

OPERATOR

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

Contact Geologist: TOM DENNING
 Contact Phone Nbr: 785-259-3141
 Well Name: BIEKER # 2
 Location: W2 NW NE SE Sec.24-15s-19w
 Pool: INFIELD
 State: KANSAS
 API: 15-051-26315-00-00
 Field: UNNAMED
 Country: USA



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

Scale 1:240 Imperial

Well Name: BIEKER # 2
 Surface Location: W2 NW NE SE Sec.24-15s-19w
 Bottom Location:
 API: 15-051-26315-00-00
 License Number: 4787
 Spud Date: 7/11/2012
 Region: ELLIS COUNTY
 Drilling Completed: 7/17/2012
 Surface Coordinates: 2310' FSL & 1265' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 1979.00ft
 K.B. Elevation: 1989.00ft
 Logged Interval: 2600.00ft
 Total Depth: 3750.00ft
 Formation: LANSING-KANSAS
 Drilling Fluid Type: GEL/CHEMICAL
 Time: 1:00 PM
 Time: 8:18 AM
 To: 3750.00ft

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude:
 N/S Co-ord: 2310' FSL
 E/W Co-ord: 1265' FEL
 Latitude:

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 #: 1
 Rig Type: MUD ROTARY
 Spud Date: 7/11/2012
 TD Date: 7/17/2012
 Rig Release: 7/18/2012
 Time: 1:00 PM
 Time: 8:18 AM
 Time: 10:00 PM

ELEVATIONS

K.B. Elevation: 1989.00ft
 K.B. to Ground: 10.00ft
 Ground Elevation: 1979.00ft

NOTES

RECOMMENDATION TO RUN PRODUCTION CASING BASED ON FAVORABLE STRUCTURE AND SIMILIARITY OF DEVELOPMENT TO BIEKER #1.

FORMATION TOPS AND DAILY PROGRESS SUMMARY

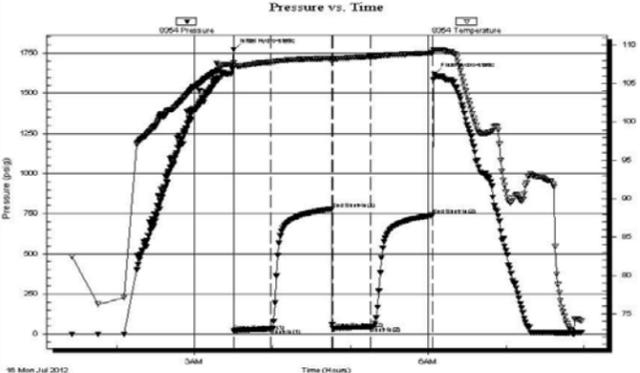
BIEKER # 2

2310' FSL & 1265' FEL, SE/4
 Sec.24-15s-19w
 1979' GL 1989' KB

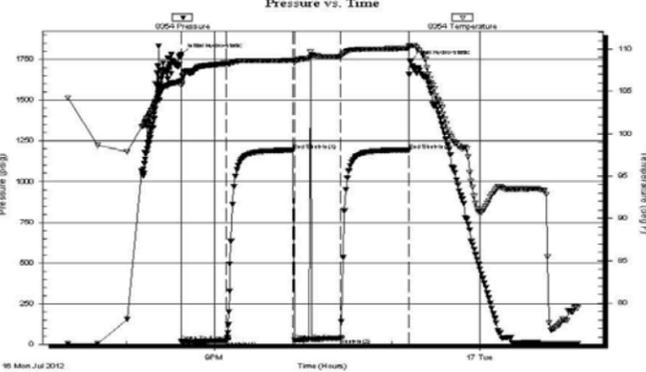
<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1163+ 826	1163+ 826
B-Anhydrite	1199+ 790	1198+ 791
Topeka	2952- 963	2948- 959
Heebner Shale	3236-1247	3230-1241
Toronto	3257-1268	3252-1263
LKC	3280-1291	3276-1287
BKC	3525-1536	3520-1531
CONGLOMERATE SAND		3586-1597
Arbuckle	3601-1612	3602-1613
RTD	3750-1761	
LTD		3748-1759

- 7-11-12 RU, Spud 6-26-12 580', drilling
- 7-12-12 1174', set surface casing to 1173 w/350 sxs. SMD, Slope survey 1 degree, WOC 12 hrs. Plug down 3:15PM, Swift Cementing Ticket # 71809
- 7-13-12 1330', drilling
- 7-14-12 2428', drilling
- 7-15-12 3183', drilling,
- 7-16-12 3475', drilling, DST # 1, DST # 2
- 7-17-12 3695', drilling, RTD, Logs, DST # 3 – misrun, run production casing
- 7-18-12 3750' finish cementing production casing, RD

DST # 1 SUMMARY

 TRILOBITE TESTING, INC.		DRILL STEM TEST REPORT			
TDI, Inc. 1310 Bison Rd. Hays, KS 67601 ATTN: Herb Dienes		24/15S/19W-Ellis Bieker #2 Job Ticket: 47966 DST#: 1 Test Start: 2012.07.16 @ 01:15:30			
GENERAL INFORMATION:					
Formation: LKC "H,I,&J"		Test Type: Conventional Bottom Hole (Initial)			
Deviated: No Whipstock: ft (KB)		Tester: Dustin Rash			
Time Tool Opened: 03:30:30		Unit No: 38			
Time Test Ended: 07:58:00		Reference Elevations: 1989.00 ft (KB)			
Interval: 3386.00 ft (KB) To 3475.00 ft (KB) (TVD)		1980.00 ft (CF)			
Total Depth: 3475.00 ft (KB) (TVD)		KB to GR/CF: 9.00 ft			
Hole Diameter: 7.88 inches		Hole Condition: Poor			
Serial #: 8354 Inside					
Press@RunDepth: 45.50 psig @ 3457.00 ft (KB)		Capacity: 8000.00 psig			
Start Date: 2012.07.16		End Date: 2012.07.16			
Start Time: 01:25:30		End Time: 07:58:00			
		Last Calib.: 2012.07.16			
		Time On Btm: 2012.07.16 @ 03:30:00			
		Time Off Btm: 2012.07.16 @ 06:05:00			
TEST COMMENT: IF-Very weak building blow . Built to 1&1/2 inches. ISI-No Return. FF-Very weak surface blow . Built to 1/4 inch. FSI-No Return.					
		PRESSURE SUMMARY			
		Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
		0	1774.38	107.69	Initial Hydro-static
		1	20.71	107.33	Open To Flow (1)
		29	32.49	107.80	Shut-In(1)
		76	778.85	108.30	End Shut-In(1)
		77	35.45	108.19	Open To Flow (2)
		106	45.50	108.52	Shut-In(2)
		154	741.83	109.01	End Shut-In(2)
		155	1619.68	109.39	Final Hydro-static
Recovery		Gas Rates			
Length (ft)	Description	Volume (bbl)	Choke (inches)	Pressure (psig)	Gas Rate (Mcft/d)
50.00	100%Mud	0.70			

DST # 2 SUMMARY

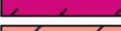
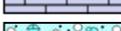
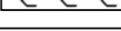
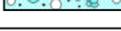
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	TDI, Inc. 1310 Bison Rd. Hays, KS 67601 ATTN: Herb Dienes	24/15S/19W-Ellis Bieker #2 Job Ticket: 47967 DST#: 2 Test Start: 2012.07.16 @ 19:10:30																																					
GENERAL INFORMATION:																																							
Formation: Cong. Sand Deviated: No Whipstock: ft (KB) Time Tool Opened: 20:37:30 Time Test Ended: 01:06:00		Test Type: Conventional Bottom Hole (Initial) Tester: Dustin Rash Unit No: 38																																					
Interval: 3575.00 ft (KB) To 3592.00 ft (KB) (TVD) Total Depth: 3592.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair		Reference Elevations: 1989.00 ft (KB) 1980.00 ft (CF) KB to GR/CF: 9.00 ft																																					
Serial #: 8354 Inside Press@RunDepth: 36.80 psig @ 3577.00 ft (KB) Capacity: 8000.00 psig Start Date: 2012.07.16 End Date: 2012.07.17 Last Calib.: 2012.07.17 Start Time: 19:20:30 End Time: 01:06:00 Time On Btm: 2012.07.16 @ 20:37:20 Time Off Btm: 2012.07.16 @ 23:12:30																																							
TEST COMMENT: IF-Very weak building blow . Built to 2 inches. ISI-No Return. FF-No Blow . Flushed tool. Very weak building blow . Built to 1 inches. FSI-No Return.																																							
Pressure vs. Time 		PRESSURE SUMMARY																																					
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Trilobite Testing, Inc

Ref. No: 47967

Printed: 2012.07.17 @ 04:15:17

ROCK TYPES

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

ACCESSORIES

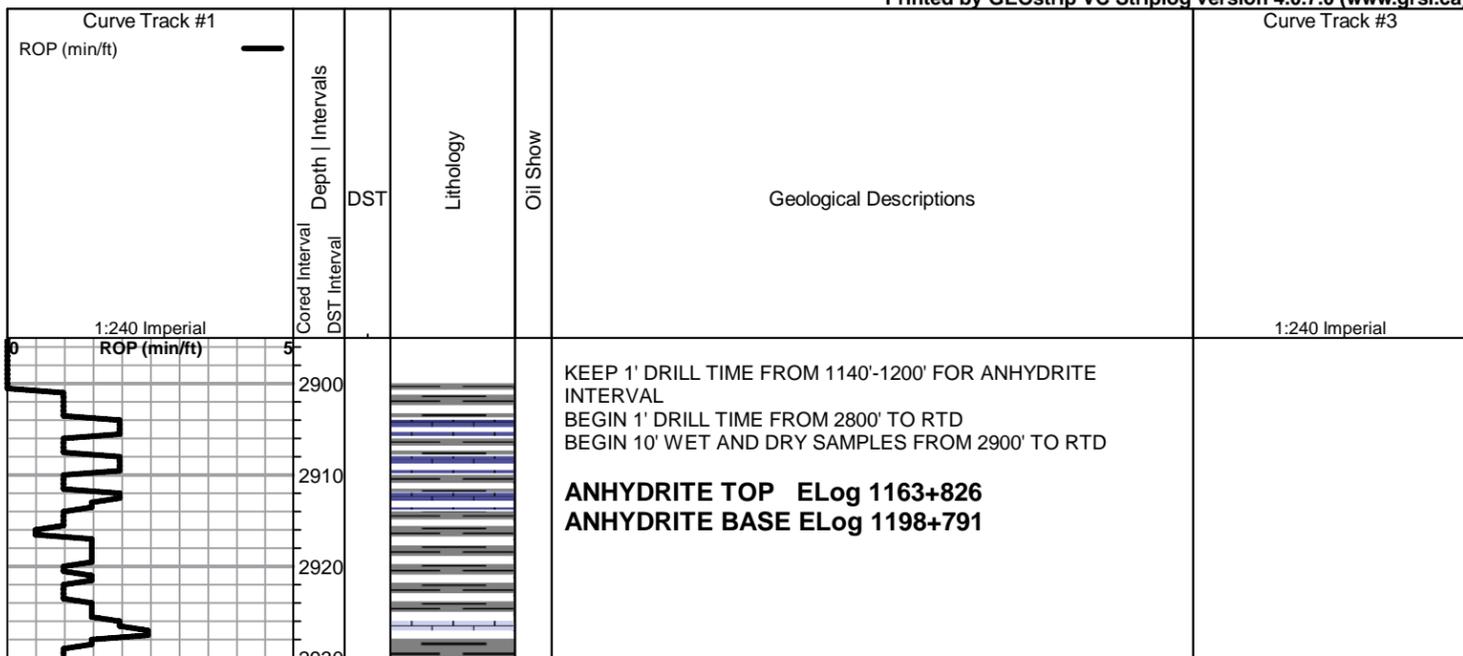
MINERAL Z Nodules P Pyrite * Sandy Varicolored chert Δ Chert White	FOSSIL ◊ Oolite ⚙ Oomoldic
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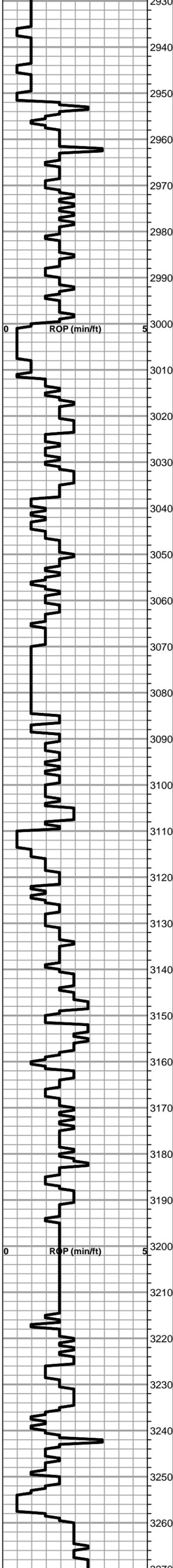
OTHER SYMBOLS

DST

 DST Int
 DST alt

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





Shale, lt-med gray, soft blocky

TOPEKA SPL 2952-963 ELog 2948-959

Lime, lt-dark brn, fnxn, fossiliferous

Lime, lt brn-gray, fnxn with gray mottling, slightly chalky in part

Lime, crm-lt brn, fnxn

Lime, lt-med brn, fnxn-granular in part, slightly fossiliferous

Lime, lt-med brn-grayish brn, fnxn, fusulinids

Lime, crm, med to cxln granular, mostly barren with 1 piece with light staining, no odor, NFO

Lime, lt brn, fnxn-granular, slightly fossiliferous

Lime, lt-dark brn-gray, fnxn

Lime, lt brn-lt gray, fnxn to granular, slightly fossiliferous

Lime, lt brn-lt grayish brn, fnxn-granular in part

Lime, lt brn-lt grayish brn, fnxn, slightly fossiliferous, fusulinids

Lime, lt-med brn-lt grayish brn, fnxn-granular, slightly fossiliferous

Lime, lt-med brn, granular, slightly fossiliferous

Lime, lt-med brn fnxn-granular, slightly fossiliferous

Shale, gray to black carbonaceous

Lime, crm-lt brn, fnxn

Lime, crm-lt brn, fn-vfxn, bedded chalk in part, brittle on break

Lime, lt brn, fnxn

Lime, lt brn, fnxn

Lime, crm-lt brn-lt gray, fnxn

Shale, black carbonaceous

Lime, lt-med brn-lt gray, fnxn

Lime, crm-lt brn, fnxn, slightly chalky

Lime, crm-lt brn, fnxn, slightly chalky

Lime, lt-med brn, fnxn

Lime, lt-med brn, fnxn-granular in part

Lime, lt-med brn, fnxn, slightly fossiliferous

Lime, crm-lt brn, fnxn, slightly fossiliferous

Lime, lt-med brn, fnxn-granular in part, slightly fossiliferous

Lime, lt-med brn, fnxn

HEEBNER SHALE SPL 3236-1247 ELog 3230-1241

Shale, black carbonaceous

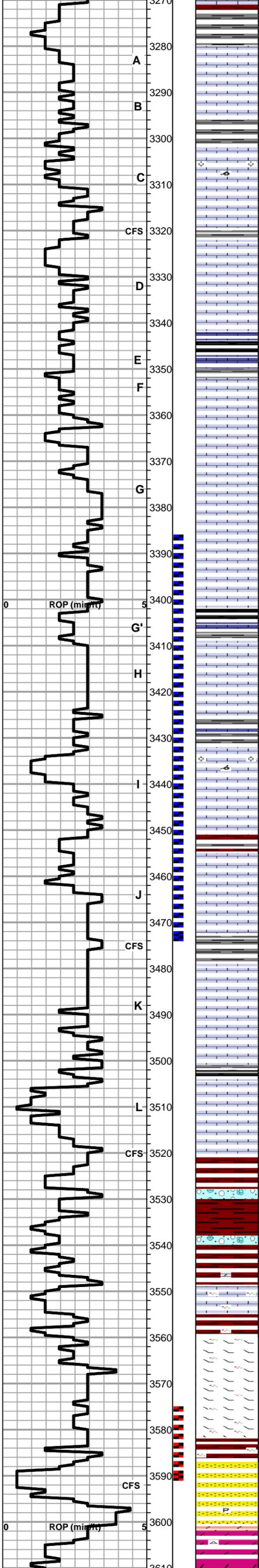
Lime, med-dark brn fn-vfxn

Shale, lime green to dove gray, forming soft mud balls

TORONTO SPL 3257-1268 ELog 3252-1263

Lime, fnxn-granular, lot bedded chalk, NS, No odor, NFO

Lime, crm, fn-vfxn, bedded chalk in part, NS



LKC SPL 3280-1291 ELog 3276-1287

Lime, lt-med brn, fnxn

Lime, lt-dark brn, fnxn-granular, slight chalkiness

Lime, crm-lt brn,fnxn, few pieces oolitic/oolmoldic with scattered to saturated stain, light odor, NFO noted

Lime, lt brn, fnxn with bedded chalk

Lime, crm-tan-gray, fnxn, chaky white wash, few pieces with cxln lime with trace of staining

Lime, crm-tan, fnxn, chalk

Lime, gray, fnxn

Shale, gray-black carbonaceous
Lime, lt gray, fnxn with microfossils

Lime, crm-tan, mostly fnxn with few chips of oolitic-fossil fragment mix, trace oil stain, interoolitic porosity

Lime, crm-tan, fnxn-granular with chalk, 2 pieces with spotty stain, no odor, NFO

Lime, crm-tan,fnxn-cryptoxln in part.

Lime, crm-tan, fnxn, brittle on break, chalk in part

Lime, crm-tan, fnxn with chalk in part

Lime, crm-tyan fnxn grading into med brn, fnxn lime

Lime, crm-tan, mostly fnxn with lt scattered to saturated stain, no detectable odor, NFO. Fine interxln porosity, no vugs noted.

Lime, crm-tan, fnxn

Lime, crm-tan, fnxn, with few pieces with trace staining, very lite odor, NFO

Lime, crm-tan, fnxn

Lime, crm-tan, fnxn, scattered fine intercrystalline porosity, trace of staining, no odor, NFO

Lime, crm, fnxn with bedded chalk

Lime, crm-tan, fnxn, chalk in part, no odor, no staining, NFO

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

Shale, dove gray, soft

Lime, crm, fnxn, chalky, NS

BKC SPL 3525-1536 ELog 3520-1531

Shale, red wash with clastic lime mix in part

Shale, red wash, clastic lime mix in aprt

Lime, crm, fnxn, cherty

Lime, dolomitic, crm-lt brn, fnxn, hard, orange chert fragments

Lime, dolomitic, crm, fnxn, hard, cherty

Lime, dolomitic, fnxn, cherty, vari colored with red shale in part

CONGLOMERATE SAND ELog 3586-1597

Sandstone, qtz,poorly sorted, angular, polished surfaces, lt odor with SFO on break, scattered to saturated staining. Top and bottom cemented and fused, spotty effervescense, very little dolomite in mix

ARBUCKLE SPL 3601-1612 ELog 3602-1613

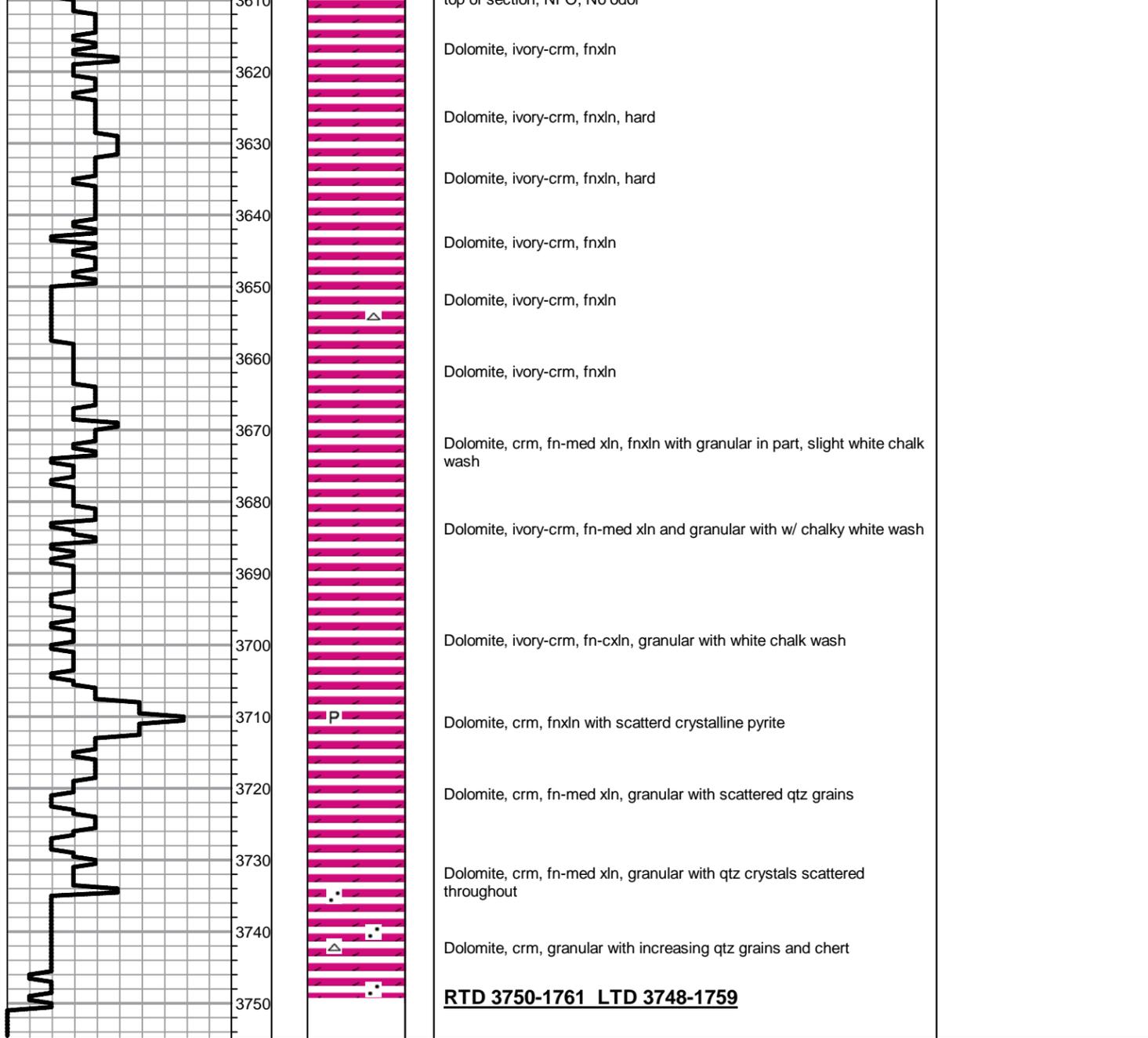
Dolomite, lt brn, fnxn with fine specks of gilsonite scattered throughout top of section, NFO, No odor

DST # 3 3284'-3310'
STRADDLE TEST OF "C"
ZONE. PACKER
FAILURE. ATTEMPTED
TO RESET 3 TIMES W/O
SUCCESS

Problems with clock for 10'

DST #1 3386'-3475'
SEE HEADER FOR TEST
SUMMARY

DST # 2 3575'-3592'
SEE HEADER FOR TEST
SUMMARY



JOB LOG

SWIFT Services, Inc.

DATE 07-12-12 PAGE NO. 7

CUSTOMER TDI WELL NO. 2 LEASE BENTON JOB TYPE DEEP SURFACE TICKET NO. 21809

CHART NO.	TIME	RATE (BPM)	VOLUME (BBU) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0900							ON LOCATION
								CMT: 375 SB 5WD 1/4" FLO.
								1 1/4 RD 1174, SET PIPE 1173, Baffle Rate 1161
								8 5/8 23" CMT 1, 3, 12
	1215							START C&I FE
	1415							BREAK C&I
	1440	5.5	10				300	SODIUM MUD PUSH
		5.5	10				300	10 BBS ALL FURSI
		6.0	0				300	100 SB @ 11.4"/sm
		6.0	52				300	100 SB @ 12.5"/sm
		6.0	90				300	100 SB @ 13.0"/sm
		6.0	124				300	75 SB @ 14.5"/sm
	1510	5.5	144				300	END
								RELEASE PLUG
	1512	5.5	0				300	START DSP
		5.5	54				500	CIRC GOOD CMT TO PIT!!
								75 SB TO PIT!
	1525	5.5	74.2				700	LAND PLUG
	1530							CLOSE IR.
								JOB COMPLETE
								THANK YOU!
								DAVE JOSH TJ FLINT

