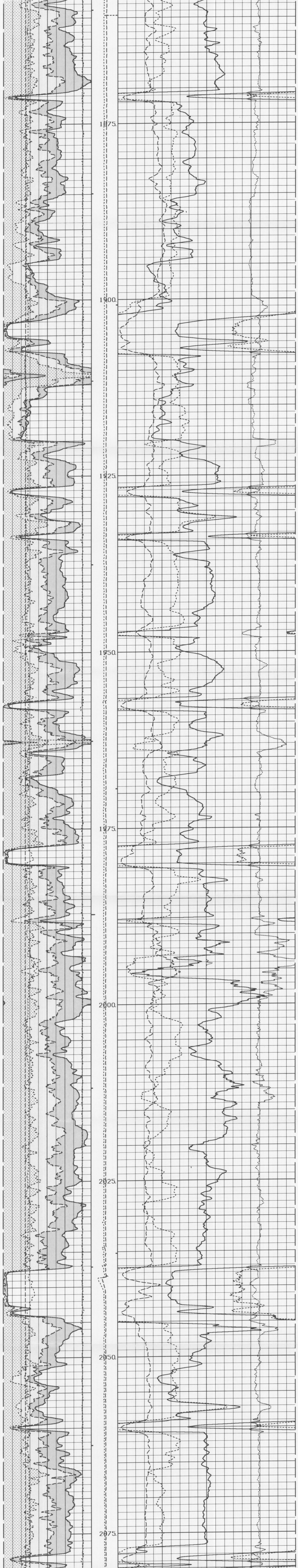
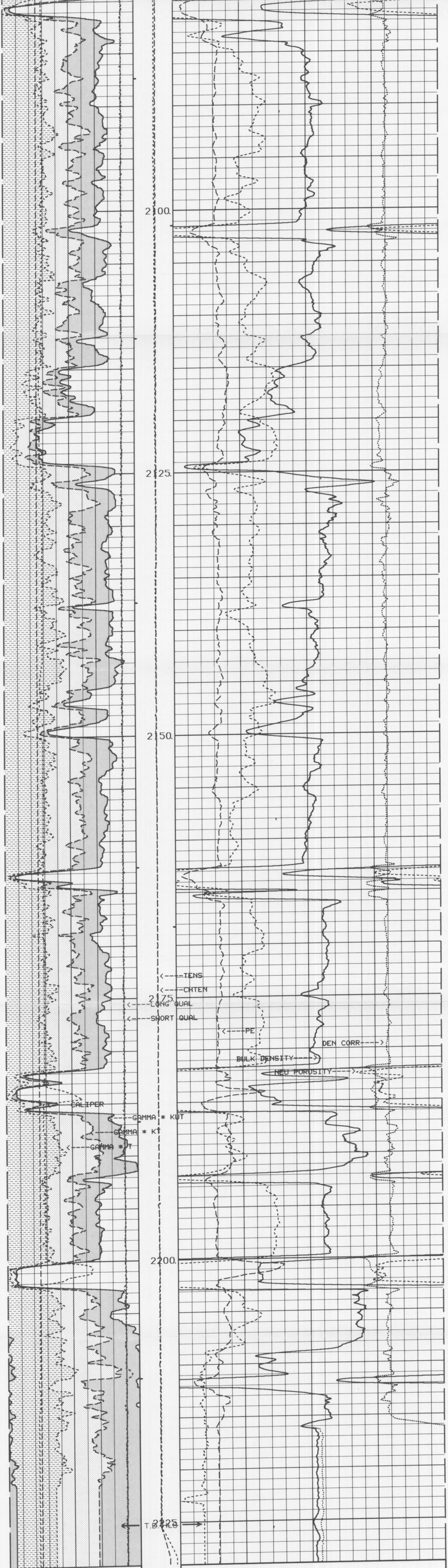




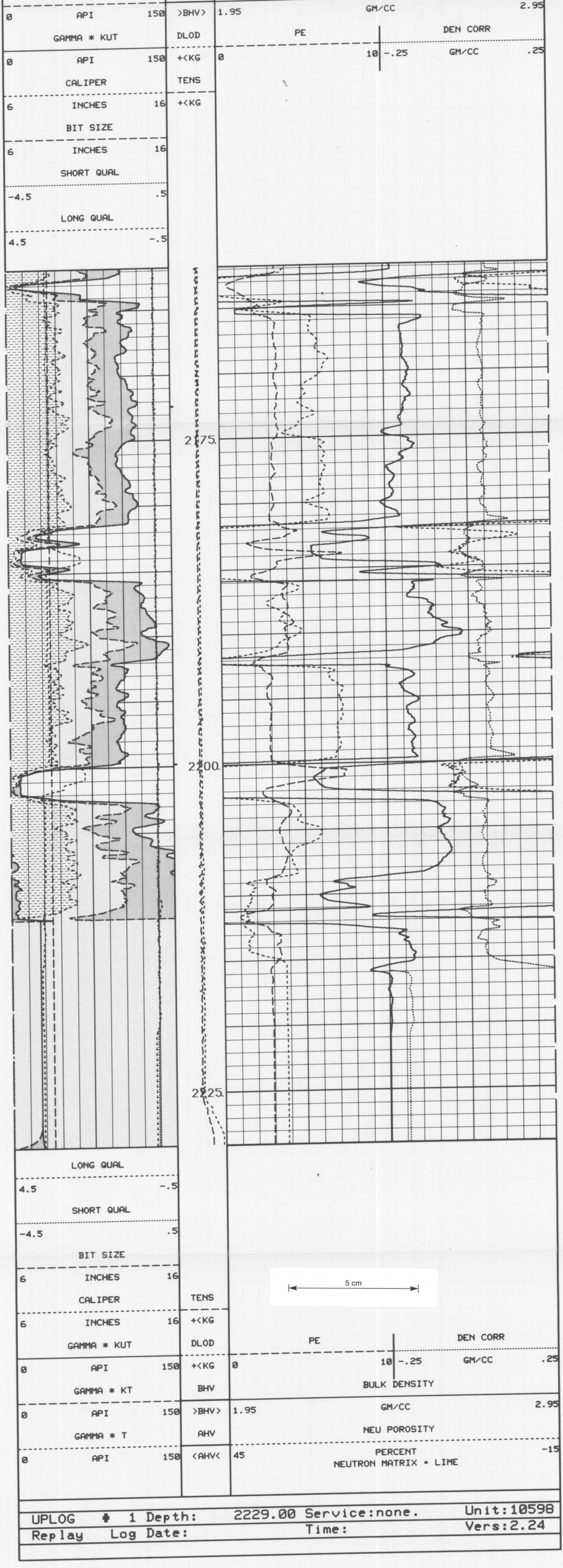
	LONG QUAL								
4.5		-.5							
	SHORT QUAL								
-4.5		.5							
	BIT SIZE								
6	INCHES	16							
	CALIPER		TENS						
6	INCHES	16	+<KG						
	GAMMA * KUT		DLOD		PE			DEN CORR	
0	API	150	+<KG	0		10	-.25	GM/CC	.25
	GAMMA * KT		BHV		BULK DENSITY				
0	API	150	>BHV>	1.95	GM/CC	2.95			
	GAMMA * T		AHV		NEU POROSITY				
0	API	150	<AHV<	45	PERCENT NEUTRON MATRIX = LIME	-15			

UPLOG # 1 Depth: 2229.00 Service:none. Unit:10598
Replay Log Date: Time: Vers:2.24

1:200

MAIN RUN

	GAMMA * T		AHV		NEU POROSITY	
0	API	150	<AHV<	45	PERCENT NEUTRON MATRIX = LIME	-15
	GAMMA * KT		BHV		BULK DENSITY	



```
*****************************************************************************

                GAMMA RAY TOOL SHOP CALIBRATION SUMMARY
PERFORMED:  22:22:30  11/ 3/92    LAST SHOP CALIBRATION:    17:37:39  08/ 8/92
SERIAL NUMBER: 114401             MODEL: NGRT-A
TRUCK UNIT NUMBER: 10598          PROGRAM VERSION: 2.24
PERFORMED BY: L. JONES

                           MEASURED        CALIBRATED          UNITS
                           --------        ----------          -----
BACKGROUND                        5                 5          GAPI
BACKGROUND+CALIBRATOR           229               226          GAPI
CALIBRATOR                      223               221          GAPI


             GAMMA RAY TOOL BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  14:22:31  11/17/92    LAST SHOP CALIBRATION:    22:22:30  11/ 3/92

                             SHOP            FIELD             UNITS
                           --------        ----------          -----
BACKGROUND                        5                 5          GAPI
BACKGROUND+CALIBRATOR           226               222          GAPI
CALIBRATOR                      221               217          GAPI


             GAMMA RAY TOOL AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  14:16:02  11/19/92    LAST SHOP CALIBRATION:    22:22:30  11/ 3/92

                            BEFORE            AFTER            UNITS
                           --------        ----------          -----
BACKGROUND                        5                 7          GAPI
BACKGROUND+CALIBRATOR           222               231          GAPI
CALIBRATOR                      217               223          GAPI
                                                  '

*****************************************************************************

         DITS SPECTRAL GAMMA - TITANIUM SHOP CALIBRATION SUMMARY
PERFORMED:  01:41:06  11/11/92    LAST SHOP CALIBRATION:    01:16:42  11/11/92
SERIAL NUMBER: 113020             MODEL: CSNGT-A
CALIBR NUM: 313
TRUCK UNIT NUMBER: 10598          PROGRAM VERSION: 2.24
PERFORMED BY: L. JONES

TITANIUM CASE              MEASURED        CALIBRATED          UNITS
-------- ----              --------        ----------          -----
  60KEV PEAK CH#                 47                47          CHANNELS
 239KEV PEAK CH#                176               175          CHANNELS
 583KEV PEAK CH#                 49                49          CHANNELS
2614KEV PEAK CH#                213               212          CHANNELS
CALIBRATOR VALUE                248               248          GAPI

     DITS SPECTRAL GAMMA - TITANIUM BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  01:56:17  11/11/92    LAST SHOP CALIBRATION:    01:41:06  11/11/92

                             SHOP            FIELD             UNITS
                           --------        ----------          -----
  60KEV PEAK CH#                 47                47          CHANNELS
 239KEV PEAK CH#                175               177          CHANNELS
 583KEV PEAK CH#                 49                49          CHANNELS
2614KEV PEAK CH#                212               213          CHANNELS
CALIBRATOR VALUE                248               251          GAPI

     DITS SPECTRAL GAMMA - TITANIUM AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  14:31:35  11/19/92    LAST SHOP CALIBRATION:    01:41:06  11/11/92

                            BEFORE            AFTER            UNITS
                           --------        ----------          -----
  60KEV PEAK CH#                 47                47          CHANNELS
 239KEV PEAK CH#                177               175          CHANNELS
 583KEV PEAK CH#                 49                50          CHANNELS
2614KEV PEAK CH#                213               213          CHANNELS
CALIBRATOR VALUE                251               248          GAPI

*****************************************************************************

              DUAL SPACED NEUTRON II SHOP CALIBRATION SUMMARY
PERFORMED:  16:09:08  11/ 9/92    LAST SHOP CALIBRATION:    15:29:41  08/ 8/92
SERIAL NUMBER: A009               MODEL: DSNT-A
SOURCE NUM: DSN 103               CALIBR NUM: 4912 NE
TRUCK UNIT NUMBER: 10598          PROGRAM VERSION: 2.24
PERFORMED BY: L. JONES


PRIMARY CALIBRATOR

                           MEASURED        CALIBRATED          UNITS
                           --------        ----------          -----
RATIO:                        6.528             6.527
POROSITY:                    24.688            24.685            %

FIELD CHECK BLOCK

CHECK RATIO:                  5.339             5.338
CHECK POROSITY:              19.130            19.127            %

MEAN(1,1) =              7.64
MEAN(1,2) =             61.84
MEAN(2,1) =              5.12
MEAN(2,2) =             60.12
MEAN(3,1) =           9684.59
MEAN(3,2) =           1685.59
MEAN(4,1) =          14859.56
MEAN(5,1) =           8859.80
MEAN(6,1) =           3259.62
          DUAL SPACED NEUTRON II BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  13:22:37  11/14/92    LAST SHOP CALIBRATION:    16:09:08  11/ 9/92
                                                 '
                             SHOP            FIELD             UNITS
                           --------        ----------          -----
CHECK RATIO                   5.338             5.310
CHECK POROSITY               19.127            18.995            %

          DUAL SPACED NEUTRON II AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  14:56:34  11/19/92    LAST SHOP CALIBRATION:    16:09:08  11/ 9/92

                            BEFORE            AFTER            UNITS
                           --------        ----------          -----
CHECK RATIO                   5.310             5.376
CHECK POROSITY               18.995            19.308            %
```

```
*************************************************************************

        SPECTRAL DENSITY (8 BIT) SHOP CALIBRATION SUMMARY
PERFORMED:  18:00:35  11/10/92    LAST SHOP CALIBRATION:   17:01:54  11/10/92
SERIAL NUMBER: PAD145             MODEL: SDLT-A
SOURCE NUM: 1400GW                CALIBR NUM: SDL
TRUCK UNIT NUMBER: 10598          PROGRAM VERSION: 2.24
PERFORMED BY: L. JONES

                                         PRIMARY CALIBRATOR
MAGNESIUM BLOCK
---------------
                          MEASURED        CALIBRATED          UNITS
                          --------        ----------          -----
DENSITY                      1.688             1.687          GM/CC
CORRECTION                   0.023             0.021          GM/CC
Pe SHORT                     3.253             3.219
Pe LONG                      2.970             2.977

ALUMINUM BLOCK
---------------
                          MEASURED        CALIBRATED          UNITS
                          --------        ----------          -----
DENSITY                      2.608             2.597          GM/CC
CORRECTION                   0.057             0.047          GM/CC
Pe SHORT                     3.224             3.190
Pe LONG                      3.205             3.200

ALUMINUM BLOCK W/SLEEVE
-----------------------
                          MEASURED        CALIBRATED          UNITS
                          --------        ----------          -----
DENSITY                      2.601             2.590          GM/CC
CORRECTION                  -0.059            -0.064          GM/CC
Pe SHORT                     6.285             6.246
Pe LONG                      6.076             5.927

                                   CALIBRATION COEFFICIENTS
                      EXPECTED RANGE    CALIBRATED            UNITS
                      --------------    ----------            -----
SHORT SPACE
-----------
DENSITY SLOPE         -6.40 -> -7.60       -7.000             GM/CC
DENSITY INTERCEPT     27.00 -> 37.00       32.152             GM/CC
PE SLOPE               1.20 ->  2.30        1.688
PE INTERCEPT          -2.20 -> -4.00       -2.710

LONG SPACE
----------
DENSITY SLOPE         -1.29 -> -1.39       -1.321             GM/CC
DENSITY INTERCEPT      7.00 ->  8.10        7.492             GM/CC
PE SLOPE               1.30 ->  2.50        1.741
PE INTERCEPT          -0.70 -> -2.10       -0.755
                                         FIELD CHECK BLOCK
ALUMINUM SLIDE
-------------
                          MEASURED        CALIBRATED          UNITS
                          --------        ----------          -----
DENSITY                      1.656             1.656          GM/CC
CORRECTION                  -0.040            -0.041          GM/CC
Pe SHORT                     4.624             4.588
Pe LONG                      4.090             4.041

ALUMINUM SLIDE IN
-----------------
                          MEASURED        CALIBRATED          UNITS
                          --------        ----------          -----
DENSITY                      2.172             2.159          GM/CC
CORRECTION                   0.030             0.025          GM/CC
Pe SHORT                     4.830             4.793
Pe LONG                      3.755             3.722

BRASS SLIDE
-----------
                          MEASURED        CALIBRATED          UNITS
                          --------        ----------          -----
DENSITY                      2.380             2.368          GM/CC
CORRECTION                  -0.329            -0.336          GM/CC
Pe SHORT                     6.307             6.268
Pe LONG                      3.394             3.380

        SPECTRAL DENSITY (8 BIT) BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  20:19:30  11/10/92    LAST SHOP CALIBRATION:   18:00:35  11/10/92

ALUMINUM SLIDE IN            SHOP             FIELD              UNITS
-----------------          --------        ----------            -----
ALUMINUM DENSITY            2.159            2.159               GM/CC
ALUMINUM CORRECTION         0.025            0.025               GM/CC
ALUMINUM PE SHORT           4.793            4.844
ALUMINUM PE LONG            3.722            3.749

        SPECTRAL DENSITY (8 BIT) AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  14:42:18  11/19/92    LAST SHOP CALIBRATION:   18:00:35  11/10/92

ALUMINUM SLIDE IN           BEFORE            AFTER              UNITS
-----------------          --------        ----------            -----
ALUMINUM DENSITY            2.159            2.170               GM/CC
ALUMINUM CORRECTION         0.025            0.024               GM/CC
ALUMINUM PE SHORT           4.844            4.738
ALUMINUM PE LONG            3.749            3.831


*************************************************************************

                  SDL CALIPER SHOP CALIBRATION SUMMARY
PERFORMED:  18:17:48  11/10/92    LAST SHOP CALIBRATION:   18:16:14  11/10/92
SERIAL NUMBER: 112632             MODEL: SDLT-A
TRUCK UNIT NUMBER: 10598          PROGRAM VERSION: 2.24
PERFORMED BY: L. JONES

                          MEASURED        CALIBRATED          UNITS
                          --------        ----------          -----
VALUE 1                      7.965             8.000          INCH
VALUE 2                     14.999            15.000          INCH

               SDL CALIPER BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  18:18:27  11/10/92    LAST SHOP CALIBRATION:   18:17:48  11/10/92

                          SHOP     FIELD    UNITS
                         -------  -------   -----
VALUE  1                  8.000    8.002    INCH

                SDL CALIPER AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  15:06:37  11/19/92    LAST SHOP CALIBRATION:   18:17:48  11/10/92

                          BEFORE   AFTER    UNITS
                         -------  -------   -----
VALUE  1                  8.002    7.880    INCH


*************************************************************************

                  MICROLOG SHOP CALIBRATION SUMMARY
PERFORMED:  21:15:06  11/10/92    LAST SHOP CALIBRATION:   21:13:23  11/10/92
SERIAL NUMBER: 112632             MODEL: SDLT-A
TRUCK UNIT NUMBER: 10598          PROGRAM VERSION: 2.24
PERFORMED BY: L. JONES

                           MICROLOG NORMAL           MICROLOG LATERAL
                        MEASURED   CALIBRATED   MEASURED   CALIBRATED   UNITS
                        --------   ----------   --------   ----------   ------
TOOL ZERO                 0.00        0.00        0.00        0.00      OHM-M
CAL POINT #1              0.00        0.00        0.00        0.00      OHM-M
CAL POINT #2             20.01       20.00       20.00       20.00      OHM-M
INTERNAL REFERENCE       28.27       28.26       21.77       21.76      OHM-M

              MICROLOG BEFORE SURVEY FIELD CHECK SUMMARY
PERFORMED:  16:31:28  11/18/92    LAST SHOP CALIBRATION:   21:15:06  11/10/92

                           MICROLOG NORMAL           MICROLOG LATERAL
                          SHOP        FIELD       SHOP        FIELD     UNIT
                        --------   ----------   --------   ----------   ------
TOOL ZERO                 0.00        0.00        0.00        0.00      OHM-M
INTERNAL REFERENCE       28.26       28.26       21.76       21.91      OHM-M


              MICROLOG AFTER SURVEY FIELD CHECK SUMMARY
PERFORMED:  15:16:50  11/19/92    LAST SHOP CALIBRATION:   21:15:06  11/10/92

                           MICROLOG NORMAL           MICROLOG LATERAL
                         BEFORE       AFTER       BEFORE       AFTER    UNIT
                        --------   ----------   --------   ----------   ------
TOOL ZERO                 0.00        0.00        0.00        0.00      OHM-M
INTERNAL REFERENCE       28.26       28.07       21.91       21.62      OHM-M

                        PLS-II CALIBRATION SUMMARY TABLE
                        --------------------------------

  SERVICE or SIGNAL         SHOP       BEFORE      AFTER      CHANGE    TOLERANCE
-----------------------   ---------   --------   ---------   --------   ---------
GAMMA                       221         217        223          -5      +/- 9.0
CSNG                        248.47      251.84     248.05      -3.79    +/-9.0
DSN POROSITY                19.127      18.995     19.308     -0.313    +/-0.9
BULK DENSITY                 2.159       2.159      2.170     -0.012    +/-.015
DENSITY CORRECTION           0.025       0.025      0.024      0.001    +/-.015
DENSITY PE SHORT             4.793       4.844      4.738      0.106    +/-.3
DENSITY PE LONG              3.722       3.749      3.831     -0.081    +/-.3
CALIPER VALUE 1              8.000       8.002      7.880      0.122    +/-0.5
MICLOG NORMAL               28.26       28.26      28.07        0.19    +/- 0.8
MICLOG LATERAL              21.76       21.91      21.62        0.29    +/- 0.8




                PLS-II FILTER & DELAY SUMMARY

                    FILTER & DELAY SUMMARY

                 DATE: 21-NOV-1992 19:08:31

              FILTER LENGTH AND DELAY ARE IN METERS
```