Western Atlas International

ATLAS WIRELINE SERVICES

COMPENSATED
DENSILOG®
COMPENSATED
NEUTRON
GAMMA RAY

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.

FILE NO.

API NO.

5" = 100'

COMPANY NORTHWEST NATURAL GAS
OREGON NATURAL GAS DEVELOPMENT CORP.

WELL IW 32C-10

FIELD MIST

COUNTY COLUMBIA STATE OR.

LOCATION:
1500.05' N & 2519.6' W
FROM E/4 CORNER OF:

SEC 10 TWP 6N RGE 5W

OTHER SERVICES
BHC-AC/GR/CAL
DIFL/GR/CAL
DIPLOG
PRODIP

PERMANENT DATUM GL ELEV. 790.25
LOGGING MEASURED FROM KB 11.4 FT. ABOVE P.D.
DRILLING MEASURED FROM KB

ELEVATIONS
KB 801.65'
DF -
GL 790.25'

FINAL PRINT

DATE	12-16-90				
RUN	1				
SERVICE ORDER	65509				
DEPTH-DRILLER	2114'				
DEPTH-LOGGER	2102'				
BOTTOM LOGGED INTERVAL	2100'				
TOP LOGGED INTERVAL	532'				
CASING - DRILLER	13 5/8"	@ 531'	@	@	@
CASING - LOGGER	532'				
BIT SIZE	12 1/4"				
TYPE FLUID IN HOLE	GEL				
DENSITY / VISCOSITY	9.6	40			
PH / FLUID LOSS	8.8	5.1			
SOURCE OF SAMPLE	FLOWLINE				
RM AT MEAS. TEMP.	1.20	@ 80 DEG. F	@	@	@
RMF AT MEAS. TEMP.	.90	@ 50 DEG. F	@	@	@
RMC AT MEAS. TEMP.	1.50	@ 50 DEG. F	@	@	@
SOURCE OF RMF / RMC	M	M			
RM AT BHT	.94	@ 102 DEG. F	@	@	@
TIME SINCE CIRCULATION	5 HRS				
MAX. REC. TEMP. DEG. F	102 DEG. F				
EQUIP. NO. / LOC.	6399	BAK.			
RECORDED BY	M. HINDS				
WITNESSED BY	MR. ROTH/THOMAS				

FOLD HERE

REMARKS RUN (1)

VOL COMPUTED FOR 8.625" CASING.

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIAL NO.	SERIES NO.	POSITION
1	1	CDL	74178	2227XA	DE-CENT
1	1	CAL	74178	2227XA	1/ARM
1	1	CN	52364	2435XA	DE-CENT
1	1	GR	60484	1309XA	DE-CENT
1	1	TEMP			
1	1	PCM	73003	3506XA	DE-CENT

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FILE: 2

CURVE DELAY REPORT

CURVE	PHYS. DELAY	UNITS
SSD	0.3	FT,IN
LSD	0	FT,IN
CAL	0.3	FT,IN
SSN	10.3	FT,IN
LSN	10.3	FT,IN
GR	12.3	FT,IN
TEMP	27.3	FT,IN
DTEM	27.3	FT,IN

PARAMETERS

NAME	DEPTH INTERVAL	VALUE	UNITS
A	2109 TO 488	0.000	
CAL COR	2109 TO 488	CAL	
CASING CN	2109 TO 488	NOT ACTIVE	
CHISM CN	2109 TO 488	NOT ACTIVE	
CHISM DEN	2109 TO 488	NOT ACTIVE	
M	2109 TO 488	2.000	
MATRIX	2109 TO 488	SANDSTONE	
[illegible]	2109 TO 488	[illegible]	INCH
RHO F	2109 TO 488	[illegible]	G/CC
RHO M	2109 TO 488	2.650	G/CC
SALINITY	2109 TO 488	0.000	PPM

DISPLAY SCALE CHANGES

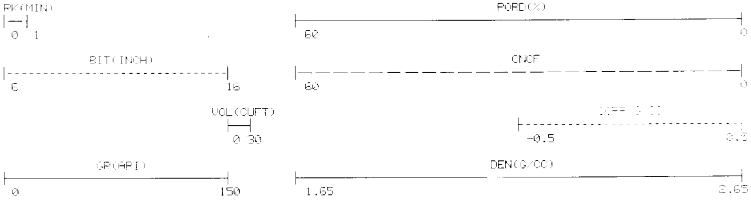
*** NONE ***

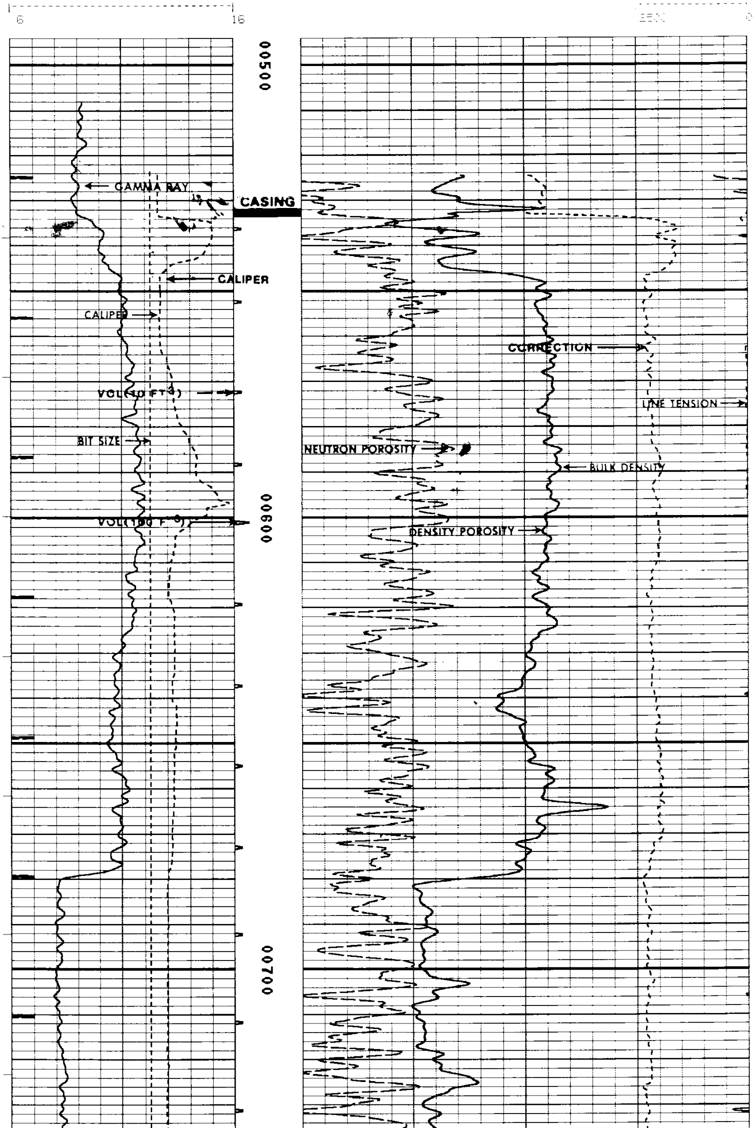
COMPANY: OREGON NATURAL GAS DEVELOPMENT CORP. RUN: 1

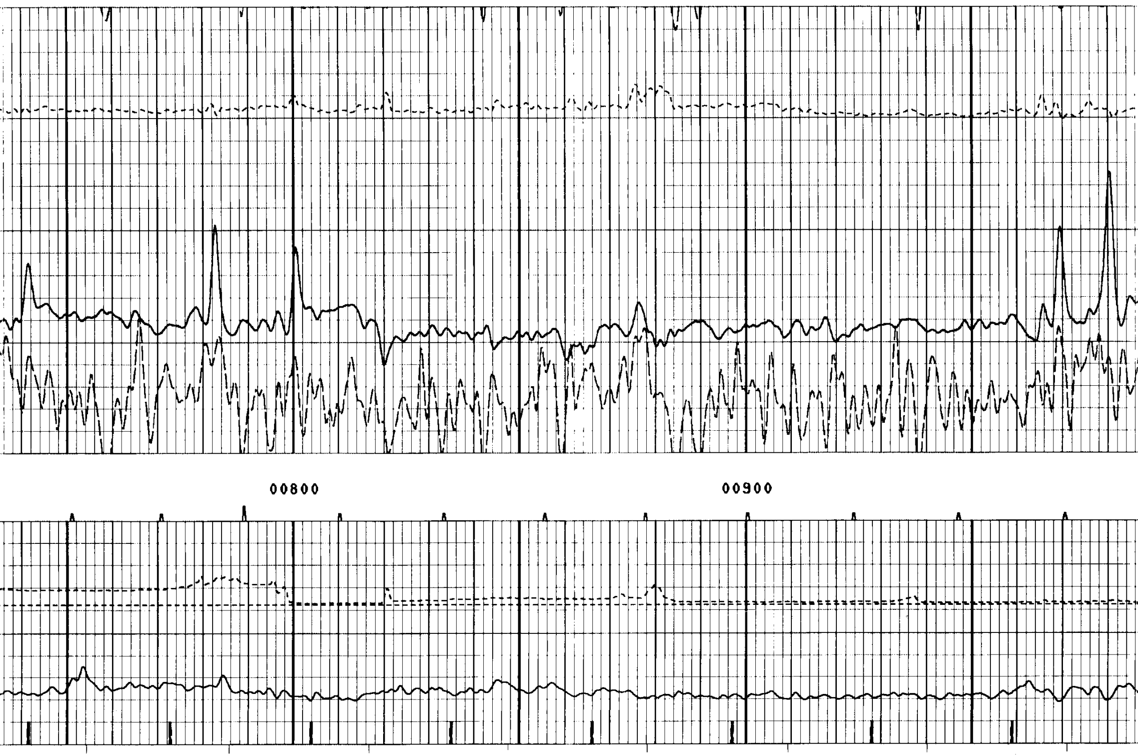
WELL NAME: IW 32C-10 TRIP: 1

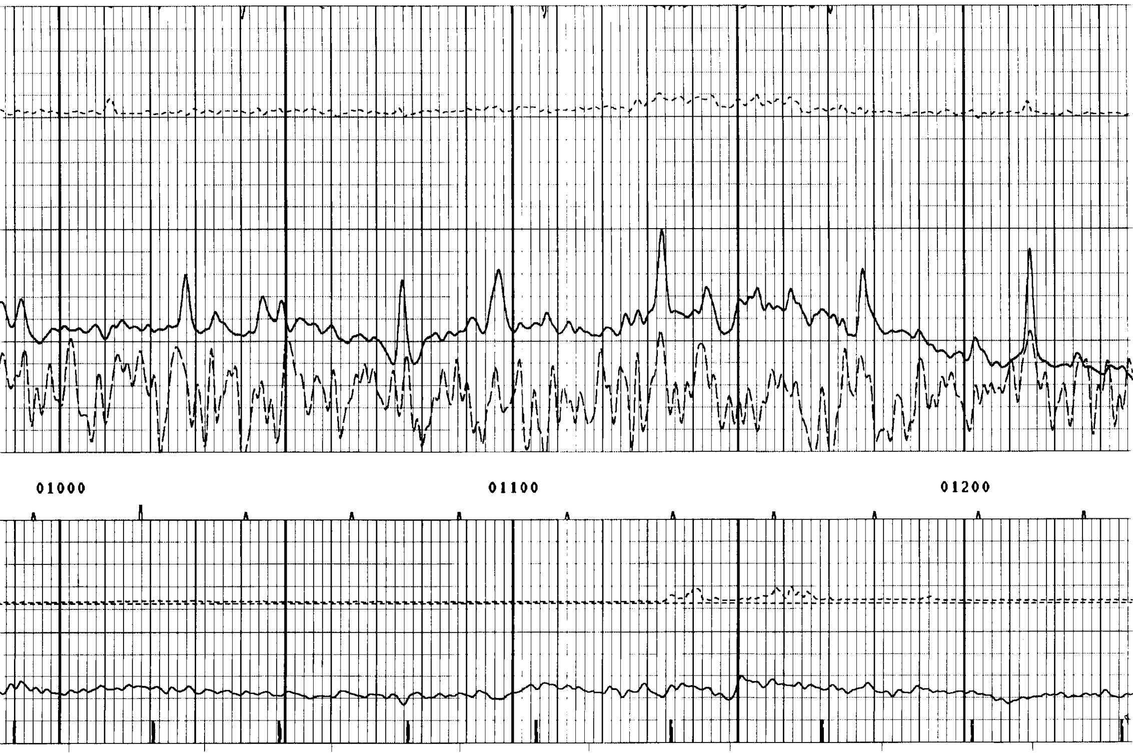
SERVICE: X20013 FILE: 2 DATE: 12 18 90 TIME: 13:10:48

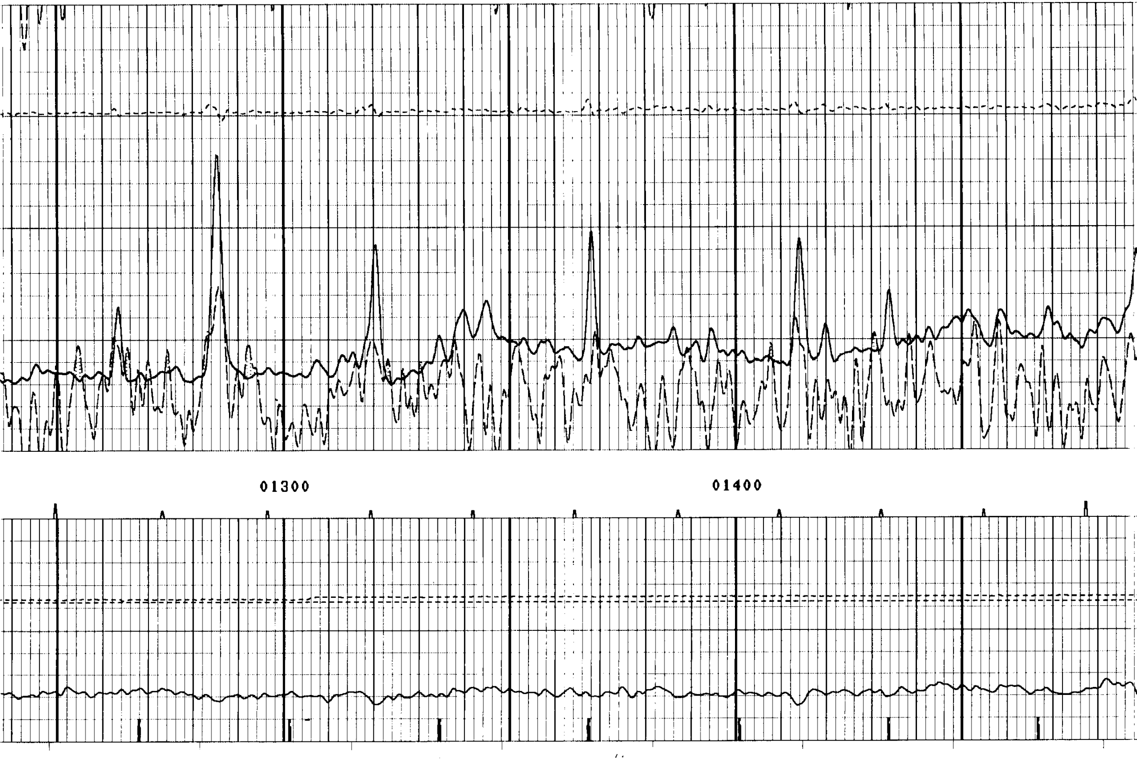
REVISION: FSYS256 REV:G002 VER:2.0 MODE: RECORD

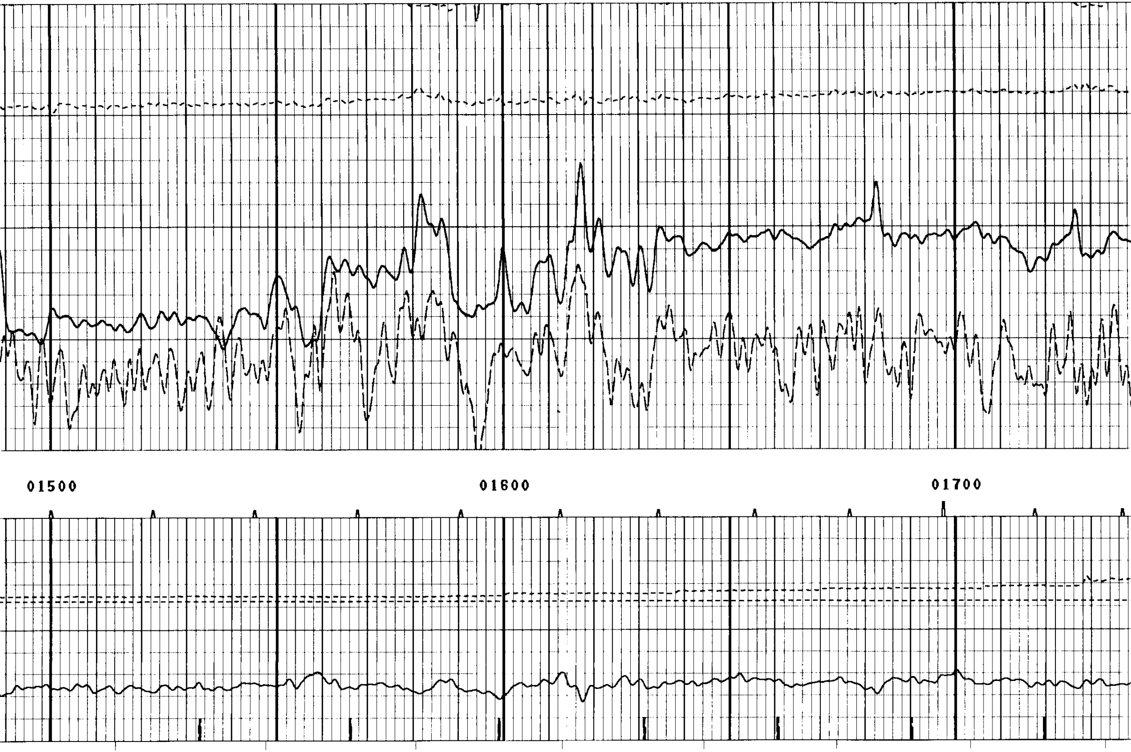


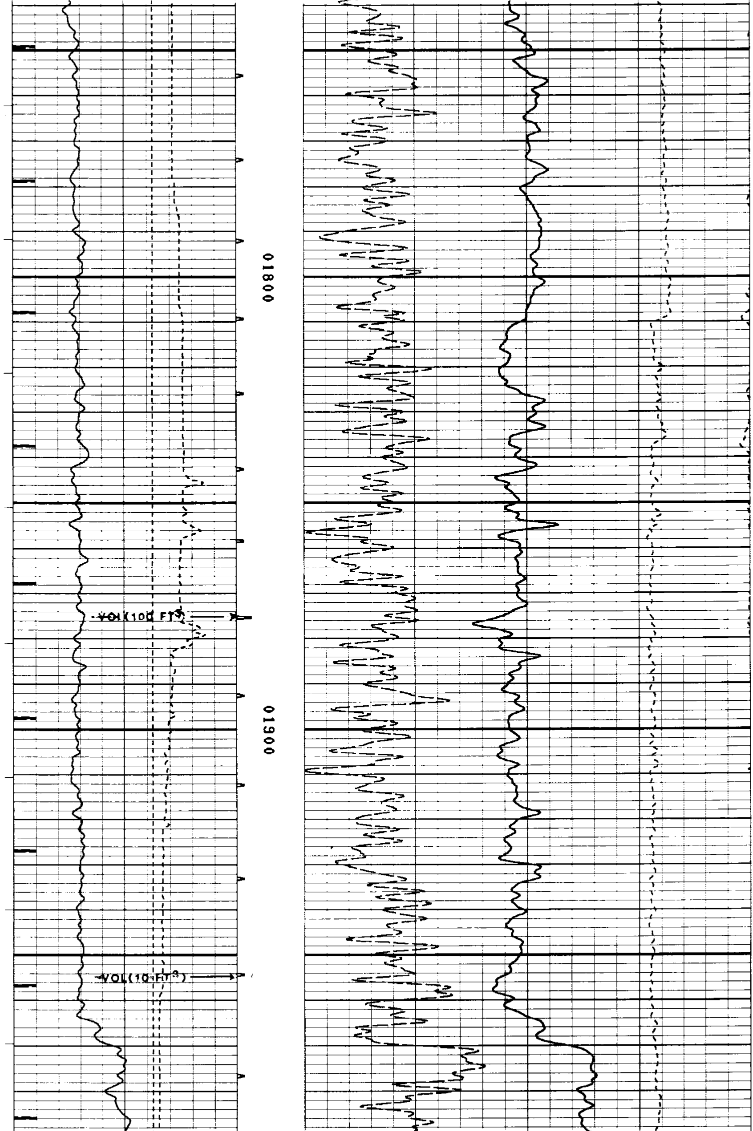


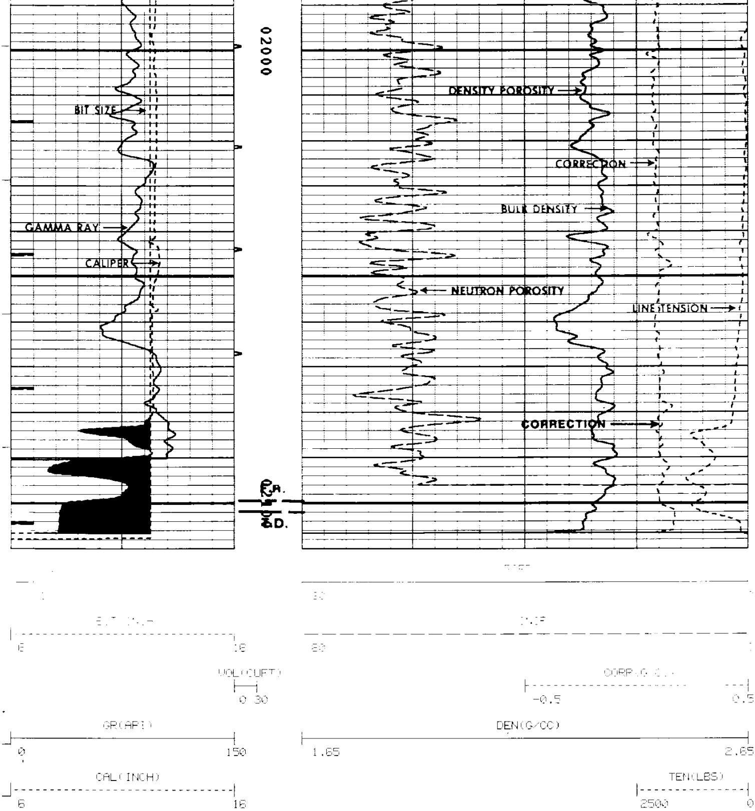












FILE: 3

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REPEAT SECTION

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FILE: 1

CURVE DELAY REPORT

CURVE	(FEET) DELAY	UNITS

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SSD        0.3   FT.IN
LSD          0   FT.IN
CAL        0.0   FT.IN
SSN       10.3   FT.IN
LSN       10.3   FT.IN
GR        16.6   FT.IN
TEMP      27.6   FT.IN
DTEM      27.3   FT.IN
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PARAMETERS

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 NAME         DEPTH INTERVAL      VALUE      UNITS
--------     --------------    ----------   -----
A             2109 TO  1869         0.300
CAL COR       2109 TO  1869    ON
CASING CNC    2109 TO  1869    NOT ACTIVE
CHISM CN      2109 TO  1869    NOT ACTIVE
CHISM DEN     2109 TO  1869    NOT ACTIVE
M             2109 TO  1869         0.000
MATRIX        2109 TO  1869    SANDSTONE
O.D.          2109 TO  1869         8.625   INCH
RHO F         2109 TO  1869         0.850   G/CC
RHO M         2109 TO  1869         2.650   G/CC
SALINITY      2109 TO  1869         0.000   PPM
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DISPLAY SCALE CHANGES

*** NONE ***

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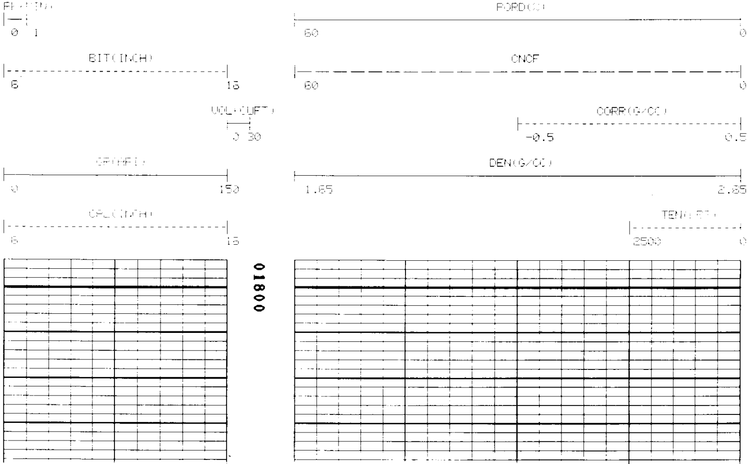
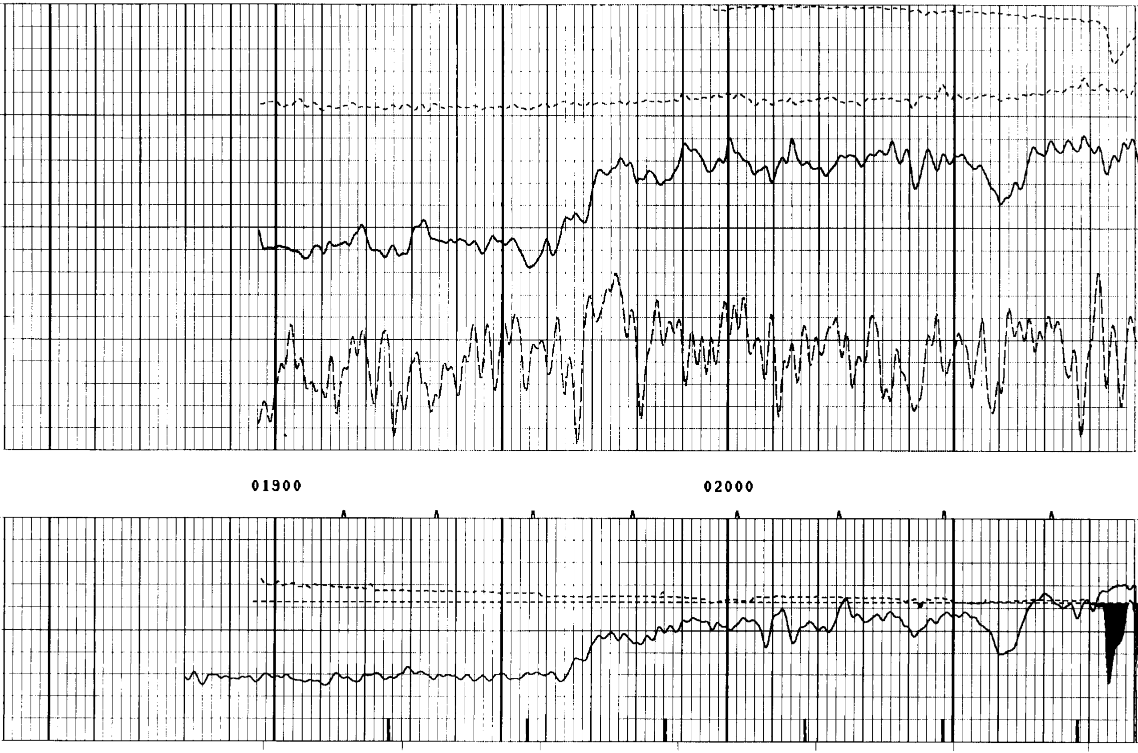
COMPANY:    [illegible] NATURAL GAS DEVELOPMENT CORP.                RUN:  1

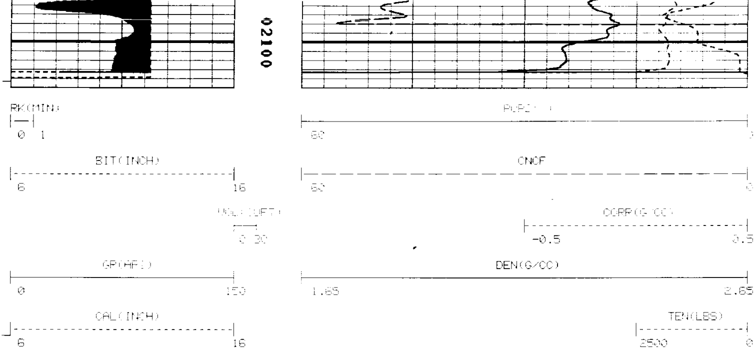
[illegible]                                                           TRIP: 1

[illegible]      [illegible]        FILE:  [illegible]     DATE: [illegible]      TIME: 12:58:[illegible]

[illegible]    [illegible]                                            MODE: RECORD
```







FILE: 1

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              ***********************************************
              *                                             *
              *  CALIBRATION VERIFICATION SUMMARIES         *
              *  DATE 12/18/90          TIME 14:42:50       *
              *  RUN 1                  TRIP 1              *
              *                                             *
              ***********************************************


         LOG NAME DDL    ASSET NO. [illegible]    UNIT NO. [illegible]
   CALIBRATION ENTERED ON 12/18/90 AT [illegible]      [illegible]
                  SOURCE NUMBER   845

CURVE   COUNTS/SEC.    SCALING FACTORS    RATIO    ENG. VALUE  UNITS
        BLOCK  VALUE   ADD.     MULT.     MG/AL
----    ----------    ----------------   -------   ----------  -----

      DATE 11/21/90          CALIBRATION          TIME 17:46:37

LSD      MG      349.9
SSD              212.0
DEN                                                    1.706   G/CC
CORR                                                  -0.007   G/CC
DENP                                                   1.685   G/CC
CORP                                                  -0.041   G/CC
LSD      AL       33.8    0.000    1.0000  10.3663
SSD               97.4    0.000    1.0000   2.1762
DEN                                                    2.697   G/CC
CORR                                                  -0.006   G/CC
DENP                                                   2.682   G/CC
CORP                                                  -0.039   G/CC
LSD      RIBL     63.5
SSD              142.7
DEN                                                    2.591   G/CC
CORR                                                   0.138   G/CC
LSD      RIBH    148.2
SSD               97.7
DEN                                                    1.731   G/CC
CORR                                                  -0.324   G/CC

      DATE 12/03/90    PRIMARY VERIFICATION       TIME 08:43:18

LSD      JIG     129.3    0.000    1.0000
SSD              163.3    0.000    1.0000
DEN                                                    2.187   G/CC
CORR                                                   0.052   G/CC

      DATE 12/18/90    BEFORE LOG VERIFICATION    TIME 07:28:27

LSD      JIG     129.3    0.000    1.0000
SSD              [illegible]
DEN                                                    2.181   G/CC
CORR                                                   0.056   G/CC
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```
        DATE 12/16/90    AFTER LOG VERIFICATION    TIME 14:38:32

LSD      MIG     129.9    0.000    1.0000
SSD              165.5    0.000    1.0000
DEN                                                         2.197  G/CC
CORR                                                        0.065  G/CC


         LOG NAME CAL     ASSET NO. 74178     UNIT NO. 6399
     CALIBRATION ENTERED ON  12/16/90 AT 07:08:50

CURVE    MILLIVOLTS       SCALING FACTORS    ENGINEERING VALUES    UNITS
          LOW    HIGH     ADD.     MULT.       LOW        HIGH
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        DATE 11/29/90          CALIBRATION            TIME 09:18:42

CAL     2661.2  4289.6   -3.327    0.0273       6.000      12.000 INCH

                        PRIMARY VERIFICATION               NOT DONE

        DATE 12/16/90   BEFORE LOG VERIFICATION     TIME 12:44:53

CAL        E      4258.2   -3.427    0.0273       E         12.458 INCH

        DATE 12/16/90    AFTER LOG VERIFICATION    TIME 14:05:19

CAL        E      4553.1   -4.427    0.0273       E         12.558 INCH


         LOG NAME CN      ASSET NO. [illegible]     UNIT NO. [illegible]
     CALIBRATION ENTERED ON  12/16/90 AT 07:07:33                [illegible]
                   SOURCE NUMBER   [illegible]

CURVE    COUNTS/SEC.     SCALING FACTORS     RATIO      ENG. VALUE  UNITS
                          ADD.      MULT.  LSN/(SSN+4)
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        DATE 11/21/90          CALIBRATION            TIME 15:41:07

LSN              75.8         0.000    1.0000
SSN             153.0         0.000    1.0000
CN                                              0.1557        15.733

        DATE 11/21/90    PRIMARY VERIFICATION      TIME 16:03:24

LSN              91.4         0.000    1.0000
SSN             144.9         0.000    1.0000
CN                                              0.1576        16.103  %

        DATE 12/16/90   BEFORE LOG VERIFICATION     TIME 07:24:28

LSN              86.3         0.000    1.0000
SSN             140.5         0.000    1.0000
CN                                              0.1545        16.811  %

        DATE 12/16/90    AFTER LOG VERIFICATION    TIME 14:34:43

LSN              87.6         0.000    1.0000
SSN             143.1         0.000    1.0000
CN                                              0.1543        16.870  %


         LOG NAME GR      ASSET NO. 60484     UNIT NO. XP$FODXXOO
     CALIBRATION ENTERED ON  12/16/90 AT 07:07:05

CURVE    COUNTS/SEC.      SCALING FACTORS    ENGINEERING VALUES    UNITS
          LOW    HIGH     ADD.     MULT.       LOW        HIGH
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        DATE 11/21/90          CALIBRATION            TIME 11:42:19

GR        68.1   268.1    0.000    0.7437       0.000     150.000 API

                        PRIMARY VERIFICATION               NOT DONE

        DATE 12/16/90   BEFORE LOG VERIFICATION     TIME 07:19:33

GR        81.6   274.6    0.000    0.7437      61.215     205.835 API

        DATE 12/16/90    AFTER LOG VERIFICATION    TIME 14:29:57

GR        88.7   300.9    0.000    0.7437      72.554     225.572 API
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