217-22669

Tucker
WIRELINE SERVICES

DUAL INDUCTION RESISTIVITY LOG

RECEIVED
OCT 03 2011
Mo Oil & Gas Council
9/7/12

Company	RUNNING FOXES PETROLEUM,
Well	EMMERSON 6-6C-2
Field	
County	VERNON
State	MISSOURI
Country	USA
API No.	22669

File No : TUL-56074
Company : RUNNING FOXES PETROLEUM, LLC
Well : EMMERSON 6-6C-4
Field :
County : VERNON
State : MISSOURI
Country : USA
API No : 22669

Location :
2440' FNL & 1860' FWL

LSD : **Sect :** 6 **Twp :** 36N **Rge :** 33W

Permanent Datum:	GL	**Elevations:**				**Services:**
Drilling Measured From:	GL	**KB**	0.00	Ft		CNT
Log Measured From:	GL	**DF**	0.00	Ft		LDT
Above Permanent Datum:	0.00 Ft	**GL**	880.00	Ft		PIT

Date	2011-07-06			
Run Number	1			
Depth--Driller	448.0 Ft			
Depth--Logger	429.0 Ft			
First Reading	428.0 Ft			
Last Reading	20.0 Ft			
Casing--Driller	20.0 Ft			
Casing--Logger	20.0 Ft			
Bit Size	5.625 In			
Casing Size	8.625 In			
Hole Fluid Type	FRESH			
Density	0.0 LBS/GAL			
Fluid Loss	0.0 CC			
PH/Viscosity	0.0	0.0 SEC		
Sample Source	CALCULATED			
RM@Measured Temp.	10.000 @ 85 F			
RMF@Measured Temp	8.500 @ 85 F			
RMC@Measured Temp.	11.500 @ 85 F			
Source RMF/RMC	MEASURED	MEASURED		
RM@BHT	10.000 @ 85 F			
Time Circulation Stopped	2011-07-06 07:00			
Max Recorded Temp.	85 F			
Equipment/Base	TRK 127	TULSA		
Recorded By	B BAILEY			
Witnessed By	C COUNTS			

The customer is hereby warned that by providing the log data herein, T. W. S. does not agree to provide any interpretation of log data, conversion of log data to physical rock parameters or recommendations. T. W. S. does not guarantee or warrant either expressly or impliedly, the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by T. W. S. personnel. Any interpretation, conversion or recommendation is not part of the consideration for the agreement between the parties and is not part of any part of the charge by T. W. S. for its services. Any user of the log data is warned that said user is not entitled to rely on intepretations, conversions or recommendations as aforesaid.

Bitsize Intervals		Casing Strings		
Size (In)	Bottom (Ft)	Size (In)	Weight (Lbs)	Bottom (Ft)
5.625	448.00	8.625	32.00	20.00

Run Number	1		
Date	2011-07-06		
Date/Time On Bottom	2011-07-06 09:55		
Depth to Fluid	0.0 Ft		
Salinity	0.000 PPM		
RMF@BHT	8.500 @ 85 F		
RMC@BHT	11.500 @ 85 F		

Run Number 1

Comments

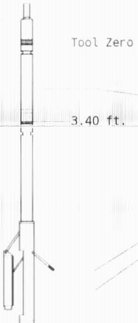
ALL PRESENTATIONS AS PER CUSTOMER REQUEST
GRT, CNT, LDT AND PIT RUN IN COMBINATION.
CALIPERS ORIENTED ON X-Y AXIS.
2.71 G/CC USED TO CALCULATED POROSITY.
ANNULAR HOLE VOLUME CALCULATED UISING 2.875' PRODUCTION CASING.

GRT: GRP
CNT: PHIN, CLCNIN
LDT: PORL, LCORN, PECLN, LDENN, PORLLS, CLLDIN.
PIT: ILD, ILM, SPU, SFLAEC

OPERATORS:
J.T.
R.AUSTIN
J.THOMAS

Tool String Schematic

Total Tool Length - 43.49 **ft.**
Maximum Outside diameter - 4.80 **in.**
Net Weight in Air - 743.00 **lbs.**

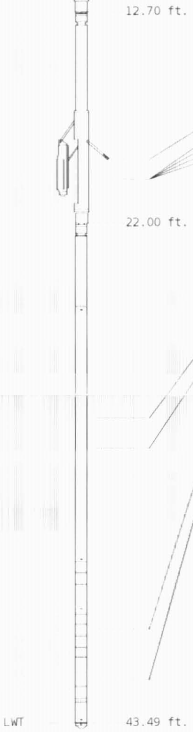


Tool: GRT-B **Length:** 3.40 **ft.** **O.D.** 3.60 **in.**
Gamma Ray Controller
Sonde ID :GRT-BA-14

Measure Point	**Tool Offset**	**Stack Offset**	**Bottom Offset**
GRP	2.00	2.00	41.49

Tool: CNT-AA **Length:** 9.30 **ft.** **O.D.** 4.36 **in.**
Compensated Neutron A Pad on NDT-A
Sonde ID :NDT-AB-400
Source ID :N-1044
Pad ID :CNP-AA-116

Measure Point	**Tool Offset**	**Stack Offset**	**Bottom Offset**
CLCN	6.00	9.40	34.09
PHIN	6.80	10.20	33.29



Tool: LDT-DA **Length:** 9.30 **ft.** **O.D.** 4.80 **in.**
Litho Density D Pad on NDT-A
Sonde ID :PDT-GA-465
Source ID :CSV-587
Pad ID :LDP-DA-01

Measure Point	Tool Offset	Stack Offset	Bottom Offset
CLLD	6.00	18.70	24.79
PEL	7.00	19.70	23.79
PES	7.40	20.10	23.39
LDEN	7.20	19.90	23.59
LCOR	7.20	19.90	23.59

Tool: PIT-CA **Length:** 21.49 **ft.** **O.D.** 3.62 **in.**
Phased Dual Induction w/ RM & D
Sonde ID :PIT-CA-075

Measure Point	Tool Offset	Stack Offset	Bottom Offset
ILD	8.92	30.92	12.56
ILM	10.10	32.10	11.39
SFLU	17.49	39.49	4.00
SP	20.60	42.60	0.88

Well File: rfp_emmerson_6-6c-2_jul6_st
Segment: V1.D1.S4 MAIN
Reference: 0

Scale: 1:600
Acquired: 2011-07/06 10:07 3.2.0-10140
Processed: 2011-07/06 10:07 3.2.0-10140

TENSION
LBS
10000 **0**

SPONTANEOUS POTENTIAL
mV
→| |←20

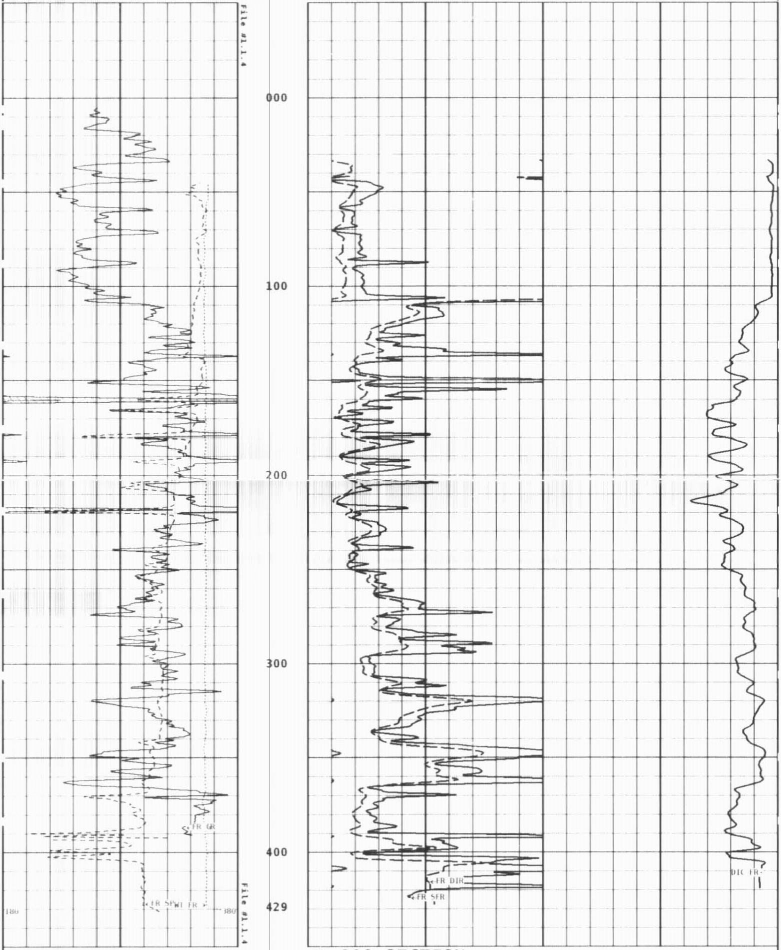
GAMMA RAY
API UNITS
200 **400**
0 200

SHALLOW FOCUSED RESISTIVITY
OHMM
0.0 **500.0**
0.0 **50.0**

DEEP INDUCTION
OHMM
0.0 **500.0**
0.0 **50.0**

DEEP CONDUCTIVITY
MMHO
2000 **1000**
1000 0

1:600 SECTION
2 INCH



1:600 SECTION
2 INCH

GAMMA RAY
API UNITS
200 400
0 200

DEEP CONDUCTIVITY
MMHO
2000 1000
1000 0

SPONTANEOUS POTENTIAL
mV
→| |←20

DEEP INDUCTION
OHMM
0.0 500.0
0.0 50.0

TENSION
LBS
10000 0

SHALLOW FOCUSED RESISTIVITY
OHMM
0.0 500.0
0.0 50.0

Well File: rfp_emmerson_6-6c-2_jul6_st
Segment: V1.D1.S4 MAIN
Reference: 0
Scale: 1:240
Acquired: 2011-07/06 10:07 3.2.0-10140
Processed: 2011-07/06 10:07 3.2.0-10140

TENSION
LBS
10000 0

SHALLOW FOCUSED RESISTIVITY
OHMM
0.2 2000.0

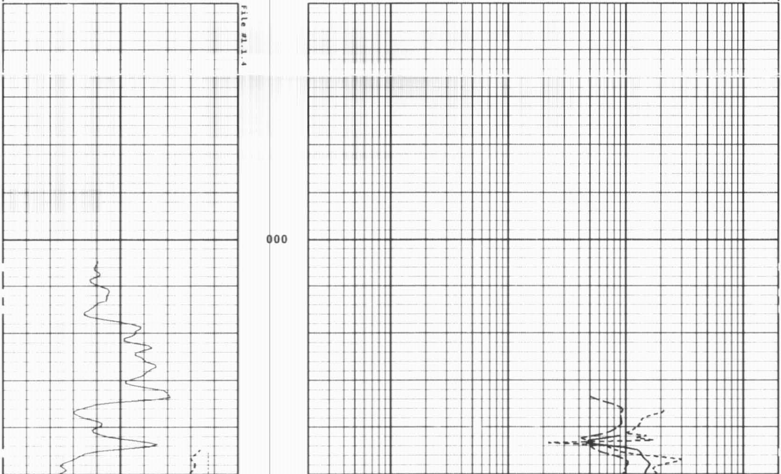
SPONTANEOUS POTENTIAL
mV
→| |←20

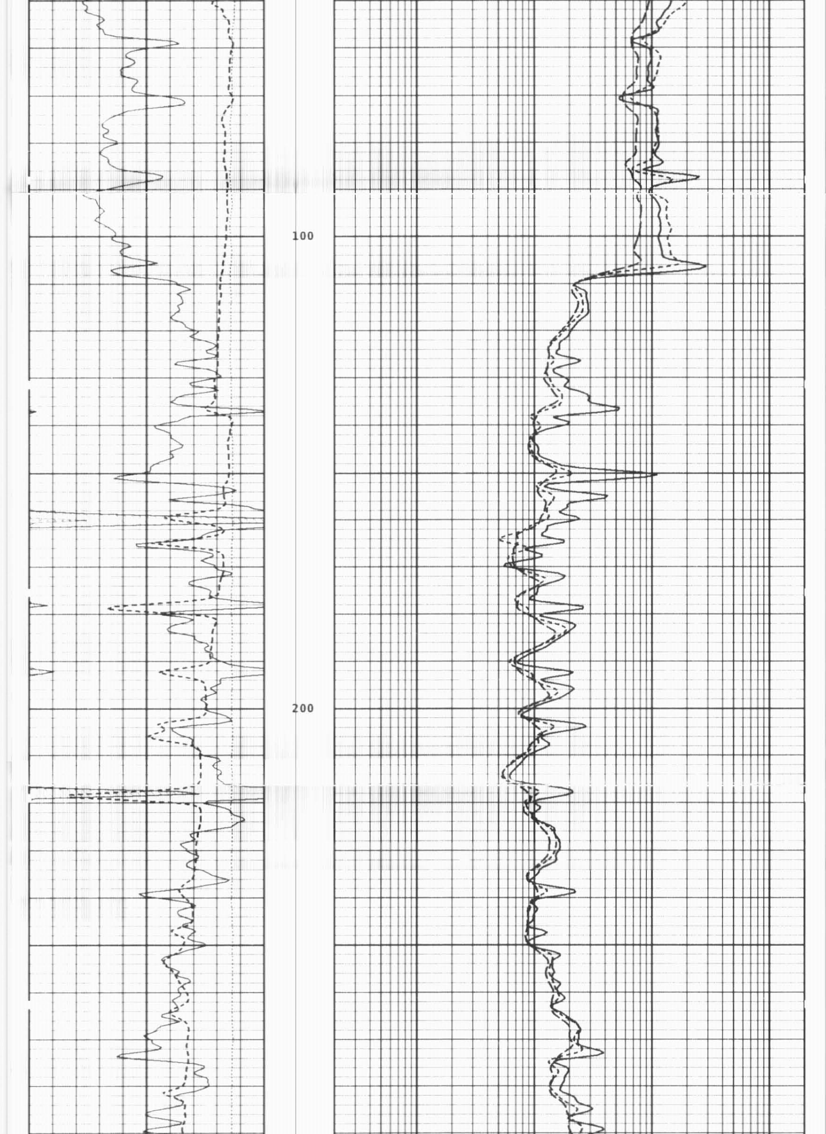
MEDIUM INDUCTION
OHMM
0.2 2000.0

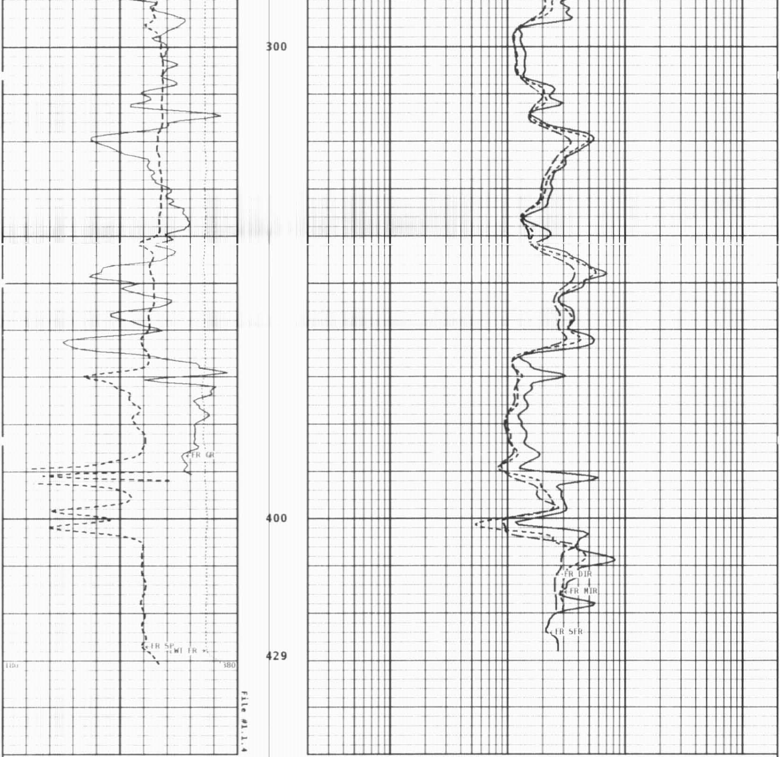
GAMMA RAY
API UNITS
200 400
0 200

DEEP INDUCTION
OHMM
0.2 2000.0

1:240 MAIN SECTION







1:240 MAIN SECTION

GAMMA RAY
API UNITS
200 400
0 200

SPONTANEOUS POTENTIAL
mV
→| |←20

TENSION
LBS
10000 0

DEEP INDUCTION
OHMM
0.2 2000.0

MEDIUM INDUCTION
OHMM
0.2 2000.0

SHALLOW FOCUSED RESISTIVITY
OHMM
0.2 2000.0

* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 Feet

Drill Bit Size	5.625	in
BHT Depth	448.000	ft
Borehole Temperature	85.0	degF
Temperature Gradient	1.00	DFHF
Resistivity Of Mud	10.000	ohm/m
Standoff	0.0	
Resistivity Of Mud Temperature	85.00	degF

Well File: rfp_emmerson_6-6c-2_jul6_st
Segment: V1.D1.S3 Reprocess REPEAT
Reference: 0

Scale: 1:240
Acquired: 2011-07/06 09:54 3.2.0-10140
Processed: 2011-07/06 10:02 3.2.0-10140

TENSION
LBS
10000 **0**

SPONTANEOUS POTENTIAL
mV
→| |←20

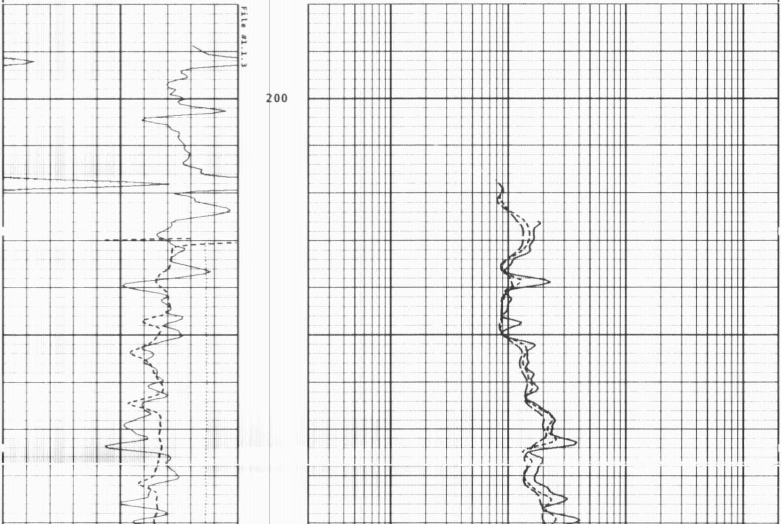
GAMMA RAY
API UNITS
200 400
0 200

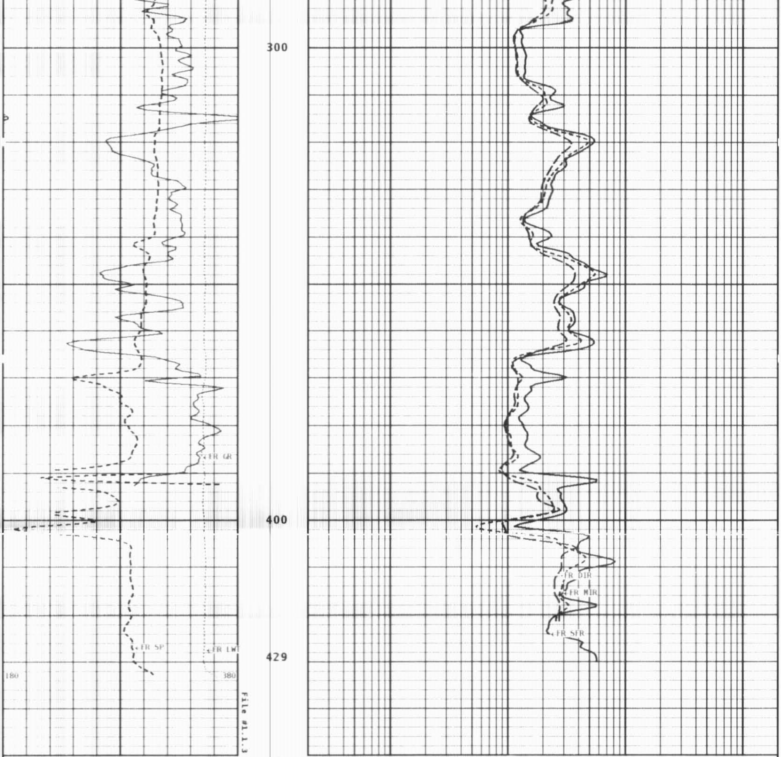
SHALLOW FOCUSED RESISTIVITY
OHMM
0.2 2000.0

MEDIUM INDUCTION
OHMM
0.2 2000.0

DEEP INDUCTION
OHMM
0.2 2000.0

1:240 REPEAT SECTION





1:240 REPEAT SECTION

GAMMA RAY
API UNITS
200 400
0 200

SPONTANEOUS POTENTIAL
mV
→| |←20

TENSION
LBS
10000 0

DEEP INDUCTION
OHMM
0.2 2000.0

MEDIUM INDUCTION
OHMM
0.2 2000.0

SHALLOW FOCUSED RESISTIVITY
OHMM
0.2 2000.0

* Borehole Zone Factors *

```
               Zone 1   99999.0  to    0.0  Feet

    Drill Bit Size                                 5.625  in
    BHT Depth                                    448.000  ft
    Borehole Temperature                          85.0    degF
    Temperature Gradient                           1.00   DFHF
    Resistivity Of Mud                            10.000  ohm/m
    Standoff                                       0.0
    Resistivity Of Mud Temperature                85.00    degF
```

*** Calibration Summary ***

```
                         Shop Calibration
                              GRT-B
     Performed : 16-MAY-2011          Time : 09:49
   Sensor Suite : GR-GR5                ID : GRT-BA-14

                    Measured     Units       Calibrated       Units
        Background       Jig                     Jig
GR              50       361     CPS             175          GRAPI
```

```
                         Shop Calibration
                              PIT-CA
     Performed : 17-JUN-2011          Time : 11:33
   Sensor Suite : P-IND-T               ID : PIT-CA-075

                              Medium
                  Measured                  Calibrated
                   R       X                R          X        Units
   Air          131444  129932             1.1        0.1       MMHOS
   Zero         131073  131070           -10.4       44.9       MMHOS
   Reference    249867  250442          4989.6     5044.9       MMHOS
   Loop         151911  174389          2724.7     1000.8       MMHOS
   Sonde Error                             1.4       -8.1       MMHOS
   Cond                                 4989.6     5044.9       MMHOS

                               Deep
                  Measured                  Calibrated
                   R       X                R          X        Units
   Air          128062  131940             0.2       -0.9       MMHOS
   Zero         131069  131076            52.2      -18.5       MMHOS
   Reference    237814  237749          2052.2     1981.5       MMHOS
   Loop         149745  178375          1277.1      463.5       MMHOS
   Sonde Error                            -6.7        2.7       MMHOS
   Cond                                 2052.2     1981.5       MMHOS

                            Temperature
                  Measured                  Calibrated
                  Low     High              Low       High      Units
               16980.0 56920.0              70.0      350.0     DEGF
```

```
     Performed : 28-Apr-2011          Time : 10:48
   Sensor Suite : SFL                   ID : PIT-CA-075

                              Internal
                    Measured                Calibrated
                  Zero    Reference       Zero    Reference     Units
   Im           32769.1     48108.3        0.0       7028.0     uA
   Ib           32771.9     48750.3        0.0       1750.0     mA
   MOM1         32792.0     56996.0        0.0        175.0     mV
   Equivalent SFL                                     43.97     OHMM
```

```
     Performed : 28-Apr-2011          Time : 10:49
   Sensor Suite : P-SP                  ID : PIT-CA-075

                              Internal
              Measured                      Calibrated
           Zero    Reference              Zero    Reference     Units
        32769.0     58903.2                0.0       1000.0     mV
```

```
     Performed : 28-APR-2011          Time : 10:53
   Sensor Suite : P-RMUD                ID : PIT-CA-075

                              Internal
                    Measured                Calibrated
                  Zero    Reference       Zero    Reference     Units
   Rmi             0.0     65535.0         0.0        290.6     mA
   Rmv             0.0     65535.0         0.0        290.6     mV
   Equivalent Rm                                     0.9037     OHMM
```

Well File: rfp_emmerson_6-6c-2_jul6_st
Segment: V1.D1.S4 MAIN
Reference: 0

Scale: 1:1200
Acquired: 2011-07/06 10:07 3.2.0-10140
Processed: 2011-07/06 10:07 3.2.0-10140

TENSION
LBS
10000 0

DEEP INDUCTION
OHMM
0.0 500.0
0.0 50.0

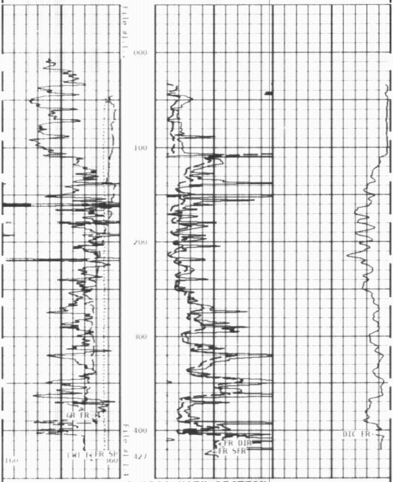
SPONTANEOUS POTENTIAL
mV
→| |←20

SHALLOW FOCUSED
OHMM
0.0 500.0
0.0 50.0

GAMMA RAY
API UNITS
200 400
0 200

DEEP CONDUCTIVITY
MMHO
2000 1000
1000 0

1:1200 MAIN SECTION



1:1200 MAIN SECTION

GAMMA RAY
API UNITS
200 400
0 200

DEEP CONDUCTIVITY
MMHO
2000 1000
1000 0

SPONTANEOUS POTENTIAL
mV
→| |←20

SHALLOW FOCUSED
OHMM
0.0 500.0
0.0 50.0

TENSION
LBS
10000 0

DEEP INDUCTION
OHMM
0.0 500.0
0.0 50.0