22591

Tucker
WIRELINE SERVICES

DUAL INDUCTION RESISTIVITY LOG

CONFIDENTIAL
UW 11/22/11

RECEIVED
NOV 22 2010
Mo Oil & Gas Council

File No. : TUL-54772
Company : RUNNING FOXES PETROLEUM, LLC
Well : EMMERSON 12-6B-1
Field :
County : VERNON
State : MISSOURI
Country : USA

Location : PERMIT#: 22591
2510' FSL & 530' FWL

Sect : 6 Twp : 36N Rge : 33W

Recorded By : B.BAILEY
Witnessed By : C.COUNTS

Date : OCT 14 2010
Run No. : 0

Permanent Datum :	GL	
Drilling Measured From :	GL	
Log Measured From:	GL	
Above Permanent Datum :	0.00	FT
Depth--Driller :	432.0	FT
Depth--Logger :	432.0	FT
Bottom Log Interval :	431.0	FT
Top Log Interval :	20.0	FT
Casing Depth--Driller:	20.0	FT
Casing Depth--Logger :	20.0	FT
Casing Diameter :	8.625	IN
Bit Size :	6.125	IN
Unit No. : 127		
Location : TULSA		

Elevations :
KB : FT
DF : FT
GL : 871.00 FT

Additional Services
CNT
LDT

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.

Run Number 0

Depth To Fluid	0.0	FT		
Fluid Type In Hole :	NATIVE			
Density :	0.000	SG		
Viscosity :	0.000	SEC		
pH :	0.000			
Fluid Loss :	0.000			
Salinity :	0.000	KPPM		
RM Source :	MEASURED			
RM :	10.000	OHMM at	74	F
RM at BHT :	10.000	OHMM at	74	F
RMF Source :	CALCULATED			
RMF :	8.500	OHMM at	74	F
RMF at BHT :	8.500	OHMM at	74	F
RMC Source :	CALCULATED			
RMC :	11.500	OHMM at	74	F
RMC at BHT :	11.500	OHMM at	74	F
Max Recorded Temp. :			74	F
Time Circulation Stopped :				
Operating Rig Time, Hrs. :			2.0	

- Source Serial Numbers -

Gamma	CSV-587
Neutron	N-1044

- Sonde Serial Numbers -

GRTB	GRT-BA-14
CNT	CNP-AA-116
LDTNG	LDP-NG-02
PIT	PIT-AB-14

Casing Strings

Size (IN)	Weight (LB/FT)	Bottom (FT)
8.625	32.00	20.00

- Comments -

ALL PRESENTATIONS AS PER CUSTOMER REQUEST.

GRT, CNT, LDT, PIT RAN IN COMBINATION
CALIPERS ORIENTED ON THE X-Y AXIS.
PHIN IS CALIPER CORRECTED.
2.71 G/CC USED TO CALCULATE POROSITY.
ANNULAR HOLE VOLUME CALCULATED USING 2.875" PRODUCTION CASING.

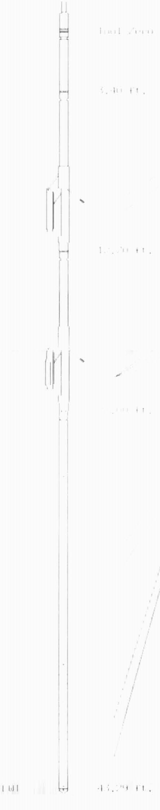
GRT: GRP.
CNT: PHIN, CLCNIN.
LDT: PORL, LCORN, PECLN, CLLDIN, LDENN, PORLLS, PECSN.
PIT: ILD, ILM, CIRD, SFLAEC, SPU.

OPERATORS:
R.AUSTIN
M.BURKE

THANK YOU FOR USING ROCKER WIRELINE SERVICES!

Tool String Schematic

Total Tool Length 43.29 ft.
Maximum Outside diameter 4.80 in.
Net Weight in Air 243.00 lbs.



Tool: GRTB **Length:** 3.40 ft. **O.D.:** 3.60 in.
Sonde ID : GRT BA 14

Measure Point	Stack Offset	Tool Offset	Bottom Offset
GRP	2.00	2.00	41.29

Tool: CNT **Length:** 9.30 ft. **O.D.:** 4.56 in.
Sonde ID : CNP AA 116
Source ID : N 1044
Pad ID : CNP AA 116

Measure Point	Stack Offset	Tool Offset	Bottom Offset
CLCN	9.40	6.00	33.89
PHIN	10.24	6.84	33.05

Tool: LDTNG **Length:** 9.30 ft. **O.D.:** 4.80 in.
Sonde ID : LDP NG 02
Source ID : CSV 587
Pad ID : LDP NG 02

Measure Point	Stack Offset	Tool Offset	Bottom Offset
CLLD	18.70	6.00	24.59
PEL	19.70	7.00	23.59
PES	20.10	7.40	23.19
LDEN	19.70	7.00	23.59
LCOR	19.70	7.00	23.59

Tool: PIT **Length:** 21.29 ft. **O.D.:** 3.62 in.
Sonde ID : PIT AB 14

Measure Point	Stack Offset	Tool Offset	Bottom Offset
ILD	30.92	8.92	12.37
ILM	32.10	10.10	11.20
SFLU	39.49	17.49	3.81
SP	42.60	20.60	0.69

TENSION
LBS
10000 0

SPONTANEOUS POTENTIAL
mV
→| |← 20

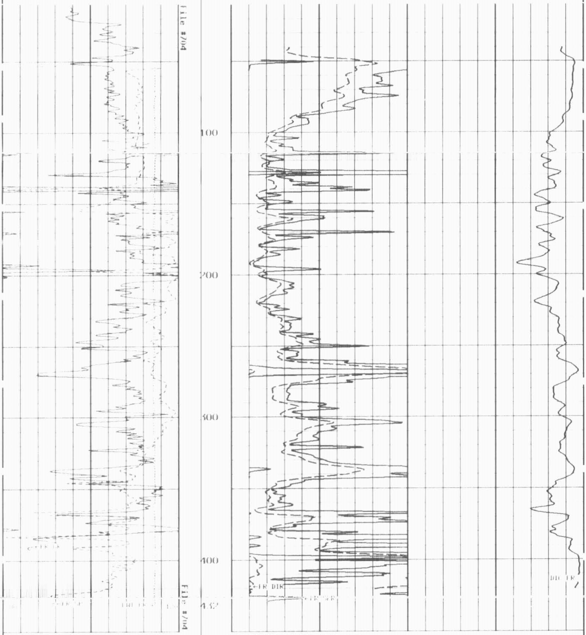
GAMMA RAY
API UNITS
200 400
0 200

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

SPONTANEOUS POTENTIAL
mV
→| |← 20

TENSION
LBS
10000 0

DEEP CONDUCTIVITY
MMHO
2000 1000
1000 0

DEEP INDUCTION
OHMM
0.0 500.0
0.0 50.0

SHALLOW FOCUSED RESISTIVITY
OHMM
0.0 500.0
0.0 50.0

TENSION
LBS
10000 0

SPONTANEOUS POTENTIAL
mV
→| |← 20

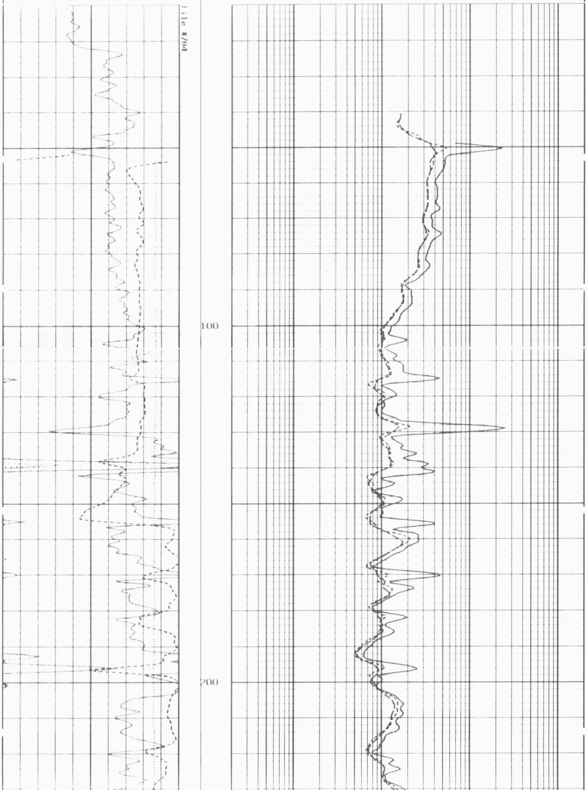
GAMMA RAY
API UNITS
200 400
0 200

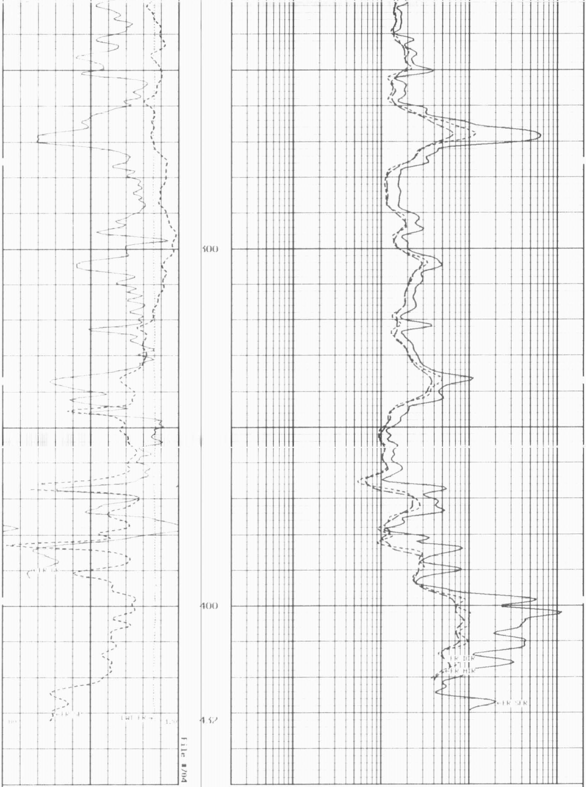
SHALLOW FOCUSED RESISTIVITY
OHMM
0.2 2000.0

MEDIUM INDUCTION
OHMM
0.2 2000.0

DEEP INDUCTION
OHMM
0.2 2000.0

1:240 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

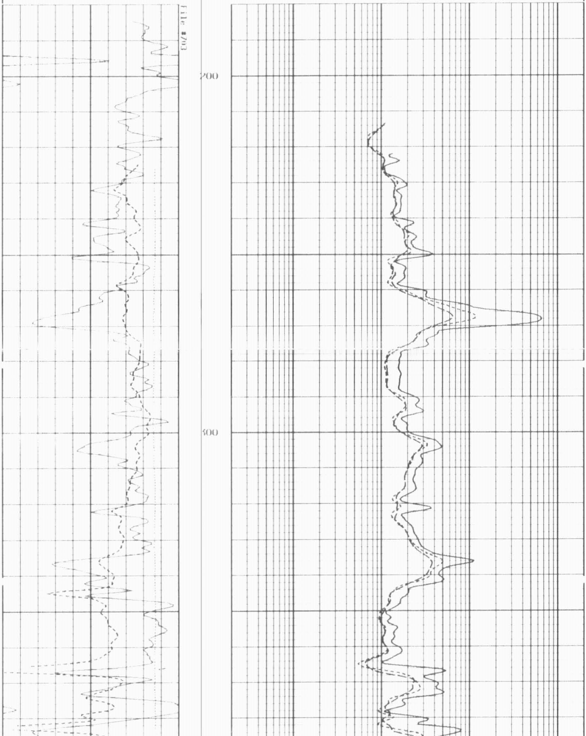
* Borehole Zone Factors *

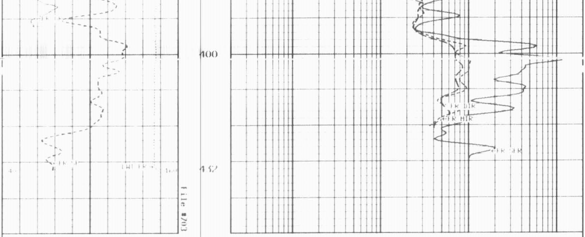
Zone 1 99999.0 to 0.0 F

Drill Bit Size	6.125	IN
BHT Depth	432.000	F
Borehole Temperature	24.0	DEGF
Temperature Gradient	1.00	DEGF
Resistivity Of Mud	10.00	OHMM
Standoff	1.5	
Resistivity Of Mud Temperature	24.00	DEGF

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 REPEAT SECTION





1:240 REPEAT SECTION

GAMMA RAY API UNITS 200 400 0 200	DEEP INDUCTION OHMM 0.2 2000.0
SPONTANEOUS POTENTIAL mV →| |← 20	MEDIUM INDUCTION OHMM 0.2 2000.0
TENSION LBS 10000 0	SHALLOW FOCUSED RESISTIVITY OHMM 0.2 2000.0

* Borehole Zone Factors *

```
                Zone 1    99999.0  to    0.0  F

    Drill Bit Size                              6.125   IN
    BHT Depth                                 432.000   F
    Borehole Temperature                        22.0     DEGC
    Temperature Gradient                        1.00     DEGF
    Resistivity Of Mud                         10.00     OHMM
    Standoff                                    1.5
    Resistivity Of Mud Temperature             22.00     DEGC
```

* Calibration Summary *

```
                          Shop Calibration
                               GRTB
    Performed : 21 Aug 2009               Time : 15:26
  Sensor Serial : GR 685                    ID : GRT BB 14

                 Measured       Units      Calibrated      Units
       Background     Jig                     Jig
GR            48      347       CPS           175          GAPI
```

```
                          Shop Calibration
                               PTI
    Performed : 30 JUN 2010               Time : 14:33
  Sensor Serial : P IND 1                   ID : PTI AB 14

                              Medium
                 Measured                  Calibrated
                 R        X                R          X        Units
  Air          131256   130213            0.6        1.7      MMHOS
  Zero         131062   131070            0.0        0.0      MMHOS
  Reference    242015   242022         5000.0     5000.0      MMHOS
  Loop         151293   173380         2699.3      989.2      MMHOS
  Sonde Error                             2.5        2.4      MMHOS
  Total                                5000.0     5000.0      MMHOS

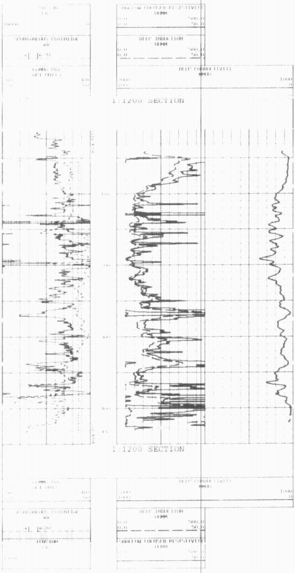
                               Deep
                 Measured                  Calibrated
                 R        X                R          X        Units
  Air          130985   131158            0.2        0.0      MMHOS
  Zero         131039   131070            0.0        0.0      MMHOS
  Reference    231857   251312         2000.0     2000.0      MMHOS
  Loop         149299   174223         1222.5      464.8      MMHOS
  Sonde Error                             4.7        0.1      MMHOS
  Total                                2000.0     2000.0      MMHOS
```

```
                         Temperature
            Measured                         Calibrated
             Low      High                  Low        High      Units
        16000.0  56920.0                   20.0       450.0      DEGF

   Performed : 30 Jan 2010             Time : 14:00
Sensor Suite : SFL                        ID : PII 6B 14

                           Internal
               Measured                      Calibrated
              Zero    Reference          Zero    Reference      Units
Io          32747.3     48723.4           0.0       2028.0      mA
Is          32762.9     49766.0           0.0       1750.0      mA
MOM1        32753.1     56567.9           0.0        175.0      mV
Equivalent SFL                                       43.97      OHMM

   Performed : 30 Jan 2010             Time : 13:51
Sensor Suite : SP                         ID : PII 6B 14

                           Internal
         Measured                            Calibrated
        Zero    Reference                Zero    Reference      Units
     32913.0     58041.9                  0.0       1000.0      mV
```