

OPERATOR

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

Contact Geologist: TOM DENNING
 Contact Phone Nbr: 785-259-3141
 Well Name: MOORE POND # 1
 Location: NW SE NW SW Sec. 8-15s-19w
 Pool: WILDCAT
 State: KANSAS

API: 15-051-26,387-00-00
 Field: UNNAMED
 Country: USA



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

Scale 1:240 Imperial

Well Name: MOORE POND # 1
 Surface Location: NW SE NW SW Sec. 8-15s-19w
 Bottom Location:
 API: 15-051-26,387-00-00
 License Number: 4787
 Spud Date: 9/26/2012 Time: 6:00 PM
 Region: ELLIS COUNTY
 Drilling Completed: 10/3/2012 Time: 5:48 AM
 Surface Coordinates: 1660' FSL & 980' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 1991.00ft
 K.B. Elevation: 2001.00ft
 Logged Interval: 2400.00ft To: 3700.00ft
 Total Depth: 3700.00ft
 Formation: LANSING-KANSAS CITY
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: Latitude:
 N/S Co-ord: 1660' FSL
 E/W Co-ord: 980' FWL

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

Rig Type: MUD ROTARY
Spud Date: 9/26/2012
TD Date: 10/3/2012
Rig Release: 10/4/2012

Time: 6:00 PM
Time: 5:48 AM
Time: 3:00 AM

ELEVATIONS

K.B. Elevation: 2001.00ft
K.B. to Ground: 10.00ft

Ground Elevation: 1991.00ft

NOTES

DECISION TO RUN PRODUCTION CASING BASED ON FAVORABLE STRUCTURE AND LOG ANALYSIS OF PROSPECTIVE ZONES OF PRODUCTIVE POTENTIAL.

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

DRILL STEM TESTING-TRILOBITE TESTING INC. 1 TEST

FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY ACTIVITY

MOORE POND # 1
1660' FSL & 980' FWL, SW/4
Sec. 8-15s-19w
1991' GL 2001' KB

<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1236+765	NOT CALLED
B-Anhydrite	1276+ 725	1280+ 721
Topeka	2978- 977	2974- 973
Heebner Shale	3252-1251	3250-1249
Toronto	3271-1270	3271-1270
LKC	3296-1295	3295-1294
BKC	3540-1539	3548-1547
Conglomerate Sand	3615-1614	3614-1613
Arbuckle	3640-1639	3636-1635
Reagan Sand	NOT CALLED	NOT CALLED
RTD	3700-1699	
LTD		3700-1699


SUMMARY OF DAILY ACTIVITY

9-26-12 RU, Spud, 6:00 PM

9-27-12 369', stop to cement culvert to seal off surface sand, WOC

- 9-28-12 1254', run 8 5/8" surface casing to 1254' w/ 375 sxs SMD, plug down 3:00 PM, WOC 12 hours
- 9-29-12 1395', drilling
- 9-30-12 2425', drilling, displace 2804'-2825'
- 10-01-12 3123', drilling, short trip, DST # 1 3280'-3350' A-D
- 10-02-12 3350', drilling
- 10-03-12 3700', RTD, short trip, logs, lay down drill pipe and run casing
- 10-04-12 3700' finish running casing and cement bottom stage, plug down 3:00AM

DST # 1 TEST SUMMARY

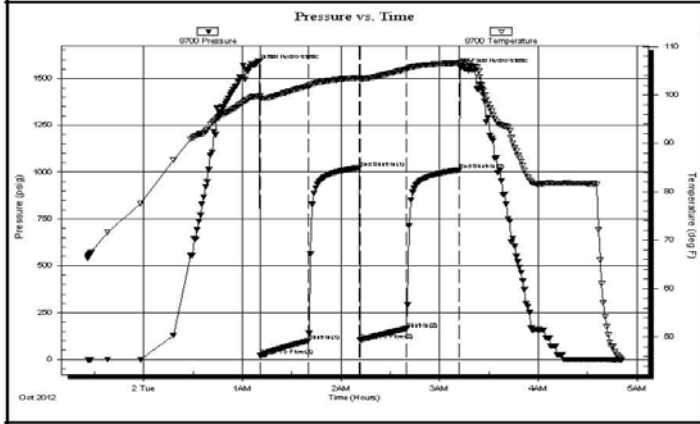
	DRILL STEM TEST REPORT		
	TDI Inc 1310 Bison Rd Hays Ks 67601-9696 ATTN: Tom Denning	8-15s-19w Ellis Moore Pond #1 Job Ticket: 48691 DST#: 1 Test Start: 2012.10.01 @ 23:26:04	

GENERAL INFORMATION:

Formation: LKC B-D	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock ft (KB)	Tester: Ray Schwager
Time Tool Opened: 01:10:59	Unit No: 42
Time Test Ended: 04:51:00	Reference Elevations: 2001.00 ft (KB)
Interval: 3280.00 ft (KB) To 3350.00 ft (KB) (TVD)	1993.00 ft (CF)
Total Depth: 3350.00 ft (KB) (TVD)	KB to GR/CF: 8.00 ft
Hole Diameter: 7.85 inches	Hole Condition: Fair

Serial #: 8700	Outside	Capacity: 8000.00 psig
Press@RunDepth: 163.99 psig @ 3284.00 ft (KB)		Last Calib.: 2012.10.02
Start Date: 2012.10.01	End Date: 2012.10.02	Time On Btm: 2012.10.02 @ 01:07:29
Start Time: 23:26:04	End Time: 04:50:58	Time Off Btm: 2012.10.02 @ 03:15:29

TEST COMMENT: 30-IFP-w k to strg in 12min
 30-ISIP-no bl
 30-FFP-w k to strg in 27min
 30-FSP-no bl



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1567.85	99.62	Initial Hydro-static
4	19.34	99.21	Open To Flow (1)
33	98.98	101.90	Shut-In(1)
64	1023.37	103.52	End Shut-In(1)
64	101.96	103.24	Open To Flow (2)
92	163.99	105.32	Shut-In(2)
124	1010.21	106.57	End Shut-In(2)
128	1546.96	107.09	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
120.00	O&G:CVW5%G5%O35%W55%M	1.68
60.00	MVW/show of oil	0.84

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

120.00	Water	1.68

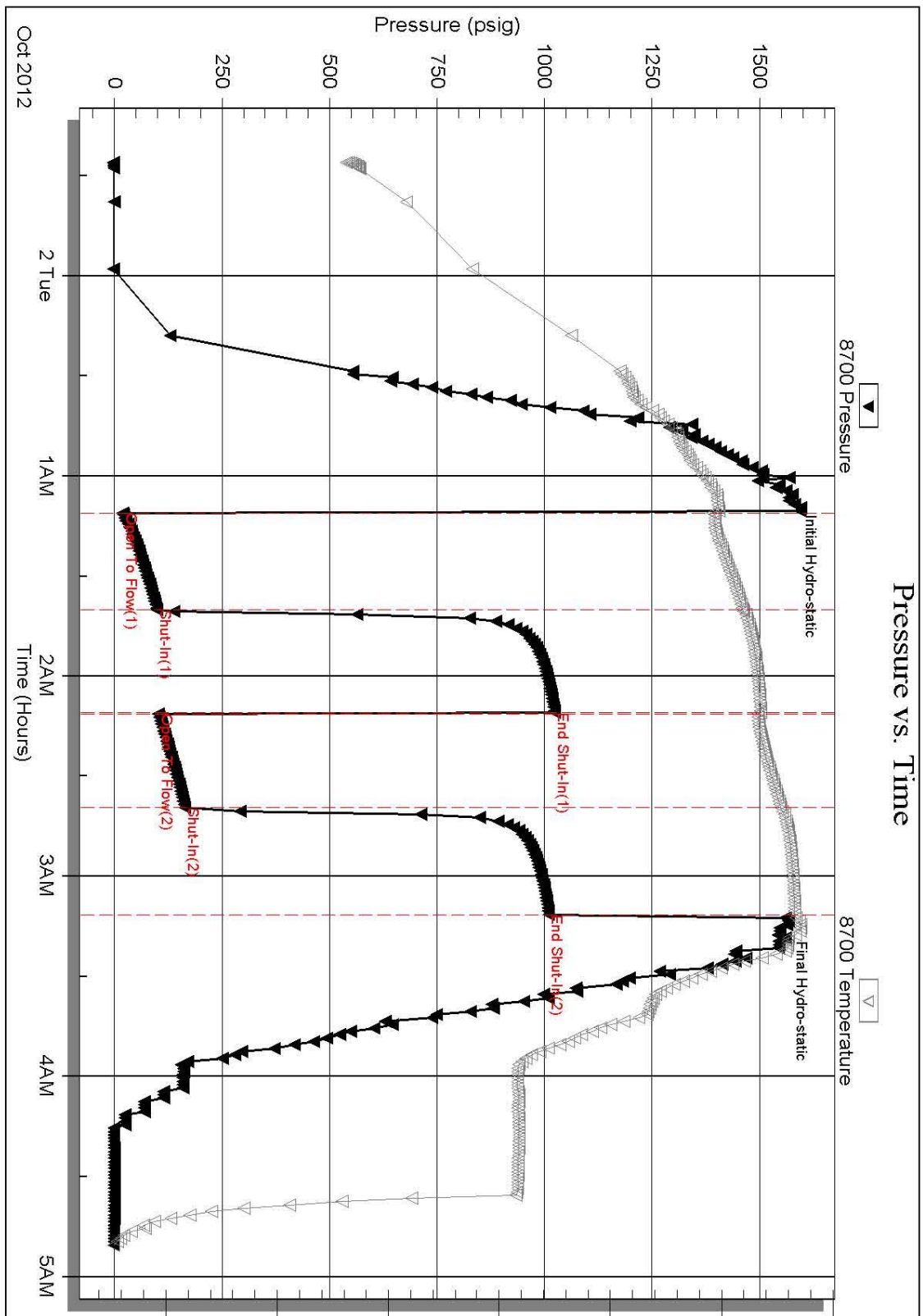
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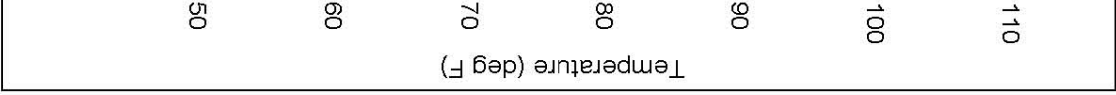
Serial #: 8700

Outside TDI Inc

Moore Pond #1

DST Test Number: 1





ROCK TYPES

Clystgy	Dolprim	shale, grn	shale, red	Lscongl
Congl	Lmst fw<7	shale, gry	Ss	CglSandy
Chtcongl	Lmst fw>7	Carbon Sh	Dol Lime	

ACCESSORIES

MINERAL

- ▲ Chert, dark
- ≡ Nodules
- P Pyrite
- Sandy
- Varicolored chert

FOSSIL

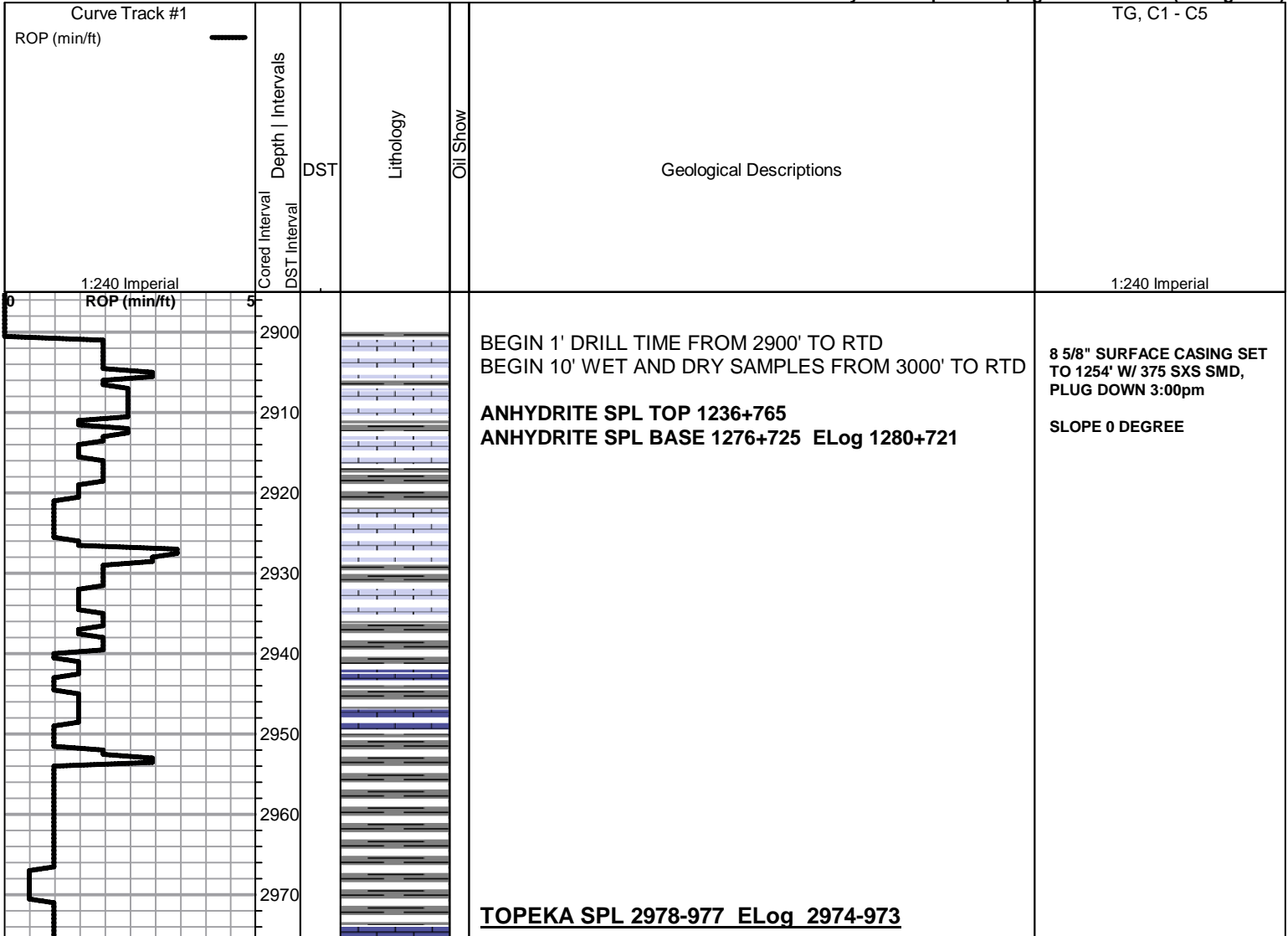
- Oolite
- ⊕ Oomoldic

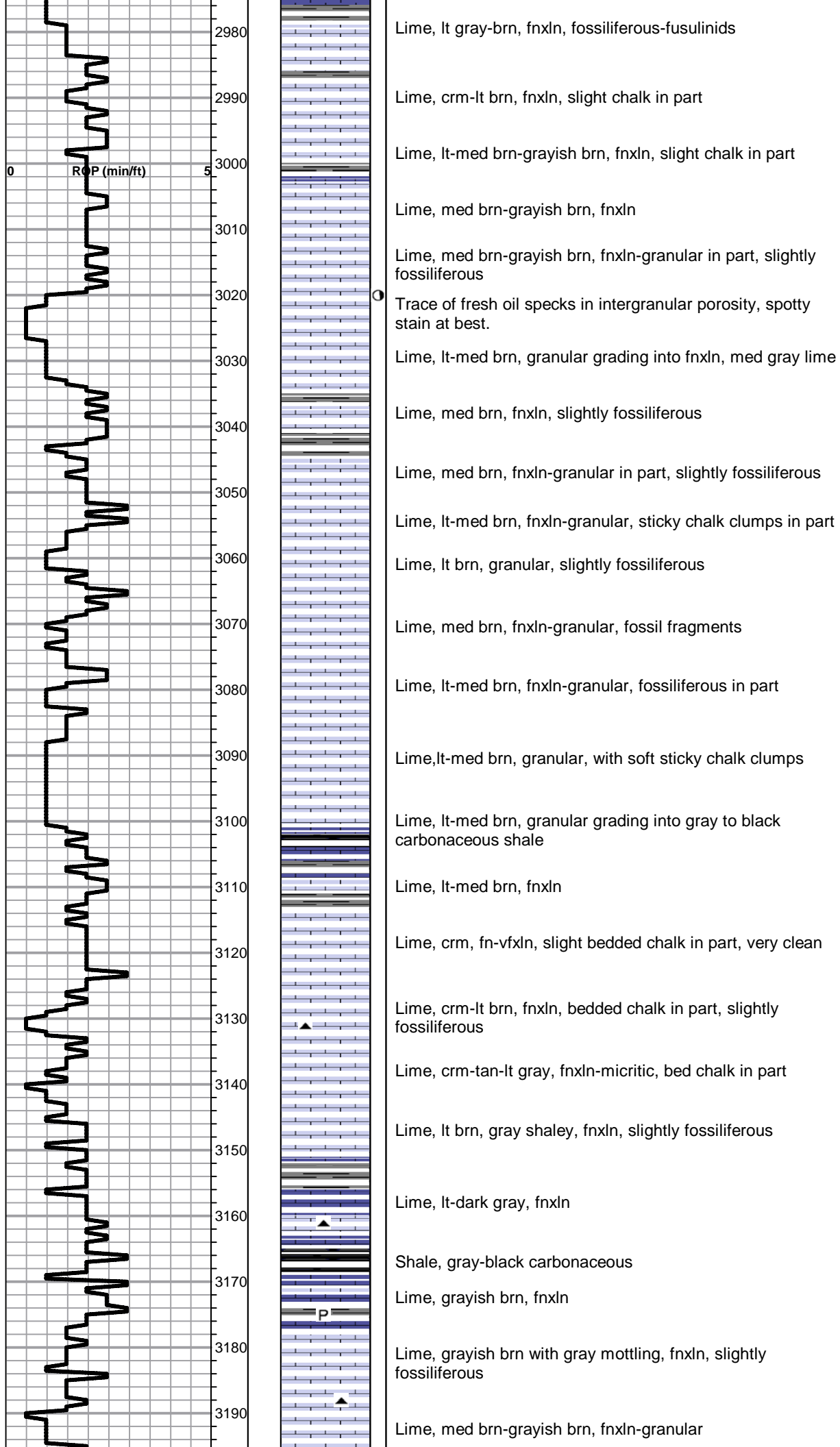
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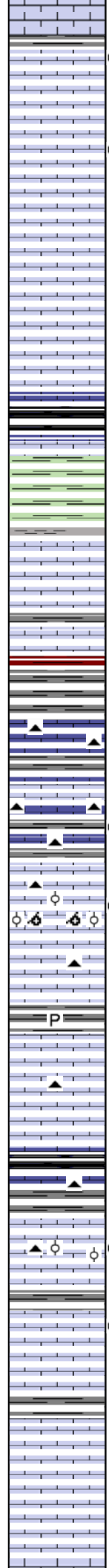
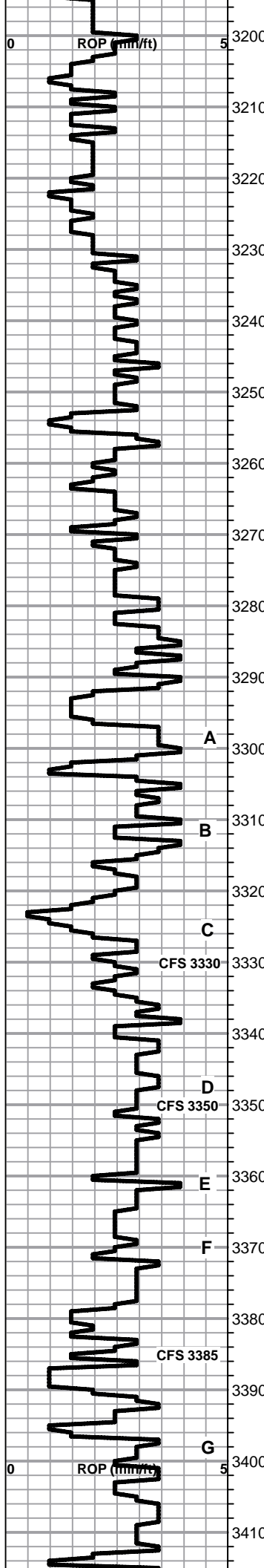
DST

- DST Int
- DST alt
- Core

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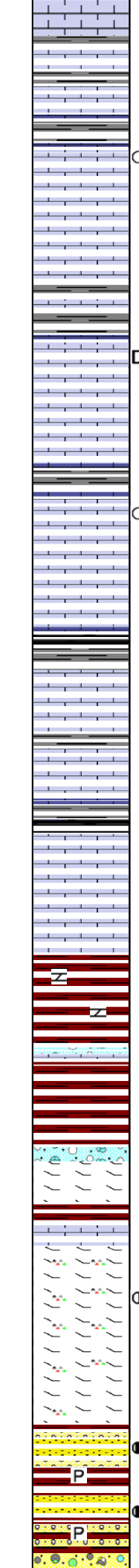
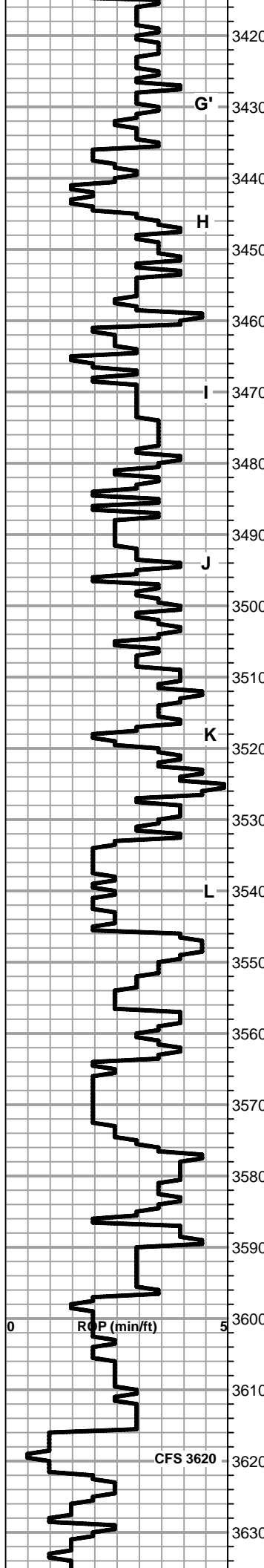




Lime, lt brn-lt grayish brn, fnxln-granular in part, scattered lt staining in part, very lite odor
 Lime, crm, fnxln, bedded chalk in part
 Lime, tan, lt brnish gray, fnxln, few chips with trace oil, very lt odor, scattered lite staining
 Lime, lt-med brn, fnxln, slight bed chalk in part
 Lime, lt brn, fnxln, bed chalk in part
 Lime, lt brn-lt gray, fnxln
HEEBNER SHALE SPL 3252-1251 ELog 3250-1249
 Shale, black carbonaceous, fissile, blocky
 Lime lt brn, fn-vfxln
 Shale, lime green, soft forming soft mud
TORONTO SPL 3271-1270 ELog 3271-1270
 Lime, wht-crm, fn-vfxln, bed chalk, NS
 Lime, crm, cryptoxln grading into trashy reworked transition zone with red shale grading into gray, soft shale
LKC SPL 3296-1295 ELog 3295-1294
 Lime, lt brn-lt gray, fnxln
 Shale, lt gray, soft
 Lime, lt gray-lt green, vfxln, micro fossils, very light odor with show of lt, gassy oil in pinpoint porosity, poorly developed
 Lime, tan-lt brn, fnlxn grading to oolitic-oolmoldic with fossil fragments, scattered to saturated staining, NFO, lt odor.
 Lime, crm-tan, fnxln, chalk in part
 Lime, crm-tan-lt brn, fnxln, slightly fossilifeorus
 Lime, tan-lt brn, fnxln, slight chalk in part
 Lime, tan-lt gray, fnxln, slight bed chalk in part
 Shale, gray-black carbonaceous, fissile, blocky
 Lime, lt gray, fnxln
 Lime, crm-tan, fnxln, bed chalk, few pieces of oolitic-fossil fragment mix with scattered stain, VLT Odor, NFO
 Lime, crm-tan, fnxln, bed chalk, cemented oolitic in part, NS
 Lime, crm-tan, fnxln w oolitic in part, scattered stain, NFO, No Odor
 Lime, crm, fnxln-granular, bed chalk, NS
 Lime, white-crm, fnxln, bedded chalk
 Lime, crm-tan, fn-vfxln, slight bed chalk
 Lime, crm-tan-lt gray, fn-vfxln, slight bed chalk

DST # 1 3280' TO 3350' SEE HEADER FOR TEST SUMMARY

Slope 1/8 degree



Lime, crm-tan-lt gray, fn-vfxln grading into gray shale forming soft mud clumps

Lime, tan-lt gray, fnxln, with gray calcareous shale in part

○ Lime, tan-lt gray, fnxln, chalky white wash, few globules of free oil floating in tray, source rock ?, No Odor, No stain

H Lime, crm, fn-vfxln, bedded chalk

Shale, med gray, soft, blocky

D Lime, crm, fn-vfxln, bed chalk, NS

I Lime, crm, fnxln, bed chalk, few pieces with gilsonite, NFO

Lime, lt brn, fn-vfxln
Shale, lt gray, tan, soft forming soft mud clusters and mud

○ Lime, crm, mostly fnxln, scattered staining on surfaces, NFO, No Odor

J Lime, crm-lt brn, fn-vfxln, bed chalk

Shale, gray, lt green, forming soft mud clumps and mud

K Lime, lt brn-lt grayish brn, vfxln, bed chalk

Lime, lt brn, vfxln, bed chalk

L Lime, lt brn, fn-vfxln, hard, bed chalk

Lime, lt brn-grayish brn, fnxln

BKC SPL 3540-1539 ELog 3548-1547

Z Shale, reddish brn, maroon, few chert nodules in part

Lime, lt brn-grayish brn, fnxln, some reworked lime mix

Shale, reddish brn

Lime, reworked top grading into tan-lt brn fnxln

Lime, crm-tan, fnxln with increasing chert content.

● Lime, crm-med brn, dolomitic, fnxln to med crystalline with show of heavy oil in intercrystalline porosity, very light odor

Lime, crm, dolomitic, fnxln becoming less cherty

● Sandstone, poor-fair sorting, white clay cement with scattered shows of FO on break, very lt odor, scattered to saturated staining

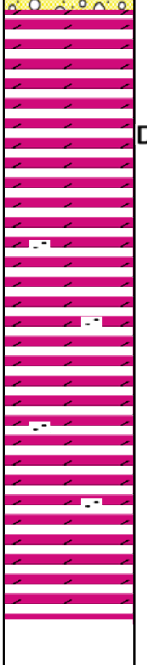
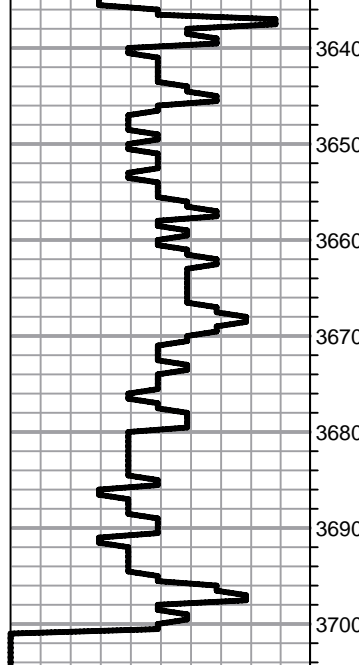
P

● Sandstone, coarser grain, better sorted but thin zone, show free oil on break with scattered to saturated staining

P

ARBUCKLE SPL 3640 1620 ELog 3626 1625

ARBUCKLE SPL 3640-1639 ELog 3636-1633



Dolomite, ivory, fnxln, NS

Dolomite, ivory, fnxln-granular, NS

Dolomite, ivory-crm, fnxln-granular, scattered gilsonite deposits in part, NFO, No Odor

Dolomite, ivory-crm, fnxln with increasing quartz grain inclusions

Dolomite, ivory-crm, fnxln with clusters of hard, fused, rosy tinted sandstone

Dolomite, ivory-crm, fnxln-granular, with mix of well sorted sandstone with rosy tint

Dolomite, ivory-crm, fnxln-granular, scattered glauconitic specks, sandy.

Dolomite, ivory-crm, fnxln, sandy

SET 5 1/2" CASING TO 3697'
W/ 150 SXS EA2 PLUG DOWN
3:00 AM 10-04-12

Slope 1 degree

JOB LOG

SWIFT Services, Inc.

DATE 9-28-12 PAGE NO. 1

CUSTOMER TDI WELL NO. #1 LEASE Moore Pond JOB TYPE Cement Surface TICKET NO. 22837

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		TD 1254	DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING		
	0900						237A 8 5/8		On loc - float Equip (Rig Start Trip) Start 23#/ft 8 5/8" casing to 1252' Baffle @ 1270' ± Cent 1-3-15
	12:30								Fin run casing Rig out casing - chain down Fin cir 30 min
		5	12				200		Pump 500 gal Newflash
		5	20				200		Pump 200 BBL KCL Flush
		5	47				300		Start 100 SKS SWD @ 11.7 #
		5	36				200		Start 100 SKS SWD @ 12.7 #
		5	31				300		Start 100 SKS SWD @ 13.5 #
		4	20				300		Start 75 SKS SWD @ 14.5 #
							1000		Fin cent
		5							Release Plug
		5 1/2					200 400 350 600		Start Disp 1
	1500								Plug Down - close in @ Head Release AT & Washup Rackup
									<p>Account: Dan, Brian & Jim</p> <p>(100 SKS SWD @ 11.2 #/gal circulated to Pit)</p> <p>RJ</p>

JOB LOG

SWIFT Services, Inc.

DATE 10-3-12 PAGE NO. 7

CUSTOMER TDI WELL NO. #1 LEASE Moore Pond JOB TYPE Cement Lining string TICKET NO. 22839

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		3700-TD DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	2200					14#	5 1/2	On location - FE - Rg LDD.
	2330							Start 5 1/2 14#/ft casing to 3697'
								Insert Float Shoe w/RTU up
								LD - Baffle - SS - 42' @ 3655' = 89.2 881
								Cut - 1-3-5-7-8-10-12
								Leak Baskets Fin end #2 & #13
								Drop Ball up Ball - 5' stand
0100								Fin run casing - Top Bottom
0110								start cie / Rotate
								Fin cie
			7					Plug RT - 30 SKS cut
			5					MH 20 SKS cut
		5	12					200 Pump 500 SKS Hand Pump
		6	20					200 Pump 200 SKS KCL Plug
		4 1/2						Start 125 SKS EA-2 cut
		4	35					Use Fin cut
								Washout pump (line)
								Drop L.D. Plug
		9						320 Start Displ
		8	30					275 SKS rate
		8	105					700 Casing 1 PP - slow rate
		6	68					700 to 6 BPM
0245								750 Plug Down - Hold - Released Hold
								1500 Washup & Pack up
0330								Job complete

Michael R. Brown & Jeremy