CC 41-06-55

Schlumberger

5 " NEUTRON-DENSITY

CSU

COMPANY: ARCO EXPLORATION AND TECHNOLOGY COMPANY

WELL: "COLUMBIA COUNTY" #41-6

RECEIVED - PTLD
APR 1 1986
DEPT. OF GEOLOGY

FIELD: MIST GAS
COUNTY: COLUMBIA
STATE: OREGON
NATION: U.S.A.
LOCATION: S87D14M54SW 306.15' S2D45M
6SE 49.13' FR NE COR
SEC: 6 TWP: 5N RGE: 5W

PERMANENT DATUM: GL
ELEV. OF PERM. DATUM: 815.3 F
LOG MEASURED FROM: KB
12.0 F ABOVE PERM. DATUM
DRLG. MEASURED FROM: KB

ELEVATIONS-
KB: 827.3 F
DF: 826.3 F
GL: 815.3 F

DATE: 22 JAN 86
RUN NO: 1

DEPTH-DRILLER: 2750.0 F
DEPTH-LOGGER: 2740.0 F
BTM. LOG INTERVAL: 2738.0 F
TOP LOG INTERVAL: 453.0 F

CASING-DRILLER: 454 F
CASING-LOGGER: 453 F
CASING: 9 5/8"

BIT SIZE: 8 3/4"
DEPTH: 2750 F

OTHER SERVICES-
DIL-BHC

HDT
CST
VSP

PROGRAM
TAPE NO:
25.802
SERVICE
ORDER NO:
432117

TYPE FLUID IN HOLE: GEL/POLYMER
DENSITY: 10.3 LB/G
VISCOSITY: 47.0 S
PH: 9.5
FLUID LOSS: 5.0 C3
SOURCE OF SAMPLE: FLOWLINE
RM: 2.870 OHMM AT 66.0 DEGF
RMF: 3.040 OHMM AT 42.0 DEGF
RMC: 3.340 OHMM AT 42.0 DEGF
SOURCE RMF/RMC: MEASURED/MEASURED
RM AT BHT: 1.790 OHMM AT 110. DEGF
RMF AT BHT: 1.273 OHMM AT 110. DEGF
RMC AT BHT: 1.398 OHMM AT 110. DEGF

TIME CIRC. STOPPED: 18:00 1-21
TIME LOGGER ON BTM.: 00:42 1-22

MAX. REC. TEMP: 110.0 DEGF

LOGGING UNIT NO:	8057
LOGGING UNIT LOC:	SACRAMENTO
RECORDED BY:	PILCH
WITNESSED BY:	MCMURRY

REMARKS:

700PPM CHLORIDES.
58 DEGREES MAXIMUM DEVIATION.
LDT RUN BECAUSE OF PRE-JOB FDC FAILURE.

EQUIPMENT NUMBERS-

DRS-C 4775 NSC-D 1955 CNC-HA 1263 SGC-SA 561
CCSM-AB 17

ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATIONS, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. THESE INTERPRETATIONS ARE ALSO SUBJECT TO OUR GENERAL TERMS AND CONDITIONS AS SET OUT IN OUR CURRENT PRICE SCHEDULE.

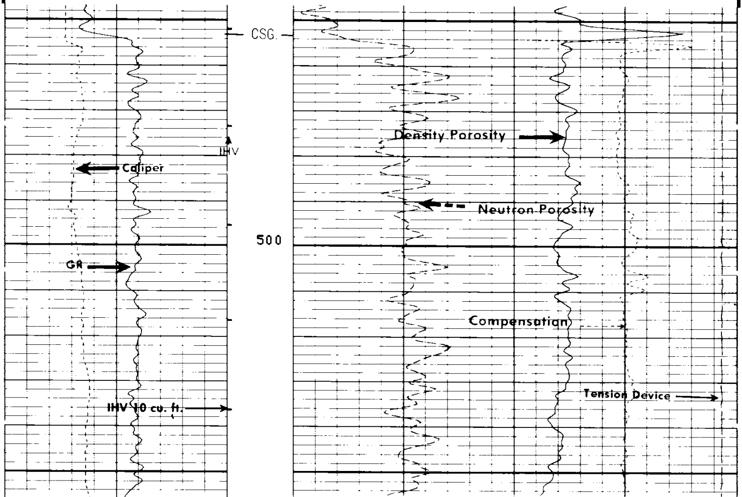
FILE 5 22-JAN-86 01:55
DATA ACQUIRED 00- -00 00:00

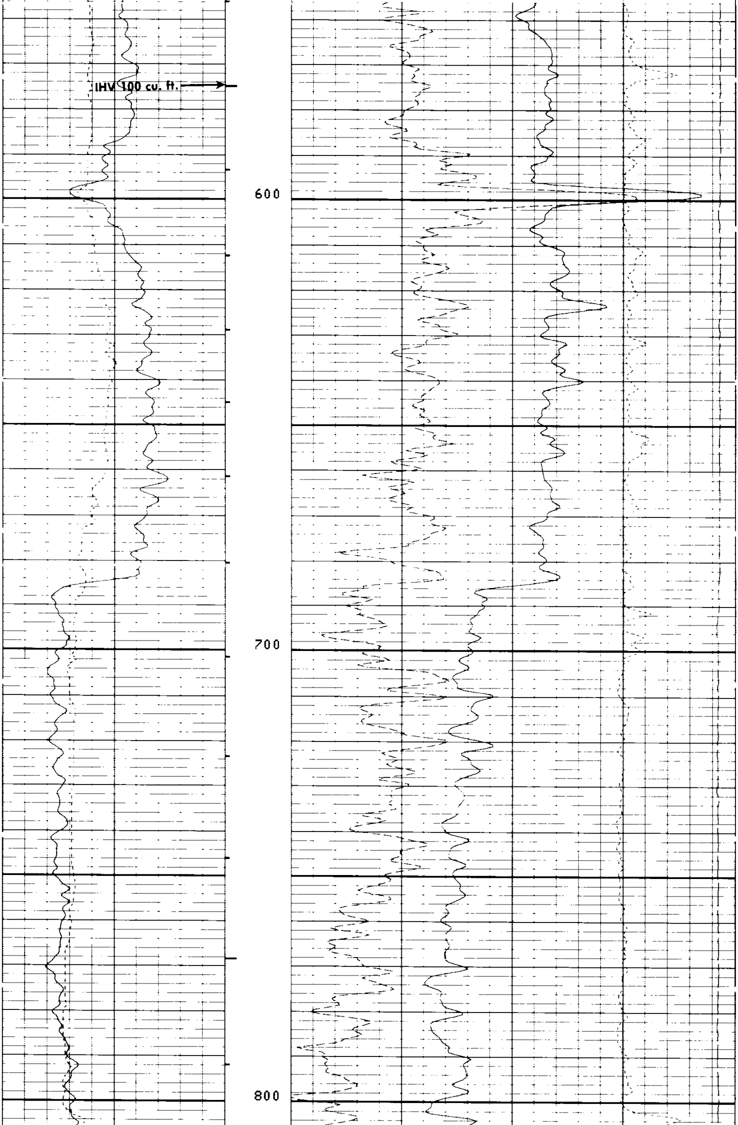
TENS(LB)
10000. 0.0
DRHO(G/C3)
-.2500 .25000

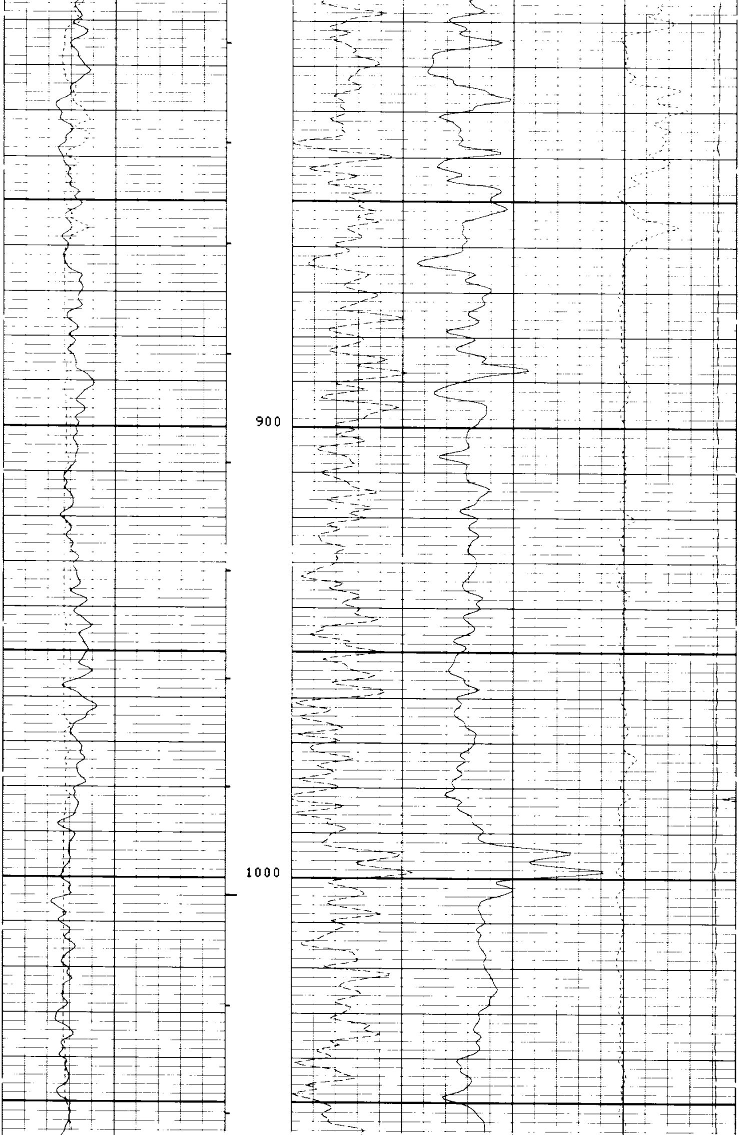
CALI(IN)
6.0000 16.000
GR (GAPI)
0.0 150.00

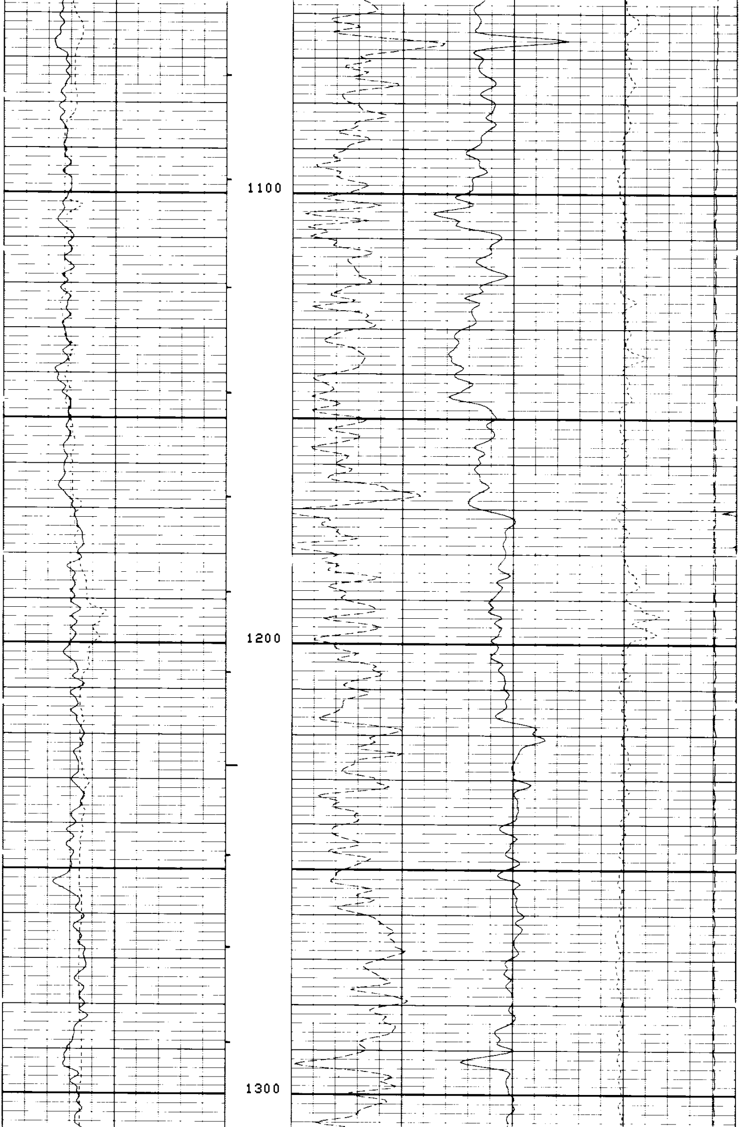
NPHI
.60000 0.0
DPHI
.60000 0.0

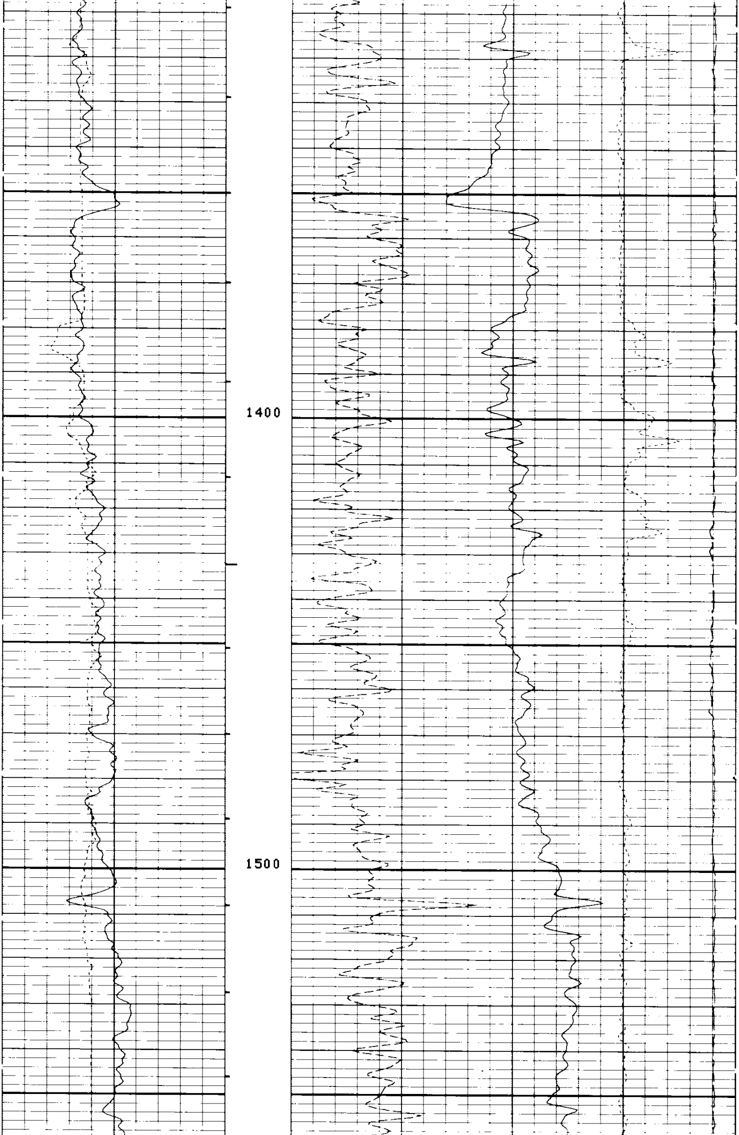
FILE 3 22-JAN-86 01:52

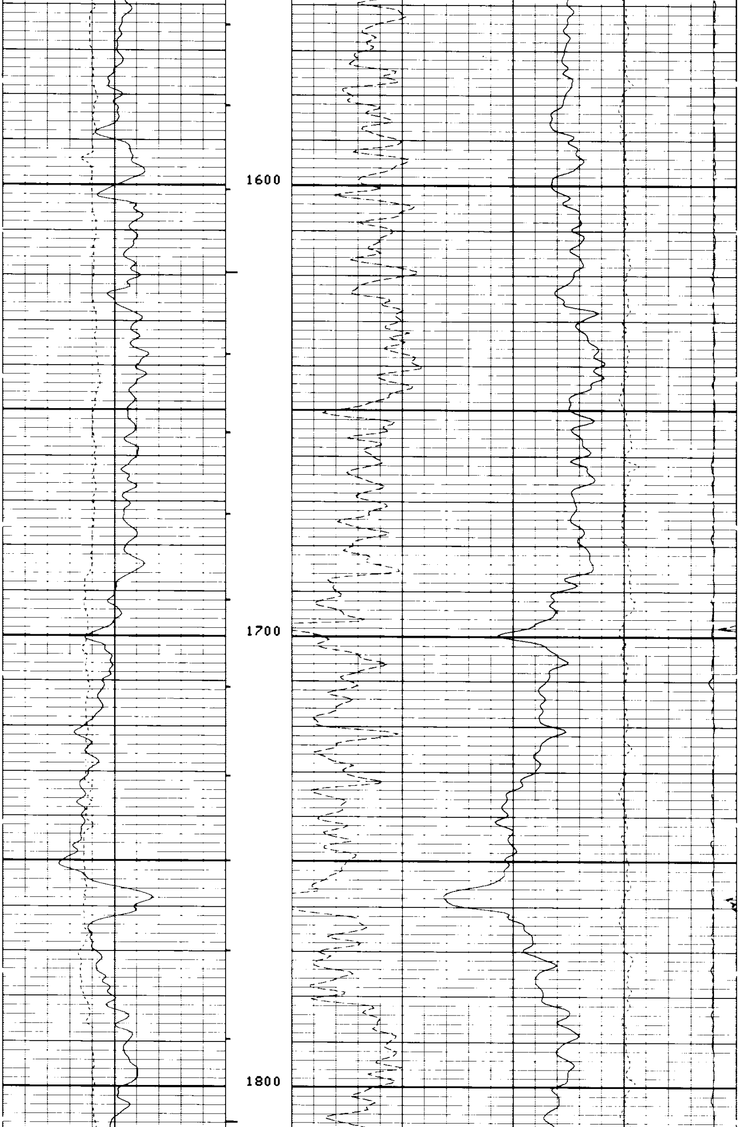


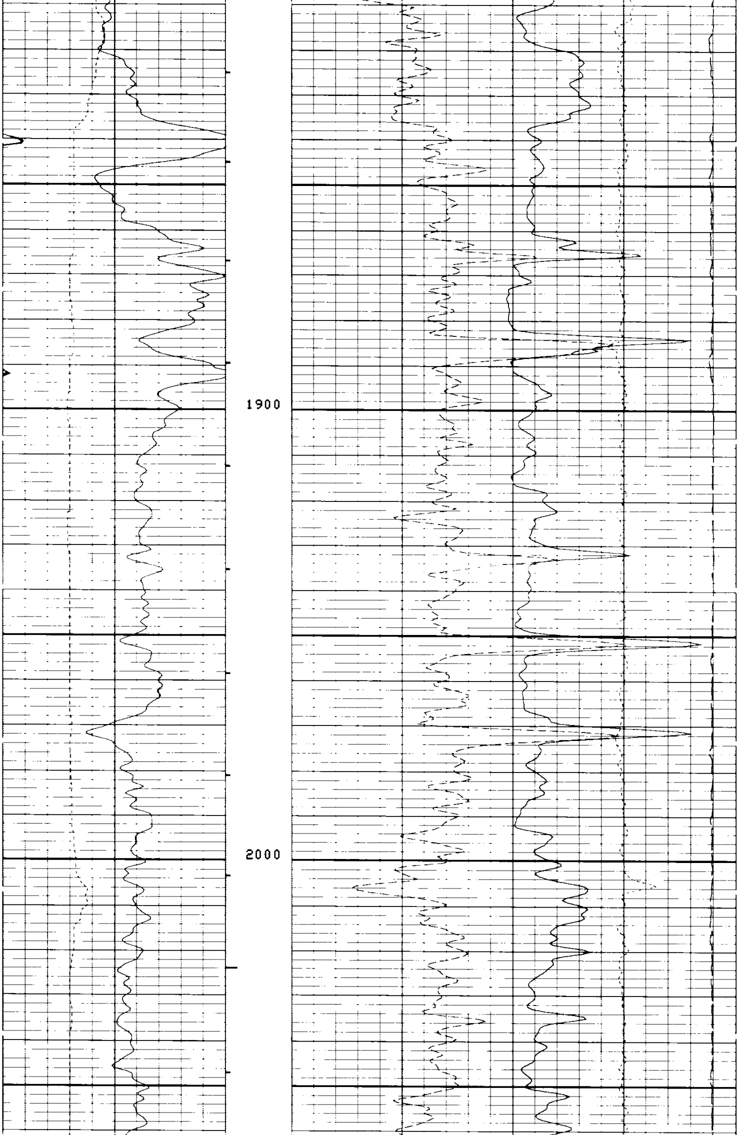


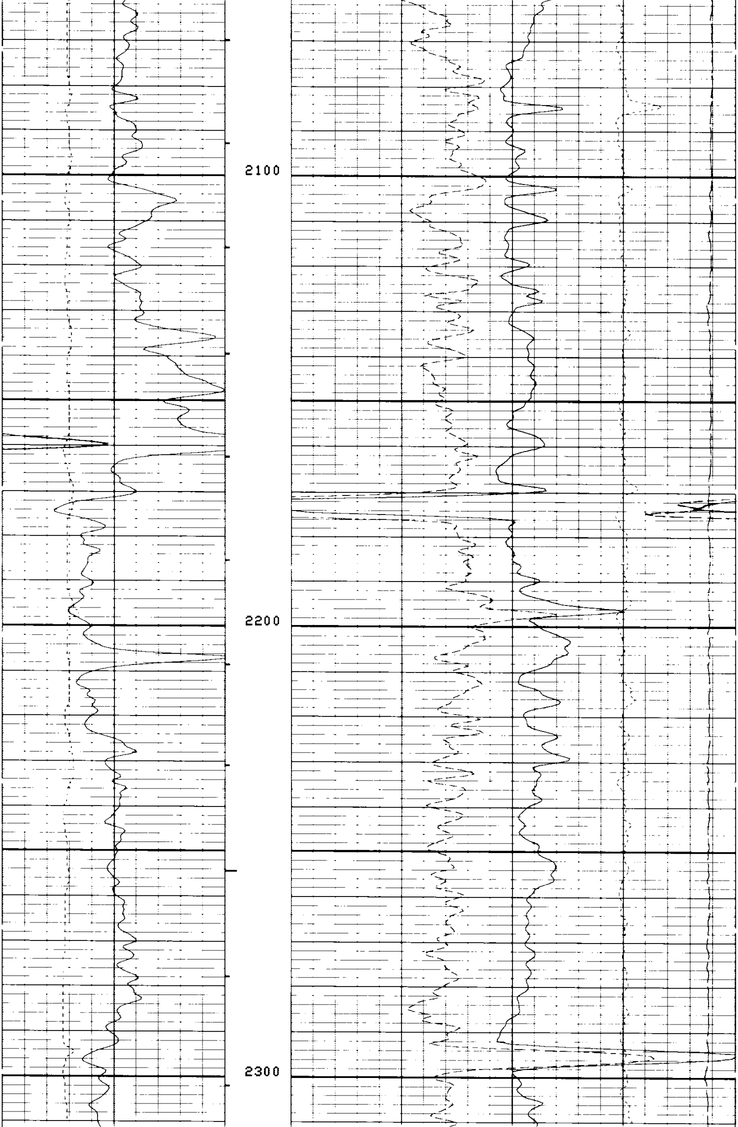


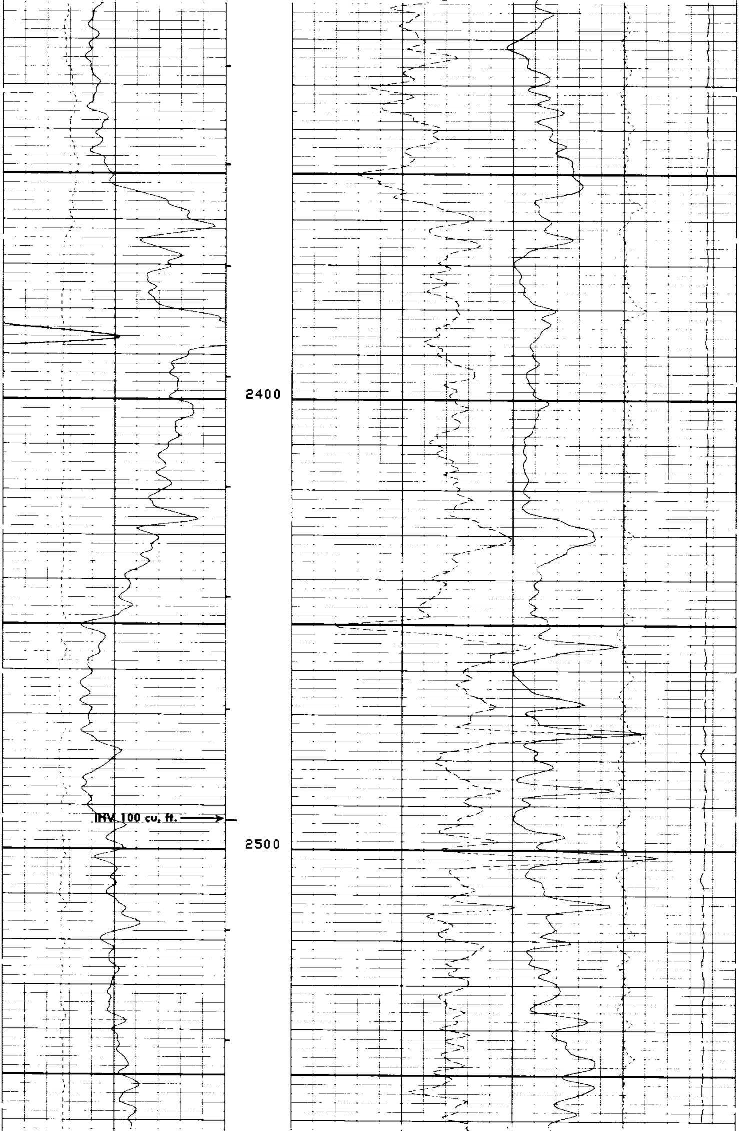


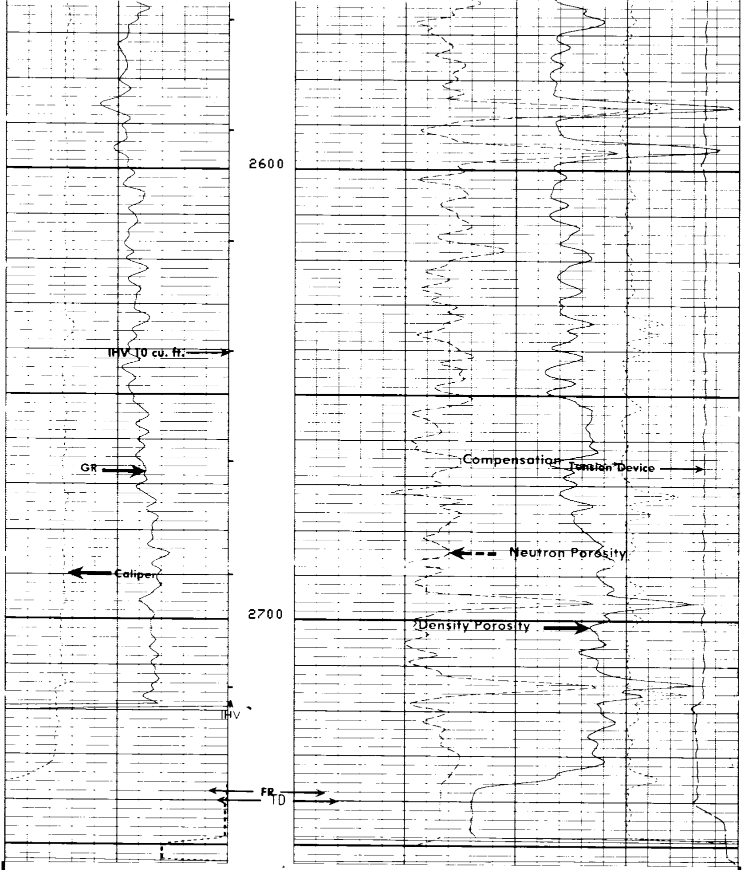












FILE 3 22-JAN-86 00:40

TENS(LB)
10000. 0.0
DRHO(G/C3)
-.2500 .25000

CALI(IN)
6.0000 16.000
GR (GAPI)
0.0 150.00

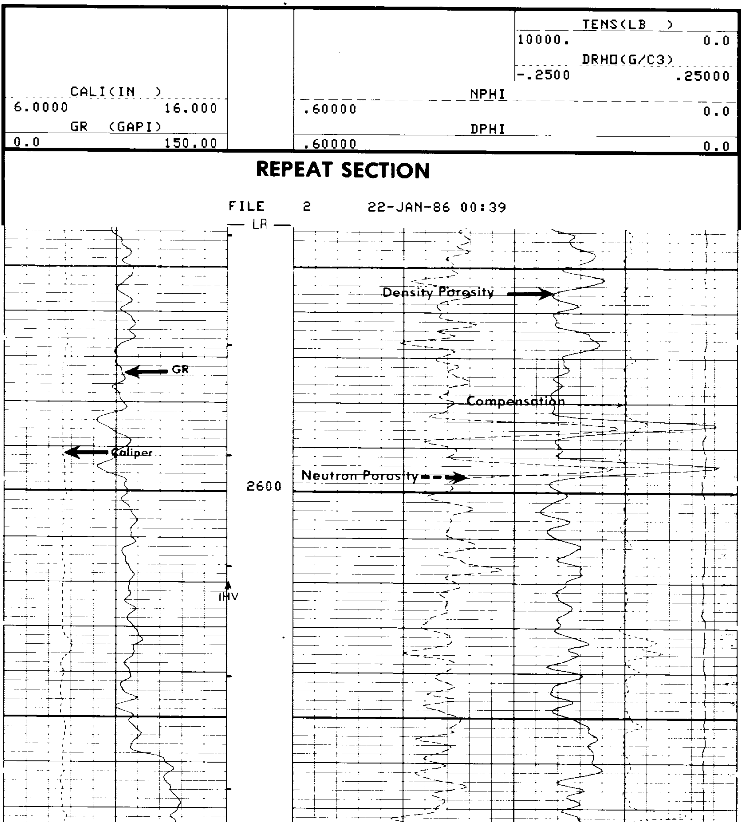
NPHI
.60000 0.0
DPHI
.60000 0.0

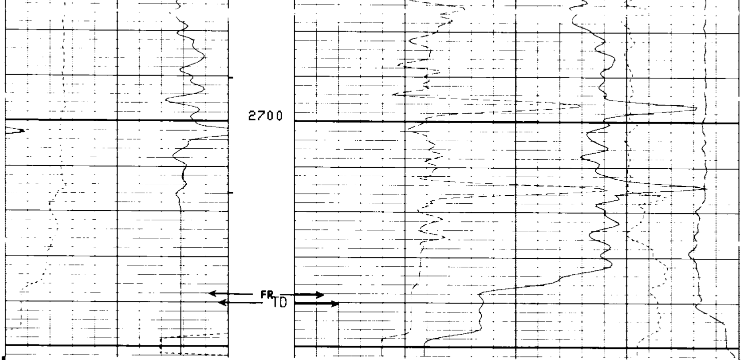
SENSOR MEASURE POINT TO TOOL ZERO

STSG	27.6	FEET	GR	32.2	FEET
NCNL	23.2	FEET	SCNL	23.2	FEET
SS2	2.0	FEET	FCNL	23.2	FEET
LITH	2.5	FEET	SS1	2.0	FEET
LU	2.5	FEET	LS	2.5	FEET
CALI	2.6	FEET	LL	2.5	FEET
NRAT	23.2	FEET	TENS	-.9	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BHT	95.0000	DEGF	TD	2735.00	F
PSNR	2.21200		SHT	80.0000	DEGF
MATR	SAND		HC	CALI	
MDEN	2.65000	G/C3	FD	1.00000	G/C3
LPCS	TWIN		WMUD	8.00000	LB/G
BHS	OPEN		DHC	BS	
BS	8.75000	IN			





FILE 2 22-JAN-86 00:32

CALI(IN)		NPHI	TENS(LB)	
			10000.	0.0
			DRHO(G/C3)	
			-.2500	.25000
6.0000	16.000	.60000		0.0
GR (GAPI)		DPHI		
0.0	150.00	.60000		0.0

SENSOR MEASURE POINT TO TOOL ZERO

STSG	27.6	FEET	GR	32.2	FEET
NCNL	23.2	FEET	SCNL	23.2	FEET
SS2	2.0	FEET	FCNL	23.2	FEET
LITH	2.5	FEET	SS1	2.0	FEET
LU	2.5	FEET	LS	2.5	FEET
CALI	2.6	FEET	LL	2.5	FEET
NRAT	23.2	FEET	TENS	-.9	FEET

PARAMETERS

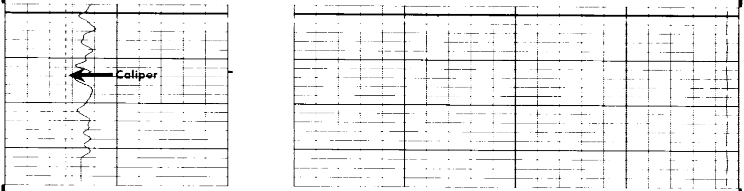
NAME	VALUE	UNIT	NAME	VALUE	UNIT
BHT	95.0000	DEGF	TD	2735.00	F
PSNR	2.21200		SHT	80.0000	DEGF
MATR	SAND		HC	CALI	
MDEN	2.65000	G/C3	FD	1.00000	G/C3
LPCS	TWIN		WMUD	8.00000	LB/G
BHS	OPEN		DHC	BS	
BS	8.75000	IN			

CALI(IN)
6.0000 16.000
GR (GAPI)
0.0 150.00

TENS(LB)
10000. 0.0
DRHO(G/C3)
-.2500 .25000

Check in Casing

FILE 0 22-JAN-86 00:18



FILE 0 22-JAN-86 00:18

CALI(IN)
6.0000 16.000
GR (GAPI)
0.0 150.00

TENS(LB)
10000. 0.0
DRHO(G/C3)
-.2500 .25000

SENSOR MEASURE POINT TO TOOL ZERO

STSG	27.6	FEET	GR	32.2	FEET
NCNL	23.2	FEET	SCNL	23.2	FEET
SS2	2.0	FEET	FCNL	23.2	FEET
LITH	2.5	FEET	SS1	2.0	FEET
LU	2.5	FEET	LS	2.5	FEET
CALI	2.6	FEET	LL	2.5	FEET
NRAT	23.2	FEET	TENS	-.9	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BHT	95.0000	DEGF	TD	2735.00	F
PSNR	2.21200		SHT	80.0000	DEGF
MATR	SAND		HC	CALI	
MDEN	2.65000	G/C3	FD	1.00000	G/C3
LPCS	TWIN		WMUD	8.00000	LB/G
BHS	OPEN		DHC	BS	
BS	8.75000	IN			

BEFORE SURVEY CALIBRATION SUMMARY

PERFORMED: 86/01/21
PROGRAM FILE: LEG (VERSION 25.802 83/12/14)

SGTL DETECTOR CALIBRATION SUMMARY

	MEASURED BKGD	MEASURED JIG	CALIBRATED	UNITS
GR	43	201	165	GAPI

CNTH DETECTOR CALIBRATION SUMMARY

	TANK INPUT	TANK CALIBRATED	JIG MEASURED	JIG CALIBRATED
NRAT	2.21200	2.158	2.214	2.160

LDTC DETECTOR CALIBRATION SUMMARY

```
        DRS SONDE NUMBER                          :    4775
        NUCLEAR SERVICE CARTRIDGE NUMBER          :    1955
        POWERED DETECTOR HOUSING NUMBER           :    2942
        POWERED GAMMA-GAMMA DETECTOR NUMBER       :    2710
        LDT LOGGING SOURCE NUMBER                 :    7137
        LDT CALIBRATION MODE                      :    WATE
        MUD DENSITY                               :    8.00000

             M E A S U R E D
           BKGD   AL+FE     AL   UNITS
     LL    18.8    88.2    98.3    CPS
     LU    71.3   136.7   151.5    CPS
     LS    54.5   156.6   174.0    CPS
   LITH     5.3    33.5    49.3    CPS
    SS1    13.9   191.2   214.7    CPS
    SS2     9.4   260.2   286.7    CPS


  LDTC               CALIPER CALIBRATION SUMMARY

              MEASURED                          CALIBRATED
           SMALL    LARGE                   SMALL       LARGE          UNITS
   CALI     6.8     11.2                     8.0        12.0            IN

                         FILE    2       21-JAN-86 14:28
```

```
                AFTER SURVEY TOOL CHECK SUMMARY


  PERFORMED:      86/01/22
  PROGRAM FILE: LEG    (VERSION    25.802  83/12/14)


 CNTH                      TOOL   CHECK

                         JIG
                BEFORE         AFTER
  NRAT          2.160          2.166

  POROSITY CHANGE  (LIME):    .001


 LDTC                      TOOL   CHECK

        DRS SONDE NUMBER                          :    4775
        NUCLEAR SERVICE CARTRIDGE NUMBER          :    1955
        POWERED DETECTOR HOUSING NUMBER           :    2942
        POWERED GAMMA-GAMMA DETECTOR NUMBER       :    2710
        LDT LOGGING SOURCE NUMBER                 :    7137
        LDT CALIBRATION MODE                      :    WATE
        MUD DENSITY                               :    8.00000

            BACKGROUND MEASURED
            BEFORE         AFTER          UNITS
     LL     18.81          18.87           CPS
     LU     71.37          71.37           CPS
     LS     54.50          54.56           CPS
   LITH      5.382          5.45           CPS
    SS1     13.92          13.84           CPS
    SS2      9.460          9.38           CPS

                      FILE    6       22-JAN-86 02:47
```

```
                   SHOP SUMMARY


  PERFORMED:     23-DEC-85 14:22
  PROGRAM FILE: CCSHOP (VERSION    28.2A    85/07/10)


  LDTC                 DETECTOR CALIBRATION SUMMARY
```

```
DRS SONDE NUMBER                            :    4775
NUCLEAR SERVICE CARTRIDGE NUMBER            :    1955
POWERED DETECTOR HOUSING NUMBER             :    2942
POWERED GAMMA-GAMMA DETECTOR NUMBER         :    2710
LDT LOGGING SOURCE NUMBER                   :    7137
LDT CALIBRATION MODE                        :    WATE
MUD DENSITY                                 :    8.00000    LB/G

          MASTER  CALIBRATED
          BKGD   AL+FE    AL   UNITS
   LL     19.0    88.3   98.4   CPS
   LU     71.6   136.7  151.5   CPS
   LS     54.9   156.6  174.0   CPS
 LITH      5.5    33.6   49.4   CPS
  SS1     13.9   191.2  214.7   CPS
  SS2      9.4   260.2  286.7   CPS

          SPECTRUM QUALITY RATIOS
 QRLS        .6493
 QRSS        .7489
 QRLI        .2841
 QLIR       1.3235
 QR          .9894

                  SHOP SUMMARY


 PERFORMED:      19-DEC-85 13:25
 PROGRAM FILE:   CCSHOP (VERSION      28.2A    85/07/10)

                       DETECTOR CALIBRATION SUMMARY
CNTH
                                                JIG
                  TANK
          MEASURED   CALIBRATED         MEASURED     CALIBRATED

 NRAT      2.212       2.158              2.232        2.178

                     (CNC:1263, CNB:2124)
```

-end-