

OPERATOR

Company: Murfin Drilling Company
 Address: 250 N. Water
 Suite 300
 Wichita, KS 67202
 Contact Geologist: Shauna Gunzelman
 Contact Phone Nbr: 316-267-3241
 Well Name: Ruda C #1-13
 Location: Sec. 13 - T4S - R33W
 API: 15-153-21099-0000
 Pool:
 State: Kansas

Field: Wildcat
 Country: USA



Scale 1:240 Imperial

Well Name: Ruda C #1-13
 Surface Location: Sec. 13 - T4S - R33W
 Bottom Location:
 API: 15-153-21099-0000
 License Number: 30606
 Spud Date: 1/23/2015
 Region: Rawlins County
 Drilling Completed: 1/31/2015
 Surface Coordinates: 330' FSL & 330' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 3005.00ft
 K.B. Elevation: 3010.00ft
 Logged Interval: 3600.00ft
 Total Depth: 4504.00ft
 Formation: Cherokee
 Drilling Fluid Type: Chemical/Fresh Water Gel

Time: 4:15 PM
 Time: 1:50 PM
 To: 4504.00ft

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude:
 Latitude:
 N/S Co-ord: 330' FSL
 E/W Co-ord: 330' FWL

LOGGED BY

Keith Reavis
Consulting Geologist

Company: Keith Reavis, Inc.
 Address: 3420 22nd Street
 Great Bend, KS 67530

Phone Nbr: 620-617-4091
 Logged By: KLG #136

Name: Keith Reavis

CONTRACTOR

Contractor: Murfin Drilling Company
 Rig #: 7
 Rig Type: mud rotary
 Spud Date: 1/23/2015
 TD Date: 1/31/2015
 Rig Release:

Time: 4:15 PM
 Time: 1:50 PM
 Time:

ELEVATIONS

K.B. Elevation: 3010.00ft
K.B. to Ground: 5.00ft

Ground Elevation: 3005.00ft

NOTES

Due to negative drill stem testing and electrical log analysis, it was determined that the Ruda C #1-13 be plugged and abandoned as a dry test.

The samples were saved and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

Respectfully submitted,
Keith Reavis


Murfin Drilling Company daily drilling report

DATE	7:00 AM DEPTH	REMARKS
01/26/2015	3581	Geologist Keith Reavis on location @ 250 hrs, 3581 ft, bit trip, out w/PDC in with button, ctch, resume drilling, Topeka, Deer Creek, Lecompton, show in Lecompton warrants test, short trip, TOH w/bit
01/27/2015	3863	TIH w/tools, conduct DST #1, successful test, back in hole w/bit, resume drilling, Oread, Heebner, Toronto, Lansing, show in Toronto and A zone warrants test, TOH w/bit & in w/tools, conducting DST #2
01/28/2015	3954	complete DST #2, TIH w/bit, drill ahead, shows in C and D zones warrant test, TOH w/bit and in with tools, conduct DST #3, successful test, TIH w/bit
01/29/2015	4046	resume drilling, shows in F and G zones warrant test, TOH w/bit, conduct DST #4, successful test, out with tool, in w/bit, resume drilling
01/30/2015	4217	drilling, BKC, Marmaton, Pawnee, show in lower Pawnee warrants test, short trip, TOH w/bit, TIH w/tools, conducting DST #5
01/31/2015	4353	complete DST #5, successful test, TIH w/bit, resume drilling, Cherokee TD @ 4504 ft. 1350 hrs, TOH, conduct logging operations, off loc @ 2220 hrs

Murfin Drilling Company well comparison sheet

DRILLING WELL					COMPARISON WELL			
Ruda #1-13 330' FSL & 330' FWL Sec 13-T4S-R33W					Murfin - Samson #1-24 330' FNL & 330' FWL Sec 24-T4S-R33W			
3010 KB					3024 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log
Topeka	3721	-711	3721	-711	3730	-706	-5	-5
Deer Creek	3761	-751	3768	-758	3773	-749	-2	-9
Lecompton	3829	-819	3824	-814	3834	-810	-9	-4
Heebner	3891	-881	3888	-878	3896	-872	-9	-6
Lansing	3935	-925	3932	-922	3940	-916	-9	-6
Muncie Creek	4039	-1029	4037	-1027	4044	-1020	-9	-7
Stark Shale	4115	-1105	4112	-1102	4120	-1096	-9	-6
Base KC	4163	-1153	4164	-1154	4167	-1143	-10	-11
Pawnee	4289	-1279	4292	-1282	4291	-1267	-12	-15
Cherokee	4370	-1360	4361	-1351	4368	-1344	-16	-7
Mississippian	np				4522	-1498		
Total Depth	4504	-1494	4504	-1494	4590	-1566	72	72

DST #1

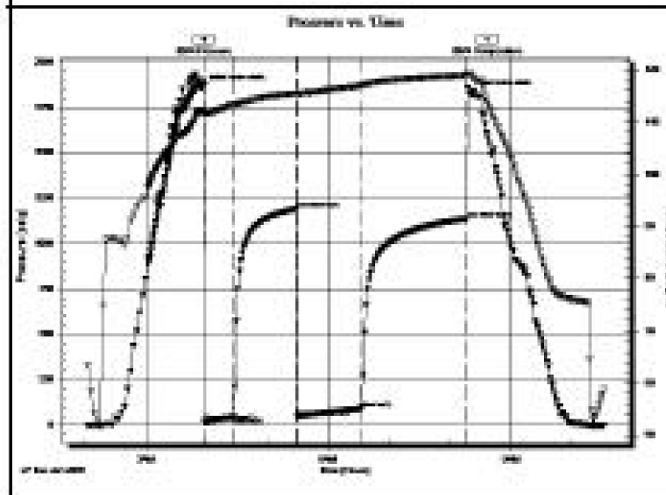
	DRILL STEM TEST REPORT	
	Murfin Drilling Co., Inc. 250 N Water STE #300 Wichita, KS 67202 ATTN: Keith Reavis	13-43-33W - Rawlins, KS Ruda C #1-13 Job Ticket: 61123 DST#: 1 Test Start: 2015.01.27 @ 02:02:00

GENERAL INFORMATION:

Formation: Lecompton	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Kevin Mack
Time Tool Opened: 03:57:40	Unit No: 62
Time Test Ended: 10:31:30	Reference Elevations: 3010.00 ft (KB)
Interval: 3800.00 ft (KB) To 3863.00 ft (KB) (TVD)	3005.00 ft (CF)
Total Depth: 3863.00 ft (KB) (TVD)	KB to GRFCF: 5.00 ft
Hole Diameter: 7.88 inches Hole Condition: Good	

Serial #: 8874 Inside	Capacity: 8000.00 psig
Press@RunDepth: 87.96 psig @ 3801.00 ft (KB)	Last Calc: 2015.01.27
Start Date: 2015.01.27 End Date: 2015.01.27	Time On Btm: 2015.01.27 @ 03:58:20
Start Time: 02:03:00 End Time: 10:31:30	Time Off Btm: 2015.01.27 @ 08:19:30

TEST COMMENT: 30 - F- 10" Blow built to 3 1/2"
 60 - B- No Return
 60 - FF- Surface Blow Built to 4"
 90 - FS- Weak Surface Return started at 33 min. Built to 1 1/4"




PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1858.59	111.77	Initial Hydro-static
2	18.34	111.44	Open To Flow (1)
31	43.03	113.01	Shut-in (1)
62	1189.98	115.34	End Shut-in (1)
94	48.44	115.18	Open To Flow (2)
158	87.96	118.84	Shut-in (2)
260	1138.48	118.90	End Shut-in (2)
264	1828.23	119.19	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
62.00	MV 50W 50W	0.30
62.00	VM 20W 80M	0.30
30.00	Mud 100M	0.15

Gas Rates			
	Core (inches)	Pressure (psig)	Gas Rate (scf/D)

DST #2

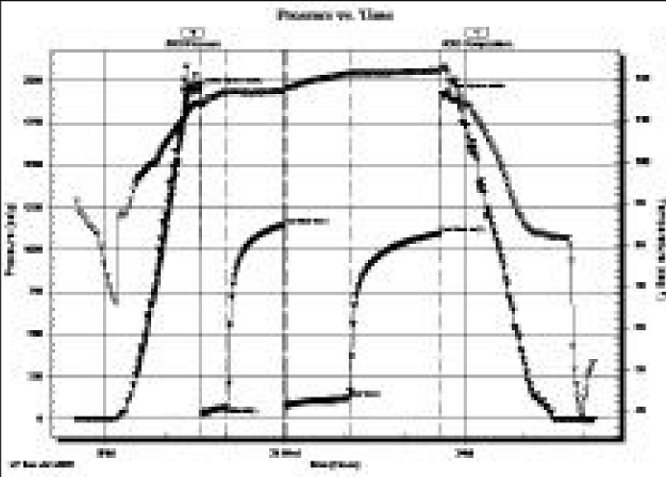
	DRILL STEM TEST REPORT	
	Murfin Drilling Co., Inc. 250 N Water STE #300 Wichita, KS 67202 ATTN: Keith Reavis	13-43-33W - Rawlins, KS Ruda C #1-13 Job Ticket: 61124 DST#: 2 Test Start: 2015.01.27 @ 20:30:00

GENERAL INFORMATION:

Formation: Toronto - LKC "A"
 Deviated: No Whipstock ft (KB)
 Time Tool Opened: 22:38:30
 Time Test Ended: 05:09:30
 Interval: 3892.00 ft (KB) To 3954.00 ft (KB) (TVD)
 Total Depth: 3954.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Kevin Mack
 Unit No: 82
 Reference Elevations: 3010.00 ft (KB)
 3005.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8853 Outside
 Press@RunDepth: 121.73 psig @ 3893.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.01.27 End Date: 2015.01.28 Last Calib.: 2015.01.28
 Start Time: 20:31:00 End Time: 05:09:30 Time On Btm: 2015.01.27 @ 22:34:30
 Time Off Btm: 2015.01.28 @ 02:38:30

TEST COMMENT: 30 - IF- 1/2" Blow built to 5"
 60 - IS- No Return
 60 - FF- Blow started at 13 min. Built to 5 1/4"
 90 - FS- No Return



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1030.84	114.10	Initial Hydro-static
2	28.14	113.88	Open To Flow (1)
28	69.14	116.90	Shut-in (1)
85	1147.58	117.10	End Shut-in (1)
86	78.40	117.70	Open To Flow (2)
149	121.73	121.25	Shut-in (2)
241	1095.91	121.89	End Shut-in (2)
244	1010.36	122.85	Final Hydro-static

Length (ft)	Description	Volume (bbl)
62.00	OSMN 40M 50W (oil spots)	0.30
62.00	OSMN 50M 50W (oil spots)	0.30
62.00	OSMN 40W 60M (oil spots)	0.30
30.00	VSOOM 5c 95M	0.41

Flow (inches)	Pressure (psig)	Gas Rate (scf/D)

DST #3



DRILL STEM TEST REPORT
 Murfin Drilling Co., Inc. 13-48-33W - Rawlins, K8
 250 N Water STE#300 Ruda C #1-13
 Wichita, KS 67202 Job Ticket: 61125 DST#: 3
 ATTN: Keith Reavis Test Start: 2015.01.28 @ 14:15:00

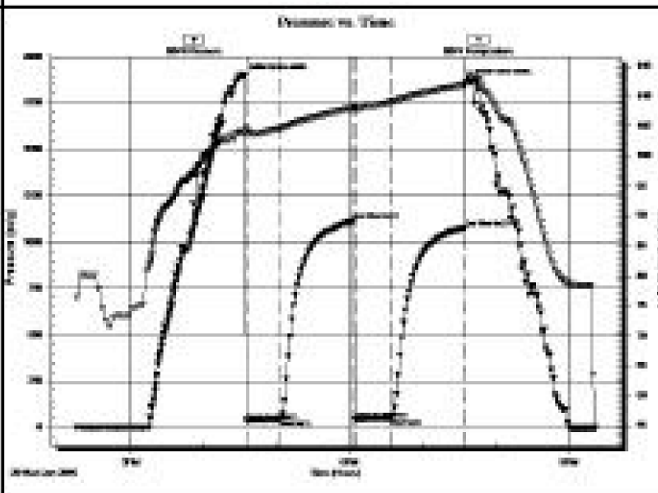
GENERAL INFORMATION:

Formation: LKC "B-D"
 Deviated: No Whipstock ft (KB)
 Time Tool Opened: 18:35:00
 Time Test Ended: 21:22:00
 Interval: 3950.00 ft (KB) To 3990.00 ft (KB) (TVD)
 Total Depth: 3990.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Real-Time)
 Tester: Kevin Mack
 Unit No: 82
 Reference Elevations: 3010.00 ft (KB)
 3005.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8874 Inside

Press@RunDepth: 48.51 psig @ 3051.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.01.28 End Date: 2015.01.28 Last Calib.: 2015.01.28
 Start Time: 14:18:00 End Time: 21:22:00 Time On Btm: 2015.01.28 @ 18:33:30
 Time Off Btm: 2015.01.28 @ 19:38:00

TEST COMMENT: 30 - F- 1 1/4" Blow died in 5 min.
 60 - BS- No Return
 30 - FF- No Blow - Flushed tool at 5 min - 1/4" Blow died to surface blow. Surface Blow died at 7 min.
 60 - FS- No Return




PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1890.81	103.83	Initial Hydro-static
2	38.87	104.84	Open To Flow (1)
30	42.81	104.84	Shut-in(1)
90	1114.98	108.00	End Shut-in(1)
91	43.52	107.71	Open To Flow (2)
121	49.51	109.00	Shut-in(2)
181	1077.50	111.85	End Shut-in(2)
185	1893.59	113.66	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
65.00	Mud 100M	0.32

Gas Rates			
	Core (inches)	Pressure (psig)	Gas Rate (scfd)

DST #4



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc. **13-48-33W - Rawlins, KS**

250 N Water STE#300 **Ruda C #1-13**
 Wichita, KS 67202

Job Ticket: 60877 **DST# 4**

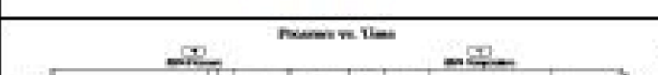
ATTN: Keith Reavis **Test Start: 2015.01.29 @ 08:28:00**

GENERAL INFORMATION:

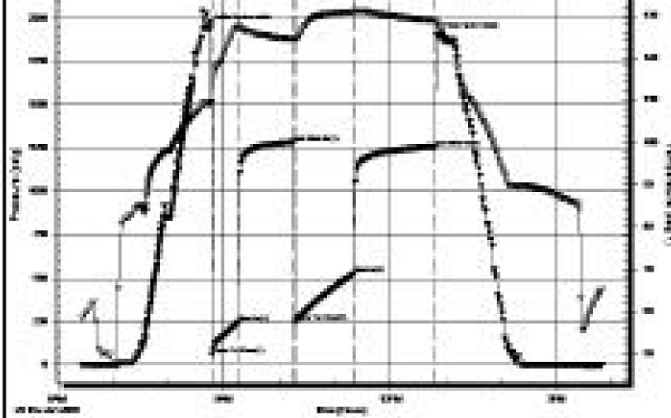
Formation: LKC "F-G"
 Deviated: No Whipstock ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 08:47:30
 Tester: Kevin Meek
 Time Test Ended: 15:49:00
 Unit No: 82
 Interval: 3988.00 ft (KB) To 4046.00 ft (KB) (TVD)
 Reference Elevations: 3010.00 ft (KB)
 Total Depth: 4046.00 ft (KB) (TVD)
 3005.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good
 KB to GRCP: 5.00 ft

Serial #: 8874 Inside
 Press@RunDepth: 524.00 psig @ 3087.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.01.29 End Date: 2015.01.29 Last Calib.: 2015.01.29
 Start Time: 08:27:00 End Time: 15:49:00 Time On Btm: 2015.01.29 @ 08:44:30
 Time Off Btm: 2015.01.29 @ 12:51:00

TEST COMMENT: 30 - F- BoB in 12 min.
 60 - BS- No Return
 60 - FF- BoB in 10 min.
 90 - FS- No Return



PRESSURE SUMMARY			
Time	Pressure	Temp	Annotation



(Min.)	(psig)	(deg F)	
0	1043.48	109.08	Initial Hydro-static
3	58.61	109.40	Open To Flow (1)
32	244.86	127.23	Shut-In (1)
62	1285.62	124.41	End Shut-In (1)
93	240.46	124.38	Open To Flow (2)
158	524.90	130.81	Shut-In (2)
245	1256.40	128.77	End Shut-In (2)
247	1900.22	127.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud (heavy) 100M	0.02
371.00	MW 5M 95 W	3.55
252.00	OSMW 10M 90W (oil spots)	3.53
189.00	OSMW 30M 70W (oil spots)	2.85
204.00	OSMW 50M 50W (oil spots)	2.88

Gas Rates

	Flow (inches)	Pressure (psig)	Gas Rate (scfd)
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DST #5

TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

250 N Water STE #300
Wichita, KS 67202

ATTN: Keith Reavis

13-43-33W - Rawlins, KS

Ruda C #1-13

Job Ticket: 60878 DST# 5

Test Start: 2015.01.30 @ 19:08:00

GENERAL INFORMATION:

Formation: Pawnee
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:15:30
 Time Test Ended: 02:55:00
 Interval: 4310.00 ft (KB) To 4341.00 ft (KB) (TVD)
 Total Depth: 4341.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Initial)
 Tester: Kevin Mack
 Unit No: 82
 Reference Elevations: 3010.00 ft (KB)
 3005.00 ft (CF)
 KB to GRVCF: 5.00 ft

Serial #: 8874 Inside

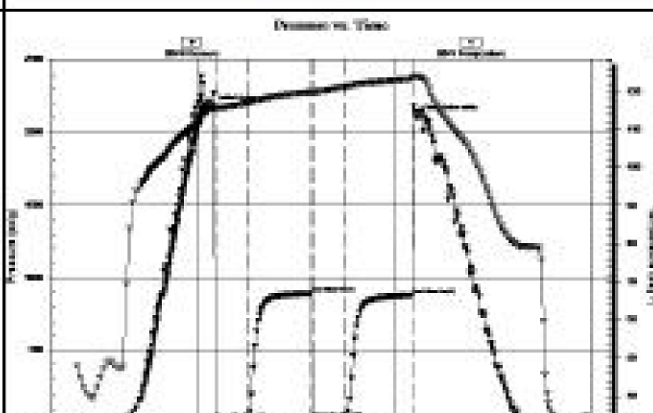
Press@RunDepth: 20.96 psig @ 4311.00 ft (KB) Capacity: 8000.00 psig

Start Date: 2015.01.30 End Date: 2015.01.31 Last Calls: 2015.01.31

Start Time: 19:09:00 End Time: 02:55:00 Time On Btm: 2015.01.30 @ 21:14:00

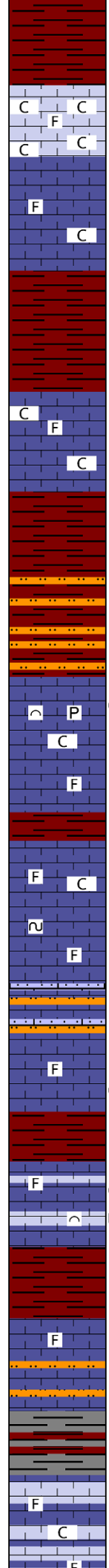
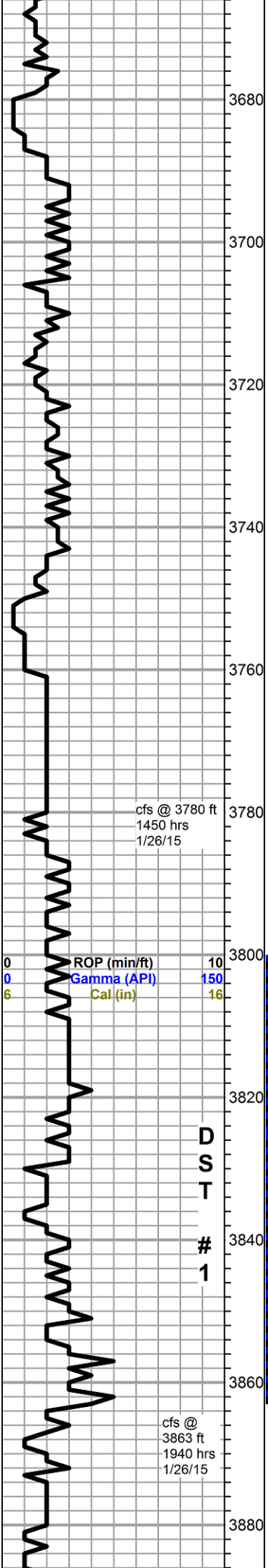
Time Off Btm: 2015.01.31 @ 00:21:00

TEST COMMENT: 30 - IF- 1/2" Blow built to 1 1/2"
 60 - IS- No Return
 30 - FF- Weak Surface Blow started at 5 min. built to 1/2"
 60 - FS- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2165.77	115.42	Initial Hydro-static
2	17.38	115.24	Open To Flow (1)
31	22.23	116.94	Shut-In (1)
60	893.10	119.87	End Shut-In (1)
91	24.37	119.48	Open To Flow (2)
121	29.96	121.23	Shut-In (2)
182	879.96	123.32	End Shut-In (2)
187	2099.58	123.98	Final Hydro-static



flood red soft shale, some green, mushy

3700 sample, flood chalk, appx 50% plus, limestone, light gray to cream, microcrystalline, grainy to chalky fossiliferous, poor visible porosity, no shows

grading to pale green limestone, dense fossiliferous, abundant chalk

3720 a.a. influx red shale, still abundant chalk

3730 red shale

Topeka 3721 -711
 limestone, light gray to cream to gray/green, some with maroon cast, microcrystalline, fossiliferous, abundant chalk and red soft silty shale

3760-70 red mushy shale and clay, silty, with light gray/green dirty siltstone, well cemented, abundant silt grains in tray

Deer Creek 3761 -751
 limestone, white to cream, chalky, bioclastic to fossiliferous, some pyritic, some interclast porosity, spotty to fair black staining, clingy tar on specimens, slightly gassy on break, no free oil, no odor, fair even fluorescence, slow milky streaming cut - 30 min sample, influx pale green limestones, marked decrease in show

limestone, white to light gray, microcrystalline, grainy fossiliferous, chalky in part, glauconitic in part, some scattered porosity, no shows

3820 sample, limestone, brown to tan mottled, fossiliferous, chalky, with dense argillaceous limestone, gray, with gray siltstone, no shows

3830 sample, flood soft pink shale, with limestone, white, microcrystalline, fossiliferous, some interclast porosity, black flakey stain, no free oil, good fluorescence, good cut, no odor

Lecompton 3829 -819
 limestone, white to light gray, microcrystalline, fossiliferous to bioclastic, some fair interclast porosity, spotty black to brown stain, bleeding free oil, good even fluorescence, good bright streaming cut, slight odor heating under lamp

3850 sample - flood red shale

3860 sample - limestone, light gray, microcrystalline, abundant secondary calcite crystals, fossiliferous, some intercrystalline and interclast porosity, spotty black stain, show gas on break, slight sheen, spotty fluorescence, slight cut, no odor - 30 min sample grades to limestone, cream with maroon cast, fossiliferous, and arenaceous, chalky, poor visible porosity, no shows, some maroon siltstone

3870 sample, trip trash

3880 sample, red and gray shale

limestone, white to cream and light gray, microcrystalline, fossiliferous, chalky, grainy, some interclast porosity, barren, abundant chalk in samples

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

Morgan Mud chk
 @ 3863 ft.
 0730 hrs. 1/27/15
 Vis. 57 Wt. 9.3
 PV 18 YP 18
 WL 6.0
 Cake 2/32,
 pH 11.0
 CHL 3500 ppm
 Ca 10 ppm
 Sol 7.1 LCM 2#

Heebner 3891 -881

gray and black shale

D few pieces light gray fossiliferous limestone, black dead spotty stain, no free oil or odor

grades to variable shales with mixed limestone stringers

Toronto 3922 -912

● limestone, light gray to white, microcrystalline, fossiliferous, partially recrystallized, good solution etching and vugs, mostly dense, heavy sheen with slight to fair show free oil on break, strong odor, slow but bright streaming cut

Lansing 3935 -925

○ limestone, mostly white, some cream and gray, cryptocrystalline, fossiliferous, some oolitic, chalky, some scattered porosity, fair to spotty black tarry stain, no show free oil, no odor, light even fluorescence, slight cut fluorescence, some chalky in samples

● limestone, cream, oolitic to micro-oolitic, some recrystallization, good pinpoint and inter-oolite porosity, faint odor, spotty to saturated light stain, heavy sheen in tray and rocks bleeding oil, good bright fluorescence and cut

● limestone, cream to light gray, bioclastic to oolitic (from above?) some recrystallized and cherty, good pinpoint and interclast porosity, no odor, spotty to fair stain, heavy sheen, slight bleeding, yellow to green fluorescence, faint cut, grades to: limestone, mostly white, cryptocrystalline, fossiliferous to lithographic, chalky in part, mostly barren with some show rocks a.a. slight sheen in tray, pale bluish fluorescence

● limestone, gray, cryptocrystalline, fossiliferous, cherty recrystallized, some fair pinpoint to slight solution vug porosity, light interclast staining, heavy sheen, slight show free oil, possible fleeting odor, fair fluorescence, poor to fair cut

○ flood chalk at least 50%, with limestone, light gray to pale gray/green, micro-cryptocrystalline, fossiliferous, dense recrystallized to chalky, some arenaceous, some pinpoint porosity, scattered light stain, few pieces bleeding sheen, few pieces show stringy brown oil on break, fair fluorescence, light cut, no odor

○ chalk and show drop out in 4040 and 4046 samples, 30 min sample few scattered pieces gray fossiliferous, recrystallized, dense, some pinpoint porosity, bleeding sheen, slight stain, poor fluorescence, slow streaming cut with slight halo, no odor

Muncie Creek 4039 -1029

● limestone, light gray to white, micro-cryptocrystalline, fossiliferous, chalky, poor visible porosity, barren, flood chalk in samples, heavy chalky wash

D 4110 sample few pieces white chalky limestone, with slight dead black flakey stain, no odor or free oil, mostly shale in samples

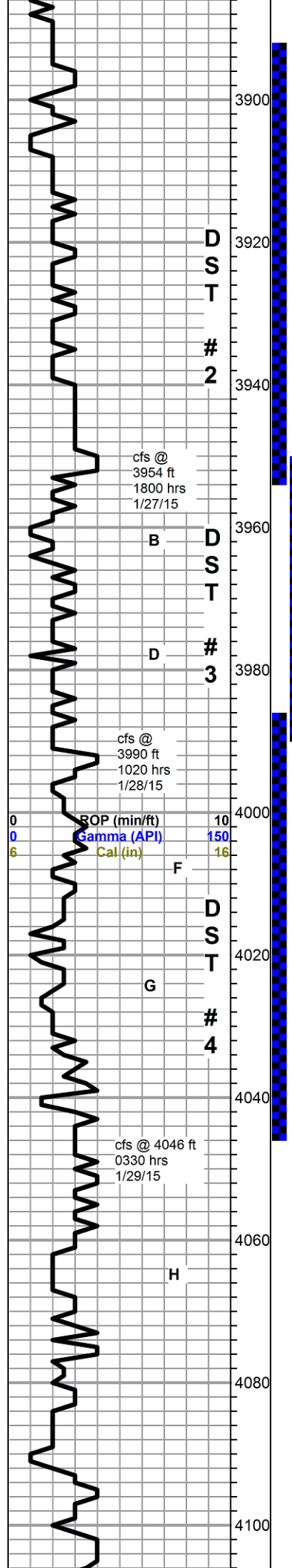
● limestone, white to gray, mixed crystalline, fossiliferous, some lithographic, found 3 small gray pieces with black dead flakey

samples gassed up mud

Morgan Mud chk @ 3954 ft.
0630 hrs. 1/28/15
Vis. 65 Wt. 9.4
PV 20 YP 22
WL 6.4
Cake 2/32,
pH 10.5
CHL 6200 ppm
Ca 20 ppm
Sol 7.8 LCM 2#
DMC \$1621.00
CMC \$14293.00

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

Morgan Mud chk @ 4046 ft.
0730 hrs. 1/29/15
Vis. 53 Wt. 9.1
PV 17 YP 17
WL 5.6
Cake 2/32,
pH 11.5
CHL 6000 ppm
Ca 10 ppm
Sol 5.7 LCM 3#
DMC \$1181.00
CMC \$15474.00



cfs @
3954 ft
1800 hrs
1/27/15

B

D
S
T

2

cfs @
3990 ft
1020 hrs
1/28/15

D

D
S
T

3

ROP (min/ft) 10
Gamma (API) 150
Cal (in) 16

F

D
S
T

4

cfs @
4046 ft
0330 hrs
1/29/15

H

lithographic, round 2 small grainy pieces with black dead flakey stain, no free oil or odor, even fair bluish fluorescence in tray, no cut

Stark Shale 4115 -1105

limestone, white to light gray, microcrystalline, chalky fossiliferous to dense, poor visible porosity, barren

limestone, similar to above, no shows

Base KC 4163 -1153

mixed red and gray shales with limestone stringers, variable gray to green, mostly cryptocrystalline, dense, fossiliferous, abundant chalk, no shows

shales a.a. abundant red sticky shale, heavy red wash, abund limestones a.a.

limestone a.a.

flood soft gray shale and clay

limestone, gray to cream, green, some brown mottled, mixed crystalline and fossiliferous, poor visible porosity, some soft and arenaceous (weathered), no shows, flood chalky in samples, heavy chalky wash

4280 sample a.a.

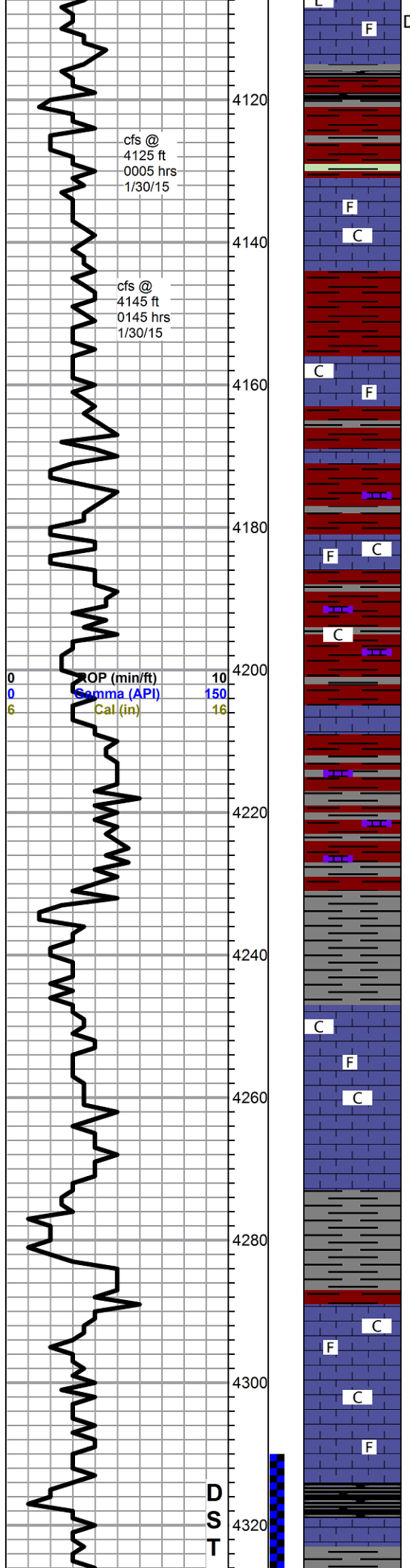
Pawnee 4289 -1279 Log top 4292 -1282

4390 sample, mostly soft gray shales and light gray sticky clay, with limestone, gray to light gray, microcrystalline, grainy in part, some secondary calcite, dense, no shows

4300 sample, flood red shales, influx abundant chalk, variable gray fossiliferous limestones - 4310 sample, limestone, cream to light gray, micro-cryptocrystalline, fossiliferous, some grainy, some secondary calcite, still abundant chalk

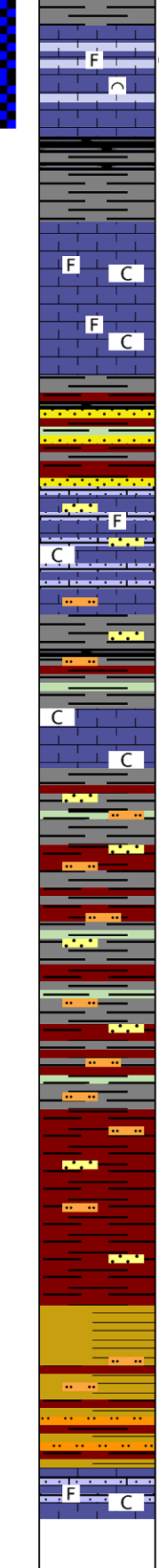
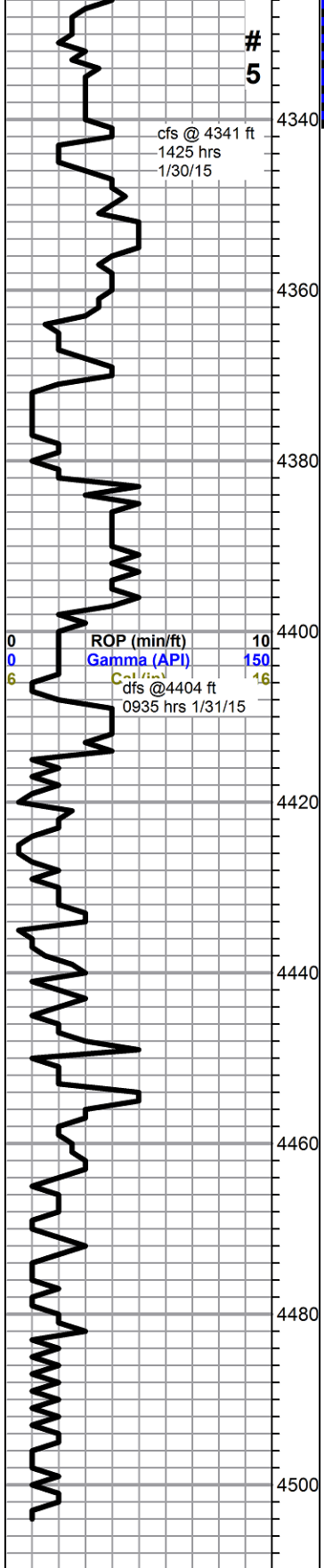
4320 sample limestone a.a. abundant chalk

4330 sample, influx black carbonaceous shale and limestone, brown, mottled, fossiliferous, secondary calcite, slightly weathered, poor visible porosity, no shows, no fluorescence



0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

Morgan Mud chk
 @ 4214 ft.
 0645 hrs. 1/30/15
 Vis. 62 Wt. 9.2
 PV 18 YP 22
 WL 6.8
 Cake 2/32,
 pH 11.5
 CHL 6500 ppm
 Ca 20 ppm
 Sol 6.4 LCM 4#
 DMC \$950.00
 CMC \$16424.00



limestone, light gray, cryptocrystalline, bioclastic to fossiliferous, recrystallized, cherty, fair interclast solution porosity, light staining, good sheen and slight show free oil, fair odor in wet cup, slow streaming bright cut with halo

trip trash

black carbonaceous, brown and gray shale

limestone, light gray to cream and tan, mostly cryptocrystalline, fossiliferous, dense, very abundant chalk in samples, no shows

Cherokee Log Top 4361 -1351

Cherokee 4370 -1360

4390 sample, mixed shales, with limestone cream, microcrystalline, slightly fossiliferous, some sandy, sandstone, quartz, very fine to medium grain, well rounded to angular, fair to poor sorting, well cemented, barren, pyritic, trace orange chert, pyrite in samples

grades to limestone, light gray to cream, microcrystalline, fossiliferous, some large clasts, some sandy to very sandy, chalky in part, abundant chalk, with mixed sandstones a.a., no shows

shales, mixed, red, gray, olive, maroon, abundant loose sand and silt grains in tray, stil abundant limestone from above

limestone, cream to light gray, dense cryptocrystalline, slightly fossiliferous, abundant chalk, abundant shales a.a.

starting 4450 sample, almost all shale a.a., increase in red shales, limestone drops out, some scattered siltstone and mixed sandstone clusters, abundant loose grains in tray, heavy red wash

4470 thru 4590 samples, basically red mush with some scattered green to gray limestones, abundant loose grains bottom of tray

4500 sample, flood soft olive shale and mushy olive clay

30 min cfs sample, red and olive shale and clay, abundant soft white chalky siltstones

60 min sample, limestone, white to light gray, fossiliferous to sandy, chalky in part, trace chert, abundant chalk, no shows

Rotary TD 4504 ft @ 1350 hrs 1/31/15

Morgan Mud chk
@ 4361 ft.
0730 hrs. 1/31/15
Vis. 62 Wt. 9.4
PV 18 YP 21
WL 7.2
Cake 2/32,
pH 10.5
CHL 6400 ppm
Ca 40 ppm
Sol 7.8 LCM 3#
DMC \$0.00
CMC \$16424.00

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100