

**OPERATOR**

Company: TDI, INC  
 Address: 1310 BISON ROAD  
 HAYS, KANSAS 67601-9696

Contact Geologist: TOM DENNING  
 Contact Phone Nbr: 785-628-2593  
 Well Name: LYNETTE # 1  
 Location: E2 NE NW NE SEC.6-T12S-R18W  
 API: 15-051-26,823-00-00  
 Pool: WILDCAT  
 State: KANSAS

Field: UNNAMED  
 Country: USA



Scale 1:240 Imperial

Well Name: LYNETTE # 1  
 Surface Location: E2 NE NW NE SEC.6-T12S-R18W  
 Bottom Location:  
 API: 15-051-26,823-00-00  
 License Number: 4787  
 Spud Date: 4/7/2016 Time: 10:45 AM  
 Region: ELLIS COUNTY Time: 3:22 AM  
 Drilling Completed: 4/13/2016  
 Surface Coordinates: 330' FNL & 1550' FEL  
 Bottom Hole Coordinates:  
 Ground Elevation: 2135.00ft  
 K.B. Elevation: 2143.00ft  
 Logged Interval: 3000.00ft To: 3800.00ft  
 Total Depth: 3800.00ft  
 Formation: LANSING-KANSAS CITY  
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: -99.3578679  
 Latitude: 39.044027  
 N/S Co-ord: 330' FNL  
 E/W Co-ord: 1550' FEL

**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 #: 3  
 Rig Type: MUD ROTARY  
 Spud Date: 4/7/2016 Time: 10:45 AM  
 TD Date: 4/13/2016 Time: 3:22 AM

**ELEVATIONS**

K.B. Elevation: 2143.00ft  
 K.B. to Ground: 8.00ft


Ground Elevation: 2135.00ft

**NOTES**

PRODUCTION CASING RAN TO COMPLETE WELL AS AN ARBUCKLE SALT WATER DISPOSAL WELL

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

DRILL STEM TESTING BY TRILOBITE TESTING, INC: THREE (3) CONVENTIONAL TESTS

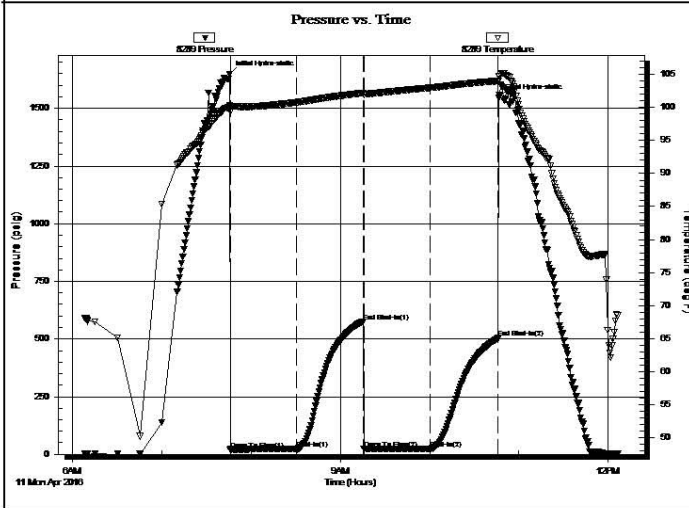
	<b>DRILL STEM TEST REPORT</b>		
	TDI Inc 1310 Bison Rd Hays KS 67601-9696  ATTN: Herb Deines	<b>6 12s 18w Ellis</b>  <b>Lynette #1</b> Job Ticket: 64770 <b>DST#: 1</b>  Test Start: 2016.04.11 @ 06:08:00	

**GENERAL INFORMATION:**

Formation: <b>LKC " C "</b>	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Jim Svaty
Time Tool Opened: 07:45:45	Unit No: 76
Time Test Ended: 12:07:00	
Interval: <b>3431.00 ft (KB) To 3470.00 ft (KB) (TVD)</b>	Reference Elevations: 2145.00 ft (KB)
Total Depth: 3470.00 ft (KB) (TVD)	2137.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair	KB to GR/CF: 8.00 ft

<b>Serial #: 8289</b>	<b>Outside</b>		
Press@RunDepth: 24.21 psig @ 3435.00 ft (KB)	Capacity: 8000.00 psig		
Start Date: 2016.04.11	End Date: 2016.04.11	Last Calib.: 2016.04.11	
Start Time: 06:08:02	End Time: 12:07:00	Time On Btm: 2016.04.11 @ 07:45:30	
		Time Off Btm: 2016.04.11 @ 10:46:30	

**TEST COMMENT:** 45-IFP- 1 3/4in. Blow in 11min. Died Back in 30min.  
 45-ISIP- No Blow  
 45-FFP- No Blow  
 45-FSIP- No Blow



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1648.95	100.31	Initial Hydro-static
1	20.41	99.37	Open To Flow (1)
45	22.60	100.79	Shut-In(1)
90	576.01	102.21	End Shut-In(1)
91	22.46	101.97	Open To Flow (2)
135	24.21	103.01	Shut-In(2)
181	503.66	104.05	End Shut-In(2)
181	1544.43	104.74	Final Hydro-static

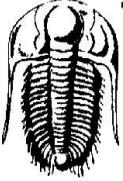
Recovery		
Length (ft)	Description	Volume (bbl)
15.00	OSM 100%	0.21

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


Trilobite Testing, Inc

Ref. No: 64770

Printed: 2016.04.11 @ 13:02:12

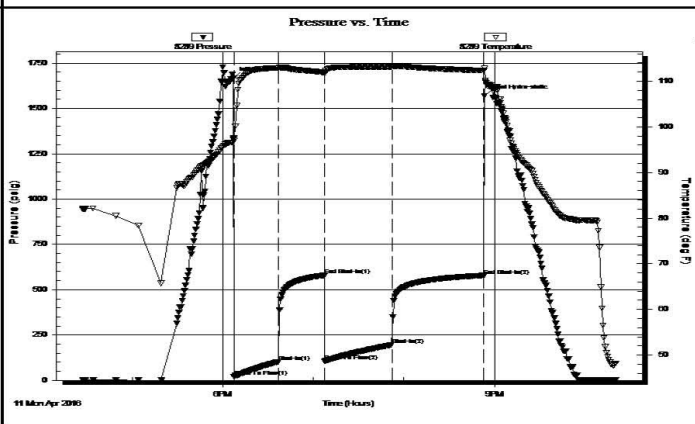
 <b>TRILOBITE TESTING, INC.</b>	<b>DRILL STEM TEST REPORT</b>	
	<table style="width:100%"> <tr> <td style="width:50%"> <b>TDI Inc</b>            1310 Bison Rd            Hays KS 67601-9696            ATTN: Herb Deines         </td> <td style="width:50%"> <b>6 12s 18w Ellis</b>  <b>Lynette #1</b>            Job Ticket: 64771      <b>DST#: 2</b>            Test Start: 2016.04.11 @ 16:27:00         </td> </tr> </table>	<b>TDI Inc</b> 1310 Bison Rd Hays KS 67601-9696 ATTN: Herb Deines
<b>TDI Inc</b> 1310 Bison Rd Hays KS 67601-9696 ATTN: Herb Deines	<b>6 12s 18w Ellis</b> <b>Lynette #1</b> Job Ticket: 64771 <b>DST#: 2</b> Test Start: 2016.04.11 @ 16:27:00	

**GENERAL INFORMATION:**

Formation: <b>LKC " D "</b>	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Jim Svaty
Time Tool Opened: 18:07:15	Unit No: 76
Time Test Ended: 22:21:00	
<b>Interval: 3468.00 ft (KB) To 3490.00 ft (KB) (TVD)</b>	Reference Elevations: 2145.00 ft (KB)
Total Depth: 3490.00 ft (KB) (TVD)	2137.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Fair
	KB to GR/CF: 8.00 ft

<b>Serial #: 8289</b> <b>Outside</b>	Capacity: 8000.00 psig
Press@RunDepth: 196.41 psig @ 3473.00 ft (KB)	Last Calib.: 2016.04.11
Start Date: 2016.04.11	End Date: 2016.04.11
Start Time: 16:27:02	End Time: 22:20:45
	Time On Btm: 2016.04.11 @ 18:07:00
	Time Off Btm: 2016.04.11 @ 20:53:15

**TEST COMMENT:** 30-IFP- BOB in 13min.  
 30-ISIP- No Blow  
 45-FFP- BOB in 19min.  
 60-FSP- No Blow



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1667.59	97.53	Initial Hydro-static
1	21.49	96.98	Open To Flow (1)
30	102.73	112.93	Shut-In(1)
61	579.34	111.91	End Shut-In(1)
61	106.27	111.67	Open To Flow (2)
105	196.41	113.15	Shut-In(2)
166	578.53	112.35	End Shut-In(2)
167	1568.41	112.81	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbt)
375.00	Water 100%	5.26

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

\* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 64771

Printed: 2016.04.12 @ 07:21:04



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

TDI Inc  
 1310 Bison Rd  
 Hays KS 67601-9696  
 ATTN: Herb Deines

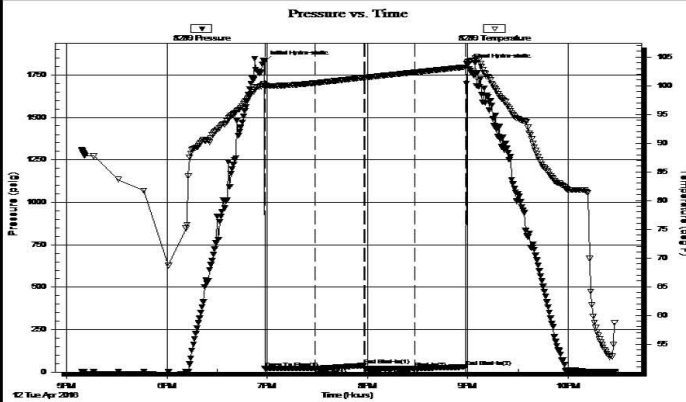
**6 12s 18w Ellis**  
**Lynette #1**  
 Job Ticket: 64772 **DST#: 3**  
 Test Start: 2016.04.12 @ 17:09:00

**GENERAL INFORMATION:**

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 18:58:30  
 Time Test Ended: 22:28:00  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Jim Svaty  
 Unit No: 76  
 Interval: **3654.00 ft (KB) To 3720.00 ft (KB) (TVD)**  
 Total Depth: 3720.00 ft (KB) (TVD)  
 Reference Elevations: 2145.00 ft (KB)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 KB to GR/CF: 8.00 ft  
 2137.00 ft (CF)

**Serial #: 8289 Outside**  
 Press@RunDepth: 21.86 psig @ 3660.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.04.12 End Date: 2016.04.12 Last Calib.: 2016.04.12  
 Start Time: 17:09:02 End Time: 22:28:15 Time On Btm: 2016.04.12 @ 18:58:15  
 Time Off Btm: 2016.04.12 @ 20:59:45

**TEST COMMENT:** 30-IFP- 1/4in. Blow Died Back in 19min.  
 30-ISIP- No Blow  
 30-FFP- No Blow  
 30-FSIP- No Blow



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1825.16	100.37	Initial Hydro-static
1	22.03	99.76	Open To Flow (1)
31	20.56	100.47	Shut-In(1)
60	38.84	101.43	End Shut-In(1)
61	21.72	101.44	Open To Flow(2)
91	21.86	102.34	Shut-In(2)
121	30.51	103.24	End Shut-In(2)
122	1807.03	104.16	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
4.00	Mud 100%	0.06

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

\* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 64772

Printed: 2016.04.13 @ 07:27:20

**LYNETTE # 1**  
**E2 NE NW NE**  
**SEC.6-12S-18W**  
**2135'GL 2143'KB**

**DESMARTEAU #1**  
**NE SW SE SW**  
**SEC.31-11-18W**  
**KB 2124'**


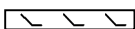







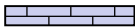


**PFEIFER # 1**  
**S2 SE SE**  
**SEC.31-11-18W**  
**KB 2095'**

<u>FORMATION</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1470 +673	+ 666	+ 686
B-Anhydrite	1505 +638	+ 632	+ 647
Topeka	3150-1007	-1012	-1003
Heebner Sh.	3375-1232	-1237	-1229
Toronto	3398-1255	-1258	-1251
LKC	3420-1277	-1279	-1273
BKC	3651-1508	-1512	-1507
Rework Arbuckle	3704-1561		
Arbuckle	3740-1597	-1560	-1561
RTD	3800-1657	-1651	-1581

### SUMMARY OF DAILY ACTIVITY

- 4-07-16 Spud 10:45 AM, set 8 5/8" surface casing to 211' w/150 sxs  
Common 2%Gel 3%CC, slope 3/4 degree, plug down 4:30PM
- 4-08-16 675', drill plug 12:30 AM
- 4-09-16 2340', drilling
- 4-10-16 3045', drilling, displaced 3032' to 3040', CFS 3413', short trip
- 4-11-16 3470', drilling, CFS 3470', DST #1 3431' to 3470' "A"- "C" LKC, TIWB,  
CFS 3490', DST # 2 3468'-3490' "D" LKC
- 4-12-16 3590', drilling, CFS 3717', CFS 3720' TOWB, DST # 3 3654' to 3720'  
Arbuckle, TIWB
- 4-13-16 3800', drilling, RTD 3800' @3:22AM, CCH, TOWB, logs, TIWB, LDDP,  
run 5 1/2" production casing for SWD, slope survey @3800' 1 degree

### ROCK TYPES

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

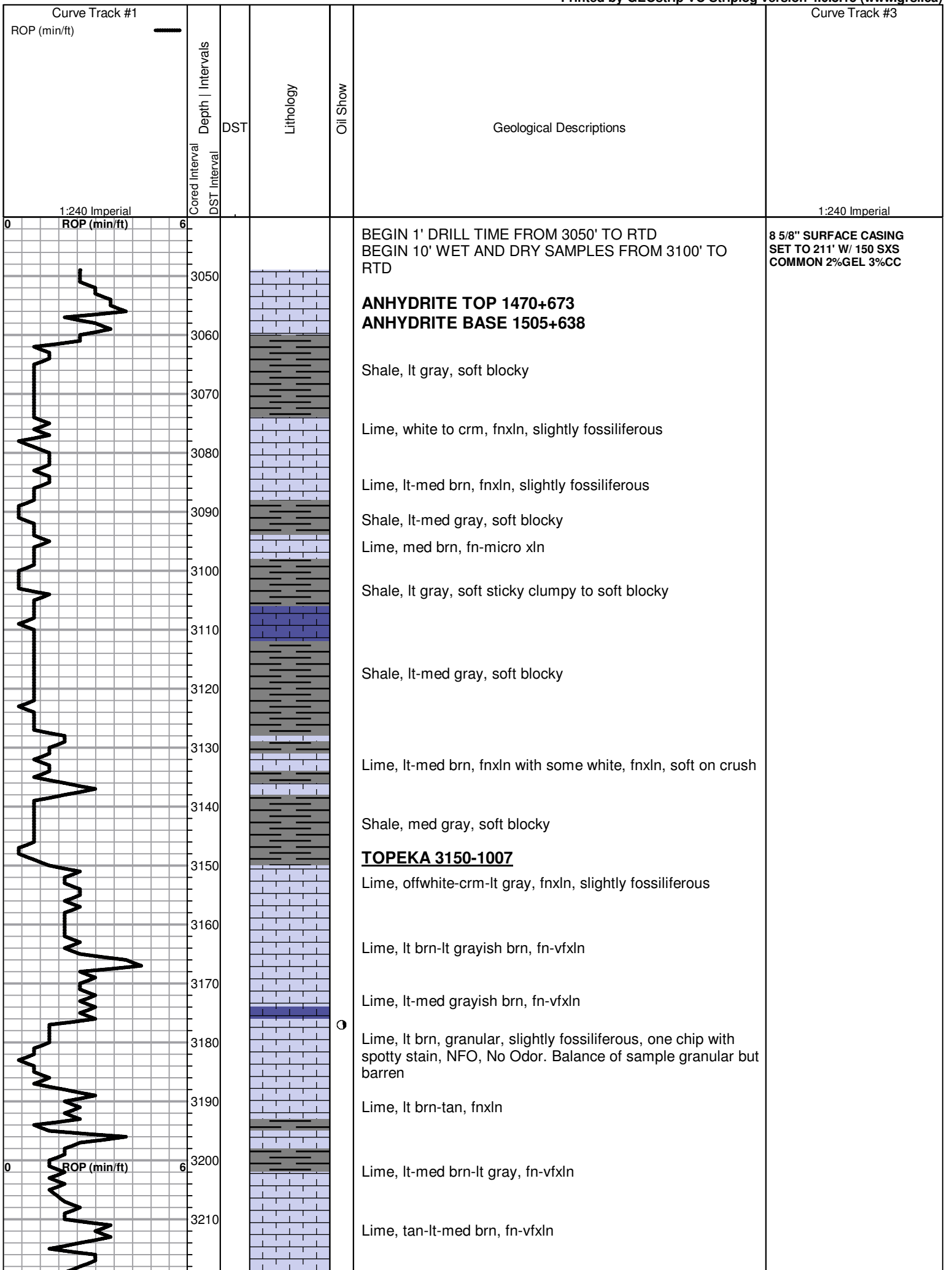
### ACCESSORIES

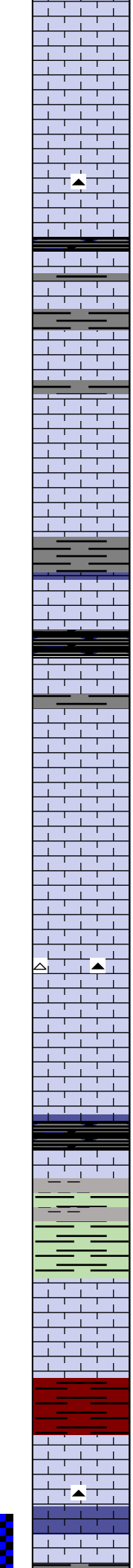
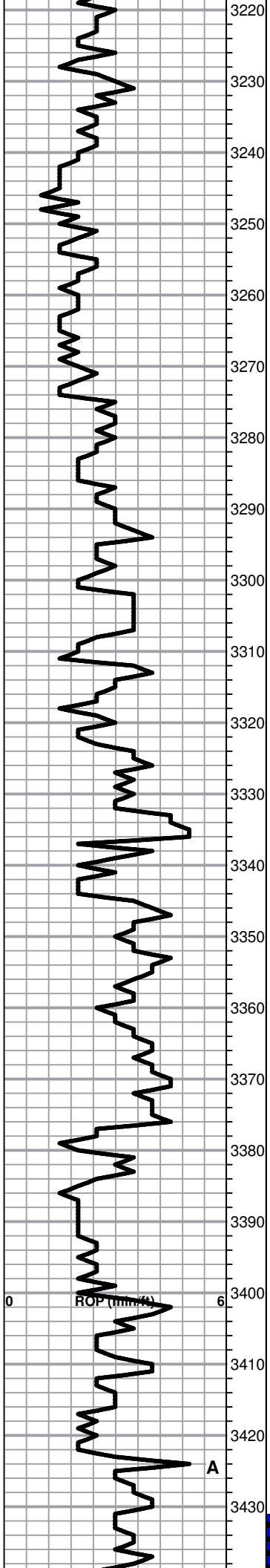
#### MINERAL

- ▲ Chert, dark
- △ Chert White

#### FOSSIL

- ⊕ Oolite





Lime, lt-med brn, fn-vfxln

Lime, lt-med brn-lt gray, fn-vfxln

Lime, lt-med brn, fn-vfxln  
Chert, gray, fossiliferous in part

Shale, black carbonaceous, blocky

Lime, crm, fn-micro xln

Lime, crm, fn-micro xln, lithographic

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

Lime, crm-lt brn-lt gray near shale contact, fn-micro xln, thin fossil beds well cemented

Shale, med gray, firm blocky

Lime, tan-lt brn, fn-vfxln

Shale, black carbonaceous, fissile, blocky

Lime, lt gray, fn-micro xln

Lime, crm, fnxln-granular, slight chalk content

Lime, lt brn, fn-vfxln

○ Lime, white with white chalk wash, few chips granular with spotty staining with interxln porosity, NFO, No Odor

Lime,lt-med brn, fn-vfxln

△ ▲ Lime, lt-med brn, fnxln-slightly granular in part

Lime, lt brn, fn-vfxln

**HEEBNER SHALE 3375-1232**  
Shale, black carbonaceous, fissile, blocky  
Lime, lt brn, fn-micro xln

Shale, lt gray, soft slivers-lime green, soft mud

**TORONTO 3398-1255**  
Lime, crm-tan, fn-vfxln, slight bedded chalk

Lime, crm-lt gray, fn-vfxln

Shale, red soft with red wash

**LKC 3420-1277**  
Lime, crm-lt brn, fn-micro xln

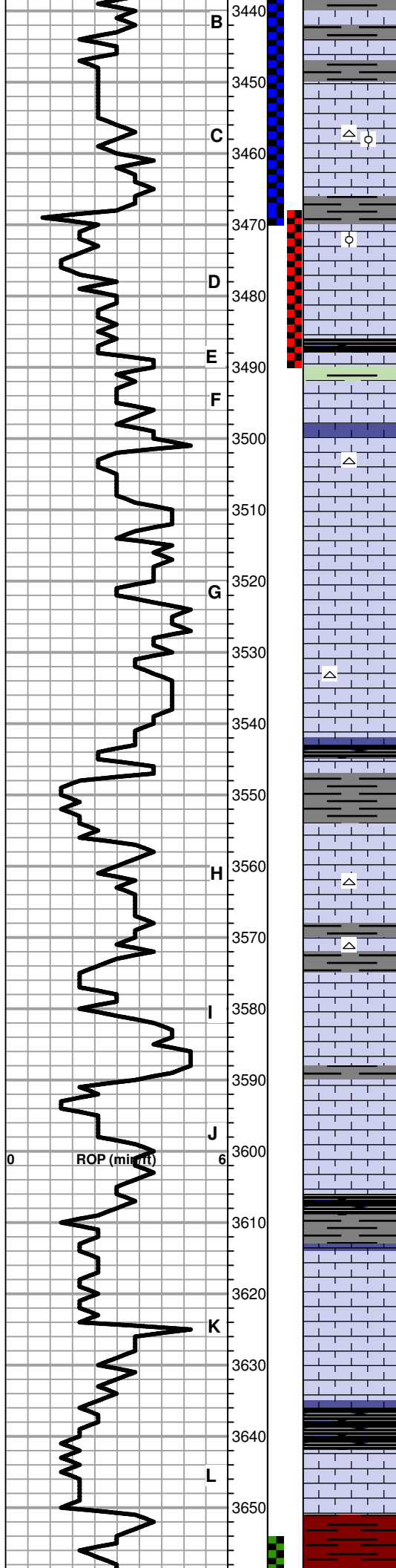
▲

Lime, lt-med brn, fn-micro xln, thin, cemented fusulinid beds

CFS 3413' AND SHORT TRIP  
PULLED 25 STANDS

ROP (mm/K)

A



Lime, lt-med brn, fn-micro xln

Lime, lt brn, fnxln, slightly oolitic in part with fine pinpoint vugular porosity, spotty stain, few specks of free oil and lt odor

Lime, white-crm, fnxln with sticky chalk clumps in part, oolitic in part with scattered lt stain, NFO, F-G odor, poorly developed interoolitic porosity with fine pinpoint vuggy porosity in part

Shale, black carbonaceous, blocky, fissile

Lime, crm, fnxln-granular, fine oolitic with fossil fragments, fine spotty stain in poorly developed zone

Lime, crm, fnxln-granular with coarse grains in part, NS

Lime, crm-lt brn, fn-micro xln

Lime, crm-lt brn, fn-micro xln

Lime, crm-lt brn, fn-micro xln

Lime, crm-lt brn-lt gray, fn-micro xln  
Shale, black carbonaceous

D Lime, crm-lt brn, fnxln, 1 chip with flaky gilsonite

Lime, med brn, fn-micro xln

O Lime, crm, fn-vfxln, poorly developed, fine oolitic zone with spotty staining in fine pinpoint vuggy porosity, NFO or odor

Lime, offwhite-crm-lt brn, fn-micro xln, NS, No Odor

Lime, crm-offwhite, fn-vfxln

Shale, gray-black carbonaceous, blocky

O Lime, crm-lt brn, fnxln with thin oolitic, poorly developed bed, spotty dark staining, NFO, lt odor

Lime, crm, fn-micro xln

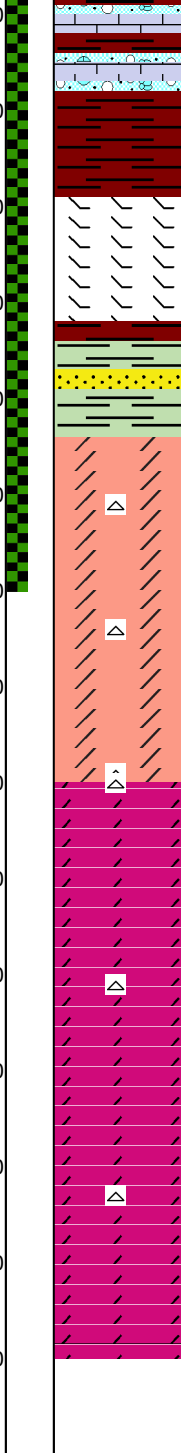
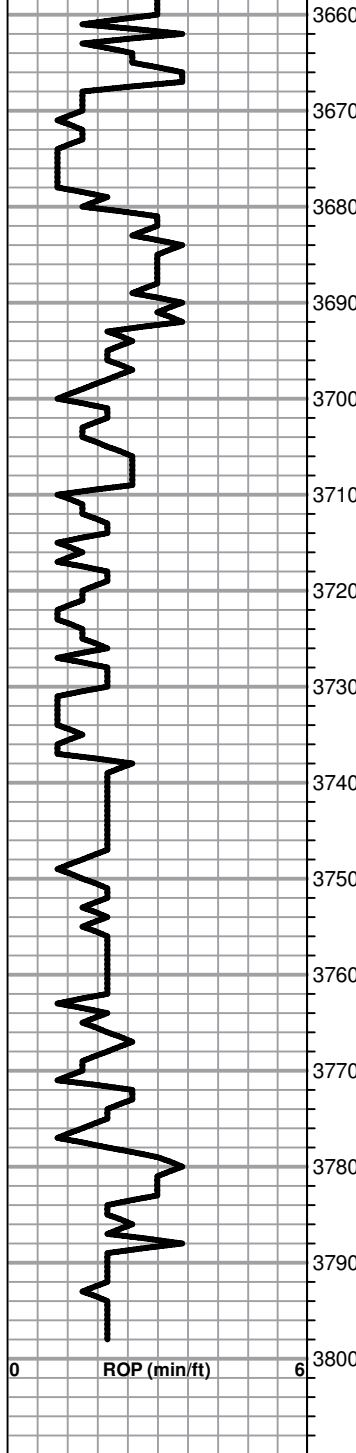
Shale, black carbonaceous, blocky with black chert chips

Lime, crm-lt brn-lt gray, fn-vfxln

**BKC 3651-1508**

Shale, red, soft blocky





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

Lime, crm-brn, fnxln-granular with red shale staining

Shale, red, soft blocky

Lime, white with red shale staining, hard granular, slightly dolomitic

Shale, lime green, soft sticky, weathered simpson shale

**REWORKED ARBUCKLE 3704-1561**

Dolomite, clastic mix with lt-dark fnxln-granular chips, scattered cherts and quartz grains. Few chips with bleeding show of free oil as chip warmed up, very lt odor not typical of Arbuckle oil

Dolomite, mix of lt-dark color, fnxln-granular

Dolomite, mix as above

**ARBUCKLE 3740-1597**

Dolomite, lt brn, fnxln-granular, gilsonitic, flaky, NFO or odor, lt chalky wash

Dolomite, crm-lt brn, fnxln-granular, scattered flaky gilsonite

Dolomite, lt-med brn, fnxln-granular

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

Dolomite, crm-lt brn, fnxln-granular, fine grainied with interxln porosity

**RTD 3800-1657 LTD 3798-1655**

DST # 3 3654-3720 SEE HEADER FOR TEST SUMMARY

REWORKED SECTION APPEARED TO CONSIST OF CLASTIC DOLOMITE WITH NO SHALE CONTENT

GRANULAR DOLOMITE ALL FINE GRAINED WITH FINE INTERXLN POROSITY