

**OPERATOR**

Company: TDI, INC  
 Address: 1310 BISON ROAD  
 HAYS, KANSAS 67601

Contact Geologist: TOM DENNING  
 Contact Phone Nbr: 785-628-2593  
 Well Name: GEORGE # 1  
 Location: NW SW SE NW Sec 18-12s-18w  
 Pool: WILDCAT  
 State: KANSAS

API: 15-051-26,528-00-00  
 Field: UNNAMED  
 Country: USA



**TDI, Inc.**  
 1310 BISON ROAD  
 HAYS, KANSAS 67601  
 (785) 628-2593

Scale 1:240 Imperial

Well Name: GEORGE # 1  
 Surface Location: NW SW SE NW Sec 18-12s-18w  
 Bottom Location:  
 API: 15-051-26,528-00-00  
 License Number: 4787  
 Spud Date: 6/14/2013  
 Region: ELLIS COUNTY  
 Drilling Completed: 6/20/2013  
 Surface Coordinates: 2040' FNL & 1360' FWL  
 Bottom Hole Coordinates:  
 Ground Elevation: 2207.00ft  
 K.B. Elevation: 2217.00ft  
 Logged Interval: 3000.00ft  
 Total Depth: 3900.00ft  
 Formation: LANSING-KANSAS CITY  
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

Time: 4:30 PM  
 Time: 1:03 PM  
 To: 3900.00ft

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: Latitude:  
 N/S Co-ord: 2040' FNL  
 E/W Co-ord: 1360' FWL

**LOGGED BY**

Company: SOLUTIONS CONSULTING, INC.  
 Address: 108 W 35TH  
 HAYS, KS 67601

Phone Nbr: (785) 639-1337  
 Logged By: Geologist  
 Name: HERB DEINES

**CONTRACTOR**

Contractor: SOUTHWIND DRILLING INC.  
 Rig #: 1  
 Rig Type: MUD ROTARY

Rig Type: MUD ROTARY  
 Spud Date: 6/14/2013  
 TD Date: 6/20/2013  
 Rig Release: 6/21/2013

Time: 4:30 PM  
 Time: 1:03 PM  
 Time: 2:00 AM

**ELEVATIONS**

K.B. Elevation: 2217.00ft                      Ground Elevation: 2207.00ft  
 K.B. to Ground: 10.00ft

**NOTES**

RECOMMENDATION TO PLUG AND ABANDON WELL DUE TO NEGATIVE RESULTS OF TWO DRILL STEM TESTS AND LOG ANALYSIS OF ZONES WITH SHOWS OF STAINING IN SAMPLES. ALL ZONES WITH STAINING NOTED IN THE SAMPLES WERE INCLUDED IN DST INTERVALS.

OPEN HOLE LOGGING BY PIONEER ENERGY SERVICES: DUAL INDUCTION LOG, DUAL COMPENSATED POROSITY LOG, MICRORESISTIVITY LOG

DRILL STEM TESTING BY TRILOBITE TESTING INC.: TWO (2) CONVENTIONAL TESTS

**FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY ACTIVITY**

<b>GEORGE # 1</b>	<b>JOY # 18-1</b>
<b>2040' FNL &amp; 1360' FWL, NW/4</b>	<b>W2 W2 E2</b>
<b>Sec. 18-12s-18w</b>	<b>Sec 18-12s-18w</b>
<b>2207' GL 2217' KB</b>	<b>Reference Well</b>

<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1536+ 681	1533+ 684	+ 698
B-Anhydrite	1571+ 646	1567+ 650	+ 663
Topeka	3231-1014	3228-1011	-1007
Heebner Shale	3462-1245	3459-1242	-1237
Toronto	3481-1264	3479-1262	-1261
LKC	3509-1292	3503-1286	-1285
BKC	3742-1525	3549-1532	-1531
Arbuckle	NONE	NONE	
RTD	3900-1683		
LTD		3898-1681	

**SUMMARY OF DAILY ACTIVITY**

6-14-13      spud 4:30 PM, set 8 5/8" surface pipe to 223.8' w/ 150sxs Common  
 2%gel 3%CC, plug down 8:45 PM, slope 1 degree, WOC 8 hrs

6-15-13      330', drilling


6-16-13      1900', drilling

6-17-13      2730', drilling, displace 3060'-3092'

6-18-13      3407' drilling, short trip, DST # 1 3460' to 3504' Toronto - "A" to

- 6-18-13 3407', drilling, short trip, DST # 1 3460' to 3594' Toronto - A to "F" LKC, slope @ 3594' 1 degree
- 6-19-13 3594', TIWB, drilling, DST # 2 3618'-3700' "H" to "J" LKC
- 6-20-13 3700', drilling, RTD 3900'@1:03PM, mini short trip, TOWB, logs, TIWB, LDDP to plug and abandon
- 6-21-13 3900', finish LDDP and plugging, RD

**DST # 1 TEST SUMMARY**

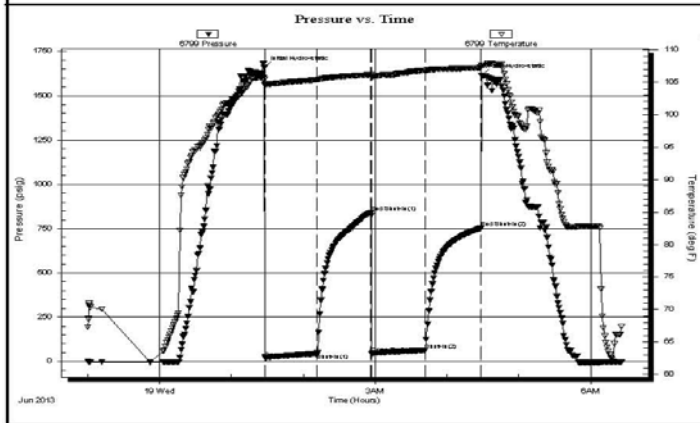
	<b>DRILL STEM TEST REPORT</b>		
	TDI, Inc 1310 Bison RD Hays KS, 67601  ATTN: Herb	<b>18-12s-18w Ellis KS</b>  <b>George #1</b> Job Ticket: 53915 <b>DST#: 1</b> Test Start: 2013.06.18 @ 23:00:00	

**GENERAL INFORMATION:**

Formation: <b>Tor - LKC "A-F"</b>	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock:                      ft (KB)	Tester: Cody Bloedorn
Time Tool Opened: 01:28:00	Unit No: 43
Time Test Ended: 06:26:30	Reference Elevations: 2203.00 ft (KB)
<b>Interval: 3460.00 ft (KB) To 3594.00 ft (KB) (TVD)</b>	2195.00 ft (CF)
Total Depth: 3594.00 ft (KB) (TVD)	KB to GR/CF: 8.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Fair

<b>Serial #: 6799</b>	<b>Inside</b>				
Press@RunDepth: 63.17 psig @ 3589.00 ft (KB)	Capacity: 8000.00 psig				
Start Date: 2013.06.18	End Date: 2013.06.19	Last Calib.: 2013.06.19			
Start Time: 23:00:05	End Time: 06:26:29	Time On Btm: 2013.06.19 @ 01:27:30			
		Time Off Btm: 2013.06.19 @ 04:28:45			

**TEST COMMENT:** 45 - IF- 7" blow  
 45 - IS- No return  
 45 - FF- 1 1/4" blow  
 45 - FS- No return


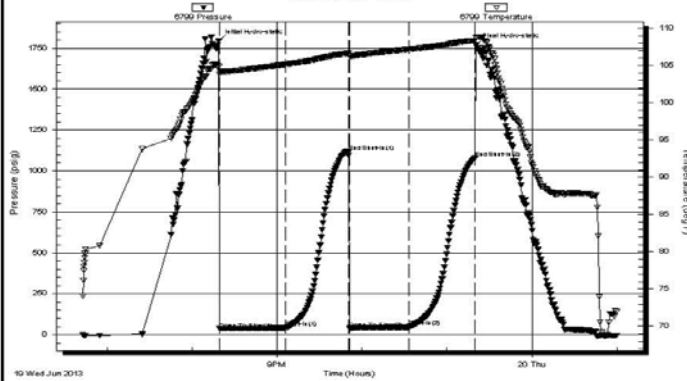


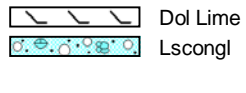
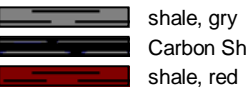
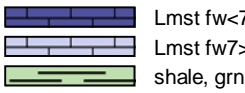
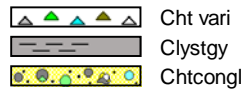
PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1659.40	105.44	Initial Hydro-static
1	20.54	104.84	Open To Flow (1)
44	45.48	105.40	Shut-In(1)
89	840.63	106.20	End Shut-In(1)
90	46.15	105.94	Open To Flow (2)
135	63.17	106.83	Shut-In(2)
181	752.63	107.23	End Shut-In(2)
182	1616.65	107.59	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
107.00	Mud, with show of oil, 100%M	1.50

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

**DST # 2 TEST SUMMARY**

 <p><b>TRILOBITE TESTING, INC.</b></p>	<b>DRILL STEM TEST REPORT</b>																																						
	TDI, Inc 1310 Bison RD Hays KS, 67601 ATTN: Herb	<b>18-12s-18w Ellis KS</b> <b>George #1</b> Job Ticket: 53916 <b>DST#: 2</b> Test Start: 2013.06.19 @ 18:43:00																																					
<b>GENERAL INFORMATION:</b>																																							
Formation: <b>"H,I,J"</b> Deviated: No Whipstock      ft (KB) Time Tool Opened: 20:19:15 Time Test Ended: 00:59:30		Test Type: Conventional Bottom Hole (Reset) Tester: Cody Bloedorn Unit No: 43																																					
Interval: <b>3618.00 ft (KB) To 3700.00 ft (KB) (TVD)</b> Total Depth: 3700.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair		Reference Elevations: 2203.00 ft (KB) 2195.00 ft (CF) KB to GR/CF: 8.00 ft																																					
<b>Serial #: 6799      Inside</b> Press@RunDepth: 46.81 psig @ 3685.00 ft (KB)      Capacity: 8000.00 psig Start Date: 2013.06.19      End Date: 2013.06.20      Last Calib.: 2013.06.20 Start Time: 18:43:05      End Time: 00:59:29      Time On Btm: 2013.06.19 @ 20:19:00 Time Off Btm: 2013.06.19 @ 23:20:30																																							
<b>TEST COMMENT:</b> 45 - IF- 5.5' blow 45 - IS- No return 45 - FF- 7" blow 45 - FS- No return																																							
<b>Pressure vs. Time</b>		<b>PRESSURE SUMMARY</b>																																					
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<small>* Recovery from multiple tests</small>																																							



**ACCESSORIES**

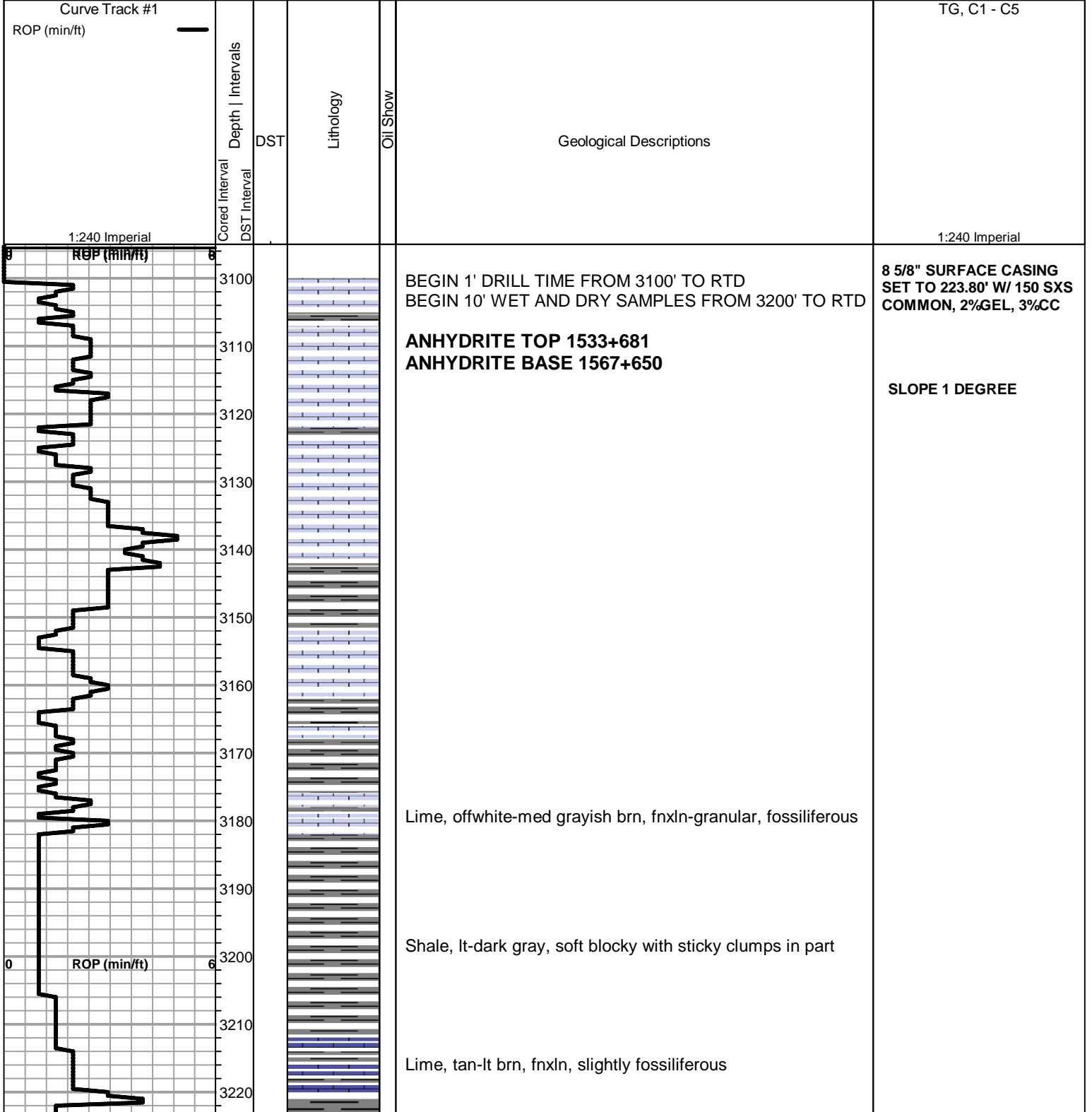
- MINERAL**  
 ▲ Chert, dark  
 P Pyrite  
 △ Chert White

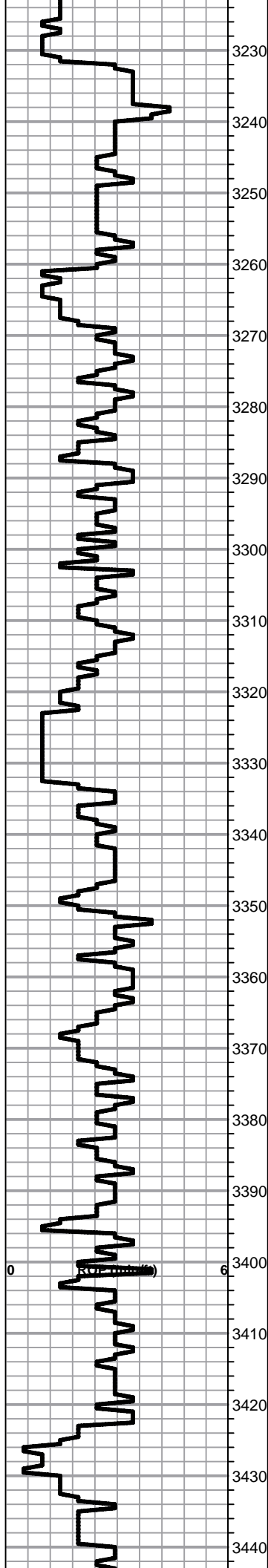
- FOSSIL**  
 ◊ Oolite

**OTHER SYMBOLS**

- DST**  
 ■ DST Int  
 ■ DST alt  
 ■ Core

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





Shale, lt gray, soft blocky

**TOPEKA SPL 3231-1014**

Lime, crm-lt brn, fnxln-granular, slightly fossiliferous

Lime, med brn-med grayish brn, fnxln, slightly fossiliferous

Lime, med brn-med grayish brn, fnxln, slightly fossiliferous

Lime, tan-lt brn, fnxln-granular, NS

Lime, lt-med grayish brn, fnxln

Lime, med brn-gray, fnxln, hard on crush in part

Lime, med brn-med grayish brn, fn-vfxln, hard, slightly fossiliferous

Lime, lt-med brn, fnxln-granular in part, fossiliferous  
Chert, black, fresh, sharp

Lime, lt brn-lt grayish brn, fnxln-granular in part, lt chalk matrix in part

Lime, lt-med brn, granular, fossiliferous, NS

Lime, med brn, granular, slightly fossiliferous

Shale, black carbonaceous, fissile, blocky

Lime, tan-lt brn, fnxln, microfossils, slight bedded chalk

Lime, crm-tan, fn-vfxln, lithographic in part with thin bedded chalk

Lime, crm-tan, fn-vfxln, bedded chalk, hard on crush

Lime, tan-lt brn, fnxln-granular, slightly fossiliferous, slight chalk in part, NS

Lime, crm-lt brn, fnxln, slight chalk, slightly fossiliferous

Lime, tan-med grayish brn, fnxln, thin fossil beds near lime/shale boundary

Shale, black carbonaceous, fissile, blocky

Lime, tan-lt brn, fnxln

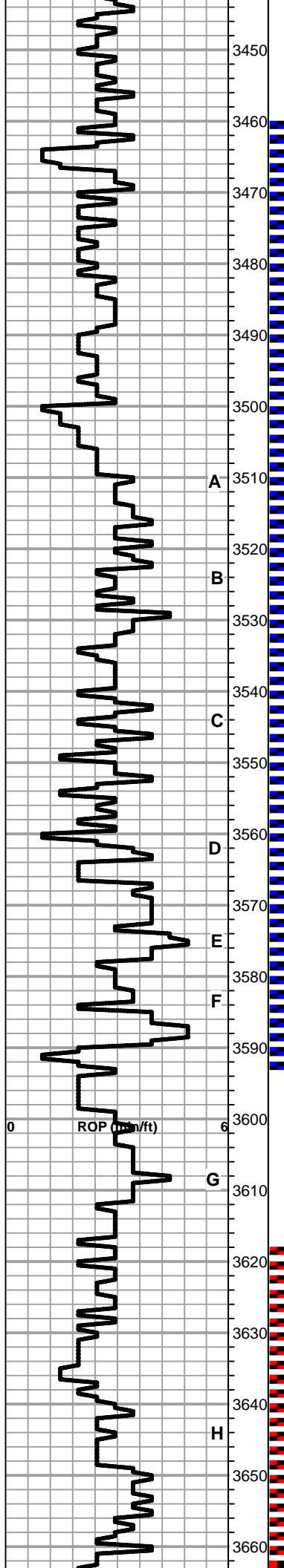
Lime, lt-med brn, fnxln, slight bedded chalk in part

Lime, lt-med brn, fnxln, slight bedded chalk

Shale, med gray, firm blocky

Lime, lt brn, granular, light chalky matrix in part, NS

Lime, med brn-med grayish brn, fnxln, slight bedded chalk



Lime, lt-med brn-grayish brn, fnxln-granular in part, slightly fossiliferous

Lime, med brn-med grayish brn, fnxln

**HEEBNER SHALE SPL 3462-1245**

Shale, black carbonaceous, fissile, blocky  
Lime, lt brn, fn-vfxln

Shale, lt gray-lime green, soft blocky

**TORONTO SPL 3481-1264**

Lime, white-crm, fnxln, very clean in appearance, scattered fine oolitic material, ppt vug porosity, scat-sat stain, NFO, No Odor

Shale, lt gray-lime green, forming soft mud clumps in part

**LKC SPL 3509-1292**

Lime, lt brn-lt gray, fnxln, fossiliferous in part

Lime, lt brn-lt gray, fnxln

Lime, crm-lt brn, fn-micro xln, slight bedded chalk in part  
Shale, med gray, firm, blocky

Lime, crm-tan, fnxln, bedded chalk, thin bed of fossil fragments-crinoids, scattered staining, NFO, No Odor

Lime, crm-tan, fnxln, few chips sparry calcite backfill with xln growth in voids

Lime, crm-lt brn, fnxln, thin oolitic bed, scattered staining, NFO, No Odor, interoolitic porosity

Lime, crm-tan, fnxln, chalk in part  
Shale, black carbonaceous, fissile

Lime, lt brn, fnxln-granular, spotty staining, NFO, No Odor, white chert, fresh, sharp

Lime, lt brn, dolomitic, porous, vuggy, hard on crush,

Lime, offwhite-tan, fnxln, slight bedded chalk

Lime, crm, fnxln, bedded chalk

Lime, lt gray-tan, fn-vfxln, slight bedded chalk

Lime, lt-med brn, mostly fnxln, slight bedded chalk

Lime, lt-dark brn, fnxln

Shale, lime green, soft sticky clumps

Lime, crm-tan, fnxln, trace of lt stain in scattered fine ppt vuggy porosity, NFO, No Odor

Lime, lt-med brn, fnxln

Lime, lt-med brn, fn-vfxln

Shale, med gray, firm blocky  
Lime, crm-lt brn, fnxln, bedded chalk

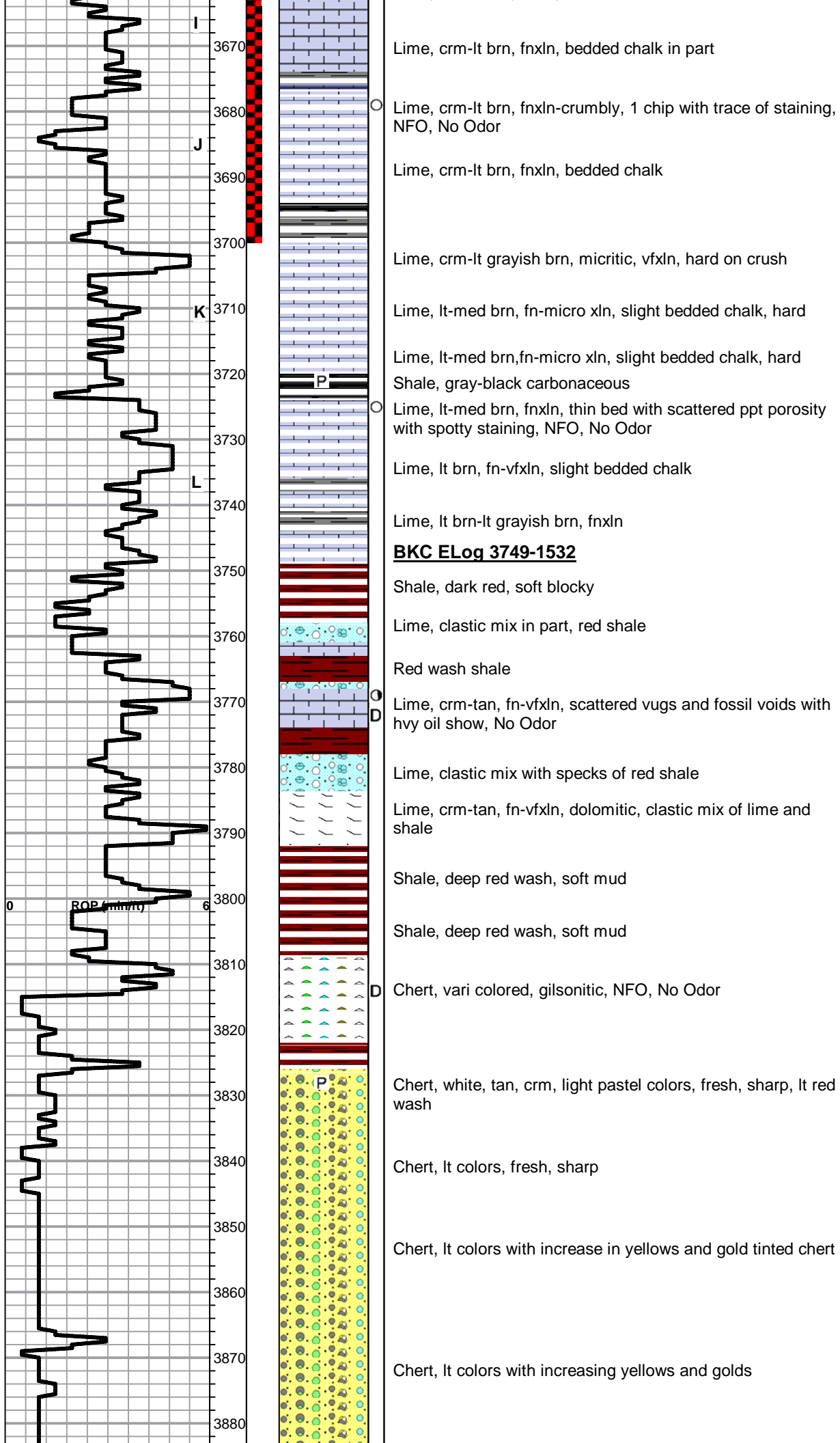
DST # 1 3460' TO 3594'  
SEE HEADER FOR TEST SUMMARY

CFS @ 3555'

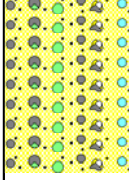
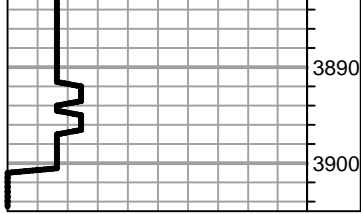
CFS 3594'  
SLOPE @ 3594' 1 DEG

PIPE STRAP  
BOARD 3597.01  
STRAP 3594.85

DST # 2 3618' TO 3700'  
SEE HEADER FOR TEST SUMMARY







Cherts, as above  
No dolomite or Simson shale found in samples at RTD

**RTD 3900-1683**

**LTD 3898-1681**

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6969

Date	Sec.	Twp.	Range	County	State	On Location	Finish
6-14-13	18	12	18	ELLIS	KANSAS		8:45pm
Lease				Location			
George				Hays N to BUCKEYE 2 W 1/2 S W INTO			
Contractor		Well No.		Owner			
S.W.D #1		1		T.D.I.			
Type Job				To Quality Oilwell Cementing, Inc.			
SURFACE				You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.			
Hole Size		T.D.		Charge To			
12 1/4"		224'		T.D.I.			
Csg.		Depth		Street			
8 5/8"		223'		1310 BOSON RD			
Tbg. Size		Depth		City		State	
				Hays		KS, 67601	
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.			
Cement Left in Csg.		Shoe Joint		Cement Amount Ordered			
		15'		150 com - 32 - 2 1/2 1/4 Flt			
Meas Line		Displace		Common			
		13 BBLs		150			
EQUIPMENT				Poz. Mix			
Pumptrk #15		Cementer		Gel.			
		LONNIE W		3			
Bulktrk #		Helper		Calcium			
		NICK W		5			
Bulktrk #		Driver		Hulls			
		BILLY K.		Ø			
Bulktrk P/W		Driver		Salt			
		CISCO A.					
JOB SERVICES & REMARKS				Flowseal			
Remarks:				Kol-Seal			
Rat Hole				Mud CLR 48			
Mouse Hole				CFL-117 or CD110 CAF 38			
Centralizers				Sand			
Baskets				Handling 158			
D/V or Port Collar				Mileage			
				CEMENT did CIRCULATE!			
				FLOAT EQUIPMENT			
				Guide Shoe			
				Centralizer			
				Baskets			
				AFU Inserts			
				Float Shoe			
				Latch Down			
				Pumptrk Charge			
				Surface			
				Mileage 11			
THANK YOU!				Tax			
Frank Rome				Discount			
X Signature				Total Charge			

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 7953

Date	Sec.	Twp.	Range	County	State	On Location	Finish
6-21-13	18	12	18	Ellis	KS		3:30 AM

Location *Naysv Buckeye rd 2 1/2 W into*

Lease *George* Well No. \_\_\_\_\_ Owner \_\_\_\_\_

Contractor *Sawthorn #1* To Quality Oilwell Cementing, Inc.  
Type Job *Rotary Plug* You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Hole Size *2 7/8* T.D. *3900* Charge To *TDI*

Csg. \_\_\_\_\_ Depth \_\_\_\_\_ Street \_\_\_\_\_

Tbg. Size \_\_\_\_\_ Depth \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

Tool \_\_\_\_\_ Depth \_\_\_\_\_ The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. \_\_\_\_\_ Shoe Joint \_\_\_\_\_ Cement Amount Ordered *220 60/40 4 1/2 LEL 1/4 # Flt*

Meas Line \_\_\_\_\_ Displace \_\_\_\_\_

EQUIPMENT				Common
Pumptrk	No.	Cementer		<i>132</i>
<i>15</i>		<i>Spig</i>		
		Helper		<i>88</i>
Bulktrk	No.	Driver		
		<i>Wick</i>		<i>8</i>
Bulktrk	No.	Driver		
<i>14</i>		<i>Doug</i>		
		Driver		
		Driver		

JOB SERVICES & REMARKS Hulls \_\_\_\_\_

Remarks: Salt \_\_\_\_\_

Rat Hole *30SK* Flowseal *50#*

Mouse Hole *15SK* Kol-Seal \_\_\_\_\_

Centralizers Mud CLR 48 \_\_\_\_\_

Baskets CFL-117 or CD110 CAF 38 \_\_\_\_\_

D/V or Port Collar Sand \_\_\_\_\_

*1st 1570 25SK* Handling *278*

*2nd 855 100SK* Mileage \_\_\_\_\_

*3rd 275 40SK* **FLOAT EQUIPMENT**

*4th 40 10SK* Guide Shoe \_\_\_\_\_

Centralizer \_\_\_\_\_

Baskets *8 5/8 wooden Plug*

AFU Inserts \_\_\_\_\_

Float Shoe \_\_\_\_\_

Latch Down \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Pumptrk Charge *plug*

Mileage *11*

Tax \_\_\_\_\_

Discount \_\_\_\_\_

Total Charge \_\_\_\_\_

X Signature *Red K*