

**OPERATOR**

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

Contact Geologist: TOM DENNING  
 Contact Phone Nbr: 785-259-3141  
 Well Name: BIXENMAN # 1  
 Location: NE NW SW NE Sec.11-15s-19w  
 Pool: WILDCAT  
 State: KANSAS

API: 15-051-26,309-00-00  
 Field: UNNAMED  
 Country: USA



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

Scale 1:240 Imperial

Well Name: BIXENMAN # 1  
 Surface Location: NE NW SW NE Sec.11-15s-19w  
 Bottom Location:  
 API: 15-051-26,309-00-00  
 License Number: 4787  
 Spud Date: 8/13/2012  
 Region: ELLIS COUNTY  
 Drilling Completed: 8/20/2012  
 Surface Coordinates: 1340' FNL & 2005' FEL  
 Bottom Hole Coordinates:  
 Ground Elevation: 2058.00ft  
 K.B. Elevation: 2065.00ft  
 Logged Interval: 2900.00ft  
 Total Depth: 3750.00ft  
 Formation: LANSING-KANSAS CITY  
 Drilling Fluid Type: FRESH WATER GEL/CHEMICAL

Time: 8:00 PM  
 Time: 11:44 AM  
 To: 3750.00ft

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: Latitude:  
 N/S Co-ord: 1340' FNL  
 E/W Co-ord: 2005' FEL

**LOGGED BY**

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

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

**CONTRACTOR**

Contractor: SOUTHWIND DRILLING, INC.  
 Rig #: 4  
 Rig Type: MUD ROTARY

Rig Type: MUD ROTARY  
Spud Date: 8/13/2012  
TD Date: 8/20/2012  
Rig Release: 8/21/2012

Time: 8:00 PM  
Time: 11:44 AM  
Time: 1:00 PM

### ELEVATIONS

K.B. Elevation: 2065.00ft  
K.B. to Ground: 7.00ft

Ground Elevation: 2058.00ft

### NOTES

RECOMMENDATION TO RUN PRODUCTION CASING BASED ON NUMEROUS SHOWS OF OIL IN LANSING-KANSAS CITY CARBONATE BENCHES AND HIGH STRUCTURAL POSITION OF WELL TO OFFSET PRODUCERS.

PIONEER ENERGY SERVICES RAN DUAL INDUCTION LOG, DUAL COMPENSATED POROSITY LOG AND MICRORESISTIVITY LOG

### FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY DEPTH AND ACTIVITY

**BIXENMAN # 1**  
**1340' FNL & 2005' FEL, NE/4**  
**Sec.11-15s-19w**  
**2058' GL 2065' KB**


<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1267+ 798	1265+ 800
B-Anhydrite	1301+ 764	1304+ 761
Topeka	3024- 959	3024- 959
Heebner Shale	3299-1234	3298-1233
Toronto	3323-1258	3317-1252
LKC	3344-1279	3345-1280
BKC	3587-1522	3591-1526
Conglomerate Sand		3672-1607
Arbuckle		3689-1624
RTD	3750-1685	
LTD		3753-1688

### SUMMARY OF DAILY ACTIVITY

8-13-12 RU, Spud late in day, rig repairs  
8-14-12 212' set 8 5/8" surface casing to 211' w/150 sacks of Common, 2%Gel, 3% CC, plug down 9:15 AM, WOC 8 hours, slope 3/4 degree .  
8-15-12 1074', drilling

- 8-16-12 2060', drilling
- 8-17-12 2800', drilling
- 8-18-12 3351', drilling, DST # 1, 3332'-3382'
- 8-19-12 3458', drilling, DST # 2 3450' to 3535'
- 8-20-12 3658', drilling, RTD 3750, logs, run production casing
- 8-21-12 3750', finish running casing, cement casing and top stage.

### DST # 1 TEST SUMMARY

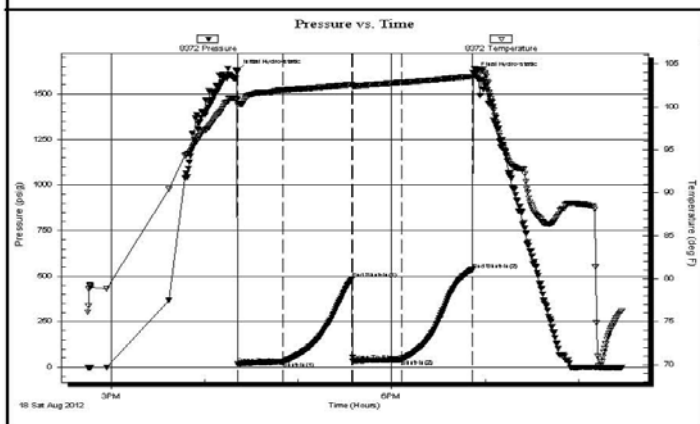
 <b>TRILOBITE TESTING, INC</b>	<b>DRILL STEM TEST REPORT</b>		
	TDI inc. 1310 Bison Rd Hays Ks. 67601 ATTN: Herb Deines	<b>11-15-19w Ellis</b> <b>Bixenman #1</b> Job Ticket: 47916 Test Start: 2012.08.18 @ 14:45:05	<b>DST#: 1</b>

**GENERAL INFORMATION:**

Formation: <b>LKC"A,B,C"</b>	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Andy Carreira
Time Tool Opened: 16:21:20	Unit No: 39
Time Test Ended: 20:27:50	Reference Elevations: 2065.00 ft (KB)
<b>Interval: 3332.00 ft (KB) To 3382.00 ft (KB) (TVD)</b>	2058.00 ft (CF)
Total Depth: 3382.00 ft (KB) (TVD)	KB to GR/CF: 7.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Fair

<b>Serial #: 8372</b>	<b>Outside</b>	Capacity: 8000.00 psig
Press@RunDepth: 42.57 psig @ 3339.00 ft (KB)	Start Date: 2012.08.18	Last Calib.: 2012.08.18
Start Time: 14:45:05	End Date: 2012.08.18	Time On Btm: 2012.08.18 @ 16:20:30
End Time: 20:27:50	Time Off Btm: 2012.08.18 @ 18:53:00	

**TEST COMMENT:** IF:(30min) 5" blow in 15 min. 8" in 20 min.  
 ISl:(45min) No Return  
 FF:(30min) BOB, 30 sec.  
 FSl:(45min) No Return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1625.36	100.89	Initial Hydro-static
1	16.60	100.23	Open To Flow (1)
30	30.72	101.94	Shut-In(1)
74	485.53	102.58	End Shut-In(1)
75	34.47	102.42	Open To Flow (2)
106	42.57	102.83	Shut-In(2)
151	534.73	103.51	End Shut-In(2)
153	1614.04	104.48	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
70.00	HOCGM g=10% o=30% m=60%	0.98

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

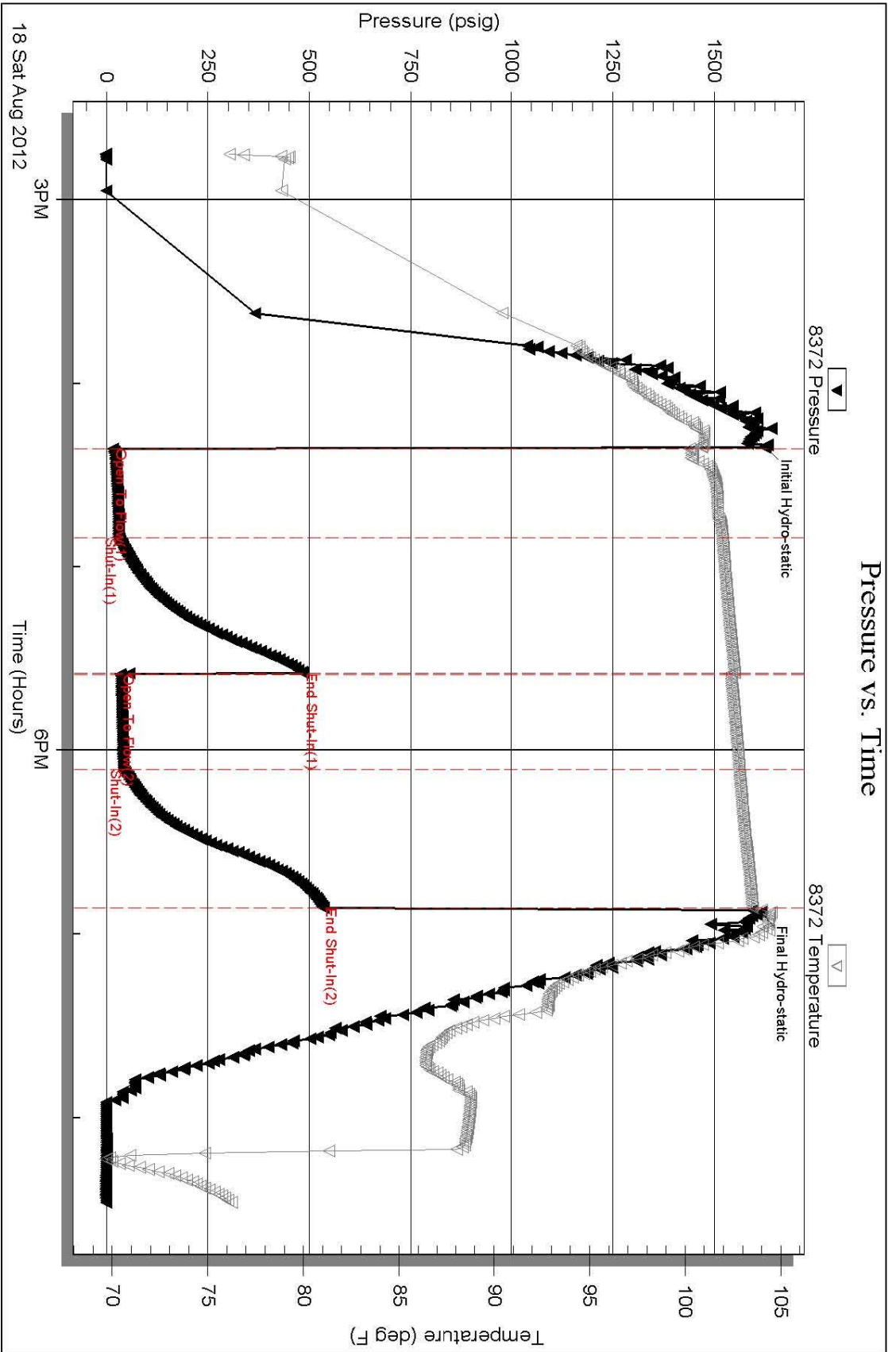
# DST # 1 EXPANDED CHART

Serial #: 8372

Outside TDI Inc.

Bixennan #1

DST Test Number: 1


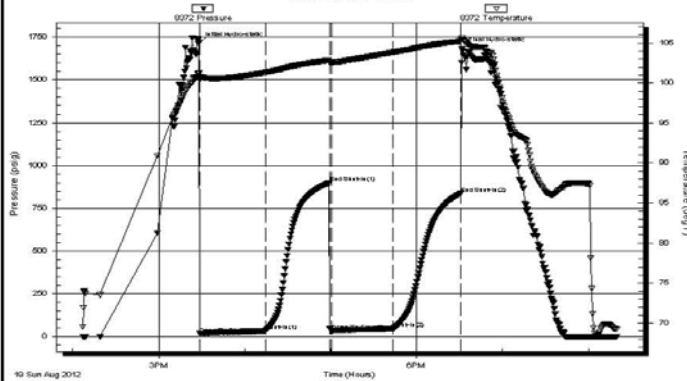


Trilobite Testing, Inc

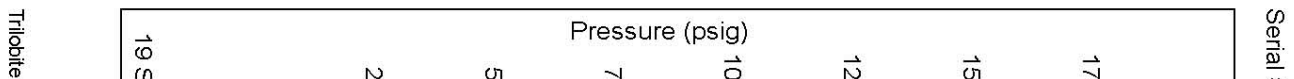
Ref. No: 47916

Printed: 2012.08.19 @ 00:07:13

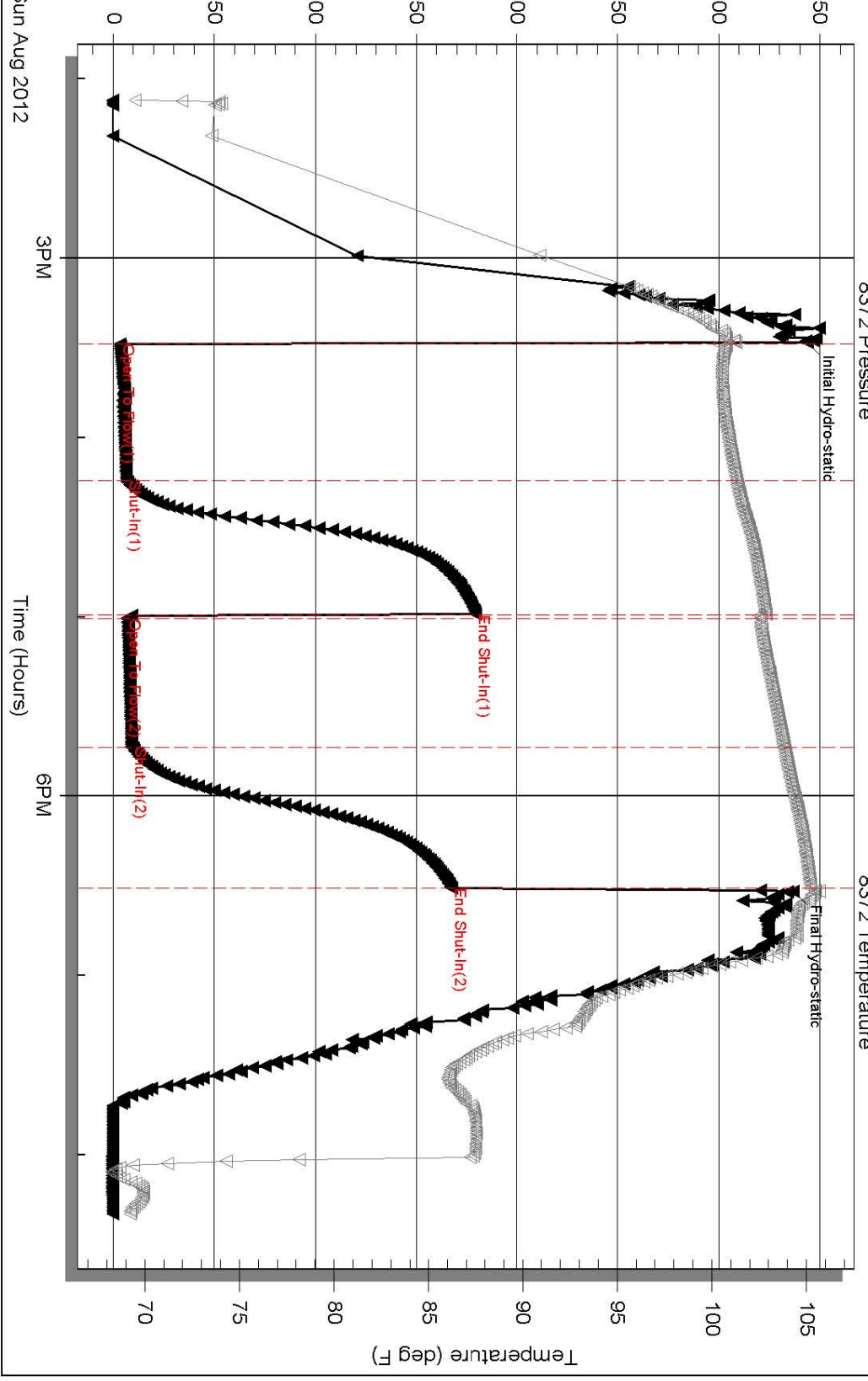
## DST # 2 TEST SUMMARY

 <b>TRILOBITE TESTING, INC</b>	<b>DRILL STEM TEST REPORT</b>																																						
TDI inc. 1310 Bison Rd Hays Ks. 67601 ATTN: Herb Deines	<b>11-15-19w Ellis</b> <b>Bixenman #1</b> Job Ticket: 47917 <b>DST#: 2</b> Test Start: 2012.08.19 @ 14:07:05																																						
<b>GENERAL INFORMATION:</b>																																							
Formation: <b>LKC"H,I,J"</b> Deviated: No Whipstock:      ft (KB) Time Tool Opened: 15:28:30 Time Test Ended: 20:19:50		Test Type: Conventional Bottom Hole (Reset) Tester: Andy Carreira Unit No: 39																																					
Interval: <b>3450.00 ft (KB) To 3535.00 ft (KB) (TVD)</b> Total Depth: 3535.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair		Reference Elevations: 2065.00 ft (KB) 2058.00 ft (CF) KB to GR/CF: 7.00 ft																																					
<b>Serial #: 8372      Outside</b>																																							
Press@RunDepth: 45.77 psig @ 3457.00 ft (KB) Start Date: 2012.08.19      End Date: 2012.08.19 Start Time: 14:07:05      End Time: 20:19:50		Capacity: 8000.00 psig Last Calib.: 2012.08.19 Time On Btm: 2012.08.19 @ 15:27:40 Time Off Btm: 2012.08.19 @ 18:31:39																																					
<b>TEST COMMENT:</b> IF:(45min) 1" blow in 9 min. ISl:(45min) No Return FF:(45min) 1" blow in 2 min. 2" in 13 min. Decreased to 1" FSl:(45min) No Return																																							
<b>Pressure vs. Time</b>		<b>PRESSURE SUMMARY</b>																																					
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Trilobite Testing, Inc		Ref. No: 47917																																					
		Printed: 2012.08.19 @ 23:00:55																																					

## DST # 2 EXPANDED CHART



### Pressure vs. Time



### ROCK TYPES

- |  |          |  |            |  |            |  |          |
|--|----------|--|------------|--|------------|--|----------|
|  | Cht      |  | Lmst fw<7  |  | shale, gry |  | Shcol    |
|  | Cht vari |  | Lmst fw>7  |  | Carbon Sh  |  | Ss       |
|  | Dolprim  |  | shale, grn |  | shale, red |  | Dol Lime |

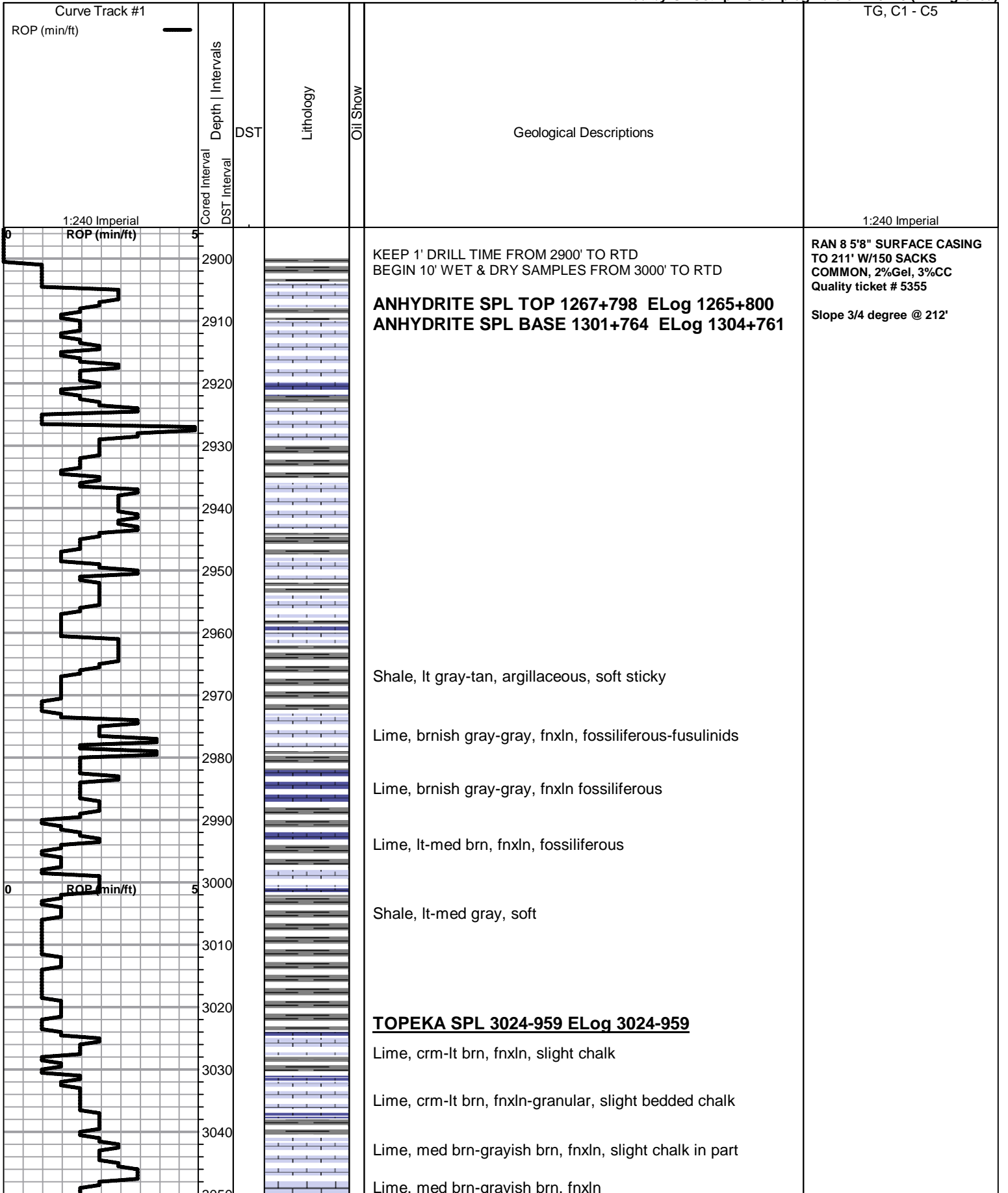
### ACCESSORIES

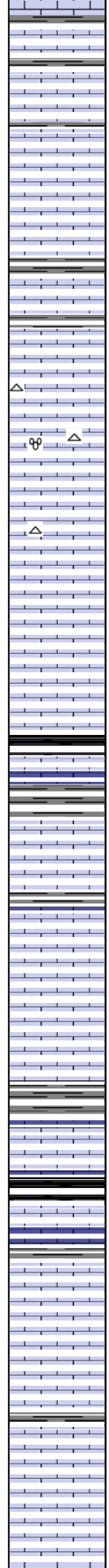
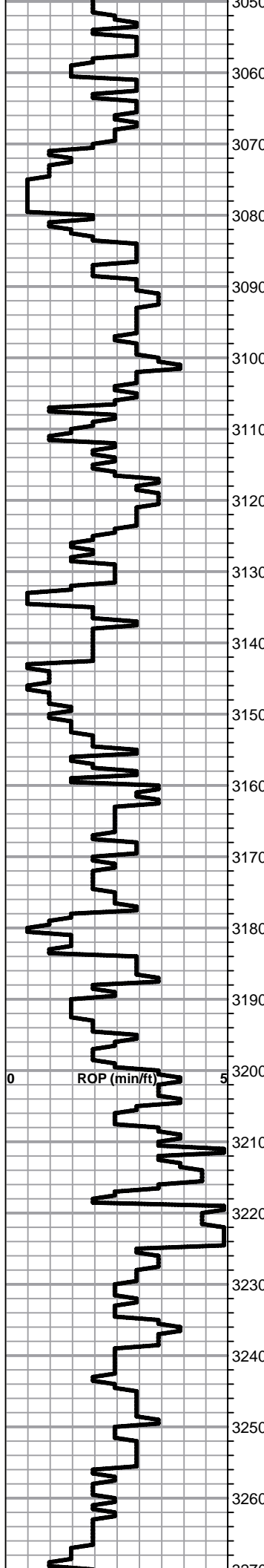
- |                |                |
|----------------|----------------|
| <b>MINERAL</b> | <b>FOSSIL</b>  |
| P Pyrite       | ⊕ Foraminifera |
| △ Chert White  | ⊕ Calcite      |

OTHER SYMBOLS

- DST Int
- DST alt
- Core

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





Lime, med brn-grayish brn, fnxln

Lime, crm-lt brn-gray, fnxln

Lime, lt gray-lt brn, fnxln, soft on crush

Lime, crm-brnish gray, fnxln-granular, crinoid fragments, NS

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

Shale, lt gray soft

Lime, lt-med brn, fnxln

Lime, lt-med brn-gray, fnxln, fusulinids, white chert, fresh

Lime, lt-med brn, fnxln, fusulinids

Lime, lt-med brn, fnxln

Lime, lt-med brn, fnxln-granular, soft sticky chalk in part

Lime, lt-med brn-grayish brn, granular, chalk in part

Shale, black carbonaceous

Lime, med brn, fnxln

Lime, brn, fnxln, fossiliferous

Lime, lt-med brn-grayish brn, fnxln-granular, NS

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

Lime, lt-med brn, fnxln, slightly fossiliferous, bedded chalk

Shale, gray, calcareous

Lime, lt brn, fnxln

Shale, black carbonaceous  
Lime, lt-med brn, fn-vfxln

Lime, lt-med brn-grayish brn, fnxln

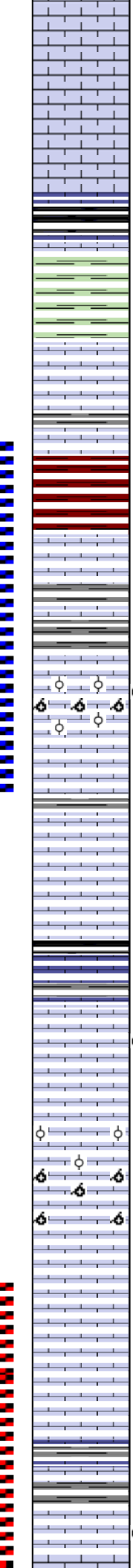
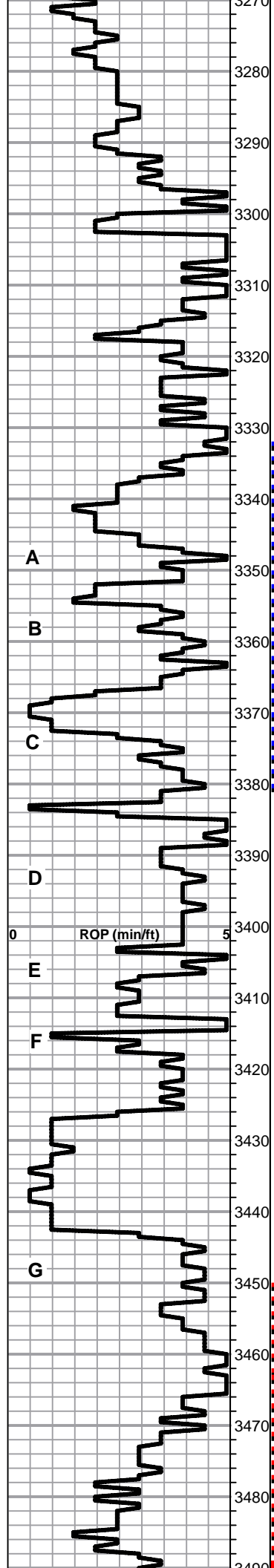
Lime, st-med brn, fnxln-granular in part, slightly fossiliferous

Lime, lt-med brn, fnxln

Lime, lt brn, fnxln

Lime, lt-med brn-grayish brn, fnxln, slightly cherty, brittle





Lime, lt-med brn, fnxln

Lime, lt-med brn, fnxln

**HEEBNER SHALE SPL 3299-1234 ELog 3298-1233**

Shale, black carbonaceous, fissile, blocky  
Lime, med brn, fnxln

Shale, lt gray-lt green, soft blocky to soft mud

**TORONTO SPL 3323-1258 ELog 3317-1252**

Lime, crm, vfxln, bedded chalk, NS

Lime, crm, fnxln, white chalk wash

Shale, red wash grading into gray shale

**LKC SPL 3344-1279 ELog 3345-1280**

Lime, lt-med brn, fnxln, 2 chips with lt surface stain, no odor

Shale, dove gray-med gray, soft-soft mud balls

Lime, brnish gray, fnxln

Lime, lt brn, oolitic/oomoldic, scattered to saturated staining, scattered vugs, lt gsy oil show, fair-good odor.

Lime, lt-med brn, fnxln, slightly chalky

Lime, lt-med brn, fnxln

Lime, crm-offwhite, fnxln, NS

Shale, gray-black carbonaceous  
Lime, lt brn, fnxln

Lime, lt brn, fnxln with few chips with fine intercrystalline porosity with scattered to saturated stain, very lt odor with light halo wet cut

Lime, crm-offwhite, fnxln with bedded chalk

Lime, crm-tan, granular with chalk, few pieces of oolitic-oomoldic, barren

Lime, crm-lt brn, fn-vfxln, bedded chalk in part

Lime, crm-lt brn, fnxln with bedded chalk in part

Lime, crm-lt brn-lt gray, fn-vfxln

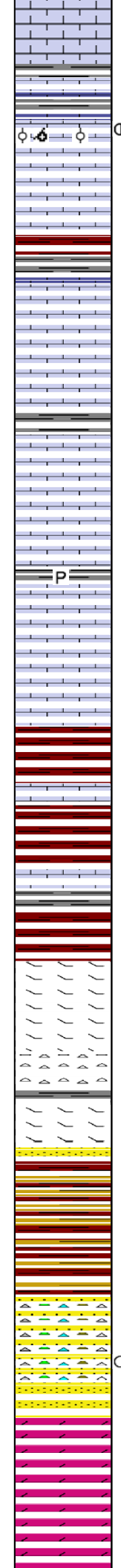
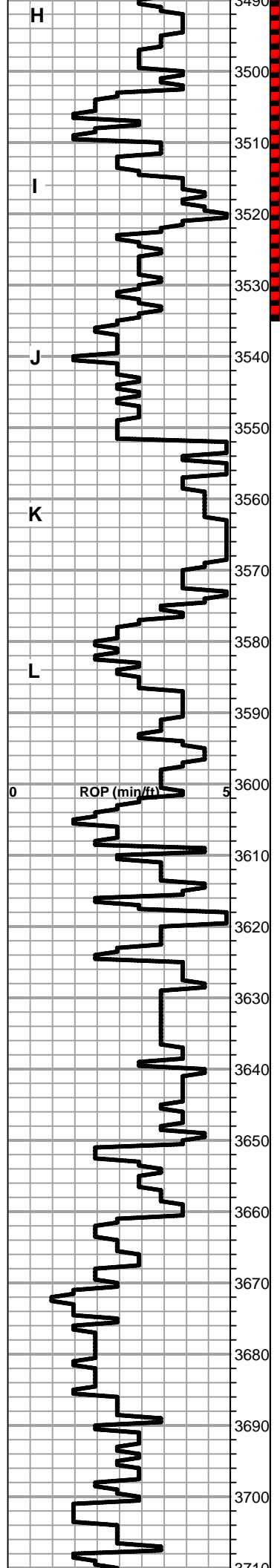
Lime, lt brn-lt gray, fn-vfxln

Shale, dove gray, soft mud to medium gray, soft blocky

Lime, lt brn, fnxln, few chips with fine intercrystalline porosity light staining, NFO, lt odor.

DST # 1 3332' TO 3382'  
SEE HEADER FOR TEST SUMMARY

DST # 2 3450' to 3535'  
SEE HEADER FOR TEST SUMMARY



Lime, lt brn, fn-vfxln

Shale, lt-med gray, soft, blocky

Lime, crm-lt brn, fnxln with few chips oolitic with scattered staining with light odor

Lime, crm, fn-vfxln, chalk in part

Shale, lt red wash grading into gray, soft, blocky

Lime, crm-tan, fnxln, bedded chalk in part

Lime, crm-tan, fn-vfxln, bedded chalk in part

Lime, crm-tan, fn-vfxln, bedded chalk in part

Shale, med gray, pyritic clusters

Lime, crm-tan, fnxln, chalky, NS

Lime, crm-tan, fnxln, chalky

**BKC SPL 3587-1522 ELog 3591-1526**

Shale, lt-med green-reddish brown, blocky

Shale, red wash, soft mud

Shale, dove gray-reddish brown, soft mud

Lime, crm-lt brn, dolomitic, fnxln

Lime, crm-lt brn,  
Chert, crm, tan, orange, fresh, sharp

Lime, crm-lt brn with scattered chert

Sandstone, fine grained, poorly sorted with white clay in matrix, lt halo wet cut.

Shale, rewash with mix of vari colored shales

**CONGLOMERATE SAND ELog 3672-1607**

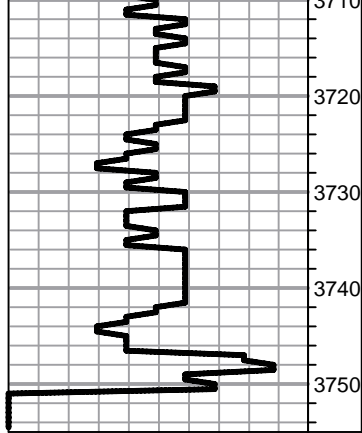
Mix of vari colored cherts and dirty looking sand grading into cleaner, well sorted, quartz sand near bottom of sequence, few clusters with lt gassy oil show

**ARBUCKLE ELog 3689-1624**

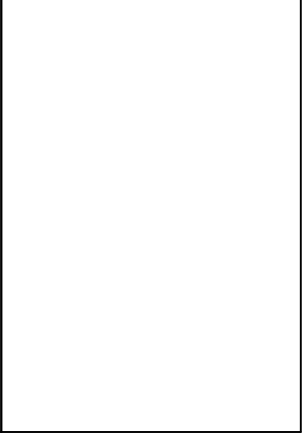
Dolomite, crm, fnxln with white sticky chalk in part

Dolomite, crm, fnxln-granular in part

Dolomite, crm, fnxln-granular in part



Dolomite, crm-ivory, fn-maxln, sucrosic in part  
Dolomite, crm, fn-medxln, sucrosic in part  
Dolomite, crm, fn-cxln, sucrosic in part  
Dolomite, crm-lt brn, fnxln, hard on break



# 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. 5355

Date	8-14-12	Sec.	11	Twp.	15	Range	19	County	ELLIS	State	KS	On Location		Finish	9:00 AM
Lease	Bixeman			Well No.	#1			Location	<del>Antinino</del> 1/4 S West 1/2						
Contractor	Southwind Rig 4							Owner	ANTININO						
Type Job	Surface							To Quality Oilwell Cementing, Inc. 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	1 1/4			T.D.	2.11			Charge To	<del>PP TDI</del>						
Csg.	8 5/8			Depth	2.11			Street							
Tbg. Size								City	State						
Tool								The above was done to satisfaction and supervision of owner agent or contractor.							
Cement Left in Csg.	20ft			Shoe Joint	20ft			Cement Amount Ordered	150 3600 2% gel						
Meas Line				Displace	1 1/4										

**EQUIPMENT**

Pumptrk	9	No.	Cementer	hatt	Common	150
			Helper			
Bulktrk	8	No.	Driver	Dave	Poz. Mix	
			Driver			
Bulktrk		No.	Driver	Cody	Gel.	3
			Driver			

**JOB SERVICES & REMARKS**

Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
	Sand
	Handling 158
	Mileage

Cement 7 did calculate

**FLOAT EQUIPMENT**

	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

Bixeman

Pumptrk Charge	Surface
Mileage	12

Signature Brent Bobcock	Tax
	Discount
	Total Charge

JOB LOG

SWIFT Services, Inc.

DATE 8-21-12 PAGE NO.

CUSTOMER **TDI** WELL NO. **#1** LEASE **Bixerman** JOB TYPE **2-stage** TICKET NO. **21744**

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0430							on loc w/ FE
								RTD 3750'
								5 1/2" x 14" x 3746' x 42'
								Cent. 1, 3, 5, 7, 8, 10, 12, 5-8
								Back 2, 12, 5-9
								DV 59 @ 1217'
	0715							Start FE
	0900							Break Circ
	1000	5	0			150		Start Preflushes 500 gal Mud flush
		5	32/0			150		20 bbl KCL flush
	1015		36					Start 150 sks <del>FE</del> EA-2 Cement
								End Cement
								Wash PTL
								Drop D Plug
	1020	6	0			150		Start Displacement
		5	70			250		Catch Cement / KCL in last 20 bbl
	1040		90.5			600/400		Land Plug
								Release Pressure / Float Held
								Drop Opening Plug
	1045	2.5	7/5					Plug RHMH
	1100					1100		Open DV
	1102	6	0			150		Start Cement
	1120		100			150		End Cement
								Drop Closing Plug
	1124	5	0			150		Start Displacement
	1125	5	5			200		Circulate Cement
	1130		29.5			450/400		Land Plug / Close DV Tool
								Release Pressure
								DV Closed
								Circ soaks to pit
								Thank you
								Nick, David E. & Son