GØ 3066 OGC #20043

RELEASED

FINAL PRINT

COMPENSATED NEUTRON-LITHO-DENSITY

COUNTY ATCHISON
FIELD
LOCATION 990' FSL & 2310' FEL
WELL #1 GLOVER FARMS
COMPANY THE STONE PETROLEUM CORPORA

COMPANY THE STONE PETROLEUM CORPORATION

WELL #1 GLOVER FARMS

FIELD

COUNTY ATCHISON **STATE** MISSOURI

LOCATION 990' FSL & 2310' FEL 34 65

API SERIAL NO.	SECT.	TWP.	RANGE
	32	65 N	39 W

Other Services:
DIL SFL GR
DDBHC GR
LDL CNL GR
SHDT GR
CYBERLOOK
CORES

Permanent Datum GROUND LEVEL Elev. 1036.4 F
Log Measured From KELLY BUSHING 6.0 F above Perm. Datum
Drilling Measured From KELLY BUSHING

Elev.: K.B. 1042.4 F
D.F. 1041.4 F
G.L. 1036.4 F

RECEIVED
JUN 05 1989
MO Oil & Gas Council
Economic Geology

Date		13-MAY-1989			
Run No.		ONE			
Depth-Driller		1989.0 F			
Depth-Logger (Schl.)		1988.0 F			
Btm. Log Interval		1985.0 F			
Top Log Interval		360.0 F			
Casing-Driller		8 5/8 @ 360.0 F		@	@
Casing-Logger		360.0 F			
Bit Size		12 1/4"	7 7/8"		
Type Fluid in Hole		CHEMICAL			
Dens.	Visc.	9.40 LB/G	47.0 S		
pH	Fld. Loss	11.0	7.6 C3		
Source of Sample		FLOWLINE			
Rm @ Meas. Temp.		2.130 OHMM @ 77.0 DEGF		@	
Rmf @ Meas. Temp.		1.950 OHMM @ 77.0 DEGF		@	
Rmc @ Meas. Temp.		2.300 OHMM @ 77.0 DEGF		@	
Source: Rmf	Rmc	MEASURED	CALCULATED		
Rm @ BHT		1.846 OHMM @ 80.0 DEGF		@	
Circulation Ended		04:00 5/13			
Logger on Bottom		10:15 5/13			
Max. Rec. Temp.		80.0 DEGF			
Equip.	Location	8966	GREAT BEND		
Recorded By		Peter Polt			
Witnessed By		Ed Eble			

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 wilful 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.

Run No.	ONE	
Service Order No.	623916	
Drilling Fluid Level		
Salinity	1800.0 PPM	
Rmf @ BHT	1.689 OHMM @ 80.0 DEGF	@
Rmc @ BHT	1.882 OHMM @ 80.0 DEGF	@
Logging Speed	1800.0 F/HR	
EQUIPMENT DATA		
Tool Number 1	DRS B 3781	
Tool Number 2	PDH L 2765	
Tool Number 3	PGD D 2773	
Tool Number 4	NSC D 1769	
Tool Number 5	CNC HA 378	
Tool Number 6	CNB AB 3874	
Tool Number 7	SGC SA 374	
Tool Number 8	SGD TAB 2983	
Tool Number 9	TCC A 1804	
Tool Number 10	TCM AB 1024	
Tool Number 11		
Tool Number 12		

REMARKS:

1800 PPM CHLORIDES FROM MUD REPORT

BOWSPRING USED ON NEUTRON.

SONDE ECCENTRALIZED.

ALL POROSITIES RAN ON LIMESTONE MATRIX.

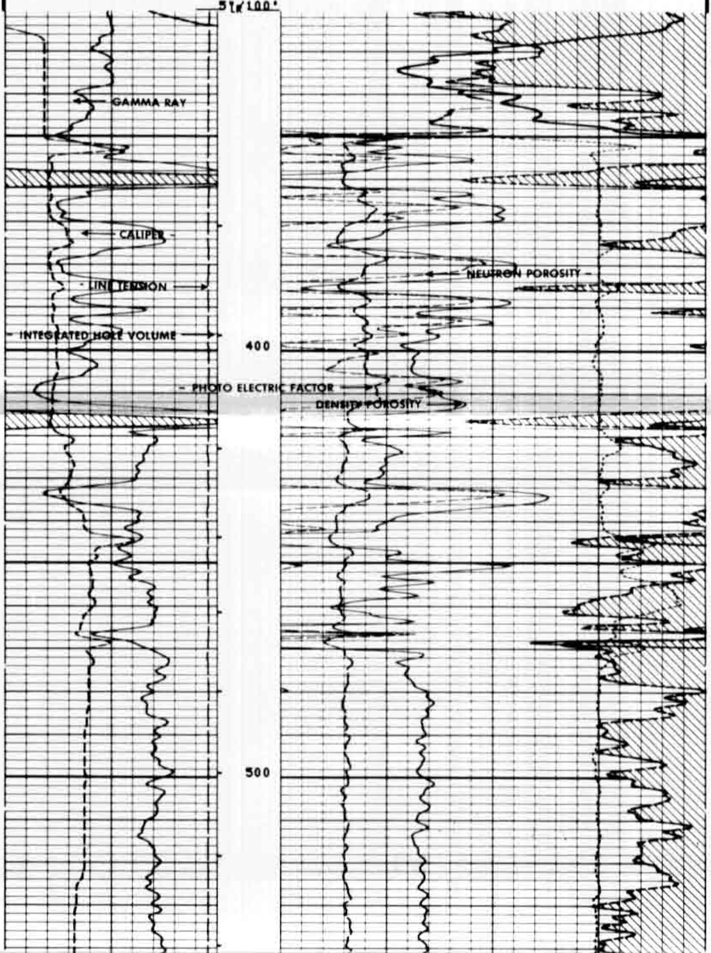
```
                 AFTER SURVEY TOOL CHECK SUMMARY


   PERFORMED:     13-MAY-1989 11:43
   PROGRAM FILE: GTS     (VERSION     32.2    88/12/01  88/11/16)


 CNTH                      TOOL  CHECK


           INPUT    BEFORE JIG   AFTER JIG


           CNTC       2933.75     2935.84

           CFTC       1227.27     1229.29


 CHANGE IN THERMAL POROSITY AT 20 PU IS   -.032  PU



 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           65.7      CPS        +/- 1.0
        LS     49.7           49.6      CPS        +/- 1.0
      LITH      4.8            5.0      CPS        +/- 0.3
       SS1     13.6           13.5      CPS        +/- 0.5
       SS2      9.5            9.4      CPS        +/- 0.5

                           HV SETTINGS
                         HV LS:  1892.3 V
                         HV SS:  2182.0 V

    CP 32.2           FILE   12       13-MAY-1989 11:42
```

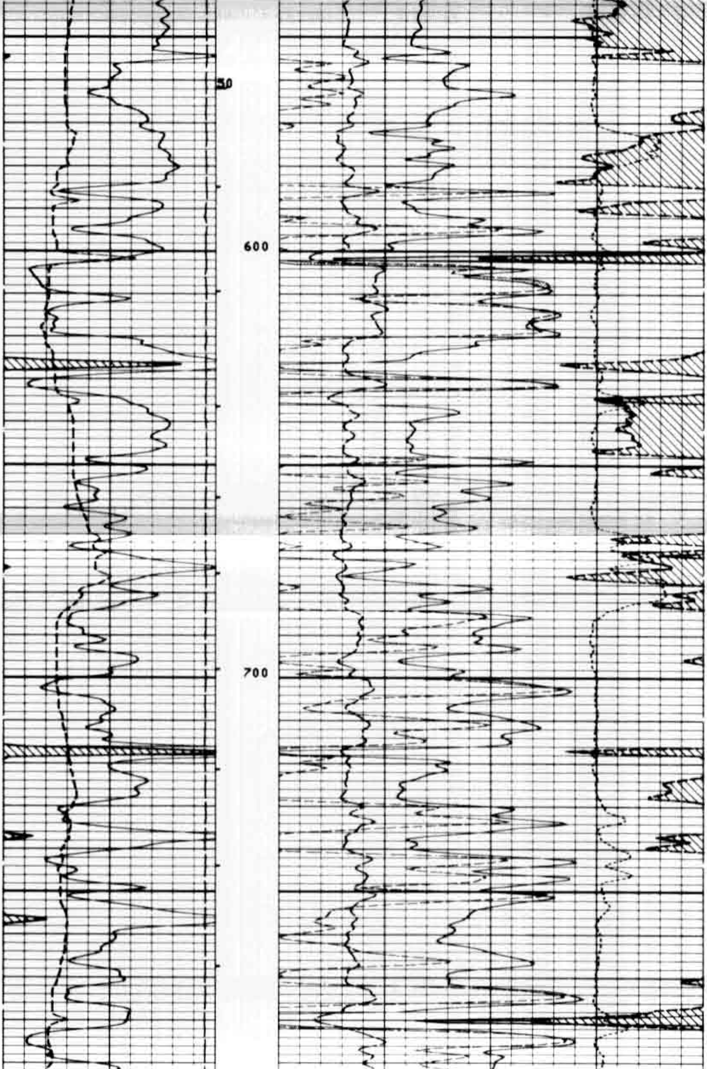
```
 EVENT MARK SUMMARY:

 OUTPUT  INTERVAL        DEPTH TRACK
         BETWEEN PIPS    EDGE

 IHV     10.0000 F3      LEFT EDGE
```

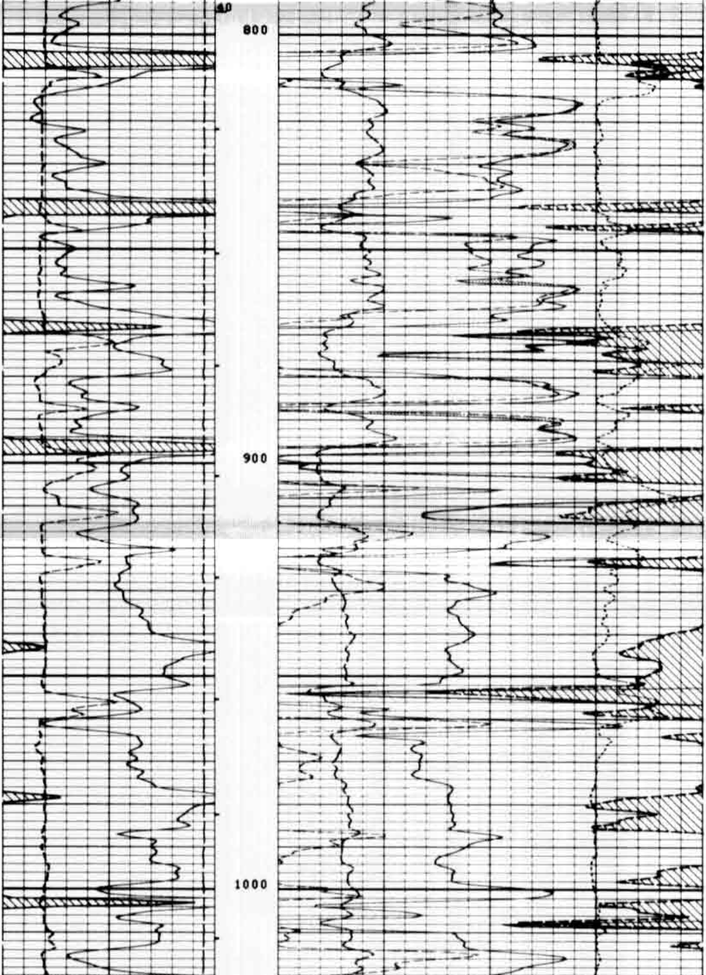
```
 CEMENT VOLUME = 327.980 F3   (ASSUMING 5.50000 IN   O.D. CASING)
 HOLE VOLUME =   598.391 F3
 FROM  1989.0 TO    350.0 FEET
```

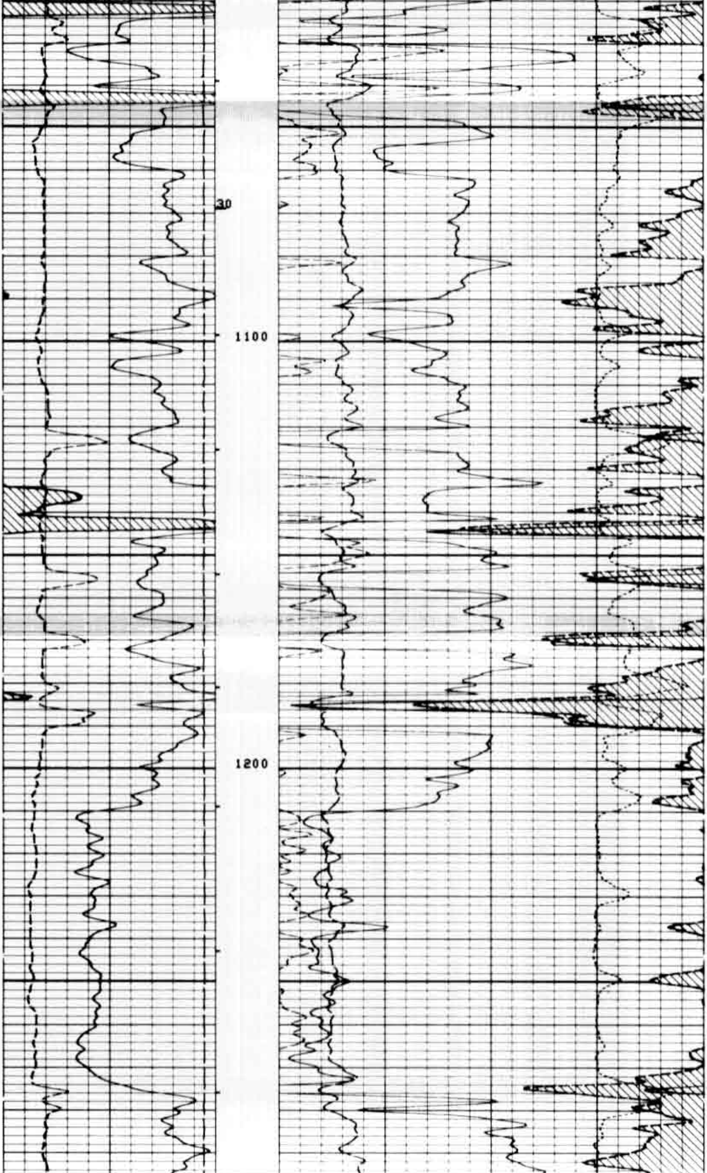
```
     TENS(LBF )                      PEF                        DRHO(G/C3)
20000.          0.0          0.0              10.000 |-.2500              .25000
     GR  (GAPI)                                      NPHI
150.00       300.00          .30000                                     -.1000
   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

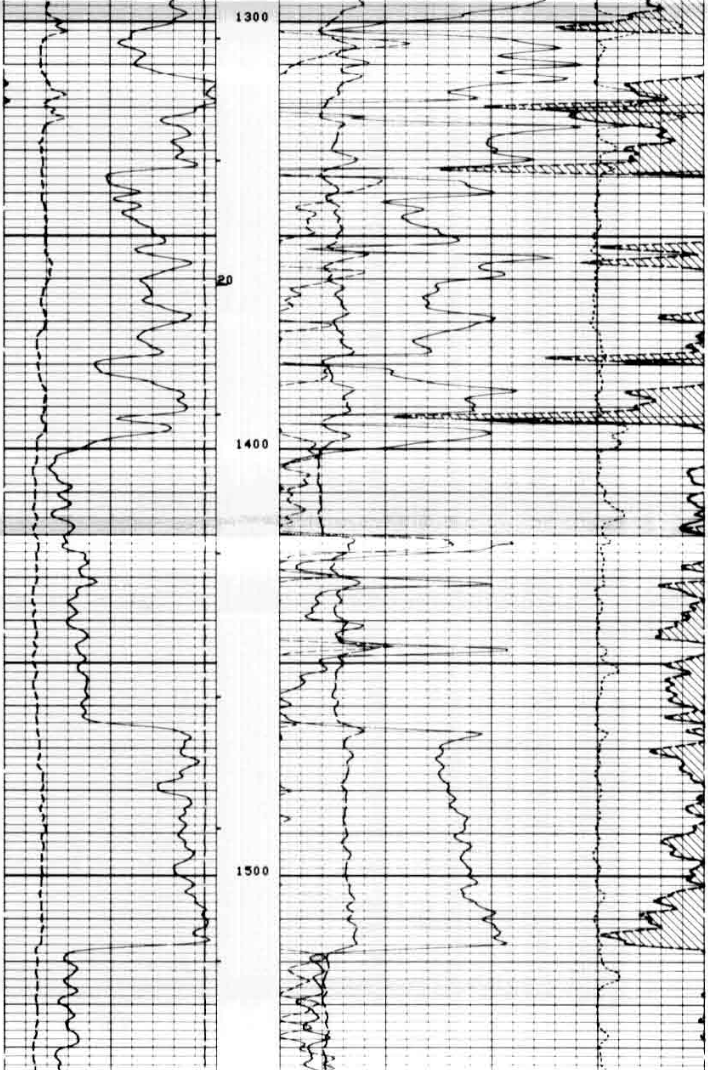
CP 32.2 FILE 11 13-MAY-1989 11:41

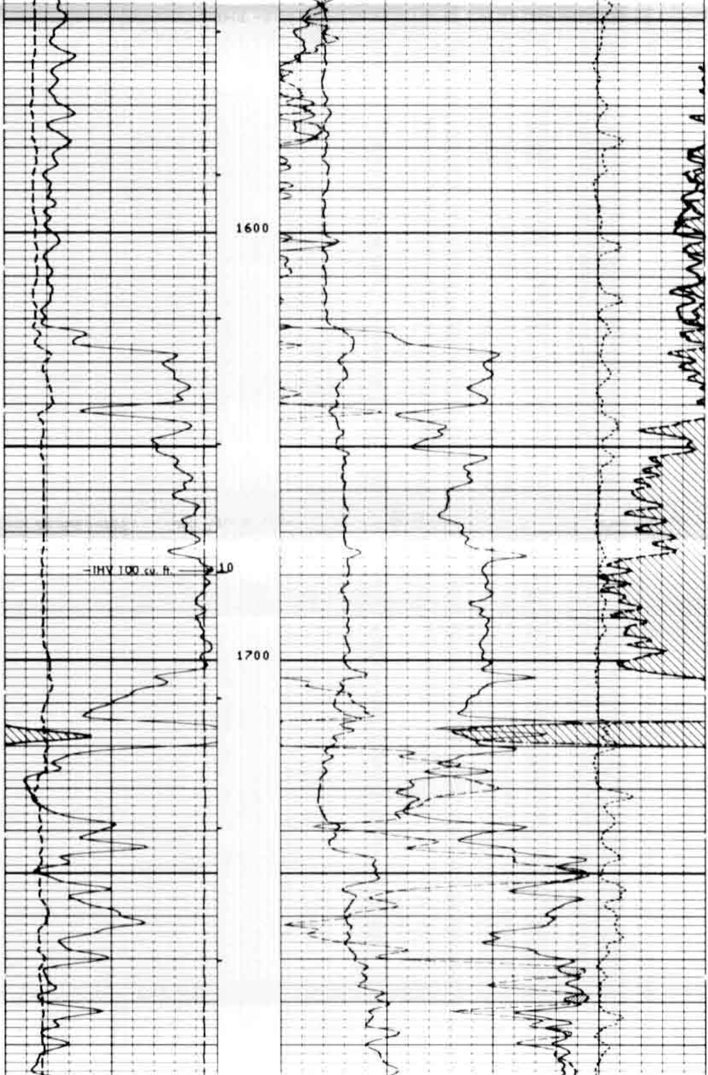


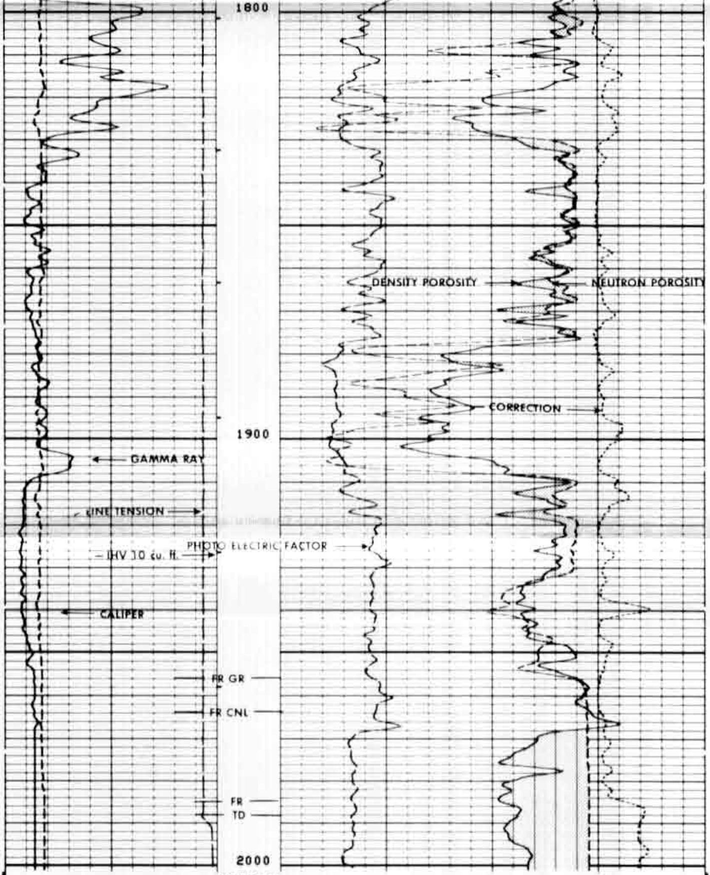












5"/100'

CP 32.2 FILE 11 13-MAY-1989 10:50

Curve	Left	Right
TENS(LBF)	20000.	0.0
GR (GAPI)	150.00	300.00
CALI(IN)	6.0000	16.000
GR (GAPI)	0.0	150.00
PEF	0.0	10.000
DRHO(G/C3)	-.2500	.25000
NPHI	.30000	-.1000
NPHI	.70000	.30000
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 9.40000      LB/G               TD    1989.00     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  YES
    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   68.0000     DEGF
    BHT  90.0000      DEGF               BS    7.87500     IN
    BHS  OPEN
```

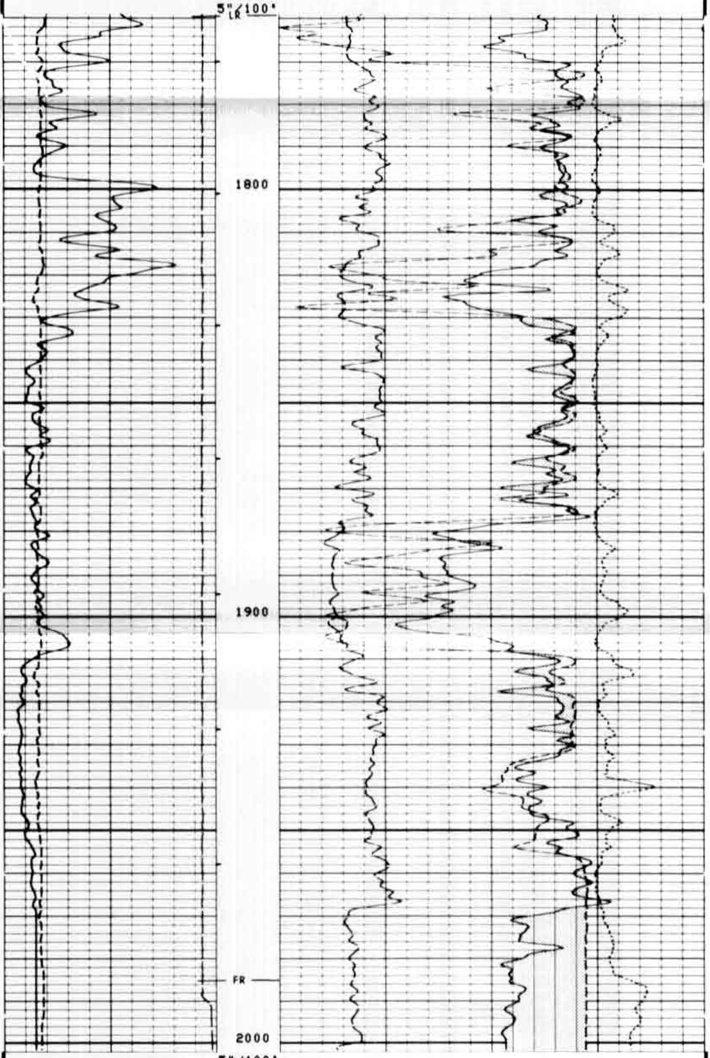
```
  EVENT MARK SUMMARY:

  OUTPUT  INTERVAL         DEPTH TRACK
          BETWEEN PIPS     EDGE

  IHV     10.0000 F3       LEFT EDGE
```

```
  CEMENT VOLUME = 35.7886 F3   (ASSUMING 5.50000 IN   O.D. CASING)
  HOLE VOLUME =   73.8182 F3
  FROM  1989.0 TO  1758.5 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   10       13-MAY-1989 10:48
```



5"/100'

REPEAT SECTION

CP 32.2 FILE 10 13-MAY-1989 10:40

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 9.40000       LB/G              TD    1989.00      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 YES
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  68.0000       DEGF
BHT  90.0000       DEGF              BS   7.87500       IN
BHS  OPEN
```

BEFORE SURVEY CALIBRATION SUMMARY

```
PERFORMED:     13-MAY-1989 10:31
PROGRAM FILE: GTS     (VERSION     32.2    88/12/01  88/11/16)


SGTL            DETECTOR CALIBRATION SUMMARY

            MEASURED
         BKGD    JIG          CALIBRATED          UNITS
    GR    44     203              165             GAPI

CNTH            DETECTOR CALIBRATION SUMMARY

      NEUTRON COMPENSATED CARTRIDGE NUMBER: 374
      NEUTRON SOURCE SERIAL NUMBER        : 254
      THERMAL HOUSING NUMBER              : 3412
      THERMAL CALIBRATED NEUTRON BOX      : 3374

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

         CNTC    6031.00    5896.94   2943.78   2933.75    1.023
         CFTC    2793.00    2561.19   1219.72   1227.27    1.091

         RATIO     2.159      2.302     2.413     2.390
```

```
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         87.1    96.4      CPS
             LU       65.7        136.8   149.1      CPS
             LS       49.7        155.5   170.9      CPS
           LITH        4.8         32.3    48.7      CPS
            SS1       13.6        173.4   190.2      CPS
            SS2        9.5        240.9   261.8      CPS

                         HV SETTINGS
                       HV LS:  1892.3 V
                       HV SS:  2182.0 V


LDTC                 CALIPER CALIBRATION SUMMARY

               MEASURED                     CALIBRATED
             SMALL   LARGE                SMALL     LARGE       UNITS
    CALI      8.59    12.8                 8.00      12.0         IN
```

COMPANY THE STONE PETROLEUM CORPORATION

WELL #1 GLOVER FARMS

FIELD

COUNTY **ATCHISON** **STATE** **MISSOURI**

SCHL. FR [illegible] F
SCHL. TD [illegible] F
DRLR. TD [illegible] F
KB 1042.4 F
DF [illegible] F
GL [illegible] F

COMPENSATED NEUTRON