



Home  
(785) 798-3400

# Andrew Stenzel Geologist

Ness City, Kansas



Cell  
(785) 798-8977

Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: Black Gold #1  
API: 15-135-26078-00-00  
Location: SW-SE-NE-SW Sec. 10-19S-25W (Ness County)  
License Number: 30742  
Spud Date: 9/5/19  
Surface Coordinates: 1611' FSL & 2016' FWL  
Region: KANSAS  
Drilling Completed: 9/15/19

Bottom Hole  
Coordinates:  
Ground Elevation (ft): 2453  
Logged Interval (ft): 3500 To: TD  
Formation: MISSISSIPPIAN  
Type of Drilling Fluid: Mud-Co Chemical  
K.B. Elevation (ft): 2458  
Total Depth (ft): 4620

Printed by MudLog from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

## OPERATOR

Company: Palomino Petroleum, Inc.  
Address: 4924 SE 84th St.  
Newton, KS 67114

## GEOLOGIST

Name: Andrew Stenzel  
Company: Petroleum Geologist  
Address: 501 S. Franklin  
Ness City, KS 67560

## Drilling Report

### DAILY DRILLING REPORT:

9/5/19 MIRU, ran surface casing  
9/6/19 Waiting on cement  
9/7/19 Drilling @ 1925'  
9/8/19 Drilling @ 2585'  
9/9/19 Drilling @ 3385'  
9/10/19 Drilling @ 3965'  
9/11/19 Drilling @ 4345'  
9/12/19 DST #1  
9/13/19 DST #2, DST #3  
9/14/19 Ran electric logs, DST #4  
9/15/19 Ran Production Casing

### Services

RIG: Murfin Drilling, DBA WW Drilling, Rig #102

MUD: MUDCO

LOGS: Gemini Wireline; CNDL, PE, DIL, ML

### Casing Record

SURFACE Casing: Ran 16 jts new 8 5/8", 23# casing @ 687'.

PRODUCTION Casing: Ran 110 jts new 5 1/2", 14# casing set at 4615'.

### Formation Tops

Sample Tops		LogTops	
Anhy.	1741 (+717)	Anhy.	1740 (+718)
Base Anhy.	1779 (+679)	Base Anhy.	1780 (+678)
Heebner	3830 (-1372)	Heebner	3828 (-1370)
Lansing	3870 (-1412)	Lansing	3871 (-1413)
BKC	4187 (-1729)	BKC	4188 (-1730)
Marmaton	4218 (-1760)	Marmaton	4222 (-1764)
Pawnee	4305 (-1847)	Pawnee	4306 (-1848)
Ft. Scott	4379 (-1921)	Ft. Scott	4378 (-1920)
Cher. Sh.	4405 (-1947)	Cher. Sh.	4402 (-1944)
Miss.	4477 (-2019)	Miss.	4478 (-2020)
RTD	4620 (-2162)	LTD	4620 (-2162)



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## DRILL STEM TEST REPORT

Palomino Petroleum

10- 19 S. - 25 W. Ness, KS

4924 SE 58th St.  
Newton, KS 67114

**Black Gold #1**

Job Ticket: 65552 DST#: 1

ATTN: Andrew Stenzel

Test Start: 2019.09.11 @ 20:40:00

### GENERAL INFORMATION:

Formation: **Ft. Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 22:44:40

Time Test Ended: 06:25:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Martine Salinas

Unit No: 82

Interval: **4355.00 ft (KB) To 4412.00 ft (KB) (TVD)**

Total Depth: 4412.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2458.00 ft (KB)

2453.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8734 Outside**

Press@RunDepth: 832.75 psig @ 4356.00 ft (KB)

Start Date: 2019.09.11

End Date:

2019.09.12

Capacity: 8000.00 psig

Last Callb.:

2019.09.12

Start Time: 20:40:01

End Time:

06:25:00

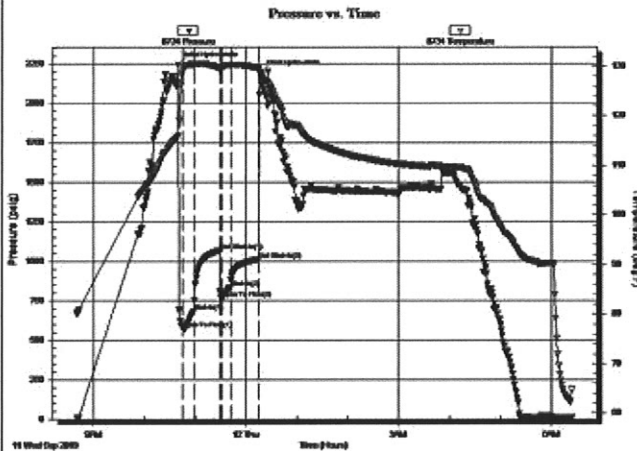
Time On Btmr:

2019.09.11 @ 22:39:50

Time Off Btmr:

2019.09.12 @ 00:17:10

**TEST COMMENT:** 15-IF-B.O.B (11 inches) @ 30 secs (blow increased to 671") GTS @ 15 mins  
30-ISI-B.O.B (11 inches) ASASI (blow increased to 62 1/2" & decreased to 7")  
15-FF-B.O.B (11 inches) ASAO (blow increased to 338")  
30-FSI-B.O.B (11 inches) @ 1 mins (blow increased to 251 1/2")



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2245.10	115.97	Initial Hydro-static
5	571.57	128.99	Open To Flow (1)
19	681.34	130.43	Shut-in(1)
49	1065.29	129.74	End Shut-in(1)
51	765.76	129.41	Open To Flow (2)
62	832.75	130.28	Shut-in(2)
95	1010.61	129.59	End Shut-in(2)
98	2190.72	128.30	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
181.00	GMCO 32%G, 25%M, 43%O	1.46
2804.00	CGO 25%G,75%O 0-40 MINS REVERSED	39.33
15.00	CGO 15%G, 85%O	0.21
0.00	1000' GIP	0.00

### Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE TESTING, INC.**

## DRILL STEM TEST REPORT

Palomino Petroleum

10- 19 S. - 25 W. Ness, KS

4924 SE 58th St.  
New ton, KS 67114

**Black Gold #1**

Job Ticket: 65553

**DST#: 2**

ATTN: Andrew Stenzel

Test Start: 2019.09.12 @ 19:45:00

### GENERAL INFORMATION:

Formation: **Mississippian**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:37:20

Time Test Ended: 02:26:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: 4481.00 ft (KB) To 4493.00 ft (KB) (TVD)

Total Depth: 4493.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2458.00 ft (KB)

2453.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8734 Outside**

Press@RunDepth: 76.72 psig @ 4482.00 ft (KB)

Start Date: 2019.09.12 End Date: 2019.09.13

Start Time: 19:45:01 End Time: 02:26:00

Capacity: 8000.00 psig

Last Calib.: 2019.09.13

Time On Btmr: 2019.09.12 @ 21:36:40

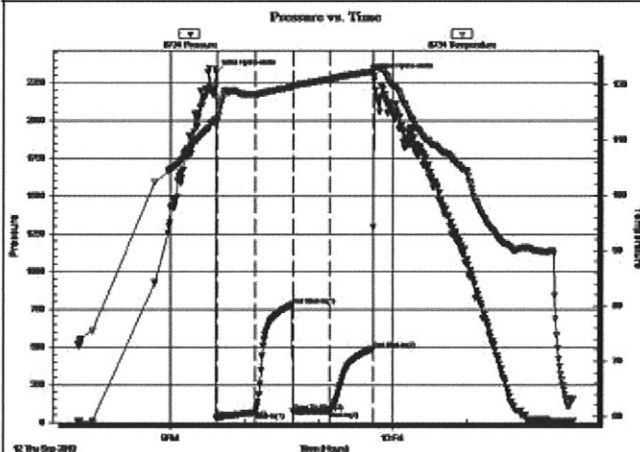
Time Off Btmr: 2019.09.12 @ 23:45:00

**TEST COMMENT:** 30-IF-1/4" blow dead @ 24 mins

30-ISI-No blow back

30-FF-No blow

30-FSI-No blow back



### PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2316.97	113.80	Initial Hydro-static
1	30.94	113.35	Open To Flow (1)
32	66.65	118.21	Shut-in(1)
63	780.18	119.51	End Shut-in(1)
64	72.88	119.74	Open To Flow (2)
93	76.72	120.95	Shut-in(2)
128	488.15	122.27	End Shut-in(2)
129	2296.18	123.10	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
60.00	GOCM 15%G, 25%O, 60%M	0.30
140.00	CGO 20%G, 80%O	1.44

\* Recovery from multiple tests

### Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)





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## DRILL STEM TEST REPORT

Palomino Petroleum

4924 SE 56th St.  
Newton, KS 67114

ATTN: Andrew Stenzel

**10- 19 S. - 25 W. Ness, KS**

**Black Gold #1**

Job Ticket: 65554

**DST#: 3**

Test Start: 2019.09.13 @ 10:20:00

### GENERAL INFORMATION:

Formation: **Lower Mississippian**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:26:10

Time Test Ended: 16:16:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: **4494.00 ft (KB) To 4502.00 ft (KB) (TVD)**

Total Depth: **4502.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: Good

Reference Elevations: **2458.00 ft (KB)**

**2453.00 ft (CF)**

**KB to GR/CF: 5.00 ft**

**Serial #: 8734 Outside**

Press@RunDepth: **31.91 psig @ 4495.00 ft (KB)**

Start Date: 2019.09.13

End Date:

2019.09.13

Capacity: **8000.00 psig**

Last Callb.: 2019.09.13

Start Time: 10:20:01

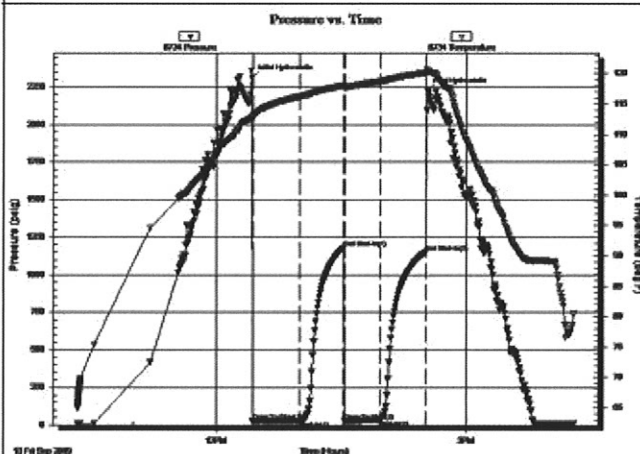
End Time:

16:16:30

Time On Blmt: 2019.09.13 @ 12:25:50

Time Off Blmt: 2019.09.13 @ 14:32:00

**TEST COMMENT:** 30-IF-Weak surface blow built to 1/4"  
30-ISI-No blow back  
30-FF-No blow @ 5 mins, Flushed tool, maintained surface blow  
30-FSI-No blow back



### PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2311.67	113.06	Initial Hydro-static
1	28.85	112.51	Open To Flow (1)
34	27.56	116.24	Shut-in(1)
66	1181.10	118.06	End Shut-in(1)
67	30.95	117.81	Open To Flow (2)
92	31.91	118.70	Shut-in(2)
125	1152.32	120.15	End Shut-in(2)
127	2224.52	120.31	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
10.00	GOCWM 5%G,5%O,40%W,50%O	0.05

\* Recovery from multiple tests

### Gas Rates

Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)

Trilobite Testing, Inc

Ref. No: 65554

Printed: 2019.09.13 @ 18:01:30



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## DRILL STEM TEST REPORT

Palomino Petroleum

**10- 19 S. - 25 W. Ness, KS**

4924 SE 56th St.  
New ton, KS 67114

**Black Gold #1**

Job Ticket: 65555

**DST#: 4**

ATTN: Andrew Stenzel

Test Start: 2019.09.14 @ 06:56:00

### GENERAL INFORMATION:

Formation: **Lower Mississipian**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:02:20

Time Test Ended: 13:55:00

Test Type: Conventional Straddle (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: **4496.00 ft (KB) To 4519.00 ft (KB) (TVD)**

Total Depth: 4620.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2458.00 ft (KB)

2453.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8734 Outside**

Press@RunDepth: 185.33 psig @ 4496.00 ft (KB)

Start Date: 2019.09.14

End Date:

2019.09.14

Capacity: 8000.00 psig

Last Callb.: 2019.09.14

Start Time: 06:56:01

End Time:

13:55:00

Time On Btrr: 2019.09.14 @ 09:02:10

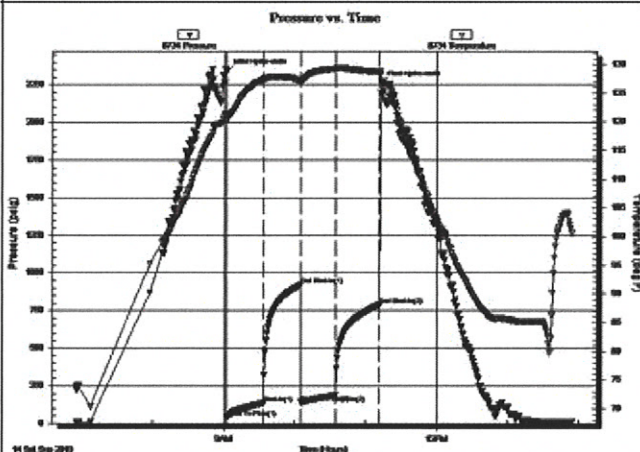
Time Off Btrr: 2019.09.14 @ 11:13:20

**TEST COMMENT:** 30-IF-1/2" blow built to B.O.B(11 inches) @ 16 mins (blow increased to 15"

30-ISI-No blow back

30-FF-S.blow built to 7 1/2"

30-FSI-No blow back



### PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2339.00	121.37	Initial Hydro-static
1	42.40	120.24	Open To Flow (1)
32	135.38	127.36	Shut-in(1)
63	921.38	127.31	End Shut-in(1)
64	139.90	127.07	Open To Flow (2)
93	185.33	129.30	Shut-in(2)
130	789.76	128.73	End Shut-in(2)
132	2259.56	127.15	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
120.00	MSW & Oil scum 4%M, 96%W	0.61
297.00	OSMCW 3%O, 20%M, 77%W	4.17
3.00	CGO 2%G, 98%O	0.04

\* Recovery from multiple tests

### Gas Rates

Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)

Trilobite Testing, Inc

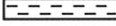



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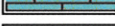

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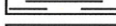


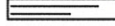


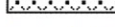
**ROCK TYPES**

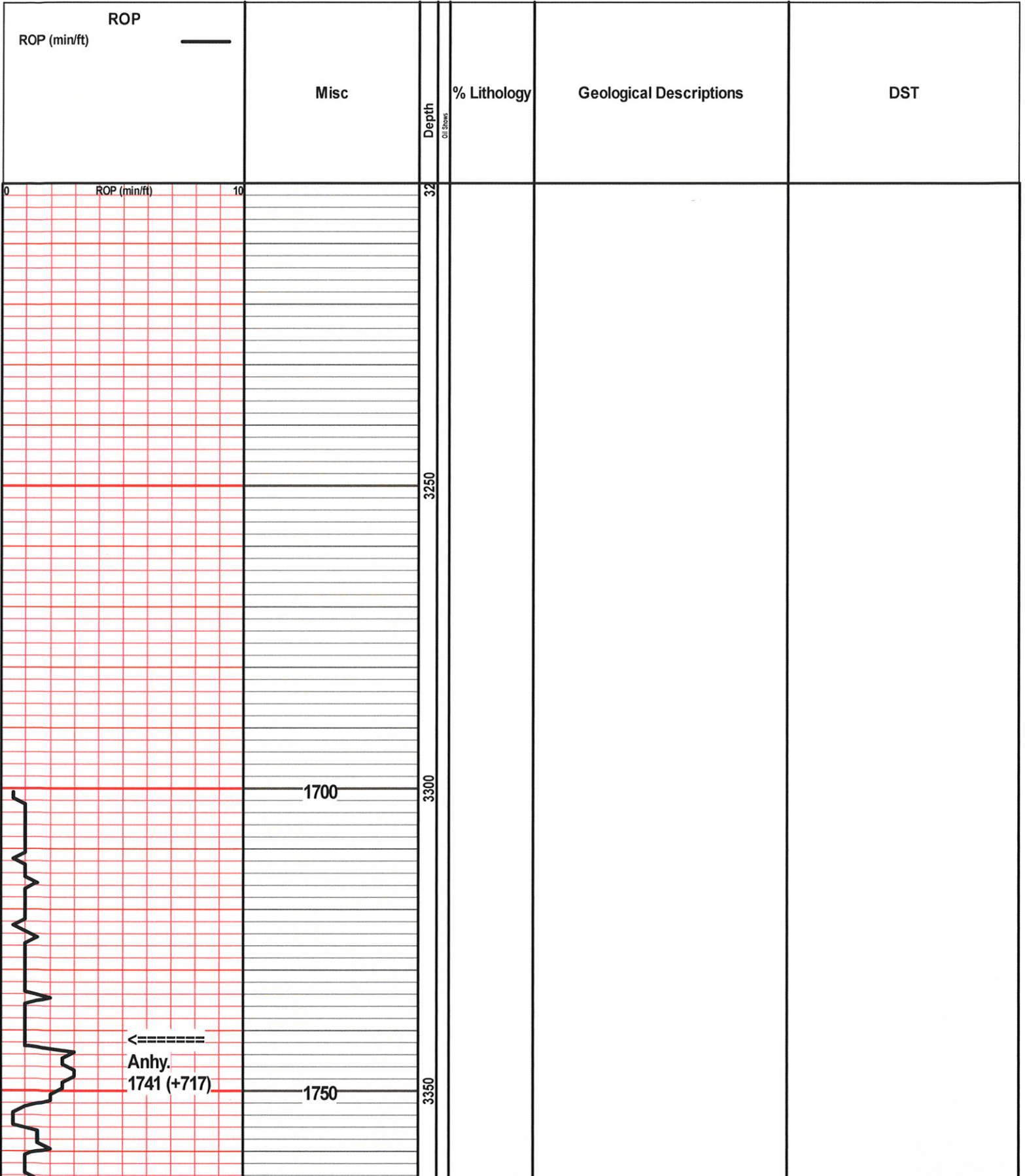
 Anhy  
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**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Palomino Petroleum

**10- 19 S. - 25 W. Ness, KS**

4924 SE 58th St.  
Newton, KS 67114

**Black Gold #1**

Job Ticket: 65554

**DST#: 3**

ATTN: Andrew Stenzel

Test Start: 2019.09.13 @ 10:20:00

### GENERAL INFORMATION:

Formation: **Lower Mississippian**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:26:10

Time Test Ended: 16:16:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: **4494.00 ft (KB) To 4502.00 ft (KB) (TVD)**

Total Depth: 4502.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2458.00 ft (KB)

2453.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8734**

**Outside**

Press@RunDepth: 31.91 psig @ 4495.00 ft (KB)

Start Date: 2019.09.13

End Date:

2019.09.13

Start Time: 10:20:01

End Time:

16:16:30

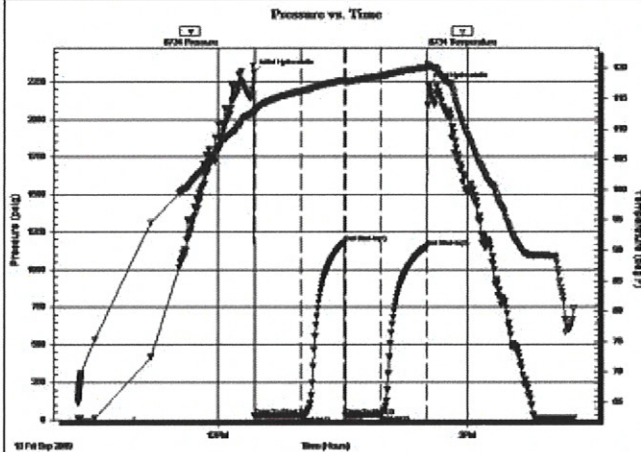
Capacity: 8000.00 psig

Last Calib.: 2019.09.13

Time On Btrr: 2019.09.13 @ 12:25:50

Time Off Btrr: 2019.09.13 @ 14:32:00

**TEST COMMENT:** 30-IF-Weak surface blow built to 1/4"  
30-ISI-No blow back  
30-FF-No blow @ 5 mins, Flushed tool, maintained surface blow  
30-FSI-No blow back



### PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2311.67	113.06	Initial Hydro-static
1	28.85	112.51	Open To Flow (1)
34	27.56	116.24	Shut-In(1)
66	1181.10	118.06	End Shut-In(1)
67	30.95	117.81	Open To Flow (2)
92	31.91	118.70	Shut-In(2)
125	1152.32	120.15	End Shut-In(2)
127	2224.52	120.31	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
10.00	GOCWM 5%G,5%O,40%W,50%O	0.05

\* Recovery from multiple tests

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Trilobite Testing, Inc

Ref. No: 65554

Printed: 2019.09.13 @ 18:01:30



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Palomino Petroleum

**10- 19 S. - 25 W. Ness, KS**

4924 SE 58th St.  
Newton, KS 67114

**Black Gold #1**

Job Ticket: 65555      **DST#: 4**

ATTN: Andrew Stenzel

Test Start: 2019.09.14 @ 06:56:00

### GENERAL INFORMATION:

Formation: **Lower Mississippian**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:02:20

Time Test Ended: 13:55:00

Test Type: Conventional Straddle (Reset)

Tester: Martine Salinas

Unit No: 82

Interval: **4496.00 ft (KB) To 4519.00 ft (KB) (TVD)**

Total Depth: 4620.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2458.00 ft (KB)

2453.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8734 Outside**

Press@RunDepth: 185.33 psig @ 4496.00 ft (KB)

Start Date: 2019.09.14

End Date:

2019.09.14

Capacity: 8000.00 psig

Last Callb.: 2019.09.14

Start Time: 06:56:01

End Time:

13:55:00

Time On Btrr: 2019.09.14 @ 09:02:10

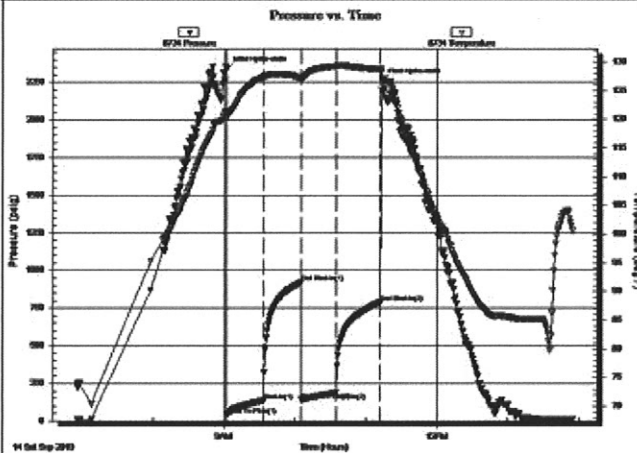
Time Off Btrr: 2019.09.14 @ 11:13:20

**TEST COMMENT:** 30-IF-1/2" blow built to B.O.B(11 inches) @ 16 mins (blow increased to 15"

30-ISI-No blow back

30-FF-S.blow built to 7 1/2"

30-FSI-No blow back



### PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2339.00	121.37	Initial Hydro-static
1	42.40	120.24	Open To Flow (1)
32	135.38	127.36	Shut-in(1)
63	921.38	127.31	End Shut-in(1)
64	139.90	127.07	Open To Flow (2)
93	185.33	129.30	Shut-in(2)
130	789.76	128.73	End Shut-in(2)
132	2259.56	127.15	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
120.00	MSW & Oil scum 4%M, 96%W	0.61
297.00	OSMCW 3%O, 20%M, 77%W	4.17
3.00	CGO 2%G, 98%O	0.04

\* Recovery from multiple tests

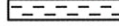



### Gas Rates





	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

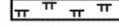

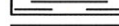
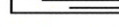


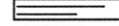



**ROCK TYPES**

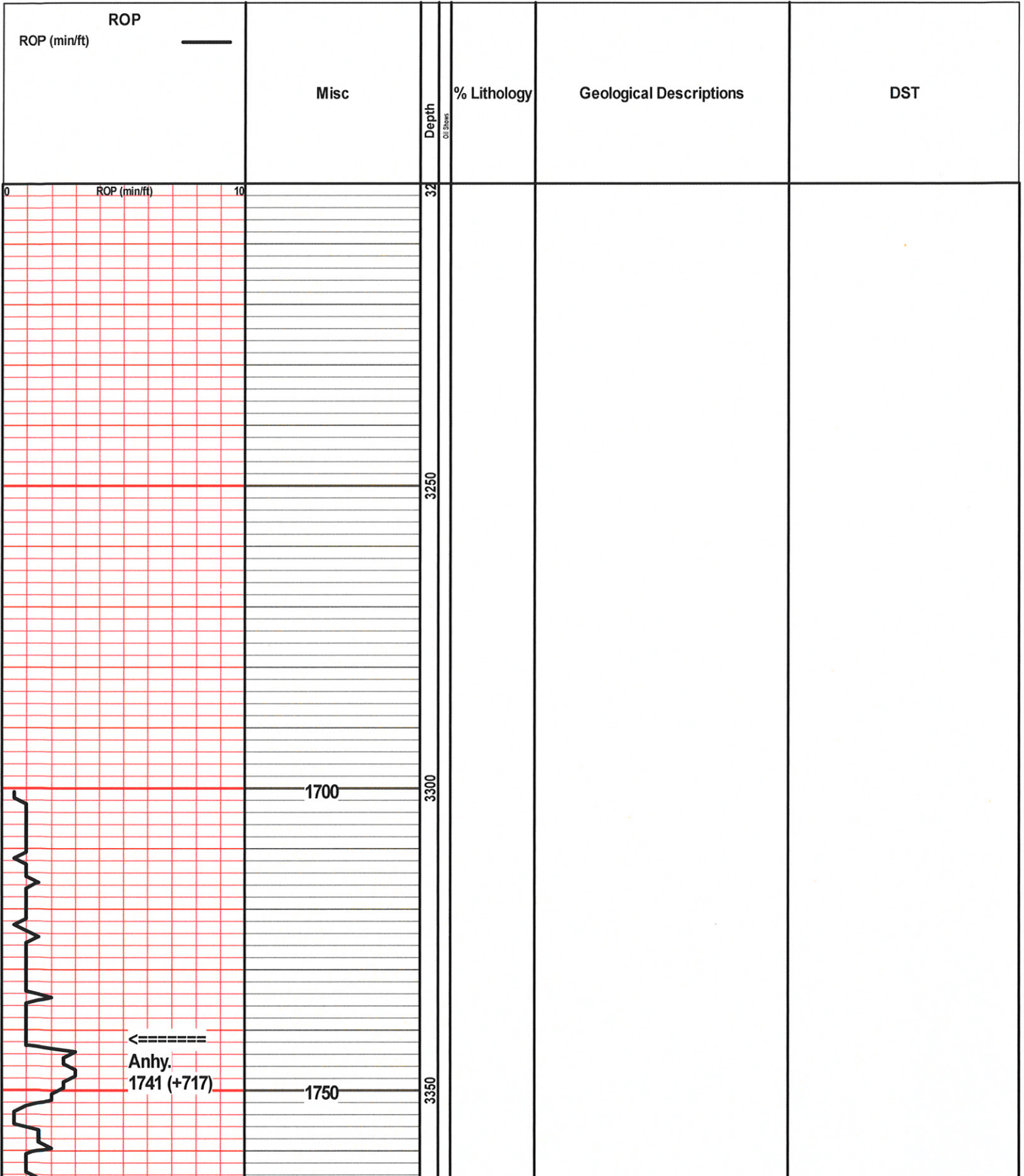
-  Anhy
-  Bent
-  Brec
-  Cht

-  Clyst
-  Carb shale
-  Congl
-  Dol

-  Gyp
-  Igne
-  Lmst
-  Meta

-  Mrlst
-  Salt
-  Shale
-  Shcol

-  Shgy
-  Sltst
-  Ss
-  Till





←=====

Base Anhy.  
1779 (+679)

ROP (min/ft)

10

1800

3400

3450

Mud @ 3440'  
Wt. 8.6  
Vis. 58  
Filtrate 6.8  
Chlor 2300  
LCM 2#

3500

Ls., lt gy-gy, fnxn, mod soft, ool, dk gy ooids,  
few w pr introol & ooc por, ns, no odr, abund  
Sh., gy

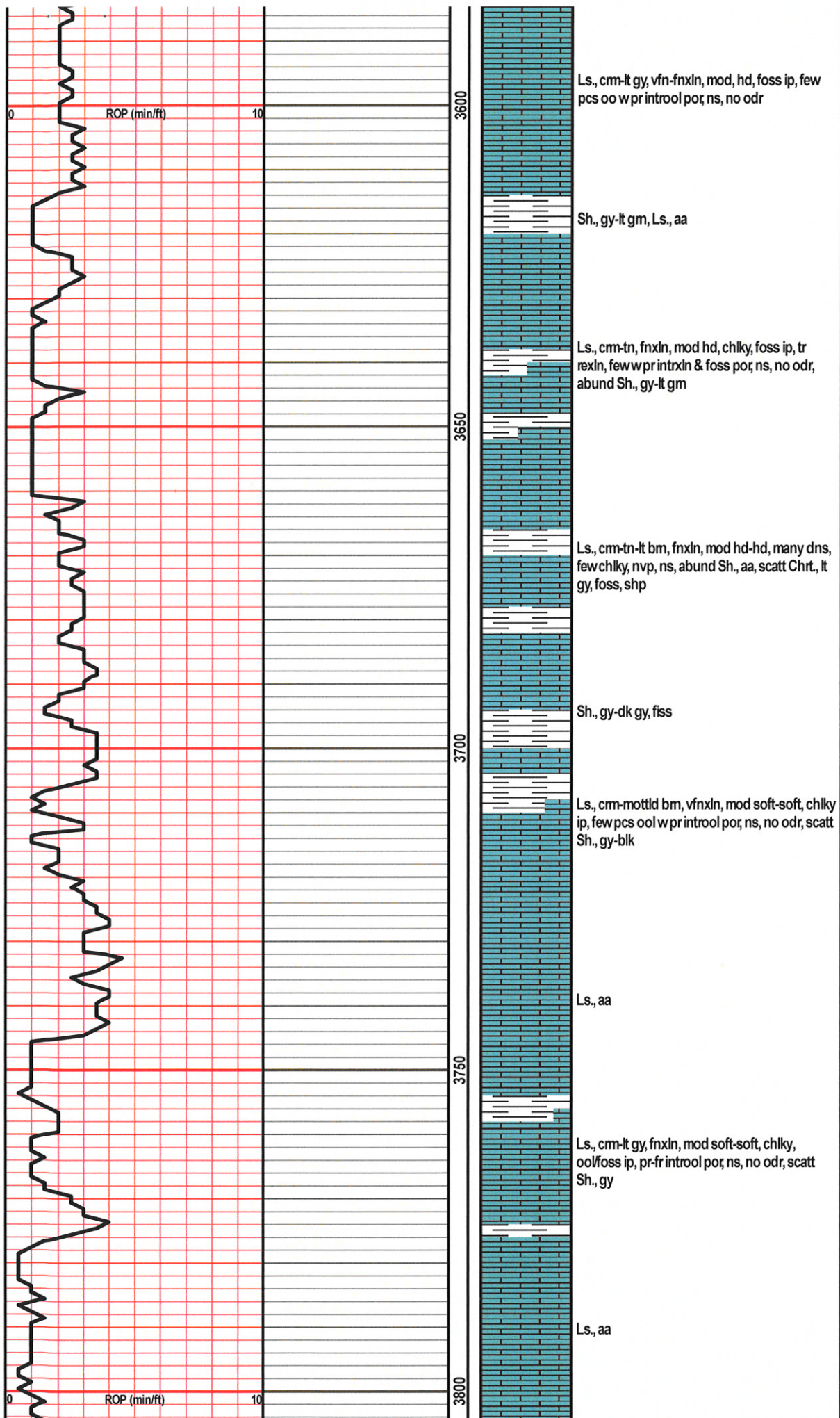
Ls., cm, soft, vfnxn, sli chlky, nvp, ns, scatt Sh.,  
aa

Ls., cm-lt gy, vnxn, mod hd-mod soft ip, chlky  
ip, ool/foss ip, nvp, ns, no odr

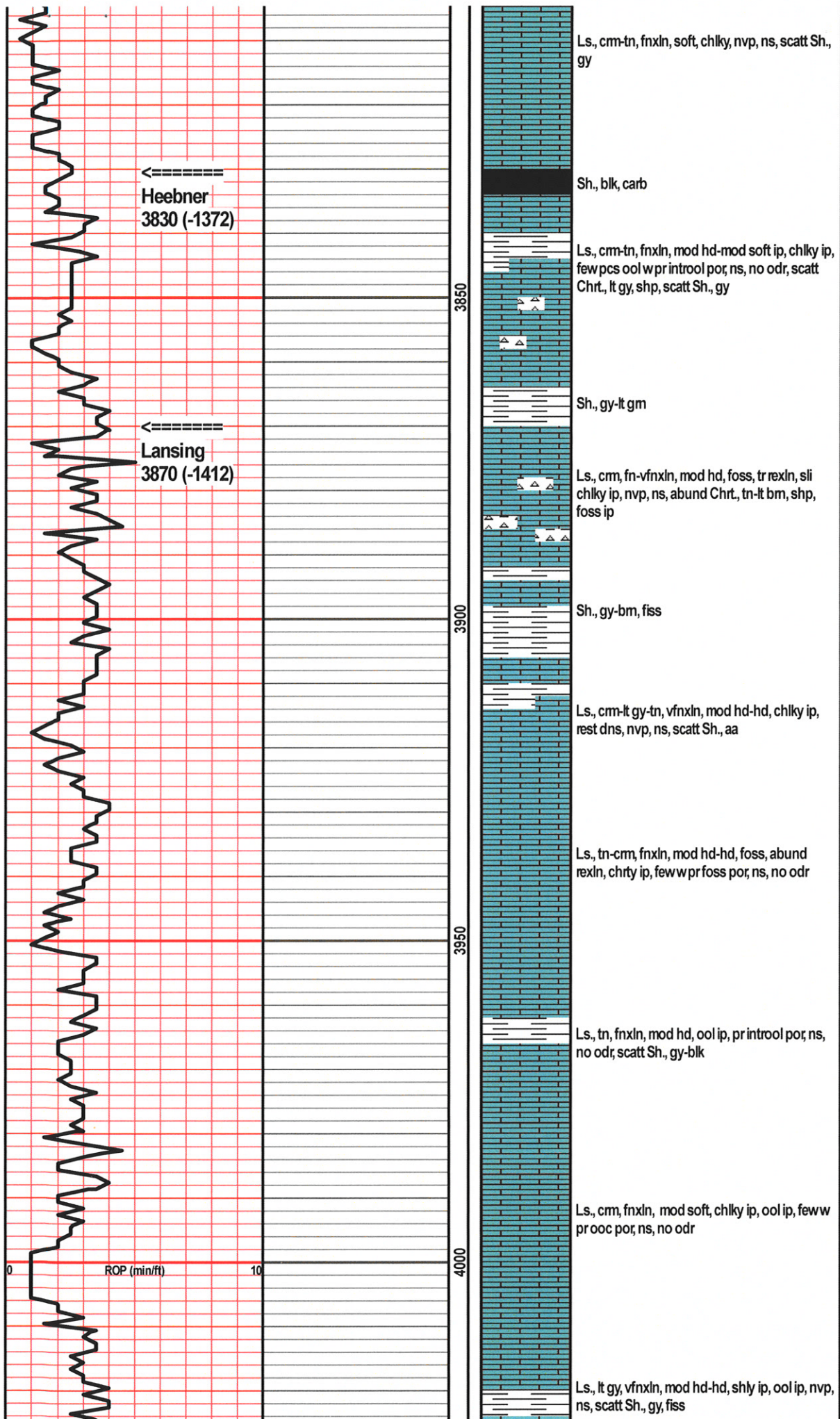
3550

Ls., tn, fnxn, mod soft, ool, pr-fr ooc por, ns, no  
odr











Mud @ 4035'  
Wt 9.0  
Vis. 44  
Filtrate API 7.2  
Chlor 3000  
LCM 1#

4050

Ls., tn, fnxn, mod hd-hd, tr pyr, ool/foss, few pcs wvy pr foss por, ns, no odr, abund Chrt, tn-cm, sli weath

4100

Ls., cm-tn, vfnxn, hd, dns, tr rexin, nvp, ns, scatt Chrt, aa, scatt Sh., gy-bm

Ls., tn-lt gy, vfnxn, mod hd-hd, ool ip, nvp, ns

Ls., aa, Sh., blk

4150

Ls., cm-lt gy, fnxn, mod hd, dns, tr pyr, nvp, ns, abund Chrt, cm-lt gy, shp

Sh., blk, carb

Ls., cm-tn, mod soft-mod hd ip, chlky, nvp, ns, scatt Chrt, tn, sli weath

Sh., gy-dk gy-bm

4200

Ls., cm-tn-lt bm, vfnxn, mod hd-hd, brittle, dns, shly ip, nvp, ns, scatt Sh., dk gy-blk

Ls., cm-tn, vfnxn, mod hd-hd, dns, tr pyr, nvp, ns, abund Sh., gy-bm-lt gm, vly soft

Ls., cm-tn-lt gy, mod hd, sli shly ip, tr rexin, tr frags, 6-8 pcs wvy slight-slight lt bm edge str, 2-3 of these w pr intrxn por, VSSFO, no det odr

←=====

**BKC**  
4187 (-1729)

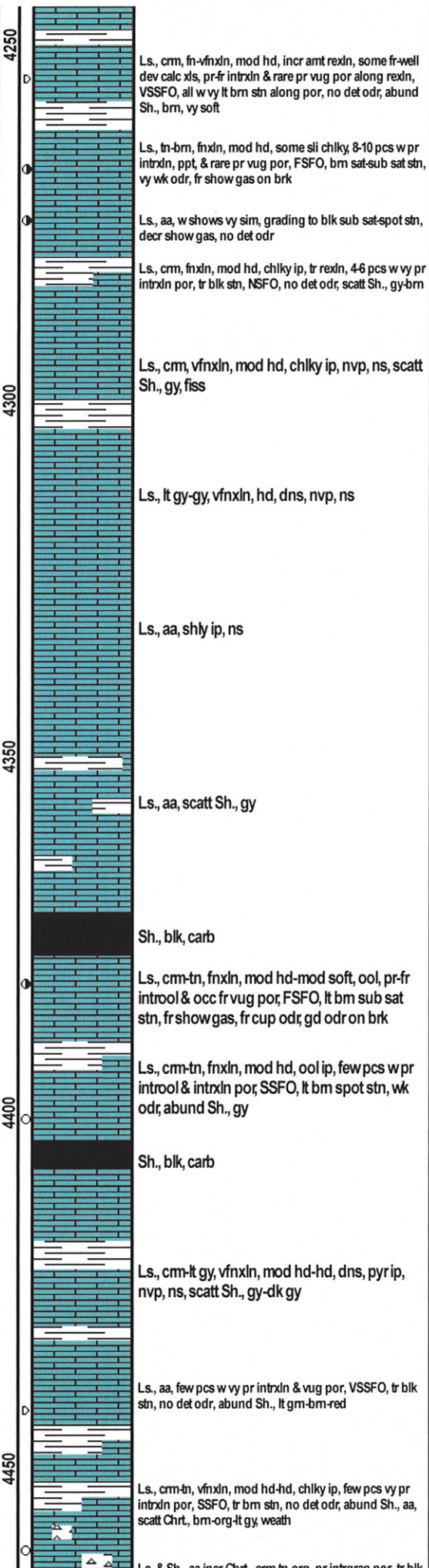
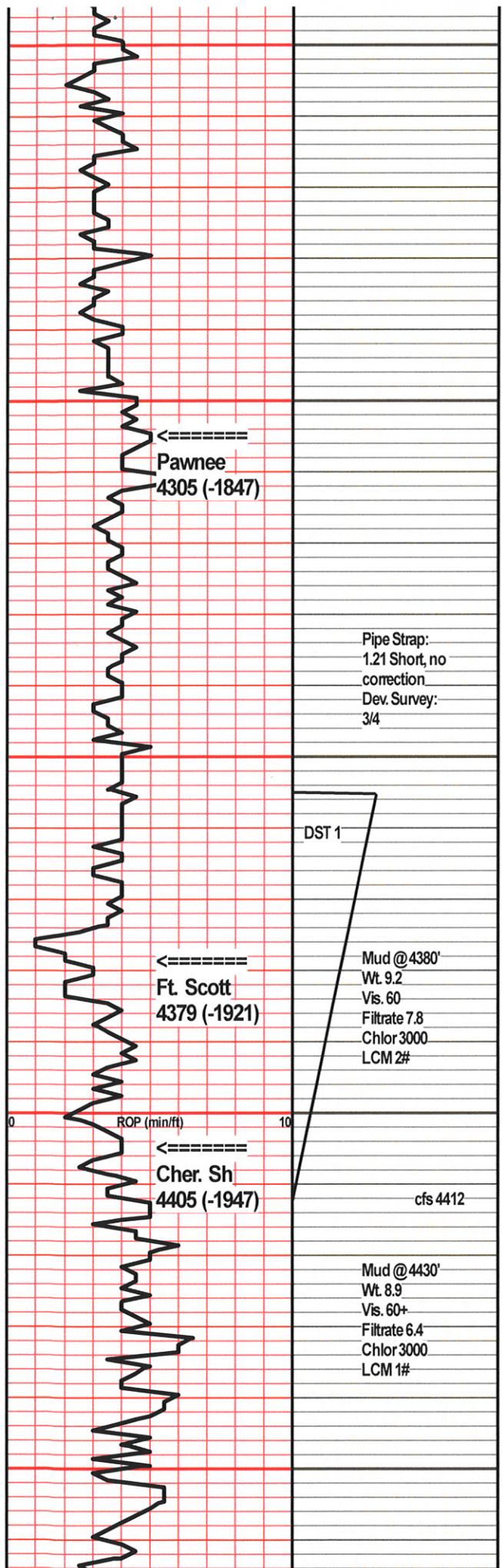
←=====

**Marmaton**  
4218 (-1760)

ROP (min/ft)

0 10





Pipe Strap:  
1.21 Short, no  
correction  
Dev. Survey:  
3/4

DST 1

Mud @ 4380'  
Wt 9.2  
Vis. 60  
Filtrate 7.8  
Chlor 3000  
LCM 2#

cfs 4412

Mud @ 4430'  
Wt 8.9  
Vis. 60+  
Filtrate 6.4  
Chlor 3000  
LCM 1#

**DST #1 4355-4412**  
**(Ft. Scott)**  
15-30-15-30  
IF: BOB in 30 seconds, GTS in 15 min, built to 671"  
IS: BOB immediately, built to 62.5", decreased to 7"  
FF: BOB immediately, built to 338"  
FS: BOB in 1 min, increased to 251.5"

Recovery:  
1000' GIP  
15' CGO (15%G, 85%O)  
2804' CGO (25%G, 75%O)  
181' GMCO (32%G, 25%M, 43%O)  
3000' TF

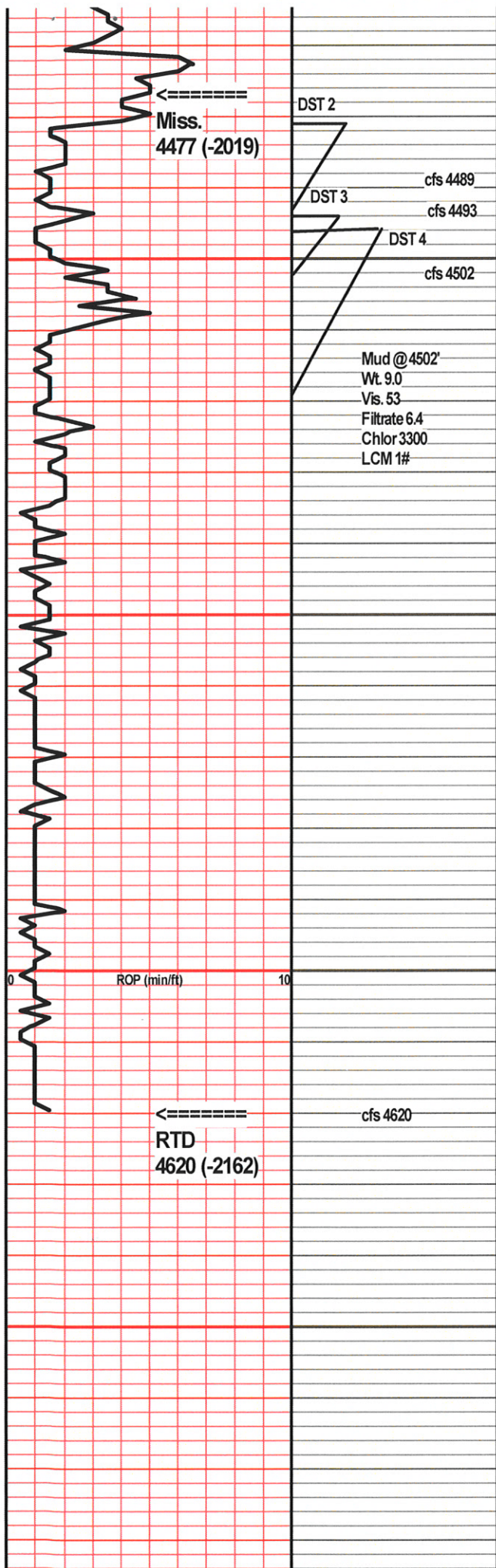
FP: 572-681; 766-832  
SIP: 1065-1011  
HP: 2245-2191

BHT: 128  
Gravity: 39  
Chlor: ---

**DST #2 4481-4493**  
**(Mississippian)**  
30-30-30-30  
IF: Built to 1/4", died in 24 min  
IS: No blow  
FF: No blow  
FS: No blow

Recovery:





sht, few pcs Ls., crm, sandy, chiky, tr blk stn, no det odr in cup  
 Ls., crm, vfxln, mod hd, dns, nvp, ns, Dol., crm-ft gy, vfxln, mod hd-hd, many w nvp, few w pr-vy pr intrxn & spic cast por, SSFO, brm spot stn, wk odr, scatt Sh., gy-brm  
 4489 Dol., crm, fmxln, mod hd, few dns w nvp, many w pr intrxn & spic cast por, SSFO, dk brm spot stn, fr odr, 60 min sample had scatt pcs w fr vug por, FSFO, abund dk brm sub sat stn abund edge stn along vugs, fr odr  
 4493 Dol., crm, fmxln, mod hd, fr intrxn, vug & spic cast por, GSFO, most w sub sat dk brm stn, few w spot stn, gd odr  
 4502 Dol., tn, fmxln, mod hd-mod soft, sucr, fr sucr por, fr-rare pr ppt & vug por, GSFO, sub sat-spot stn, sli show gas, gd odr, 60 min sample w abund Sh., gy-brm  
 Dol., tn, fmxln, mod hd, many pcs dns, nvp, few w pr intrxn & ppt por, FSFO, dk brm sub sat stn, fr odr, scatt Ls., crm, vfxln, mod hd, dns, nvp, ns, abund Sh., gy-brm  
 Dol., crm-tn, fmxln, mod hd-mod soft ip, fr-rare gd intrxn & vug por, 20-30% w SSFO, blk res stn, few pcs w sub sat stn, fr odr, rest barren  
 Dol., aa, sli incr amt w SSFO on brk, 40-50% w shows, vy rare spot blk stn, vy sli show gas on brk, wk odr, scatt Chrt., crm-ft gy, sli weath ip, nvp, ns, scatt Sh., gy-brm  
 Dol., lt gy-lt gm, fmxln, mod hd-hd, pr-fr intrxn & vug por, glauc, few pcs w blk res stn, couple w VSSFO, vy wk odr, scatt Chrt., aa  
 Dol., tn-crm, fmxln, mod hd, fr intrxn & vug por, couple pcs w VSSFO, blk res stn, no det odr, few pcs Chrt., aa  
 Dol., aa, scatt Sh., gy-brm  
 Dol., aa, abund Chrt., wht, trip, weath, nvp, ns

140' CGO (20%G, 80%O)  
 60' GOCM (15%G, 25%O, 60%M)  
 ---  
 200' TF  
 FP: 31-67; 73-77  
 SIP: 780-488  
 HP: 2317-2296  
 BHT: 123  
 Gravity: 36  
 Chlor: ---  
**DST #3 4494-4502 (Mississippian)**  
 30-30-30-30  
 IF: WSB, built to 1/4"  
 IS: No blow  
 FF: No blow, 5 min flushed tool, SB  
 FS: No blow  
 Recovery:  
 10' GOCWM (5%G, 5%O, 40%W, 50%M)  
 FP: 29-28; 31-32  
 SIP: 1181-1132  
 HP: 2312-2225  
 BHT: 120  
 Gravity: -  
 Chlor: 11500  
**DST #4 4496-4519 (Mississippian)**  
 30-30-30-30  
 IF: BOB in 16 min, built to 15"  
 IS: No blow  
 FF: Built to 7 1/2"  
 FS: No blow  
 Recovery:  
 3' CGO (2%G, 98%O)  
 297' OSMCW (3%O, 20%M, 77%W)  
 120' MSW wscum oil (4%M, 96%W)  
 ---  
 420' TF  
 FP: 42-135; 140-185  
 SIP: 921-790  
 HP: 2339-2260  
 BHT: 129  
 Gravity: 36  
 Chlor: 23500

←-----  
 Miss.  
 4477 (-2019)

DST 2

DST 3

DST 4

cfs 4489

cfs 4493

cfs 4502

Mud @ 4502'  
 Wt. 9.0  
 Vis. 53  
 Filtrate 6.4  
 Chlor 3300  
 LCM 1#

ROP (min/ft)

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 RTD  
 4620 (-2162)

cfs 4620

4500

4550

4600

4650

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