FORM 925317

**Western Atlas International**
A Litton-Dresser Company
Atlas Wireline Services

# Dual Induction Focused Log

FILE NO.

API NO.

5" = 100'

| | |
|---|---|
| COMPANY | OREGON NATURAL GAS CORPORATION |
| WELL | IW 42[illegible]-10 C |
| FIELD | MIST |
| COUNTY | COLUMBIA |
| STATE | OREGON |

LOCATION: 451' W. & 221' N. FROM E/4 CORNER OF:

SEC 10 TWP 6N RGE 5W

Other Services:
BHC/AL
CDLC/CN/GR
DIP

Permanent Datum GL Elev. 804.38'
Log Measured from KB, 11.4 Ft. Above Permanent Datum
Drilling Measured from KB

Elev KB 815.78'
DF
GL 804.38'

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Date | 7 24 88 | | 7 28 88 | | | | | |
| Run No. | ONE | | TWO | | | | | |
| Service Order | 159026 | | 159030 | | | | | |
| Depth — Driller | 2087' | | 2769' | | | | | |
| Depth — Logger | 2080' | | 2769' | | | | | |
| Bottom Logged Interval | 2078' | | 2767' | | | | | |
| Top Logged Interval | 532' | | 2070' | | | | | |
| Casing — Driller | 13 3/8" @ 532' | | 8 5/8" @ 2070' | | @ | | @ | |
| Casing — Logger | 532' | | 2070' | | | | | |
| Bit Size | 12 1/4" | | 7 7/8" | | | | | |
| Type Fluid in Hole | GEL/DRISPAC | | GEL/DRISPAC | | | | | |
| Density and Viscosity | 10.2 | 42 | 9.2 | 55 | | | | |
| pH and Fluid Loss | 9.0 | 5.0 cc | 11.7 | 6.8 cc | | cc | | cc |
| Source of Sample | FLOWLINE | | FLOWLINE | | | | | |
| Rm @ Meas. Temp. | 1.65 @ 65 °F | | 3.02 @ 76 °F | | @ °F | | @ °F | |
| Rmf @ Meas. Temp. | 1.20 @ 65 °F | | 2.18 @ 76 °F | | @ °F | | @ °F | |
| Rmc @ Meas. Temp. | 1.90 @ 65 °F | | 3.67 @ 76 °F | | @ °F | | @ °F | |
| Source of Rmf and Rmc | M | M | M | M | | | | |
| Rm @ BHT | 1.05 @ 102 °F | | 2.07 @ 111 °F | | @ °F | | @ °F | |
| Time Since Circ. | 3 HRS. | | 1 HR. | | | | | |
| Max. Rec. Temp. Deg. F. | 102 °F | | 111 °F | | °F | | °F | |
| Equip. No. and Location | 6406 | SAC. | 6406 | SAC. | | | | |
| Recorded By | M. HINDS | | 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 )

BHC/AC IS 5' SHALLOW ON REPEAT SECTION

# EQUIPMENT DATA

| RUN | TRIP | TOOL | SERIAL NO. | SERIES NO. | POSITION |
|---|---|---|---|---|---|
| 1 | 1 | DIFL | 72831 | 1503 | 1.5 SO |
| 1 | 1 | AC | 79726 | 1609 | CENT |
| 1 | 1 | GR | | | |
| 1 | 1 | CAL | 79090 | 4202 | VARIABLE |

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 | 47,0 | FT,IN |
| ACQ | 31,9 | FT,IN |
| AC | 27,0 | FT,IN |

PARAMETERS

| NAME | DEPTH INTERVAL | VALUE | UNITS |
|---|---|---|---|
| A | 2086 TO 521 | 0.620 | |
| M | 2086 TO 521 | 2.150 | |
| O.D. | 2086 TO 521 | 8.625 | INCH |
| DEL-T F | 2086 TO 521 | 185.000 | MICS/FT |
| DEL-T M | 2086 TO 521 | 54.000 | MICS/FT |
| DEL-T S | 2086 TO 521 | 110.000 | MICS/FT |

DISPLAY SCALE CHANGES

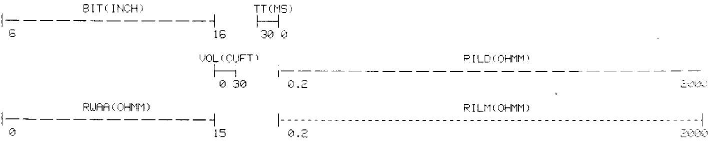
*** NONE ***

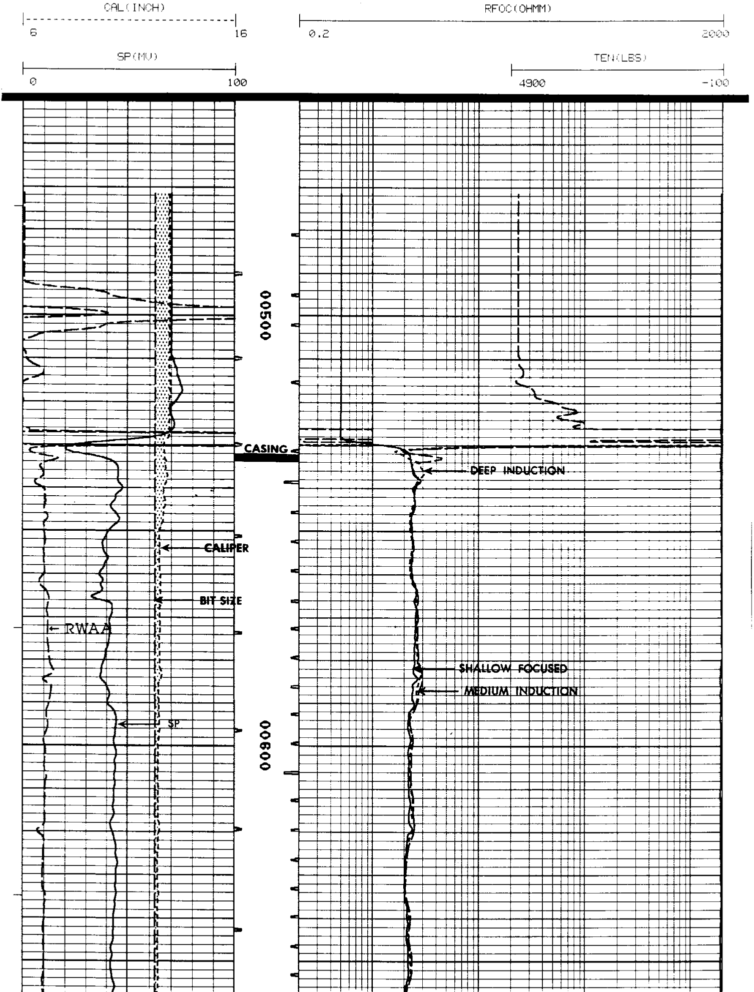
COMPANY: OREGON NATURAL GAS CORP. RUN: 1

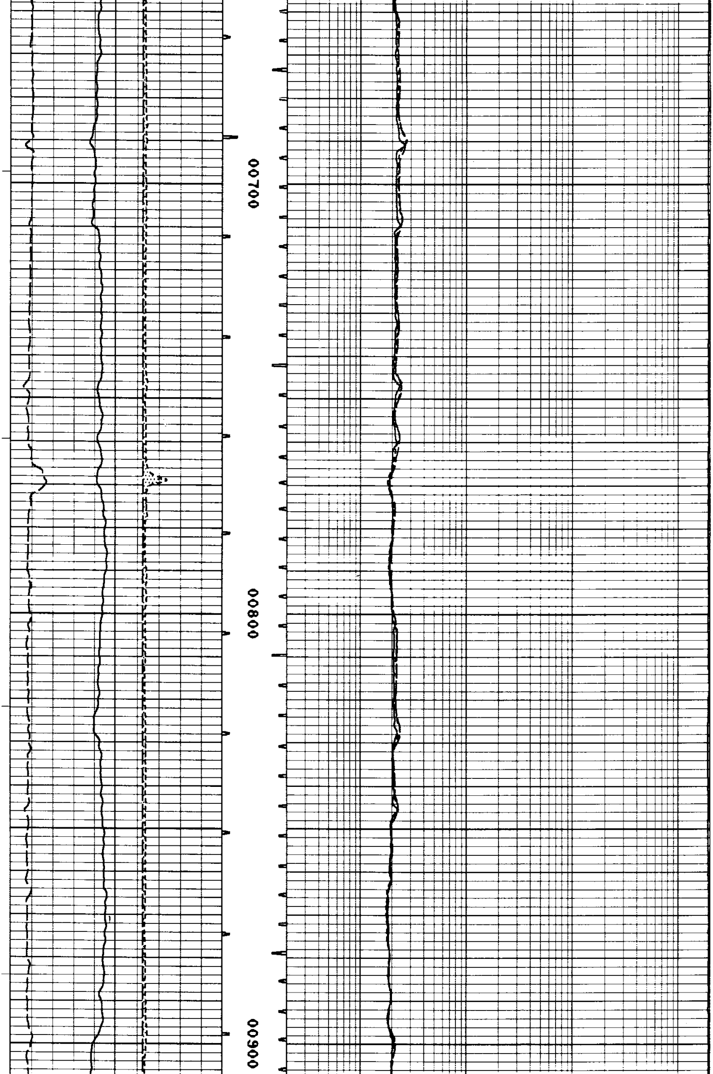
WELL NAME: IW 42C-10 TRIP: 1

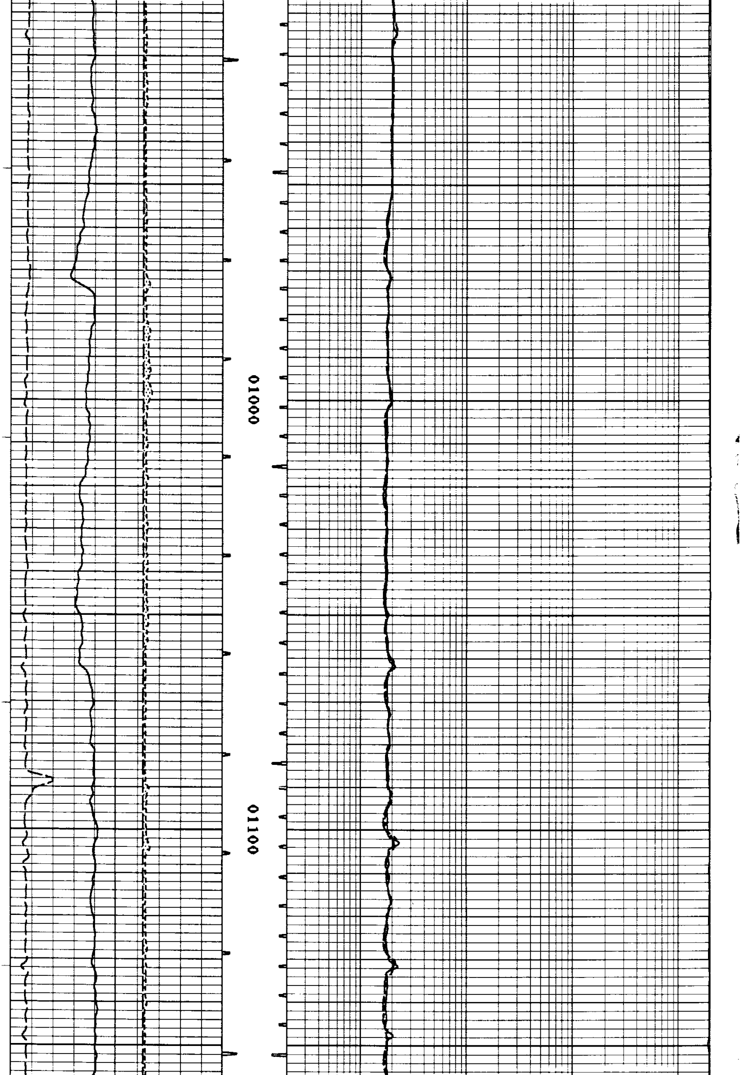
SERVICE: KC214N FILE: 8 DATE: 07/24/88 TIME: 12:12:15

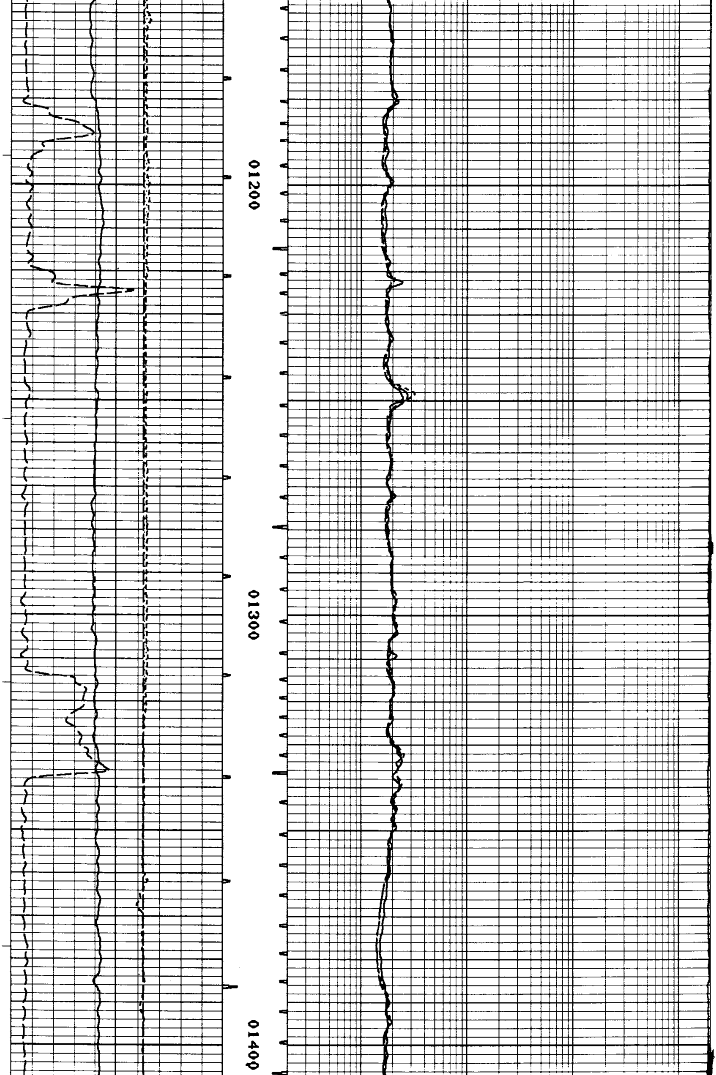
REVISION: FSYSAL REV GS08 VER+2 MODE: RECORD

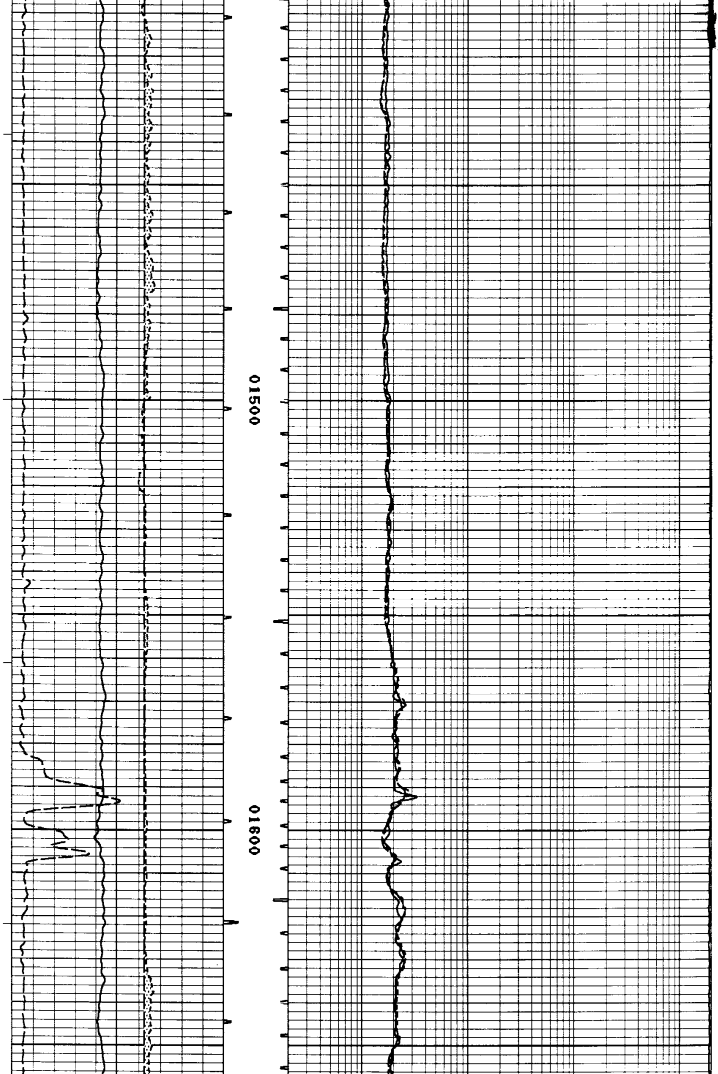


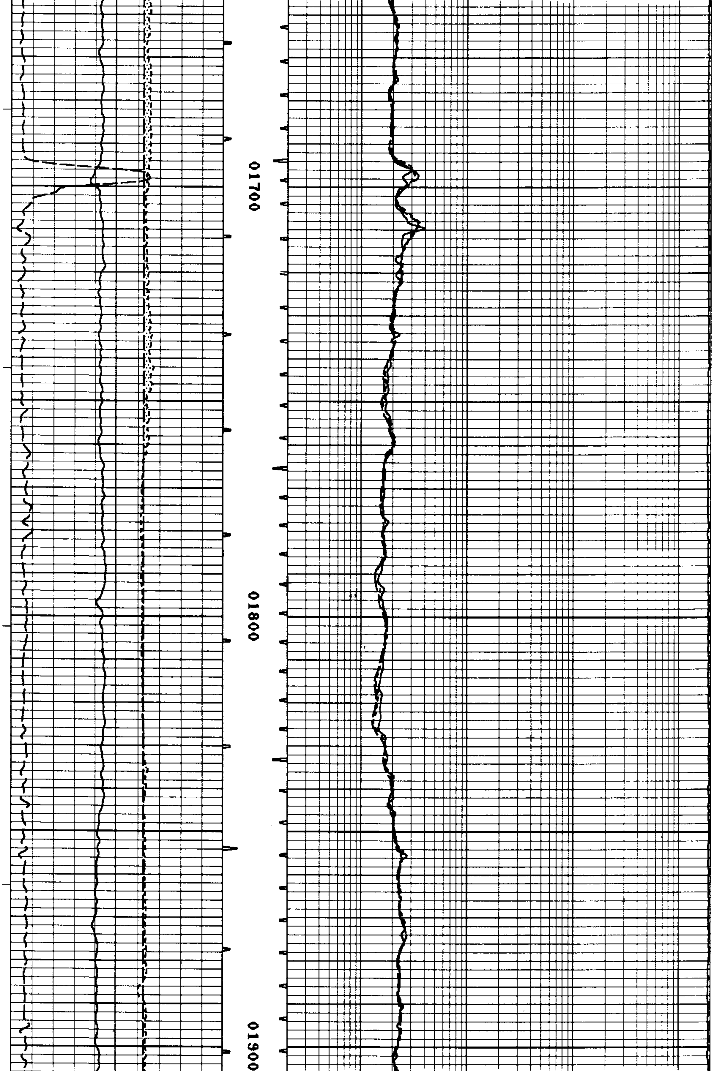


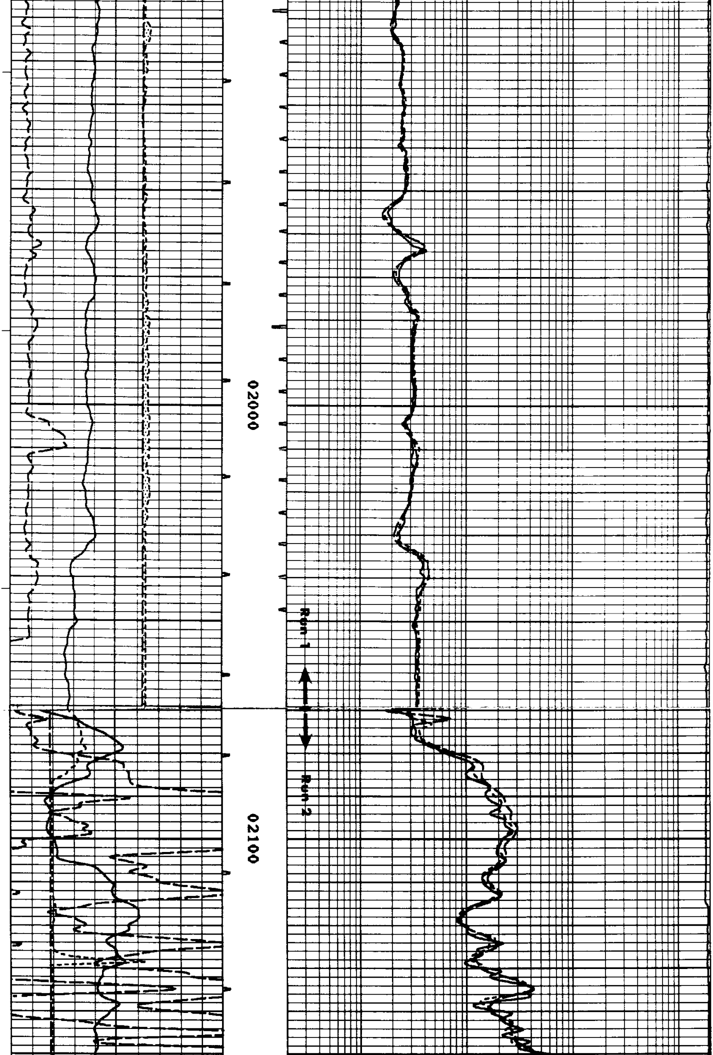


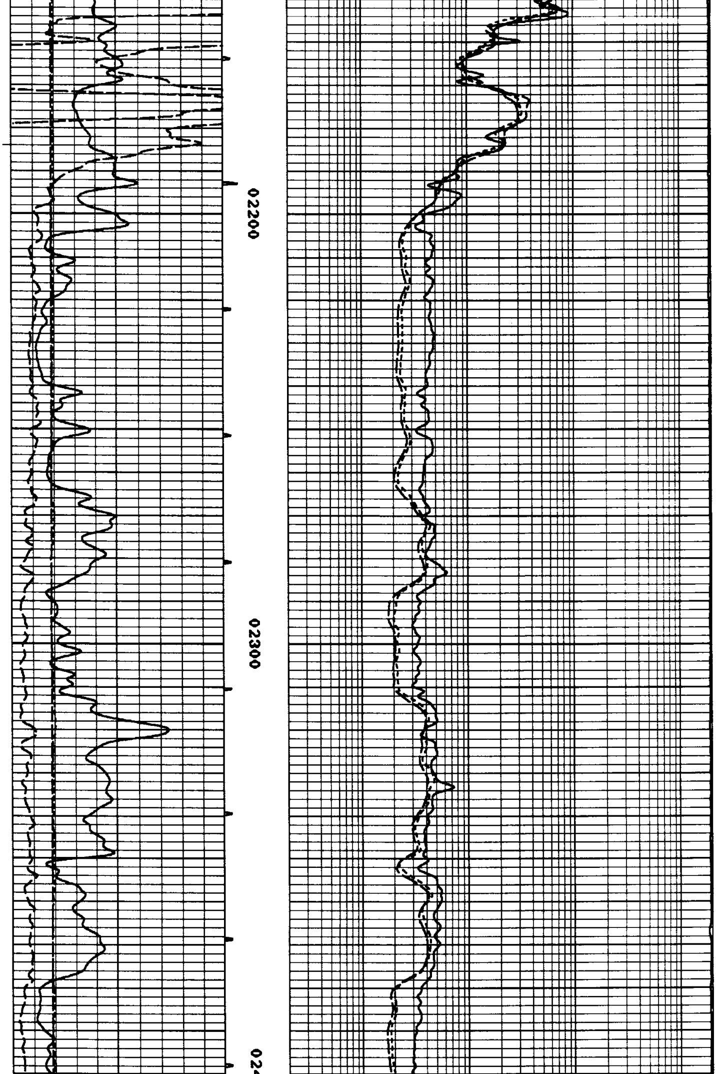


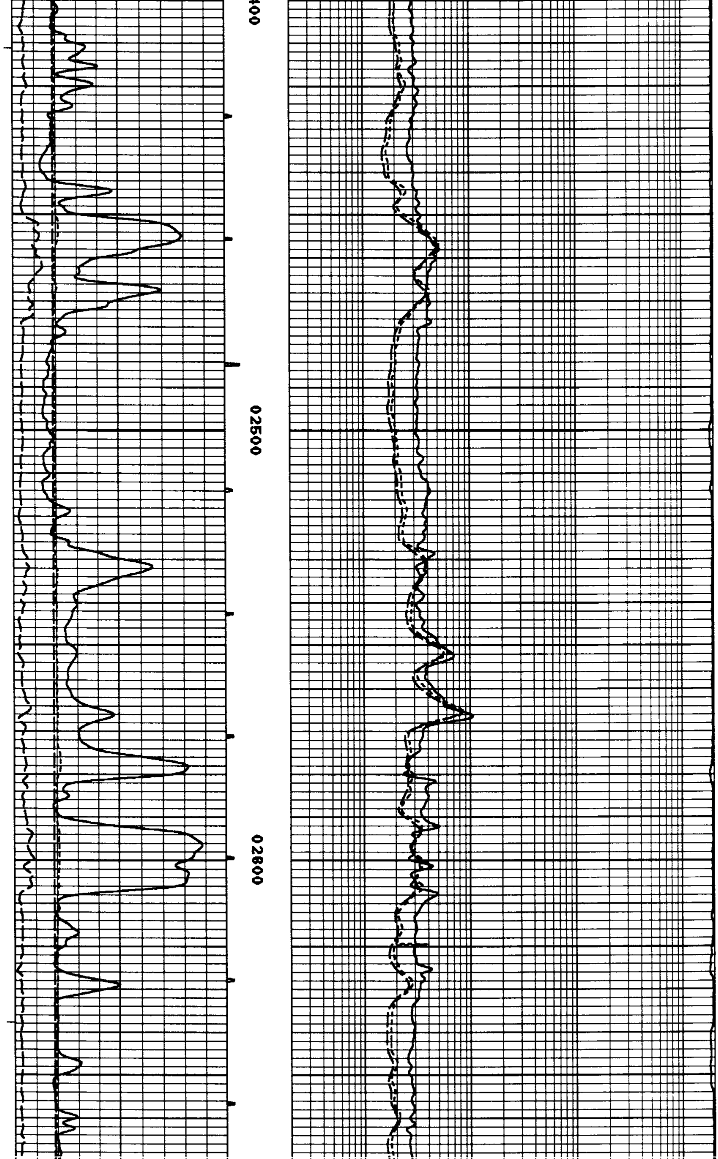


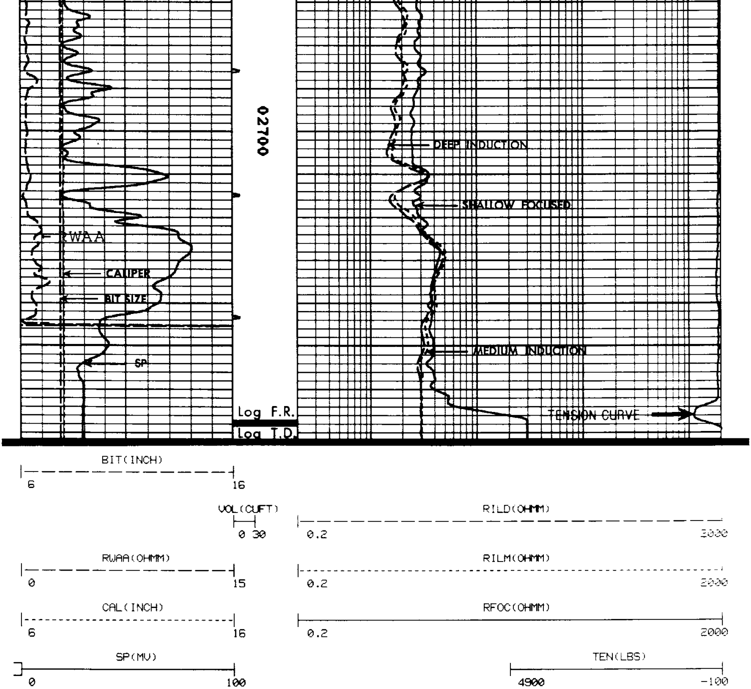












PARAMETERS

| NAME | DEPTH INTERVAL | VALUE | UNITS |
|---|---|---|---|
| A | 2773 TO 2502 | 0.620 | |
| M | 2773 TO 2502 | 2.150 | |
| O.D. | 2773 TO 2502 | 0.000 | INCH |
| DEL-T F | 2773 TO 2502 | 185.000 | MICS/FT |
| DEL-T M | 2773 TO 2502 | 54.000 | MICS/FT |
| DEL-T S | 2773 TO 2502 | 110.000 | MICS/FT |

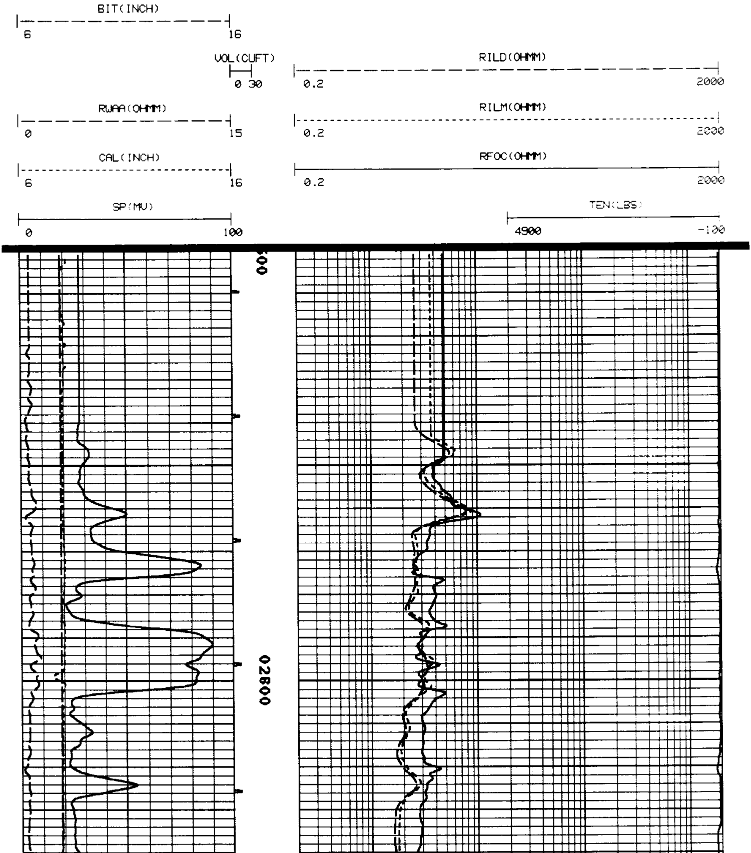
DISPLAY SCALE CHANGES

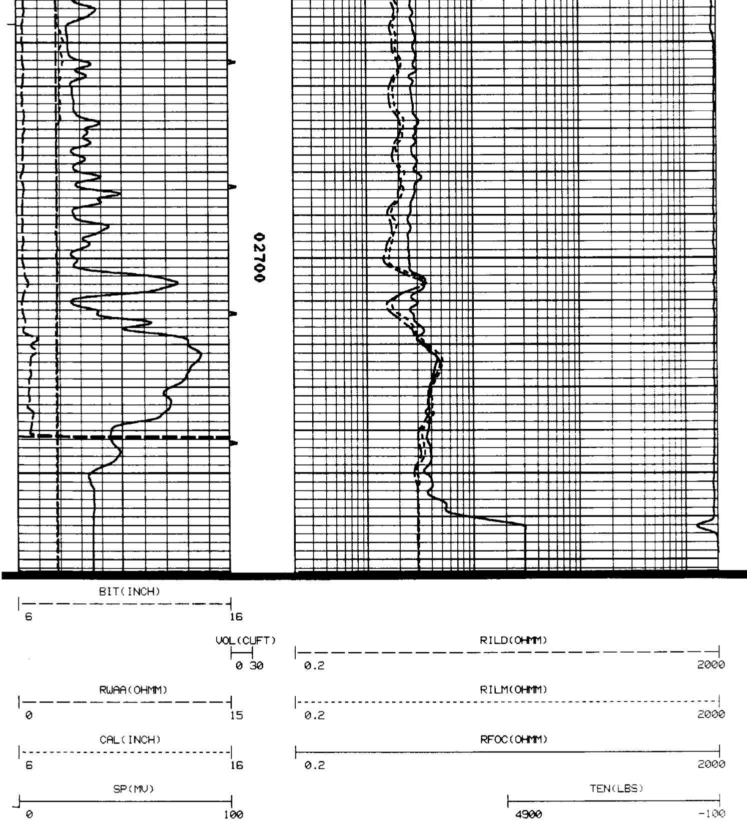
*** NONE ***

COMPANY: OREGON NATURAL GAS CORP
RUN: 2
WELL NAME: IW 42C-10
TRIP: 1
SERVICE: KC214N FILE: 1 DATE: 7/28/88 TIME: 7:50:34
REVISION: FSYSAL REV GS08 VER+2 MODE: PLAYBACK

# REPEAT SECTION

**Run 2**





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****************************************
*                                      *
*  CALIBRATION/VERIFICATION SUMMARIES  *
*  DATE 07/28/88         TIME 08:46:47 *
*  RUN  2                TRIP 1        *
*                                      *
****************************************


      LOG NAME DIFL   ASSET NO. 72831    UNIT NO. HL 6406
  CALIBRATION ENTERED ON  07/28/88 AT 07:14:59

CURVE   MILLIVOLTS      SCALING FACTORS    ENGINEERING VALUES   UNITS
         LOW     HIGH    ADD.     MULT.       LOW         HIGH
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      DATE 07/13/88          CALIBRATION            TIME 12:18:04
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```
CILD       2.0   488.0   -0.621     2.0031        1.000      500.000 MMHO
CILM      -0.5   536.9    1.458     2.0956        1.000      500.000 MMHO
CFOC       5.8   514.5   -4.680     2.3933        1.000      500.000 MMHO

     DATE 07/13/88    PRIMARY VERIFICATION       TIME 12:20:06

CILD      -0.2   490.7   -0.621     2.0031       -0.793      502.561 MMHO
CILM      -0.2   548.2    1.458     2.0956        1.271      511.260 MMHO
CFOC       6.2   520.9   -4.680     2.3933        1.445      506.282 MMHO

     DATE 07/28/88   BEFORE LOG VERIFICATION     TIME 07:44:19

CILD      -0.3   492.3   -0.581     1.9965       -0.793      502.561 MMHO
CILM      -0.2   548.9    1.452     2.0931        1.271      511.260 MMHO
CFOC       6.3   501.2   -4.967     2.4887        1.445      506.282 MMHO

     DATE 07/28/88    AFTER LOG VERIFICATION     TIME 08:18:54

CILD      -0.3   493.6   -0.581     1.9965       -0.806      504.213 MMHO
CILM      -0.5   552.1    1.452     2.0931        1.041      514.421 MMHO
CFOC       5.9   496.1   -4.967     2.4887        1.056      500.994 MMHO

           *** GR   NOT CALIBRATED ***
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     LOG NAME CAL     ASSET NO. 79090     UNIT NO. HL 6406
 CALIBRATION ENTERED ON  07/28/88 AT 06:50:35

CURVE   MILLIVOLTS      SCALING FACTORS    ENGINEERING VALUES   UNITS
         LOW    HIGH    ADD.     MULT.         LOW       HIGH
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     DATE 07/24/88          CALIBRATION             TIME 09:49:45

CAL     3452.0  8259.3    1.692    0.0091        6.000       12.000 INCH

                        PRIMARY VERIFICATION              NOT DONE

     DATE 07/28/88   BEFORE LOG VERIFICATION     TIME 07:36:52

CAL        E     4919.4    1.892    0.0091        E            8.031 INCH

     DATE 07/28/88    AFTER LOG VERIFICATION     TIME 08:22:51

CAL        E     4951.6    1.892    0.0091        E            8.072 INCH
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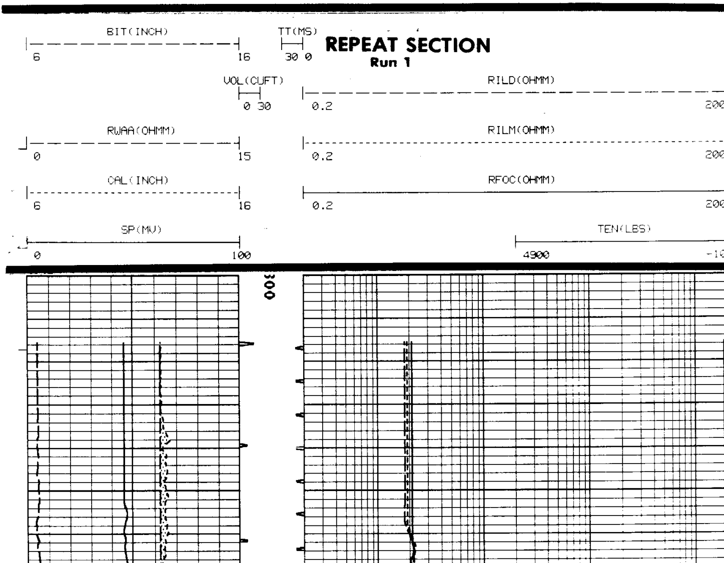
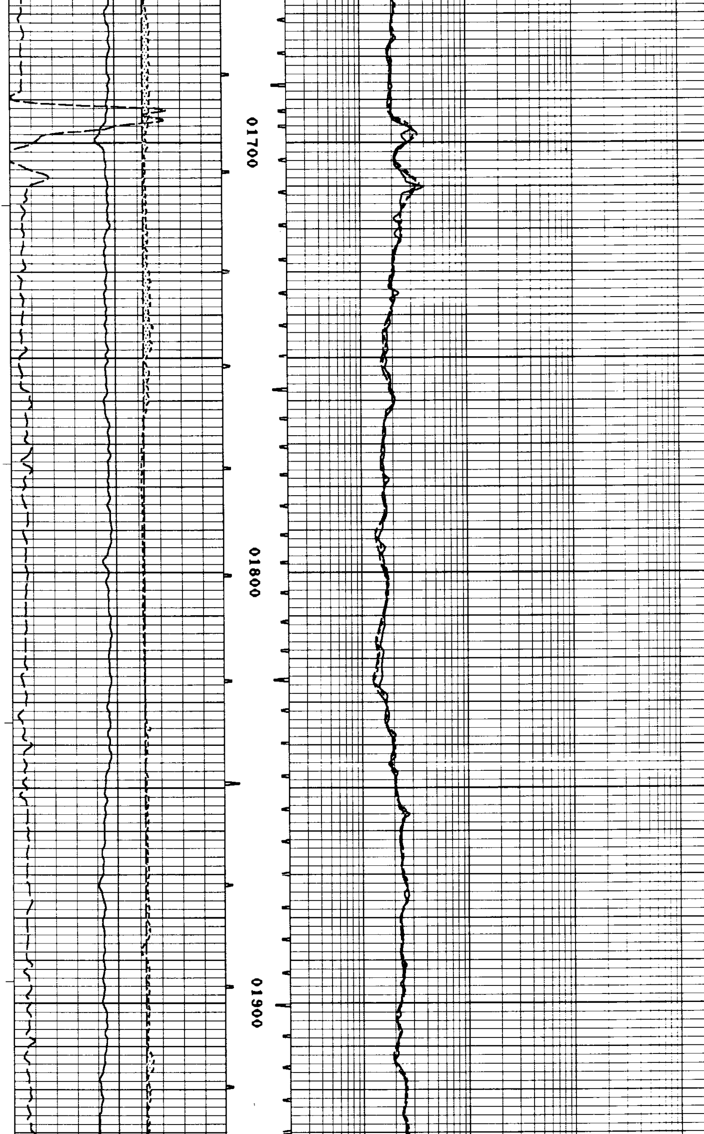
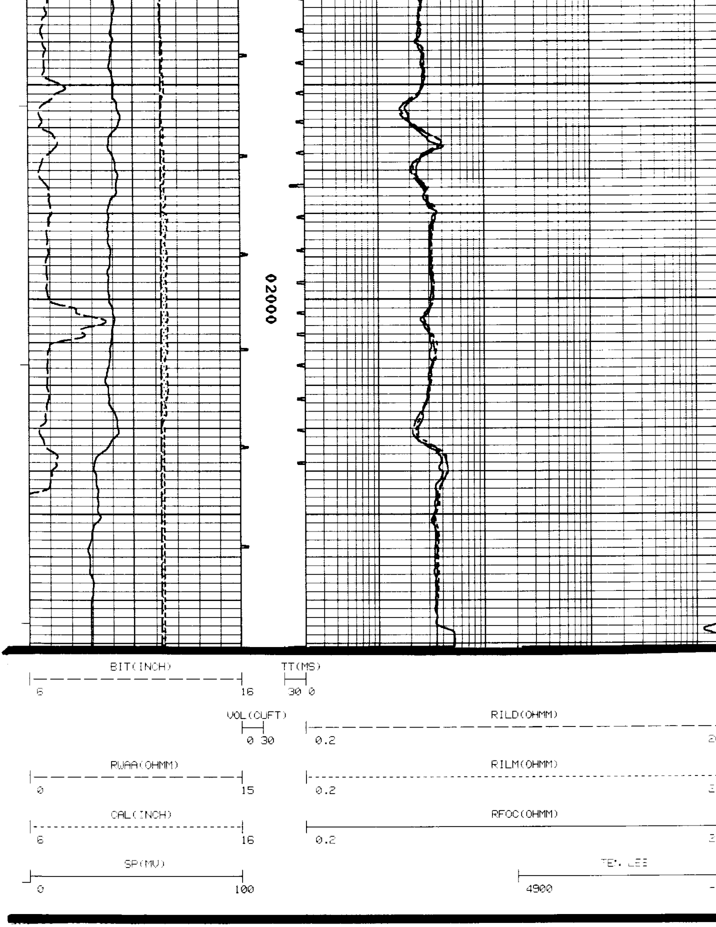
## REPEAT SECTION

**Run 1**







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****************************************
*                                      *
*  CALIBRATION/VERIFICATION SUMMARIES  *
*  DATE 07/24/88        TIME 12:42:13  *
*  RUN  1               TRIP 1         *
*                                      *
****************************************


      LOG NAME DIFL   ASSET NO. 72831    UNIT NO. 6406
   CALIBRATION ENTERED ON  07/24/88 AT 09:43:25

CURVE  MILLIVOLTS     SCALING FACTORS    ENGINEERING VALUES   UNITS
         LOW   HIGH    ADD.    MULT.        LOW       HIGH
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        DATE 07/13/88           CALIBRATION            TIME 12:13:04

CILD      3.0    483.0   -0.621     2.0031        1.000      500.000 MMHO
CILM     -0.5    536.9    1.458     2.0956        1.000      500.000 MMHO
CFOC      5.3    514.5   -4.680     2.3933        1.000      500.000 MMHO

        DATE 07/13/88     PRIMARY VERIFICATION.        TIME 12:20:02

CILD     -0.2    490.7   -0.621     2.0031       -0.793      502.561 MMHO
CILM     -0.2    543.2    1.458     2.0956        1.271      511.280 MMHO
CFOC      6.2    520.9   -4.680     2.3933        1.445      506.282 MMHO

        DATE 07/24/88   BEFORE LOG VERIFICATION    TIME 11:02:39

CILD     -0.2    491.7   -0.612     1.9991       -0.793      502.561 MMHO
CILM     -0.3    549.3    1.478     2.0913        1.271      511.280 MMHO
CFOC      6.2    507.6   -4.758     2.4566        1.445      506.282 MMHO

        DATE 07/24/88    AFTER LOG VERIFICATION    TIME 12:40:05

CILD     -0.2    493.5   -0.612     1.9991       -0.737      504.817 MMHO
CILM     -0.2    551.4    1.478     2.0913        1.298      513.325 MMHO
CFOC      6.2    506.5   -4.758     2.4566        1.487      505.238 MMHO

              *** GR    NOT CALIBRATED ***



         LOG NAME CAL     ASSET NO. 79090    UNIT NO. 6406
     CALIBRATION ENTERED ON  07/24/88 AT 09:49:45

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

        DATE 07/24/88           CALIBRATION            TIME 09:49:45

CAL     3452.0  8259.3    1.692    0.0091        6.000       12.000 INCH

                        PRIMARY VERIFICATION             NOT DONE

        DATE 07/24/88   BEFORE LOG VERIFICATION    TIME 10:58:30

CAL        E     8915.0    1.692    0.0091        E          12.818 INCH

        DATE 07/24/88    AFTER LOG VERIFICATION    TIME 12:41:05

CAL        E     [illegible]    1.692    0.0091        E          12.872 INCH
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