

OPERATOR

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

Contact Geologist: TOM DENNING
 Contact Phone Nbr: 785-628-2593
 Well Name: RONALD # 1
 Location: S2 N2 SW NW Sec 23-15s-18w
 Pool:
 State: KANSAS

API: 15-051-26,503-00-00
 Field: LEIKER SOUTHEAST
 Country: USA



1310 BISON ROAD
 HAYS, KANSAS 67601
 (785) 628-2593

Scale 1:240 Imperial

Well Name: RONALD # 1
 Surface Location: S2 N2 SW NW Sec 23-15s-18w
 Bottom Location:
 API: 15-051-26,503-00-00
 License Number: 4787
 Spud Date: 5/16/2013 Time: 3:15 AM
 Region: ELLIS COUNTY
 Drilling Completed: 5/22/2013 Time: 2:54 AM
 Surface Coordinates: 1790' FNL & 660' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 1994.00ft
 K.B. Elevation: 2004.00ft
 Logged Interval: 2900.00ft To: 3750.00ft
 Total Depth: 3750.00ft
 Formation: ARBUCKLE
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: Latitude:
 N/S Co-ord: 1790' FNL
 E/W Co-ord: 660' 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: 5/16/2013
 TD Date: 5/22/2013
 Rig Release: 5/22/2013

Time: 3:15 AM
 Time: 2:54 AM
 Time: 10:00 PM

ELEVATIONS

K.B. Elevation: 2004.00ft Ground Elevation: 1994.00ft
 K.B. to Ground: 10.00ft

NOTES

RECOMMENDATION TO RUN PRODUCTION CASING BASED ON FAVORABLE STRUCTURE OF ARBUCKLE

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

DRILL STEM TESTING BY TRILOBITE TESTING INC: ONE (1) CONVENTIONAL TEST

FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY ACTIVITY

RONALD # 1
1790' FNL & 660' FWL, NW/4
Sec. 23-15s-18w
1994' GL 2004' KB

WARREN # 1
SW SE NE
Sec 22-15s-18w
Reference Well


<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1158+ 846	1159+ 845	+ 847
B-Anhydrite	1194+ 810	1195+ 809	+ 812
Topeka	2966- 962	2969- 965	- 968
Heebner Shale	3233-1229	3230-1226	-1234
Toronto	3254-1250	3250-1246	-1255
LKC	3280-1276	3280-1276	-1285
BKC	3500-1496	3508-1504	-1507
Marmaton	3535-1531	3542-1538	-1542
Arbuckle	3549-1545	3549-1545	-1573
RTD	3750-1746		
LTD		3748-1744	

SUMMARY OF DAILY ACTIVITY

5-16-13 spud 3:15 AM, drilling for 8 5/8" surface casing
 5-17-13 1169', set 8 5/8" surface pipe to 1168' w/ 375 sxs SMD, plug down
 9:30 AM, slope 2 degrees, WOC 12hrs
 5-18-13 1470', drilling
 5-19-13 2250', drilling, diplog 2871', 2890'

- 5-19-13 2550', drilling, displace 2871 -2900
- 5-20-13 3059', drilling, DST # 1 3264'-3315' "A" to "C" LKC, slope @3315' 1 degree
- 5-21-13 3330', finish DST # 1, drilling
- 5-22-13 3750', RTD @2:54AM, mini short trip, CCH 1 ½ hrs, TOWB, logs, LDDP, run and cement production casing

DST # 1 TEST SUMMARY "A" TO "C"

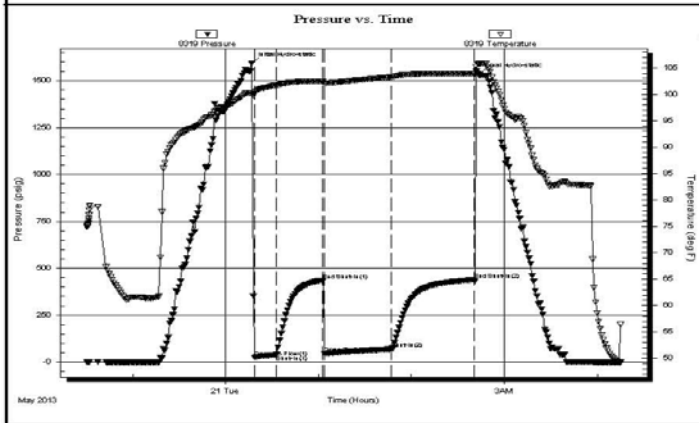
	DRILL STEM TEST REPORT		
	TDI Inc. 1310 Bison Rd Hays KS 67601 ATTN: Herb Deines	23-15-18, Ellis, KS Ronald #1 Job Ticket: 53878 DST#: 1 Test Start: 2013.05.20 @ 22:30:25	

GENERAL INFORMATION:

Formation: KC "A-C"	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Brett Dickinson
Time Tool Opened: 00:18:55	Unit No: 59
Time Test Ended: 04:14:55	Reference Elevations: 2004.00 ft (KB)
Interval: 3264.00 ft (KB) To 3315.00 ft (KB) (TVD)	1996.00 ft (CF)
Total Depth: 3315.00 ft (KB) (TVD)	KB to GR/CF: 8.00 ft
Hole Diameter: 7.88 inches	Hole Condition:

Serial #: 8319	Inside				
Press@RunDepth: 68.62 psig @ 3265.00 ft (KB)	Capacity: 8000.00 psig				
Start Date: 2013.05.20	End Date: 2013.05.21	Last Calib.: 2013.05.21			
Start Time: 22:30:30	End Time: 04:14:54	Time On Btm: 2013.05.21 @ 00:16:55			
		Time Off Btm: 2013.05.21 @ 02:43:25			

TEST COMMENT: IF-BOB in 2min
 ISI-No blow
 FF-BOB in 15sec
 FSI-No blow



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1592.50	100.30	Initial Hydro-static
2	25.30	100.50	Open To Flow (1)
16	38.93	101.68	Shut-In(1)
46	435.44	102.44	End Shut-In(1)
47	46.23	102.02	Open To Flow (2)
90	68.62	103.27	Shut-In(2)
144	438.64	103.92	End Shut-In(2)
147	1532.50	105.71	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
125.00	GSMCO 15%G 45%O 10%W 30%M	1.75

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

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DST # 1 EXPANDED CHART

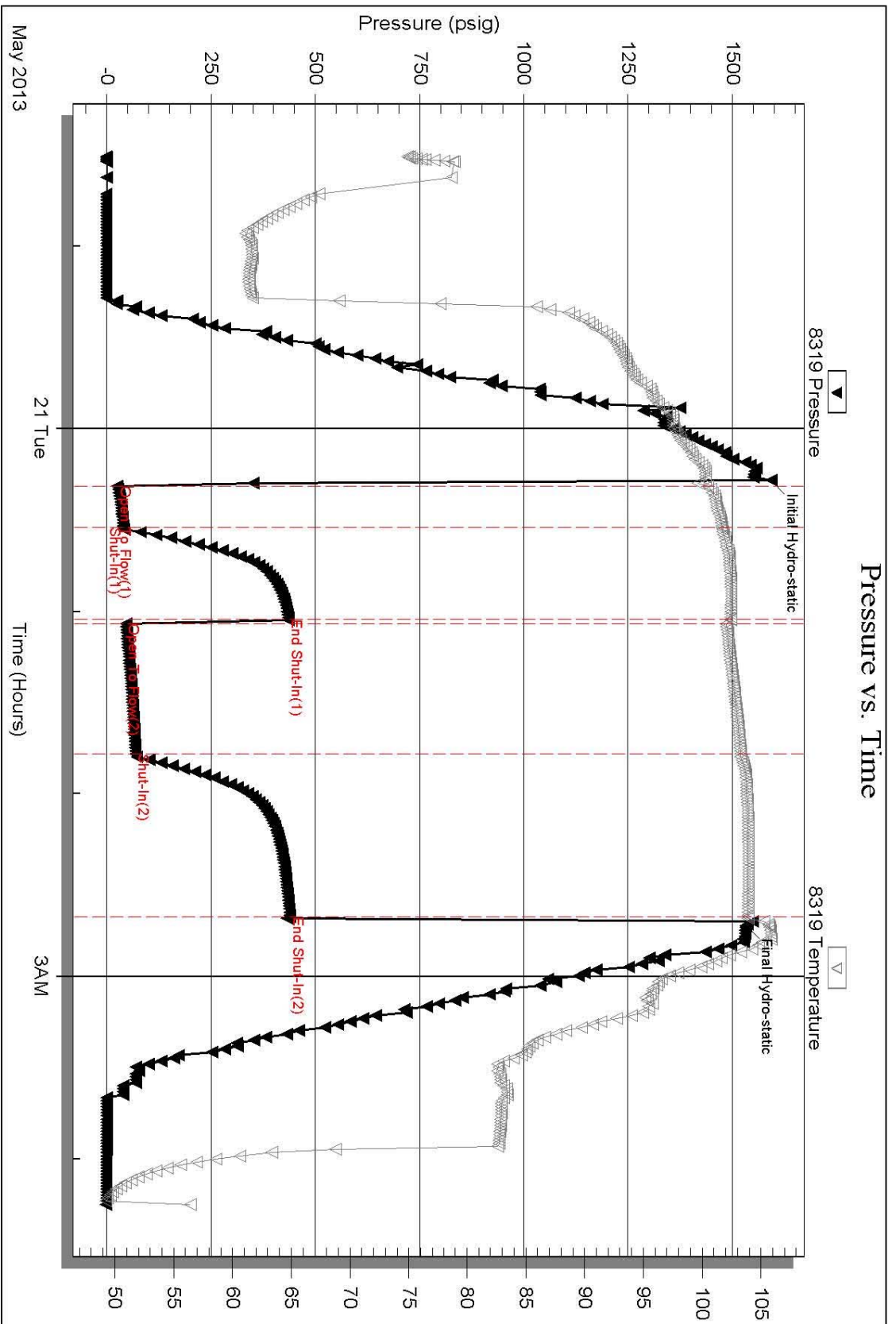
Serial #: 8319

Inside




TDI Inc.

Ronald #1

DST Test Number: 1






ROCK TYPES




 Clystgy	 Lmst fw7>	 Carbon Sh	 Lscongl
 Dolprim	 shale, grn	 shale, red	
 Lmst fw<7	 shale, gry	 Dol Lime	

ACCESSORIES

MINERAL

-  Glaucanite
-  Sandy
-  Chert White

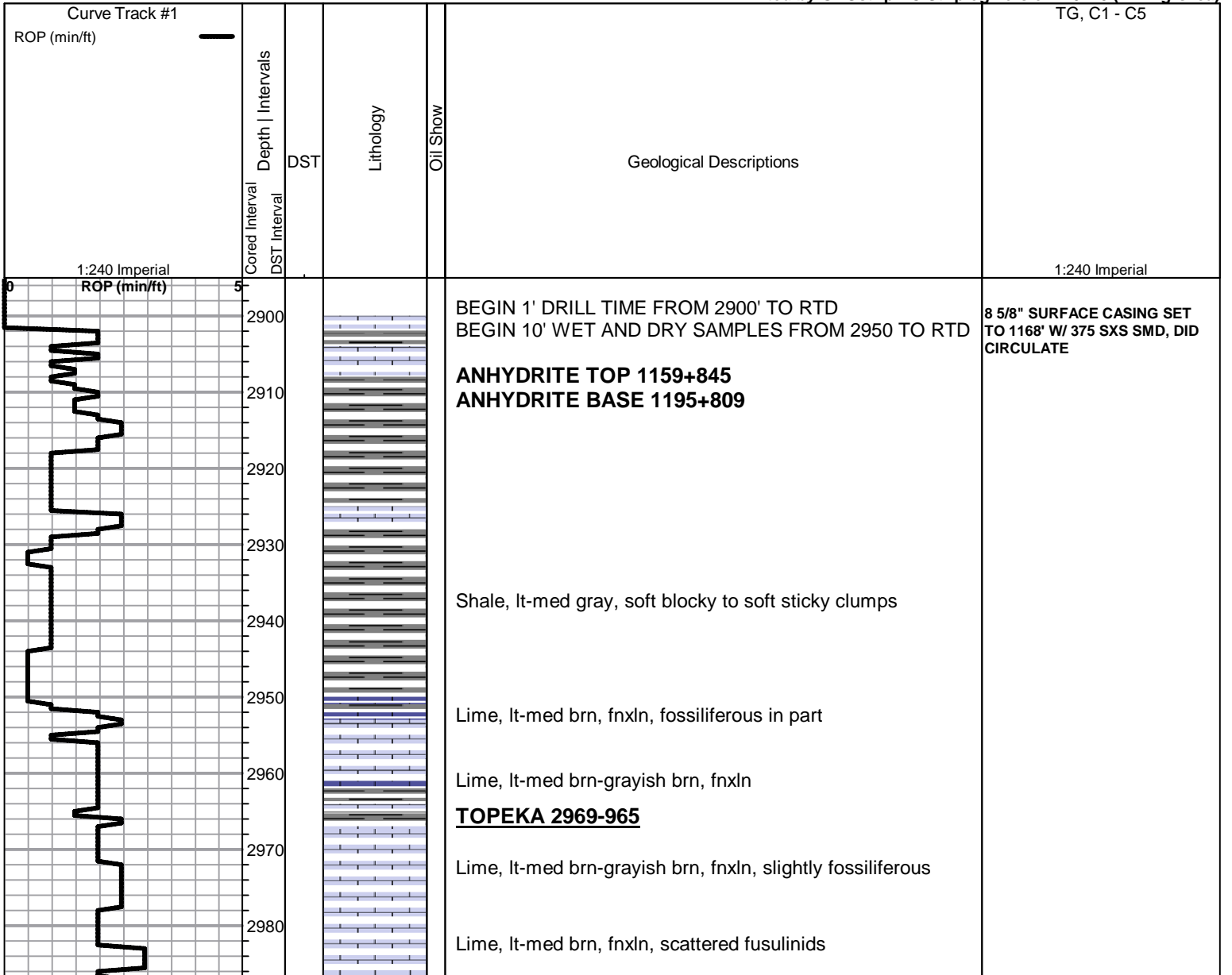
FOSSIL

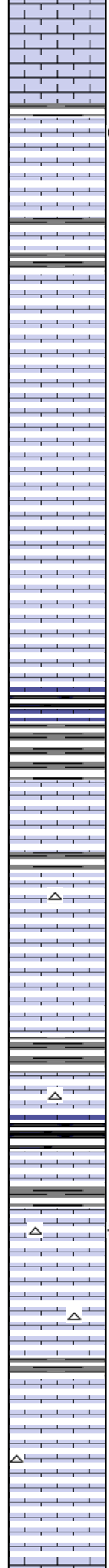
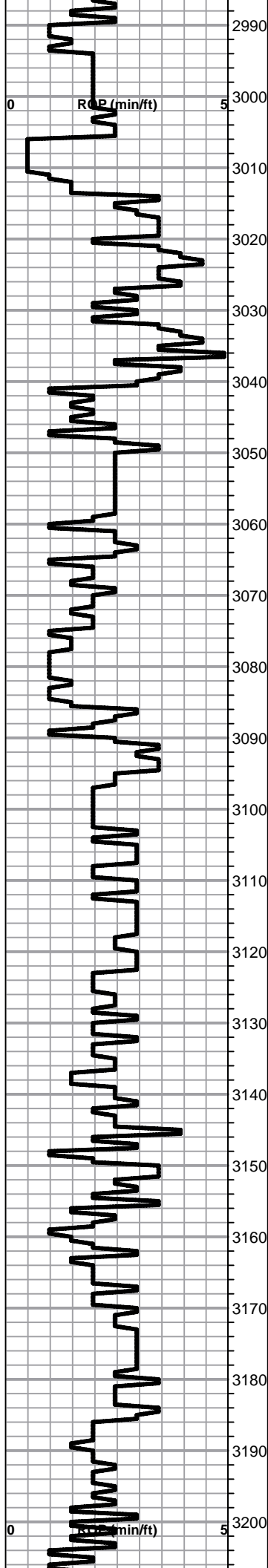
-  Fossils < 20%
-  Oolite
-  Oomoldic

OTHER SYMBOLS

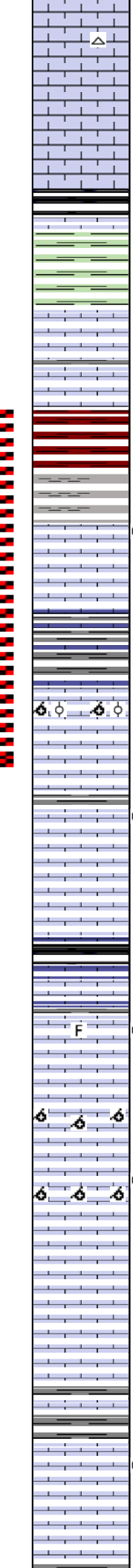
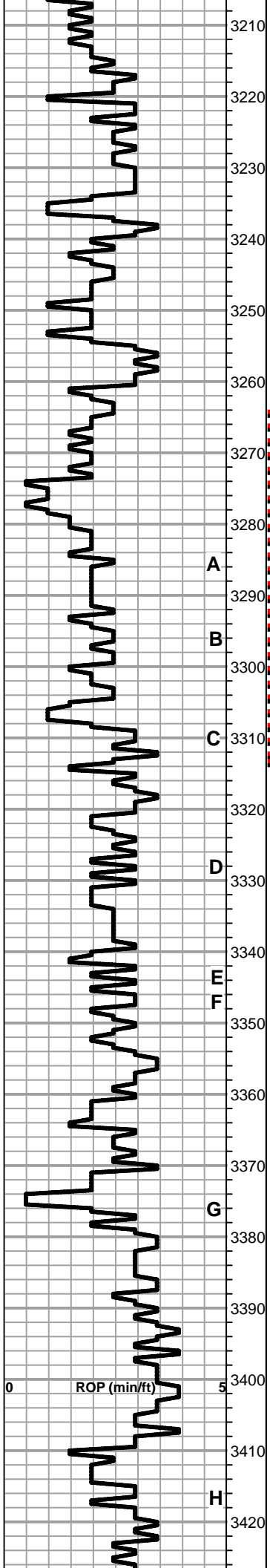
DST

-  DST Int
-  DST alt
-  Core





- Lime, lt-med brn, fnxln-granular, sticky chalk clumps in part
- Lime, lt-med brn, fnxln
- Lime, lt-med brn, micro oolmoldic, sheen with lt odor on break
- Lime, lt brn-lt grayish brn, fnxln
- Lime, lt-med brn-grayish brn, fnxln
- Lime, lt-med brn, fnxln-granular, slightly fossiliferous
- Lime, crm-lt brn, fnxln-granular, slightly fossiliferous
- Lime, lt-med brn, fnxln-granular in part, slightly fossiliferous
- Lime, lt brn, fnxln-granular, few crinoid segments
- Lime, lt-med brn, granular, slightly fossiliferous
- Lime, tan-lt brn, granular, slightly fossiliferous
Shale, black carbonaceous, fissile, blocky
- Shale, med gray, soft blocky, calcareous
- Lime, crm, fnxln, lithographic in part
- Lime, crm, fnxln
- Lime, crm-lt brn, fn-vfxln
- Lime, crm-lt brn, fnxln, slight bedded chalk, firm on crush
- Lime, lt-med brn, fnxln
- Shale, black carbonaceous, fissile, blocky
- Lime, offwhite, fnxln
- Lime, lt brn, fnxln-granular, lt chalky matrix, lt odor no source
- Lime, lt-med brn, fnxln, slight chalk in part
- Lime, lt-med brn-grayish brn, fnxln, fossiliferous chert in part
- Lime, lt brn, fnxln-granular
- Lime, lt brn, fnxln-granular, chalk matrix in part, NS
- Lime, crm-lt brn, fnxln-granular, chalk matrix in part, NS



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

Lime, crm-lt brn, fnxln-granular in part

Lime, crm-lt brn, fnxln, slightly fossiliferous

HEEBNER SHALE SPL 3233-1229

Shale, black carbonaceous, fissile, blocky
 Lime, lt-med brn, fnxln, hard on crush
 Shale, dove gray-lime green, soft mud clumps

TORONTO 3250-1246

Lime, white-crm, fnxln, lithographic, thin chalk beds, NS

Lime, white-crm, fnxln, very clean

Shale, reddish brn, soft blocky

LKC 3280-1276

Lime, crm-lt brn, soft chalky matrix, few chips w/ trace stain

Shale, dove gray, soft sticky clumps
 Lime, lt-med gray, fnxln

Lime, crm-lt brn, fnxln grading into oolmoldic lime, scattered to saturated staining, V Lt Odor, NFO

Lime, crm-lt brn, fnxln

Shale, lt gray, soft blocky w/ fossil fragments
 Lime, crm-lt brn, thin fossil beds, spotty stain in interfossiliferous voids and fossil casts, V Lt Odor, NFO

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

Shale, gray-black carbonaceous, fissile, blocky
 Lime, lt gray-lt grayish green, fnxln

Lime, crm-lt brn, fossiliferous with fine pinpt porosity, spotty staining, no odor, NFO

Lime, crm-tan, fnxln, bed chalk, barren oolmoldic in part

Lime, crm-tan, fnxln with oolmoldic in part, mostly barren with few chips with lt gassy oil on crush,

Lime, crm-tan, fn-vfxln, slightly fossiliferous, crinoids

Lime, crm-lt brn, fnxln-micro xln in part, hard on crush

Lime, crm-lt brn, fn-micro xln, slight chalk

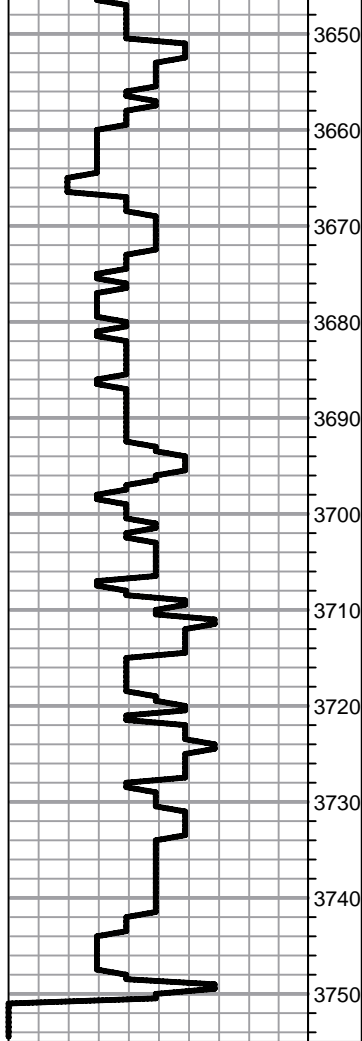
Shale, gray-black carbonaceous

Lime, crm-tan, mostly fnxln, slight chalk in part, thin fossil bed at top of bench, spotty staining, no odor, NFO

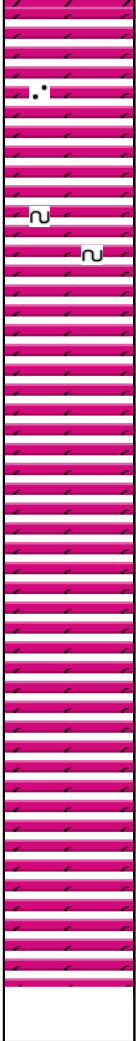
Lime, crm-tan, fnxln

DST # 1 3264' TO 3315' SEE
 HEADER FOR TEST SUMMARY

A
 B
 C
 D
 E
 F
 G
 H



3650
3660
3670
3680
3690
3700
3710
3720
3730
3740
3750



Dolomite, ivory-tan, fn-cxln, quartz grain inclusions
 Dolomite, tan, fn-cxln, sucrosic in part
 Dolomite, ivory, fn-cxln, specks of glauconite
 Dolomite, tan, fn-cxln, sucrosic
 Dolomite, ivory-tan, fn-cxln, sucrosic
 Dolomite, ivory-crm, fn-cxln
 Dolomite, crm, fn-cxln
 Dolomite, crm, fn-cxln, scattered quartz grainis
 Dolomite, tan, fn-cxln
 Dolomite, tan, mostly fnxln
 Dolomite, tan, fn-cxln
RTD 3750 LTD 3748

**SET 5 1/2" PRODUCTION
 CASING TO 3745' W/ 130 SXS
 EA2, 30 SXS RATHOLE, 15
 SXS MOUSEHOLE**

SLOPE @ 3750' 1/4 DEGREE

JOB LOG

SWIFT Services, Inc.

DATE 5-17-13 PAGE NO. 9

CUSTOMER **TDI** WELL NO. **#1** LEASE **Ronald** JOB TYPE **Deep Surface** TICKET NO. **24000**

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0500							on loc w/FE
								TD 1169 8 5/8" x 23' x 1168' x 42"
	0600							Start Csg
	0800							Break Circ
	0825	5	0			150		Start KCL Flush
		5	20/0			150		Start 100 sks SMD @ 11.8
		5	45/0			150		Start 100 sks SMD @ 12.8
		5	35/0			150		Start 100 sks SMD @ 13.5
		5	31/0			150		Start 75 sks SMD @ 14.5
	0835		21					End Cement Drop Plug
	0900	5	0			100		Start Displacement
	0905	4	25			150		Land Circ Cement
	0920		75			400/150		Land Plug Shut In
								circ 40 sks cnt to Pit
								Thank you
								Nick, David E. & Rob

