#22591

Tucker
WIRELINE SERVICES

COMPENSATED NEUTRON
PEL DENSITY LOG

CONFIDENTIAL
tell 11/22/11

RECEIVED
NOV 22 2010
Mo Oil & Gas Council

File No. :	TUL-34772
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 :	429.0	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

PIT

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 interpretations, 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
CALIPER 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 TO THE WIRELINE SERVICES!

Tool String Schematic

Total Tool Length 43.29 ft.
Maximum Outside diameter 4.80 in.
Net Weight in Air 433.00 lbs.

Tool Zero
5.40 ft.
14.90 ft.

Tool: GRTB Length: 5.40 ft. O.D.: 3.50 in.
Sonde ID : GRT NO 14

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

Tool: CNT Length: 9.50 ft. O.D.: 3.50 in.
Sonde ID : CNT NO 116
Source ID : N 1044
Pad ID : CNT NO 116

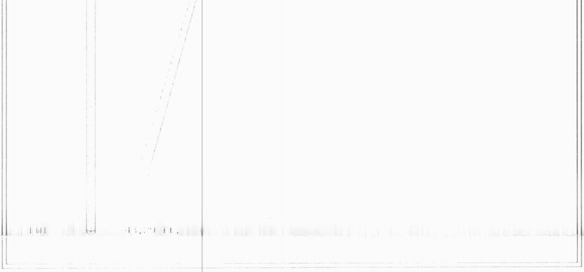
Measure Point	Stack Offset	Tool Offset	Bottom Offset
CLCN	9.40	6.00	33.89
PHIN	10.24	6.84	33.05

Tool: LDTB Length: 9.50 ft. O.D.: 4.80 in.
Sonde ID : LDT NO 02
Source ID : CSV 582
Pad ID : LDT NO 02

Measure Point	Stack Offset	Tool Offset	Bottom Offset
LLLD	18.70	6.00	24.59
PEL	19.70	7.00	23.59
PES	20.10	7.40	23.19
SDLD	19.70	7.00	23.59
LDBS	19.70	7.00	23.59

Tool: PIT Length: 21.29 ft. O.D.: 3.62 in.
Sonde ID : PIT NO 14

Measure Point	Stack Offset	Tool Offset	Bottom Offset
ILD	30.92	11.92	12.37
ILM	32.10	10.10	11.20
SFLU	38.49	17.19	5.81
SP	43.20	20.60	0.09



TENSION
LBS
10000 0

BIT SIZE
INCHES (IN)
4 14

Volume
Quartz

DENSITY (X) CALIPER
INCHES (IN)
14 24
4 14

Volume
Calcite

PE CROSS SECTION
BARNS/ELECTRON
0 10

DENSITY CORRECTION
G/CC
0.25 0.25

NEUTRON (Y) CALIPER
INCHES (IN)
14 24
4 14

Volume
[illegible]

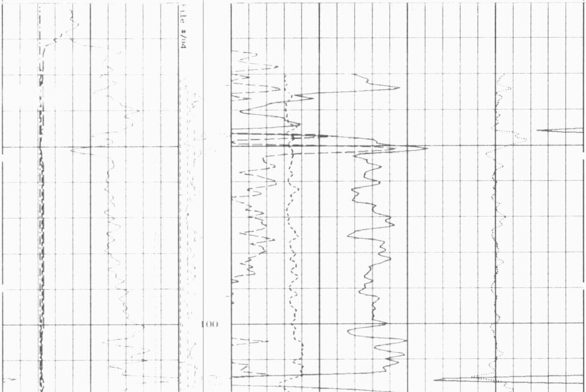
NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)
30 10

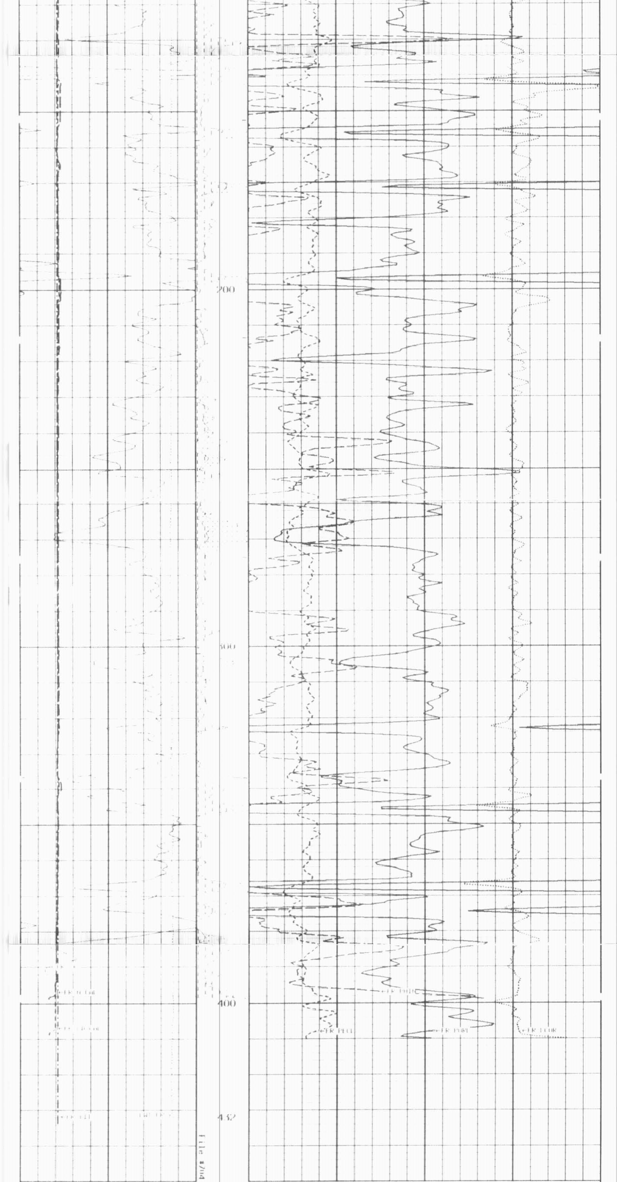
GAMMA RAY
API UNITS
200 400
0 200

-BHV BHV-
CU.FT

DENSITY POROSITY
PERCENT (2.71 g/cc)
70 30
30 10
10 50

1:240 MAIN SECTION





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1:240 MAIN SECTION

GAMMA RAY
API UNITS
200 400
0 200

-BHV BHV-
CU.FT

DENSITY POROSITY
PERCENT (2.71 g/cc)
70 30
30 10
10 50

NEUTRON (Y) CALIPER
INCHES (IN)
14 24
4 14

Volume
Data Scale

NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)
30 10

DENSITY (X) CALIPER
INCHES (IN)
14 24
4 14

Volume
Calcite

PE CROSS SECTION
BARNS/ELECTRON
0 10

DENSITY CORRECTION
G/CC
0.25 0.25

BIT SIZE
INCHES (IN)
4 14

Volume
Quartz

TENSION
LBS
10000 0

* Borehole Zone Factors *

Zone 1 9999.0 to 0.0 F

Matrix Density 2.71 G/C3
Fluid Density 1.00 G/C3
Formation Matrix Limestone
Drill Bit Size 6.125 IN
Production Casing Diameter 7.625 IN
Casing Correction (PHI N) Disable

TENSION
LBS
10000 0

BIT SIZE
INCHES (IN)
4 14

Volume
Quartz

DENSITY (X) CALIPER
INCHES (IN)
14 24
4 14

Volume
Calcite

PE CROSS SECTION
BARNS/ELECTRON
0 10

DENSITY CORRECTION
G/CC
0.25 0.25

NEUTRON (Y) CALIPER
INCHES (IN)
14 24
4 14

Volume
Data Scale

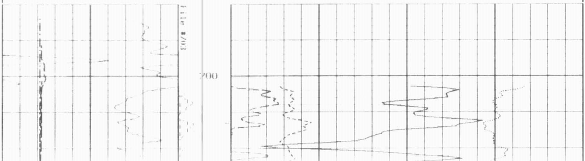
NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)
30 10

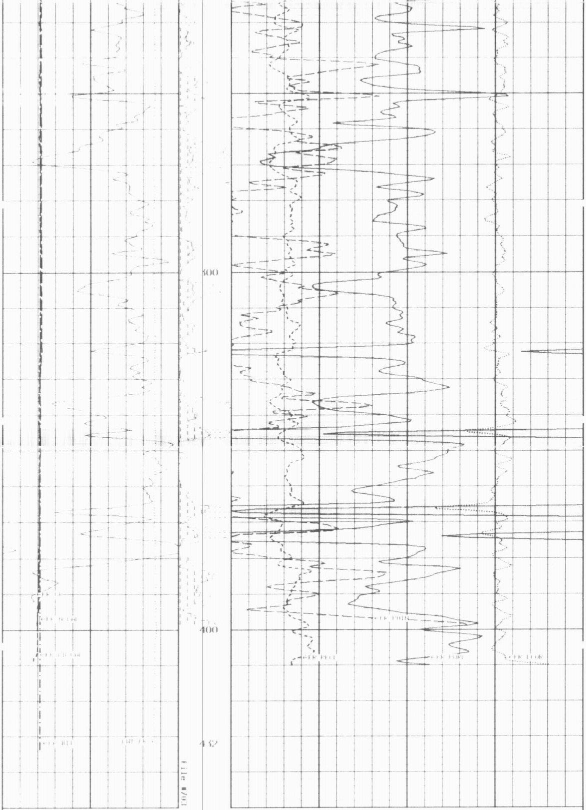
GAMMA RAY
API UNITS
200 400
0 200

-BHV BHV-
CU.FT

DENSITY POROSITY
PERCENT (2.71 g/cc)
70 30
30 10
10 50

1:240 REPEAT SECTION





1:240 REPEAT SECTION

GAMMA RAY
API UNITS
200 400
0 200

-BHV BHV-
CU.FT

DENSITY POROSITY
PERCENT (2.71 g/cc)
70 30
30 10
10 50

NEUTRON (Y) CALIPER
INCHES (IN)
14 24
4 14

Volume

NEUTRON POROSITY
PERCENT (LIMESTONE MATRIX)
30 10

DENSITY (X) CALIPER
INCHES (IN)
14 24
4 14

Volume

PE CROSS SECTION
BARNS/ELECTRON
0 10

DENSITY CORRECTION
G/CC
0.25 0.25

BIT SIZE
INCHES (IN)
4 14

Volume

TENSION
LBS

10000 0

* Borehole Zone Factors *

Zone 1 99999.0 to 0.0 F

Matrix Density	2.71 G/CC
Fluid Density	1.00 G/CC
Formation Matrix	Limestone
Drill Bit Size	6.125 IN
Pseudo Open Casing Diameter	2.875 IN
Casing Correction (PHI N)	Disable

TENSION
LBS
10000 0

BIT SIZE
INCHES (IN)
4 14

DENSITY (X) CALIPER
INCHES (IN)
14 24
4 14

NEUTRON (Y) CALIPER
INCHES (IN)
14 24
4 14

GAMMA RAY
API UNITS
200 400
0 200

-BHV BHV-
CU.FT

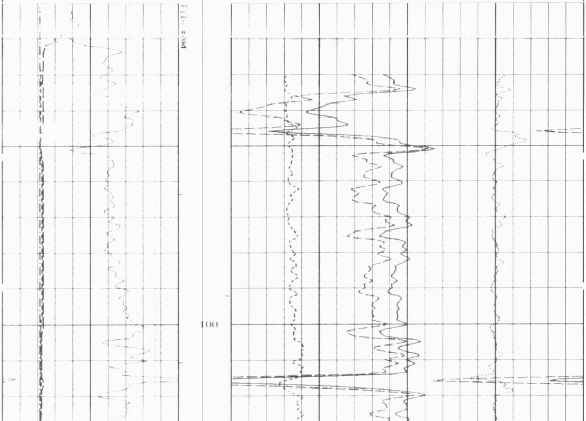
PE CROSS SECTION
BARNS/ELECTRON
0 10

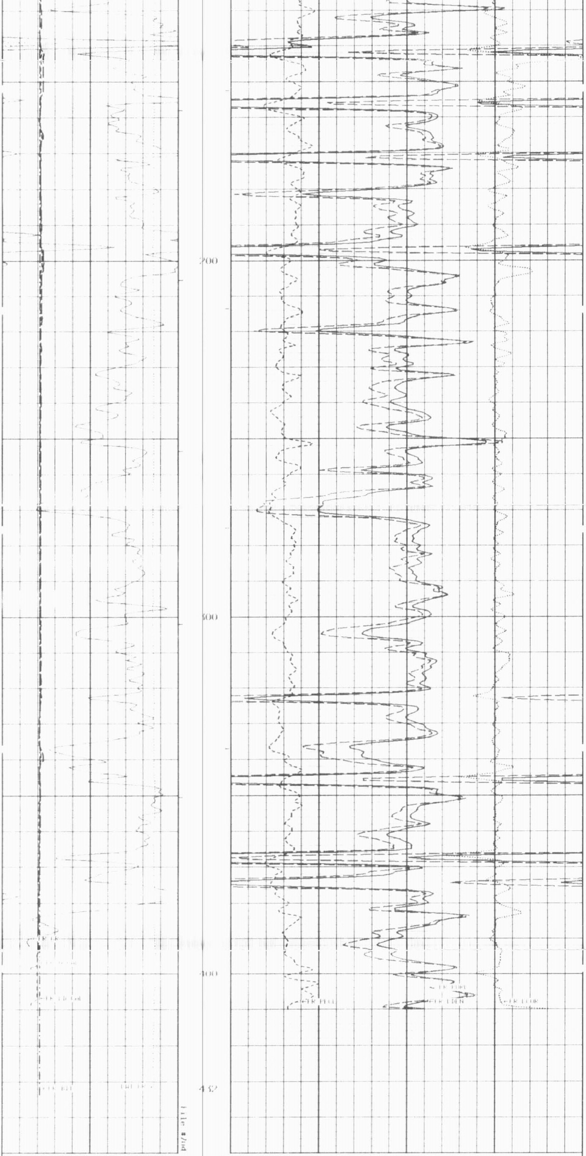
DENSITY CORRECTION
G/CC
0.25 0.25

DENSITY POROSITY
PERCENT (2.71 g/cc)
70 30
30 10
10 50

COMPENSATED BULK DENSITY
G/CC
3.0 4.0
2.0 3.0
1.0 2.0

1:240 MAIN SECTION
BULK DENSITY





1:240 MAIN SECTION
BULK DENSITY

GAMMA RAY API UNITS 200 400 0 200	RHV RHV- CALL	COMPENSATED BULK DENSITY G/CC 3.0 4.0 2.0 3.0 1.0 2.0
NEUTRON (Y) CALIPER INCHES (IN) 14 24 4 14		DENSITY POROSITY PERCENT (2.71 g/cc) 70 30 30 10 10 50
DENSITY (X) CALIPER INCHES (IN) 14 24 4 14		PE CROSS SECTION BARNS/ELECTRON 0 10
		DENSITY CORRECTION G/CC 0.25 0.25
BIT SIZE INCHES (IN) 4 14		
TENSION LBS 10000 0		

* Borehole Zone Factors *

```
                    Zone 1    99999.0   to    0.0  F

   Matrix Density                                   2.71   G/C3
   Fluid Density                                    1.00   G/C3
   Formation Matrix                            Limestone
   Drill Bit Size                                   6.125  IN
   Production Casing Diameter                       7.625  IN
   Casing Correction (CNT-H)                     Disable
```

* Calibration Summary *

```
                          Shop Calibration
                                GRTB
       Performed : 21 Aug 2009               Time : 15:56
   Sensor Serial : 88 385                      ID : GRT No 14

                      Measured      Units          Calibrated       Units
         Background     Jig                           Jig
GR          49          347       CPS                 175           GAPI

                          Shop Calibration
                                CNT
       Performed : [illegible] 2010          Time : 10:52
   Source Serial : DBN [illegible]             ID : CNT on file
   Source [illegible] : [illegible]

                      Tank                     Verification        Units
               Measured    Calibrated              Jig
N/F             3.8894      3.6889               3.6846
Porosity        23.6        20.5                 20.5                %

       Performed : 07 MAR 2010               Time : 09:04
   Caliper Serial : Cal [illegible]            ID : CNT on file

                 Jig    Measured               Jig    Calibrated   Units
               Ring#1   Ring#2               Ring#1   Ring#2
CL #1            8.6     14.6                 6.0      12.0          IN

                          Shop Calibration
                               LDTNG
       Performed : 14 APR 2009               Time : 14:5?
   Caliper Serial : Cal [illegible]            ID : LDT No 0?

                 Jig    Measured               Jig    Calibrated   Units
               Ring#1   Ring#2               Ring#1   Ring#2
CL #1            6.?     12.?4                6.0      12.0          IN

       Performed : 0? Sep 2010               Time : 10:41
   Sensor Serial : [illegible]                 ID : LDT No 0?
       Source ID : [illegible]

                               Short Space
                BKGD          Al            Mg           Al+Mg        Units
LS01             20           482           788           538          CPS
LS02             ?1           529           915           419          CPS
LS03            265          1434          2236          1318          CPS
LS04            362          1396          1862          1202          CPS
LS05             36            44            46            43          CPS
LS06             95            96            96            95          CPS
LS07             60            61            59            61          CPS
LS08              ?             5             5             5          CPS
[illegible]   [illegible]   [illegible]   [illegible]   [illegible]
```

[illegible]		[illegible]	1,000		[illegible]
		Long Space			
	[illegible]	ml	Mg	[illegible]	Units
[illegible]	110	[illegible]	[illegible]	[illegible]	[illegible]
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