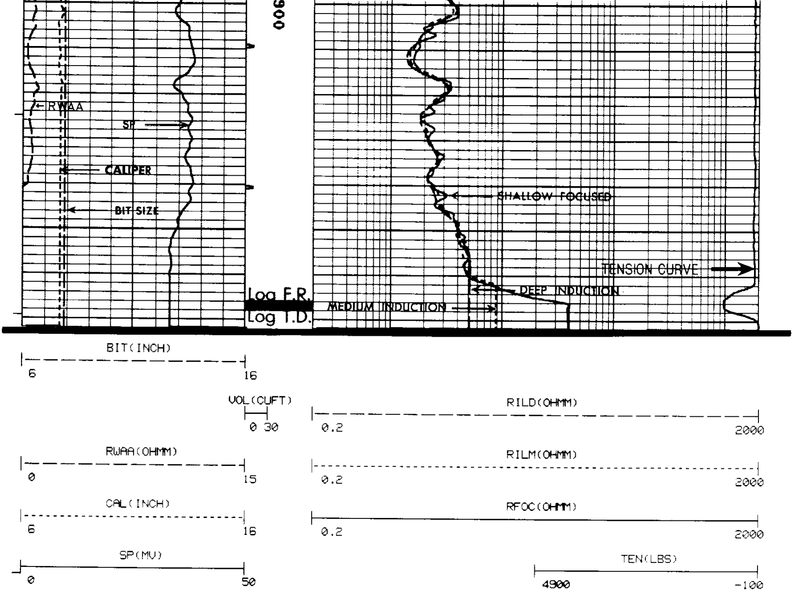












CURVE DELAYS

CURVE	DELAY	UNITS
CFOC	0	FT,IN
CILM	6,0	FT,IN
CILD	9,3	FT,IN
SP	9,3	FT,IN
GR	48,6	FT,IN
CAL	46,6	FT,IN
ACQ	31,9	FT,IN
AC	27,0	FT,IN

PARAMETERS

NAME	DEPTH INTERVAL	VALUE	UNITS
A	2972 TO 2746	0.620	
M	2972 TO 2746	2.150	
O.D.	2972 TO 2746	0.000	INCH
DEL-T F	2972 TO 2746	185.000	MICS/FT
DEL-T M	2972 TO 2746	54.000	MICS/FT
DEL-T S	2972 TO 2746	110.000	MICS/FT

DISPLAY SCALE CHANGES

*** NONE ***

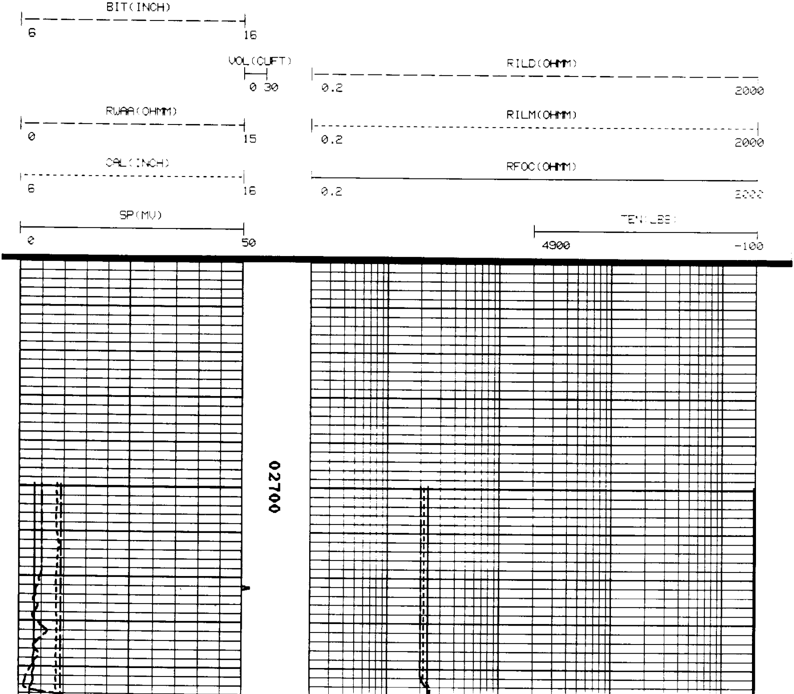
COMPANY: OREGON NATURAL GAS CORP
WELL NAME: IW 23B-3
SERVICE: KC214N FILE: 2
REVISION: FSYSAL REV GS08 VER+2

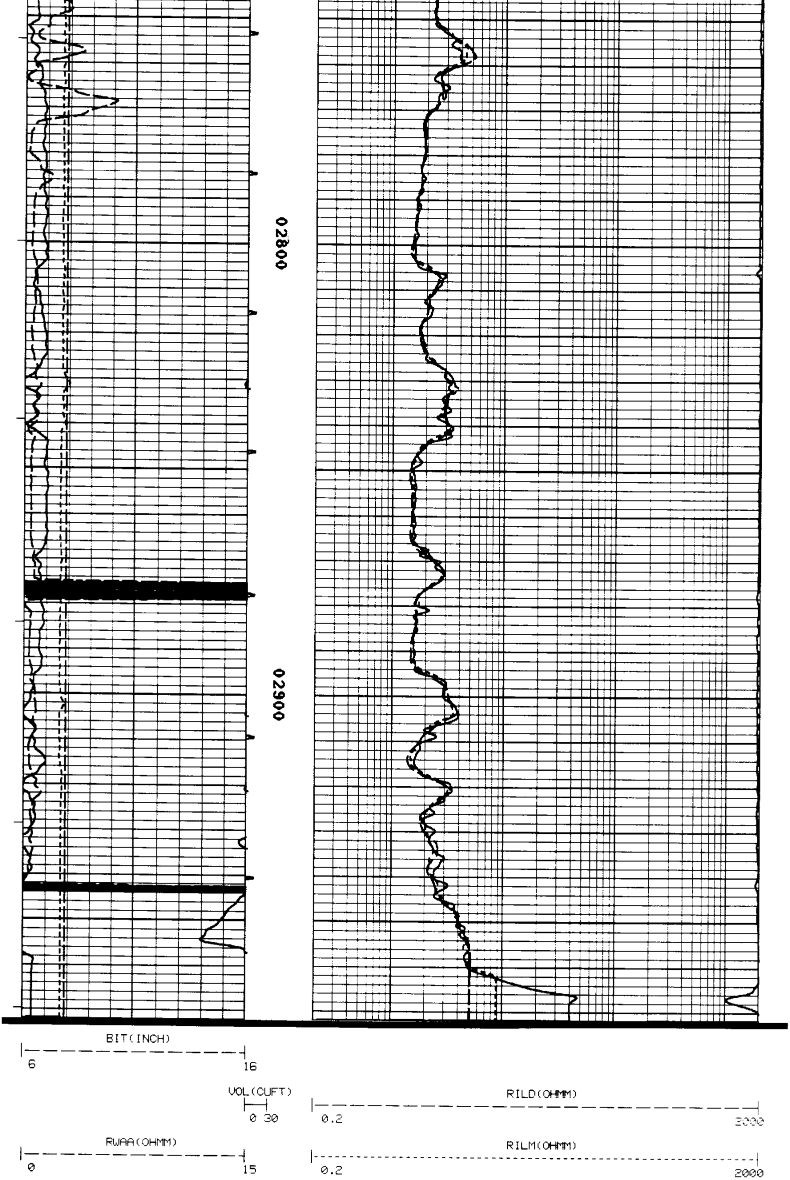
RUN: 2
TRIP: 1

DATE: 07/08/88 TIME: 10:46:06

REPEAT SECTION

MODE: RECORD





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         CAL(INCH)                                          RFOC(OHMM)
 6                            16      0.2                                               2000

         SP(MV)                                                         TEN(LBS)
 0                            50                               4900                     -100
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                   ****************************************
                   *                                      *
                   *  CALIBRATION/VERIFICATION SUMMARIES  *
                   *  DATE 07/08/88        TIME 11:21:51  *
                   *  RUN  2               TRIP 1         *
                   *                                      *
                   ****************************************


         LOG NAME DIFL    ASSET NO. 72831    UNIT NO. HL 6406
      CALIBRATION ENTERED ON  07/08/88 AT 10:19:58

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

         DATE 05/12/88          CALIBRATION          TIME 11:22:24

    CILD       0.2    485.3    0.253    1.9234      1.000     500.000 MMHO
    CILM      -0.8    540.1    1.498    2.0831      1.000     500.000 MMHO
    CFOC       5.2    519.4   -4.013    2.3679      1.000     500.000 MMHO

         DATE 05/12/88    PRIMARY VERIFICATION       TIME 11:23:47

    CILD      -0.1    493.4    0.253    1.9234      0.175     497.342 MMHO
    CILM      -0.3    551.4    1.498    2.0831      1.248     511.253 MMHO
    CFOC       6.3    520.5   -4.013    2.3679      2.138     501.065 MMHO

         DATE 07/08/88   BEFORE LOG VERIFICATION     TIME 10:32:23

    CILD      -0.1    491.1    0.290    1.9788      0.175     497.342 MMHO
    CILM      -0.3    547.8    1.467    2.0972      1.249     511.254 MMHO
    CFOC       6.4    516.6   -4.101    2.3860      2.136     501.066 MMHO

         DATE 07/08/88    AFTER LOG VERIFICATION     TIME 11:05:31

    CILD      -0.1    494.7    0.290    1.9788      0.197     501.490 MMHO
    CILM      -0.3    551.4    1.467    2.0972      1.242     514.908 MMHO
    CFOC       6.5    516.2   -4.101    2.3860      2.237     500.648 MMHO

                *** GR   NOT CALIBRATED ***


         LOG NAME CAL     ASSET NO. 79090    UNIT NO. HL 6406
      CALIBRATION ENTERED ON  07/08/88 AT 10:17:26

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

         DATE 06/02/88          CALIBRATION          TIME 21:52:25

    CAL    3576.6  8184.6    1.343    0.0095      6.000      12.000 INCH

                          PRIMARY VERIFICATION           NOT DONE

         DATE 07/08/88   BEFORE LOG VERIFICATION     TIME 10:18:35

    CAL        E     4929.7    1.543    0.0095      E            7.962 INCH

         DATE 07/08/88    AFTER LOG VERIFICATION     TIME 11:07:08

    CAL        E     4813.2    1.543    0.0095      E            7.810 INCH
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  COMPANY:     OREGON NATURAL GAS CORP                        RUN:  1

  WELL NAME:   IW 23B-3                                       TRIP: 1
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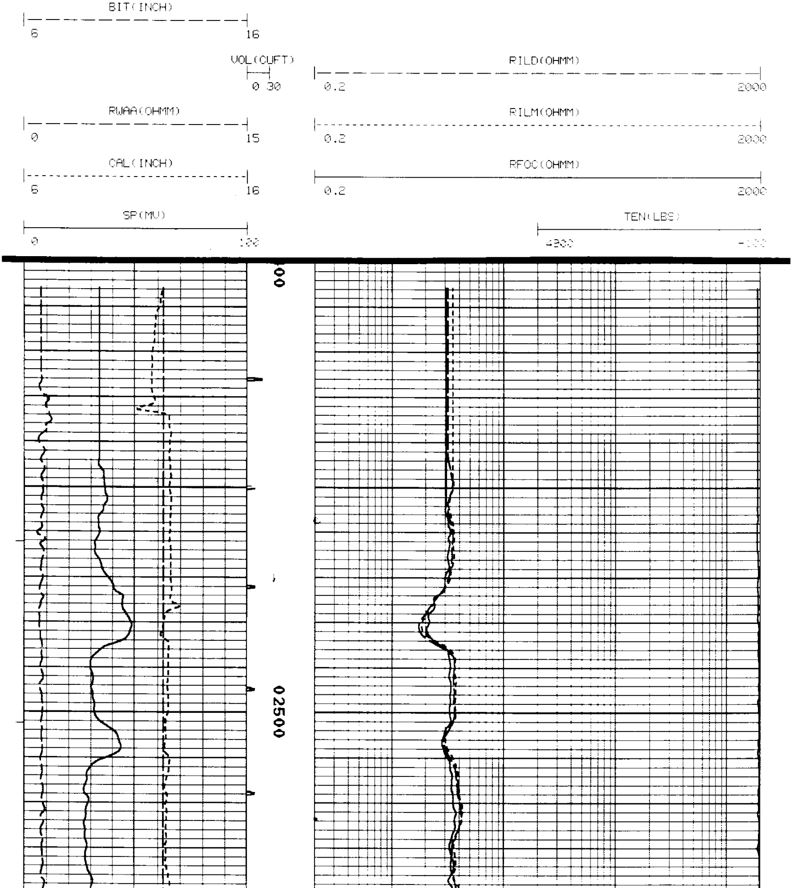
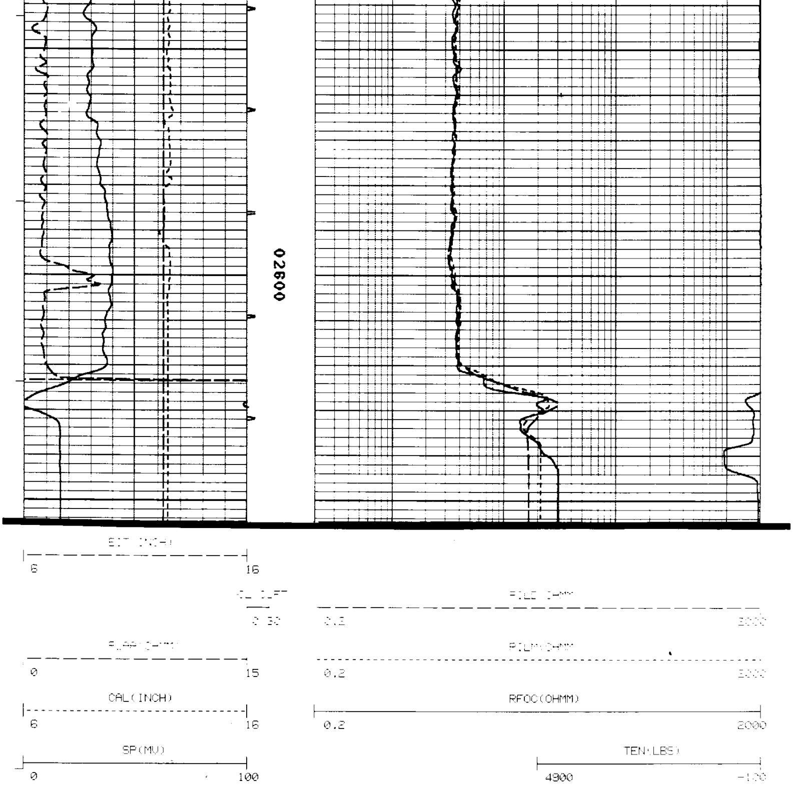
SERVICE: KCE14N FILE: 1 DATE: 08 27 88 TIME: 03:33:13

REVISION: FSYSAL REV GS08 VER 2

REPEAT SECTION

MODE: RECORD





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*                                       *
*  CALIBRATION/VERIFICATION SUMMARIES   *
*  DATE 06/27/88          TIME 04:30:36 *
*  RUN  1                 TRIP 1        *
*                                       *
*****************************************



     LOG NAME DIFL   ASSET NO. 72831    UNIT NO. HL 8408
  CALIBRATION ENTERED ON  06/27/88 AT 02:15:51

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

    DATE 05/12/88         CALIBRATION        TIME 11:22:24

CILD      0.9   495.3   0.258     1.9694      1.000     500.000 MMHO
CILM     -0.6   540.1   1.498     2.0831      1.000     500.000 MMHO
CFOC      5.2   513.4  -4.013     2.3673      1.000     500.000 MMHO

    DATE 05/12/88   PRIMARY VERIFICATION     TIME 11:23:47
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CILD      -0.1   493.4    0.258     1.9694        0.175     497.342 MMHO
CILM      -0.3   551.4    1.498     2.0831        1.249     511.253 MMHO
CFOC       6.3   520.5   -4.013     2.3679        2.136     501.065 MMHO

     DATE 06/27/88   BEFORE LOG VERIFICATION    TIME 03:23:38

CILD      -0.2   487.0    0.319     1.3950        0.175     497.342 MMHO
CILM      -0.3   544.1    1.505     2.1111        1.249     511.254 MMHO
CFOC       6.1   510.5   -3.944     2.4137        2.136     501.066 MMHO

     DATE 06/27/88    AFTER LOG VERIFICATION    TIME 04:38:04

CILD      -0.1   493.6    0.319     1.3950        0.266     505.053 MMHO
CILM      -0.3   551.3    1.505     2.1111        1.242     518.427 MMHO
CFOC       6.1   506.7   -3.944     2.4137        2.083     497.264 MMHO

           *** GR   NOT CALIBRATED ***


      LOG NAME CAL    ASSET NO. 79090    UNIT NO. HL 6406
   CALIBRATION ENTERED ON  06/27/88 AT 02:15:13

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

     DATE 06/02/88          CALIBRATION          TIME 21:52:25

CAL     3576.6  8184.6    1.343    0.0095       6.000      12.000 INCH

                         PRIMARY VERIFICATION           NOT DONE

     DATE 06/27/88   BEFORE LOG VERIFICATION    TIME 03:25:00

CAL        E     8615.4    1.343    0.0095       E          12.561 INCH

     DATE 06/27/88    AFTER LOG VERIFICATION    TIME 04:29:54

CAL        E     8767.8    1.343    0.0095       E          [illegible] INCH
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