FORM 925327 (5-80)

Western Atlas International
A Litton/Dresser Company
Atlas Wireline Services

Dual Induction Focused Log

R

FILE NO

API NO

5" = 100'

COMPANY OREGON NATURAL GAS CORPORATION

WELL IW 33D-3

FIELD MIST

COUNTY COLUMBIA STATE OREGON

LOCATION 1013' S. & 1653' W. OF THE E/4 CORNER OF:

SEC 3 TWP 6N RGE 5W

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

Permanent Datum GL Elev. 1078.3'
Log Measured from KB , 11.4 Ft. Above Permanent Datum
Drilling Measured from KB

Elev
KB 1089.7'
DF
GL 1078.3'

Date	6-2-88				6-6-88			
Run No.	ONE				TWO			
Service Order	158835				158836			
Depth—Driller	2773'				2962'			
Depth—Logger	2764'				2954'			
Bottom Logged Interval	2762'				2952'			
Top Logged Interval	566'				2540'			
Casing—Driller	13 3/8"@ 568'		@		13 3/8"@568'		@	
Casing Logger	566'				-			
Bit Size	12 1/4"				8 1/2" X 12 1/4"			
Type Fluid in Hole	GEL/DRISPAC				GEL/DRISPAC			
Density and Viscosity	9.8	41			9.9	47		
pH and Fluid Loss	8.5	5.2 cc		cc	10.0	4.5 cc		cc
Source of Sample	FLOWLINE				FLOWLINE			
Rm @ Meas. Temp.	2.25 @ 62 °F		@ °F		1.32 @ 64 °F		@ °F	
Rmf @ Meas. Temp.	1.06 @ 62 °F		@ °F		0.80 @ 64 °F		@ °F	
Rmc @ Meas. Temp.	3.15 @ 62 °F		@ °F		1.91 @ 64 °F		@ °F	
Source of Rmf and Rmc	M	M			M	M		
Rm @ BHT	1.33 @ 105 °F		@ °F		0.78 @ 108 °F		@ °F	
Time Since Circ.	2.5 HRS.				2 HRS.			
Max. Rec. Temp. Deg. F	105 °F		°F		108 °F		°F	
Equip. No. and Location	6406	SAC.			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 MEASUREMENTS, 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

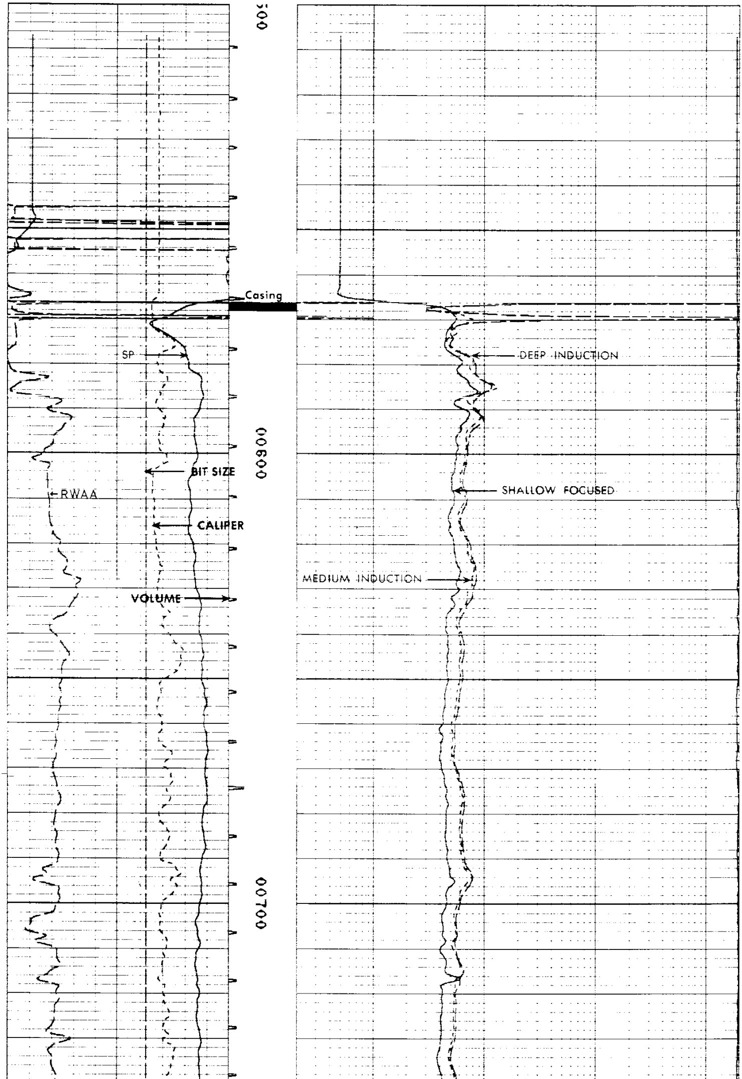
ATLAS WIRELINE SERVICES

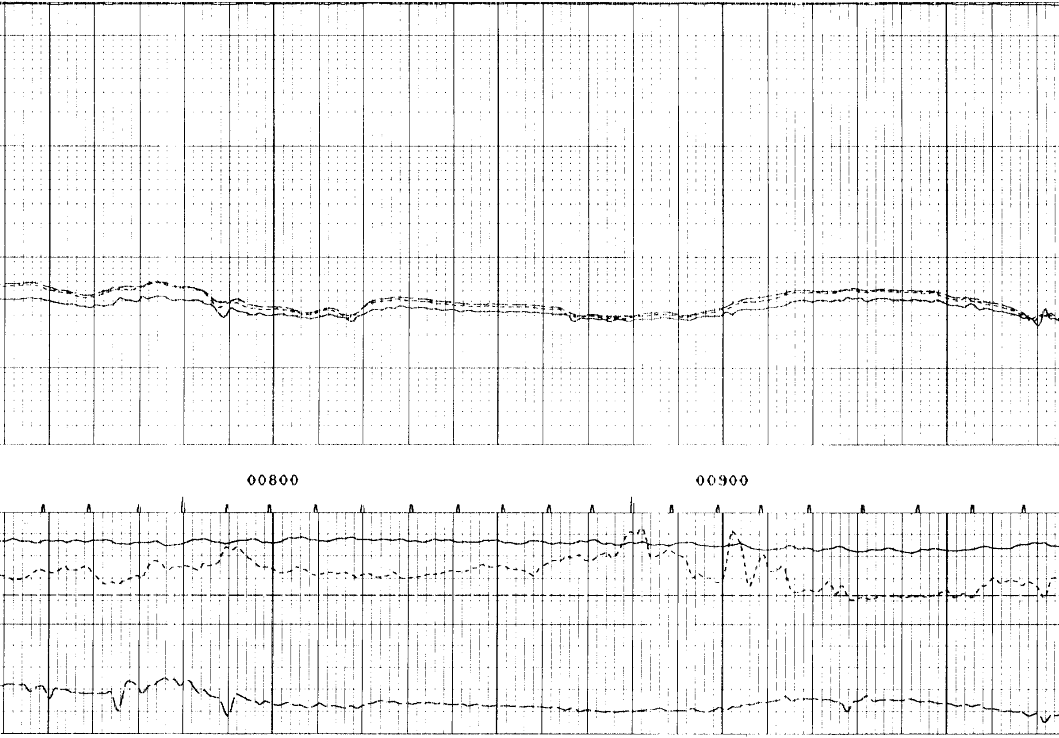
REMARKS RUN (1)

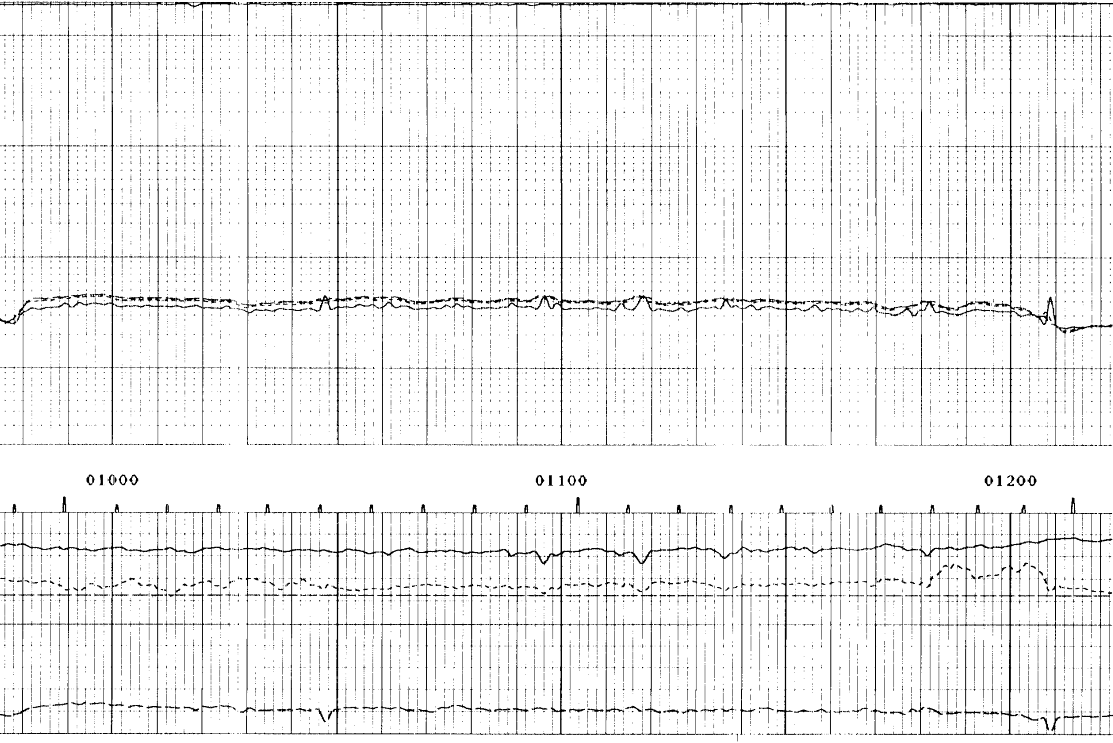
BHV COMPUTED FOR TOTAL HOLE VOLUME

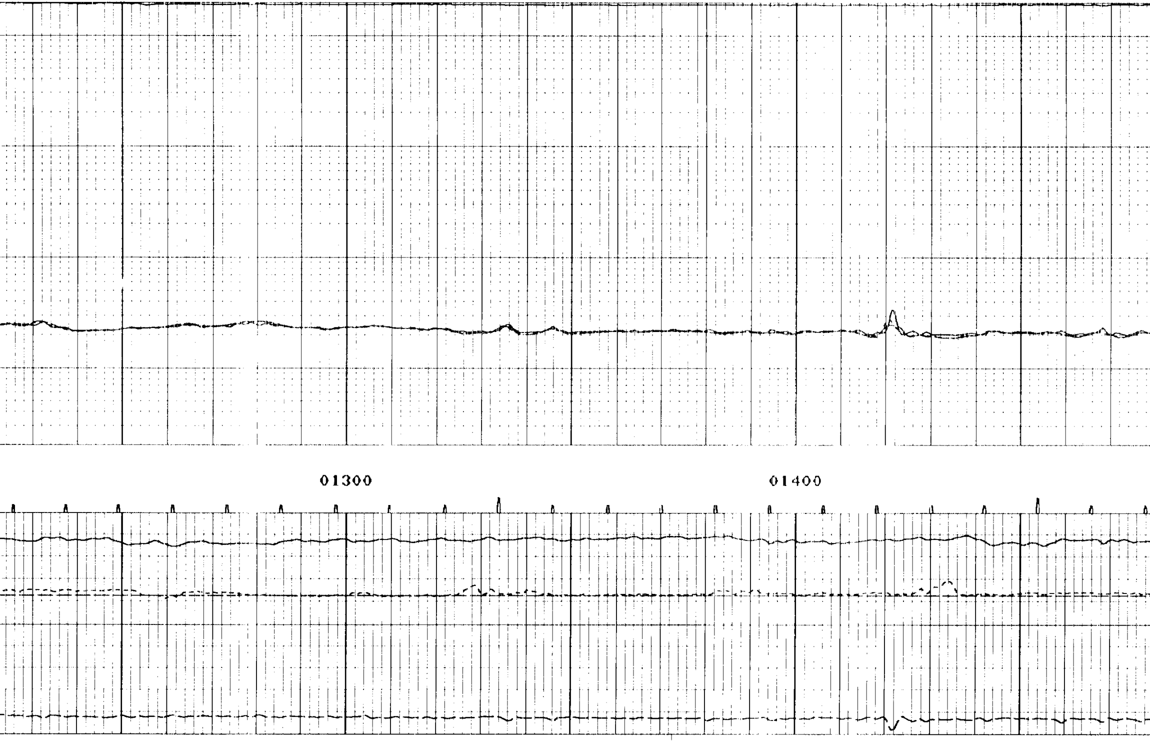
EQUIPMENT DATA

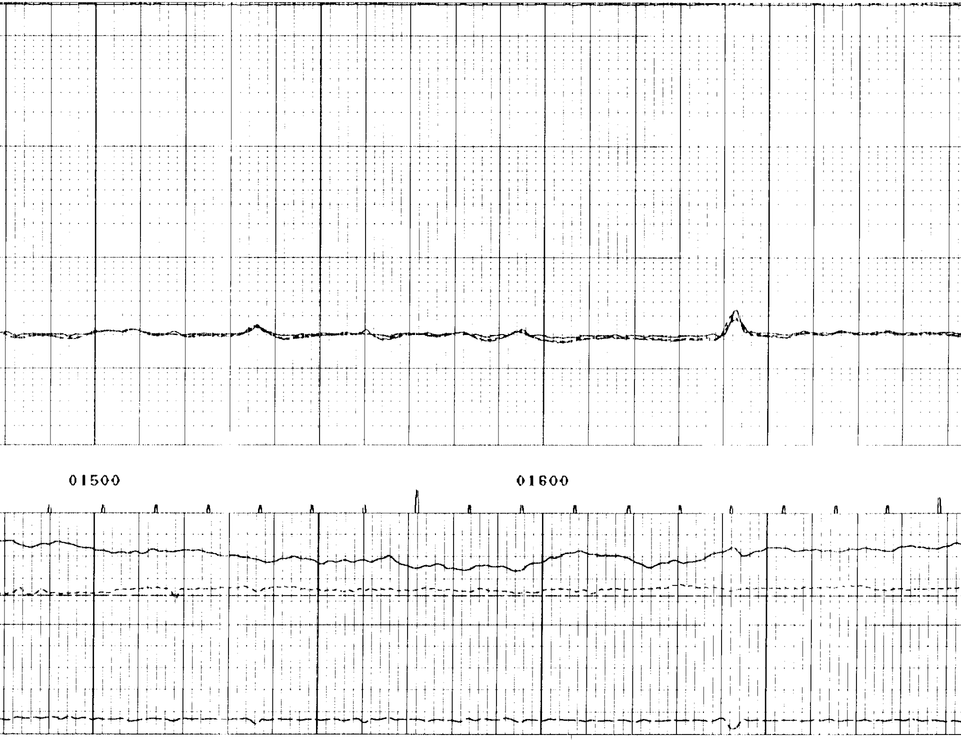
RUN	TRIP	TOOL	SERIAL NO.	SERIES NO.	POSITION
1	1	DIFL	33304	1503	1.5 " SO
1	1	AC	79725	1603	CENT
1	1	GR			
1	1	CAL	79090	4209	VAR

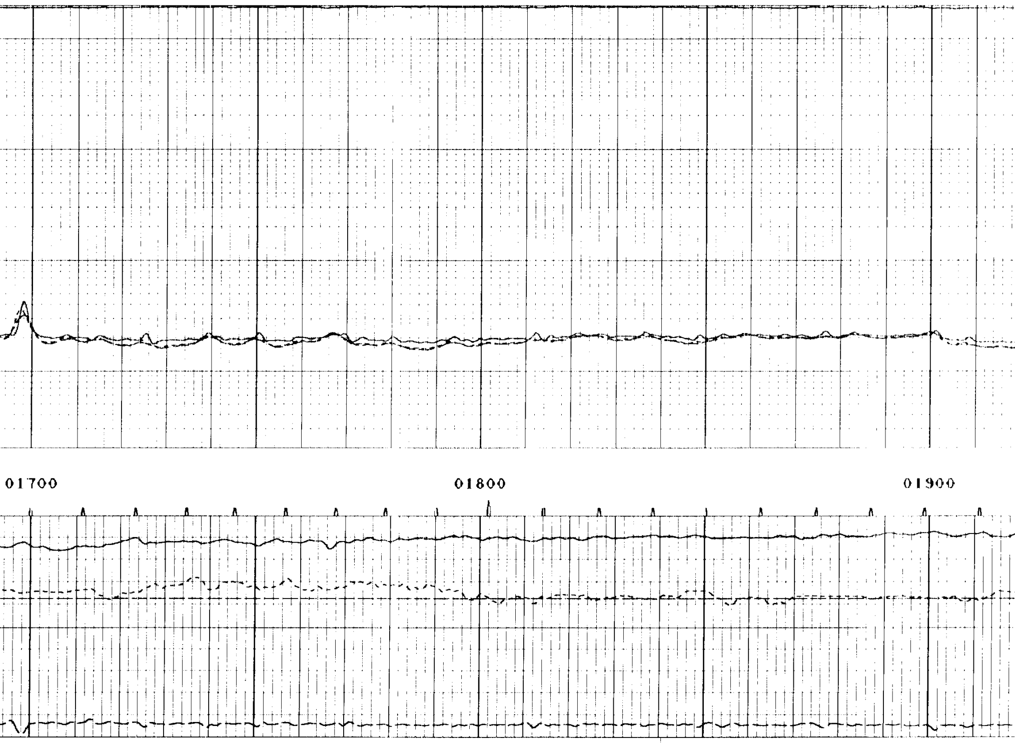


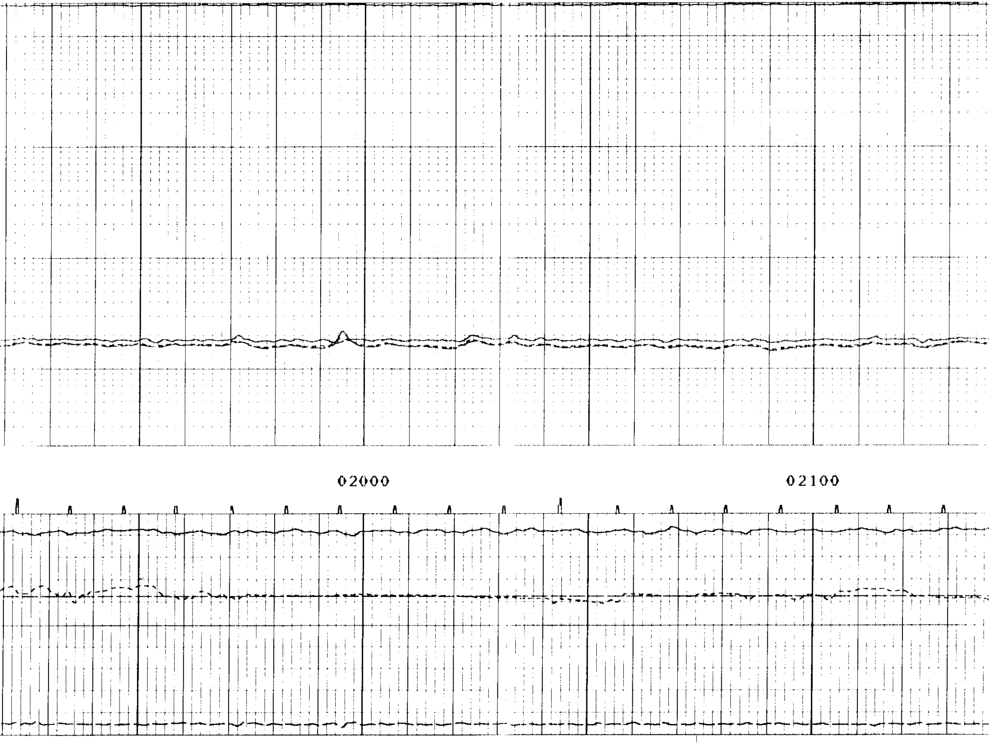


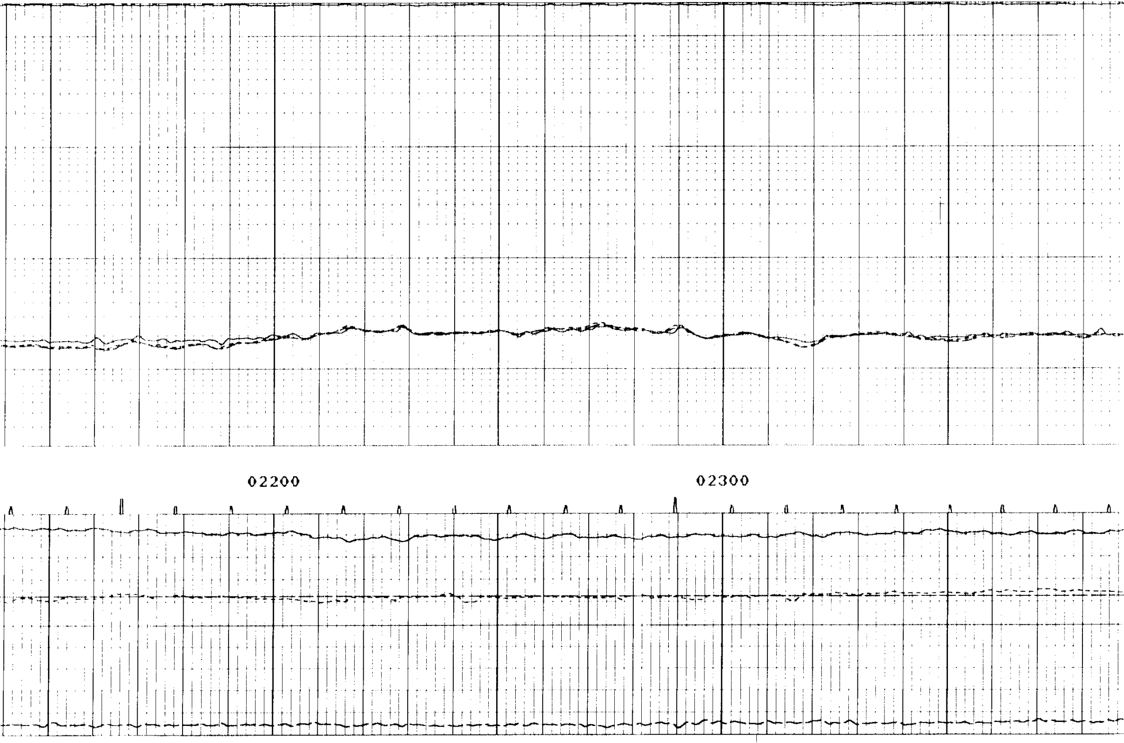


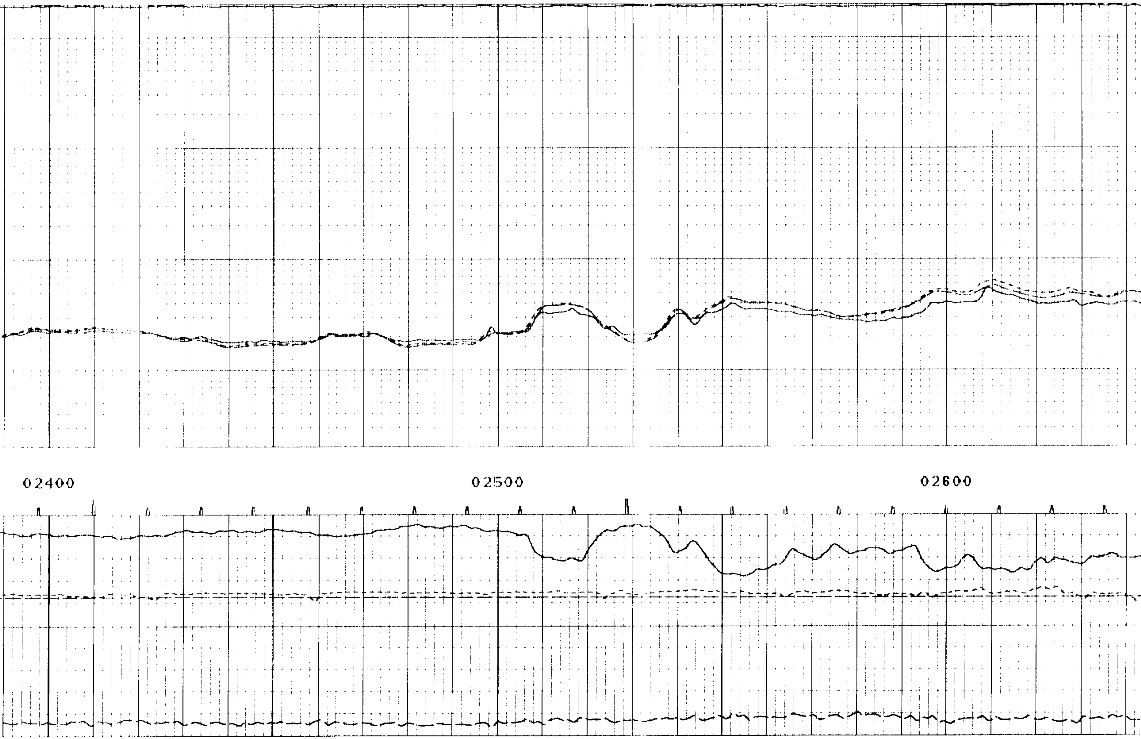


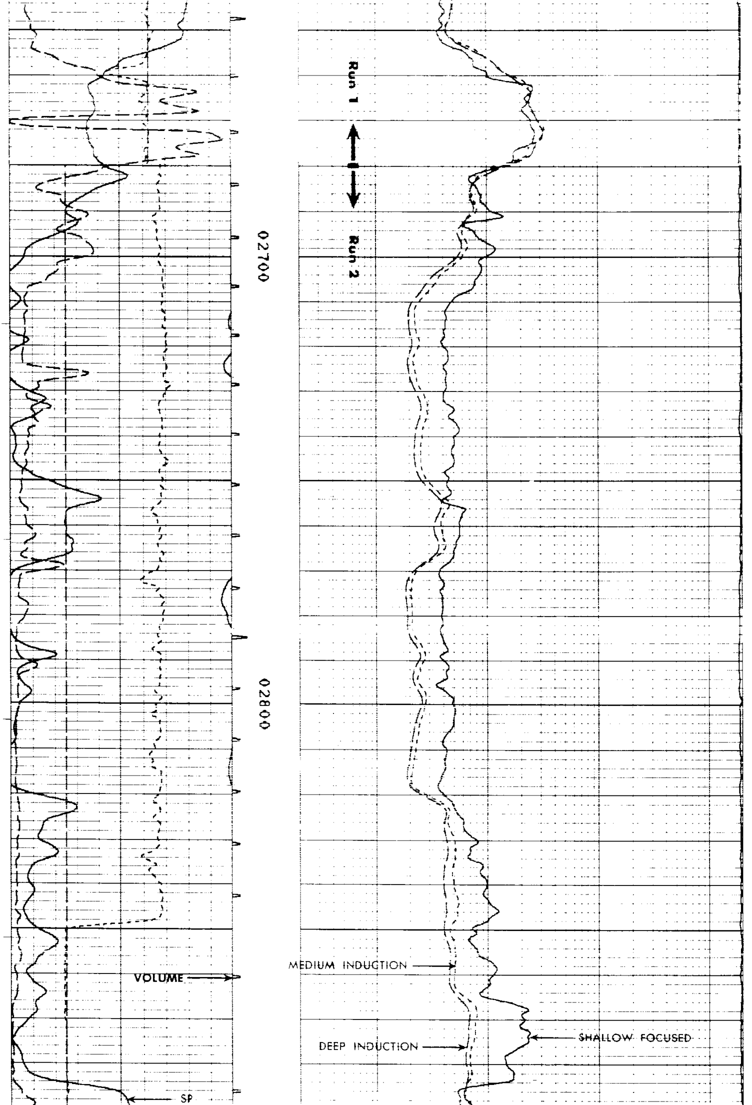


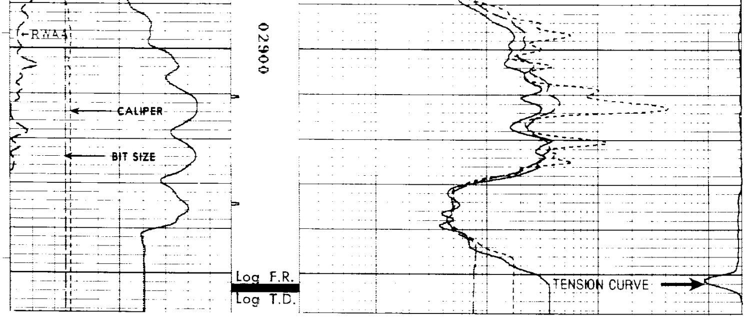




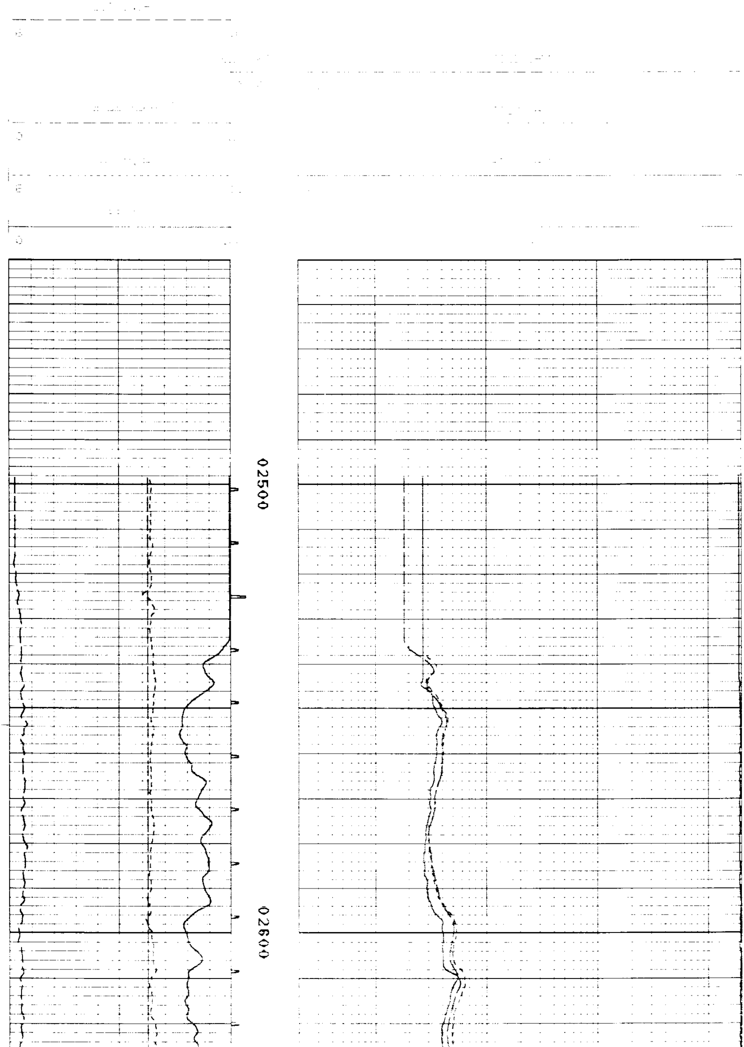


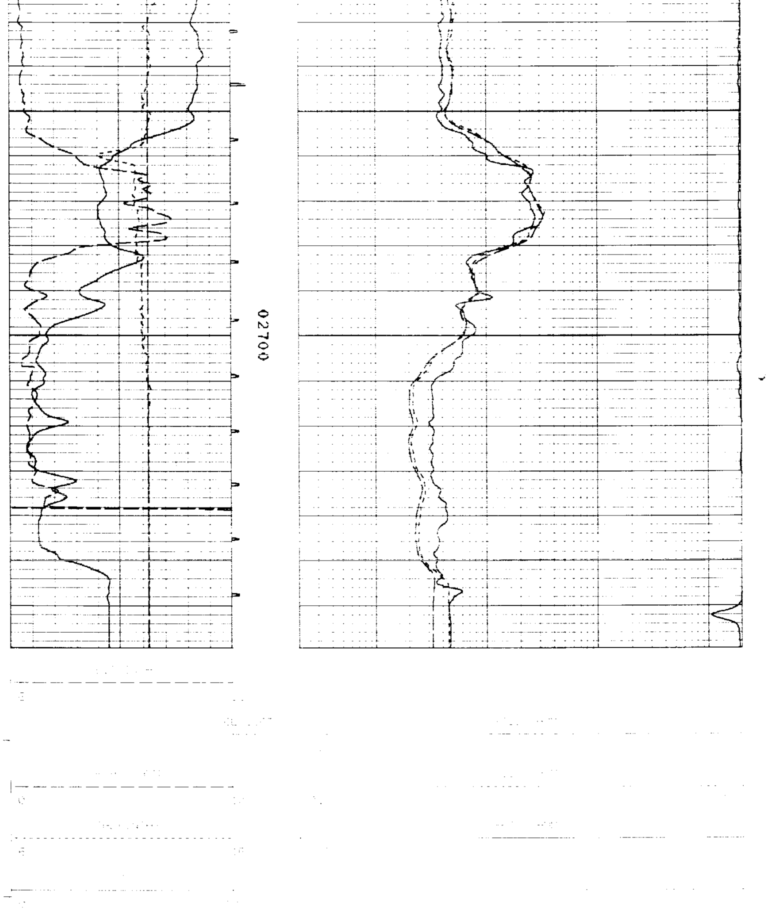






REPEAT SECTION





```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
*                                                                               *
*  CALIBRATION/VERIFICATION SUMMARIES                                           *
*  DATE 06 03 88          TIME 00:11:37                                         *
*  RUN  1                 TRIP 1                                                *
*                                                                               *
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *


      LOG NAME DIFL   ASSET NO. 33324    UNIT NO. HL 6408
   CALIBRATION ENTERED ON  06/02 88 AT 21:53:43

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

      DATE 06 12 88           CALIBRATION           TIME 11:04:37
```

```
CILD      -1.2   483.4    2.511    1.8461        1.000     500.000 MMHO
CILM       0.3   503.4    0.713    2.2124        1.000     500.000 MMHO
CFOC       5.1   512.5   -3.880    2.3994        1.000     500.000 MMHO

     DATE 05/12/88    PRIMARY VERIFICATION      TIME 11:05:50

CILD       0.0   487.7    2.511    1.8461        2.588     493.609 MMHO
CILM      -0.0   505.6    0.712    2.2124        0.699     496.217 MMHO
CFOC       5.0   509.3   -3.880    2.3994        0.921     496.881 MMHO

     DATE 06/02/88   BEFORE LOG VERIFICATION    TIME 23:00:22

CILD       0.1   489.8    2.492    1.8774        2.589     493.838 MMHO
CILM       0.0   505.0    0.668    2.2153        0.699     496.218 MMHO
CFOC       4.6   491.8   -3.732    2.4838        0.331     498.320 MMHO

     DATE 06/03/88    AFTER LOG VERIFICATION    TIME 00:08:53

CILD       0.1   497.4    2.492    1.8774        2.598     507.864 MMHO
CILM       0.1   507.1    0.668    2.2153        0.710     498.394 MMHO
CFOC       4.7   494.1   -3.732    2.4838        1.018     499.340 MMHO

          *** GR   NOT CALIBRATED ***



      LOG NAME CAL    ASSET NO. 79090    UNIT NO. HL 6408
   CALIBRATION ENTERED ON  06/02/88 AT 21:52:25

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 06/02/88   BEFORE LOG VERIFICATION    TIME 22:51:25

CAL        E     8810.2    1.343    0.0095        E           12.215 INCH

     DATE 06/03/88    AFTER LOG VERIFICATION    TIME 00:10:15

CAL        E     8840.3    1.343    0.0095        E           12.054 INCH

    [illegible] DELAYS

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

 CFOC        [illegible]  FT.IN
 [illegible]         [illegible]  FT.IN
 [illegible]         [illegible]  FT.IN
 [illegible]         [illegible]  FT.IN
 [illegible]         [illegible]  FT.IN
 [illegible]         [illegible]  FT.IN
 [illegible]         [illegible]  FT.IN
 [illegible]         [illegible]  FT.IN
```

[illegible]

*** [illegible] ***

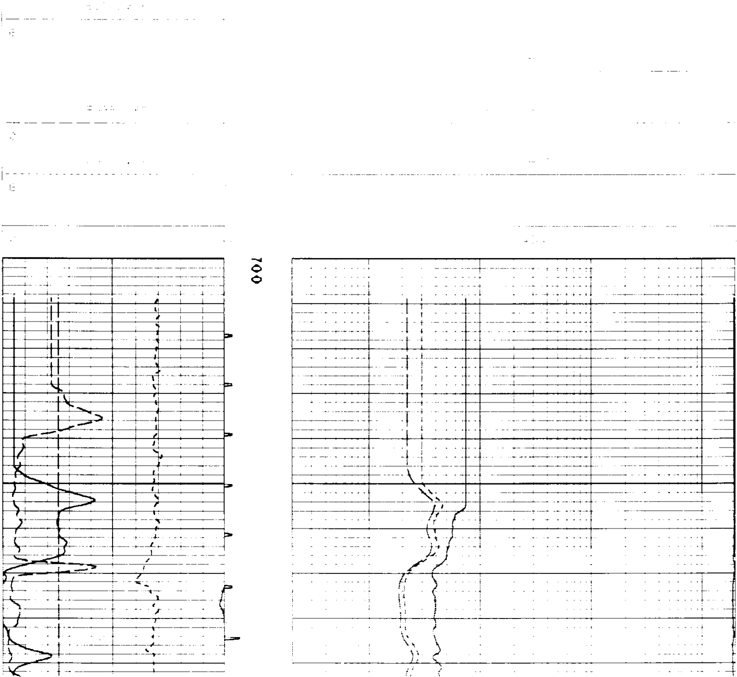
COMPANY: OREGON NATURAL GAS CORP.

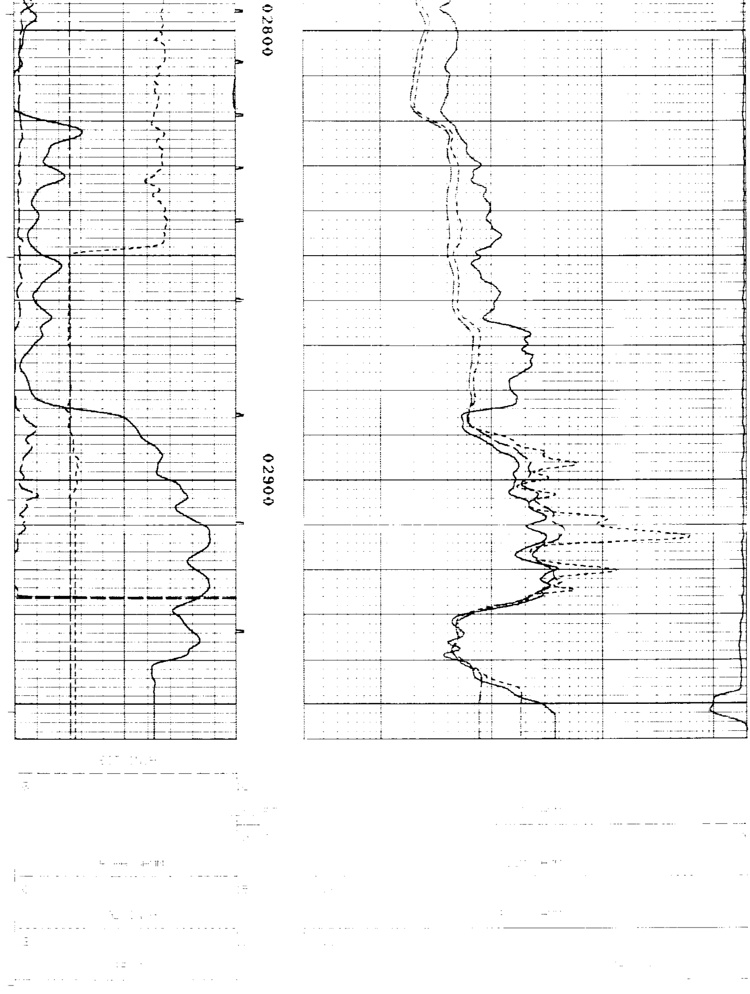
WELL NAME: [illegible]

SERVICE: [illegible]

[illegible]

REPEAT SECTION





```
*******************************************
*                                         *
*  CALIBRATION/VERIFICATION SUMMARIES     *
*  DATE 06/06/88        TIME 07:35:49     *
*  RUN  2               TRIP 1            *
*                                         *
*******************************************
```

```
    LOG NAME DIFL    ASSET NO. 33304    UNIT NO. HL 6406
CALIBRATION ENTERED ON   06/06/88 AT 01:24:29
```

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

        DATE 05/12/88          CALIBRATION          TIME 11:04:37

CILD     -1.9   498.4   2.511     1.9461      1.000      500.000 MMHO
CILM      0.3   509.4   0.713     2.2124      1.000      500.000 MMHO
CFOC      5.1   512.5  -3.990     2.3994      1.000      500.000 MMHO

        DATE 05/12/88     PRIMARY VERIFICATION      TIME 11:05:50

CILD      0.0   497.7   2.511     1.9461      2.589      498.609 MMHO
CILM     -0.0   505.6   0.713     2.2124      0.699      496.217 MMHO
CFOC      5.0   509.3  -3.990     2.3994      0.921      496.881 MMHO

        DATE 06/06/88   BEFORE LOG VERIFICATION     TIME 06:37:57

CILD     -0.1   481.4   2.589     2.0118      2.589      498.609 MMHO
CILM      0.1   501.2   0.605     2.2323      0.699      496.217 MMHO
CFOC      4.5   488.6  -3.652     2.4995      0.921      496.880 MMHO

        DATE 06/06/88    AFTER LOG VERIFICATION     TIME 07:31:39

CILD      0.0   497.9   2.589     2.0118      2.683      518.948 MMHO
CILM      0.1   507.2   0.605     2.2323      0.703      502.305 MMHO
CFOC      4.7   494.5  -3.652     2.4995      1.152      502.942 MMHO

             *** GR   NOT CALIBRATED ***


         LOG NAME CAL     ASSET NO. 79090    UNIT NO. HL 6406
      CALIBRATION ENTERED ON  06/06/88 AT 01:22:13

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 06/06/88   BEFORE LOG VERIFICATION    TIME 06:33:29

CAL        E    8834.4    1.343    0.0095      E          12.846 INCH

        DATE 06/06/88    AFTER LOG VERIFICATION    TIME 07:34:40

CAL        E    8819.0    1.343    0.0095      E          12.826 INCH
```