

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: MB 'A' # 1-35
 Location: Sec. 35 - T4S - R31W
 Pool:
 State: Kansas

API: 15-153-21014-0000
 Field: Wildcat
 Country: USA



Scale 1:240 Imperial

Well Name: MB 'A' # 1-35
 Surface Location: Sec. 35 - T4S - R31W
 Bottom Location:
 API: 15-153-21014-0000
 License Number: 30606
 Spud Date: 5/14/2014 Time: 00:00
 Region: Rawlins County Time: 06:40
 Drilling Completed: 5/23/2014
 Surface Coordinates: 1560' FNL & 1560' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 2901.00ft
 K.B. Elevation: 2906.00ft
 Logged Interval: 3620.00ft To: 4540.00ft
 Total Depth: 4540.00ft
 Formation:
 Drilling Fluid Type: Chemical/Fresh Water Gel

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: Latitude:
 N/S Co-ord: 1560' FNL
 E/W Co-ord: 1560' 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: 5/14/2014 Time: 00:00
 TD Date: 5/23/2014 Time: 06:40
 Rig Release: Time:

ELEVATIONS

ELEVATIONS

K.B. Elevation: 2906.00ft
 K.B. to Ground: 5.00ft

Ground Elevation: 2901.00ft

NOTES

Due to drill stem test evaluations and electrical log analysis, the operator elected to set 5 1/2" production casing and further test the Lansing through perforations and stimulation.

Log measurements on this well were from 4 to 12 ft. low to rotary measurements. While the gamma ray and caliper curves were imported into this mudlog, they were not shifted to match drill time plot, but left as recorded in the field.

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
05/16/2014		Geologists Keith Reavis and Logan Walker on location @ 1930 hrs, 3600 ft @ 3604 bit trip, out with PDC and in with button bit
05/17/2014	3699	resume drilling 0255 hrs, drilling ahead, Topeka, Heebner, Toronto, Lansing, shows in Toronto and Lansing A and B warrant test, short trip, TOH for DST
05/18/2014	3960	conducting DST #1, complete DST #1, successful test, TIH w/bit, resume drilling, show in F zone warrants test, TOH for DST #2 and in with tools
05/19/2014	4018	Conduct and complete DST #2, successful test, TIH w/bit, resume drilling, show in J warrants test, TOH for DST #3 and in w/tools
05/20/2014	4100	conduct and complete DST #3, successful test, TIH w/bit, resume drilling, show in K zone warrants test, TOH, conduct DST #4
05/21/2014	4174	complete DST #4, successful test, TIH w/bit, resume drilling BKC, Marmaton, Pawnee, Ft. Scott
05/22/2014	4364	drilling, Ft. Scott, Cherokee, show in upper Cherokee warrants test, Short trip, TOH for DST #5, conducting DST #5, complete DST #5, successful test, TIH w/bit, resume drilling, Cherokee
05/23/2014	4540	drilling rathole, Cherokee and Mississippian, Rotary TD @ 4540' - 0640 hrs conduct and complete logging operations, off location @ 1730 hrs

Murfin Drilling Company

well comparison sheet

DRILLING WELL					COMPARISON WELL			
MDC - MB 'A' #1-35 1560' FNL' & 1560' FWL Sec 35-T4S-R31W					MDC - Schmidt-Vap #1-26 1545' FSL & 880' FSL Sec 35-T4S-R31W			
2906 KB					2911 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log
Topeka	3712	-806	3719	-813	3721	-810	4	-3
Heebner	3872	-966	3884	-978	3884	-973	7	-5
Lansing	3925	-1019	3933	-1027	3937	-1026	7	-1
Stark	4093	-1187	4098	-1192	4103	-1192	5	0
BKC	4148	-1242	4153	-1247	4159	-1248	6	1
Pawnee	4256	-1350	4259	-1353	4267	-1356	6	3
Cherokee	4340	-1434	4344	-1438	4351	-1440	6	2

Mississippian	4466	-1560	4460	-1554	4474	-1563	3	9
Total Depth	4540	-1634	4546	-1640	4542	-1631	-3	-9

ROCK TYPES

Cht	Dolsec	shale, grn	Shcol
Cht vari	sdy lmst	shale, gry	Ss
Chtcongl	Lmst fw<7	Carbon Sh	Slst
Dolprim	Lmst fw>7	shale, red	

ACCESSORIES

MINERAL

- Argillaceous
- P Pyrite
- ^ Siliceous
- Varicolored chert
- △ Chert White

FOSSIL

- ∩ Bioclastic or Fragmental
- F Fossils < 20%
- ⊕ Oolite
- ♁ Pellets

STRINGER

- Sandstone
- Siltstone
- Shale
- red shale
- carb shale

TEXTURE

- C Chalky
- CX Cryptocrystalline
- L Lithogr

OTHER SYMBOLS

MISC

- Daily Report
- Digital Photo
- Document
- Folder
- Link
- Vertical Log File
- Horizontal Log File
- Core Log File
- Drill Cuttings Rpt

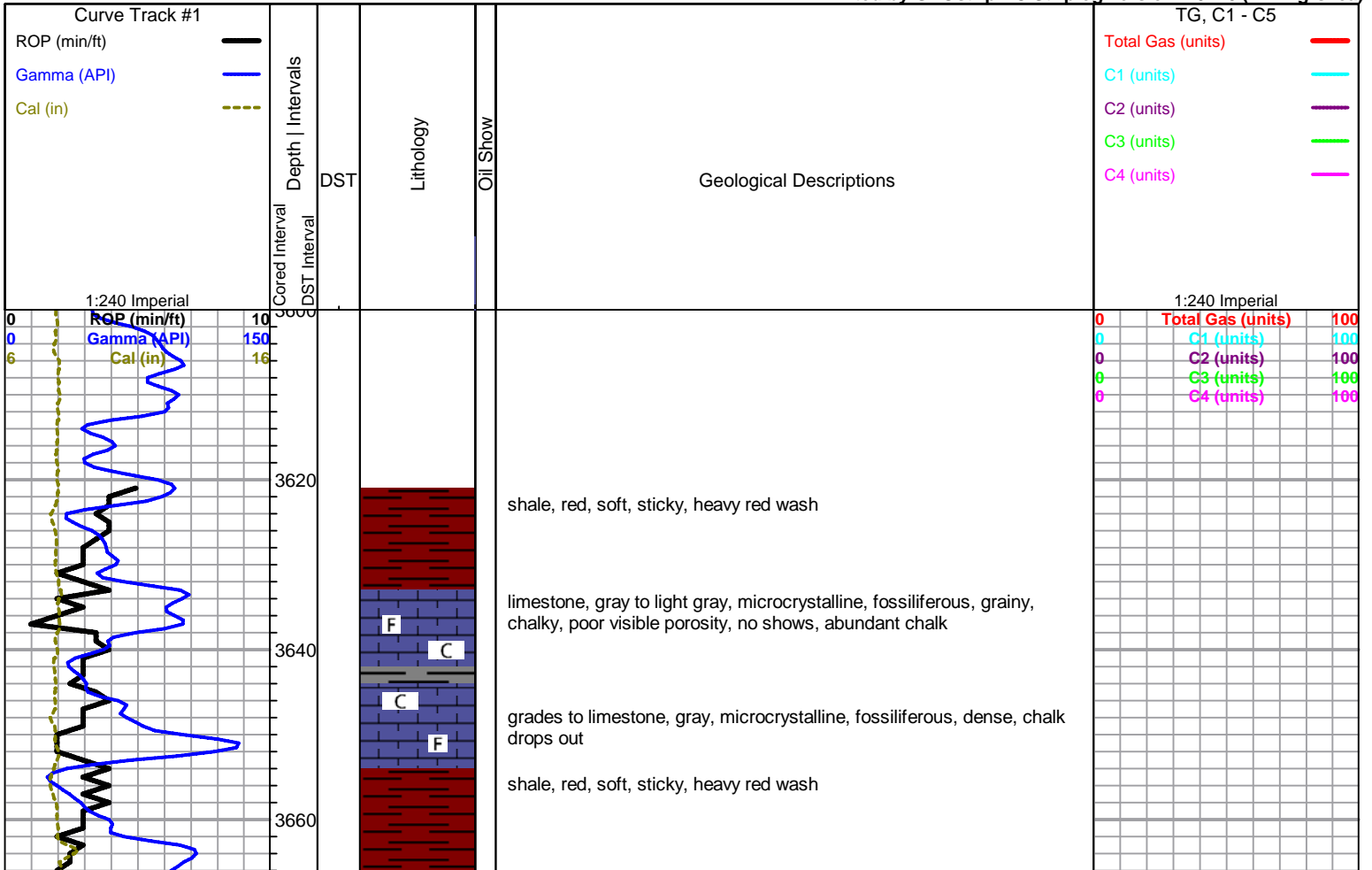
Oil Show

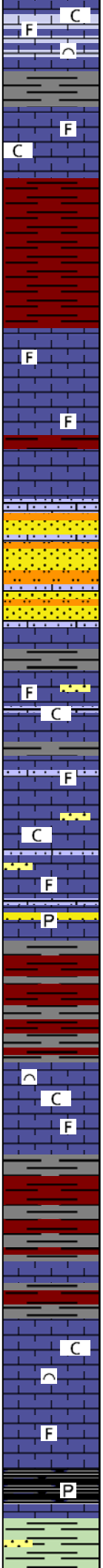
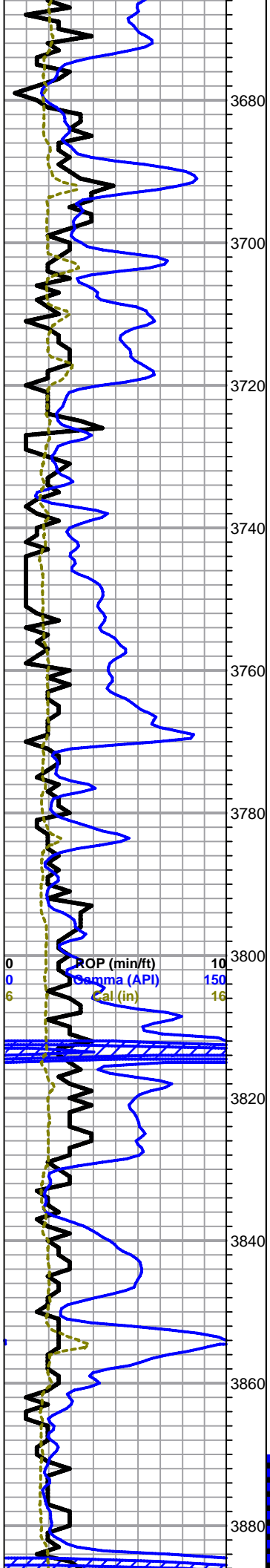
- Good Show
- Fair Show
- Poor Show
- Spotted or Trace
- Questionable Strn
- Dead Oil Stn
- Fluorescence
- * Gas

DST

- DST Int
- DST alt
- Core
- tail pipe

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limestone, cream to light gray, microcrystalline, fossiliferous to bioclastic, chalky, some interclast vugs

limestone as above, grading to pale green, gray/green, fossiliferous to arenaceous, fairly dense, no shows

shale, red, silty, slight blocky, some red siltstone

Topeka 3712 -806

limestone, gray to pale green and cream, some brown cast, microcrystalline, fossiliferous to arenaceous, few small vugs, otherwise dense with poor overall porosity, no shows

limestone, white to light gray, sandy, with sandstone and siltstone, white to light gray, very fine grain, fair sorted, rounded, well cemented, no visible porosity or shows

limestone, light gray, some gray/green, microcrystalline, fossiliferous, dense to chalky, poor visible porosity, no shows, abundant chalk, sand a.a.

as above, with some sandy limestone and sandstone/siltstone a.a.

trace fine grain sand, light green, rounded, well sorted, some pocked pyrite with sand grains

red and gray shales

limestone, cream to light gray, microcrystalline, fossiliferous, some bioclastic, chalky, poor visible porosity, abundant chalk, no shows

limestone, as above, abundant chalk, some white to pale green arenaceous limestones, no shows

Heebner 3872 -966

black carbonaceous shale, some pyritic

shale, light green, mushy and soft, with clusters of sandstone, green, shaly, fine grain, round to sub-rounded, poorly sorted, friable to fair

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

Morgan Mud Inc.
 mud chk
 @ 3826 ft.
 1220 hrs. 5/17/14
 Vis. 55 Wt. 8.9
 PV 17 YP 18
 WL 5.6
 Cake 2/32,
 pH 11.0
 CHL 800 ppm
 Ca 10 ppm
 Sol 4.3 LCM 4#
 DMC \$864.00
 CMC \$18485.00

cemented, no shows

grades to shale, red to brick red, silty, with siltstone, red to brick

Toronto

limestone, light gray to white, microcrystalline, fossiliferous, chalk to dense, pyritic in part, some small vugs, dark staining in vugs, fair show slow bleeding heavy free oil, even fair fluorescence, good cut fluorescence with halo, faint odor

DST #1.jpg

Lansing 3925 -1019

limestone, white to light gray/green, micro-cryptocrystalline, fossiliferous, chalky in part, few small vugs and fractures, few pieces very spotty black staining, one piece brown saturated siltstone, sheen on break, no odor in wet cup

sandstone, green to quartz, very fine grain, to siltstone, brown saturated to wormy black stain, rounded, poor sorting, well, few clusters fair show oil on break, no fluorescence, good cut, no odor

limestone, white to pale green, cryptocrystalline, fossiliferous, some sub-oolitic, good wormy stained crystal lined solution vugs, fair show free oil, fleeting odor, no fluorescence, excellent cut

limestone, white to cream, microcrystalline, agrillaceous, siliceous and cherty, trace arkosic and pyritic, fair vugs and surface etching, spotty-wormy black staining, slight show tarry-clingy oil, no odor, faint fluorescence, good cut with halo, no odor in wet cup

grades to limestone, white to light gray, cryptocrystalline, mostly lithographic, dense to chalky, no shows

limestone, cream, cryptocrystalline, mostly chalky lithographic, poor visible porosity, light black to brown saturated to spotty stain, no free oil, no odor, no fluorescence, no cut

limestone, light gray, microcrystalline, fossiliferous, cherty, very pyritic, good vuggy and interclast porosity, fair interclast and vug staining, slight show free oil, heavy streaming sheen, fleeting odor, poor fluorescence, excellent cut

limestone, white to gray/green, micro-cryptocrystalline, chalky, slightly fossiliferous and sub-oolitic, very chalky, some small wormy vugs with gilsonite/tarry stain, no free oil or odor, even fair mineral fluorescence, good excellent cut

limestone, white chalky bioclastic, trace oolitic, no shows

shale, mostly red, silty, some gray and green, red wash

limestone, white to light gray, microcrystalline, fossiliferous, pyritic, some secondary calcite, dense to chalky, poor visible porosity, trace spotty stain, no show free oil or odor, pale even fluorescence

red shale with other mixed shales

limestone, white to light gray, pale green, mostly cryptocrystalline, trace fossils, some secondary calcite, trace etching, some fractures, spotty to saturated light brown stain, flowing sheen in tray, show gassy oil on break, fleeting odor, fair fluorescence, good cut

Stark Shale 4093 -1187

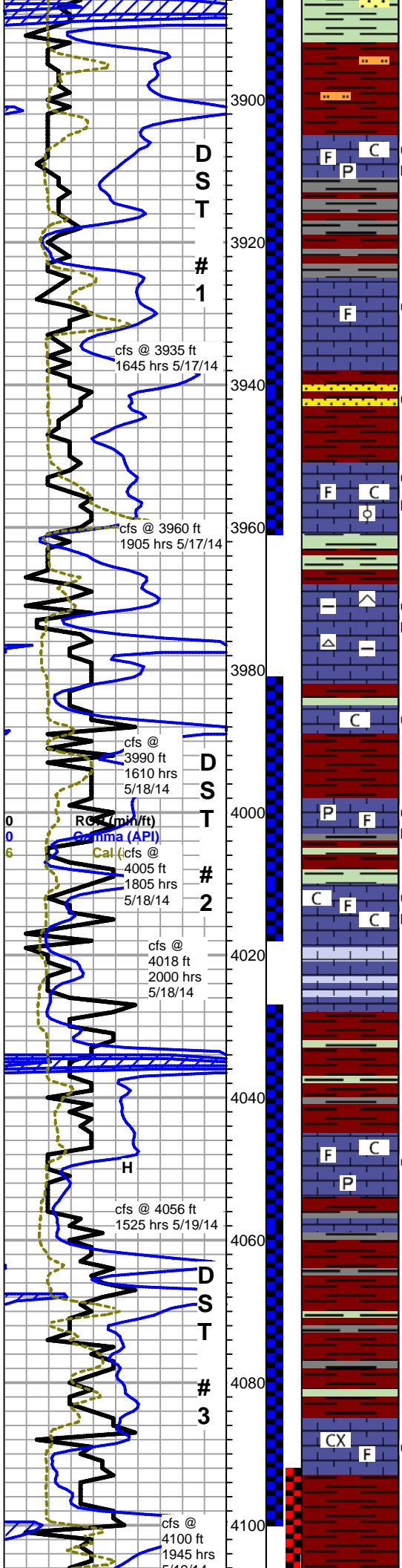
pipe strap 0.20 short to board deviation survey 1 1/2 deg

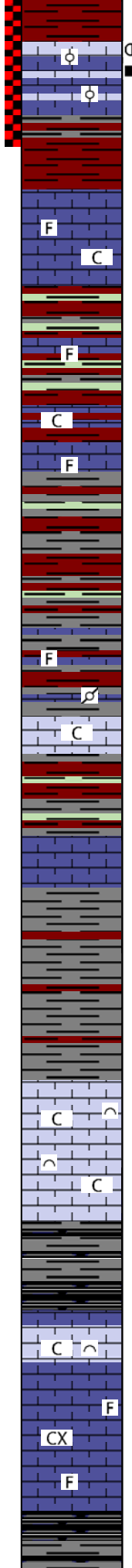
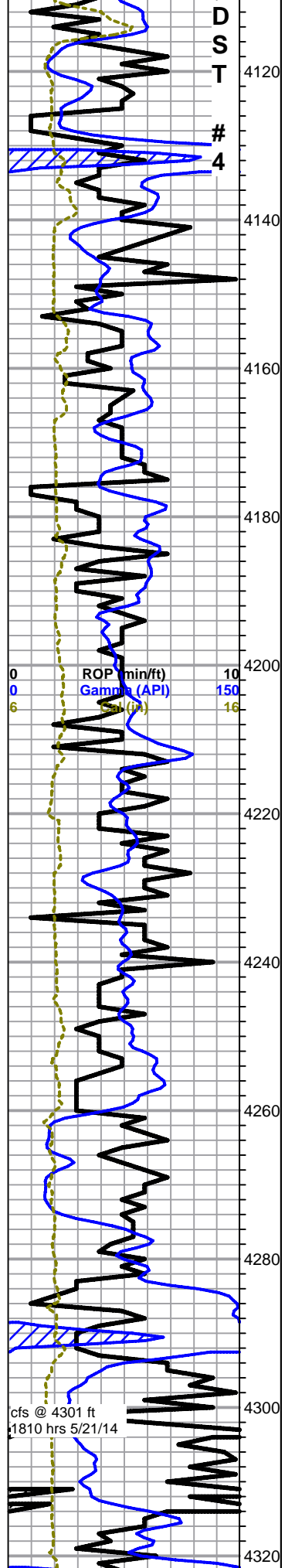
Morgan Mud Inc.
mud chk
@ 3974 ft.
1505 hrs. 5/18/14
Vis. 50 Wt. 9.1
PV 16 YP 16
WL 6.4
Cake 2/32,
pH 10.0
CHL 1200 ppm
Ca 10 ppm
Sol 5.7 LCM 4#

DST #2.jpg
Total Gals DMC \$0.00
C1 (units) CMC \$18485.00
C2 (units) 100
C3 (units) 100
C4 (units) 100

Morgan Mud Inc.
mud chk
@ 4018 ft.
1115 hrs. 5/19/14
Vis. 46 Wt. 9.3
PV 14 YP 13
WL 6.8
Cake 2/32,
pH 9.0
CHL 1600 ppm
Ca 40 ppm
Sol 7.1 LCM 4#
DMC \$0.00
CMC \$18485.00

DST #3.jpg





limestone, white, micro-oolitic, chalky, some interoolite porosity, interoolite stain, show free oil on break, good fluorescence, good milky cut - with limestone, mostly cryptocrystalline, slightly fossiliferous, dense to chalky, no porosity or shows

limestone, white to light gray, microcrystalline, fossiliferous, chalky in part, poor visible porosity, no shows

Base KC 4148 -1242

limestone, as above, with gray arenaceous limestone, mixed shales, red, gray, maroon, green

shale, red silty to brick red, gray and green

shale as above, with limestone, mixed, maroon to gray and tan, arenaceous to fossiliferous, trace dense pelletal

some limestone, white to gray, microcrystalline, very soft and chalky, lithographic, no shows

poor samples, mostly shales as above, some lavender arenaceous limestone, pale green dense cryptocrystalline limestone, cream to light gray fossiliferous limestone, no shows

shale, grading to mostly variable gray, reds dropping out, heavy gray wash in samples

Pawnee 4256 -1350

limestone, white to cream, bioclastic, chalky to dense, some pinpoint and fracture porosity, otherwise mostly poor visible porosity, barren, abundant chalk

shale, black, gray and black carbonaceous

limestone, white to cream, bioclastic, chalky, some interclast porosity, no shows

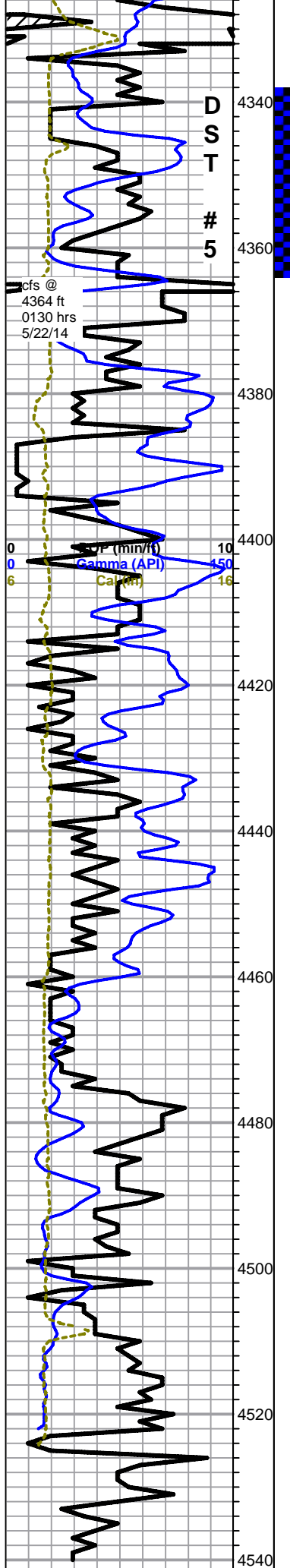
grades to limestone, gray to cream, mostly cryptocrystalline, dense fossiliferous, some arenaceous, no shows

black carbonaceous and gray shales

Morgan Mud Inc.
mud chk
@ 4118 ft.
1115 hrs. 5/20/14
Vis. 45 Wt. 9.0
PV 15 YP 14
WL 6.8
Cake 2/32,
pH 10.5
CHL 1600 ppm
Ca 20 ppm
Sol 5.0 LCM 5#
DMC \$3841.00
CMC \$22326.00

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

Morgan Mud Inc.
mud chk
@ 4241t.
1315 hrs. 5/21/14
Vis. 56Wt. 9.0
PV 18 YP 18
WL 6.4
Cake 2/32,
pH 10.5
CHL 1600 ppm
Ca 10 ppm
Sol 5.0 LCM 4#
DMC \$696.00
CMC \$23022.00



limestone, light gray to cream, mostly cryptocrystalline, lithographic to fossiliferous, trace pyritic, dense, no shows

Cherokee 4340 -1434

limestone, light gray, microcrystalline, fossiliferous, some solution vugs and interclast/crystalline porosity, spotty black to wormy black stain, some clingy tarry oil, no odor, light fluorescence, good cut, with limestone, white oolitic, maroon to brown fossiliferous to arenaceous, dense to chalky, no staining, trace sandstone clusters, quartz, fair rounding, poorly sorted, fairly cemented, no shows

decreasing show in 30 and 60 samples

grades to limestone, white to light gray, mostly cryptocrystalline, dense, fossiliferous, no shows

shales, mixed, red, black, gray and green

sandstone, red to frosted to white, dirty quartz, fine to very fine grain, some glauconitic, poorly sorted, well rounded, fair cementing to friable, poor visible porosity, no shows

red shales and siltstones, other mixed shales, heavy red wash

some scattered sands as above

as above, heavy red wash

chert conglomerate, yellow chert, weathered, yellow shale, yellow dirty sandstone, white chert, weathered, some white sandstones, heavy yellow wash in samples

Mississippian 4456 -1560

chert, white to cream and tan, fresh and sharp to slightly weathered, mostly fossiliferous, some glauconitic, scattered rose and yellow chert, no shows

dolomitic limestone, white to pink cast cream, microcrystalline, fossiliferous, some chalky, mostly dense, no shows, some red shale, samples wash red

grading to more white dolomite and dolomitic limestone, microcrystalline, fossiliferous, some glauconitic, some soft and chalky, abundant chalk in samples, re-influx cherts as above

conglomerate, weathered cherts, red black and gray shales, sandstone, quartz, very fine grain, well cemented, abundant sand grains in bottom of tray

dolomite to dolomitic limestone, white to cream, microcrystalline, fossiliferous, chalky in part but mostly dense, some scattered cherts

chert, white to cream, fossiliferous, sub-tripolitic to tripolitic, some good porosity, barren, abundant chalk

dolomite, gray, microcrystalline, sub-sucrosic to sub-rhombic, recrystallized fossiliferous in part, vuggy, some good porosity, no shows

Rotary TD 4540 ft @ 0640 hrs 5/23/14


Pioneer TD 4546 ft.

DST #5.jpg

Morgan Mud Inc.
mud chk
@ 4241t.
1330 hrs. 5/22/14
Vis. 45 Wt. 9.2
PV 14 YP 13
WL 7.6
Cake 2/32,
pH 10.5
CHL 1600 ppm
Ca 30 ppm
Sol 6.4 LCM 4#
DMC \$180.00
CMC \$23202.00

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

			Complete Logging Operations @ 1715 hrs, 5/23/14	
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 <p>TRILOBITE TESTING, INC.</p>	<h2 style="margin: 0;">DRILL STEM TEST REPORT</h2>
Murfin Drilling Co. 250 N. Water STE 300 Wichita KS 67206 ATTN: Keith Reavis	35-4S-31W Rawlins KS MB "A" #1-35 Job Ticket: 56893 DST#: 1 Test Start: 2014.05.18 @ 01:47:00

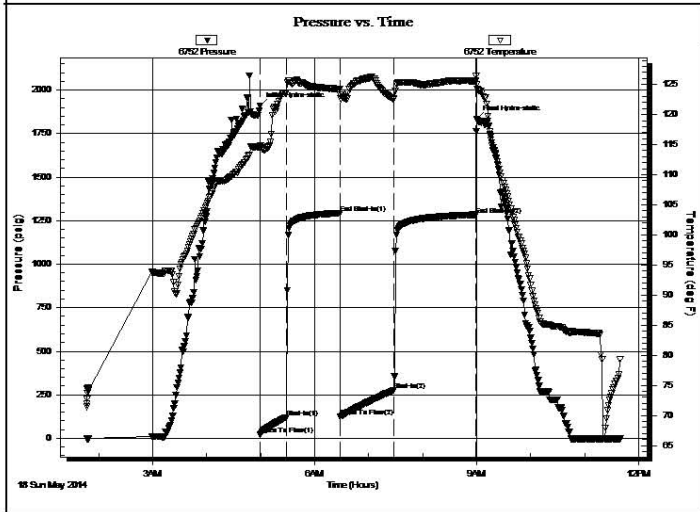
GENERAL INFORMATION:

Formation: Toronto - LKC "A-B"	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Ryan Nichols
Time Tool Opened: 04:59:20	Unit No: 58
Time Test Ended: 11:39:30	
Interval: 3870.00 ft (KB) To 3960.00 ft (KB) (TVD)	Reference Elevations: 2906.00 ft (KB)
Total Depth: 3960.00 ft (KB) (TVD)	2901.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Good
	KB to GR/CF: 5.00 ft

Serial #: 6752 Inside

Press@RunDepth: 276.23 psig @ 3871.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.05.18 End Date: 2014.05.18	Last Calib.: 2014.05.18
Start Time: 01:47:01 End Time: 11:39:30	Time On Btm: 2014.05.18 @ 04:59:10
	Time Off Btm: 2014.05.18 @ 09:00:00


TEST COMMENT: 30 IF - 1" blow built to BoB @ 16 mins
 60 ISI - No return
 60 FF - Surface blow built to BoB @ 16 mins
 90 FSI - No return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1908.72	114.81	Initial Hydro-static
1	20.59	114.48	Open To Flow (1)
30	121.37	123.71	Shut-In(1)
89	1293.09	124.22	End Shut-In(1)
90	124.87	123.23	Open To Flow (2)
149	276.23	122.55	Shut-In(2)
240	1284.06	125.58	End Shut-In(2)
241	1831.86	124.93	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
5.00	OCM - 35%o - 65%M	0.02
530.00	MCW - 5%M - 95%W	2.61

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

 <p style="font-size: 24pt; font-weight: bold; margin: 0;">TRILOBITE TESTING, INC.</p>	<h2 style="margin: 0;">DRILL STEM TEST REPORT</h2>
Murfin Drilling Co. 250 N. Water STE 300 Wichita KS 67206 ATTN: Keith Reavis	35-4S-31W Rawlins KS MB "A" #1-35 Job Ticket: 56894 DST#: 2 Test Start: 2014.05.18 @ 22:51:00

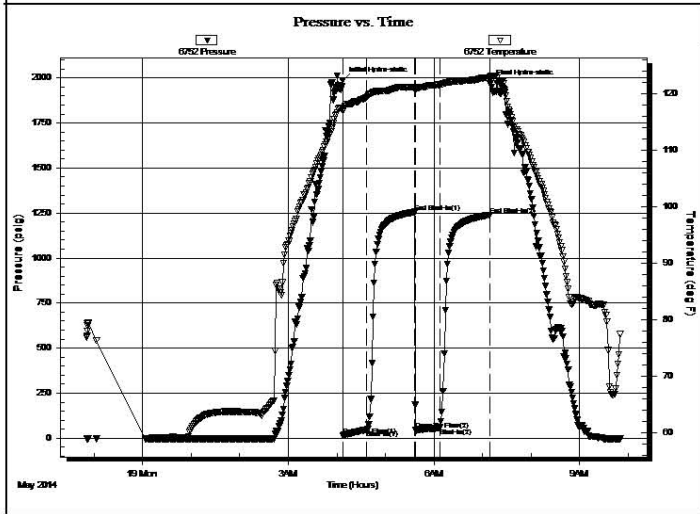
GENERAL INFORMATION:

Formation: LKC "D - G"	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Ryan Nichols
Time Tool Opened: 04:07:20	Unit No: 58
Time Test Ended: 09:50:40	
Interval: 3981.00 ft (KB) To 4018.00 ft (KB) (TVD)	Reference Elevations: 2906.00 ft (KB)
Total Depth: 4018.00 ft (KB) (TVD)	2901.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Good
	KB to GR/CF: 5.00 ft

Serial #: 6752 Inside

Press@RunDepth: 56.34 psig @ 3982.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.05.18 End Date: 2014.05.19	Last Calib.: 2014.05.19
Start Time: 22:51:01 End Time: 09:50:40	Time On Btm: 2014.05.19 @ 04:07:00
	Time Off Btm: 2014.05.19 @ 07:09:30

TEST COMMENT: 30 IF - Surface blow built to 3"
 60 ISI - No return
 30 FF - Surface blow built to 2 1/4"
 60 FSI - No return




PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1984.07	117.48	Initial Hydro-static
1	14.76	116.87	Open To Flow (1)
30	46.49	119.31	Shut-In(1)
90	1255.89	121.10	End Shut-In(1)
90	47.56	120.88	Open To Flow (2)
120	56.34	121.52	Shut-In(2)
182	1239.67	122.79	End Shut-In(2)
183	1969.27	122.96	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
62.00	OCM - 10%o - 90%M	0.30
33.00	OCM - 20%o - 80%M	0.46

* Recovery from multiple tests

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

	DRILL STEM TEST REPORT	
	Murfin Drilling Co. 250 N. Water STE 300 Wichita KS 67206 ATTN: Keith Reavis	35-4S-31W Rawlins KS MB "A" #1-35 Job Ticket: 56895 DST#: 3 Test Start: 2014.05.19 @ 22:24:00

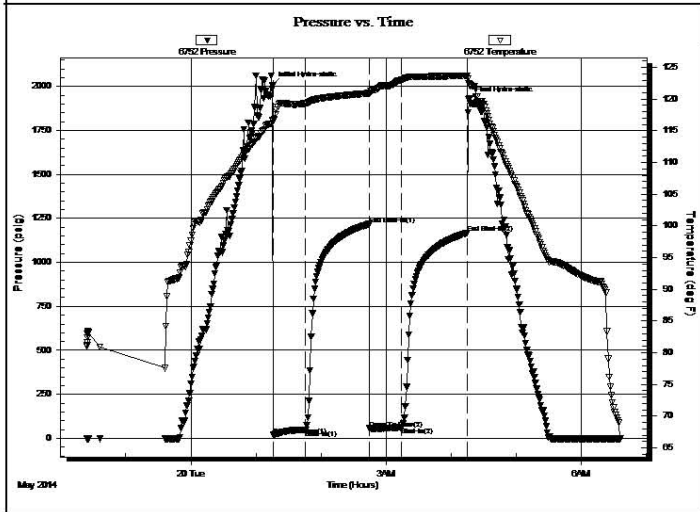
GENERAL INFORMATION:

Formation: LKC "H - J"	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Ryan Nichols
Time Tool Opened: 01:16:00	Unit No: 58
Time Test Ended: 06:36:20	Reference Elevations: 2906.00 ft (KB)
Interval: 4027.00 ft (KB) To 4100.00 ft (KB) (TVD)	2901.00 ft (CF)
Total Depth: 4100.00 ft (KB) (TVD)	KB to GR/CF: 5.00 ft
Hole Diameter: 7.88 inches Hole Condition: Good	

Serial #: 6752 Inside

Press@RunDepth: 62.30 psig @ 4028.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.05.19 End Date: 2014.05.20	Last Calib.: 2014.05.20
Start Time: 22:24:01 End Time: 06:36:20	Time On Btm: 2014.05.20 @ 01:15:30
	Time Off Btm: 2014.05.20 @ 04:16:30

TEST COMMENT: 30 IF - 1/2" blow built to 3 1/2"
 60 ISI - No return
 30 FF - Surface blow started @ 5 mins built to 3"
 60 FSI - No return




PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2009.03	116.67	Initial Hydro-static
1	17.97	116.53	Open To Flow (1)
30	49.13	119.32	Shut-In(1)
89	1213.23	120.93	End Shut-In(1)
90	55.03	120.92	Open To Flow (2)
119	62.30	123.04	Shut-In(2)
180	1167.60	123.70	End Shut-In(2)
181	1924.08	122.48	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
62.00	OCM - 25%o - 75%M	0.30
10.00	MCO - 70%o - 30%M	0.14

* Recovery from multiple tests

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

 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT	
	Murfin Drilling Co. 250 N. Water STE 300 Wichita KS 67206 ATTN: Keith Reavis	35-4S-31W Rawlins KS MB "A" #1-35 Job Ticket: 56896 DST#: 4 Test Start: 2014.05.20 @ 16:13:00

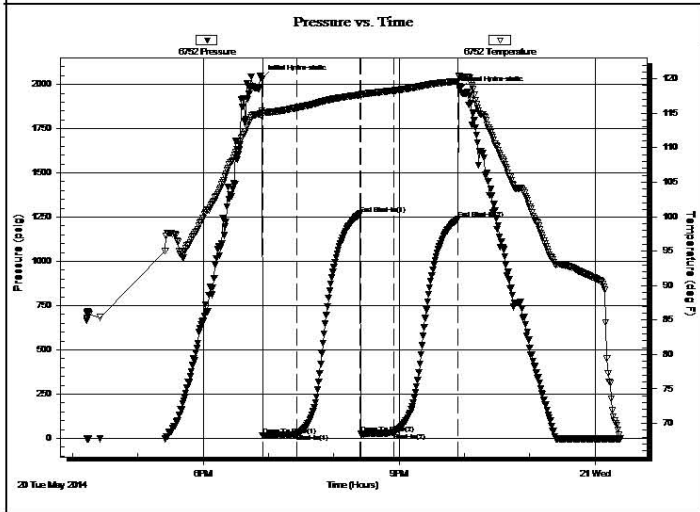
GENERAL INFORMATION:

Formation: LKC " K "	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Ryan Nichols
Time Tool Opened: 18:54:30	Unit No: 58
Time Test Ended: 00:23:30	Reference Elevations: 2906.00 ft (KB)
Interval: 4092.00 ft (KB) To 4136.00 ft (KB) (TVD)	2901.00 ft (CF)
Total Depth: 4136.00 ft (KB) (TVD)	KB to GR/CF: 5.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Good

Serial #: 6752 Inside

Press@RunDepth: 34.34 psig @ 4093.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.05.20 End Date: 2014.05.21	Last Calib.: 2014.05.21
Start Time: 16:13:01 End Time: 00:23:30	Time On Btm: 2014.05.20 @ 18:54:00
	Time Off Btm: 2014.05.20 @ 21:55:30

TEST COMMENT: 30 IF - Surface blow built to 1"
 60 ISI - No return
 30 FF - Surface blow built to 1 1/4"
 60 ISI - No return




PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2030.14	115.38	Initial Hydro-static
1	15.15	115.13	Open To Flow (1)
32	25.70	115.80	Shut-In(1)
90	1268.53	117.68	End Shut-In(1)
91	26.20	117.50	Open To Flow (2)
121	34.34	118.30	Shut-In(2)
180	1238.88	119.66	End Shut-In(2)
182	1970.49	120.32	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
30.00	OCM - 20%o - 80%M	0.15

* Recovery from multiple tests

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

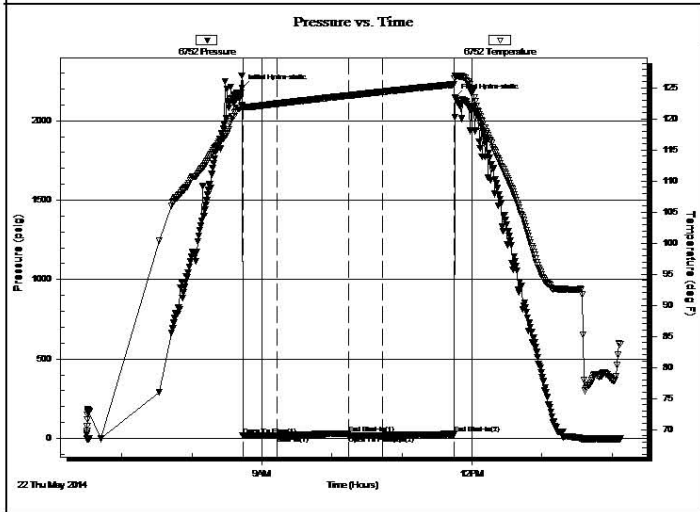
 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT	
	Murfin Drilling Co. 250 N. Water STE 300 Wichita KS 67206 ATTN: Keith Reavis	35-4s-31w Rawlins KS MB "A" #1-35 Job Ticket: 56987 DST#: 5 Test Start: 2014.05.22 @ 06:30:00

GENERAL INFORMATION:

Formation: Cherokee Deviated: No Whipstock: ft (KB) Time Tool Opened: 08:43:30 Time Test Ended: 14:07:30	Test Type: Conventional Bottom Hole (Reset) Tester: Ryan Nichols Unit No: 58
Interval: 4338.00 ft (KB) To 4364.00 ft (KB) (TVD) Total Depth: 4364.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Good	Reference Elevations: 2906.00 ft (KB) 2901.00 ft (CF) KB to GR/CF: 5.00 ft

Serial #: 6752	Inside				
Press@RunDepth: 18.93 psig @	4339.00 ft (KB)	Capacity: 8000.00 psig			
Start Date: 2014.05.22	End Date: 2014.05.22	Last Calib.: 2014.05.22			
Start Time: 06:30:01	End Time: 14:07:30	Time On Btm: 2014.05.22 @ 08:43:00			
		Time Off Btm: 2014.05.22 @ 11:45:30			

TEST COMMENT: 30 IF - Surface blow built to 1/4"
 60 ISI - No return
 30 FF - No blow
 60 FSI - No return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2204.80	122.17	Initial Hydro-static
1	16.73	121.90	Open To Flow (1)
30	18.73	122.46	Shut-In(1)
92	31.06	123.79	End Shut-In(1)
92	18.78	123.78	Open To Flow (2)
121	18.93	124.38	Shut-In(2)
182	26.87	125.57	End Shut-In(2)
183	2148.61	126.94	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
5.00	Mud 100%M	0.02

* Recovery from multiple tests

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