Schlumberger

SIMULTANEOUS

LITHO DENSITY

COUNTY LA SALLE
FIELD PIEDRA CREEK
LOCATION
WELL NUECES MINERALS #1
COMPANY SHELL WESTERN E&P INC.

COMPANY SHELL WESTERN E&P INC.

WELL NUECES MINERALS #1

FIELD PIEDRA CREEK

COUNTY LA SALLE STATE TEXAS

LOCATION 200' FNL & 2465' FEL OF G. B. & CNG RR SURVEY #653, A-726

API SERIAL NO.	SEC.	TWP.	RANGE

Other Services:
DIL/BHC
DIGITAL SONIC
RFT
CST

Permanent Datum: GROUND LEVEL ; Elev.: 344.6
Log Measured From KB 16.5 Ft. Above Perm. Datum
Drilling Measured From KB

Elev.: K.B. 361.1
D.F. 360.1
G.L. 344.6

Date	3-4-85			
Run No.	TWO			
Depth—Driller	10000			
Depth—Logger	9891			
Btm. Log Interval	9888			
Top Log Interval	8700			
Casing—Driller	7-5/8@ 8700	@	@	@
Casing—Logger	8700			
Bit Size	6-3/4			
Type Fluid in Hole	LIGNOSULFONATE			
Dens. | Visc.	13.2 | 44			
pH | Fluid Loss	11.0 | 5.0 ml	ml	ml	ml
Source of Sample	CIRC. TANK			
Rm @ Meas. Temp.	1.43 @ 77 °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	1.14 @ 75 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	2.19 @ 75 °F	@ °F	@ °F	@ °F
Source: Rmf | Rmc	M | C			
Rm @ BHT	.49 @242 °F	@ °F	@ °F	@ °F
TIME Circulation Stopped	2300, 3-2			
TIME Logger on Bottom	0330, 3-4			
Max. Rec. Temp.	242 °F	°F	°F	°F
Equip. | Location	8268 | LAREDO			
Recorded By	JAY KING			
Witnessed By	MR. L. VIDAL			

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

RUN NO.	TWO			
Service Order No.	424398			
Program Tape No. MEGATS	28.1			
Fluid Level	FULL			
EQUIPMENT DATA				
Module	144			
Telemetry Cart	828			
Dens. Cart.	731			
Dens. Skid.	2949			
Dens. Sonde	3999			
Dens. Source	7818			
Dens. Calibrator	--			
Neut. Cart.	--			
Neut. Source	--			
Neut. Calibrator	--			
GR Cart	193			
Centralizers: Enter Spring, Standoffs, In-line or None — Type	--			
No.	--			
S. O.—Inches	--			

Type Log	Depth		

REMARKS:

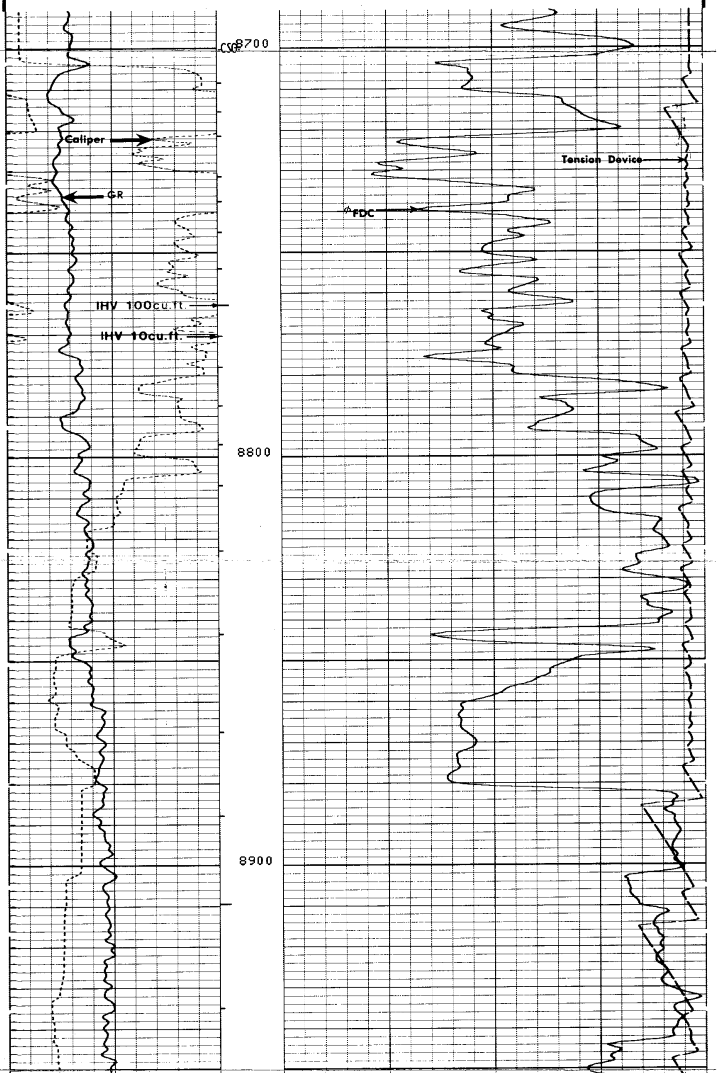
$F = 1/\emptyset_D^{1.9}$

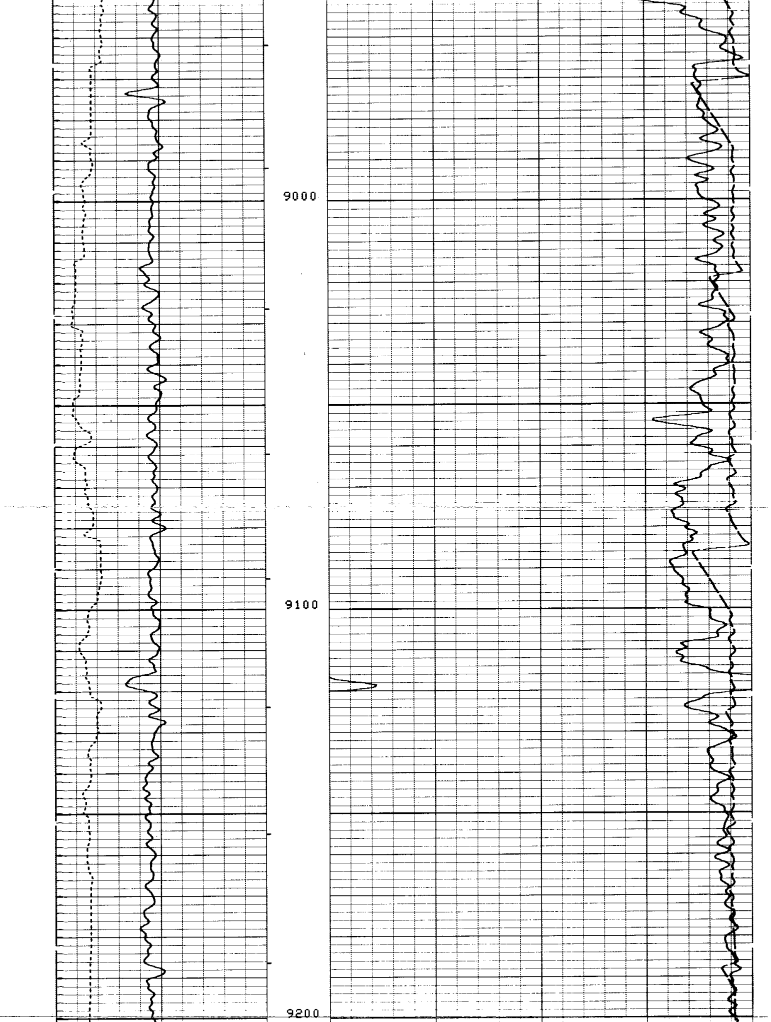
RELOGGED WITH A SECOND LDT TO VERIFY POROSITY.

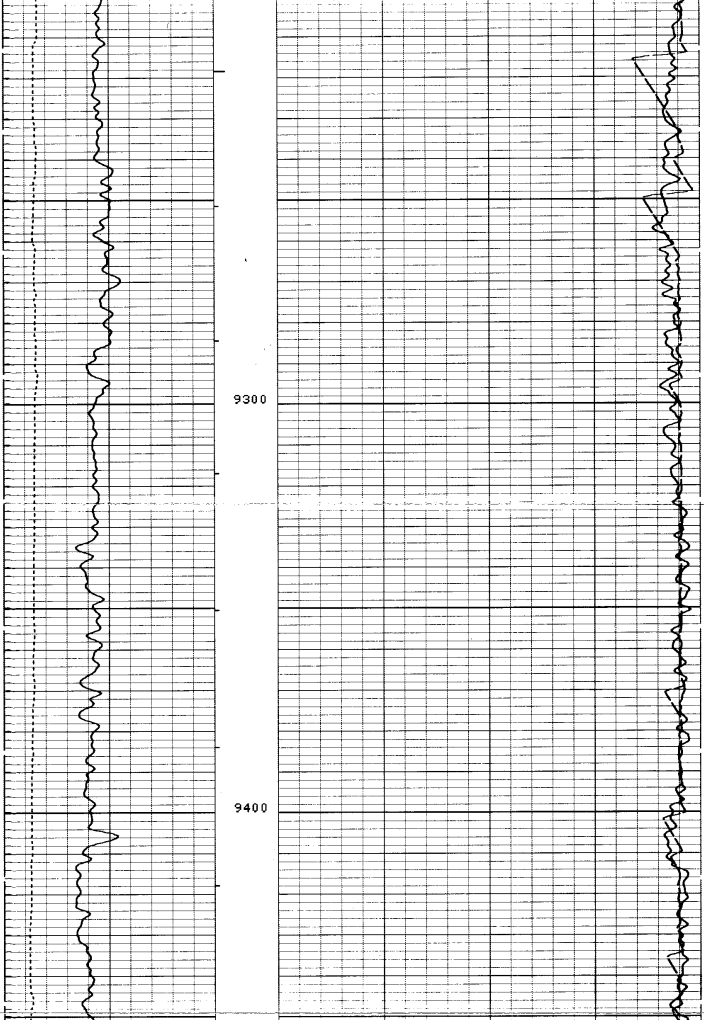
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

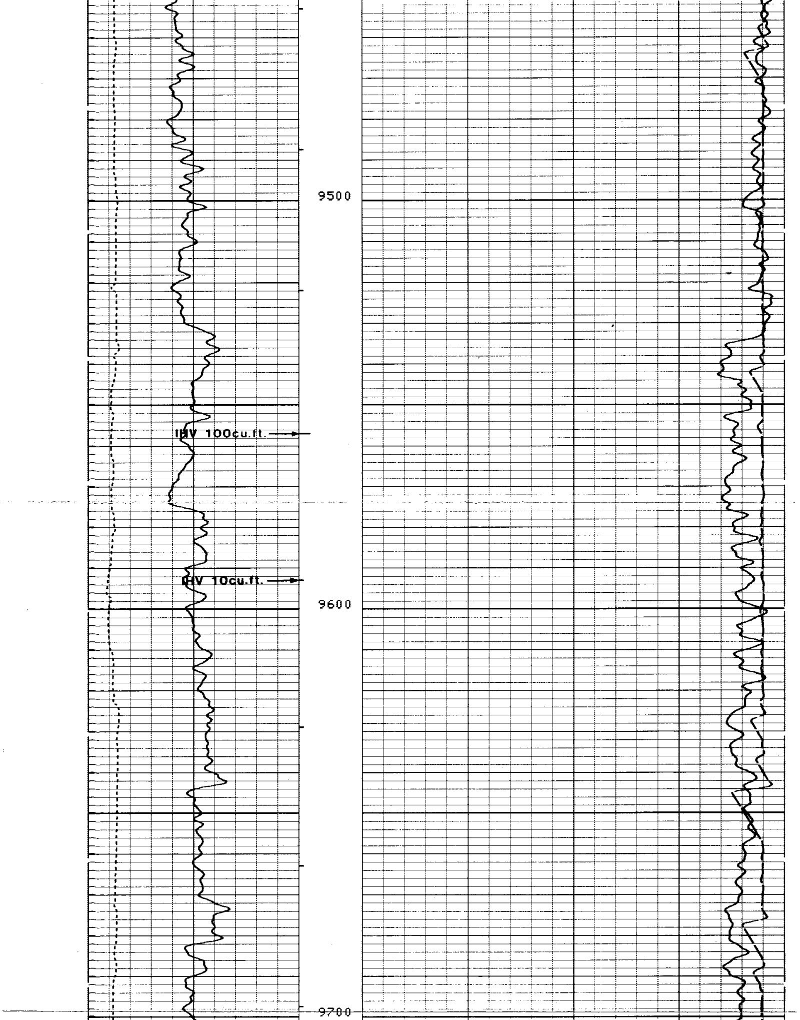
GR (GAPI)		DPHI	TENS(LB)	
0.0	150.00		12000.	2000.0
CALI(IN)				
6.0000	16.000	.60000		0.0

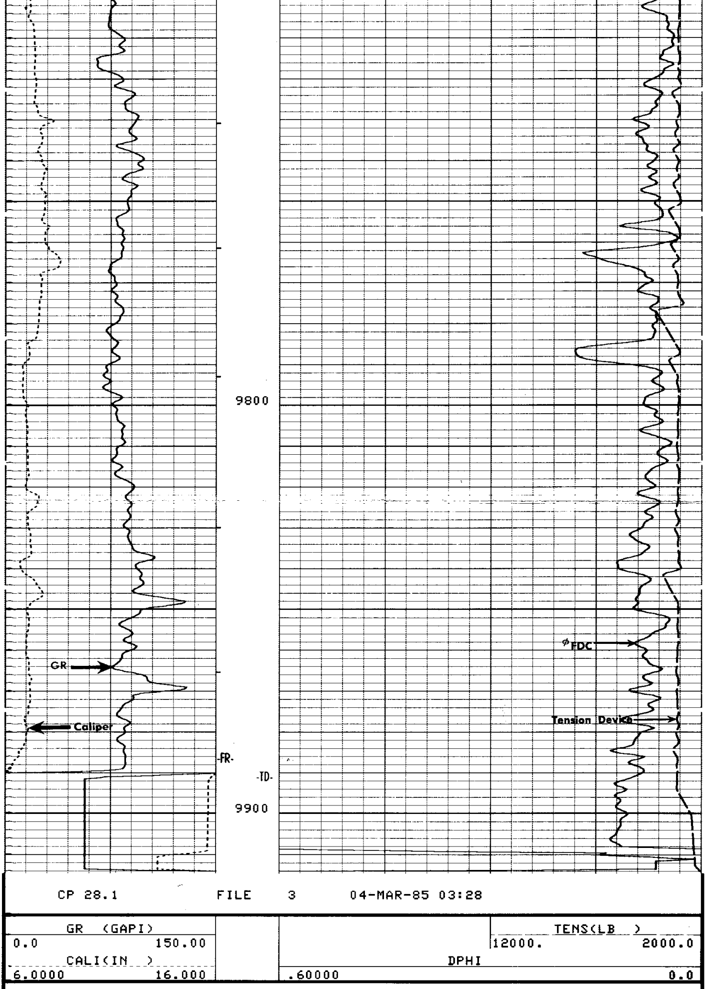
CP 28.1 FILE 3 04-MAR-85 04:13











SENSOR MEASURE POINT TO TOOL ZERO

STSG	-.9	FEET	GR	22.0	FEET
LL	2.5	FEET	LITH	2.5	FEET
LU	2.5	FEET	LS	2.5	FEET
SS2	2.0	FEET	SS1	2.0	FEET
DTCS	2.0	FEET	DTCL	2.5	FEET
DTPS	2.0	FEET	DTPL	2.5	FEET
LULC	2.5	FEET	LLLC	2.5	FEET
LUUC	2.5	FEET	LLUC	2.5	FEET
SULC	2.0	FEET	SLLC	2.0	FEET
SUUC	2.0	FEET	SLUC	2.0	FEET
TENS	-.9	FEET	CALI	2.6	FEET

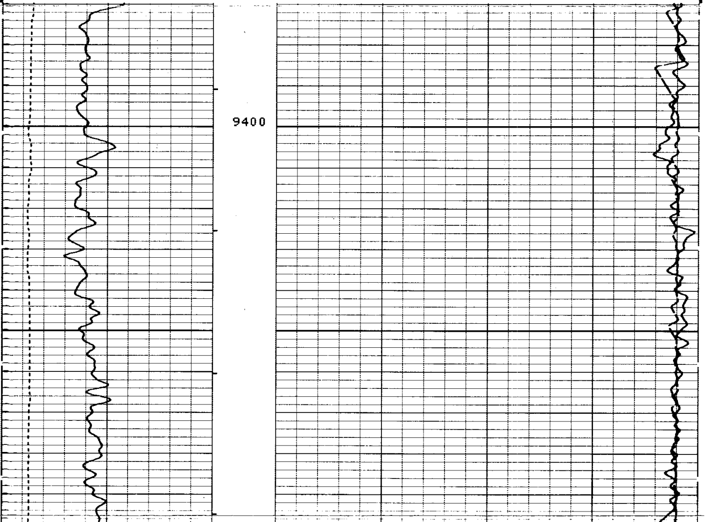
PARAMETERS

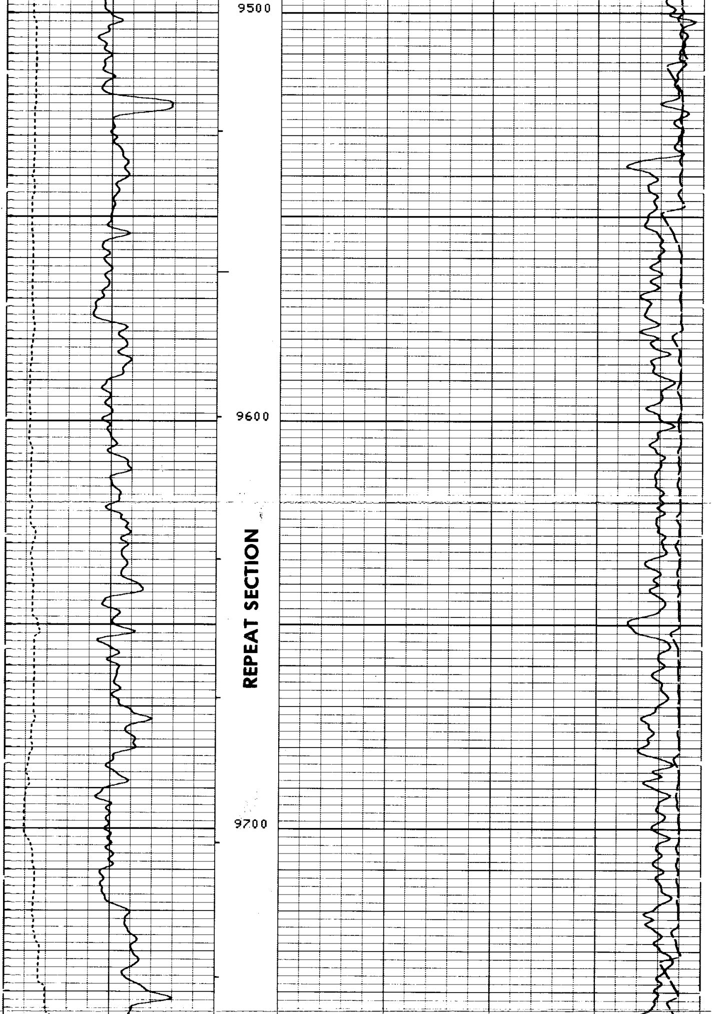
NAME	VALUE	UNIT	NAME	VALUE	UNIT
BHT	240.000	DEGF	TD	9891.00	F
FD	1.00000	G/C3	SHT	80.0000	DEGF
WMUD	13.2000	LB/G	MDEN	2.65000	G/C3
DHC	BS		BFM	LIQU	
FEXP	1.90000		FPHI	DPHI	
BHS	OPEN		FNUM	1.00000	
BS	6.75000	IN			

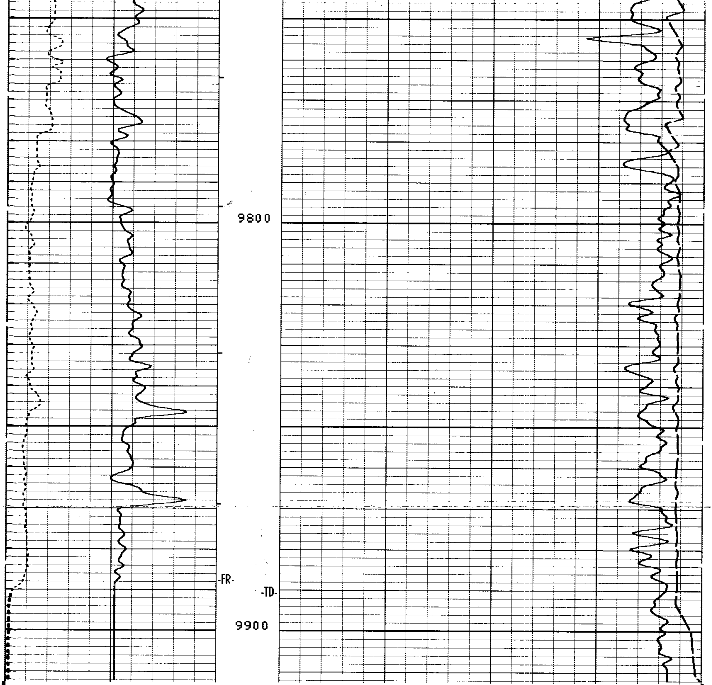
GR (GAPI)		TENS(LB)	
0.0	150.00	12000.	2000.0
CALI(IN)		DPHI	
6.0000	16.000	.60000	0.0

REPEAT SECTION

CP 28.1 FILE 2 04-MAR-85 03:25







CP 28.1 FILE 2 04-MAR-85 03:05 **REPEAT SECTION**

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

TENS(LB)
12000. 2000.0

DPHI
.60000 0.0

SENSOR MEASURE POINT TO TOOL ZERO

STSG	-.9	FEET	GR	22.0	FEET
LL	2.5	FEET	LITH	2.5	FEET
LU	2.5	FEET	LS	2.5	FEET
SS2	2.0	FEET	SS1	2.0	FEET
DTCS	2.0	FEET	DTCL	2.5	FEET
DTPS	2.0	FEET	DTPL	2.5	FEET
LULC	2.5	FEET	LLLC	2.5	FEET
LUUC	2.5	FEET	LLUC	2.5	FEET
SULC	2.0	FEET	SLLC	2.0	FEET
SUUC	2.0	FEET	SLUC	2.0	FEET
TENS	-.9	FEET	CALI	2.6	FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
BHT	240.000	DEGF	TD	9891.00	F
FD	1.00000	G/C3	SHT	80.0000	DEGF
WMUD	13.2000	LB/G	MDEN	2.65000	G/C3
DHC	BS		BFM	LIQU	
FEXP	1.90000		FPHI	DPHI	
BHS	OPEN		FNUM	1.00000	
BS	6.75000	IN			

DRHO(G/C3)
-.2500 .25000

ZERO
-3.500 6.5000

TENS(LB)
12000. 2000.0

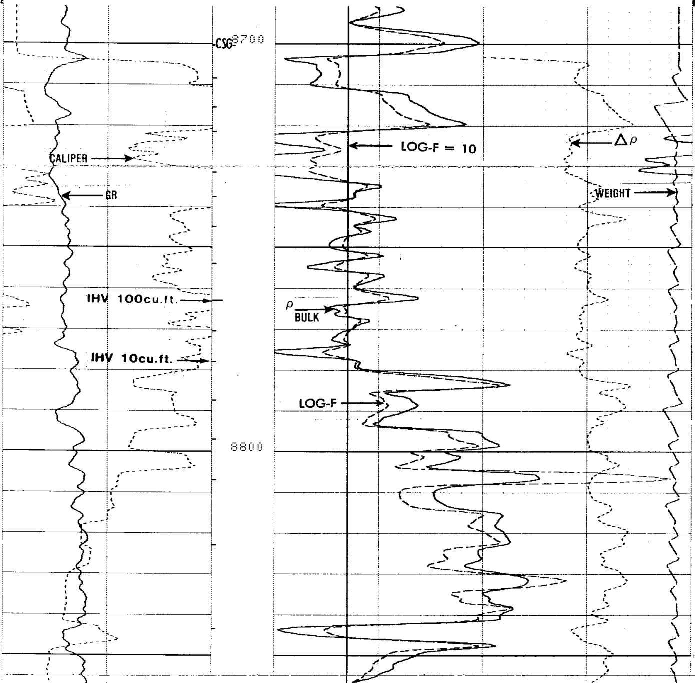
GR (GAPI)
0.0 150.00

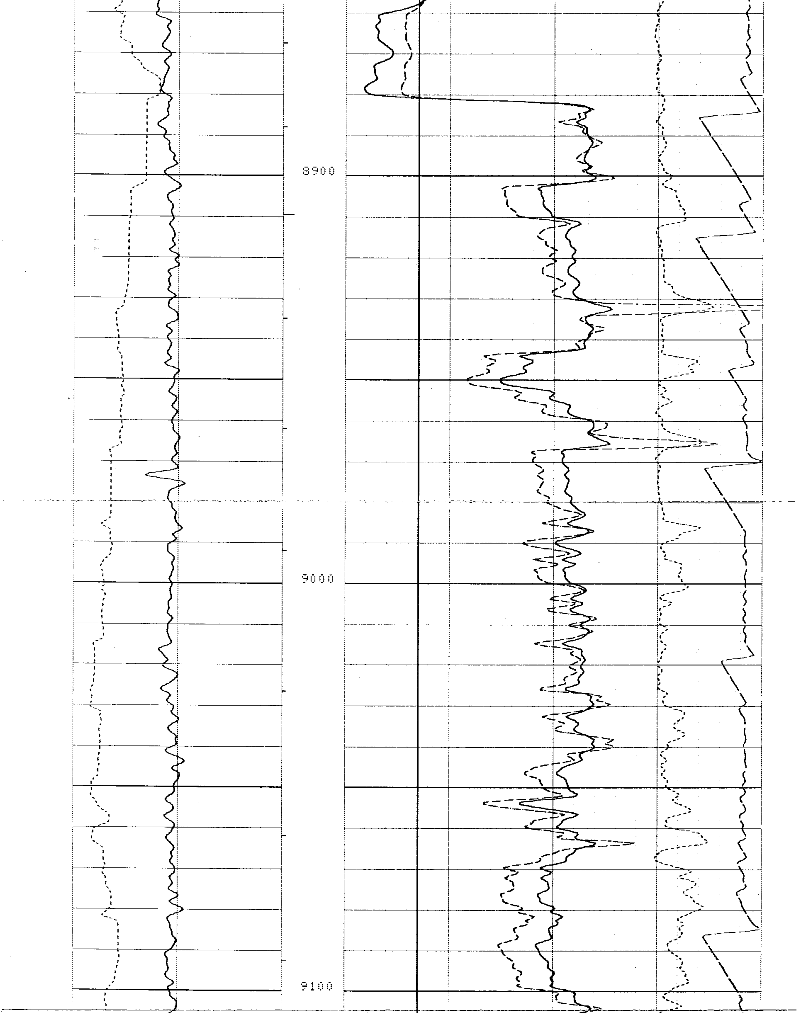
RO (OHMM)
2.0000 20000.

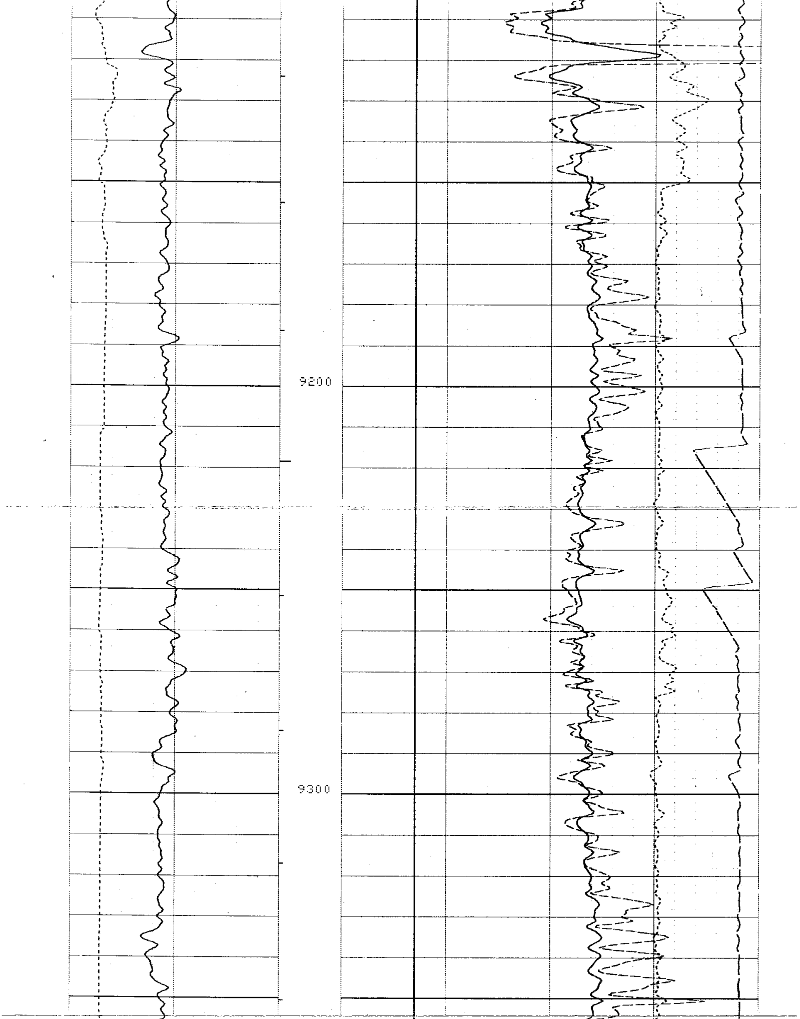
CALI(IN)
6.0000 16.000

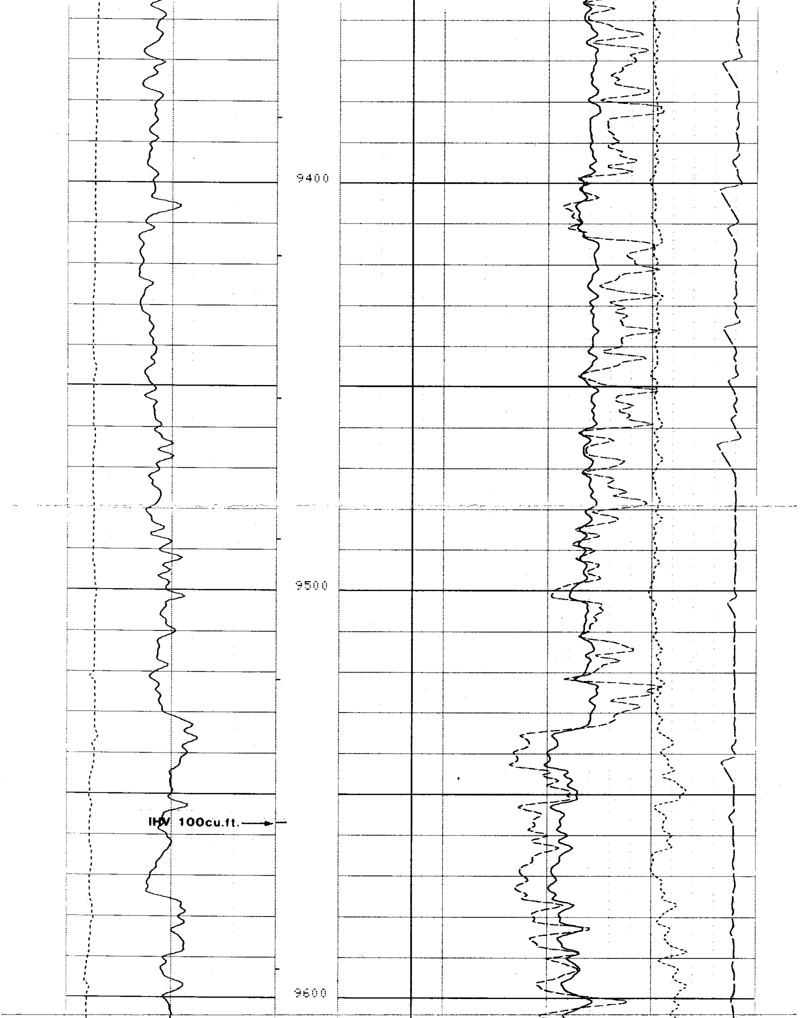
RHOB(G/C3)
2.0000 3.0000

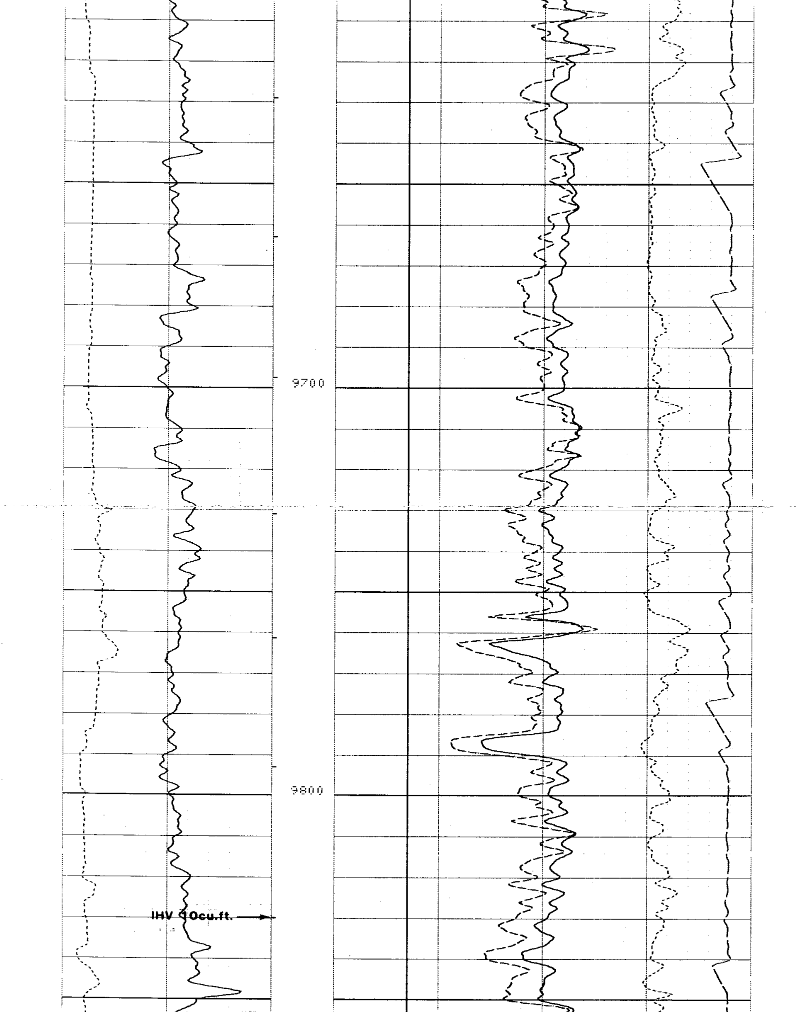
CP 28.1 FILE 3 04-MAR-85 04:13

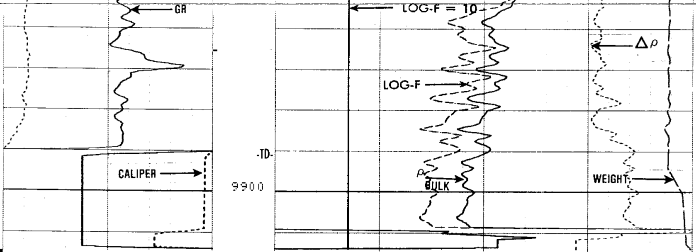












CP 28.1 FILE 3 04-MAR-85 03:28

DRHO(G/C3)
-.2500 .25000
ZERO
-3.500 6.5000
TENS(LB)
12000. 2000.0
GR (GAPI)
0.0 150.00
RO (OHMM)
2.0000 20000.
CALI(IN)
6.0000 16.000
RHOB(G/C3)
2.0000 3.0000

SENSOR MEASURE POINT TO TOOL ZERO

STSG	-.9	FEET	GR	22.0	FEET
LL	2.5	FEET	LITH	2.5	FEET
LU	2.5	FEET	LS	2.5	FEET
SS2	2.0	FEET	SS1	2.0	FEET
DTCS	2.0	FEET	DTCL	2.5	FEET
DTPS	2.0	FEET	DTPL	2.5	FEET
LULC	2.5	FEET	LLLC	2.5	FEET
LUUC	2.5	FEET	LLUC	2.5	FEET
SULC	2.0	FEET	SLLC	2.0	FEET
SUUC	2.0	FEET	SLUC	2.0	FEET
TENS	-.9	FEET	CALI	2.6	FEET

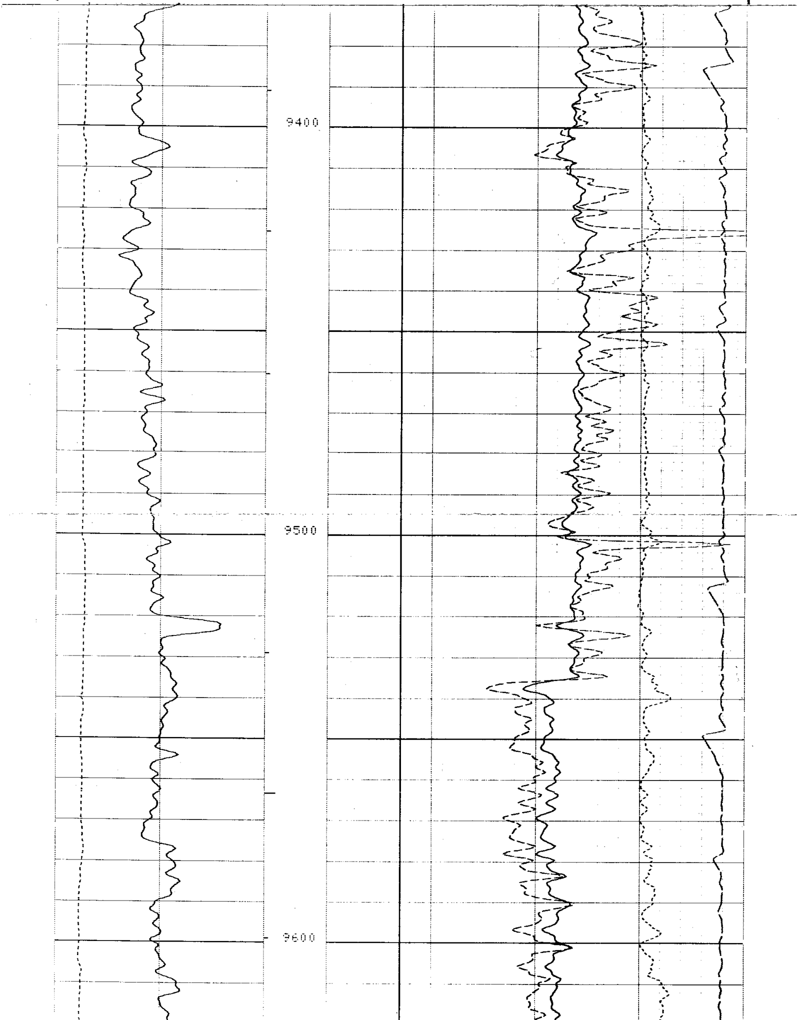
PARAMETERS

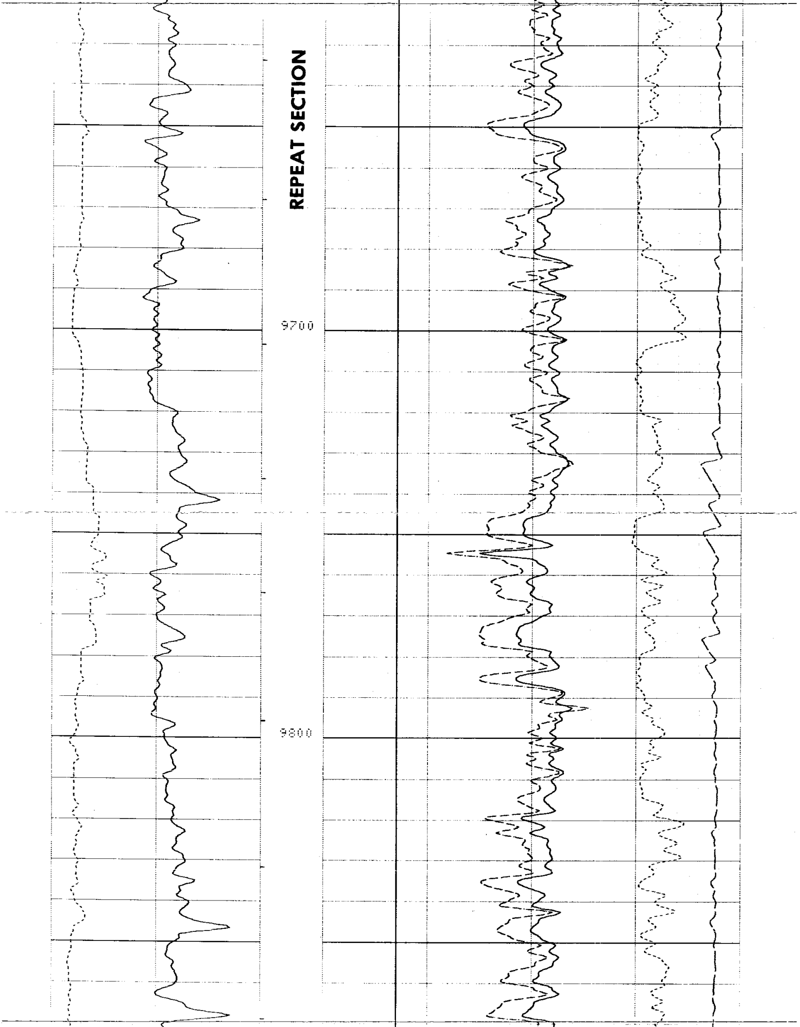
NAME	VALUE	UNIT	NAME	VALUE	UNIT
BHT	240.000	DEGF	TD	9891.00	F
FD	1.00000	G/C3	SHT	80.0000	DEGF
WMUD	13.2000	LB/G	MDEN	2.65000	G/C3
DHC	BS		BFM	LIQU	
FEXP	1.90000		FPHI	DPHI	
BHS	OPEN		FNUM	1.00000	
BS	6.75000	IN			

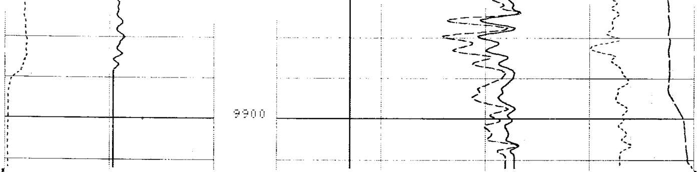
DRHO(G/C3)
-.2500 .25000
ZERO
-3.500 6.5000
TENS(LB)
12000. 2000.0
GR (GAPI)
0.0 150.00
RO (OHMM)
2.0000 20000.
CALI(IN)
6.0000 16.000
RHOB(G/C3)
2.0000 3.0000

REPEAT SECTION

CP 28.1 FILE 2 04-MAR-85 03:25







```
CP 28.1              FILE     2       04-MAR-85 03:05
```

REPEAT SECTION

```
                                                             DRHO(G/C3)
                                                    -.2500                 .25000
                                  ZERO                       TENS(LB   )
                          -3.500           6.5000  12000.                  2000.0
        GR   (GAPI)                                 RO   (OHMM)
0.0              150.00   2.0000                                           20000.
        CALI(IN   )                                 RHOB(G/C3)
6.0000           16.000   2.0000                                           3.0000
```

```
                    SENSOR MEASURE POINT TO TOOL ZERO

         STSG   -.9   FEET                       GR    22.0   FEET
         LL     2.5   FEET                       LITH   2.5   FEET
         LU     2.5   FEET                       LS     2.5   FEET
         SS2    2.0   FEET                       SS1    2.0   FEET
         DTCS   2.0   FEET                       DTCL   2.5   FEET
         DTPS   2.0   FEET                       DTPL   2.5   FEET
         LULC   2.5   FEET                       LLLC   2.5   FEET
         LUUC   2.5   FEET                       LLUC   2.5   FEET
         SULC   2.0   FEET                       SLLC   2.0   FEET
         SUUC   2.0   FEET                       SLUC   2.0   FEET
         TENS   -.9   FEET                       CALI   2.6   FEET
```

```
                              PARAMETERS

         NAME   VALUE     UNIT                     NAME   VALUE     UNIT

         BHT   240.000    DEGF                     TD    9891.00    F
         FD    1.00000    G/C3                     SHT   80.0000    DEGF
         WMUD  13.2000    LB/G                     MDEN  2.65000    G/C3
         DHC   BS                                  BFM   LIQU
         FEXP  1.90000                             FPHI  DPHI
         BHS   OPEN                                FNUM  1.00000
         BS    6.75000    IN
```

```
                AFTER SURVEY TOOL CHECK SUMMARY

   PERFORMED:     04-MAR-85 04:55
   PROGRAM FILE: MEGATS (VERSION    28.1    84/06/18)

  LDTD                       TOOL  CHECK

         DRS SONDE NUMBER                         :    3999
         NUCLEAR SERVICE CARTRIDGE NUMBER         :    731
         POWERED DETECTOR HOUSING NUMBER          :    2949
         POWERED GAMMA-GAMMA DETECTOR NUMBER      :    8329
         LDT LOGGING SOURCE NUMBER                :    7178
         LDT CALIBRATION MODE                     :    WATE
         MUD DENSITY                              :    13.2000   LB/G
```

```
              BACKGROUND MEASURED
              BEFORE        AFTER         UNITS
      LL      20.50         20.65          CPS
      LU      79.06         78.75          CPS
      LS      60.06         60.06          CPS
    LITH       5.996         5.96          CPS
     SS1      16.92         16.84          CPS
     SS2       4.007         3.97          CPS


SGTL                          TOOL  CHECK

                BEFORE       AFTER      UNITS
    GR           160          156       GAPI

   CP 28.1             FILE    6       04-MAR-85 04:55
```

```
              BEFORE SURVEY CALIBRATION SUMMARY

  PERFORMED:     04-MAR-85 01:53
  PROGRAM FILE: MEGATS (VERSION    28.1    84/06/18)


LDTD                 DETECTOR CALIBRATION SUMMARY

       DRS SONDE NUMBER                       :    3999
       NUCLEAR SERVICE CARTRIDGE NUMBER       :    731
       POWERED DETECTOR HOUSING NUMBER        :    2949
       POWERED GAMMA-GAMMA DETECTOR NUMBER :       8329
       LDT LOGGING SOURCE NUMBER              :    7178
       LDT CALIBRATION MODE                   :    WATE
       MUD DENSITY                            :    13.2000   LB/G

            M E A S U R E D
          BKGD  AL+FE    AL  UNITS
    LL    20.5   84.5   94.8   CPS
    LU    [illegible]  130.0  146.8   CPS
    LS    60.0  149.6  168.3   CPS
  LITH     5.9   39.5   59.8   CPS
   SS1    16.9  180.0  202.7   CPS
   SS2     4.0   82.0   95.6   CPS


SGTL                 DETECTOR CALIBRATION SUMMARY

            MEASURED
          BKGD    JIG          CALIBRATED           UNITS
    GR     19     190             160               GAPI


LDTD                 CALIPER CALIBRATION SUMMARY

            MEASURED                        CALIBRATED
          SMALL   LARGE                 SMALL       LARGE        UNITS
  CALI      6.4    14.5                   8.0        16.0          IN

   CP 28.1             FILE    1       04-MAR-85 01:53
```

```
  PERFORMED:      85/01/20
  PROGRAM FILE: CCSHOP (VERSION    26.2    00/00/00)


LDTD                 DETECTOR CALIBRATION SUMMARY

       DRS SONDE NUMBER                       :    3999
       NUCLEAR SERVICE CARTRIDGE NUMBER       :    731
       POWERED DETECTOR HOUSING NUMBER        :    2949
       POWERED GAMMA-GAMMA DETECTOR NUMBER :       8329
       LDT LOGGING SOURCE NUMBER              :    7178
       LDT CALIBRATION MODE                   :    WATE
       MUD DENSITY                            :    8.00000
```

```
           MASTER  CALIBRATED
           BKGD   AL+FE     AL   UNITS
     LL    20.8    84.5    94.9    CPS
     LU    79.1   130.0   146.8    CPS
     LS    60.3   149.6   168.3    CPS
   LITH     6.0    39.5    59.8    CPS
    SS1    16.7   180.0   202.7    CPS
    SS2     3.9    82.0    95.7    CPS
```

CALIBRATION RECORD

COMPANY SHELL WESTERN E&P INC.

WELL NUECES MINERALS #1

FIELD PIEDRA CREEK

COUNTY LA SALLE STATE TEXAS

SCHL. FR 9888
SCHL. TD 9891
DRLR. TD 10000

Elev: KB 361.1
DF 360.1
GL 344.6