OGC Permit # 20015 2272

GO 3915

CONFIDENTIAL

FINAL PRINT
Schlumberger

COMPENSATED NEUTRON-LITHO-DENSITY

COUNTY	HOLT
FIELD	SO. CORNING
LOCATION	830' FSL & 1830' FSL
WELL	#1 HEITS
COMPANY	THE STONE PETROLEUM CORPORA

COMPANY	THE STONE PETROLEUM CORPORATION		
WELL	#1 HEITS		
FIELD	SO. CORNING		
COUNTY	HOLT	STATE	MISSOURI

LOCATION 500' FNL & 1900' FEL

API SERIAL NO.	SECT.	TWP.	RANGE
	31	63 N	40 W

Other Services:
LSS GR
CYBERLOOK
LOGNET

Permanent Datum GROUND LEVEL Elev. 872.3 F
Log Measured From KELLY BUSHING 6.0 F above Perm. Datum
Drilling Measured From KELLY BUSHING

Elev.: K.B. 878.3 F
D.F. 877.3 F
G.L. 872.3 F

Date	25-JUL 1989			
Run No.	ONE			
Depth Driller	4028.0 F			
Depth Logger (Schl.)	4028.0 F			
Btm. Log Interval	4025.0 F			
Top Log Interval	509.0 F			
Casing-Driller	8 5/8 @ 509.0 F	@	@	
Casing-Logger	509.0 F			
Bit Size	12 1/4"	7 7/8"		
Type Fluid in Hole	CHEMICAL			
Dens. / Visc.	9.30 LB/G	37.0 S		
pH / Fld. Loss	9.0	8.0 C3		
Source of Sample	FLOWLINE			
Rm @ Meas. Temp.	1.654 OHMM @ 86.0 DEGF		@	
Rmf @ Meas. Temp.	1.250 OHMM @ 86.0 DEGF		@	
Rmc @ Meas. Temp.	1.599 OHMM @ 86.0 DEGF		@	
Source: Rmf / Rmc	MEAS	MEAS		
Rm @ BHT	1.528 OHMM @ 106. DEGF		@	
TIME Circulation Ended	08:00 7/25			
TIME Logger on Bottom	11:30 7/25			
Max. Rec. Temp.	106. DEGF			
Equip. / Location	8365	GREAT BEND		
Recorded By	PETER POLT			
Witnessed By	BRUCE LANGHUS			

The well name, location and borehole reference data were furnished by the customer.

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 interpretations made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

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                AFTER SURVEY TOOL CHECK SUMMARY


  PERFORMED:     25-JUL-1989 13:18
  PROGRAM FILE: GTS    (VERSION    32.2    88/12/01  88/11/16)


CNTH                     TOOL  CHECK


          INPUT    BEFORE JIG    AFTER JIG


          CNTC      2945.17      2950.08

          CFTC      1227.12      1223.95


CHANGE IN THERMAL POROSITY AT 20 PU IS    .145  PU
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LDTC                          TOOL  CHECK

          DENSITY RESISTIVITY SONDE NUMBER       :     3761
          NUCLEAR SERVICE CARTRIDGE NUMBER       :     1799
          POWERED DETECTOR HOUSING NUMBER        :     2765
          POWERED GAMMA-GAMMA DETECTOR NUMBER    :     2773
          LDT LOGGING SOURCE NUMBER              :     6981
          LDT CALIBRATION MODE                   :     WATE

               MEASURED BACKGROUND                    TOLERANCE ON
               BEFORE         AFTER       UNITS     BEFORE-AFTER
         LL     16.8           16.8        CPS        +/- 1.0
         LU     65.7           65.2        CPS        +/- 1.0
         LS     49.6           49.4        CPS        +/- 1.0
       LITH      4.9            4.9        CPS        +/- 0.3
        SS1     13.6           13.5        CPS        +/- 0.5
        SS2      9.4            9.4        CPS        +/- 0.5

                           HV SETTINGS
                         HV LS:  1899.2 V

    CP 32.2            FILE   12      25-JUL-1989 13:18
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  EVENT MARK SUMMARY:

  OUTPUT  INTERVAL         DEPTH TRACK
          BETWEEN PIPS     EDGE

  IHV     10.0000 F3       LEFT EDGE
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```
  CEMENT VOLUME = 782.252 F3   (ASSUMING 5.50000 IN   O.D. CASING)
  HOLE VOLUME =   1367.57 F3
  FROM  4045.0 TO   497.5 FEET
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                              CHANGED PARAMETERS

  NAME  VALUE        UNIT  DEPTH ( F )     NAME  VALUE        UNIT  DEPTH ( F )

  TD   4050.00        F      4045.5
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```
       TENS(LBF )                             REF                              DRHO(G/C3)
20000.              0.0           0.0                        10.000 -.2500                  .25000
       GR  (GAPI)                                              NPHI
150.00           300.00           .30000                                                   -.1000
       CALI(IN  )                                              NPHI
6.0000           16.000           .70000                                                   .30000
       GR  (GAPI)                                              DPHI
0.0              150.00           .30000                                                   -.1000
```

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    CP 32.2            FILE   10      25-JUL-1989 13:16
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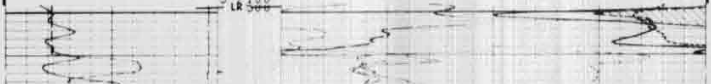
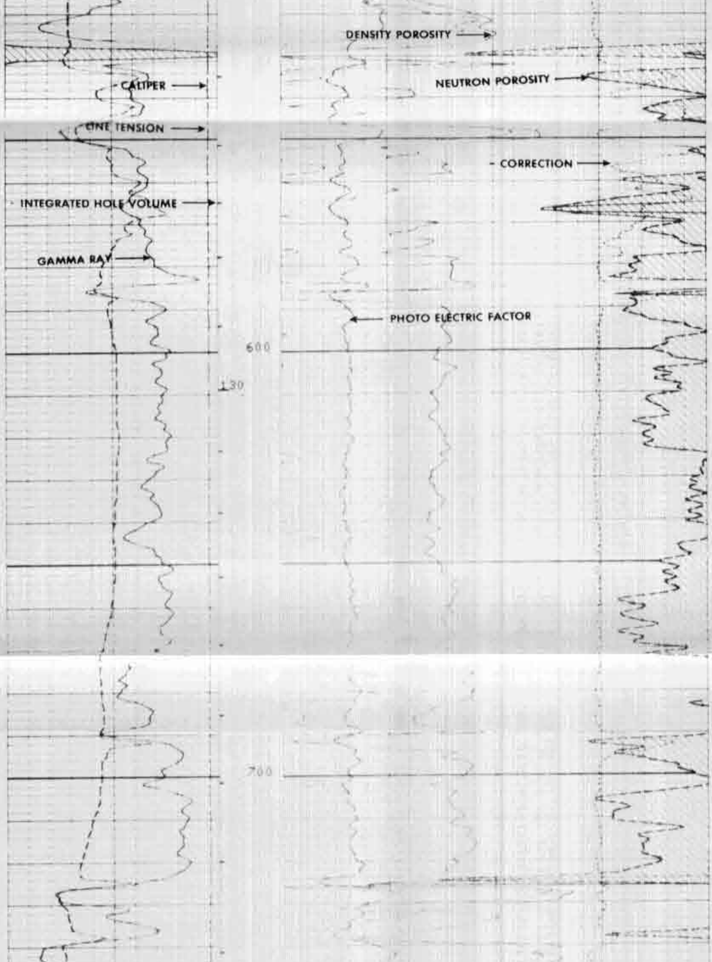
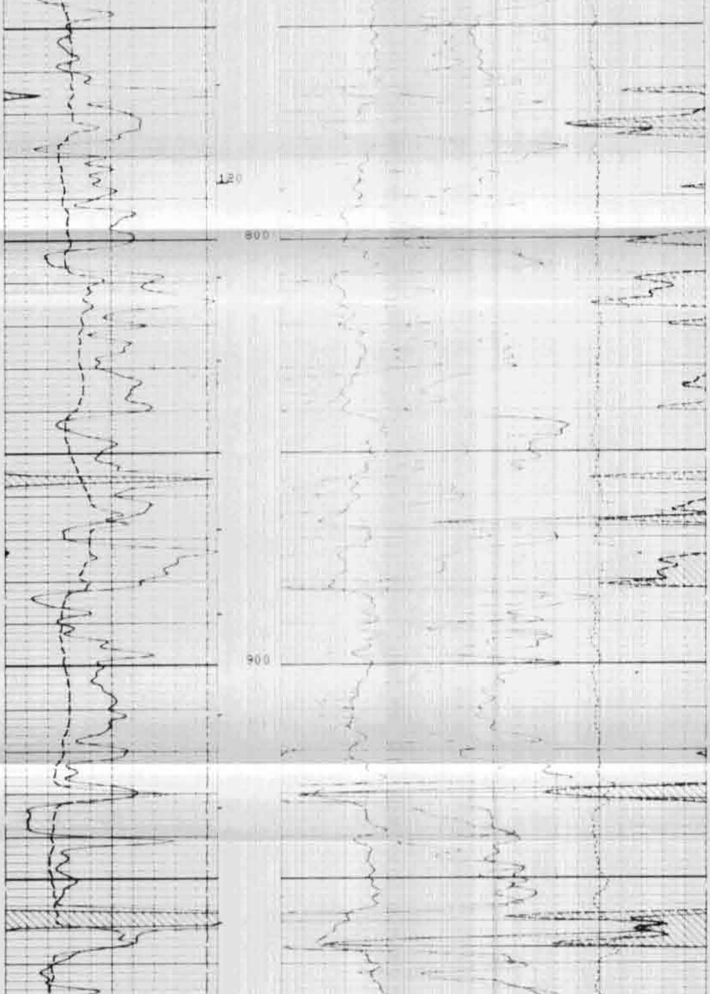
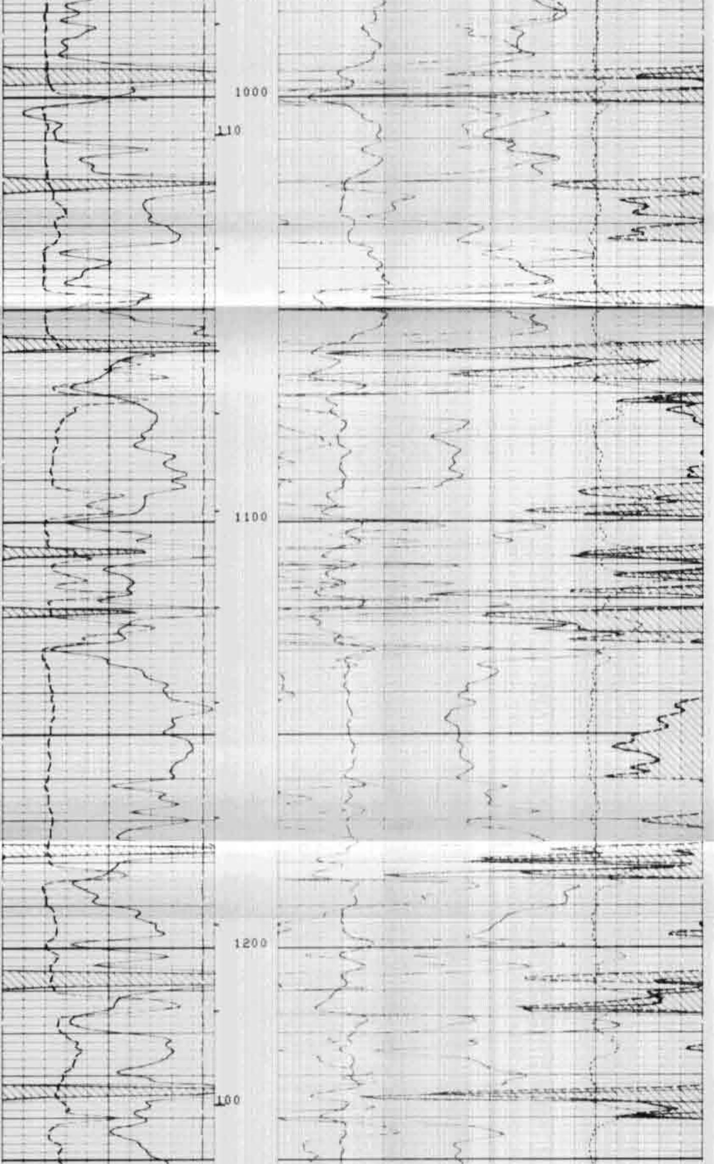
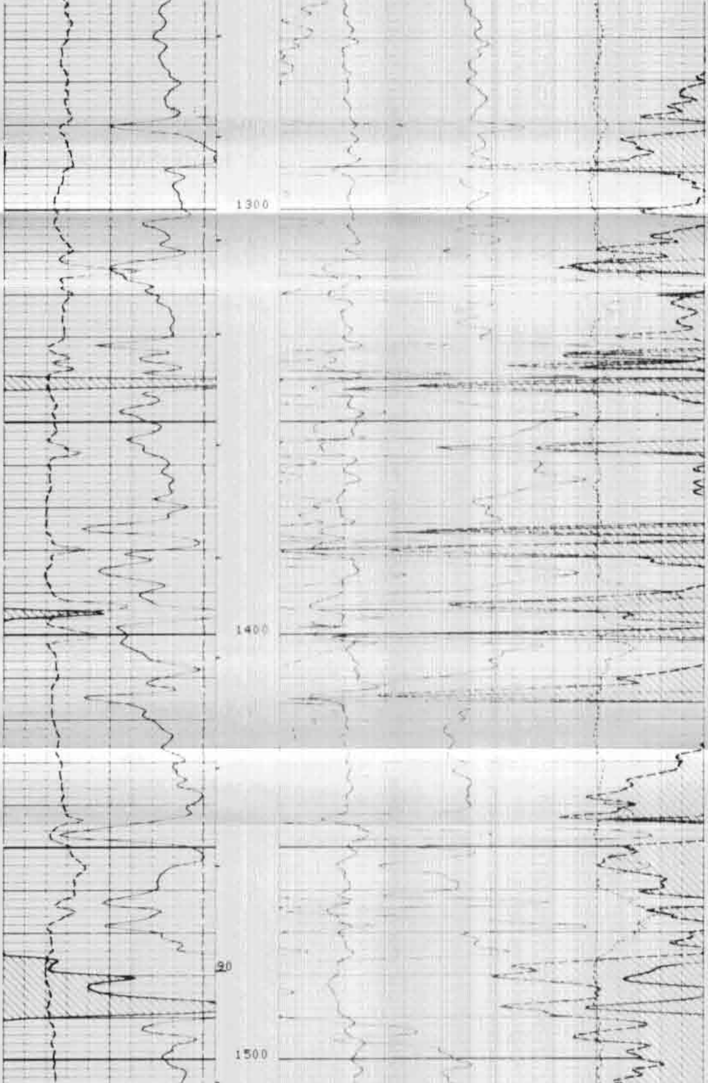
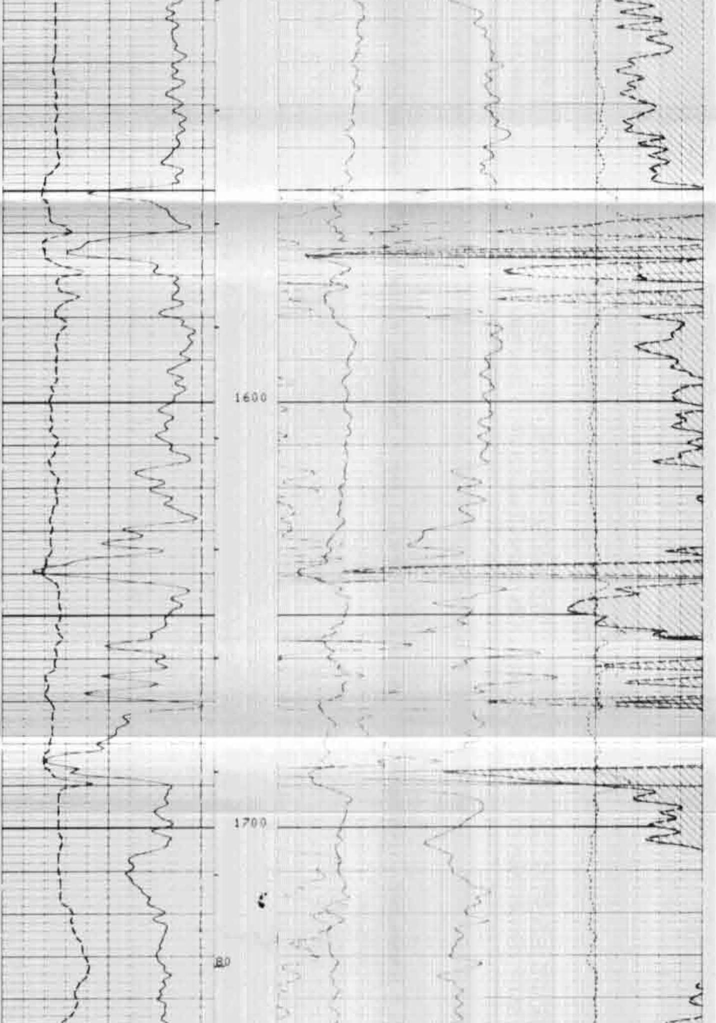


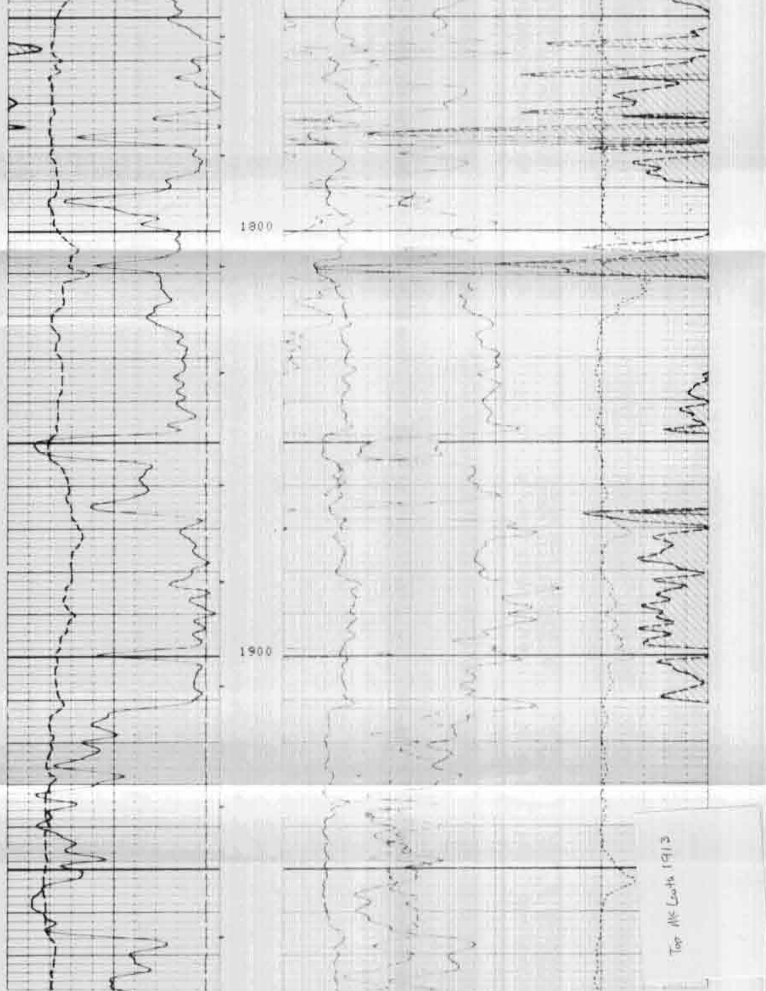


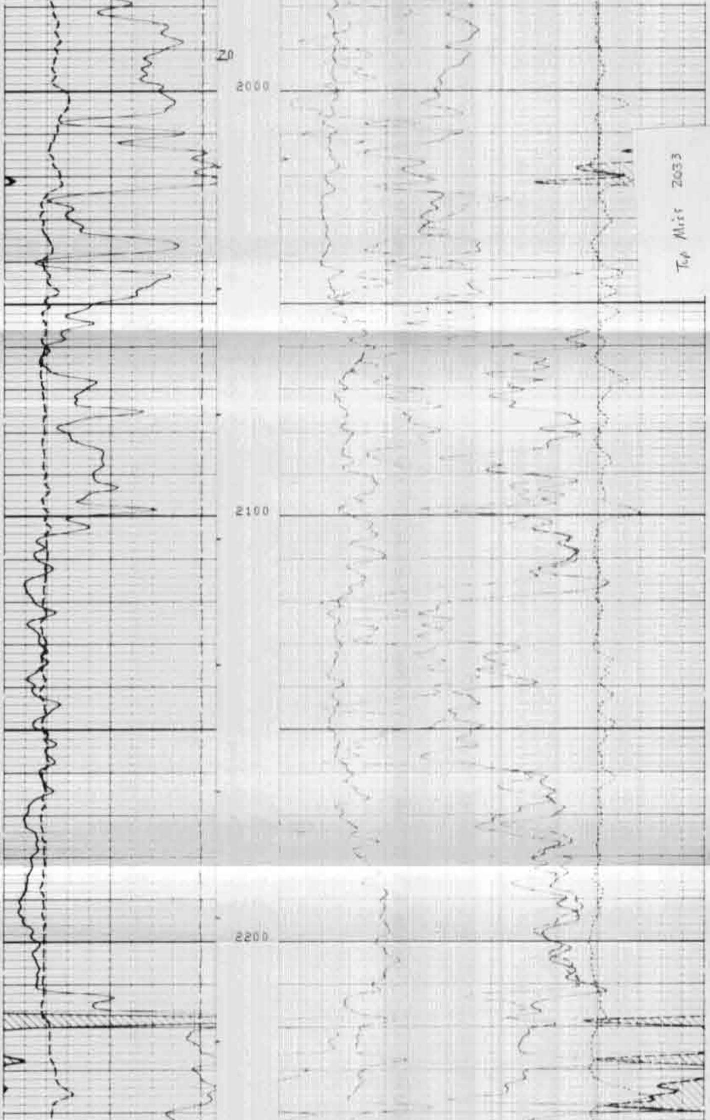




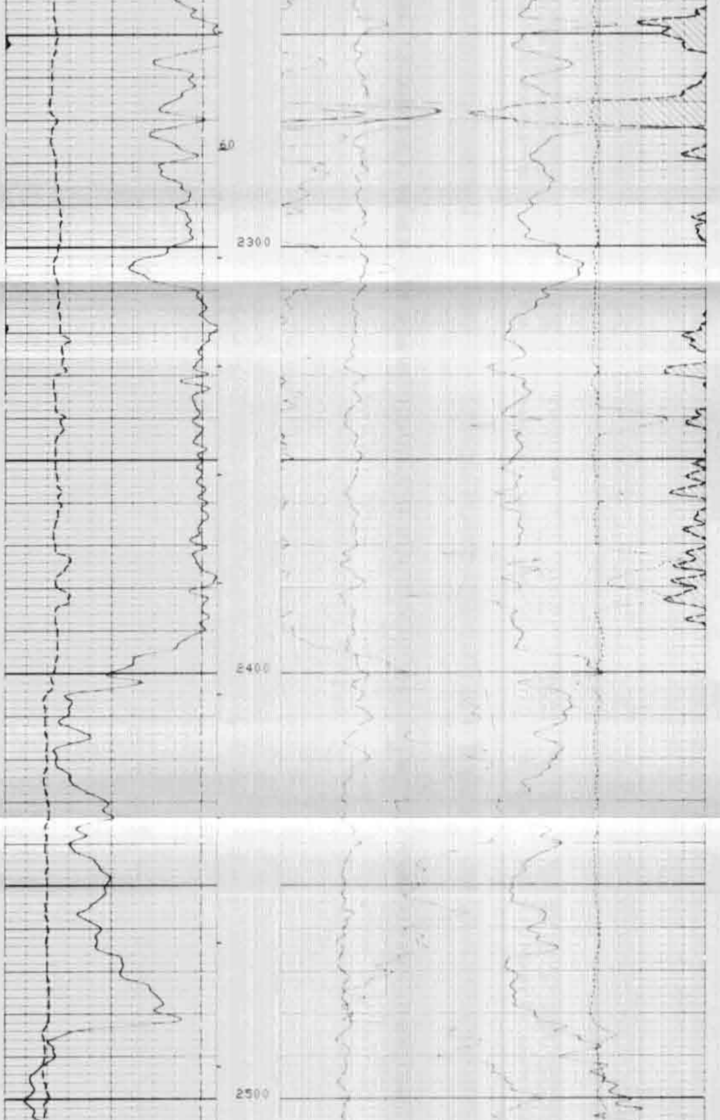


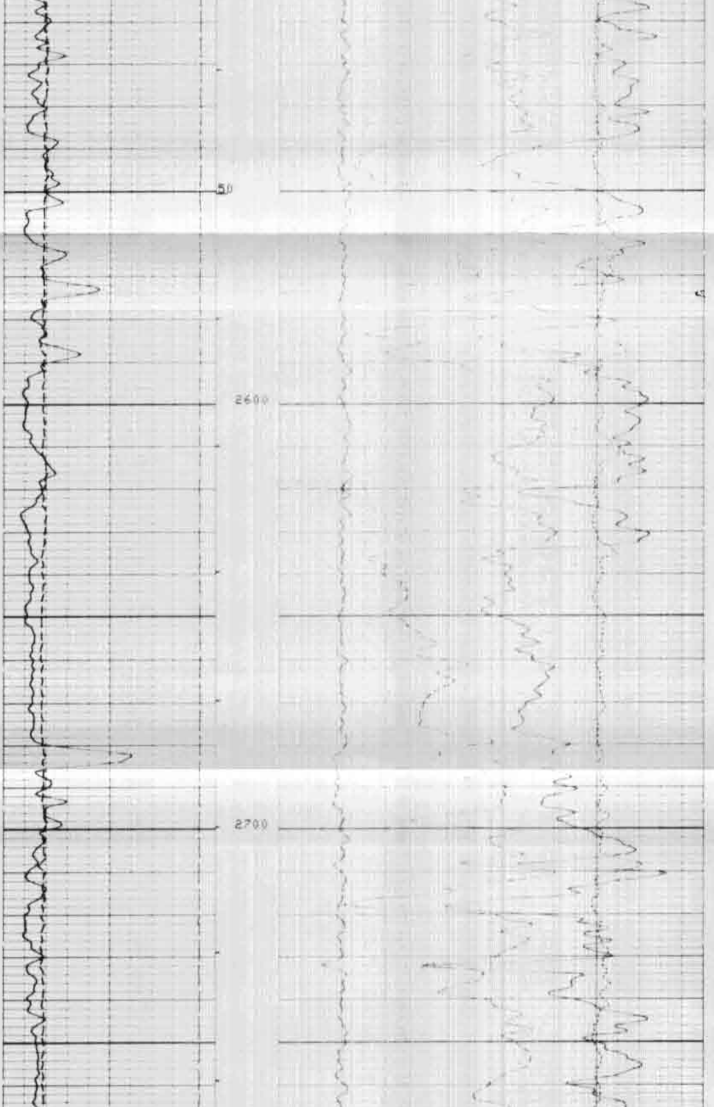


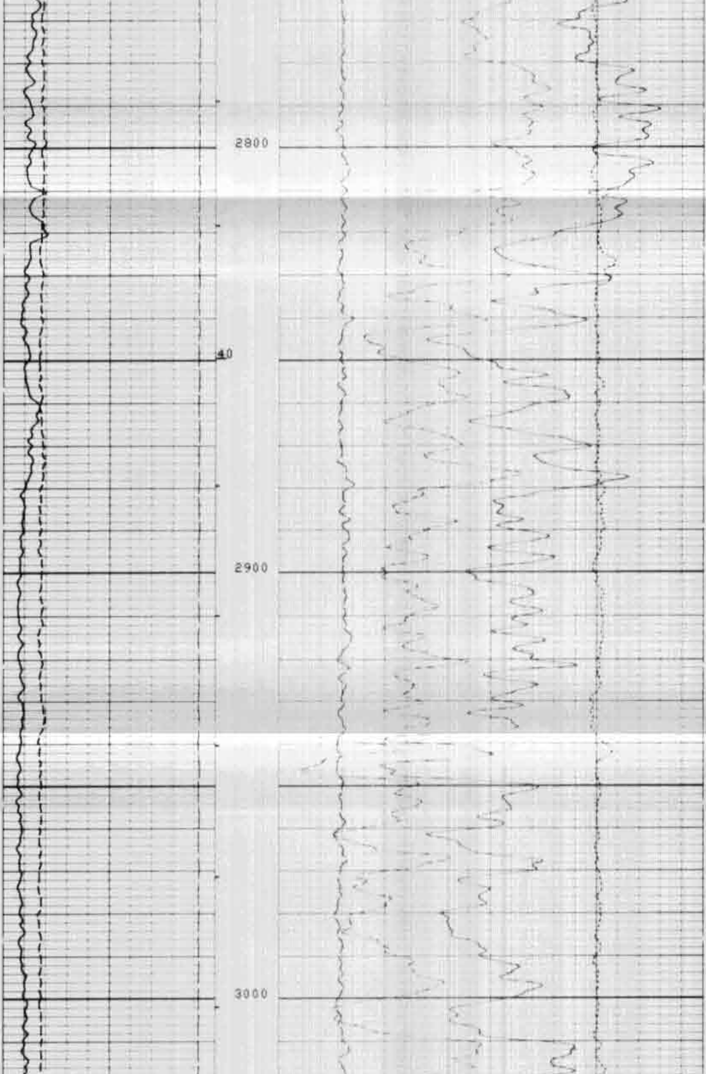


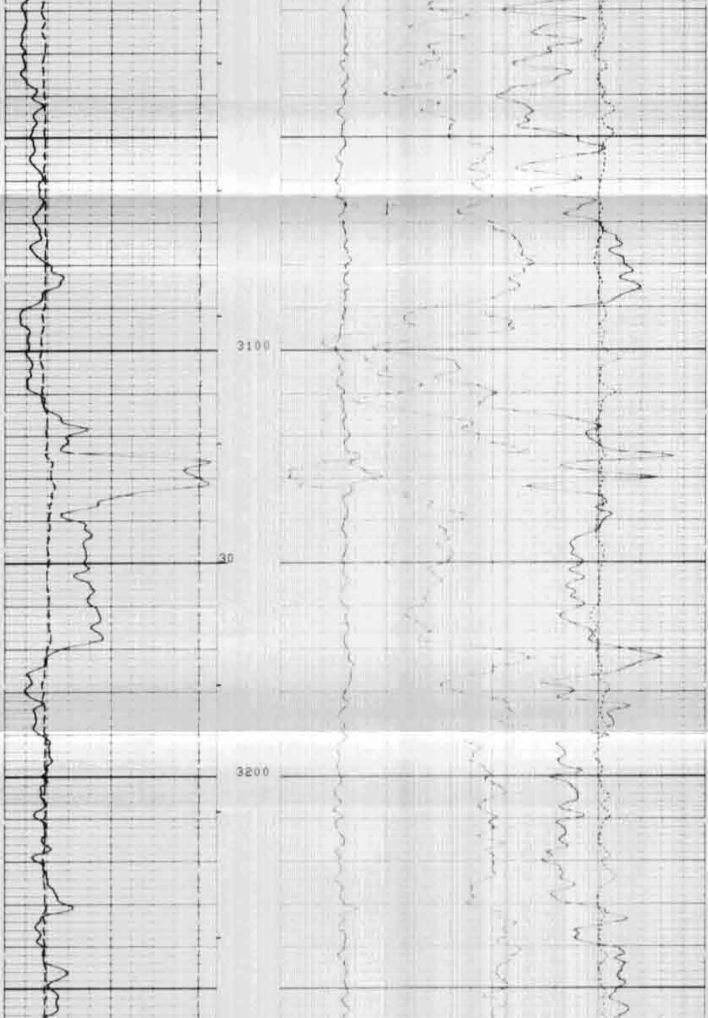


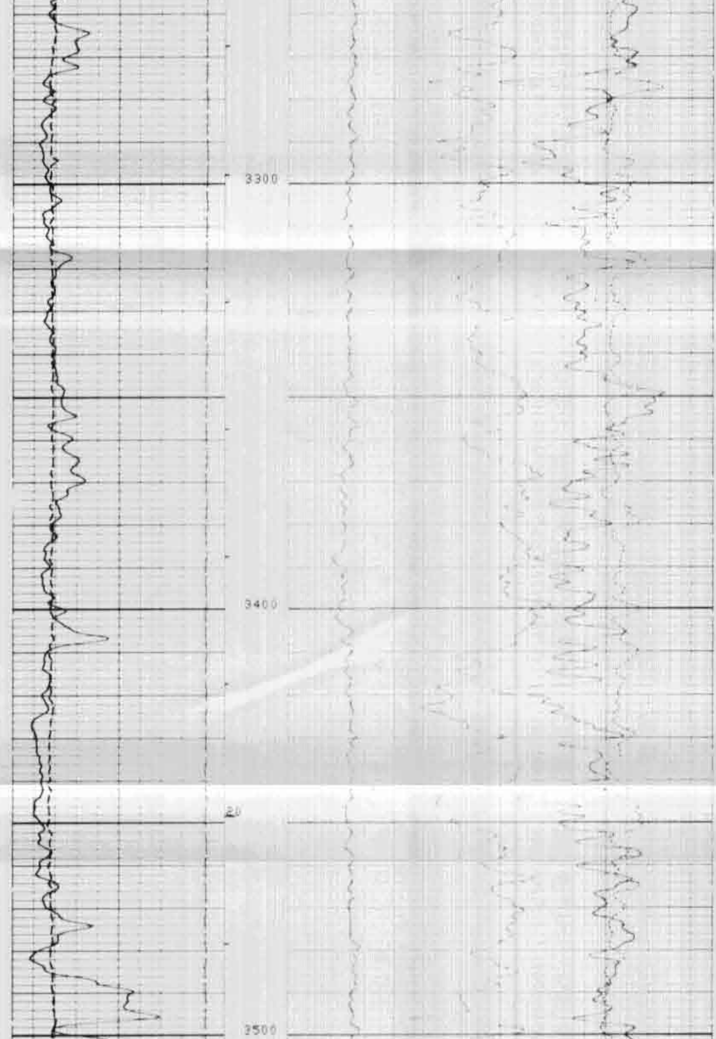
Top Miss 2033

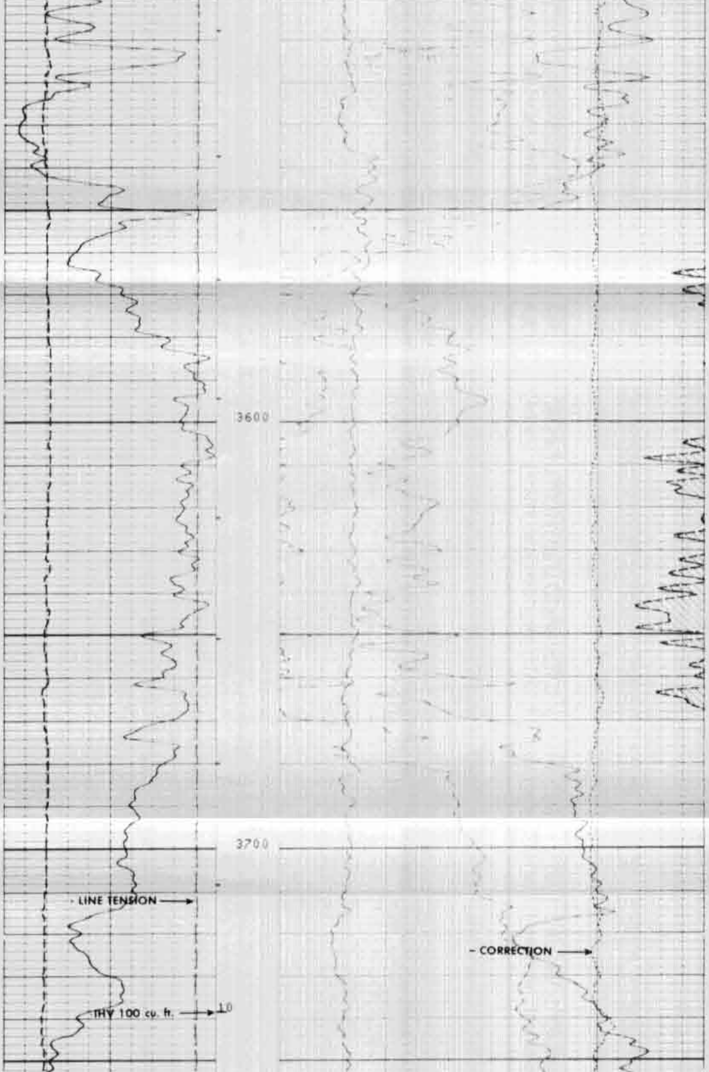


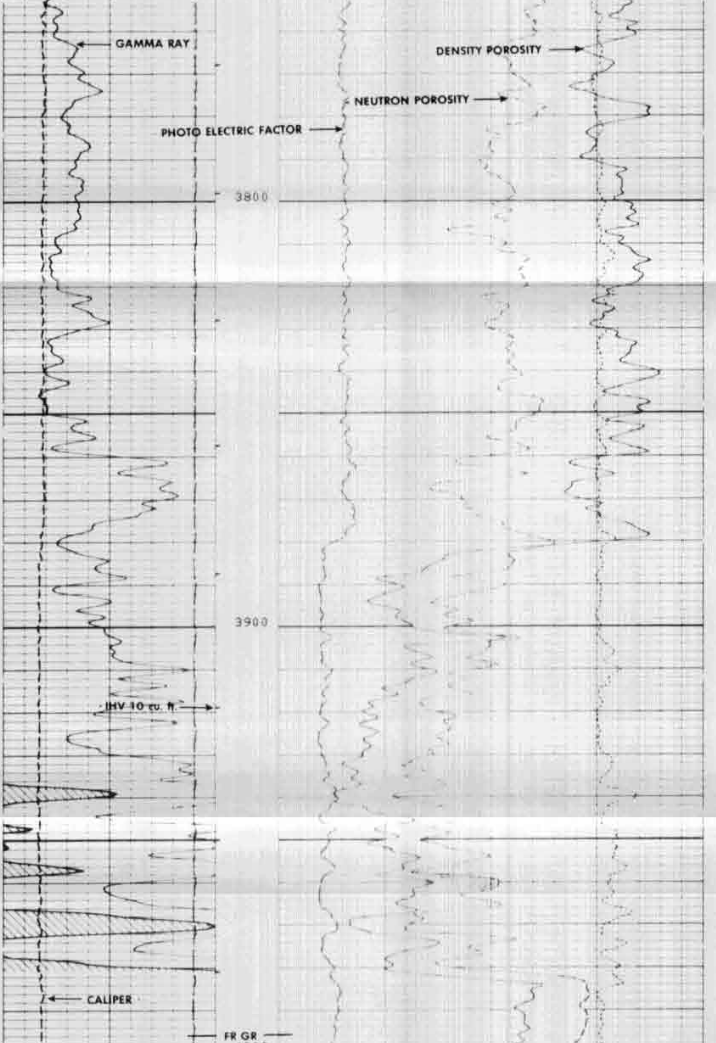


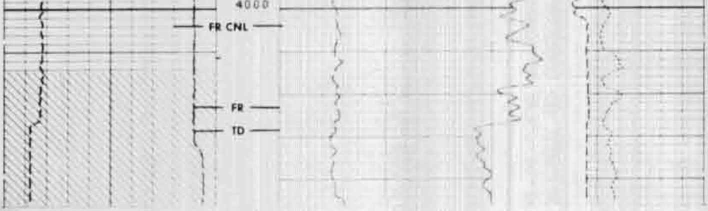












5"/100'

CP 32.2 FILE 10 25-JUL-1989 11:27

TENS(LBF)		PEF		DRHO(G/C3)	
20000.	0.0	0.0	10.000	-.2500	.25000
GR (GAPI)		NPHI			
150.00	300.00	.30000			-.1000
CALI(IN)		NPHI			
6.0000	16.000	.70000			.30000
GR (GAPI)		DPHI			
0.0	150.00	.30000			-.1000

SENSOR MEASURE POINT TO TOOL ZERO

CFTC	23.2	FEET	GR	32.3	FEET
LITH	2.6	FEET	CNTC	22.7	FEET
LS	2.6	FEET	LL	2.6	FEET
PARI	2.1	FEET	LU	2.6	FEET
SS2	2.1	FEET	SS1	2.1	FEET
FSS	2.1	FEET	FLS	2.1	FEET
TLS	2.1	FEET	SEQ	2.1	FEET
CALI	2.7	FEET	TSS	2.1	FEET
TNRA	23.7	FEET	TENS	-.9	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
WMUD	9.20000	LB/G	TD	3910.00	F
FCD	5.50000	IN	DHC	NONE	
BFM	LIQU		MDEN	2.71000	G/C3
FD	1.00000	G/C3	MATR	LIME	
HC	CALI		NPDC	0	
HSCO	YES		SOCO	NO	
MCCO	NO		BSCO	NO	
FSCO	NO		MWCO	NO	
PTCO	NO		SDAT	SOCN	
MCOR	NATU		SOCN	.500000	IN
FSAL	-50000.0	PPM	ANGL	0.0	DEG
GGRD	.0100000	DF/F	BHFL	WATE	
GTSE	TEMP		SHT	80.0000	DEGF
BHT	180.000	DEGF	BS	7.87500	IN
BHS	OPEN				

```
EVENT MARK SUMMARY:

OUTPUT  INTERVAL        DEPTH TRACK
        BETWEEN PIPS    EDGE

IHV     10.0000 F3      LEFT EDGE
ICV     10.0000 F3      RIGHT EDGE
```

```
CEMENT VOLUME = 37.8384 F3   (ASSUMING 5.50000 IN   O.D. CASING)
HOLE VOLUME =   74.5482 F3
FROM  3910.0 TO  3687.5 FEET
```

```
     TENS(LBF )                        PEF                        DRHO(G/C3)
20000.           0.0        0.0                10.000 -.2500              .25000
     GR  (GAPI)                                 NPHI
150.00        300.00        .30000                                        -.1000
     CALI(IN  )                                 NPHI
6.0000        16.000        .70000                                        .30000
     GR  (GAPI)                                 DPHI
0.0           150.00        .30000                                        -.1000
```

REPEAT SECTION

```
CP 32.2            FILE    9      25-JUL-1989 11:24
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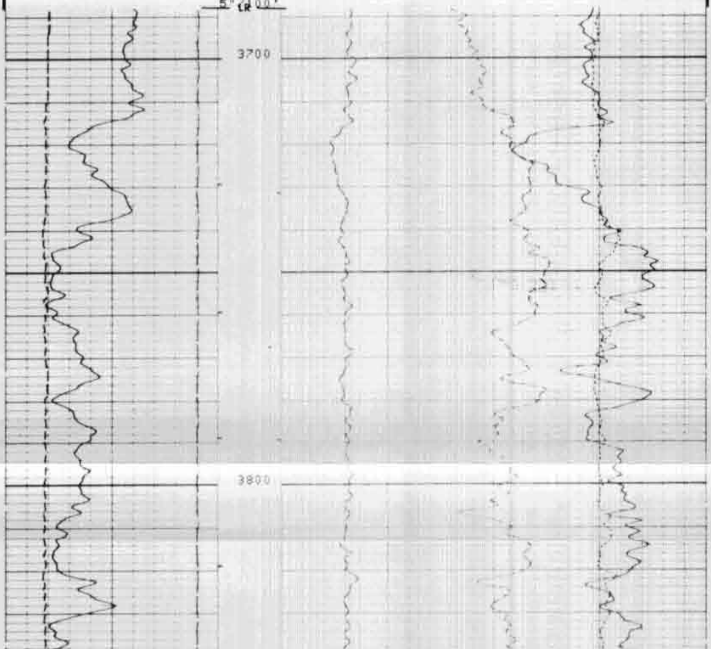

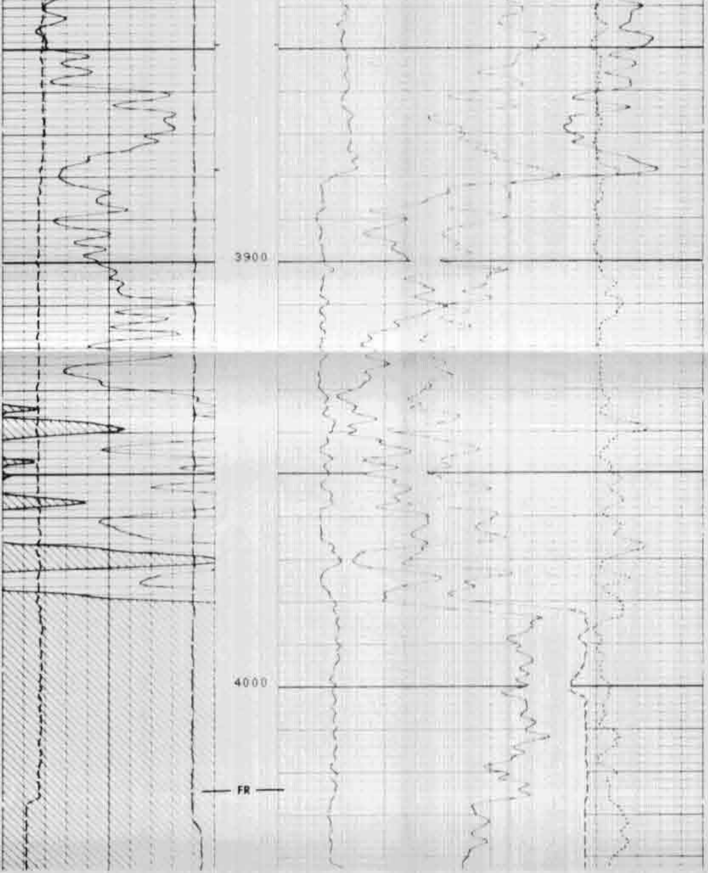

REPEAT SECTION

5"/100'

CP 32.2 FILE 9 25-JUL-1989 11:12

TENS(LBF) 20000. 0.0	PEF 0.0 10.000	DRHO(G/C3) -.2500 .25000
GR (GAPI) 150.00 300.00	NPHI .30000	-.1000
CALI(IN) 6.0000 16.000	NPHI .70000	.30000
GR (GAPI) 0.0 150.00	DPHI .30000	-.1000

```
                     SENSOR MEASURE POINT TO TOOL ZERO

          CFTC 23.2  FEET                            GR    32.3  FEET
          LITH  2.6  FEET                            CNTC  22.7  FEET
          LS    2.6  FEET                            LL     2.6  FEET
          PARI  2.1  FEET                            LU     2.6  FEET
          SS2   2.1  FEET                            SS1    2.1  FEET
          FSS   2.1  FEET                            FLS    2.1  FEET
          TLS   2.1  FEET                            SEQ    2.1  FEET
          CALI  2.7  FEET                            TSS    2.1  FEET
          TNRA 23.7  FEET                            TENS   -.9  FEET
```

```
                              PARAMETERS

     NAME  VALUE        UNIT                    NAME  VALUE         UNIT

     WMUD 9.20000       LB/G                    TD    3910.00       F
     FCD  5.50000       IN                      DHC   NONE
     BFM  LIQU                                  MDEN  2.71000       G/C3
     FD   1.00000       G/C3                    MATR  LIME
     HC   CALI                                  NRDC  0
     HSCO YES                                   SOCO  NO
     MCCO NO                                    BSCO  NO
     FSCO NO                                    MWCO  NO
     PTCO NO                                    SDAT  SOCN
     MCOR NATU                                  SOCN  .500000       IN
     FSAL -50000.0      PPM                     ANGL  0.0           DEG
     GGRD .0100000      DF/F                    BHFL  WATE
     GTSE TEMP                                  SHT   80.0000       DEGF
     BHT  180.000       DEGF                    BS    7.87500       IN
     BHS  OPEN
```

```
                 BEFORE SURVEY CALIBRATION SUMMARY


  PERFORMED:     25-JUL-1989 11:07
  PROGRAM FILE: GTS    (VERSION    32.2    88/12/01  88/11/16)


SGTL                DETECTOR CALIBRATION SUMMARY

             MEASURED
          BKGD     JIG          CALIBRATED          UNITS
   GR      41      197              165             GAPI

BACK: 03-JUL-1989 12:45   JIG: 03-JUL-1989 12:59  COMP: 25-JUL-1989 11:03


CNTH                DETECTOR CALIBRATION SUMMARY

     NEUTRON COMPENSATED CARTRIDGE NUMBER: 77
     NEUTRON SOURCE SERIAL NUMBER        : 254
     THERMAL HOUSING NUMBER              : 2523
     THERMAL CALIBRATED NEUTRON BOX      : 3374

          INPUT      PLUS       SHOP      SHOP      BEFORE     GAIN
                  REFERENCE     TANK       JIG        JIG
                    COUNTS     COUNTS    COUNTS     COUNTS

          CNTC     6031.00    6520.51   3215.76    2945.17     .925
          CFTC     2793.00    2708.71   1351.33    1227.12    1.031

          RATIO      2.159      2.407     2.380      2.400
```

```
BACK: 03-JUL-1989 12:45   JIG: 03-JUL-1989 12:59   COMP: 25-JUL-1989 11:02

LDTC               DETECTOR CALIBRATION SUMMARY

        DENSITY RESISTIVITY SONDE NUMBER      :      3761
        NUCLEAR SERVICE CARTRIDGE NUMBER      :      1799
        POWERED DETECTOR HOUSING NUMBER       :      2765
        POWERED GAMMA-GAMMA DETECTOR NUMBER   :      2773
        LDT LOGGING SOURCE NUMBER             :      6981
        LDT CALIBRATION MODE                  :      WATE

                 MEASURED       SHOP  VALUES
                   BKGD         AL+FE    AL       UNITS
           LL      16.8          87.6   97.0       CPS
           LU      65.7         138.2  151.0       CPS
           LS      49.6         156.7  172.5       CPS
         LITH       4.9          33.0   50.1       CPS
          SS1      13.6         172.6  193.9       CPS
          SS2       9.4         240.6  263.1       CPS

                        HV SETTINGS
                      HV LS:  1099.8 V
                      HV SS:  [illegible]

BKGD: 03-JUL-1989 12:45

LDTC               CALIPER CALIBRATION SUMMARY

              MEASURED                  REFERENCE
            SMALL   LARGE                                    UNITS
  CALI      [illegible]

[illegible]
```

COMPANY [illegible]

WELL [illegible]

FIELD [illegible]