OPERATOR

Company:	TDI, INC.		
Address:	1310 BISON ROAD HAYS, KANSAS 67601		
Contact Geologist:	TOM DENNING		
Contact Phone Nbr:	785-628-2593		
Well Name:	GEORGE # 2		
Location:	N2 NW SW NW, S18-T12S-R18W		
API:	15-051-26,738-00-00		
Pool:		Field:	UNNAMED
State:	KANSAS	Country:	USA

Scale 1:240 Imperial

Well Name:	GEORGE # 2		
Surface Location:	N2 NW SW NW, S18-T12S-R18W		
Bottom Location:			
API:	15-051-26,738-00-00		
License Number:	4787		
Spud Date:	10/16/2014	Time:	3:30 PM
Region:	ELLIS COUNTY		
Drilling Completed:	10/22/2014	Time:	6:42 AM
Surface Coordinates:	1500' FNL & 330' FWL		
Bottom Hole Coordinates:			
Ground Elevation:	2175.00ft		
K.B. Elevation:	2185.00ft		
Logged Interval:	2550.00ft	To:	3900.00ft
Total Depth:	3900.00ft		
Formation:	LANSING-KANSAS CITY		
Drilling Fluid Type:	CHEMICAL/FRESH WATER GEL		

SURFACE CO-ORDINATES

Well Type:	Vertical
Longitude:	-99.3699421
Latitude:	39.0118166
N/S Co-ord:	1500' FNL
E/W Co-ord:	330' FWL

LOGGED BY

Company:	SOLUTIONS CONSULTING, INC.		
Address:	108 WEST 35TH STREET HAYS, KANSAS 67601		
Phone Nbr:	785-625-3380		
Logged By:	GEOLOGIST	Name:	HERB DEINES

CONTRACTOR

Contractor:	SOUTHWIND DRILLING, INC.		
Rig #:	1		
Rig Type:	MUD ROTARY		
Spud Date:	10/16/2014	Time:	3:30 PM
TD Date:	10/22/2014	Time:	6:42 AM

Rig Release:	10/23/2014	Time:	4:30 AM

ELEVATIONS

K.B. Elevation:	2185.00ft	Ground Elevation:	2175.00ft
K.B. to Ground:	10.00ft		

NOTES

DECISION TO RUN PRODUCTION CASING TO FURTHER TEST LANSING-KANSAS AND TORONTO BASED ON FAVORABLE STRUCTURE AND LOG ANALYSIS

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

DRILL STEM TESTING BY TRILOBITE TESTING INC: TWO (2) CONVENTIONAL TESTS

FORMATION TOPS COMPARISON

	GEORGE # 2 N2 NW SW NW SEC.18-12S-18W 2175'GL 2185'KB	STACKHOUSE RANCH #1 SW SE NE NE SEC.13-12-19W KB 2208'	GEORGE # 1 NW SW SE NW SEC.18-12-18W KB 2217'
FORMATION	LOG TOPS	LOG TOPS	LOG TOPS
Anhydrite	1506+ 679	+ 673	+ 684
B-Anhydrite	1542+ 643	+ 644	+ 650
Topeka	3197-1012	-1012	-1011
Heebner Shale	3428-1243	-1242	-1242
Toronto	3447-1262	-1260	-1262
LKC	3472-1287	-1286	-1286
BKC	3705-1520	-1518	-1520
Arbuckle	3802-1617	-1610	NR
RTD	3900-1715	-1691	-1681

SUMMARY OF DAILY ACTIVITY

10-16-14	RU, spud 3:30 PM, set 8 5/8" surface casing to 221' w/ 150 sxs Common 2% Gel, 3%CC, slope 1/2 degree, plug down 9:15PM
10-17-14	333', drill plug at 5:15AM
10-18-14	1866', drilling, displaced 2533'-2548'
10-19-14	2830', drilling
10-20-14	3471', drilling, CFS 3484', ST, CFS 3540', DST # 1 3420'-3540'
10-21-14	3620', TIWB, drilling, CFS 3565', CFS 3660', DST #2 3574'-3660'
10-22-14	3900', RTD 3900' @6:42AM, CCH, TOWB, logs, LDDP, run casing
10-23-14	3900', finish running casing and cementing, RD

DST # 1 TEST SUMMARY

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI, Inc

1310 Bison Rd
Hays Ks 67601-9696

ATTN: Tom Denning, Herb D

18-12s-18w Ellis

George #2

Job Ticket: 60891 **DST#: 1**

Test Start: 2014.10.20 @ 16:45:29

GENERAL INFORMATION:

Formation: **Tor- LKC D**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:46:54
Time Test Ended: 23:27:23

Test Type: Conventional Bottom Hole (Initial)
Tester: Ray Schwager
Unit No: 70

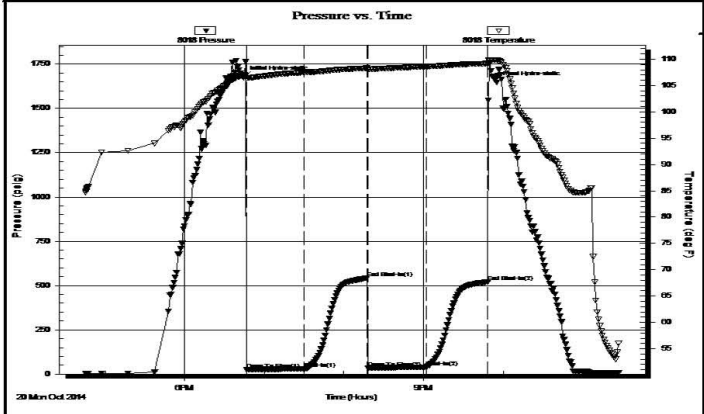
Interval: 3420.00 ft (KB) To 3540.00 ft (KB) (TVD)
Total Depth: 3540.00 ft (KB) (TVD)
Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 2185.00 ft (KB)
2175.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8018 **Inside**
Press@RunDepth: 40.16 psig @ 3422.00 ft (KB)
Start Date: 2014.10.20 End Date: 2014.10.20
Start Time: 16:45:29 End Time: 23:27:23

Capacity: 8000.00 psig
Last Calib.: 2014.10.20
Time On Btm: 2014.10.20 @ 18:44:24
Time Off Btm: 2014.10.20 @ 21:54:53

TEST COMMENT: 45-IFP-w k bl thru-out 1/4"to 1 1/2"bl
45-ISIP-no bl
45FFP-no bl 1st 7min, then surface bl thru-out
45-FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1675.71	106.78	Initial Hydro-static
3	25.90	106.27	Open To Flow (1)
46	30.66	107.47	Shut-In(1)
93	543.14	108.29	End Shut-In(1)
94	34.92	108.11	Open To Flow (2)
138	40.16	108.59	Shut-In(2)
184	520.12	109.18	End Shut-In(2)
191	1648.07	109.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	45' GIP	0.00
45.00	OCM 10%O90%M	0.63

Gas Rates

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

DST # 2 TEST SUMMARY

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI, Inc

1310 Bison Rd
Hays Ks 67601-9696

ATTN: Tom Denning, Herb D

18-12s-18w Ellis

George #2

Job Ticket: 60892 **DST#: 2**

Test Start: 2014.10.21 @ 11:15:48

GENERAL INFORMATION:

Formation: **LKC H-J**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:46:43
Time Test Ended: 16:52:12

Test Type: Conventional Bottom Hole (Reset)
Tester: Ray Schwager
Unit No: 70

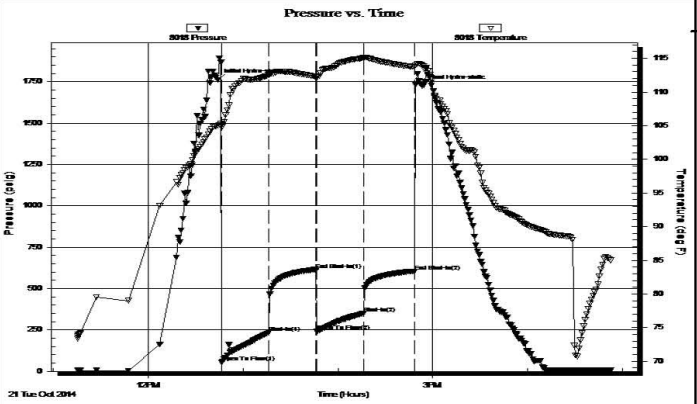
Interval: 3574.00 ft (KB) To 3660.00 ft (KB) (TVD)
Total Depth: 3660.00 ft (KB) (TVD)
Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 2185.00 ft (KB)
2175.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8018 **Inside**
Press@RunDepth: 352.16 psig @ 3576.00 ft (KB)
Start Date: 2014.10.21 End Date: 2014.10.21
Start Time: 11:15:48 End Time: 16:52:12

Capacity: 8000.00 psig
Last Calib.: 2014.10.21
Time On Btm: 2014.10.21 @ 12:44:13
Time Off Btm: 2014.10.21 @ 14:53:13

TEST COMMENT: 30-IFP-w k to strg in 4min
30-ISIP-no bl
30-FFP-w k to strg in 8min
30-FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1761.55	104.96	Initial Hydro-static
3	54.70	104.71	Open To Flow (1)
32	232.42	112.48	Shut-In(1)
62	613.33	112.29	End Shut-In(1)
63	241.13	112.22	Open To Flow (2)
92	352.16	115.06	Shut-In(2)
124	604.14	113.71	End Shut-In(2)
129	1725.25	113.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
278.00	SOCWM 2%O38%W60%M	3.90
434.00	SOCMW 1%O20%M79%W	6.09

* Recovery from multiple tests

Gas Rates

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

Trilobite Testing, Inc Ref. No: 60892 Printed: 2014.10.21 @ 20:18:13

Image Header 04

Image Header 05

ROCK TYPES

Clystgy
Lmst fw<7
shale, gry
Shcol

Chtcongl
Dolprim
Lmst fw7>
shale, grn
Carbon Sh
shale, red
Ss
Lscongl

ACCESSORIES

MINERAL
▲ Chert, dark

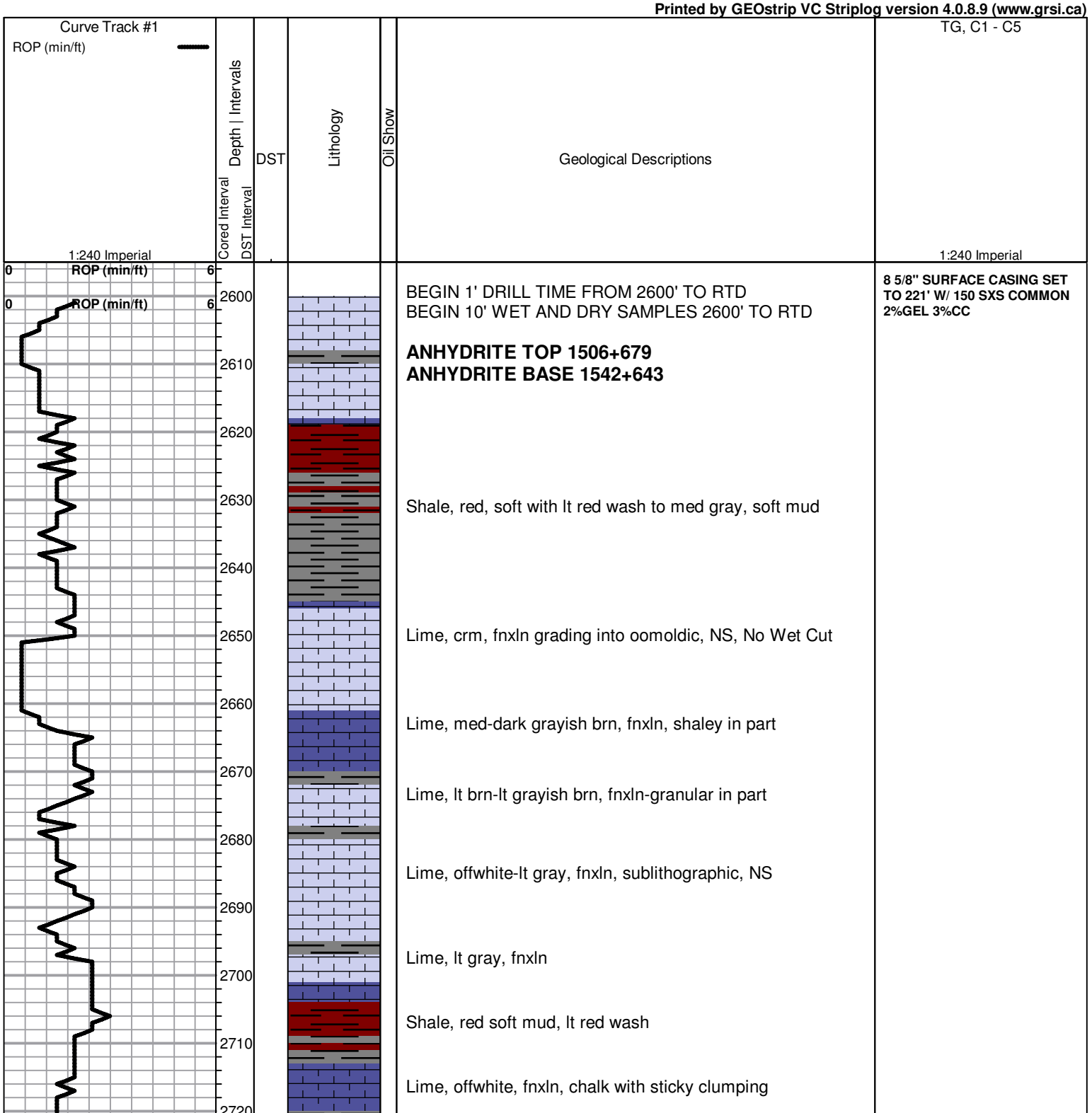
FOSSIL
Fussilinid

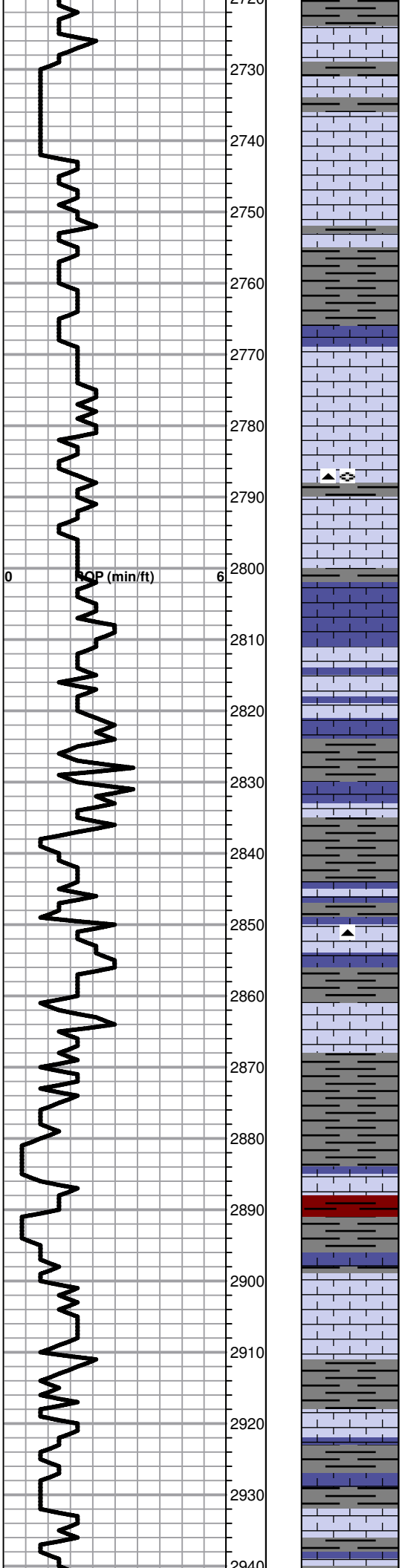
OTHER SYMBOLS

Oil Show
- Good Show
- Fair Show
- Poor Show
- Spotted or Trace
- Questionable Stn
- Dead Oil Stn
- Fluorescence
- Gas

DST
- DST Int
- DST alt
- Core
- tail pipe

Printed by GEOstrip VC Striplog version 4.0.8.9 (www.grsi.ca)





Lime, lt brn, granular with fine oomoldic in part, NS

Lime, lt brn, granular with lot of bed chalk with sticky clumping

Lime, lt-med brn, granular-fnxln

Shale, dark gray, soft mud, calcareous in part

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

Lime, lt gray-lt grayish brn, fnxln

Lime, med gray, fnxln-granular, slightly fossiliferous
Chert, dark brn, fusulinids

Lime, med gray-med brn, granular, gray mottling in part

Lime, med-dark gray, fnxln, shaley, fusilinids, trashy in part

Lime, med gray-med grayish brn, fnxln, fossiliferous

Lime, med-dark gray, fnxln,

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

Shale, lt-med gray, soft blocky

Lime, med-dark gray, fnxln, shaley in part

Lime, lt-med gray, fnxln

Lime, crm-lt brn, fnxln

Shale, med-dark gray, soft-firm blocky, slightly calcareous in part with scattered crinoid segments

Lime, lt-med gray, fnxln

Shale, med gray-reddish brn, soft-firm blocky

Lime, lt-med gray, fnxln, slightly fossiliferous

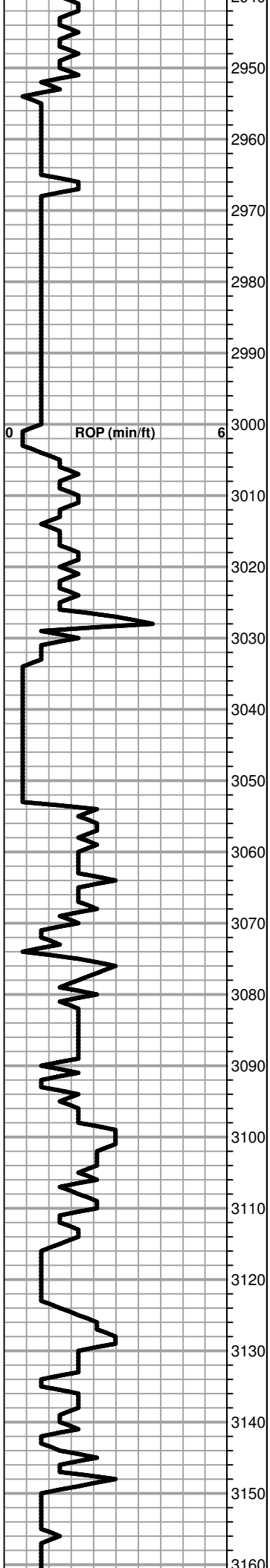
Lime, lt-med gray, fnxln

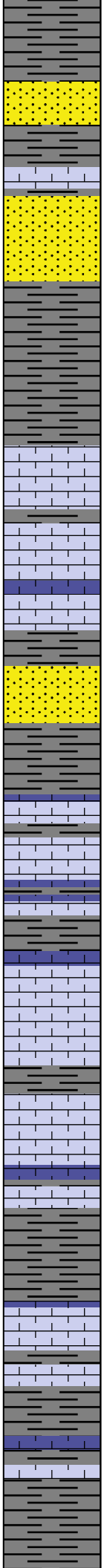
Lime, lt brn-lt gray, fnxln

Shale, dark gray forming soft mud

Lime, crm-lt brn, granular, chalky with sticky clumping

Lime, lt gray-lt grayish brn, fnxln, slightly fossilifeorus





Shale, lt gray, soft mud

Sandstone, lt gray, very fine grain, gritty, poorly sorted, micaceous,NS

DOVER LIME ELog 2964-779

Sandstone, lt gray, fine grained, laminated, micaceous, NS

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

STOTLER/TARKIO LIME ELog 3003-818

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

Lime, crm, fnxln

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

Sandstone, very fine and poorly developed, NS

Shale, med-dark gray, soft-firm blocky

Lime, crm-lt gray, fnxln

Lime, lt-dark brn, fnxln

Shale, lt-med gray, firm blocky

Lime, med brn-med grayish brn, fn-vfxln, slightly fossiliferous

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

Lime, lt-med brn, fn-vfxln, thin cemented fusilinid beds

Lime, med brn-med gray, fnxln

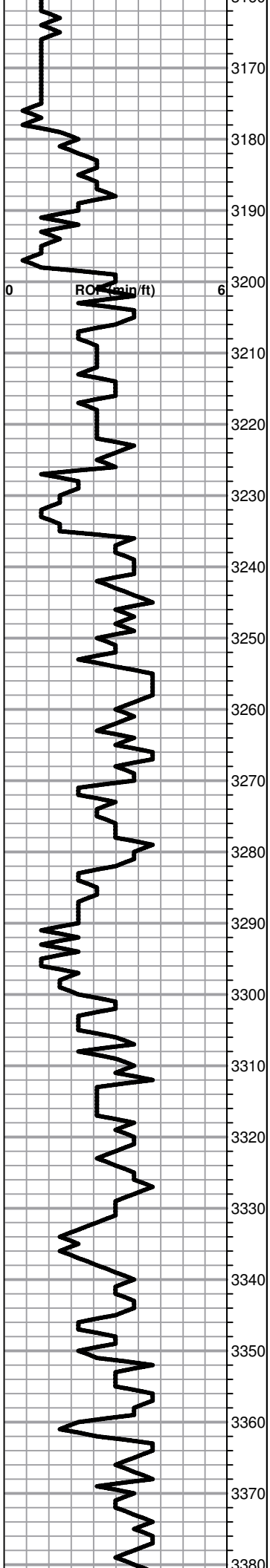
Shale, lt-med gray, soft-firm blocky

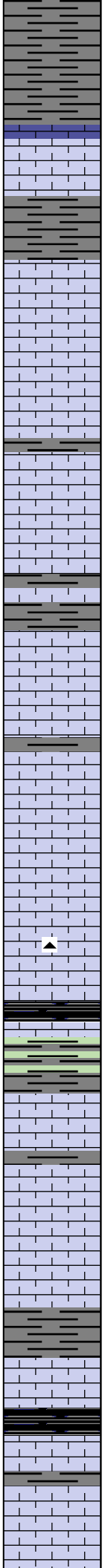
Lime, med brn, fnxln, gray fossiliferous mottling

Lime, med brn, fnxln, lt sticky chalk clumps in part

Lime, med grayish brn, fnxln, fossiliferous

Shale, dove gray forming soft mud





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3380

Shalae, lt-med gray, soft mud to soft blocky

Lime, crm-lt brn, chalky matrix with sticky chalk clumping

Lime, crm-lt brn, fnxln

Shale, lt-med gray, soft blocky

TOPEKA ELog 3197-1012

Lime, crm-lt brn, fnxln , slight bedded chalk

Lime, crm-lt brn, fn-micro xln in part

Lime, lt brn-lt grayish brn, fnxln

Lime, lt brn, fnxln-granular/oomoldic, NS

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

Lime, lt brn, fnxln, slightly fossiliferous

Lime, lt brn-lt grayish brn, fn-vfxln

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

Lime, lt-med brn, fnxln

Lime, lt brn, granular, chalky with scattered fossils

Shale, black carbonaceous, blocky
Lime, lt brn, fnxln

Lime, crm, fnxln, bedded chalk with lt chalk wash, sublithographic

Lime, crm, fnxln, chalky with lt white wash

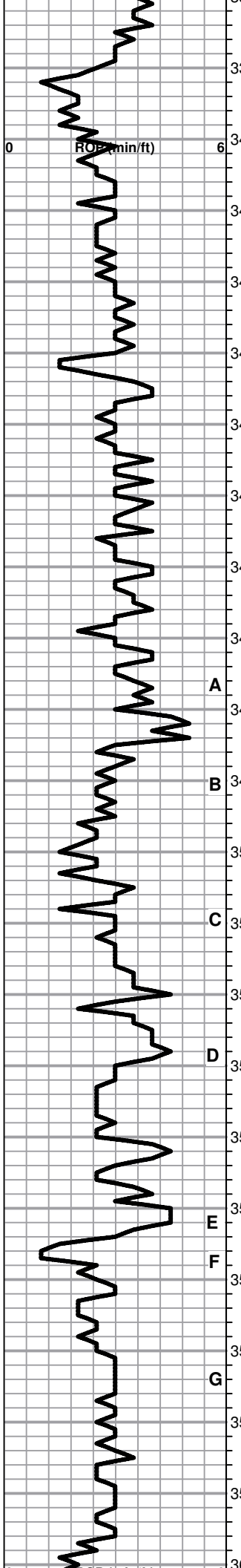
Lime, crm-lt brn, fnxln, bedded chalk

Lime, lt-med brn, fnxln with gray mottling in part

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

Lime, crm, fnxln, bedded chalk in part, NS

Lime, crm, fnxln, bedded chalk, NS



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3550
3560
3570
3580
3590
3600

A
B
C
D
E
F
G

Lime, tan, coarse granular with fossil fragments, spotty dark stain, NFO, No Odor , interxln porosity

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

Lime, crm-tan, fnxln

Lime, tan-lt brn, fnxln, bedded chalk

HEEBNER SHALE ELog 3428-1243

Shale, black carbonaceous, fissile, blocky

Lime, lt brn, vfxln
Shale, lime green, soft mud

TORONTO ELog 3447-1262

Lime, crm,, fnxln with thin oolitic zone with fine interxln fill, scattered-saturated staining, NFO, No Odor

Lime, white-crm, fnxln, bedded chalk

Shale, dove gray-red, soft mud with lt red wash

LKC ELog 3472-1287

Lime, lt brn, fn-micro xln
Chert, tan, fresh, sharp

Lime, tan with gray tinting in part, fn-micro xln

CFS 3484' & SHORT TRIP

Lime, lt brn, fnxln, gray mottling in part , NS

DST # 1 3420' TO 3540' SEE HEADER FOR TEST SUMMARY

Shale, med gray, firm, calcareous in part

Lime, crm, fnxln with thin oolitic bed with inter oolitic porosity, scattered-saturated staining, very lt odor, NFO

Lime, crm, fnxln, cemented oolitic beds, slight bed chalk

Lime, white-crm, fnxln, spotty staining in fossil casts and few vugs, NFO, No Odor

Lime, crm, fn-vfxln, slight bedded chalk, lithographic grading into lt gray, fnxln lime near shale boundary

Shale, black carbonaceous
Lime, lt gray, fnxln
Shale, lime green, soft mud

Lime, crm-lt brn, fnxln

Lime, crm, granular, trace spotty stain in interxln porosity with trace of hydrocarbon on crush, not well developed

CFS 3565'

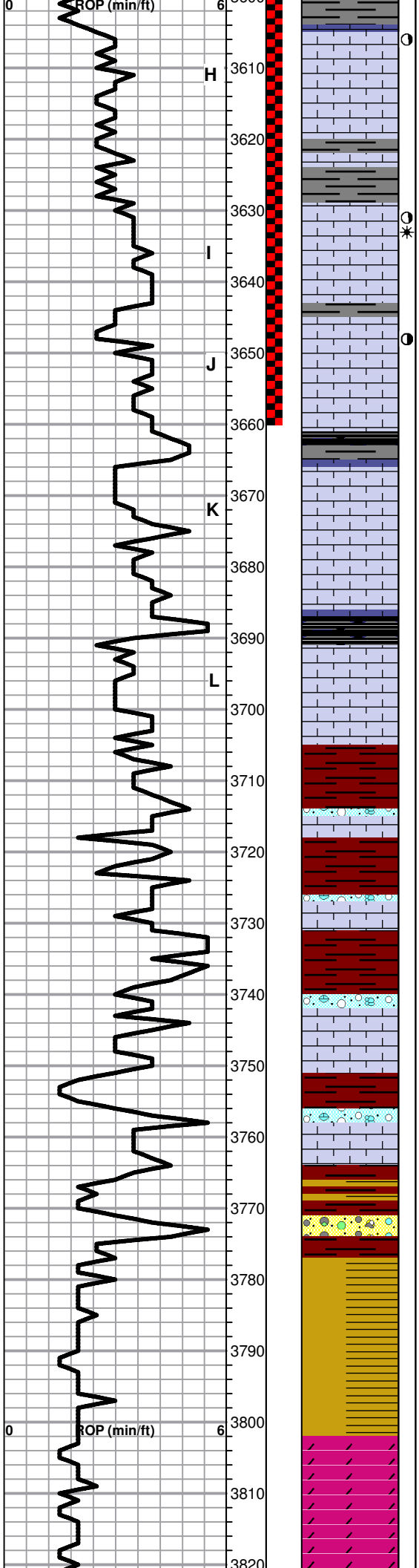
Lime, crm-offwhite, fn-vfxln

Lime, offwhite-crm, fn-vfxln

Lime, crm-lt gray, fn-vfxln

Shale, gray-black carbonaceous, fissile, blocky

Shale, med gray, firm blocky, calcareous in part



Lime, lt brn, mostly fn-micro xln, slight beded chalk, few chips with trace of stain, appears poorly developed

DST # 2 3574' TO 3660' SEE HEADER FOR TEST SUMMARY

Lime, tan-lt brn, fn-micro xln

Shale, gray-grayish green, soft-firm blocky

Lime, white-crm, fn-vfxln, Good Odor and lt spotty staining along flat surfaces indicating possible fracturing,

Lime, crm-lt brn, fn-vfxln

Lime, lt brn, fn-vfxln, slight bedded chalk, scattered lt stain, NFO,

Lime, lt brn, fn-vfxln

CFS 3660'

Shale, gray-black carbonaceous

Lime, white-crm, fn-micro xln, NS

Lime, lt brn-lt gray, fnxln

Shale, gray-black carbonaceous, blocky

Lime, crm-lt brn, fn-vfxln

BKC ELog 3705-1520

Shale, reddish brn, firm blocky

Lime, crm-lt brn, fn-vfxln

Shale, reddish brn, firm blocky

Lime, crm-lt brn, fn-vfxln, clastic lime mix in part

Shale, red, soft mud, lt red wash

Lime, white with red shale staining, fnxln with soft chalk

Shale, brn-dark brn, firm blocky

Lime, white, fnxln, clastic lime mix in part

Shale, reds, brns, vari color, soft mud-soft blocky

Shale, vary color, firm blocky, lt red wash

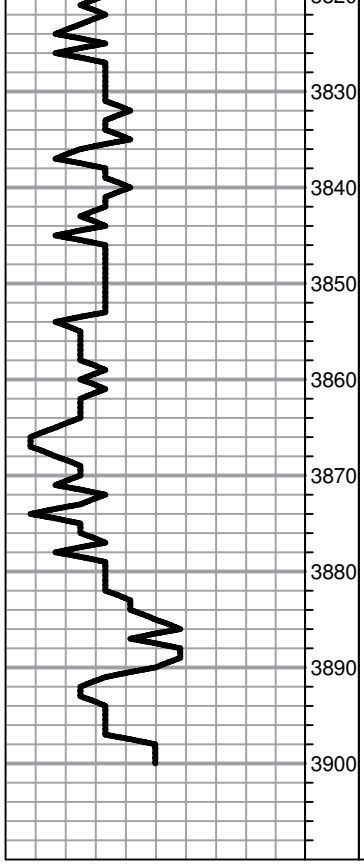
Shale, vari color, reds, brns, maroon, moderately firm blocky

ARBUCKLE ELog 3802-1617

Dolomite, lt brn, fnxln-granular, NS

Dolomite, crm-lt brn, fnxln-granular, inter xln porosity

Dolomite, crm-lt brn, fnxln-granular



Dolomite, lt brn, fnxln with scattered sucrosic chips

Dolomite, lt brn-lt salmon, fnxln-ganular

Dolomite, lt brn-lt salmon, fnxln-granular, few oomoldic chips

Dolomite, lt-med brn, hard granular with oolitic chert

Dolomite, ivory-lt brn, fnxln-granular, scattered quartz grain and cluster inclusions

Dolomite, lt brn, fnxln-granular

Dolomite, crm-lt-med brn, fnxln-granular, oolitic chert

Dolomite, lt brn, fnxln-granular

RTD 3900-1715 LTD 3901-1716

5 1/2" 14# PRODUCTION CASING SET TO 3896' W/ 150 SXS EA2 ON BOTTOM STAGE AND 155 SXS SMD ON TOP STAGE THROUGH DV TOOL. 30 SXS IN RATHOLE AND 15 SXS IN MOUSEHOLE