

**OPERATOR**

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

Contact Geologist: TOM DENNING  
 Contact Phone Nbr: 785-628-2593  
 Well Name: MATLOCK # 3  
 Location: NW NE SE SW, SEC.26-T13S-R19W  
 API: 15-051-26,966-00-00  
 Pool:  
 State: KANSAS

Field: SACKS WEST  
 Country: USA



Scale 1:240 Imperial

Well Name: MATLOCK # 3  
 Surface Location: NW NE SE SW, SEC.26-T13S-R19W  
 Bottom Location:  
 API: 15-051-26,966-00-00  
 License Number: 4787  
 Spud Date: 9/26/2019 Time: 5:45 PM  
 Region: ELLIS COUNTY  
 Drilling Completed: 10/2/2019 Time: 2:47 PM  
 Surface Coordinates: 1010' FSL & 2155' FWL  
 Bottom Hole Coordinates:  
 Ground Elevation: 2179.00ft  
 K.B. Elevation: 2189.00ft  
 Logged Interval: 3000.00ft To: 3920.00ft  
 Total Depth: 3920.00ft  
 Formation: LANSING-KANSAS CITY  
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: -99.4024134  
 Latitude: 38.888038  
 N/S Co-ord: 1010' FSL  
 E/W Co-ord: 2155' FWL

**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 #: 1  
 Rig Type: MUD ROTARY  
 Spud Date: 9/26/2019 Time: 5:45 PM  
 TD Date: 10/2/2019 Time: 2:47 PM

**ELEVATIONS**

K.B. Elevation: 2189.00ft  
K.B. to Ground: 10.00ft

Ground Elevation: 2179.00ft

**NOTES**

DECISION TO PLUG AND ABANDON WELL DUE TO NEGATIVE RESULTS OF TWO DSTS.

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) STRADDLE TESTS.

<b>MATLOCK # 3</b>	<b>MATLOCK # 1</b>	<b>YOUNGER # 1</b>
<b>NW NE SE SW</b>	<b>NW SW NE SE</b>	<b>SW NE SW NW</b>
<b>SEC.26-13S-19W</b>	<b>SEC.26-13-19W</b>	<b>SEC.35-13-19W</b>
<b>KB 2189'</b>	<b>KB 2172'</b>	<b>KB 2174'</b>

	<b>LOG TOPS</b>		
<b>Anhydrite top</b>	<b>1485 +704</b>	<b>+ 704</b>	<b>+ 704</b>
<b>Anhydrite base</b>	<b>1525 +664</b>	<b>+ 667</b>	<b>+ 664</b>
<b>Topeka</b>	<b>3209-1020</b>	<b>-1010</b>	<b>-1015</b>
<b>Heebner Sh.</b>	<b>3459-1270</b>	<b>-1260</b>	<b>-1267</b>
<b>Toronto</b>	<b>3480-1291</b>	<b>-1280</b>	<b>-1285</b>
<b>LKC</b>	<b>3504-1315</b>	<b>-1305</b>	<b>-1311</b>
<b>BKC</b>	<b>3748-1559</b>	<b>-1542</b>	<b>-1552</b>
<b>Arbuckle</b>	<b>3843-1654</b>	<b>-1642</b>	<b>-1668</b>
<b>RTD</b>	<b>3920-1731</b>	<b>-1728</b>	<b>-1751</b>

**SUMMARY OF DAILY ACTIVITY**

**09-26-19** RU, Spud 5:45 pm, set 8 5/8" surface casing to 225.92' w/ 150 sxs  
60/40 pos 2%gel 3%CC, plug down 11:00PM, slope ¾ degree, WOC

**09-27-19** 226', drill plug 7:00 AM, drilling

**09-28-19** 1496' drilling

**09-29-19** 2450', drilling, displaced 2795'-2805'

**09-30-19** 3035' drilling, bit trip 3102'

**10-01-19** 3403', drilling, soaking rains, decision to drill down and log

**10-02-19** 3728', drilling, RTD 3920'@ 2:45PM, short trip-25 stands, TOWB,  
logs, DST # 1 straddle test 3520'-3563' "C" & "D", make up tool

**10-03-19** 3920', finish DST # 1, run DST # 2 straddle test 3675'-3690' "J",  
LDDP and P&A



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

TDI  
1310 Bison Rd  
Hays Ks 67601  
ATTN: Herb Deines

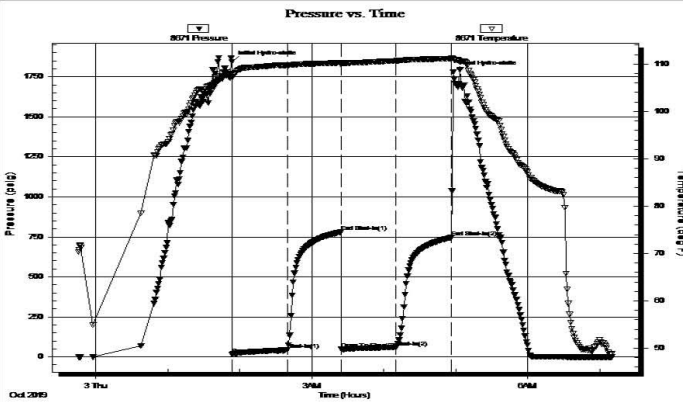
**26 - 13S - 19W**  
**Matlock #3**  
Job Ticket: 66319 **DST#: 1**  
Test Start: 2019.10.02 @ 23:46:00

**GENERAL INFORMATION:**

Formation: **C & D**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 01:54:00  
Time Test Ended: 07:10:00  
Test Type: Conventional Straddle (Initial)  
Tester: Royal Fisher  
Unit No: #77  
Interval: **3520.00 ft (KB) To 3563.00 ft (KB) (TVD)**  
Reference Elevations: 2189.00 ft (KB)  
Total Depth: 3920.00 ft (KB) (TVD)  
2179.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
KB to GR/CF: 10.00 ft

**Serial #: 8671 Outside**  
Press@RunDepth: 60.53 psig @ 3521.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2019.10.02 End Date: 2019.10.03 Last Calib.: 2019.10.03  
Start Time: 23:46:05 End Time: 07:09:59 Time On Btm: 2019.10.03 @ 01:53:45  
Time Off Btm: 2019.10.03 @ 04:57:45

**TEST COMMENT:** 45 - IFP- Surface blow built up to 4 1/2"  
45 - ISI - No Return  
45 - FFP - Surface blow built up to 3"  
45 - FSI - No Return



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1845.04	108.01	Initial Hydro-static
1	16.96	107.24	Open To Flow (1)
46	43.69	109.74	Shut-In(1)
91	780.13	110.27	End Shut-In(1)
91	50.38	109.82	Open To Flow (2)
136	60.53	110.69	Shut-In(2)
183	745.68	111.11	End Shut-In(2)
184	1778.97	111.09	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbt)
2.00	Free Oil - 100%o	0.02
112.00	OCMVV - 5%o - 40%m - 55%w	1.15

**Gas Rates**

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

TDI  
1310 Bison Rd  
Hays Ks 67601  
ATTN: Herb Deines

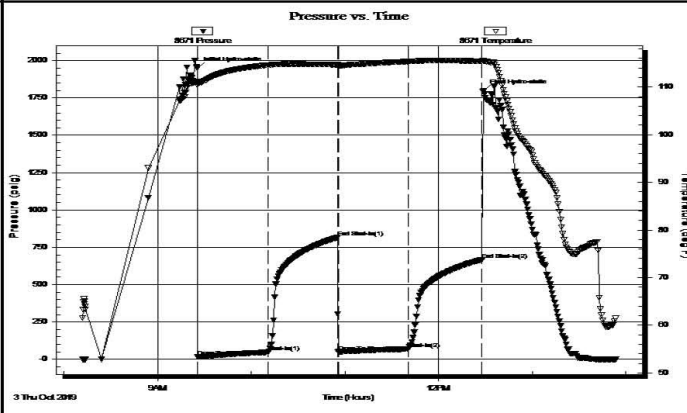
**26 - 13S - 19W**  
**Matlock #3**  
Job Ticket: 66320 **DST#: 2**  
Test Start: 2019.10.03 @ 08:12:00

**GENERAL INFORMATION:**

Formation: **J**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 09:25:30  
Time Test Ended: 13:53:15  
Test Type: Conventional Straddle (Initial)  
Tester: Royal Fisher  
Unit No: #77  
Interval: **3675.00 ft (KB) To 3690.00 ft (KB) (TVD)**  
Reference Elevations: 2189.00 ft (KB)  
Total Depth: 3920.00 ft (KB) (TVD) 2179.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

**Serial #: 8671 Outside**  
Press@RunDepth: 68.75 psig @ 3676.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2019.10.03 End Date: 2019.10.03 Last Calib.: 2019.10.03  
Start Time: 08:12:05 End Time: 13:53:14 Time On Btm: 2019.10.03 @ 09:25:15  
Time Off Btm: 2019.10.03 @ 12:28:45

**TEST COMMENT:** 45 - IFP - Surface blow built up to 6"  
45 - ISI - No Return  
45 - FFP - Surface blow built up to 3"  
45 - FSI - No Return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1949.80	111.07	Initial Hydro-static
1	17.14	110.40	Open To Flow (1)
46	47.54	114.59	Shut-In(1)
90	814.97	114.67	End Shut-In(1)
91	50.13	114.42	Open To Flow (2)
136	68.75	115.34	Shut-In(2)
183	667.55	115.42	End Shut-In(2)
184	1798.99	115.51	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
20.00	OCW - 10%o - 90%w	0.21
63.00	OSW - Oil Skim - 100%w	0.65

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

Trilobite Testing, Inc

Ref. No: 66320

Printed: 2019.10.03 @ 14:49:59

**ROCK TYPES**

Chtcong	Lmst fw<7	shale, grn	shale, red
Dolprim	Lmst fw>7	shale, gry	
Dol Lime	Lscong	Carbon Sh	

**ACCESSORIES**

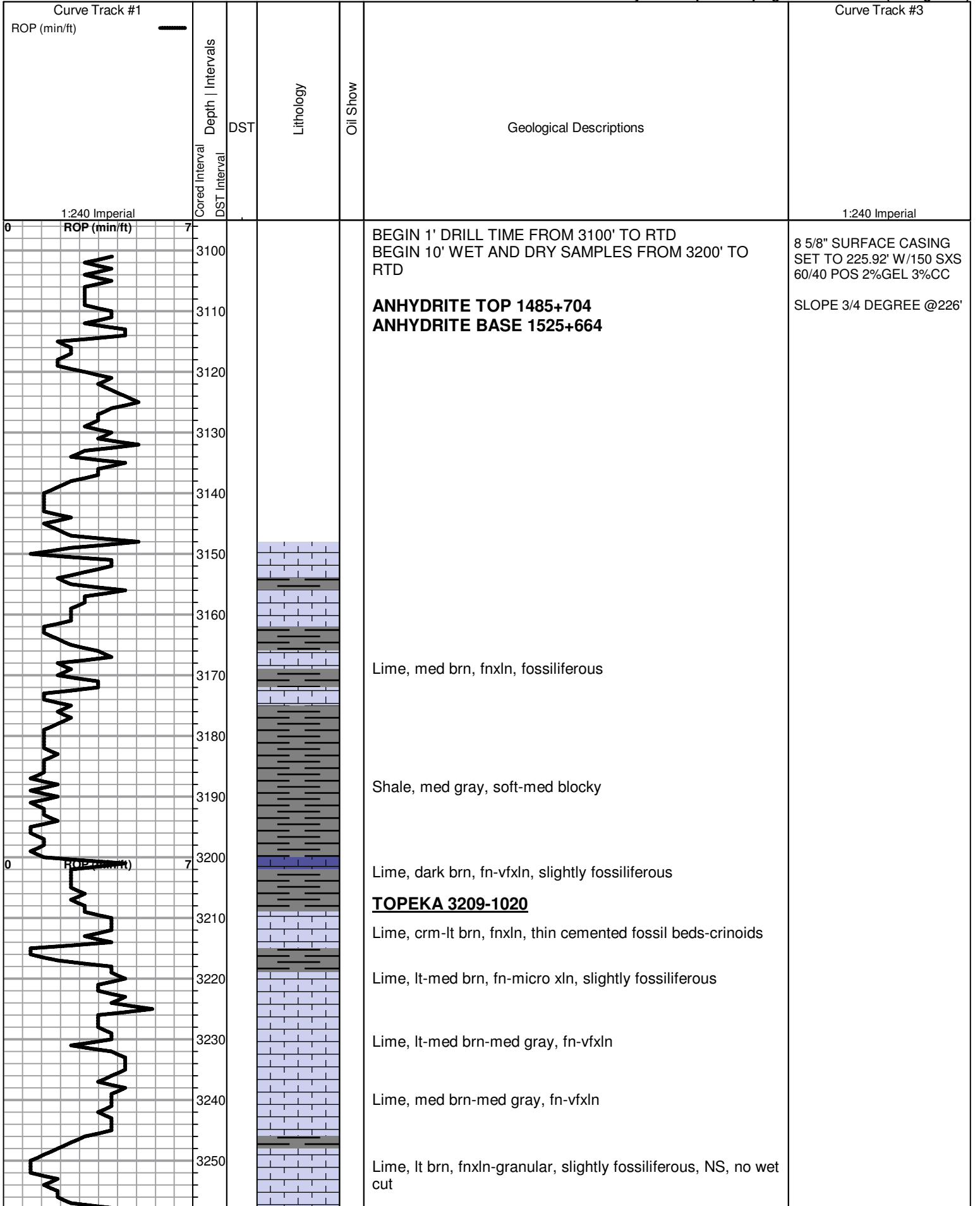
**MINERAL**

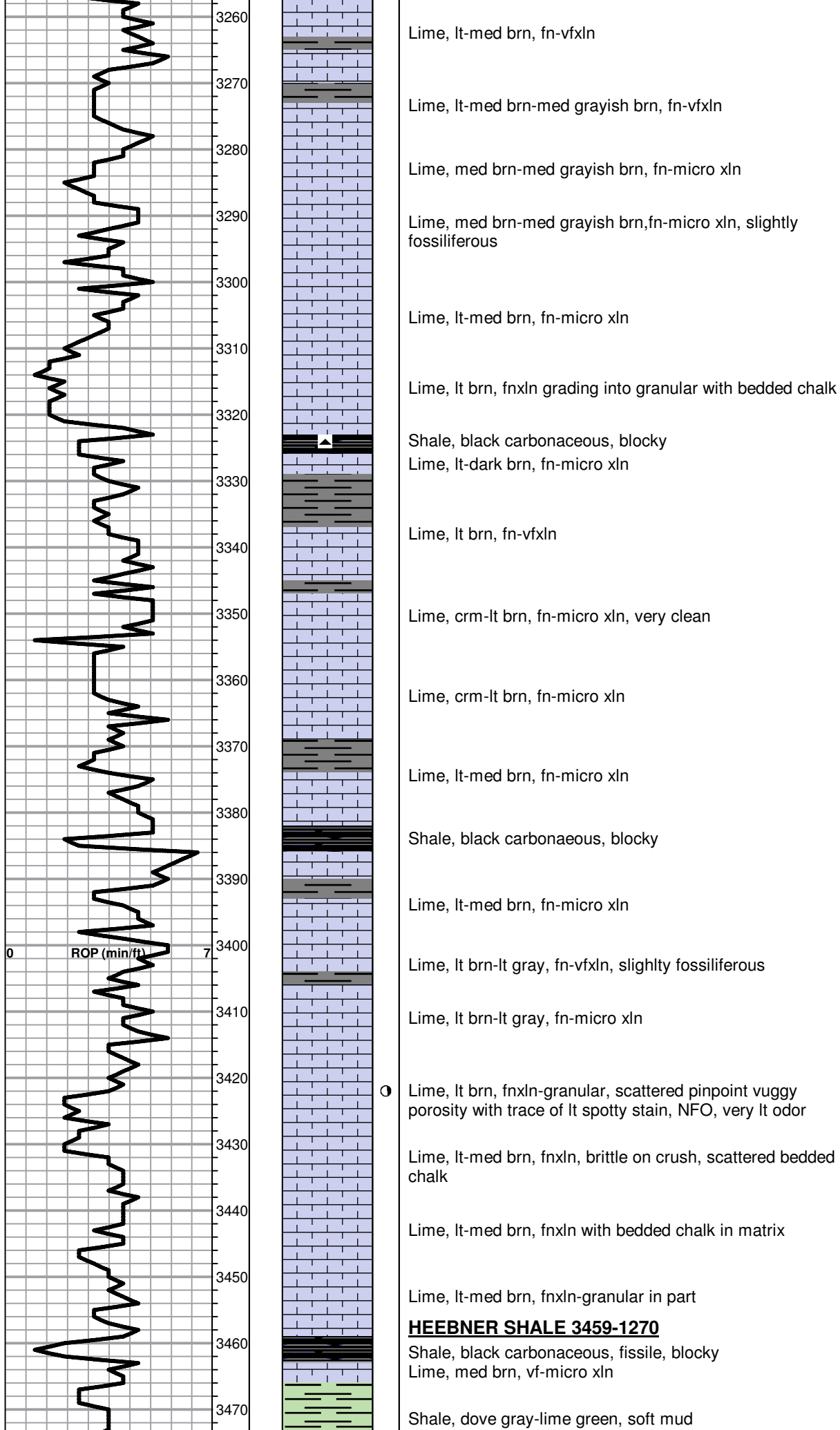
▲ Chert, dark

**FOSSIL**

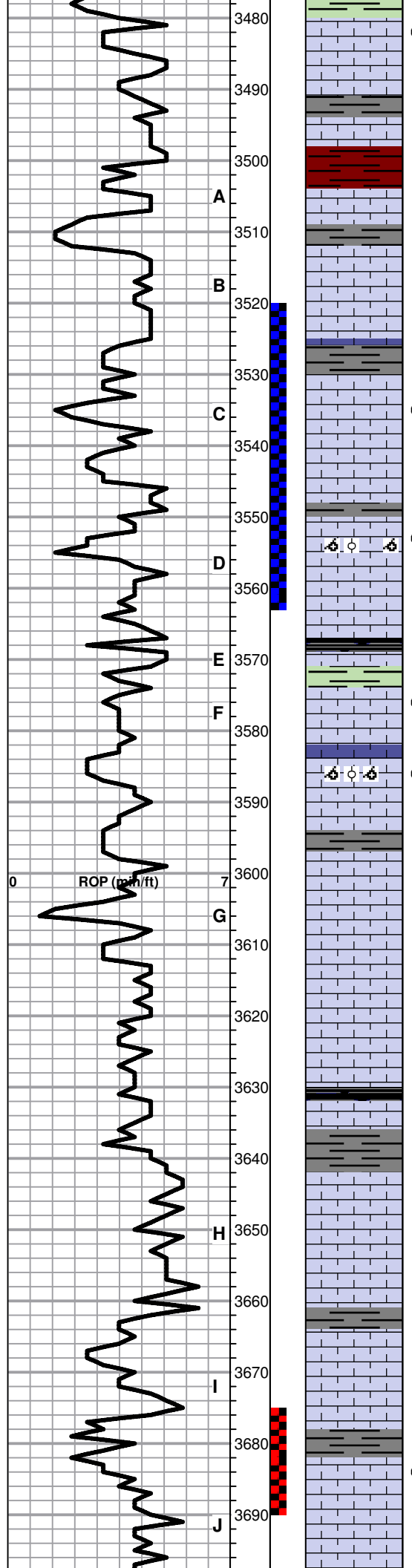
○ Oolite

⊗ Oomoldic





**TORONTO 3480-1291**



○ Lime, white, fn-vfxln with bed chalk, few chips with spotty lt staining, NFO or odor

Lime, lt-med brn, fn-micro xln

Shale, red with lt red wash, soft mud-soft blocky  
**LKC 3504-1315**

Lime, crm-lt brn, fn-micro xln

Lime, crm-lt brn, fn-micro xln

Lime, lt-med brn, fn-micro xln

○ Lime, tan-lt brn, fnxln, few chips fossiliferous with trace of staining in casts with lt odor. NFO

Lime, crm, fn-micro xln, bedded chalk with white wash

○ Lime, lt brn, fnxln, oolitic/oomoldic in part, NFO, spotty stain, bounced rotary table with torquing.

Lime, lt brn, fn-micro xln

Shale, black carbonaceous, blocky

○ Lime, crm-lt brn, fnxln, fossiliferous, scattered vugs with spotty dark stain, NFO, very lt odor

○ Lime, crm, fnxln-granular-oolitic/oomoldic, spotty lt staining, NFO, very lt odor.

Lime, white-crm, fnxln, white chalk wash

Lime, crm-lt brn, fn-vfxln, bedded chalk with white wash

Lime, crm-lt brn, fn-vfxln

Lime, crm-lt brn, fn-micro xln, bedded chalk with white wash

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

Lime, crm-lt brn, fn-micro xln

Lime, crm-lt-med brn, fn-micro xln

Lime, dark brn, micro xln

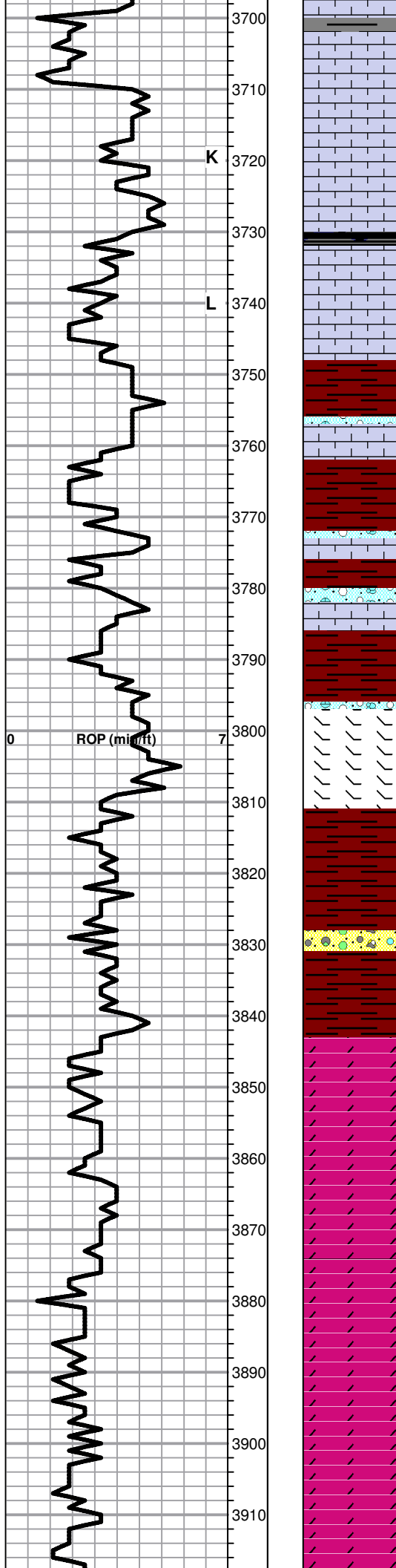
Lime, crm-lt brn, fn-micro xln, har on crush, NFO or odor

○ Lime, crm-lt brn, fn-micro xln, scattered vugs and fossil casts with trace of lt staining, NFO or odor.

Lime, lt brn, micro xln

DST # 1 STRADDLE TEST  
3520'-3563' SEE HEADER  
FOR TEST SUMMARY

DST # 2 STRADDLE TEST  
3675'-3690' SEE HEADER  
FOR TEST SUMMARY



○ Lime, lt brn, fnxln with hard bedded chalk, NFO or odor, few oomoldic chips with spotty lt stain, NFO or odor

Lime, crm-lt brn, fn-micro xln, firm bedded chalk

K

Lime, crm-lt brn, fn-micro xln, firm bedded chalk

Shale, dark gray-black carbonaceous, blocky

○

Lime, lt brn, fn-vfxln, two chips with oomoldic porosity with scattered spotty dark staining, NFO or odor

**BKC 3748-1559**

Shale, red, soft with lt red wash

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

Shale, red-dark brn, soft to firm blocky

Lime, offwhite-lt gray, fn-vfxln, chalky in part  
Shale, vari colored

Shale, red soft with red wash

ROP (min/ft)

Lime, crm-lt brn, fn-vfxln grading into lt gray vfxln dolomitic lime.  
Chert, orange, fresh, sharp

Shale, red soft with red wash, brn shale soft blocky

Shale, red soft with deep red wash

Shale, red soft, sticky clumping  
Chert, reds, brns, oolitic

**ARBUCKLE 3843-1654**

Dolomite, tan, fnxln-granular, NS, no staining

Dolomite, crm-tan, fnxln-granular, NS

Dolomite, lt brn, fnxln-granular

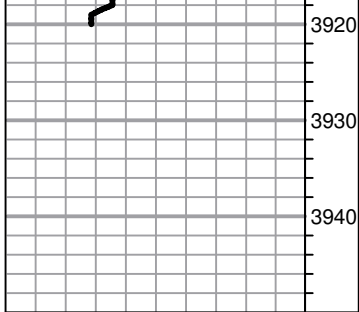
Dolomite, ivory-lt brn, fnxln-granular

Dolomite, ivory-lt brn, fnxln-granular

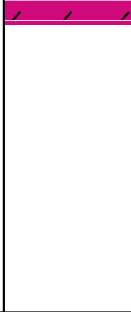
Dolomite, ivory-lt brn, fnxln-granular

Dolomite, ivory-lt brn, fnxln-granular





3920  
3930  
3940



Dolomite, ivory, fnxln-granular, scattered glauconite

**RTD 3920-1731 LTD 3922-1733**