



Scale 1:240 Imperial

Well Name: Ward County Unit #1-3  
 Surface Location: 330' FNL .852' FEL Sec 3 - 22S- 16W  
 Bottom Location:  
 API: 15-145-21735-00-00  
 License Number:  
 Spud Date: 10/28/2013 Time: 6:45 PM  
 Region: Pawnee County  
 Drilling Completed: 11/4/2013 Time: 7:45 PM  
 Surface Coordinates: Y = 549149 & X = 1838588  
 Bottom Hole Coordinates: Y = & X =  
 Ground Elevation: 1986.00ft  
 K.B. Elevation: 1999.00ft  
 Logged Interval: 3100.00ft To: 4040.00ft  
 Total Depth: 4040.00ft  
 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: Ward County Unit #1-3  
 Location: 330' FNL .852' FEL Sec 3 - 22S- 16W API: 15-145-21735-00-00  
 Pool: Field: Wildcat  
 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 Captiva II Ward County Unit #1-3 was drilled to a total depth of 4040', bottoming in the Arbuckle. A TookeDaq gas detector was employed in the drilling of said well.

Three DST's were conducted throughout the Conglomerate, Simpson Sand 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

**SURFACE CO-ORDINATES**

Well Type: Vertical

Longitude: N/S Co-ord: Y = 549149  
 E/W Co-ord: X = 1838588

Latitude:

**CONTRACTOR**

Contractor: Sterling Drilling Co  
 Rig #: 5  
 Rig Type: mud rotary  
 Spud Date: 10/28/2013  
 TD Date: 11/4/2013  
 Rig Release:  
 Time: 6:45 PM  
 Time: 7:45 PM  
 Time:

**ELEVATIONS**

K.B. Elevation: 1999.00ft  
 K.B. to Ground: 13.00ft  
 Ground Elevation: 1986.00ft

DATE	DEPTH	ACTIVITY
Friday, November 01, 2013	3525'	Geologist Jeremy Schwartz on location @ 0445hrs, DRLG ahead through Douglas,
	3795'	Brown Lime, LKC, Stark, BKC, Strap and trip out with PDC bit, replace with button bit
	3849'	DRLG ahead through Marmaton, Conglomerate, Conduct DST #1 in the Conglomerate
Saturday, November 02, 2013	3849'	DRLG ahead through Conglomerate, Viola, Simpson Shale, Simpson Sand,
	3919'	Conduct DST #2 in the Simpson Sand
Sunday, November 03, 2013	3966'	DRLG ahead into Arbuckle, Conduct DST #3 in Arbuckle. Rig down for repairs.
		While TIH Wind blew the blocks into the A-Leg area of the derrick and severed the
		1-1/8" drilling line extending from the drawworks to the fast sheave. The collars
		in the hole at the time were in the slips (and all in the surface pipe). Waiting
		on crane to pick up the blocks and string in a new drilling line
Monday, November 04, 2013	3966'	Resume DRLG @ 1725hrs. DRLG ahead to TD @ 4040'
	4040'	TD Reached @ 1945hrs. CTCH 1 hour, TOH, Conduct Logging Operations
		Logging Operations complete @ 0300hrs
		Geologist Jeremy Schwartz off location @ 0330hrs

CLIENT:	SHELBY RESOURCES, LLC
WELL NAME:	WARD COUNTY UNIT #1-3
LEGAL:	330' FNL & 852' FEL 3-22S-16W
COUNTY:	PAWNEE COUNTY, KS
API:	15-145-21735-00-00
DRLG CONTRACTOR:	STERLING DRILLING CO.
RIG #:	5
DOGHOUSE #:	620-388-5433
TOOLPUSHER:	ALAN LOFTIS
CELL #:	620-388-2736

		WARD COUNTY UNIT #1-3				W2-NW-NW-NE 3-22S-16W				SW-NE-SW-NE 10-22S-16W				SW-SW-SW 35-21-16								
		E/2-NW-NE-NE																				
		1999		1999		1999		2018		2018		1980		1980		1980						
		LOG TOPS		SAMPLE TOPS		COMP. CARD		LOG		SMPL.		COMP. CARD		LOG		SMPL.						
FORMATION	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.						
ANHYDRITE TOP	995	1004	997	1002	989	1010	-	6	-	8	1013	1005	-	1	-	3	975	1005	-	1	-	3
BASE	1018	981	1023	976	1012	987	-	6	-	11	1038	980	+	1	-	4	996	984	-	3	-	8
HEEBNER SHALE	3414	-1415	3415	-1416	3396	-1397	-	18	-	19	3465	-1447	+	32	+	31	3418	-1438	+	23	+	22
TORONTO	3430	-1431	3436	-1437	3412	-1413	-	18	-	24	3478	-1460	+	29	+	23	3435	-1455	+	24	+	18
DOUGLAS SHALE	3448	-1449	3450	-1451	3430	-1431	-	18	-	20	3504	-1486	+	37	+	35	3454	-1474	+	25	+	23
BROWN LIME	3524	-1525	3525	-1526	3504	-1505	-	20	-	21	3572	-1554	+	29	+	28						
LKC	3538	-1539	3540	-1541	3514	-1515	-	24	-	26	3578	-1560	+	21	+	19	3539	-1559	+	20	+	18
STARK SHALE	3717	-1718	3719	-1720	3699	-1700	-	18	-	20	3776	-1758	+	40	+	38						
BKC	3770	-1771	3769	-1770	3749	-1750	-	21	-	20	3833	-1815	+	44	+	45	3781	-1801	+	30	+	31
MARMATON	3790	-1791	3792	-1793	3770	-1771	-	20	-	22	3846	-1828	+	37	+	35	3805	-1825	+	34	+	32
CONGLOMERATE	3816	-1817	3818	-1819	3798	-1799	-	18	-	20	3880	-1862	+	45	+	43	3828	-1848	+	31	+	29
CONG. SAND	3862	-1863	3862	-1863	3824	-1825	-	38	-	38							3849	-1869	+	6	+	6
VIOLA											3892	-1874					3930	-1950				
SIMPSON SHALE	3890	-1891	3893	-1894	3840	-1841	-	50	-	53	3979	-1961	+	70	+	67	3971	-1991	+	100	+	97
SIMPSON SAND	3908	-1909	3906	-1907	3853	-1854	-	55	-	53	3984	-1966	+	57	+	59	3992	-2012	+	103	+	105
ARBUCKLE	3960	-1961	3960	-1961	3869	-1870	-	91	-	91	4031	-2013	+	52	+	52	4066	-2086	+	125	+	125
RTD			4040	-2041	3950	-1951					4130	-2112					4097	-2117				76
LTD	4041	-2042			3950	-1951	-	91			4117	-2099	+	57								

PROGNOSIS		
ANHYDRITE TOP	992	1007
HEEBNER SHALE	3406	-1407
TORONTO	3422	-1423
BROWN LIME	3514	-1515
LANSING	3524	-1525
BKC	3755	-1756

**TESTED**  
 DST #1 (3787' - 3837') CONG/SIMPSON  
 10-45-60-90  
 IF: Strong BOB 3min  
 1/2in BB  
 FF: Strong BOB 2.5min  
 BB BOB  
 813' CGO, 2330' GIP, 627' OCGM,

**TESTED**  
 DST #1 (3905' - 3935') VIOLA  
 Misrun - Packer Failure (depth 30' STB)  
 DST #3 Straddle (3922' - 3952') VIOLA  
 15-45-30-60  
 IF: BOB instantly  
 FF: BOB 5min

**TESTED**  
 DST #1 (3816' - 3860') CONG SAND  
 Open 1hr - WK Blow  
 15' Mud w/specks of Oil  
 \*Initial and final bottom hole pressures as well as initial and final flow pressures were Zero

PENN CONG	3830	-1831
ARBUCKLE	3946	-1947
TD	4050	-2051

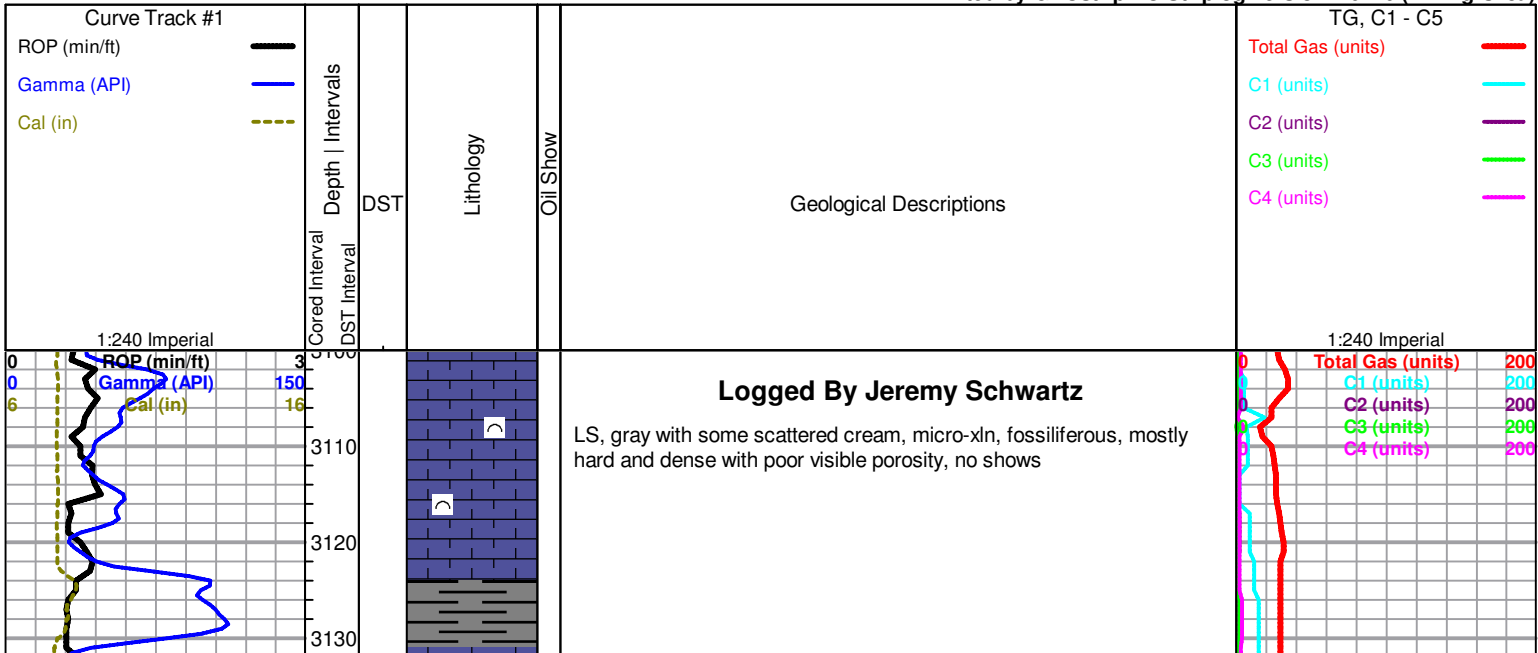
SIP: 540# - 533# <b>DST #2 (3866' - 3871') ARBUCKLE</b> 10-30-20-5 IF: WK Surface died 6min NO BB FF: Dead, flushed tool, no help No BB <b>4' Oil Spotted Mud</b> SIP: 1108# - 214#	NO BB <b>813' M w/spots of oil</b> SIP: 1860# - 1650# <b>DST #2 (4033' - 4040') ARBUCKLE</b> 2-45-60-90 IF: 2" Tool Not Open??? FF: BOB 4min Surface BB <b>698' CGO, 315' SMCOW (10%O),</b> <b>252' SOCW (6%O), 126' OSW</b> SIP: 1370# - 1370#	*1st attempt at DST encountered a "Cave Bridge" and bottom of well could not be reached. Drill Pipe used for ~10hrs to re-condition hole w/very low water loss. Possible formation could have taken on considerable fluid accounting for the low fluid recovery and absence of pressures
<b>INFO</b>	<b>INFO</b>	<b>INFO</b>
PF: CONG 3824' - 3830' (24) 4 HPF		MICT, PF 16/3902'-06', <b>8/3894'-96'</b> S.O. NAT 250 MA FRAC 20,000#SD SWB LD & SWB 2 BO & 1BWPH/ 48hrs SET PLUG 3972 PF 12/3849'-52' S.O. NAT FRAC 20,000# SWB LD & SWB 1.5 BOPH N/W, POP  <b>IP: EST 30 BO/CONG (3849'-52')</b>

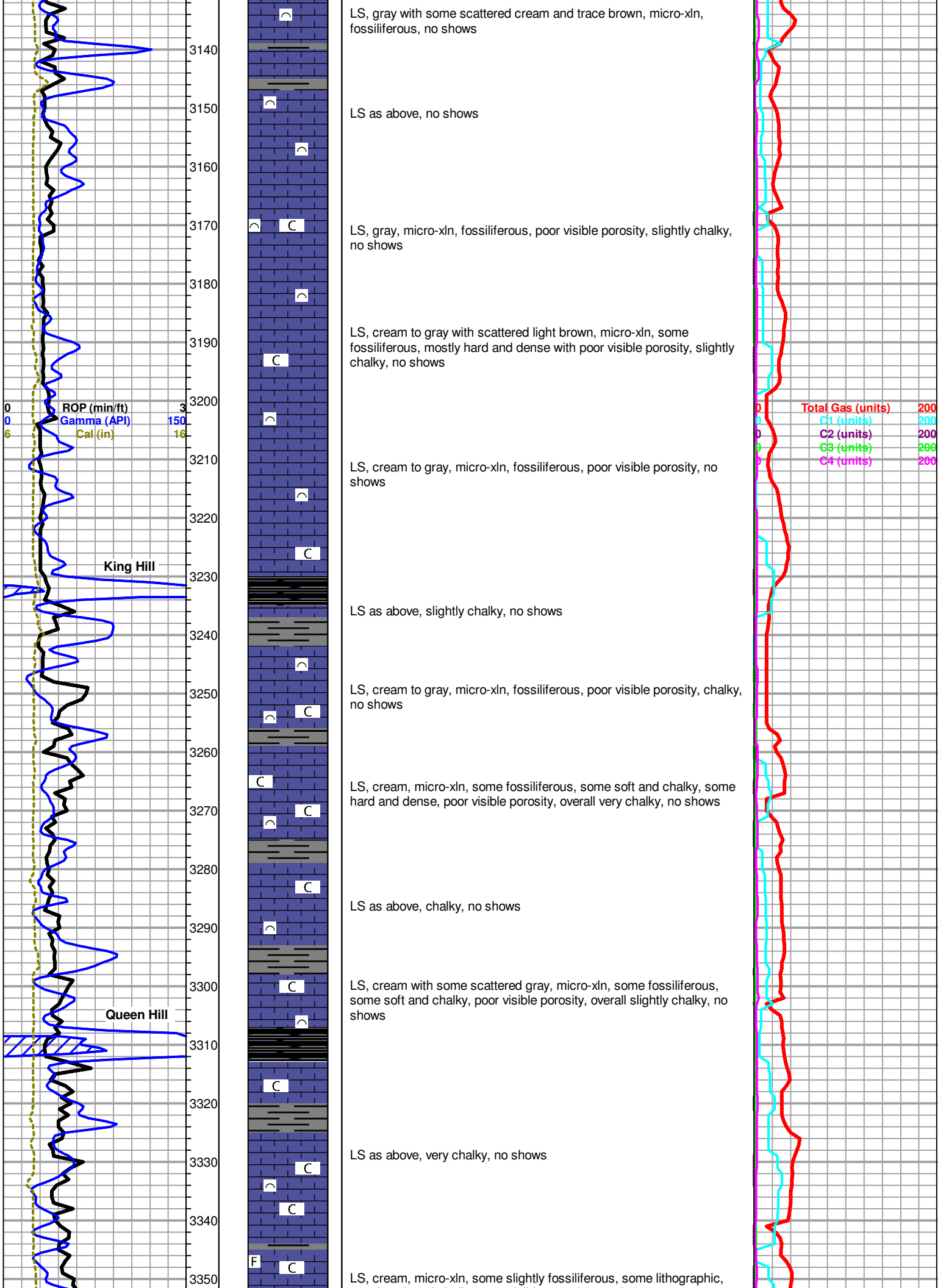
ROCK TYPES					
Cht	Dolprim	shale, grn	Carbon Sh	Ss	
Congl	Lmst fw<7	shale, gry	shale, red		

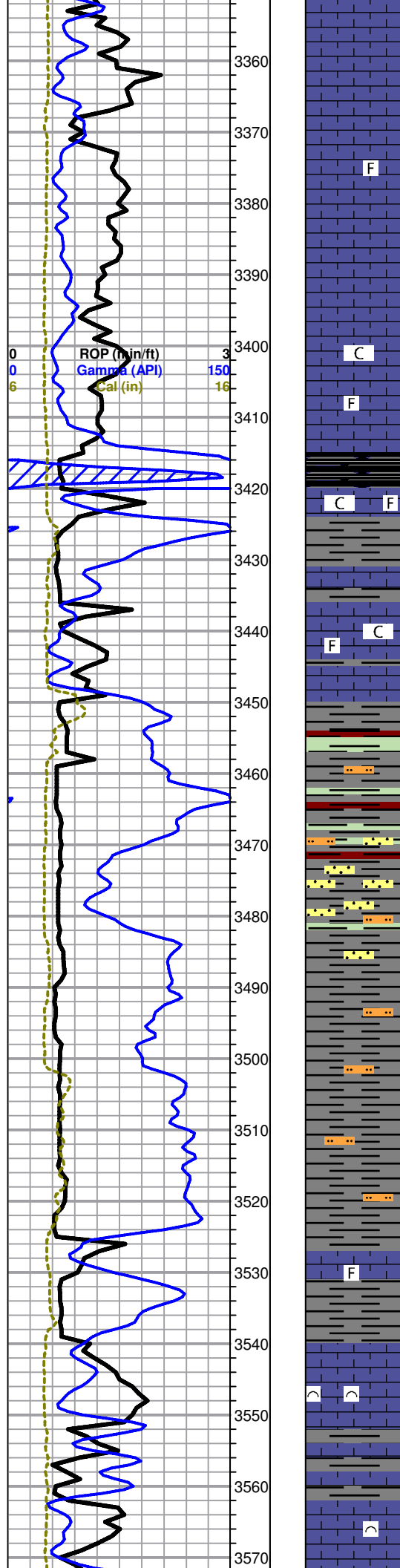
ACCESSORIES			
<b>MINERAL</b> △ Chert White	<b>FOSSIL</b> ∩ Bioclastic or Fragmental F Fossils < 20%	<b>STRINGER</b> ~ Chert •• Sandstone ••• Siltstone	<b>TEXTURE</b> C Chalky

OTHER SYMBOLS		
<b>MISC</b>	<b>Oil Show</b>	<b>DST</b>
Daily Report Digital Photo Document Folder Link Vertical Log File Horizontal Log File Core Log File Drill Cuttings Rpt	● Good Show ○ Fair Show ○ Poor show ○ Spotted or Trace ○ Questionable Stn D Dead Oil Stn ■ Fluorescence * Gas	■ DST Int ■ DST alt

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)







mostly soft and chalky, poor visible porosity, no shows

LS, cream with some very scattered gray and light brown, micro-xln, some slightly fossiliferous, mostly lithographic, poor visible porosity, no shows

LS as above, some with slight edge re-crystalization, overall poor visible porosity, slightly chalky, no shows

LS, cream with some very scattered light brown, micro-xln, some scattered fossiliferous with slight edge re-crystalization, mostly lithographic with poor visible porosity, slightly chalky, no shows

**Heebner 3415 (-1416)**

Shale, black carbonaceous

**Toronto 3436 (-1437)**

LS, cream with some scattered light gray and trace light brown, micro-xln, some scattered slightly fossiliferous, poor visible porosity, very chalky, no shows

**Douglas Shale 3450 (-1451)**

Shale, gray to green with some red, mostly soft and waxy, some silty, no shows

Shale as above, also with some sandstone, gray, vf-grained, sub-angular to sub-rounded, poorly sorted, some micaceous, some friable, some fairly well cemented, barren, no odor

Shale as above

Shale, mostly gray micaceous, silty, mostly soft and friable, no shows

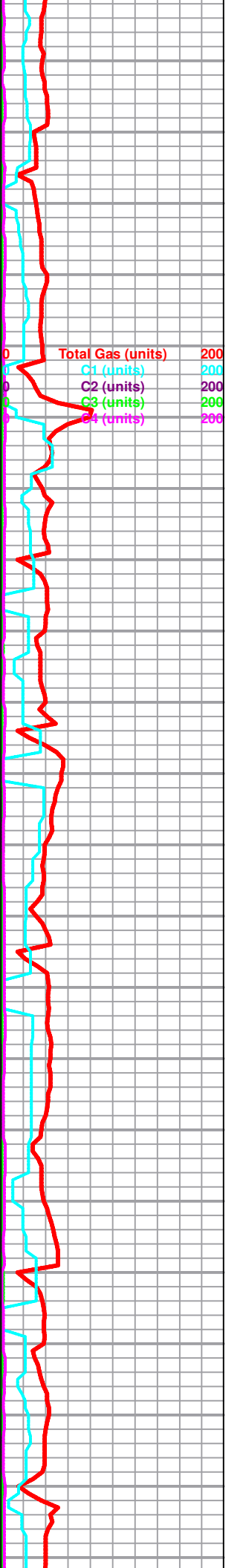
**Brown Lime 3525 (-1526)**

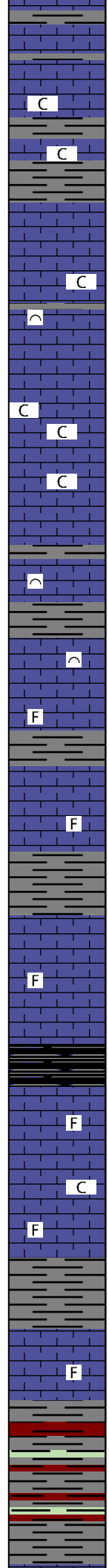
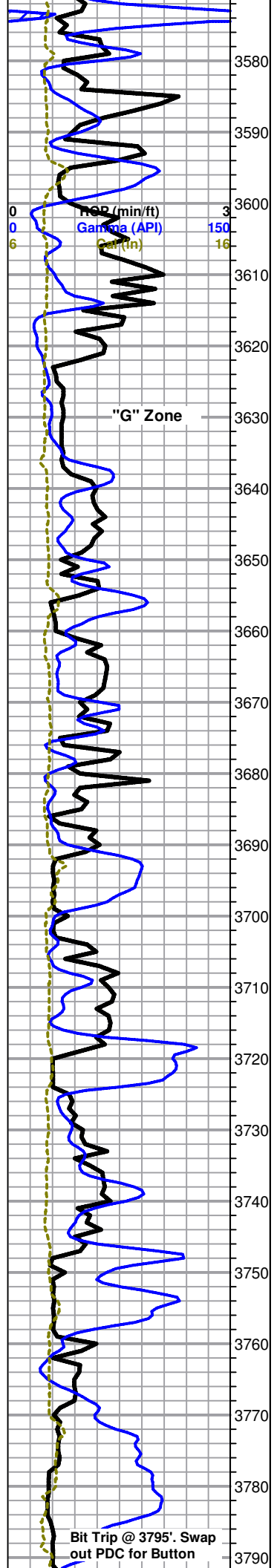
LS, tan to brown, micro-xln with some crypto-xln, some slightly fossiliferous, hard and dense with poor visible porosity, no shows

**LKC 3540 (-1541)**

LS, gray to cream with some scattered white, micro-xln, some fossiliferous, some lithographic, poor visible porosity, no shows or odor

LS, gray to cream, micro-xln, some fossiliferous, also with some scattered white, crypto-xln, lithographic, poor visible porosity, no shows or odor





LS, cream to gray with some white as above, chalky, no shows or odor

LS, cream to white with some scattered gray, some fossiliferous, some soft and chalky, some hard and dense, poor visible porosity, slightly chalky, no shows or odor

LS as above, also with some cream, micro-xln, mostly sub-oolitic to sub-oomoldic with some oolitic to oomoldic, barren, poor visible porosity with few chips showing fair oomold porosity, trace pyrite, chalky, no shows or odor

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

LS, cream to white with some scattered light gray, micro-crypto xln, mostly lithographic, some slightly fossiliferous, poor visible porosity, chalky, no shows or odor

LS, cream to white, micro-xln with some scattered crypto-xln, some slightly fossiliferous, some lithographic, poor visible porosity, no shows or odor

LS as above, no shows or odor

**Stark Shale 3719 (-1720)**

Shale, black carbonaceous

LS, cream to white with some scattered gray, micro-xln some slightly fossiliferous, poor visible porosity, also with few chips cream, micro-xln, sub-oolitic to sub-oomoldic, barren, slightly chalky, no shows or odor

LS, white to cream with some gray, micro-xln with few chips crypto-xln, some slightly fossiliferous, mostly lithographic with poor visible porosity, no shows or odor

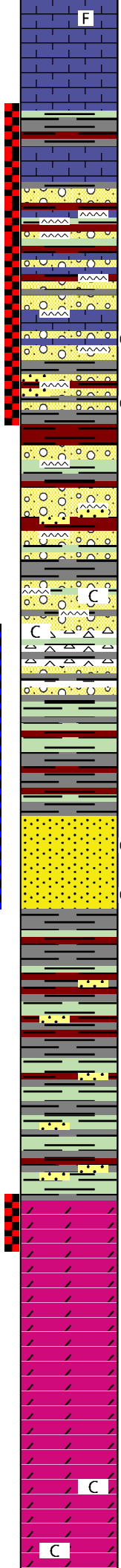
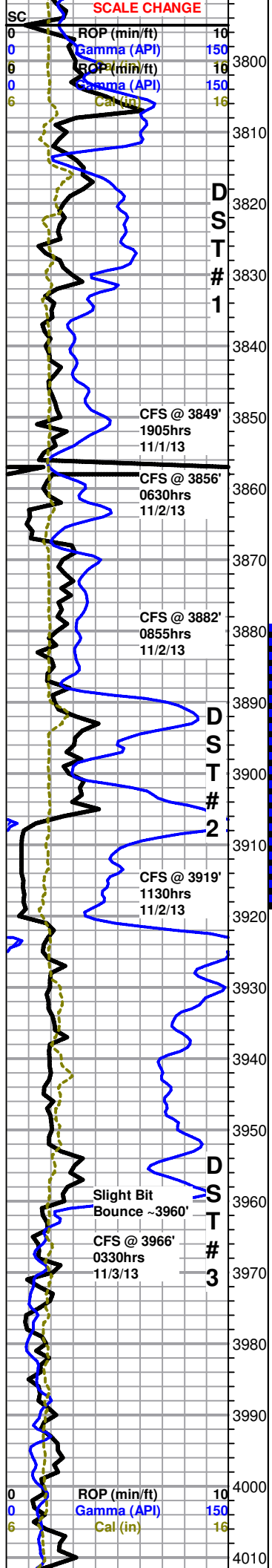
**BKC 3769 (-1770)**

Shale, mostly gray with some red and trace green

**Marmaton 3792 (-1793)**

Total Gas (units)	200
C1 (units)	200
C2 (units)	200
C3 (units)	200
C4 (units)	200

Mud-Co Mud chk  
3795'  
11/1/13  
Vis: 48 Wt: 9.5  
PV: 12 YP:15  
WL: 10.4  
Cake 1/32  
pH: 8.0  
Ca: 80ppm  
CHL: 8,500ppm  
Sol: 8.0 LCM: 1  
DMC: \$1,048.25  
CMC: \$8,805.10



LS, cream to gray with some white, micro-crypto xln, some fossiliferous, poor visible porosity, also with trace tan to gray/brown and orange chert, no shows or odor

LS as above, also with abundant gray and red shale and trace chert

WARD-COUNTY UNIT 1-3 DST #1.jpg

**Conglomerate 3818 (-1819)**

LS, mixed cream to gray with some scattered brown, some fossiliferous, some lithographic, dense with poor visible porosity, abundant gray and red shale with trace green, also with mixed tan to white and orange cherts, red wash, no shows or odor

3849' 30" Mixed cream to gray LS, micro-xln, dense with poor visible porosity, with mixed gray and red shale and white to tan and brown cherts, some tripolitic, some chips with good visible pinpoint porosity and mostly saturated to saturated brown to black stain, slow streaming cut with milky white fluorescence, few chips slowly bleed oil and few gas bubbles when left under lamp, fair show free oil in tray, good odor

3849' 60" LS, cherts, and shales as above, tripolitic cherts dropping out

3856' Mixed cream to gray LS, abundant gray and red shale, and some tan to white cherts, few with tripolitic edges and scattered brown to black gilsonitic stain, NSFO, poor odor

Mixed LS, few chips cream, micro-xln, oomoldic, barren, abundant gray and red shales with trace green, also with mixed tan to orange and white chert, some with tripolitic edges with very scattered black gilsonitic stain, found one small sand cluster, light gray, vf-grained, sub-angular to sub-rounded, poorly sorted, friable, barren, chalky, no odor

Chert, white to tan, vitreous, sharp, some with tripolitic edges and slight black gilsonitic stain, NSFO, no odor in tray

**Simpson Shale 3890 (-1891)**

Shale, gray and red with some green

**Simpson Sand 3906 (-1907)**

WARD-COUNTY UNIT 1-3 DST #2.jpg

SS, medium to coarse grained, sub-rounded to sub-angular, some barren, some with scattered black stain, mostly fair to well cemented, calcareous, some clusters show good visible porosity, some mostly saturated to saturated brown to black stain, upon break clusters have fair show free oil and slight show gas bubbles, slow streaming cut with milky white fluorescence, good show free oil in tray, fair odor

3916'-3922' Lower Simpson Sandstone, unconsolidated, friable, poorly cemented, no shows

Below 3920' Shale, gray to green with some red, also with some scattered sandstone, sub-rounded to sub-angular, well cemented with poor visible porosity, mostly barren, some with very scattered brown to black stain, no cut, abundant green clay, few globs have sand grains trapped, poor odor

As above, with influx of green shale

**Arbuckle 3960 (-1961)**

WARD-COUNTY UNIT 1-3 DST #3.jpg

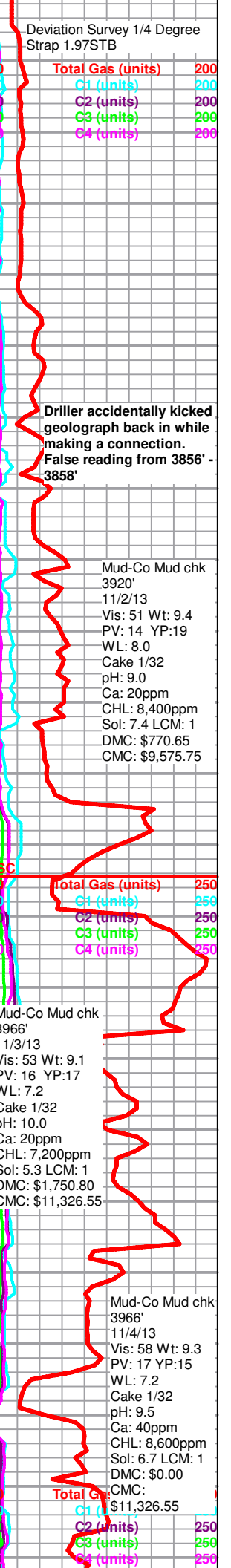
3966' 30" Mixed green to gray shales with some red, scattered SS clusters, translucent, sub-rounded to sub-angular, mostly barren, few with very scattered black stain, also with dolomite, mostly cream with some scattered white, micro-xln, some dense and lithographic, some sucrosic with fair to good rhombic development and fair to good visible porosity, some chips friable, barren, no cut, poor odor

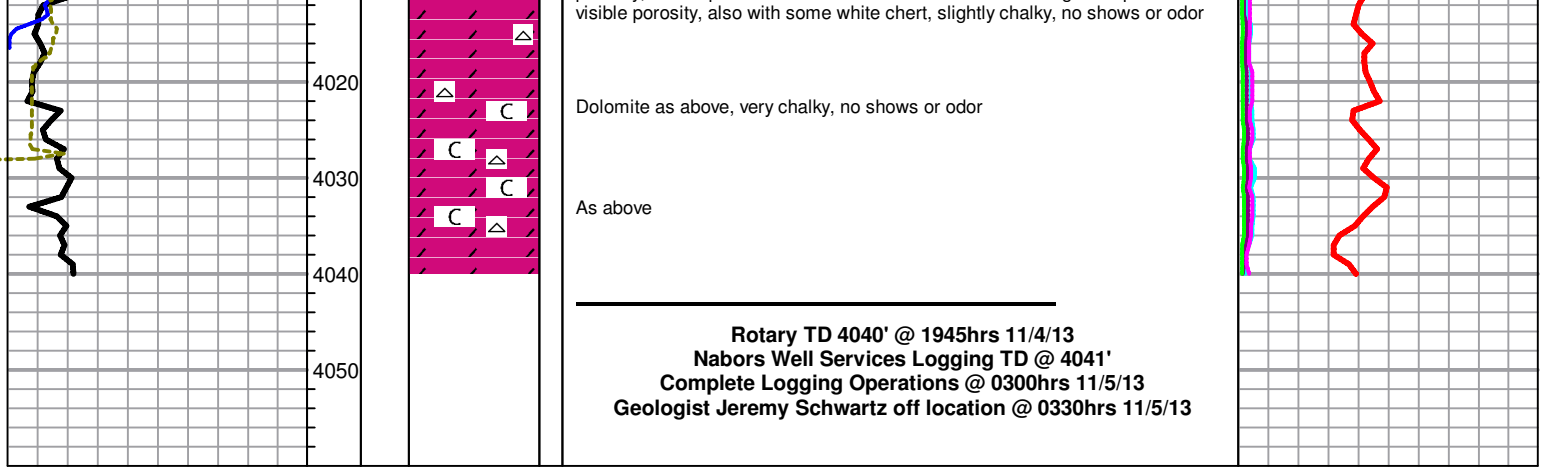
3966' 60" As above, with overall more dolomite and less shales and SS, poor odor in cup

Dolomite, cream with some scattered white, micro-xln, mostly lithographic, some sub-sucrosic, dense with poor visible porosity, trace pyrite, no shows or odor

Dolomite as above, trace pyrite, slightly chalky, no shows or odor

Dolomite, cream with some scattered white and brown, micro-xln with some crypto-xln, lithographic, some sub-sucrosic, mostly dense with poor visible porosity, few chips sucrosic with several small scattered vugs and poor to fair





**WARD-COUNTY UNIT 1-3 DST #1.jpg**

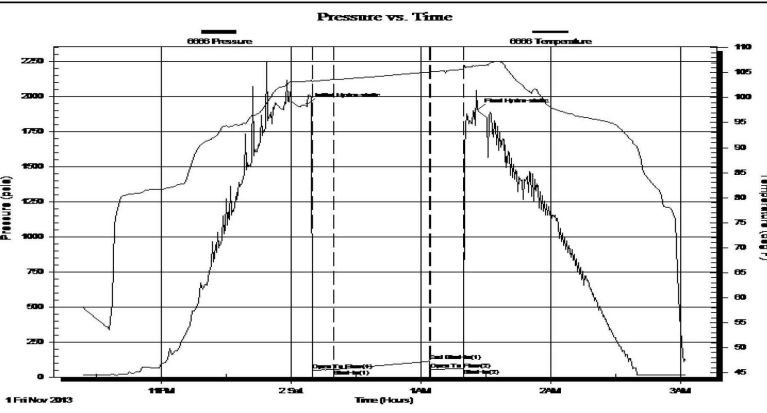
	<b>DRILL STEM TEST REPORT</b>	
	Shelby Resources LLC 2717 Canal Boulevard Suite C Hays, Kansas 67601 ATTN: Jeremy Schwartz	<b>3/22S/16W/Pawnee</b>  <b>Ward-County Unit 3-1</b> Job Ticket: 17060 <b>DST#: 1</b> Test Start: 2013.11.01 @ 22:23:00

**GENERAL INFORMATION:**

Formation: <b>Conglomerate</b>		Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)		Tester: Ken Swinney
Time Tool Opened: 00:09:30		Unit No: 3325 Great Bend/48
Time Test Ended: 03:02:30		
<b>Interval: 3806.00 ft (KB) To 3849.00 ft (KB) (TVD)</b>		Reference Elevations: 1999.00 ft (KB)
Total Depth: 3849.00 ft (KB) (TVD)		1986.00 ft (CF)
Hole Diameter: 7.80 inches	Hole Condition: Fair	KB to GR/CF: 13.00 ft

<b>Serial #: 6666</b>	<b>Outside</b>				
Press@RunDepth: 52.18 psia @ 3846.00 ft (KB)		Capacity: 5000.00 psia			
Start Date: 2013.11.01	End Date: 2013.11.02	Last Calib.: 2013.11.02			
Start Time: 22:23:00	End Time: 03:02:30	Time On Btm: 2013.11.02 @ 00:07:30			
		Time Off Btm: 2013.11.02 @ 01:26:00			

**TEST COMMENT:** 1ST Open 10 Minutes/Weak blow /Started as strong surface blow died to weak surface blow /No build  
 1ST Shut In 45 Minutes/No blow back  
 2ND Open 15 Minutes/Dead no blow /Flush tool/Good surge/Weak surface blow 30 seconds/Pull test



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1946.29	103.27	Initial Hydro-static
2	50.60	103.09	Open To Flow (1)
12	52.18	103.61	Shut-In(1)
57	113.72	105.14	End Shut-In(1)
57	53.39	105.13	Open To Flow (2)
72	60.30	105.67	Shut-In(2)
79	1906.72	106.35	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
15.00	Mud 100%	0.07

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





# DRILL STEM TEST REPORT

Shelby Resources LLC  
 2717 Canal Boulevard  
 Suite C  
 Hays, Kansas 67601  
 ATTN: Jeremy Schwartz

**3/22S/16W/Pawnee**

**Ward-County Unit 3-1**

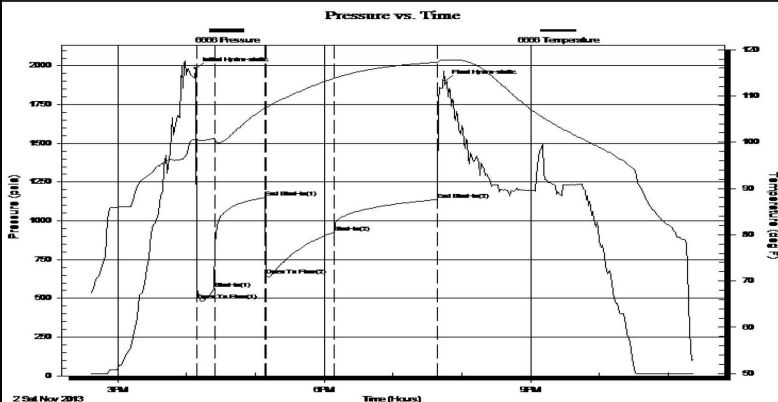
Job Ticket: 17061 **DST#: 2**  
 Test Start: 2013.11.02 @ 14:36:00

**GENERAL INFORMATION:**

Formation: **Simpson Sand**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:08:30  
 Time Test Ended: 23:22:30  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 3325 Great Bend/48  
 Interval: **3879.00 ft (KB) To 3919.00 ft (KB) (TVD)**  
 Total Depth: 3919.00 ft (KB) (TVD)  
 Reference Elevations: 1999.00 ft (KB)  
 Hole Diameter: 7.80 inches Hole Condition: Fair  
 KB to GR/CF: 13.00 ft

**Serial #: 6666 Outside**  
 Press@RunDepth: 926.92 psia @ 3916.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2013.11.02 End Date: 2013.11.02 Last Calib.: 2013.11.02  
 Start Time: 14:36:00 End Time: 23:22:30 Time On Btm: 2013.11.02 @ 16:07:30  
 Time Off Btm: 2013.11.02 @ 19:45:00

**TEST COMMENT:** 1ST Open 15 Minutes/Strong blow /Blow built to bottom of bucket in 1 minute  
 1ST Shut In 45 Minutes/Blow back built to bottom of bucket in 5 minutes  
 2ND Open 60 Minutes/Strong blow /Blow built to bottom of bucket in 45 seconds/Gas to surface 2 minutes  
 2ND Shut In 90 Minutes/Blow back built to bottom of bucket in 3 min 30 seconds



**PRESSURE SUMMARY**

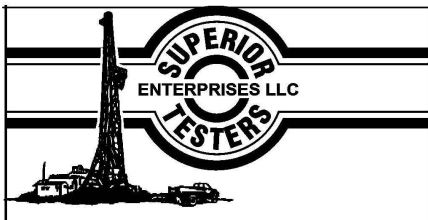
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1982.37	100.71	Initial Hydro-static
1	487.10	100.20	Open To Flow (1)
17	560.22	100.92	Shut-In(1)
61	1150.37	107.39	End Shut-In(1)
62	648.18	107.53	Open To Flow (2)
122	926.92	113.80	Shut-In(2)
211	1136.90	117.26	End Shut-In(2)
218	1903.50	117.74	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
2425.00	Clean gassy Oil	31.01
0.00	Gas 10% Oil 90%	0.00
63.00	Mud cut Gassy Oil	0.88
0.00	Mud 10% Gas 10% Oil 80%	0.00
0.00	Corrected gravity of oil 38	0.00

**Gas Rates**

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.13	6.31	2.36
Last Gas Rate	0.13	10.18	3.81
Max. Gas Rate	0.13	11.97	4.48



**DRILL STEM TEST REPORT**

Shelby Resources LLC  
 2717 Canal Boulevard  
 Suite C  
 Hays, Kansas 67601  
 ATTN: Jeremy Schwartz

**3/22S/16W/Pawnee**  
**Ward-County Unit 3-1**  
 Job Ticket: 17062 **DST#: 3**  
 Test Start: 2013.11.03 @ 06:52:00

**GENERAL INFORMATION:**

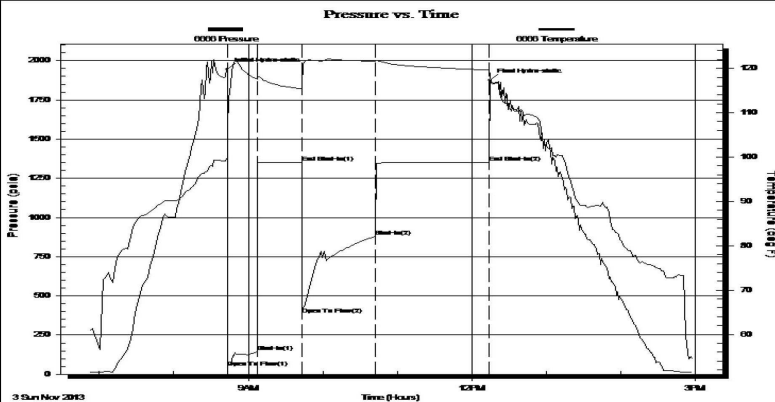
Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 08:43:30  
 Time Test Ended: 14:58:00  
 Interval: **3960.00 ft (KB) To 3966.00 ft (KB) (TVD)**  
 Total Depth: 3966.00 ft (KB) (TVD)  
 Hole Diameter: 7.80 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 3325 Great Bend/48  
 Reference Elevations: 1999.00 ft (KB)  
 1986.00 ft (CF)  
 KB to GR/CF: 13.00 ft

**Serial #: 6666**

**Inside**

Press@RunDepth: 878.30 psia @ 3962.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2013.11.03 End Date: 2013.11.03 Last Calib.: 2013.11.03  
 Start Time: 06:52:00 End Time: 14:58:00 Time On Btm: 2013.11.03 @ 08:43:00  
 Time Off Btm: 2013.11.03 @ 12:14:30

**TEST COMMENT:** 1ST Open 15 Minutes/Strong surging blow /Blow built to bottom of bucket in 13 minutes 30 seconds  
 1ST Shut In 45 Minutes/No blow back  
 2ND Open 60 Minutes/Strong blow /Blow built to bottom of bucket in 1 minute 30 seconds/Smooth build  
 2ND Shut In 90 Minutes/No blow back



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1946.58	99.65	Initial Hydro-static
1	45.78	106.48	Open To Flow (1)
24	142.66	117.64	Shut-In(1)
60	1348.76	115.42	End Shut-In(1)
61	382.68	116.07	Open To Flow (2)
120	878.30	121.61	Shut-In(2)
211	1348.54	119.68	End Shut-In(2)
212	1876.77	118.67	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
1890.00	Slightly mud and gas cut w ater	23.51
0.00	Mud 2% Gas 3% Water 95%	0.00
0.00	Recovery Chlorides 21000 ppm	0.00
0.00	Recov. Resist. .18 ohms @ 68 deg.	0.00

**Gas Rates**

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