



Scale 1:240 Imperial

Well Name: Hickey #1-2  
 Surface Location: 436' FSL\_1765' FEL Sec 2-18S-14W  
 Bottom Location:  
 API: 15-009-25995-00-00  
 License Number:  
 Spud Date: 6/26/2014 Time: 9:00 PM  
 Region: Barton County  
 Drilling Completed: 7/4/2014 Time: 2:15 AM  
 Surface Coordinates: Y = 670651 & X = 1903860  
 Bottom Hole Coordinates:  
 Ground Elevation: 1877.00ft  
 K.B. Elevation: 1886.00ft  
 Logged Interval: 2800.00ft To: 3550.00ft  
 Total Depth: 3450.00ft  
 Formation: Arbuckle  
 Drilling Fluid Type: Chemical/Fresh Water Gel

**OPERATOR**

Company: Shelby Resources, LLC  
 Address: 445 Union Blvd, Suite 208  
 Lakewood, CO 80228  
 Contact Geologist: Janine Sturdavant  
 Contact Phone Nbr: 303-907-2209 / 720-274-4682  
 Well Name: Hickey #1-2  
 Location: 436' FSL\_1765' FEL Sec 2-18S-14W API: 15-009-25995-00-00  
 Pool: Boyd Field:  
 State: Kansas Country: USA

**LOGGED BY**



Company: Shelby Resources, LLC  
 Address: 445 UNION BLVD. Suite 208  
 LAKEWOOD, CO. 80228  
 Phone Nbr: 203-671-6034  
 Logged By: Geologist Name: Jeremy Schwartz

**NOTES**

The Shelby Resources, LLC Hickey #1-2 was drilled to a total depth of 3450', bottoming in the Arbuckle. A TookeDaq gas detector was employed in the drilling of said well.

4 DST's were conducted throughout the Lansing Kansas-City and Arbuckle Zones. The DST reports can be found at the bottom of this log.

Due to the DST results, sample shows, gas kicks, and log analysis it was determined by all parties involved to further test the well through production pipe. The dry samples were saved and will be available for further review at the Kansas Geological Society Well Sample Library, located in Wichita, KS.

Respectfully Submitted,  
Jeremy Schwartz  
Geologist

\*Note: Log tops are 2' lower on the Elog compared to the drill time and sample tops\*

**SURFACE CO-ORDINATES**

Well Type: Vertical

Longitude: N/S Co-ord: Y = 670651  
 E/W Co-ord: X = 1903860

Latitude:

**CONTRACTOR**

Contractor: Sterling Drilling Co  
 Rig #: 4  
 Rig Type: mud rotary  
 Spud Date: 6/26/2014  
 TD Date: 7/4/2014  
 Rig Release:  
 Time: 9:00 PM  
 Time: 2:15 AM  
 Time:

**ELEVATIONS**

K.B. Elevation: 1886.00ft  
 K.B. to Ground: 9.00ft  
 Ground Elevation: 1877.00ft

DATE	DEPTH	ACTIVITY
Monday, June 30, 2014	3000'	Geologist Jeremy Schwartz on location @ 1330hrs, DRLG ahead through Topeka, Heebner Shale, Toronto, Douglas Shale, Brown Lime, CFS @ 3128', Come out of hole for plugged bit, Resume DRLG through LKC,
Tuesday, July 01, 2014	3128' 3150' 3200'	DRLG ahead, CFS @ 3170', Resume DRLG, CFS @ 3185', Resume DRLG, CFS @ 3200' Conduct DST #1 in LKC "A-F", Successful Test, Resume DRLG through LKC "G", CFS @ 3220', Resume DRLG through Muncie Creek, LKC "H", CFS @ 3291' Resume DRLG
Wednesday, July 02, 2014	3300' 3335'	DRLG ahead through Stark Shale, BKC, CFS @ 3335', Conduct DST #2 in LKC "H-K", Successful Test, Resume DRLG, CFS @ 3345', Resume DRLG, CFS @ 3350', Conduct DST #3
Thursday, July 03, 2014	3350' 3363'	Successful Test, Resume DRLG, CFS @ 3360', Resume DRLG, CFS @ 3363', Conduct DST #4 Fluid reversed out into truck, Successful Test, DRLG ahead, CFS @ 3371', Resume DRLG
Friday, July 04, 2014	3450'	TD of 3450' reached at 0215hrs, CTCH 1 hour then OOH, Conduct Logging Operations Logging Operations Complete @ 1000hrs Geologist Jeremy Schwartz off location @ 1030hrs

CLIENT:	SHELBY RESOURCES, LLC
WELL NAME:	HICKEY #1-2
LEGAL:	NW SE SW SE 2-T18S-R14W
COUNTY:	BARTON
API:	15-009-25995-00-00
DRLG CONTRACTOR:	STERLING DRILLING CO.
RIG #:	4
DOGHOUSE #:	620-388-4192
TOOLPUSHER:	LANNY SALOGA
CELL #:	620-388-4193

FORMATION	D&A																					
	MURPHY OIL CO.				SHELBY RESOURCES, LLC				THUNDERBIRD DRILLING, INC													
	SPIRES #1				SCHLESSIGER CATTLE #1-2				SPIRES #1													
	CSW SWSE 2-18S-14W				N2 SE SE NE 2-18S-14W				CSW NWSE 2-18S-14W													
HICKEY #1-2		KB		1886		KB		1891		KB		1842		KB		1863						
LOG TOPS		SAMPLE TOPS		COMP. CARD		LOG		SMPL.		COMP. CARD		LOG		SMPL.		COMP. CARD		LOG		SMPL.		
DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	
ANHYDRITE TOP	826	1060	826	1060	832	1059	+ 1	+ 1	788	1054	+ 6	+ 6	810	1053	+ 7	+ 7						
BASE	850	1036	850	1036	860	1031	+ 5	+ 5	812	1030	+ 6	+ 6										
TOPEKA	2812	-926	2810	-924	2810	-919	- 7	- 5	2772	-930	+ 4	+ 6										
HEEBNER SHALE	3050	-1164	3049	-1163	3050	-1159	- 5	- 4	3010	-1168	+ 4	+ 5	3031	-1168	+ 4	+ 5						
TORONTO	3059	-1173	3060	-1174	3060	-1169	- 4	- 5	3022	-1180	+ 7	+ 6	3041	-1178	+ 5	+ 4						
DOUGLAS SHALE	3071	-1185	3069	-1183	3070	-1179	- 6	- 4	3034	-1192	+ 7	+ 9	3053	-1190	+ 5	+ 7						
BROWN LIME	3126	-1240	3123	-1237	3125	-1234	- 6	- 3	3086	-1244	+ 4	+ 7	3107	-1244	+ 4	+ 7						
LKC	3134	-1248	3135	-1249	3138	-1247	- 1	- 2	3099	-1257	+ 9	+ 8	3120	-1257	+ 9	+ 8						
LKC G	3210	-1324	3208	-1322	3210	-1319	- 5	- 3	3166	-1324	+ 0	+ 2	3188	-1325	+ 1	+ 3						
MUNCIE CREEK	3258	-1372	3255	-1369	3262	-1371	- 1	+ 2	3220	-1378	+ 6	+ 9	3242	-1379	+ 7	+ 10						
LKC H	3265	-1379	3260	-1374	3268	-1377	- 2	+ 3	3226	-1384	+ 5	+ 10	3247	-1384	+ 5	+ 10						
STARK SHALE	3315	-1429	3313	-1427	3318	-1427	- 2	+ 0	3276	-1434	+ 5	+ 7	3297	-1434	+ 5	+ 7						
BKC	3335	-1449	3333	-1447	3340	-1449	+ 0	+ 2	3296	-1454	+ 5	+ 7	3316	-1453	+ 4	+ 6						
CONGLOMERATE	3340	-1454	3335	-1449	3342	-1451	- 3	+ 2					3324	-1461	+ 7	+ 12						
ARBUCKLE	3354	-1468	3352	-1466	3368	-1477	+ 9	+ 11	3306	-1464	- 4	- 2	3339	-1476	+ 8	+ 10						
RTD			3450	-1564	3378	-1487		- 77	3420	-1578		+ 14	3397	-1534		- 30						
LTD	3453	-1567			3378	-1487	- 80		3419	-1577	+ 10		3400	-1537	- 30							

PROGNOSIS	
ANHYDRITE TOP	825 -1061
HEEBNER SHALE	3040 -1154
LKC	3130 -1244
BKC	3330 -1444
ARBUCKLE	3354 -1468
RTD	3450 -1564

**TESTED**  
 Arbuckle Abandoned Producer  
 IP 203 BOPD  
 Arbuckle Open Hole Completed  
 10' OH (-1477 to -1487)  
 Cum Prod 143,150 BO  
 1952-1996

**TESTED**  
 DST #1 (3093-3154) LKC A-D  
 15-45-45-90  
 IP: BOB 8M  
 FF: STRONG BLOW BOB 1M  
 244' SMCO (050%, G40%, M10%)  
 244' HMC0 (070%, M30%)  
 SIP: 908 - 887#

**TESTED**  
 DST #1 (3187-3197) LKC G  
 OPEN 30MIN, SHUT IN 15MIN  
 20' ROTARY MUD W/FEW SPECKS OIL  
 DST #2 (3346-3349) ARBUCKLE  
 OPEN 30MIN, SHUT IN 15MIN  
 9' ROTARY MUD

**DST #2 (3153-3190) LKC F-G**  
 15-45-45-90  
 IF: WEAK BLOW 1"  
 FF: WEAK BLOW 1"  
**61' OCM (O15%, M85%), 61' MW**  
 55.9# - 516#

**DST #3 (3200-3234) LKC H**  
 15-45-45-90  
 IF: STRONG BLO BOB 2M  
 FF: STRONG BLOW BOB <1M  
 BLO BK  
**76' HOCM (O20%, M80%),**  
**427' SMCGO (O70%, G20%, M10%)**  
 98.6# - 897#

**DST #4 (3294-3335) ARBUCKLE**  
 15-45-45-90  
 IF: STRONG BLOW BOB 2M  
 BLO BK  
 FF: STRONG BLOW BOB 3M  
 NO BLO BK  
**1344' CGO, 124' SMCO (O95%, M5%)**

**DST #3 (3347-3353) ARBUCKLE**  
 OPEN 20MIN, SHUT IN 15MIN  
**10' ROTARY MUD**

**DST #4 (3342-3363) ARBUCKLE**  
 OPEN 60MIN, SHUT IN 15MIN  
**62' HEAVILY OIL CUT MUD**

**ROCK TYPES**

-  Congl
-  Lmst fw < 7
-  shale, gry
-  shale, red
-  Dolprim
-  shale, grn
-  Carbon Sh

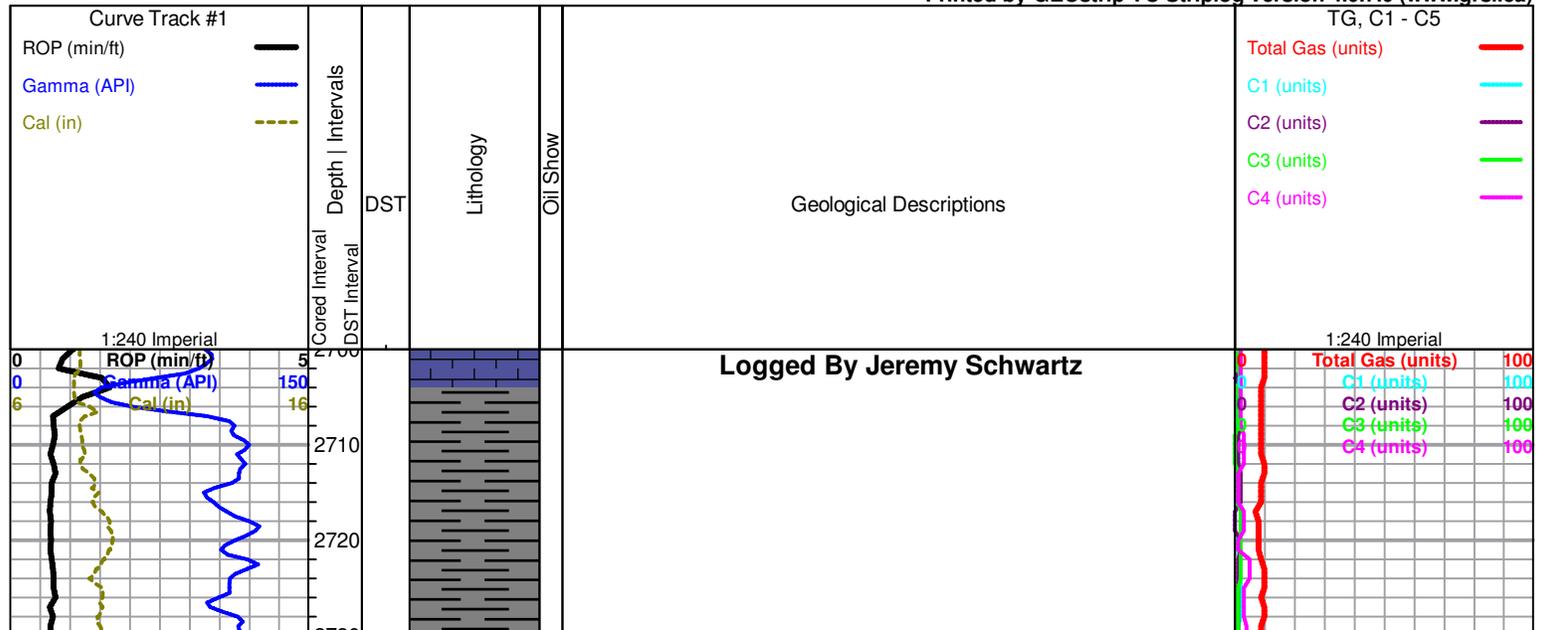
**ACCESSORIES**

- FOSSIL**
- ∩ Bioclastic or Fragmental
  - F Fossils < 20%
- STRINGER**
- ∩∩∩ Chert
  - ▨ Dolomite
  - ▨ Shale
  - ▨ green shale
  - ▨ red shale

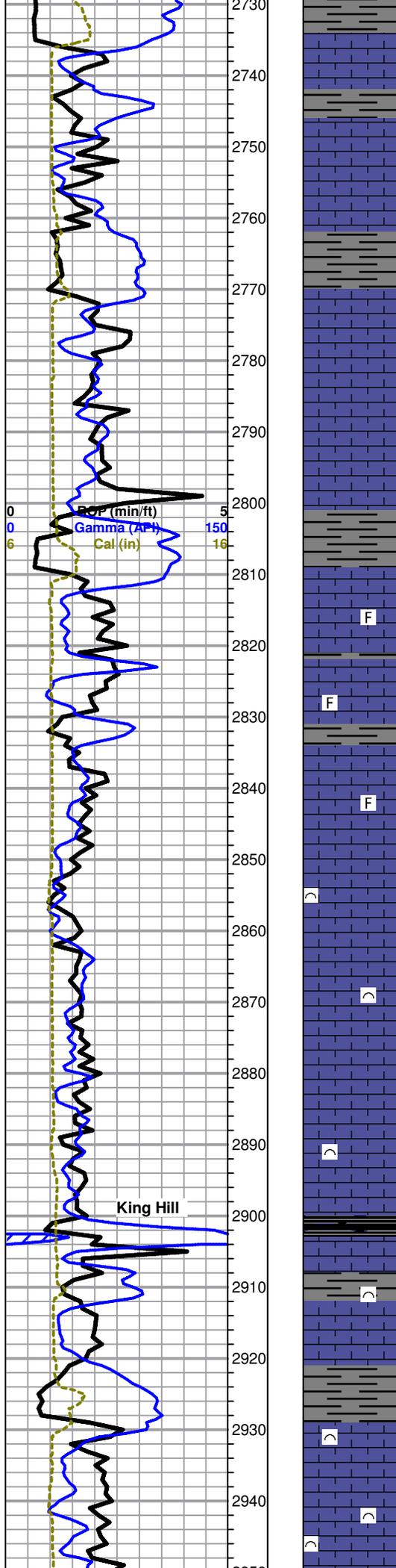
**OTHER SYMBOLS**

- 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 50-75
  - Poor Show 25-50
  - Spotted or Trace 1-25
  - Questionable Stn
  - Dead Oil Stn
  - Fluorescence
  - \* Gas
- DST**
- DST Int
  - DST alt

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**Howard 2735 (-849)**



Shale, gray, soft and waxy

**Topeka 2810 (-924)**

LS, mostly gray with some scattered cream, micro-xln, some scattered slightly fossiliferous, dense with poor visible porosity, no shows or odor

LS, cream to gray, micro-xln, some scattered slightly fossiliferous, mostly dense with poor visible porosity, no shows or odor

LS, cream to gray, micro-xln, some fossiliferous, hard and dense with poor visible porosity, no shows or odor

LS, cream to gray, micro-xln, mostly fossiliferous, some lithographic, some scattered with slight edge re-crystallization, mostly dense with poor visible porosity, no shows or odor

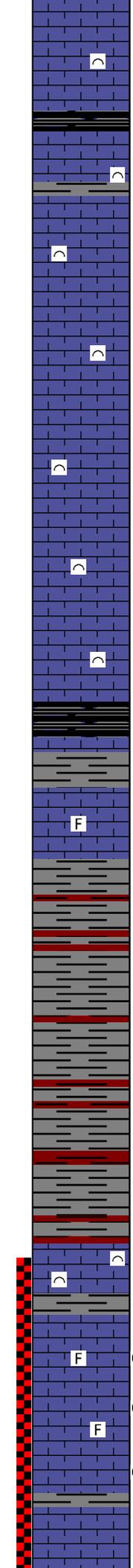
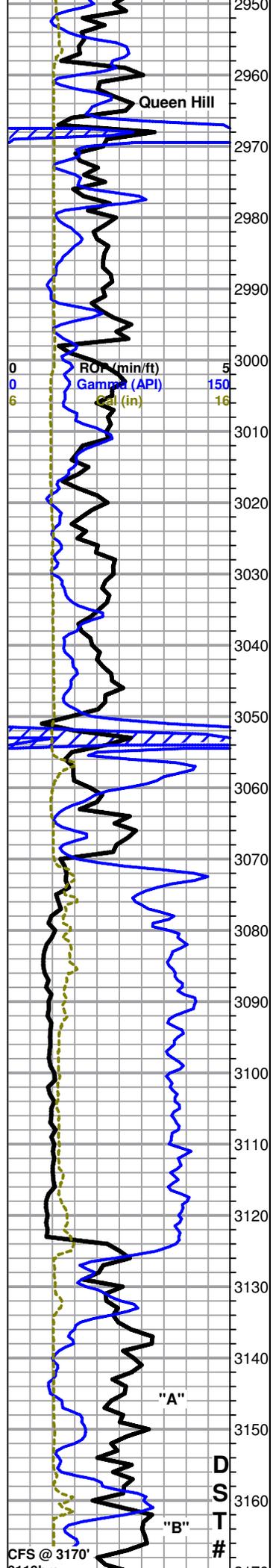
LS as above, some soft and chalky, in part, with trace gray and black shale, no shows or odor

LS, cream with some very scattered white and light gray, fossiliferous, dense with poor visible porosity, no shows or odor

LS as above, no shows or odor

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

Mud-Co Mud chk  
2861'  
6/30/14  
Vis: 49 Wt: 8.7  
PV:14 YP:15  
WL: 8.0  
Cake:2/32  
pH: 11.5  
Ca: 20ppm  
CHL: 3,300ppm  
Sol: 2.7 LCM: 0  
DMC: \$2,674.75  
CMC: \$8,581.35



LS, cream to light gray, micro-xln, fossiliferous, some chips with slight edge re-crystallization, dense with poor visible porosity, also with trace black shale, no shows or odor

LS, cream to light gray, micro-xln, fossiliferous and dense with poor visible porosity, some with slightly re-crystallized edges, some scattered white, lithographic, soft and chalky, no shows or odor

LS as above, no shows or odor

LS, cream with some very scattered light gray and white, micro-xln, mostly fossiliferous, some lithographic, dense with poor visible porosity, no shows or odor

LS as above. no shows or odor

LS, cream, micro-xln, some fossiliferous, some lithographic, few chips with very slight pinpoint porosity on edges only, overall dense with poor visible porosity, no shows or odor

**Heebner 3049 (-1163)**  
Shale, black carbonaceous

**Toronto 3060 (-1174)**  
LS, cream to white with some scattered gray, micro-xln, mostly lithographic, some scattered fossiliferous, dense with poor visible porosity, no shows or odor

**Douglas Shale 3069 (-1183)**  
Shale, mostly gray with some red, mostly soft and waxy, some scattered blacky and dense

Shale as above

**Brown Lime 3123 (-1237)**  
LS, brown, micro-xln, fossiliferous and dense with poor visible porosity, no shows or odor

**LKC 3135 (-1249)**  
 Hickey 1-2dst#1.jpg

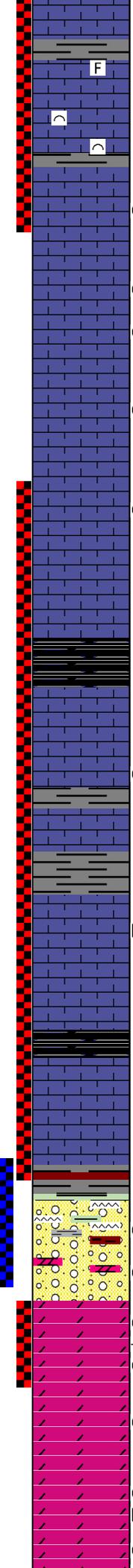
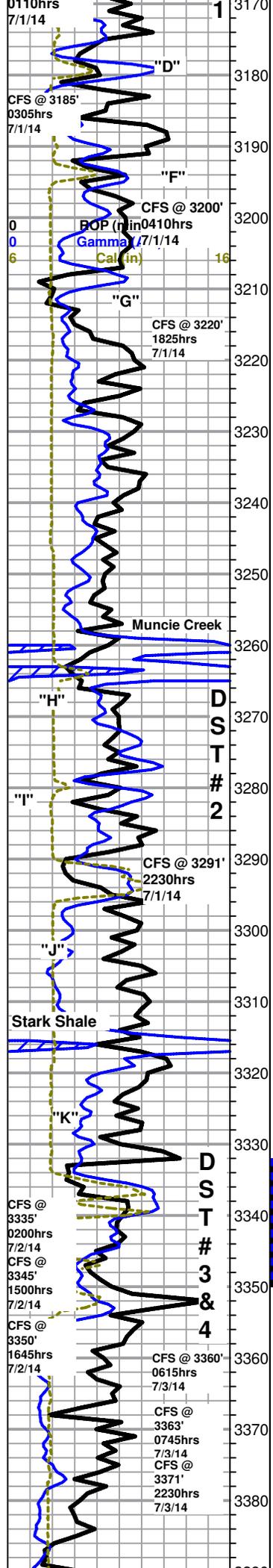
LS, cream to light gray, micro-xln, mostly lithographic, some scattered fossiliferous, few chips (<5%) very slight, very scattered brown stain around fossil fragments, upon break chips have slight to fair show free oil and fair show gas bubbles, overall dense with poor visible porosity, poor fleeting odor

LS as above, few chips with very slight brown stain around fossil fragments and very slight show free oil upon break, poor visible porosity, no odor

LS, cream, micro-xln, lithographic and dense with poor visible porosity, few very scattered chips (<5%) with very slight edge pinpoint porosity and one to two very small vugs with very scattered poor brown stain in porosity only, no odor

3170' 30" LS, cream, micro-xln, lithographic and dense with poor visible porosity, few chips (<5%) with very slight edge pinpoint porosity on edges only

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



porosity, few chips (<5%) with very slight, pinpoint porosity on edges only with very slight brown stain, upon break chips have slight show free oil and gas bubbles, no odor

3170' 60" LS, micro-xln, lithographic and dense with poor visible porosity, some scattered fossiliferous, no shows or odor

3185' 30" LS as above, no shows or odor

LS, gray to cream, micro-xln, fossiliferous and dense with poor visible porosity, no shows or odor

3200' 30" LS, cream to gray, micro-xln, some lithographic, some fossiliferous, mostly dense with poor visible porosity, some very scattered (~10-15%) with scattered brown stain around fossil fragments, few chips have very scattered of pinpoint porosity, very slow cut with milky white fluorescence, SSFO in tray, fair odor

3200' 60" Mostly same as above, NSFO, poor odor

LS, cream, micro-xln, some lithographic and dense with poor visible porosity, few chips (~5%) with few very small vugs with brown stain in and around porosity only, also with some scattered (~15-20%) sub-oomoldic with poor visible porosity and very scattered brown stain, slow cut with milky white fluorescence, SSFO in tray, good odor

3220' 30" Mostly same as above, SSFO in tray, good odor

3220' 60" As above, with slight influx in sub-oomoldic, SSFO in tray, fair odor

LS, cream, micro-xln, lithographic and dense with poor visible porosity, few chips (<5%) with few scattered very small vugs and poor brown to black stain in porosity only, NSFO, fair odor

LS as above, NSFO, poor odor

LS, gray to brown with some cream, micro-xln, mostly lithographic, hard and dense with poor visible porosity, some scattered slightly fossiliferous, no shows or odor

Shale, black carbonaceous

Hickey 1-2dst#2.jpg

LS, gray to brown with some cream, micro-xln, hard and dense with poor visible porosity, no shows or odor

3291' 20" LS, cream, micro-xln, mostly lithographic and dense with poor visible porosity, some scattered (~25%) white, med-xln, fossiliferous with slightly vuggy to fair vuggy porosity and mostly saturated black stain in porosity around fossils, slow streaming cut with bright white fluorescence, NSFO, poor odor

3291' 40" mostly same as above with shows dropping out, NSFO, poor odor

LS, cream to gray, micro-xln, hard and dense with poor visible porosity, some very scattered with scattered dead gisonitic stain, poor odor

LS, cream to gray, micro-xln, lithographic and dense with poor visible porosity, no shows or odor

LS, cream to gray with some brown, micro-xln, lithographic, hard and dense with poor visible porosity, no shows or odor

3335' 30" LS, cream to white, micro-xln, lithographic, hard and dense with poor visible porosity, no shows or odor

**BKC 3333 (-1447)**

3335' 60" Shale, gray with some red and trace green, mostly soft and waxy

3345' 30" Mixed LS, shales, and orange to yellow and opaque cherts, trace oolitic, also with trace dolomite, very small chios, white, micro-xln, poorly developed, some friable, some dense with poor visible porosity, one chip with slight black stain, NSFO, with some scattered sub-rounded to rounded sand grains in tray, sample washes red, fair odor

3345' 60" As above, with slight influx in dolomite (~10-15% of sample), few chips with poor to fair scattered sub-rhombic to rhombic development with scattered black stain, very slow cut with milky white fluorescence, NSFO, fair odor

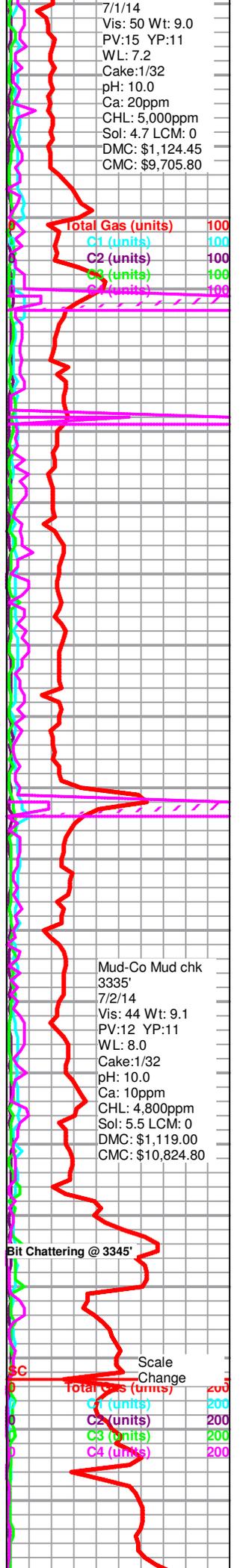
3350' 30" Conglomerate as above, with some scattered oolitic chert, slightly vuggy to vuggy with scattered to mostly saturated black stain, also with some dolomite (~15-20%), white to cream, micro-xln, some scattered sub-rhombic to rhombic development with poor visible porosity, few chips with scattered brown to black stain, few chips very friable and barren, no red wash, NSFO, good odor

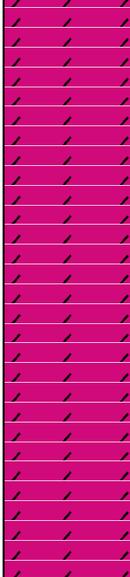
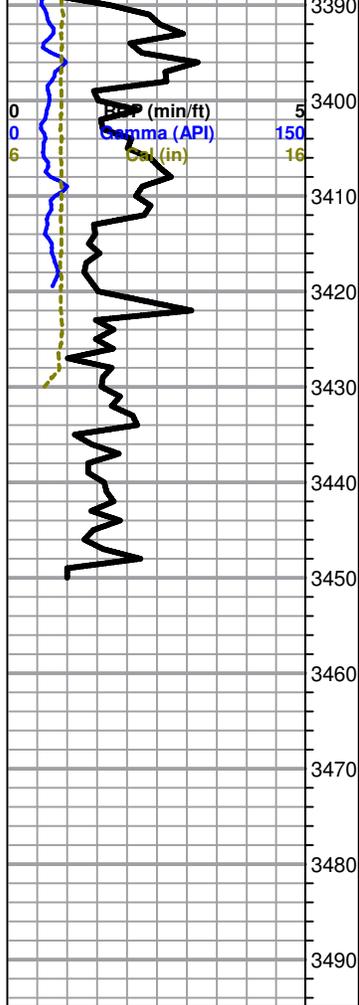
3350' 60" Mostly same as above

**Arbuckle 3352' (-1466)**

Hickey 1-2dst#3.jpg

3360' 30" Dolomite, white with some cream, micro-xln, mostly sub-sucrosic with fair sub-rhombic development, dense with poor visible porosity, some with scattered brown stain, also with some very scattered (~5-10%) sucrosic with fair rhombic development and scattered brown stain, few chips with one to two small vugs, upon break most chips have slight to fair show free oil, when left under lamp some chips slowly bleed oil and gas bubbles, gassy samples, poor odor





3360' 60" Mostly same as above with influx of sucrosic, few chips med-xln with fair visible inter-xln porosity, poor odor

3363' 30" Dolomite, white to cream, micro-med xln, mostly sucrosic with fair rhombic development and scattered brown stain, friable, upon break chips have fair show free oil, stain and free oil and gas bubbles increase when left under lamp, fair odor

3363' 60" Mostly same as above, fair odor

 Hickey 1-2dst#4.jpg

3371' 30" Dolomite, white, micro-xln, mostly dense with poor visible porosity, some scattered sucrosic with fair to good rhombic development and very scattered brown stain, upon break chips have SSFO, poor odor

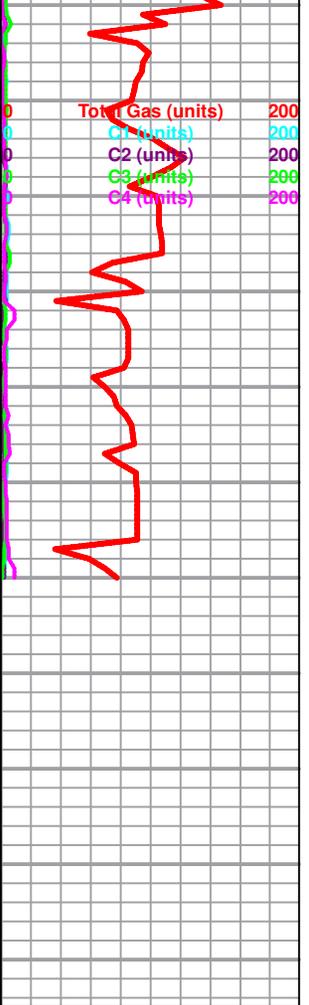
3371' 60" Dolomite, white, micro-xln, poorly developed and dense with poor visible porosity, mostly barren, some with scattered black stain, also with some scattered (~10-15%) white, med-xln, sucrosic with good rhombic development and fair to good visible inter-xln porosity with mostly saturated black stain, some chips also slightly yuggy, fair show free oil in tray, fair fleeting odor

3380' Dolomite, white, micro-med xln, some dense with poor visible porosity, some sucrosic with fair visible porosity and scattered black stain, some gilsonitic, SSFO in tray, poor odor

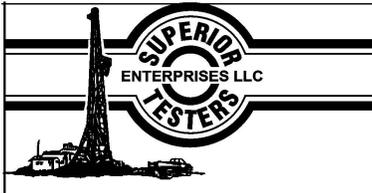
3390' Dolomite, white, micro-med xln, some dense, some sucrosic, mostly barren, some with scattered black stain, some gilsonitic, few chips with slight show gas bubbles, slight to fair show free oil, fair odor

3400'-3410' Dolomite, white, micro-med xln, some sub-sucrosic and dense with poor visible porosity, some sucrosic, some with scattered black gilsonitic stain, poor odor

3420-3450' Dolomite, white, micro-xln, mostly sub-sucrosic and dense with poor visible porosity, barren, no shows or odor



**Rotary TD 3450' @ 0215hrs 7/4/14**  
**Nabors Well Services Logging TD @ 3453'**  
**Complete Logging Operations @ 1000hrs 7/4/14**  
**Geologist Jeremy Schwartz off location @ 1030hrs 7/4/14**



**DRILL STEM TEST REPORT**

Shelby Resources L.L.C  
 2117 anal Blvd Hays KS 676601  
 ATTN: Jeremy Schw artz

**2-18-14w Barton**  
**Hickey 1-2**  
 Job Ticket: 18592      **DST#: 1**  
 Test Start: 2014.07.01 @ 08:00:00

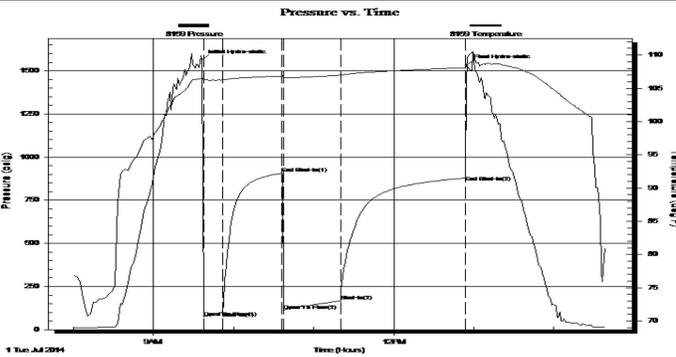
**GENERAL INFORMATION:**

Formation: **Lansing A-F**  
 Deviated: No Whipstock:      ft (KB)  
 Time Tool Opened: 09:37:30  
 Time Test Ended: 14:39:00  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Jared Scheck  
 Unit No: 3330-Geeat Bend-30  
**Interval: 3126.00 ft (KB) To 3200.00 ft (KB) (TVD)**  
 Total Depth: 3200.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Reference Elevations: 1986.00 ft (KB)  
 1977.00 ft (CF)  
 KB to GR/CF: 9.00 ft

**Serial #: 8159**

Press@RunDepth: 167.72 psig @      ft (KB)      Capacity: 5000.00 psig  
 Start Date: 2014.07.01      End Date: 2014.07.01      Last Calib.: 2014.07.01  
 Start Time: 08:00:00      End Time: 14:39:00      Time On Btm: 2014.07.01 @ 09:36:30  
 Time Off Btm: 2014.07.01 @ 12:55:00

**TEST COMMENT:** 1st Opening 15 Minutes-Weak building blow built 3 1/2 inches into w ater in 15 minutes  
 1st Shut-in 45 Minutes-No blow back  
 2nd Opening 45 Minutes-Weak building blow built 5 1/2 inches into w ater in 45 minute  
 2ndShut-in 90 Minutes-No blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1565.28	106.65	Initial Hydro-static
1	72.71	106.28	Open To Flow (1)
16	102.76	106.25	Shut-In(1)
60	906.04	106.87	End Shut-In(1)
61	111.70	106.62	Open To Flow (2)
104	167.72	106.98	Shut-In(2)
198	855.30	108.09	End Shut-In(2)
199	1535.38	109.11	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
200.00	w ater	0.98
0.00	chlorides 30,000	0.00

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



**DRILL STEM TEST REPORT**

Shelby Resources L.L.C  
 2117 anal Blvd Hays KS 676601  
 ATTN: Jeremy Schw artz

**2-18-14w Barton**  
**Hickey 1-2**  
 Job Ticket: 18593      **DST#: 2**  
 Test Start: 2014.07.02 @ 05:00:00

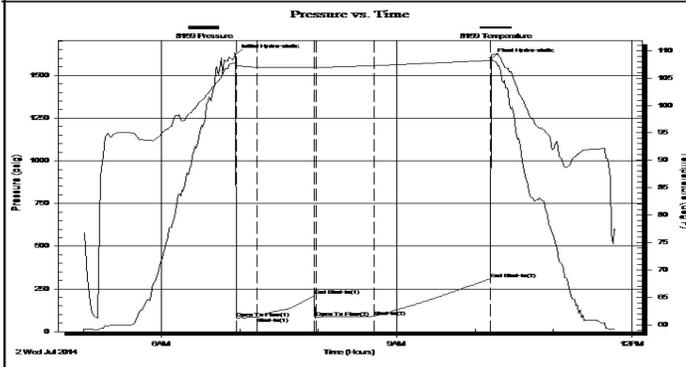
**GENERAL INFORMATION:**

Formation: **Lansing H-K**  
 Deviated: No Whipstock:      ft (KB)  
 Time Tool Opened: 06:57:30  
 Time Test Ended: 11:47:30  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Jared Scheck  
 Unit No: 3330-Great Bend- 30  
**Interval: 3237.00 ft (KB) To 3335.00 ft (KB) (TVD)**  
 Total Depth: 3335.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Reference Elevations: 1986.00 ft (KB)  
 1977.00 ft (CF)  
 KB to GR/CF: 9.00 ft

**Serial #: 8159**

Press@RunDepth: 89.80 psig @      ft (KB)      Capacity: 5000.00 psig  
 Start Date: 2014.07.02      End Date: 2014.07.02      Last Calib.: 2014.07.02  
 Start Time: 05:00:00      End Time: 11:47:30      Time On Btm: 2014.07.02 @ 06:56:30  
 Time Off Btm: 2014.07.02 @ 10:12:30

**TEST COMMENT:** 1st Opening 15 Minutes:Weak building blow built 3 1/2 inches into w ater in 15 minutes  
 1st Shut-in 45 Minutes-No blow back  
 2nd Opneing 45 Minutes-Weak building blow built 10 inches into w ater in 45 minutes  
 2ns Shut-in 90 Minutes-No blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1625.38	107.56	Initial Hydro-static
1	78.26	107.22	Open To Flow (1)
17	82.67	106.97	Shut-In(1)
61	211.51	106.99	End Shut-In(1)
62	84.40	106.95	Open To Flow (2)
106	89.80	107.26	Shut-In(2)
195	308.04	108.20	End Shut-In(2)
196	1600.07	109.19	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
30.00	gas oil cut mud 10%gas 10%oil 80%mud	0.15
0.00	30 gas in pipe	0.00

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

	<h2>DRILL STEM TEST REPORT</h2>
Shelby Resources L.L.C 2117 anal Blvd Hays KS 676601  ATTN: Jeremy Schw artz	<b>2-18-14w Barton</b>  <b>Hickey 1-2</b> Job Ticket: 18594 <b>DST#: 3</b> Test Start: 2014.07.02 @ 19:43:00

**GENERAL INFORMATION:**

Formation: **Arbuckle**  
 Deviated: No Whipstock:                      ft (KB)  
 Time Tool Opened: 21:23:30  
 Time Test Ended: 00:53:00

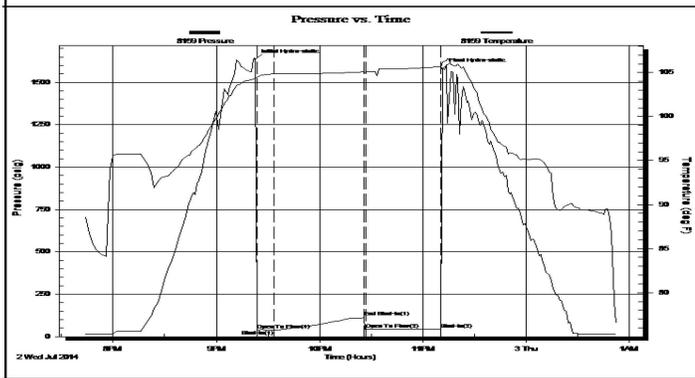
**Interval: 3332.00 ft (KB) To 3350.00 ft (KB) (TVD)**  
 Total Depth: 3350.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)  
 Tester: Jared Scheck  
 Unit No: 3330-Great Bend-30  
  
 Reference Elevations: 1986.00 ft (KB)  
    1977.00 ft (CF)  
    KB to GR/CF: 9.00 ft

**Serial #: 8159**

Press@RunDepth: 41.34 psig @                      ft (KB)      Capacity: 5000.00 psig  
 Start Date: 2014.07.02      End Date: 2014.07.03      Last Calib.: 2014.07.03  
 Start Time: 19:43:00      End Time: 00:53:00      Time On Btm: 2014.07.02 @ 21:22:30  
    Time Off Btm: 2014.07.02 @ 23:11:30

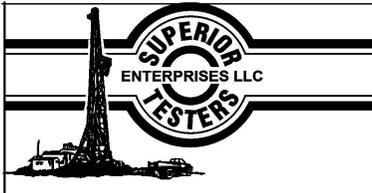
**TEST COMMENT:** 1st Opening 15 Minutes-Weak surface blow built 1/2 inch  
 1st Shut-in 45 Minutes-No blow back  
 2nd Opening-Weak surface blow did not build flushed tool good surge did not build pull tool



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1638.31	104.29	Initial Hydro-static
1	41.69	104.46	Open To Flow (1)
11	41.34	104.85	Shut-In(1)
64	116.60	105.08	End Shut-In(1)
65	42.49	105.06	Open To Flow(2)
108	44.08	105.67	Shut-In(2)
109	1583.52	106.19	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
5.00	spot oil cut mud 1%oil99%mud	0.02

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



**DRILL STEM TEST REPORT**

Shelby Resources L.L.C  
 2117 anal Blvd Hays KS 676601  
 ATTN: Jeremy Schw artz

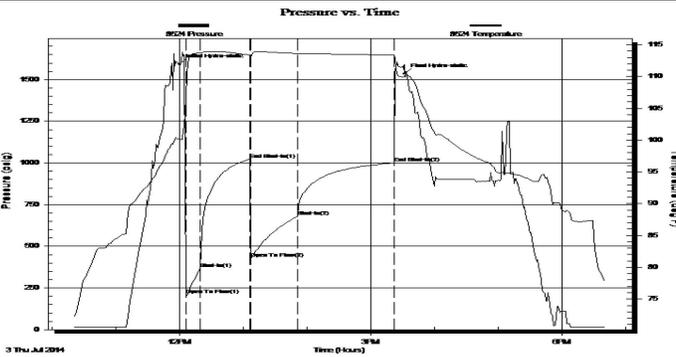
**2-18-14w Barton**  
**Hickey 1-2**  
 Job Ticket: 18595      **DST#: 4**  
 Test Start: 2014.07.03 @ 10:20:00

**GENERAL INFORMATION:**

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 12:05:30  
 Time Test Ended: 18:41:00  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Shane Konzem  
 Unit No: 3330/30/Great Bend  
 Interval: **3352.00 ft (KB) To 3363.00 ft (KB) (TVD)**  
 Total Depth: 3363.00 ft (KB) (TVD)  
 Reference Elevations: 1986.00 ft (KB)  
 1977.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 KB to GR/CF: 9.00 ft

**Serial #: 8524 Inside**  
 Press@RunDepth: 681.43 psig @ 3359.00 ft (KB) Capacity: 5000.00 psig  
 Start Date: 2014.07.03 End Date: 2014.07.03 Last Calib.: 2014.07.03  
 Start Time: 10:20:00 End Time: 18:41:00 Time On Btm: 2014.07.03 @ 11:59:30  
 Time Off Btm: 2014.07.03 @ 15:31:00

**TEST COMMENT:** 1st Open/ 15 Minutes. Strong blow built to bottom of 5 gallon bucket in 45 seconds.  
 1st Shut In/ 45 Minutes. Blow back built to 10 inches into water.  
 2nd Open/ 45 Minutes. Strong blow built to bottom of 5 gallon bucket in 1 minute and 15 seconds.  
 2nd Shut In/ 90 Minutes. Weak surface blow back.



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1593.77	100.14	Initial Hydro-static
6	210.80	106.73	Open To Flow (1)
20	366.30	113.68	Shut-In(1)
66	1021.50	113.41	End Shut-In(1)
67	426.76	113.02	Open To Flow (2)
112	681.43	113.65	Shut-In(2)
203	1000.03	113.38	End Shut-In(2)
212	1536.27	110.05	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
0.00	2296 feet 100% Gas.	0.00
1542.00	100% Oil	19.65
62.00	20% w ater, 20% Gas, 60% oil.	0.87
62.00	40% mud, 30% Water, 15% oil, 15% gas	0.87
62.00	50% mud, 35% w ater, 10% oil, 5% gas	0.87
62.00	30% mud, 65% w ater, 5% oil.	0.87

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