FORM 925322 REV. (8/80)

Dresser Atlas

DRESSER

Compensated Densilog®
Compensated Neutron®
Gamma Ray

FILE NO.

API NO.

5" 100'

COMPANY OREGON NATURAL GAS CORPORATION

WELL IW 33 C-3

FIELD MIST

COUNTY COLUMBIA STATE OREGON

LOCATION 1302.75' N. & 2377.21' W. FROM S.E. CORNER OF

SEC 3 TWP 6N RGE 5W

Other Services
BHC AL
DIFL
DIP

Permanent Datum GL Elev. 1027.1'
Log Measured from KB 13.5 Ft. Above Permanent Datum
Drilling Measured from KB

Elev
KB 1040.6'
DF
GL 1027.1'

Confidential

Date	1-7-87		1-13-87	
Run No.	ONE		TWO	
Service Order	22815		22819	
Depth—Driller	2535'		2774'	
Depth—Logger	2534'		2768'	
Bottom Logged Interval	2532'		2766'	
Top Logged Interval	495'		2518'	
Casing · Driller	13 3/8" @ 498'	@	8 5/8" @ 2519'	@
Casing—Logger	495'		2518'	
Bit Size	12 1/4"		7 5/8"	
Type Fluid in Hole	ORZAN/DRISPAC		KCL/POLYMER	
Density and Viscosity	9.8 | 52	|	8.0 | 39	|
pH and Fluid Loss	9.2 | 4.8 cc	| cc	8.0 | - cc	| cc
Source of Sample	FLOWLINE		FLOWLINE	
Rm @ Meas. Temp.	2.65 @ 50 °F	@ °F	.40 @ 50 °F	@ °F
Rmf @ Meas. Temp.	3.45 @ 50 °F	@ °F	.75 @ 50 °F	@ °F
Rmc @ Meas. Temp.	1.85 @ 50 °F	@ °F	.15 @ 50 °F	@ °F
Source of Rmf and Rmc	M | M	|	M | M	|
Rm @ BHT	1.85 @ LESS	THAN @ 100 °F	0.20 @ 93 °F	@ °F
Time Since Circ.	6 HRS.		6 HRS.	
Max. Rec. Temp. Deg. F	LESS THAN 100 °F	°F	93 °F	°F
Equip. No. and Location	6406 | SAC.	|	6406 | SAC.	|
Recorded By	M. HINDS		M. HINDS	
Witnessed By	MR. THOMAS		MR. MEYER	

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)

EQUIPMENT DATA

RUN	TRIP	TOOL	SERIAL NO.	SERIES NO.	POSITION
1	1	CDL	42452	2212	DE-CENT
1	1	CAL	42452	2212	VARIABLE
1	1	CN	73525	2420	DE-CENT
1	1	GR	72564	1309	DE-CENT

EQUIPMENT DATA

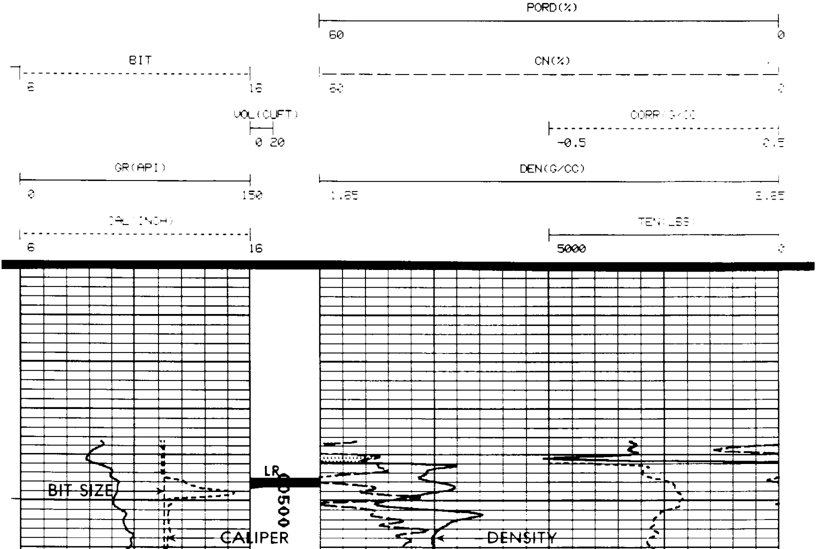
RUN	TRIP	TOOL	SERIAL NO.	SERIES NO.	POSITION
2	2	CDL	42452	2212	DE-CENT
2	2	CAL	42452	2212	DE-CENT
2	2	CN	73525	2420	DE-CENT
2	2	GR	72564	1309	DE-CENT

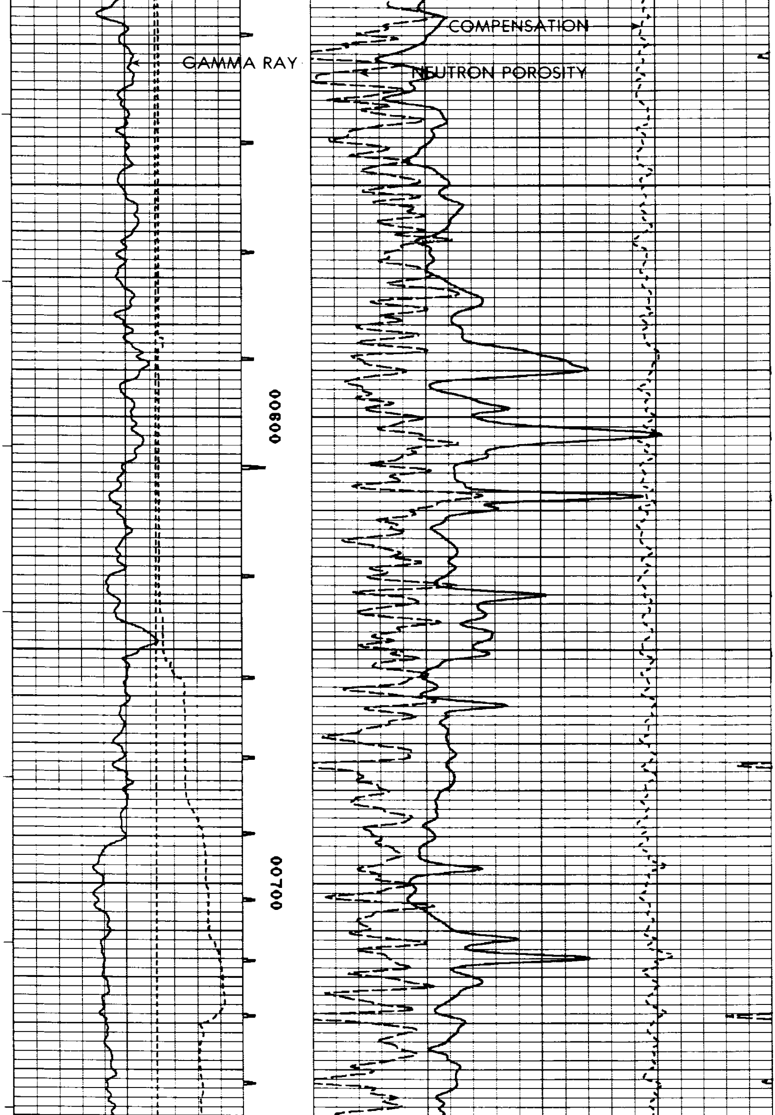
COMPANY: OREGON NATURAL GAS CORP.
RUN: 1

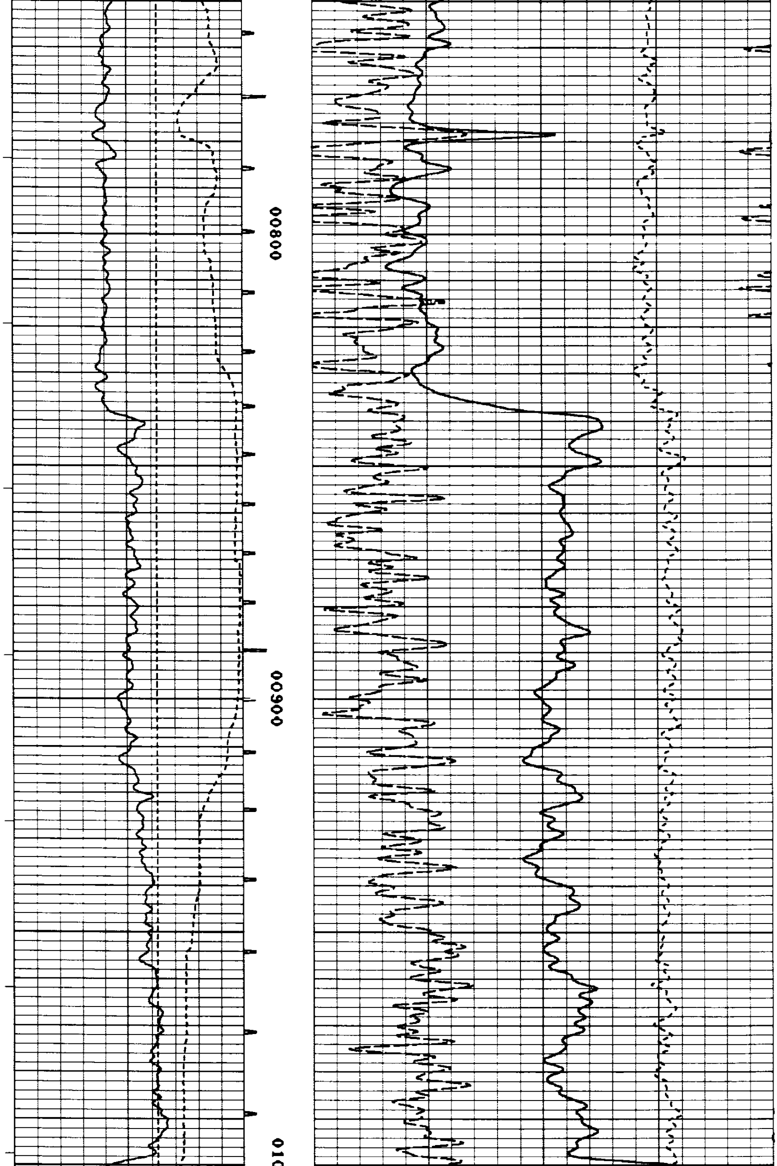
WELL NAME: 33 C-3
TRIP: 1

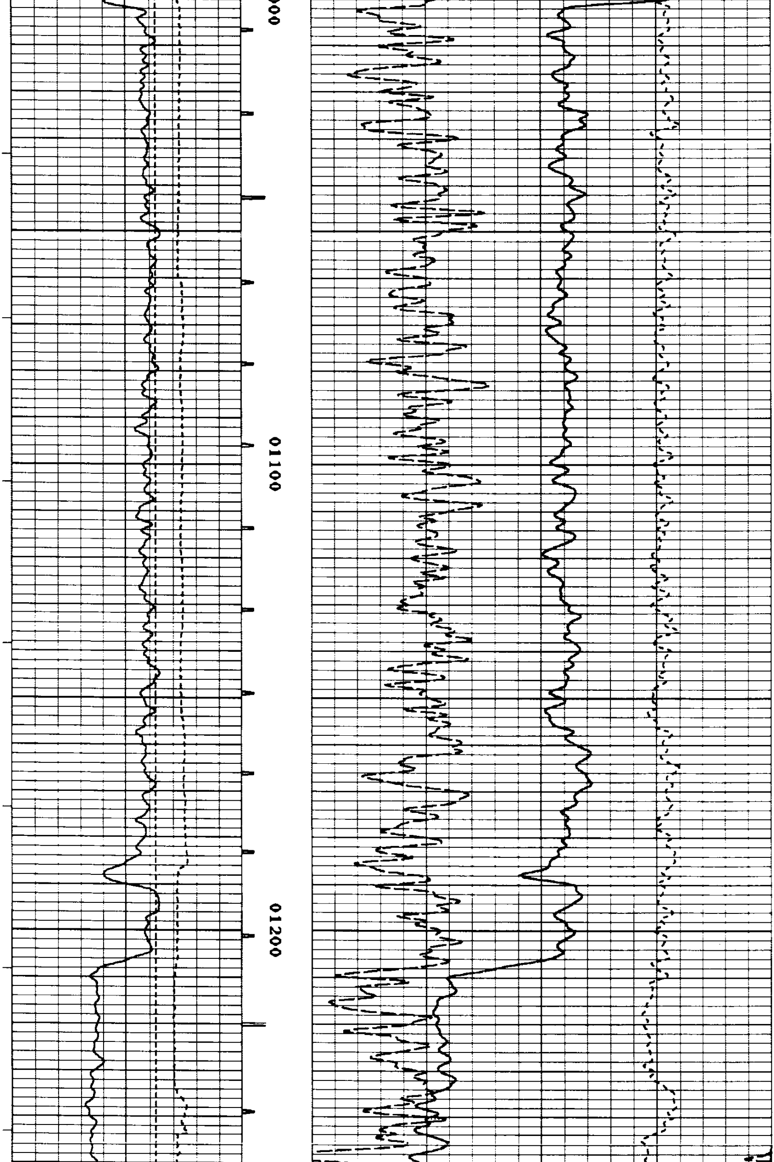
SERVICE: KC227F FILE: 3 DATE: 01/07/87 TIME: 04:09:32

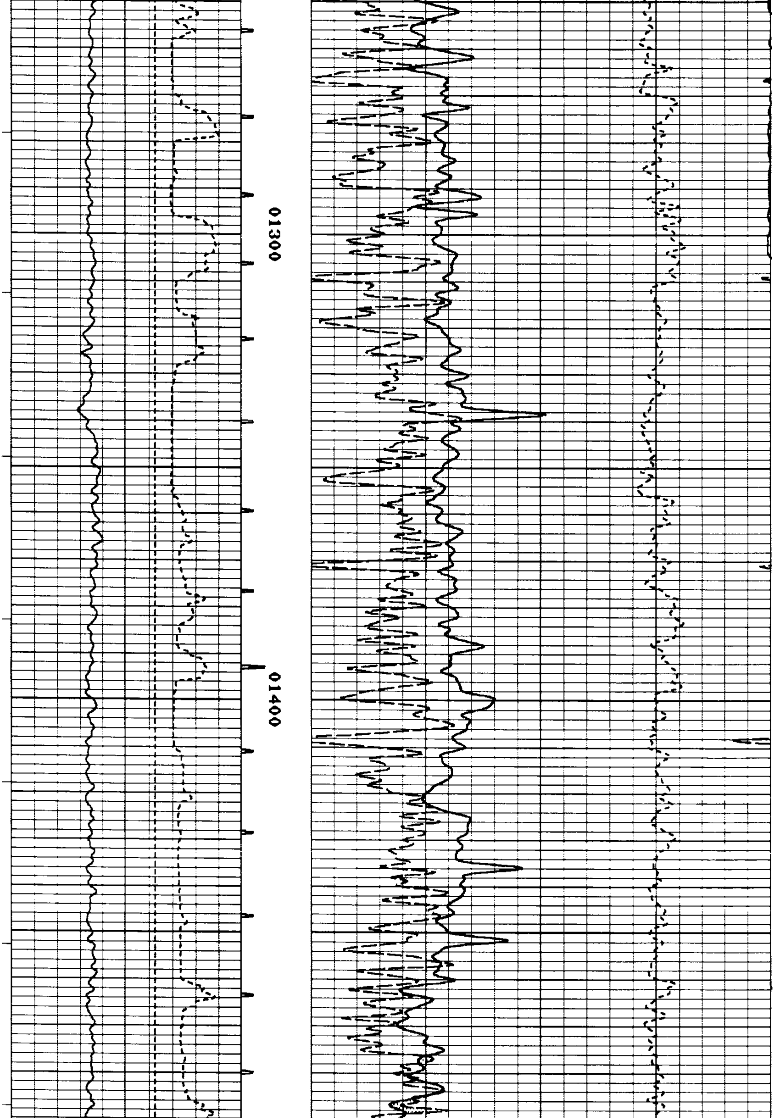
REVISION: FSYSAL REV D007 VER 7
MODE: RECORD

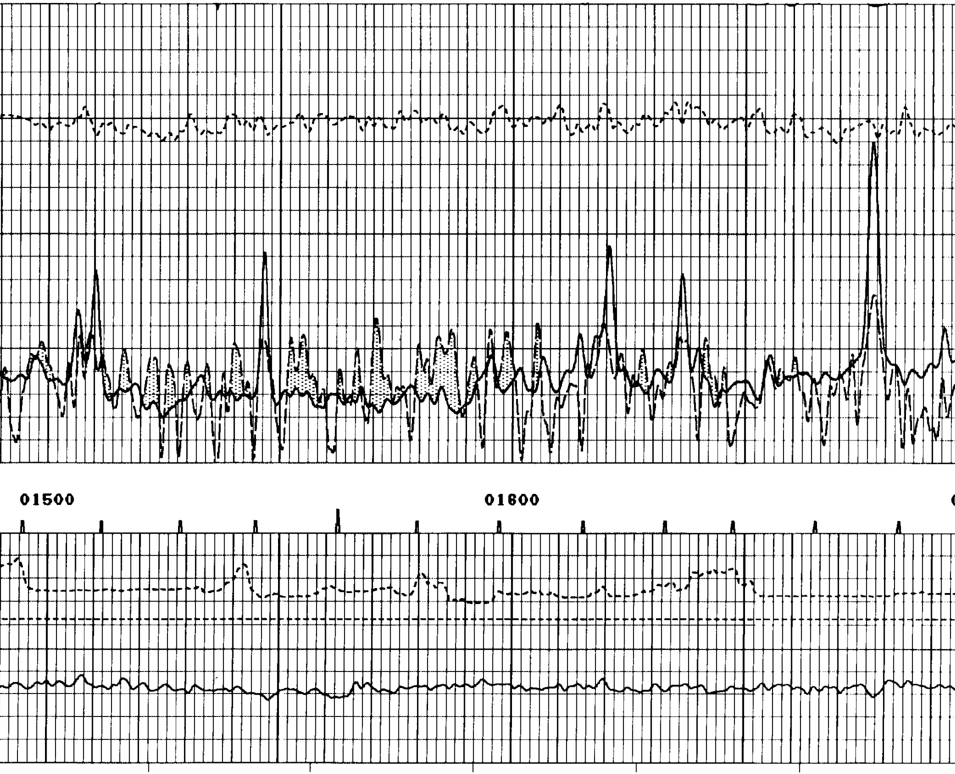


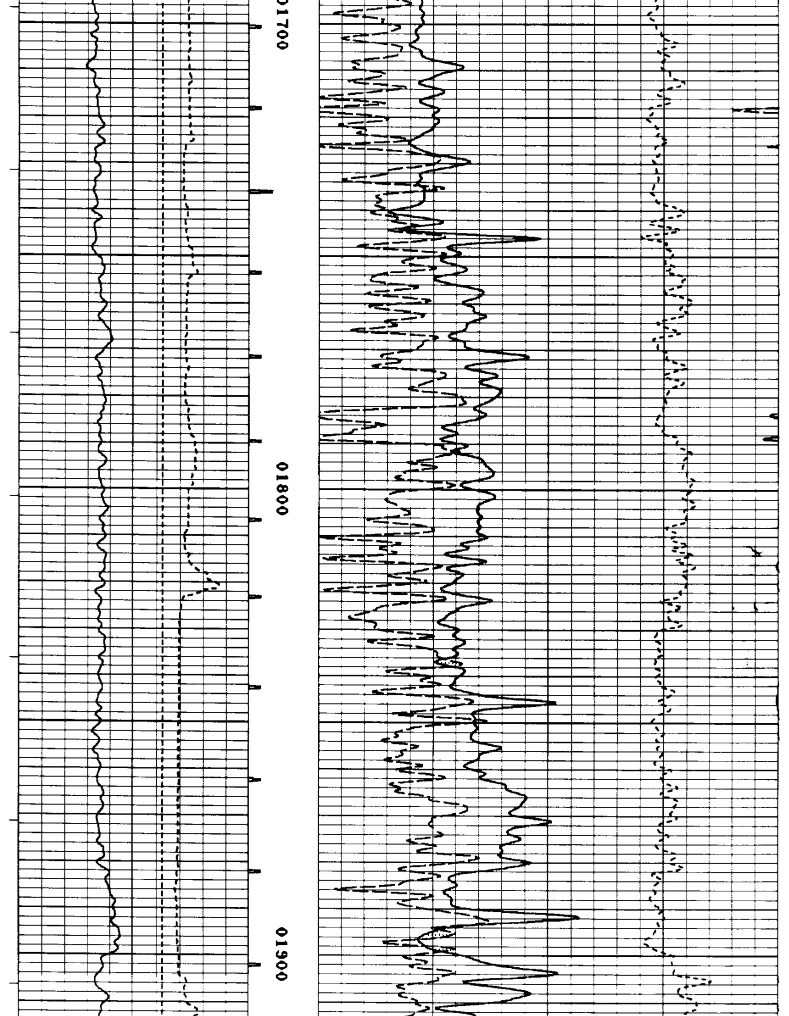


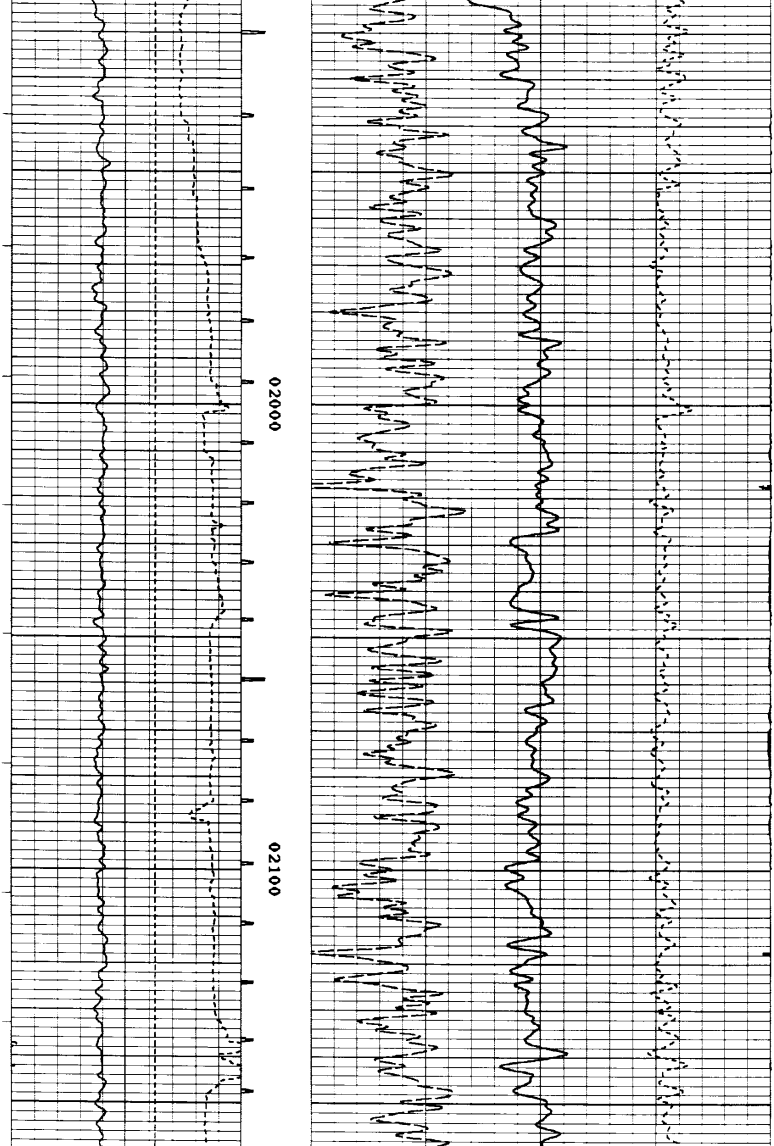


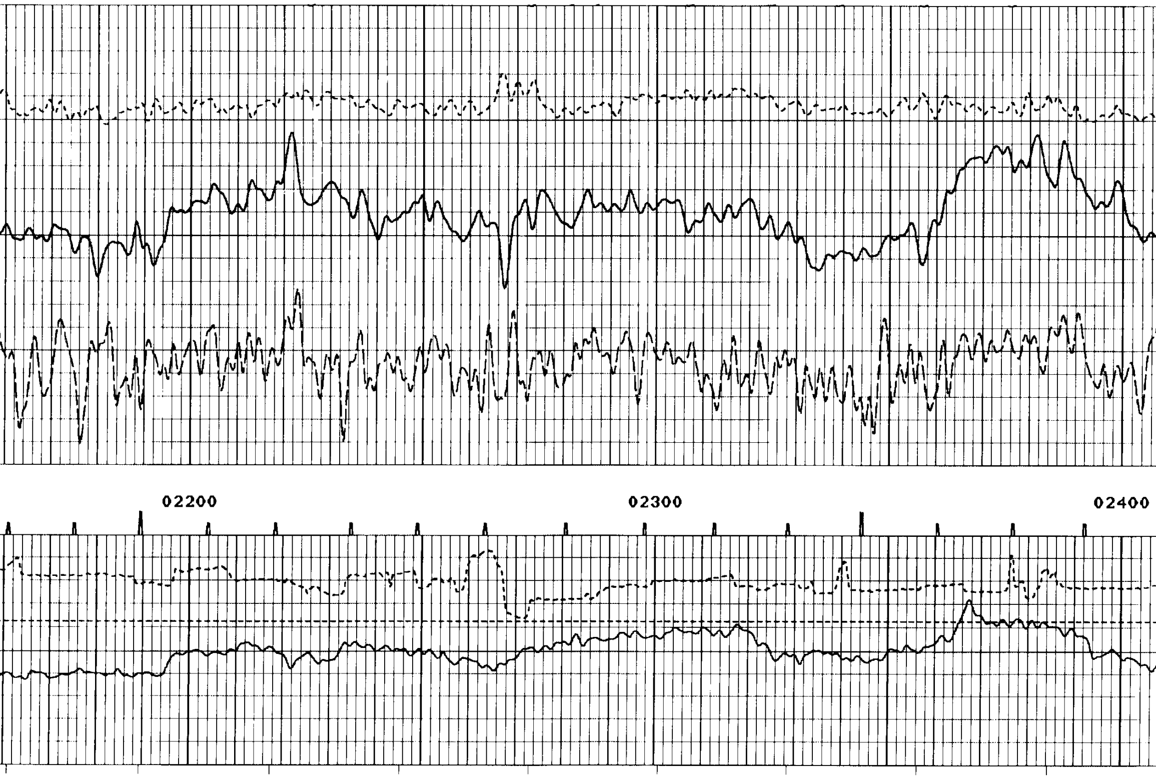


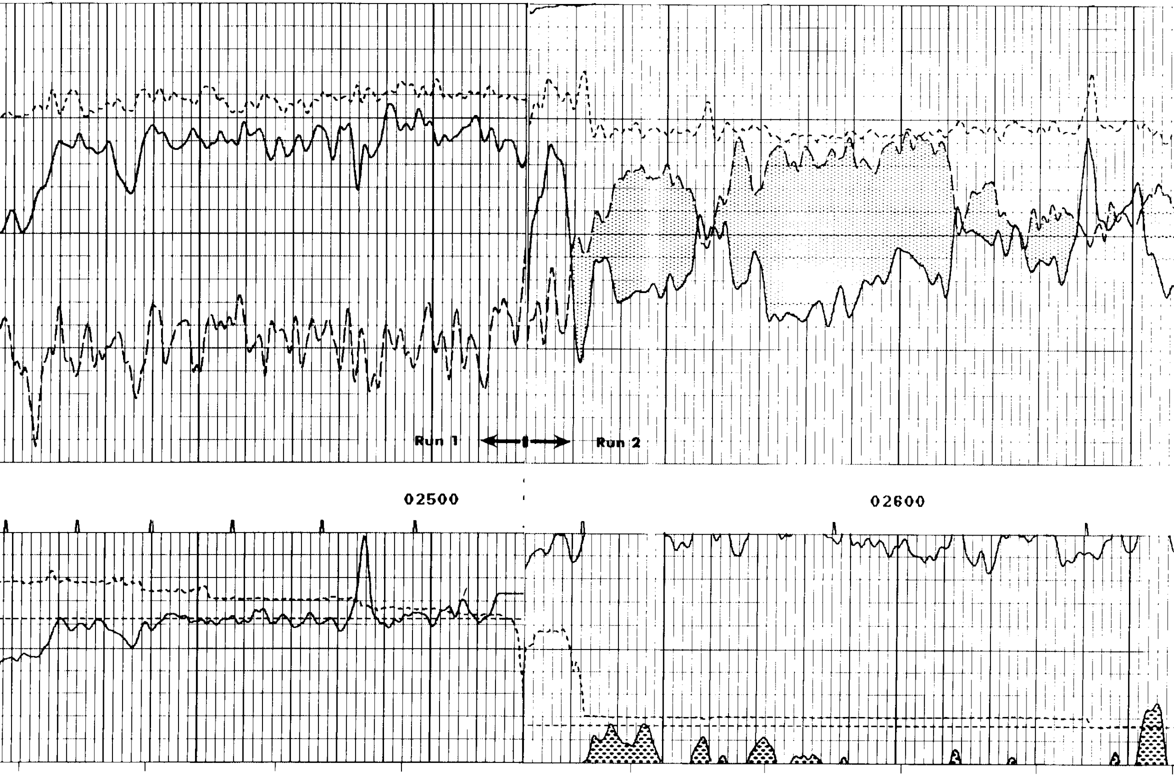


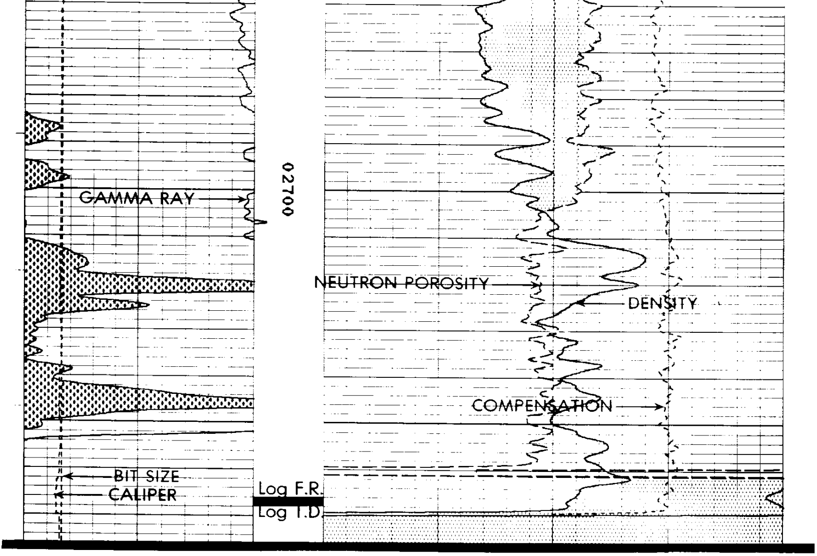


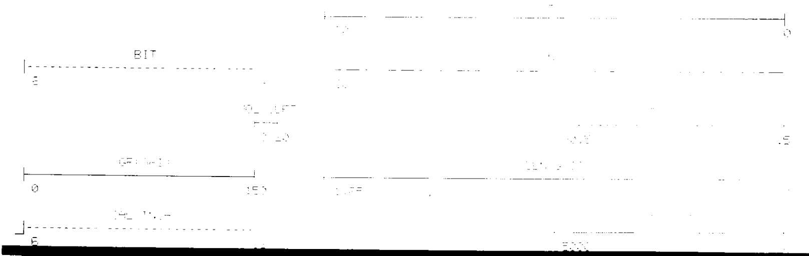


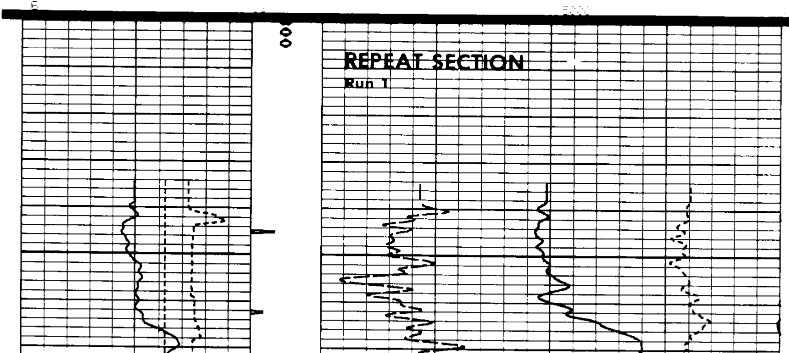


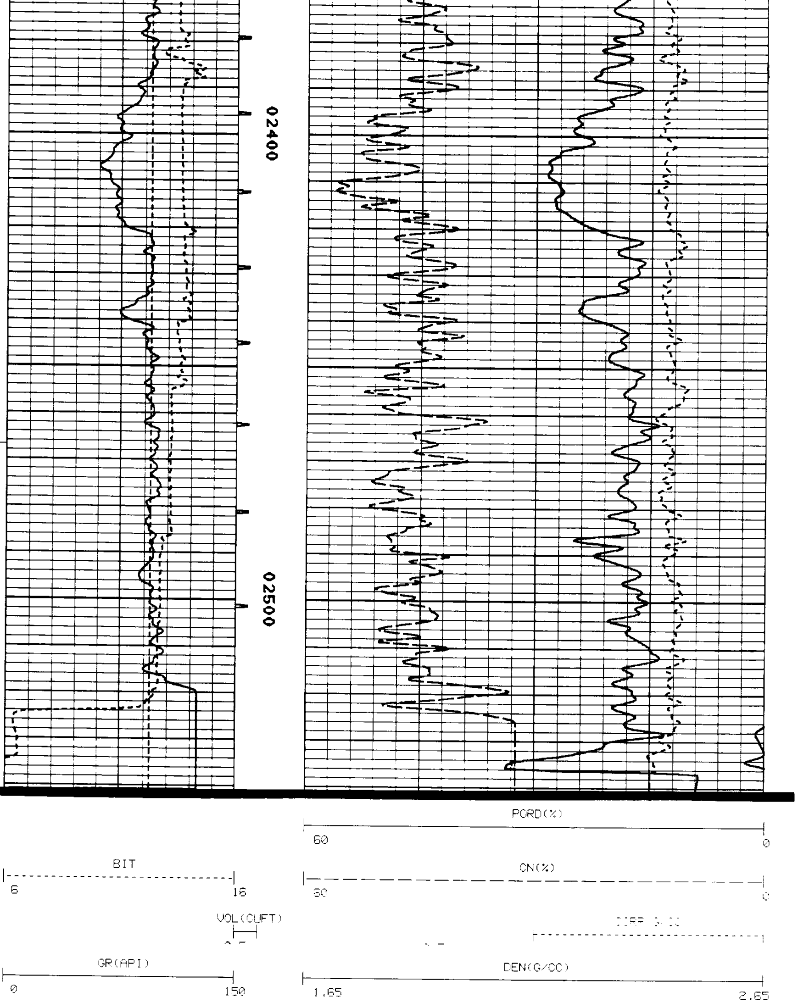


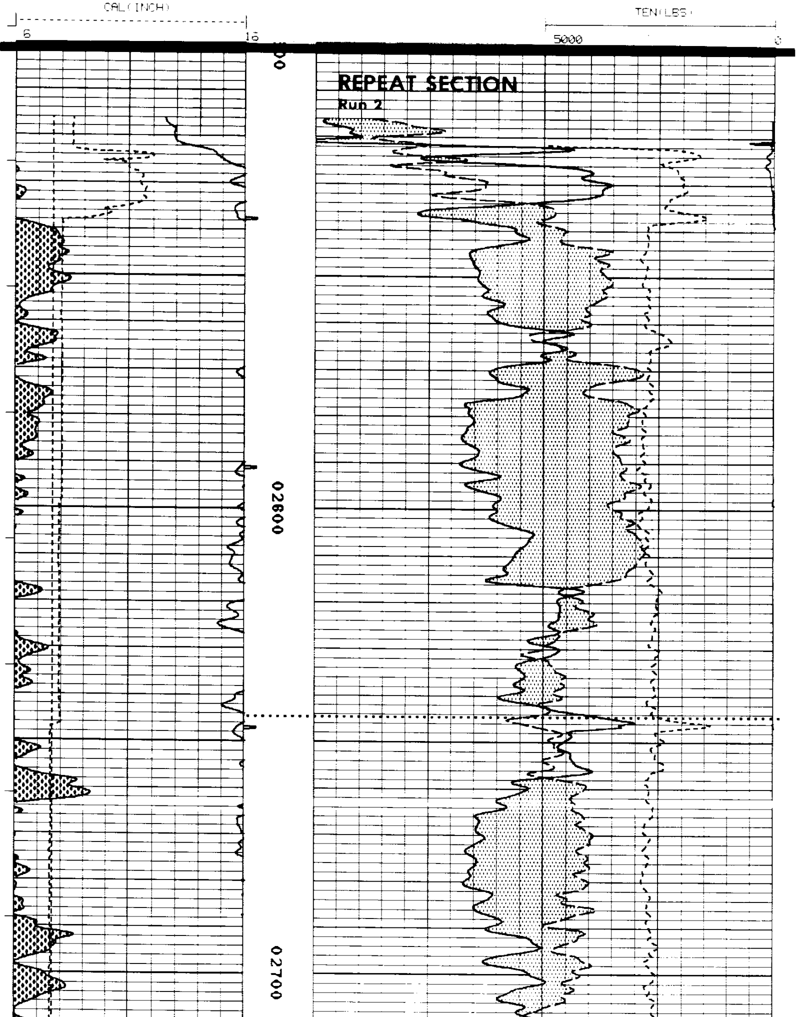


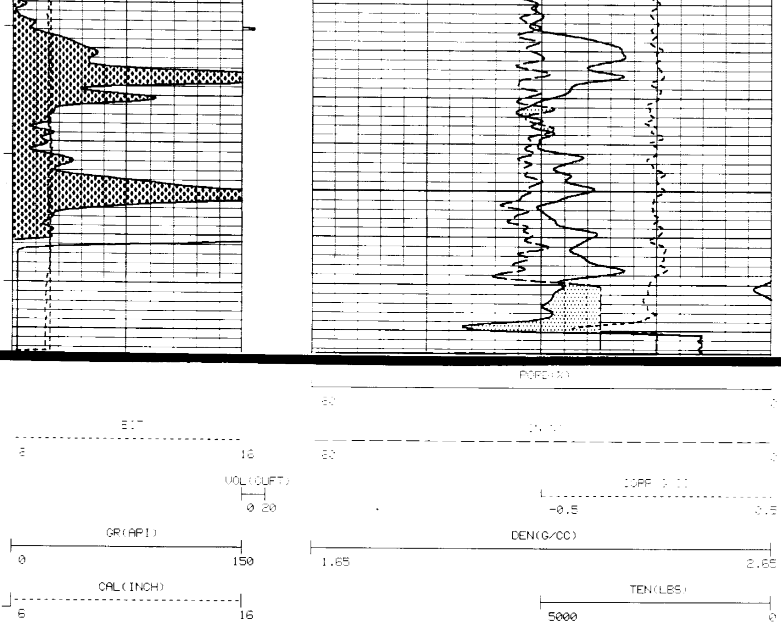












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        ****************************************
        *                                      *
        *  CALIBRATION/VERIFICATION SUMMARIES  *
        *  DATE 01/07/87        TIME 05:50:09  *
        *  RUN  1               TRIP 1         *
        *                                      *
        ****************************************
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Run 1

```
        LOG NAME CDL     ASSET NO. 42452    UNIT NO. 6406
    CALIBRATION ENTERED ON 01/06/87 AT 21:36:01          LARGE TOOL
                              SOURCE NUMBER 767

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

       DATE 12/06/86          CALIBRATION          TIME 13:09:35

  LSD     MG      268.8
  SSD             563.4
  DEN                                                    2.200  G/CC
  CORR                                                   0.000  G/CC
  LSD     AL       92.4   0.000    1.0000   2.9093
  SSD             383.6   0.000    1.0000   1.4687
  DEN                                                    2.800  G/CC
  CORR                                                   0.000  G/CC
  LSD     MGRV    247.7
  SSD             610.7
  DEN                                                    2.480  G/CC
  CORR                                                   0.234  G/CC

       DATE 12/06/86    PRIMARY VERIFICATION      TIME 13:23:35
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```
LSD     AL        90.3    0.000     1.0000
SSD              381.3    0.000     1.0000
DEN                                                              2.818  G/CC
CORR                                                             0.005  G/CC

     DATE 01/06/87   BEFORE LOG VERIFICATION    TIME 21:55:37

LSD     AL        93.2    0.000     1.0000
SSD              383.0    0.000     1.0000
DEN                                                              2.786  G/CC
CORR                                                            -0.010  G/CC

     DATE 01/07/87    AFTER LOG VERIFICATION    TIME 05:16:49

LSD     AL        91.7    0.000     1.0000
SSD              381.5    0.000     1.0000
DEN                                                              2.799  G/CC
CORR                                                            -0.006  G/CC



      LOG NAME CAL     ASSET NO. 42542     UNIT NO. 6406
  CALIBRATION ENTERED ON 01/06/87 AT 21:35:31

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

     DATE 12/13/86          CALIBRATION             TIME 02:17:45

CAL     2280.5  5741.3    2.046     0.2133        6.000       12.000 INCH

                          PRIMARY VERIFICATION              NOT DONE

     DATE 01/07/87   BEFORE LOG VERIFICATION    TIME 03:30:22

CAL        E      5706.9    3.046    0.0133        E          12.940 INCH

     DATE 01/07/87    AFTER LOG VERIFICATION    TIME 05:14:49

CAL        E      6109.3    2.546    0.0133        E          13.138 INCH



      LOG NAME CN      ASSET NO. 73525    UNIT NO. 6406
  CALIBRATION ENTERED ON 01/06/87 AT 21:33:08          LARGE TOOL
                            SOURCE NUMBER S17S20

CURVE   COUNTS/SEC.     SCALING FACTORS    RATIO     ENG. VALUE  UNITS
                         ADD.     MULT.  LSN/(SSN*8)
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     DATE 12/06/86          CALIBRATION             TIME 10:47:01

LSN         100.0         0.000     1.0000
SSN         150.5         0.000     1.0000
CN                                          0.0830        15.000  %

     DATE 12/06/86    PRIMARY VERIFICATION      TIME 11:11:53

LSN          91.9         0.000     1.0000
SSN         145.1         0.000     1.0000
CN                                          0.0792        16.749  %

     DATE 01/06/87    BEFORE LOG VERIFICATION   TIME 21:45:49

LSN          94.0         0.000     1.0000
SSN         148.0         0.000     1.0000
CN                                          0.0794        16.628  %

     DATE 01/07/87    AFTER LOG VERIFICATION    TIME 05:20:51

LSN          95.5         0.000     1.0000
SSN         148.9         0.000     1.0000
CN                                          0.0802        16.273  %



      LOG NAME GR      ASSET NO. 72564D   UNIT NO. 6406
  CALIBRATION ENTERED ON 01/06/87 AT 21:31:10

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

     DATE 12/16/86          CALIBRATION             TIME 01:56:34
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```
GR      1301.0  4704.9    0.000     0.1075      0.000      150.000 API

                         PRIMARY VERIFICATION            NOT DONE

     DATE 01/06/87   BEFORE LOG VERIFICATION    TIME 21:41:36

GR      1974.3  5512.3    0.000     0.1075     87.001      242.911 API

     DATE 01/07/87    AFTER LOG VERIFICATION    TIME 05:46:37

GR      1000.9  4592.8    0.000     0.1075     44.106      202.391 API
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                   *                                        *
                   *  CALIBRATION/VERIFICATION SUMMARIES    *
                   *  DATE 01/09/87          TIME 08:49:45  *
                   *  RUN  2                 TRIP 3         *
                   *                                        *
                   ******************************************
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Run 2

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         LOG NAME CDL    ASSET NO. 43453    UNIT NO. 6406
   CALIBRATION ENTERED ON 01/09/87 AT 07:05:51          LARGE TOOL
                            SOURCE NUMBER 787

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

      DATE 12/08/86            CALIBRATION            TIME 13:08:35

LSD      MG       338.3
SSD               583.4
DEN                                                        2.300  G/CC
CORR                                                       0.000  G/CC
LSD      AL        92.4    0.000     1.0000   2.5050
SSD               333.8    0.000     1.0000   1.4837
DEN                                                        2.300  G/CC
CORR                                                       0.000  G/CC
LSD     MGRV      247.7
SSD              .610.7
DEN                                                        2.430  G/CC
CORR                                                       0.334  G/CC

      DATE 12/06/86    PRIMARY VERIFICATION        TIME 13:23:35

LSD      AL        90.3    0.000     1.0000
SSD               331.3    0.000     1.0000
DEN                                                        2.313  G/CC
CORR                                                       0.005  G/CC

      DATE 01/09/87   BEFORE LOG VERIFICATION     TIME 07:30:54

LSD      AL        90.6    0.000     1.0000
SSD               380.3    0.000     1.0000
DEN                                                    [illegible]  G/CC
CORR                                                   [illegible]  G/CC

      DATE 01/09/87    AFTER LOG VERIFICATION     TIME 08:28:27

LSD      AL        93.7    0.000     1.0000
SSD               381.7    0.000     1.0000
DEN                                                        2.785  G/CC
CORR                                                      -0.013  G/CC
```

```
         LOG NAME CAL    ASSET NO. 42542    UNIT NO. 6406
   CALIBRATION ENTERED ON 01/09/87 AT 07:07:06

CURVE   MILLIVOLTS        SCALING FACTORS      ENGINEERING VALUES     UNITS
         LOW    HIGH      ADD.     MULT.         LOW          HIGH
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      DATE 12/13/86          CALIBRATION          TIME 02:17:45

CAL     2280.5  5741.3    2.046     0.0133      6.000       12.000 INCH

                         PRIMARY VERIFICATION            NOT DONE

      DATE 01/09/87   BEFORE LOG VERIFICATION    TIME 07:43:18

CAL       E      3155.6    2.446     0.0133       E            7.917 INCH

      DATE 01/09/87    AFTER LOG VERIFICATION    TIME 08:13:57

CAL       E      3586.3    2.446     0.0133       E            8.664 INCH
```

```
        LOG NAME CN      ASSET NO. 73525    UNIT NO. 6406
   CALIBRATION ENTERED ON 01/09/87 AT 07:05:23         LARGE TOOL
                        SOURCE NUMBER S17520

CURVE   COUNTS/SEC.     SCALING FACTORS    RATIO     ENG. VALUE  UNITS
                         ADD.      MULT.  LSN/(SSN*8)
----    --------      ------------------ --------  ----------  ----

     DATE 12/06/86          CALIBRATION          TIME 12:47:01

LSN          100.0          0.000    1.0000
SSN          150.5          0.000    1.0000
CN                                           0.0830       15.000  %

     DATE 12/06/86     PRIMARY VERIFICATION      TIME 11:11:53

LSN           91.9          0.000    1.0000
SSN          145.1          0.000    1.0000
CN                                           0.0792       15.748  %

     DATE 01/09/87    BEFORE LOG VERIFICATION    TIME 07:25:33

LSN           96.7          0.000    1.0000
SSN          149.1          0.000    1.0000
CN                                           0.0811       15.373  %

     DATE 01/09/87     AFTER LOG VERIFICATION    TIME 08:33:22

LSN           97.7          0.000    1.0000
SSN          150.3          0.000    1.0000
CN                                           0.0812       15.354  %



        LOG NAME GR      ASSET NO. 72564D   UNIT NO. 6406
  CALIBRATION ENTERED ON 01/09/87 AT 07:04:11

CURVE   MILLIVOLTS      SCALING FACTORS    ENGINEERING VALUES   UNITS
         LOW    HIGH    ADD.     MULT.       LOW       HIGH
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     DATE 12/16/86          CALIBRATION          TIME 01:56:34

GR      1301.0  4704.9    0.000    0.1075      0.000    150.000 API

                       PRIMARY VERIFICATION            NOT DONE

     DATE 01/09/87   BEFORE LOG VERIFICATION    TIME 07:19:58

GR      2445.6  5986.2    0.000    0.1075    107.772    263.795 API

     DATE 01/09/87    AFTER LOG VERIFICATION    TIME 08:45:02

GR      1595.7  5153.1    0.000    0.1075     70.317    237.051 API
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DresserAtlas

DRESSER