OPERATOR

Company:	TDI, INC.		
Address:	1310 BISON ROAD HAYS, KANSAS 67601		
Contact Geologist:	TOM DENNING		
Contact Phone Nbr:	785-259-3141		
Well Name:	GW UNIT # 1		
Location:	E2 SW SW NW Sec.24-15s-19w	API:	15-051-26,389-00-00
Pool:	WILDCAT	Field:	MARTINA EAST
State:	KANSAS	Country:	USA

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

Scale 1:240 Imperial

Well Name:	GW UNIT # 1		
Surface Location:	E2 SW SW NW Sec.24-15s-19w		
Bottom Location:			
API:	15-051-26,389-00-00		
License Number:	4787		
Spud Date:	10/12/2012	Time:	8:30 AM
Region:	ELLIS COUNTY		
Drilling Completed:	10/18/2012	Time:	12:38 AM
Surface Coordinates:	2310' FNL & 420' FWL		
Bottom Hole Coordinates:			
Ground Elevation:	1969.00ft		
K.B. Elevation:	1979.00ft		
Logged Interval:	2400.00ft	To:	3725.00ft
Total Depth:	3725.00ft		
Formation:	LANSING-KANSAS CITY		
Drilling Fluid Type:	CHEMICAL/FRESH WATER GEL		

SURFACE CO-ORDINATES

Well Type:	Vertical		
Longitude:		Latitude:	
N/S Co-ord:	2310' FNL		
E/W Co-ord:	420' FWL		

LOGGED BY

SOLUTIONS CONSULTING

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:	10/12/2012	Time:	8:30 AM
TD Date:	10/18/2012	Time:	12:38 AM
Rig Release:	10/19/2012	Time:	5:00 AM

ELEVATIONS

K.B. Elevation:	1979.00ft	Ground Elevation:	1969.00ft
K.B. to Ground:	10.00ft		

NOTES

RECOMMENDATION TO RUN PRODUCTION CASING BASED ON FAVORABLE STRUCTURE AND RESULTS OF DST# 2.

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

DRILL STEM TESTING BY TRILOBITE TESTING INC. - 1 CONVENTIONAL TEST, 1 STRADDLE TEST

FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY ACTIVITY

GW UNIT # 1
2310' FNL & 420' FWL, NW/4
Sec. 24-15s-19w
1969' GL 1979' KB

FORMATION	SAMPLE TOPS	LOG TOPS
Anhydrite	1162+ 817	**1160+ 819**
B-Anhydrite	1196+ 783	**1194+ 785**
Topeka	2937- 958	**2938- 959**
Heebner Shale	3224-1245	**3220-1241**
Toronto	3245-1266	**3239-1260**
LKC	3269-1290	**3266-1287**
BKC	3512-1533	**3510-1531**
Conglomerate Sand		**3568-1589**
Arbuckle	3573-1594	**3582-1603**
Reagan Sand	3715-1736	**NOT CALLED**
RTD	3725-1746	
LTD		**3723-1744**

SUMMARY OF DAILY ACTIVITY

10-12-12 **Spud,**

10-13-12 **1170', set 8 5/8" surface casing to 1167' with 375 SMD, plug down 8:30 AM, WOC 12 hours. Slope ¼ degree**

10-14-12 1575', drilling

10-15-12 2484', drilling, displace 2859'-2885'

10-16-12 3240', drilling, short trip, DST # 1 3258' – 3305' A-C, slope 1 degree

10-17-12 3400', drilling

10-18-12 RTD 3725' at 12:38AM, short trip, logs, straddle test # 2, 3382' – 3464' H-J, lay down drill pipe and start running production casing

10-19-12 3725', finish running production casing and cementing, plug down 5:00 AM, rig down and move drilling rig to next location

DST # 1 TEST SUMMARY

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI INC

1310 Bison RD
Hays KS 67601

ATTN: Tom Denning/ Herb De

24-15s-19w

G-W Unit #1

Job Ticket: 49663 **DST#: 1**

Test Start: 2012.10.16 @ 14:40:14

GENERAL INFORMATION:

Formation: **Lansing A-C**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:26:59
Time Test Ended: 22:18:44

Test Type: Conventional Bottom Hole (Initial)
Tester: Chris Staats
Unit No: 47

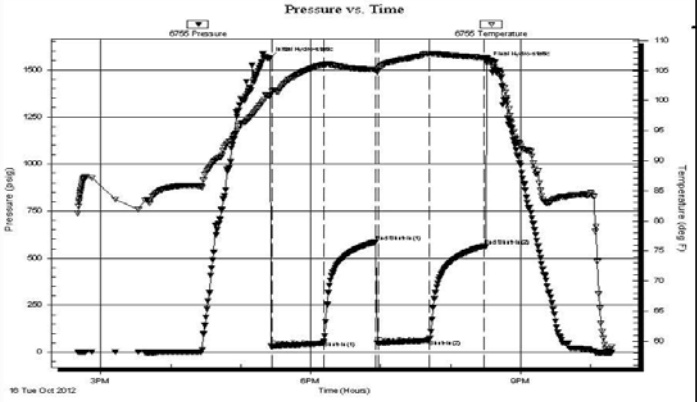
Interval: 3258.00 ft (KB) To 3305.00 ft (KB) (TVD)
Total Depth: 3305.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1979.00 ft (KB)
1969.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6755 **Inside**
Press@RunDepth: 65.67 psig @ 3259.00 ft (KB)
Start Date: 2012.10.16 End Date: 2012.10.16
Start Time: 14:40:19 End Time: 22:18:43

Capacity: 8000.00 psig
Last Calib.: 2012.10.16
Time On Btm: 2012.10.16 @ 17:24:29
Time Off Btm: 2012.10.16 @ 20:30:59

TEST COMMENT: IF: Fair blow 5 1/2"
ISI: No blow back
FF: Weak blow 2"
FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1561.22	100.69	Initial Hydro-static
3	32.06	101.59	Open To Flow (1)
47	58.21	105.98	Shut-In(1)
92	585.92	105.15	End Shut-In(1)
94	48.80	104.89	Open To Flow (2)
138	65.67	107.76	Shut-In(2)
185	565.17	107.12	End Shut-In(2)
187	1535.76	107.11	Final Hydro-static

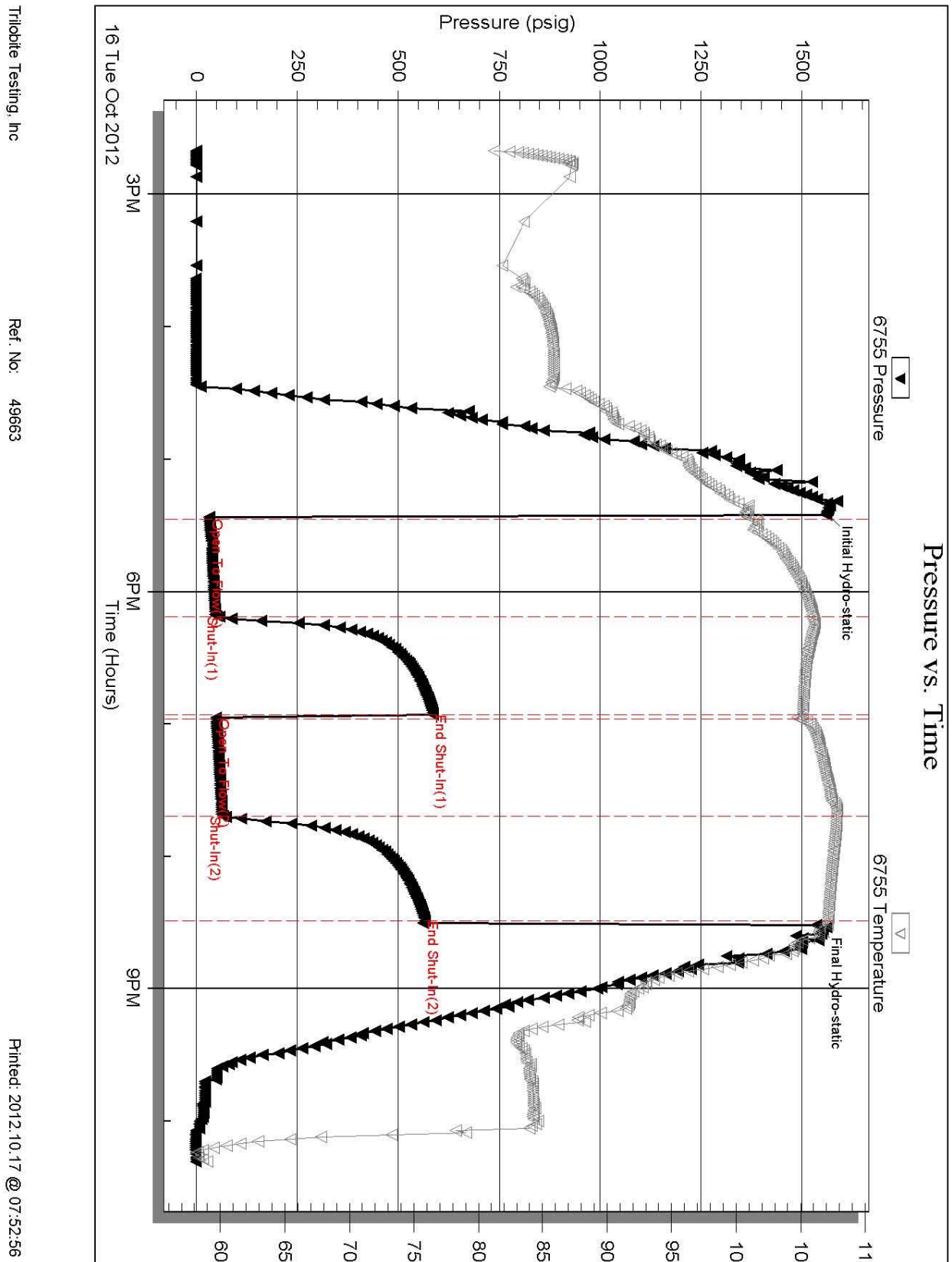
Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud With oil spots	0.14
60.00	M,W 30% mud 70% water	0.84

Gas Rates

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

DST # 1 EXPANDED CHART



Temperature (deg F)

DST # 2 STRADDLE TEST SUMMARY

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI INC

1310 Bison RD
Hays KS 67601

ATTN: Tom Denning/ Herb De

24-15s-19w

G-W Unit #1

Job Ticket: 50777 **DST#: 2**

Test Start: 2012.10.18 @ 11:30:00

GENERAL INFORMATION:

Formation: **KC "H-J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:17:30
Time Test Ended: 18:08:30

Test Type: Conventional Straddle (Reset)
Tester: Brett Dickinson
Unit No: 59

Interval: 3382.00 ft (KB) To 3464.00 ft (KB) (TVD)
Total Depth: 3724.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1979.00 ft (KB)
1969.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6753 **Outside**
Press@RunDepth: 156.25 psig @ 3460.00 ft (KB)
Start Date: 2012.10.18 End Date: 2012.10.18
Start Time: 11:30:05 End Time: 18:08:29

Capacity: 8000.00 psig
Last Calib.: 2012.10.18
Time On Btm: 2012.10.18 @ 14:16:00
Time Off Btm: 2012.10.18 @ 16:20:00

TEST COMMENT: IF-BOB in 4min
ISI-1/2in blow
FF-BOB in 2min
FSI-BOB in 6min

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1772.97	103.91	Initial Hydro-static
2	19.96	103.78	Open To Flow (1)
31	98.42	105.29	Shut-In(1)
60	518.56	107.27	End Shut-In(1)
62	102.74	106.80	Open To Flow (2)
92	156.25	107.64	Shut-In(2)
121	513.79	108.19	End Shut-In(2)
124	1636.34	108.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	SGO 90%O 10%G	0.98
185.00	GSMCO 40%G 10%M 50%O	2.60
125.00	GVSMCO 35%G 5%M 60%O	1.75
0.00	245ft GIP	0.00

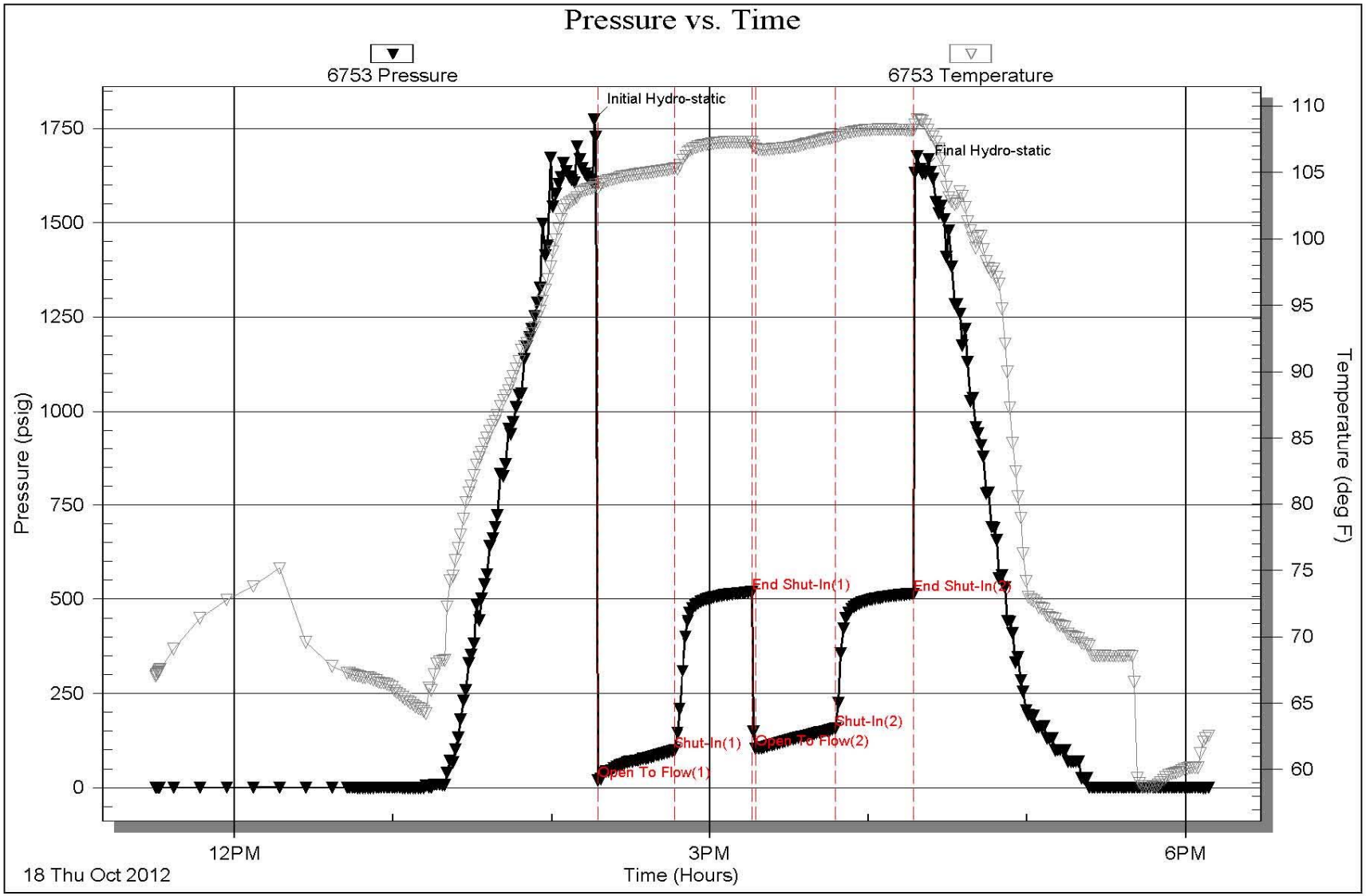
* Recovery from multiple tests

Gas Rates

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

DST # 2 EXPANDED CHART

Serial #: 6753 **Outside** TDI INC G-W Unit #1 DST Test Number: 2



ROCK TYPES

CglSandy
shale, red
Ss
Dol Lime
shale, grn
shale, gry
Carbon Sh
Dolsec
Lmst fw<7
Lmst fw7>
Cht vari
Clystgy
Dolprim

Trilobite Testing, Inc Ref. No: 50777 Printed: 2012.10.18 @ 23:03:50

ACCESSORIES

MINERAL
- Chert, dark
- Pyrite
- Sandy
- Varicolored chert
- Chert White

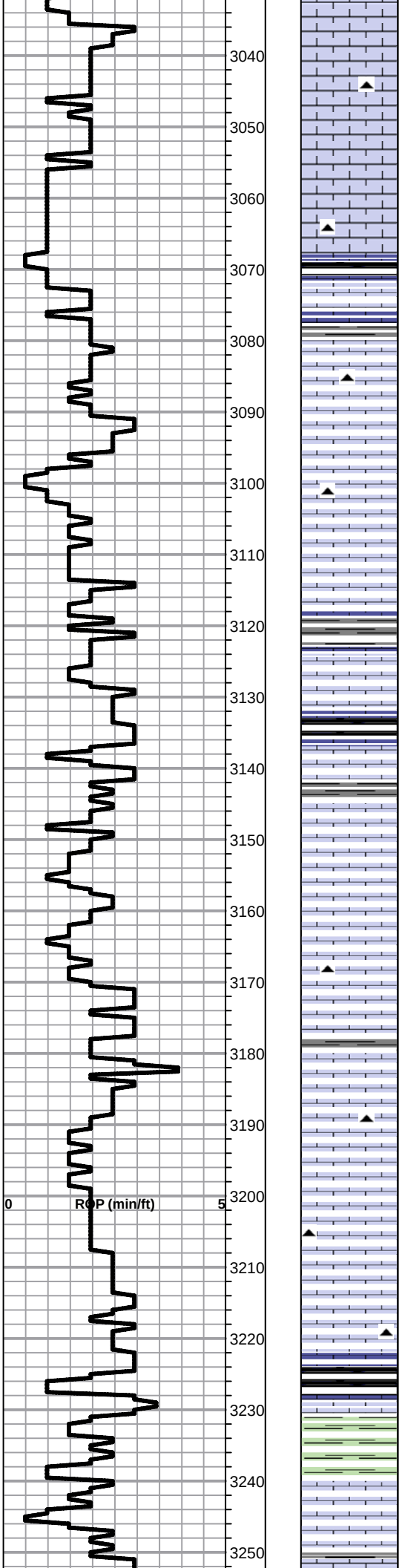
FOSSIL
- Oolite

OTHER SYMBOLS

DST
- DST Int
- DST alt
- Core

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

Curve Track #1 ROP (min/ft) 1:240 Imperial	Depth | Intervals Cored Interval DST Interval	DST	Lithology	Oil Show	Geological Descriptions	TG, C1 - C5 1:240 Imperial
0 ROP (min/ft) 5	2900				BEGIN 1' DRILL TIME FROM 2900' TO RTD BEGIN 10' WET AND DRY SAMPLES FROM 3000' TO RTD	**8 5/8" SET TO 1167' W/ 375 SXS SMD, PLUG DOWN 8:30AM, WOC 12 HRS SLOPE 1/4 DEGREE**
	2910				**ANHYDRITE SPL TOP 1162+817 ELog 1160+819** **ANHYDRITE SPL BASE 1196+783 ELog 1194+785**	
	2920					
	2930				**TOPEKA SPL 2937-958 ELog 2938-959**	
	2940					
	2950					
	2960					
	2970				Lime, offwhite-med brn-gray, fnxln, slightly fossiliferous	
	2980				Lime, lt-med brn-gray, fnxln, bedded sticky clumps of chalk	
	2990				Lime, lt-med brn, granular, NS	
0 ROP (min/ft) 5	3000				Lime, lt-med brn, fnxln	
	3010				Lime, med brn-med grayish brn, fnxln-granular	
	3020				Lime, med brn-grayish brn, fnxln	
	3030					



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

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

Lime, med brn-grayish brn, granular

Lime, med brn-grayish brn, fnxln, chalk in part

Shale, med-dark gray-black carbonaceous, fissile, blocky

Shale, med gray, slivers

Lime, med brn-grayish brn, fnxln-granular

Lime, crm, fn-vfxln, bedded chalk in part
scattered brn chert, fresh, sharp

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

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

Shale, gray-black carbonaceous, fissile, blocky

Lime, lt rn-lt gray, fnxln

Lime, med brn, fnxln, slightly fossiliferous

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

Lime, lt-med brn, fnxln, fossiliferous in part-fusulinids and crinoid segments, NS

Lime, med-dark brn-gray, fnxln, slightly fossiliferous

Lime, grayish brn, fnxln

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

Lime, lt-med brn, granular, slightly fossiliferous, bed chalk

Lime, lt-med brn, fnxln, bed chalk

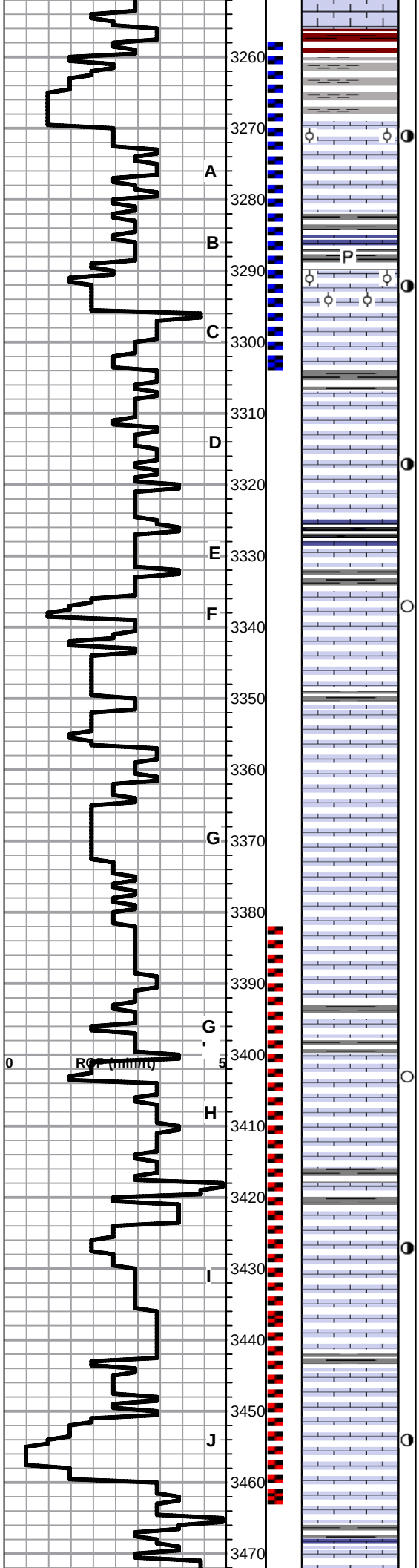
Lime, lt-med brn, fnxln

HEEBNER SHALE SPL 3224-1245 ELog 3220-1241

Shale, black carbonaceous, fissile, blocky
Lime, grayish brn, slightly fossiliferous, vfxln
Shale, lime green, forming soft mud

TORONTO ELog 3239-1260

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



Lime, crm-lt brn, fn-vfxln, slightly chalky, NS

Shale, reddish tan, forming soft mud

LKC SPL 3269-1290 ELog 3266-1287

Lime, tan, fnxln with few clumps of oolitic-fossil fragment material with lite odor and scattered staining in interxln and interoolitic porosity.

DST # 1 3258' TO 3305' SEE HEADER FOR TEST SUMMARY

Lime, tan-med brn, fnxln

Lime, crm-tan, fnxln, with bedded chalk, NS

Lime, crm-tan, oolitic with fossil fragments, scattered stain, lite odor, interoolitic-oolmoldic porosity

PIPE STRAP @ 3305'
STRAP 3332.09'
BOARD 3332.20
.11

Lime, crm-tan, fnxln, bed chalk

Shale, med gray, soft

SLOPE @ 3305' 1 DEGREE

Lime, crm-tan, fnxln, with bedded chalk, NS

Lime, tan-lt brn, fnxln, thin zone with scattered vuggy porosity, scattered stain and lite odor.

Shale, gray-black carbonaceous
Lime, lt grayish brn, fnxln, slightly fossiliferous
Shale, lt gray forming soft mud

Lime, lt-dark brn, fnxln with pale gray, vuggy lime, with lt stain, no detectable odor

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

Lime, crm-tan, fn-vfxln, bedded chalk, NS

Lime, crm-tan, fn-vfxln, slight bed chalk

Lime, crm-tan, fnxln, bedded chalk

Lime, lt grayish brn, fnxln-vfxln

Lime, tan-lt brn, mostly fnxln with scattered lt staining in fine scattered interxln porosity. doesn't appear well developed

Lime, crm-lt brn, fnxln

Shale, grayish green, soft blocky

DST # 2 STRADDLE TEST 3382' TO 3464' SEE HEADER FOR TEST SUMMARY

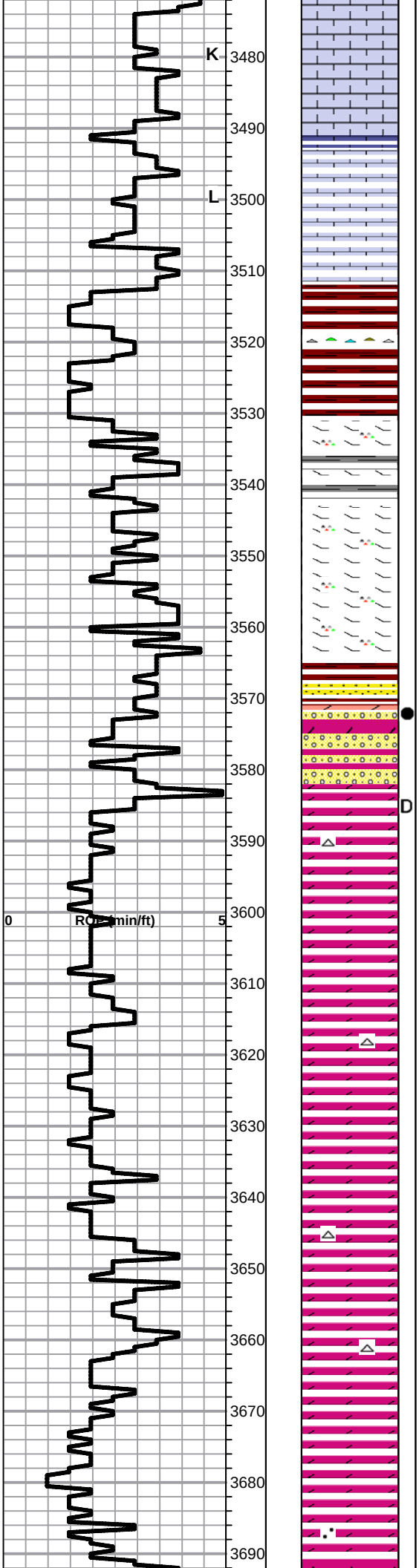
Lime, tan-lt brn, fnxln with zone with fn interxln and vuggy porosity, scattered stain with fair odor, NFO

Lime, crm, fnxln, bedded chalk in part

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

Lime, crm-tan, oolitic/oolmoldic with very lite stain. Samples appeared barren but had a very good wet cut. Show appears to very lite oil leaving little visible evidence of presence in zone

Lime, crm, fn-vfxln, bedded chalk, NS



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

Lime, crm-lt brn, fnxln

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

Lime, crm-tan, fn-vfxln, chalky white wash

BKC SPL 3512-1533 ELog 3510-1531

Shale, red wash

Shale, reddish brn, forming sticky clumps

Shale, red, very sticky clumps

Lime, offwhite, vfxln, hard on crush, scattered fossils

Lime, tan-med brn, fnxln with vari colored fresh chert including orange chert.

Lime, crm-tan, fnxln, very chalky

CONGLOMERATE SAND ELog 3568-1589

Sandstone, poorly sorted, cemented with scattered clusters of better sorted sand with saturation and SFO on crush with lt odor. Zone contained a fair content of dolomite with stain

ARBUCKLE ELog 3582-1603

Dolomite, ivory-crm, granular with gilsonite in interxln porosity

Dolomite, ivory-crm, fn-med xln

Dolomite, ivory-crm, fn-med xln

Dolomite, crm, granular, fn-med xln

Dolomite, crm, fnxln

Dolomite, ivory-crm, fn-md xln, granular in part

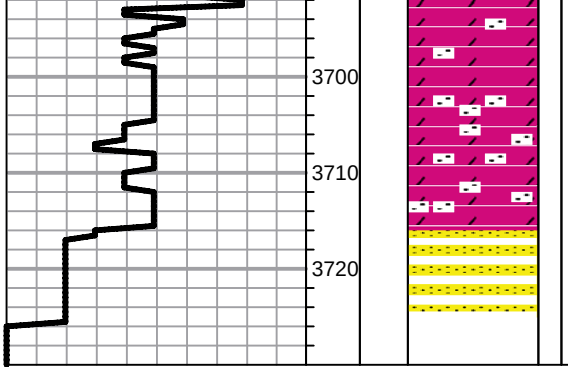
Dolomite, tan-lt brn, fnxln, few clusters of sticky chalk

Dolomite, crm, fnxln, hard on crush

Dolomite, crm, fn-cxln, scattered specks of glauconite

Dolomite, fnxln, brittle on crush

Dolomite, crm, fnxln, increasing content of quartz grains



Dolomite, crm, fnxln, clear sand clusters in part mixed with dolomite

Dolomite, tan, fnxln, sandy, specks of glauconite

REAGAN SAND SPL 3715-1736

Sandstone, clear quartz, well sorted with green and pink tinting in part, friable, NS

RUN 5 1/2" PRODUCTION CASING SET TO 3710' W/ 175 SXS EA2, PLUG DOWN 5:00 AM 10-19-2012

JOB LOG

SWIFT Services, Inc.

DATE 10-13-12 | PAGE NO. 1

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
T.D.I.	#1	GW UNIT	8 5/8" SURFACE	23377

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	0330							ON LOCATION
	0530							START 8 5/8" CASING IN WELL
								TD - 1170' SET @ 1167
								TP - 1167' 8 5/8 # 23
								ST - 17'
								CENTRALIZERS - 1, 3, 15
	0700							BREAK CIRCULATION
	0740	6	12		✓		250	PUMP 500 GAL MUDFLUSH
	0742	6	20		✓		250	PUMP 20 BBLS KCL FLUSH
	0755	6	46		✓		250	MIX CEMENT - 100 SKS @ 11.8 PPG
		6	37		✓			100 SKS @ 12.7 PPG
		6	31		✓			100 SKS @ 13.5 PPG
		6	20		✓		100	75 SKS @ 14.5 PPG
	0818							RELEASE PLUG
	0820	7	0		✓			DISPLACE PLUG
	0830	6	73.6				500 MAX	PLUG DOWN - SHUT IN
								CIRCULATED 5 SKS CMT 25 TO PIT
								WASH TRUCK
	0930							JOB COMPLETE
								THANK YOU
								WAYNE, BRIAN, JEREMY

JOB LOG

SWIFT Services, Inc.

DATE 10-19-12 | PAGE NO. 1

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
TDI	#1	GW Unit	Cement Longstring	22847

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
								TD 3723
	0030							On location w/ FE.
	0130							Start 5 1/4 14 #/ft Csg to 3710'
								Insert Float Shoe w/ Auto-Fill
								L.D. Baffle - 55 42.35' @ 3668' = 89 1/2
								Cent 1-3-5-7-91-10-12
								Cent Bskts #2 pin & 90 pin after #12
								Drop Fill up ball to seat
	0250							Fin run Casing - Tag bottom
	0300							Start Cir / Rotate
	0400							Fin Cir
			7/5					Plug RH - 30 SKS MH 15 SKS
		5	12					Pump 500 gal Mud Flush
		6	20					Pump 20 BBL KCL Flush
		4						Start 130 SKS 50/50 Class B Poz
							Vac	Fin Cmt
								Wash out Pump & Lines
								Drop L.D. Plug
		8 1/2					500	Start Displ
		8 1/2	70				600	Caught Lift Press - Slow rate
	0445	5 1/2	80/89 1/2				810/1600	Plug Down - Held Release & Held
	0500							Job Complete
								Washup & Rackup
	0530							

Thanks
Don, Brian & Jeremy