

OPERATOR

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

Contact Geologist: TOM DENNING
 Contact Phone Nbr: 785-628-2593
 Well Name: MARCOTTE # 1
 Location: NE NE SW SW SEC. 29-T8S-R19W
 API: 15-163-24,297-00-00
 Pool:
 State: KANSAS

Field: HAYDEN NORTHWEST
 Country: USA



Scale 1:240 Imperial

Well Name: MARCOTTE # 1
 Surface Location: NE NE SW SW SEC. 29-T8S-R19W
 Bottom Location:
 API: 15-163-24,297-00-00
 License Number: 4787
 Spud Date: 6/29/2015 Time: 7:00 AM
 Region: ROOKS COUNTY
 Drilling Completed: 7/10/2015 Time: 2:00 AM
 Surface Coordinates: 1285' FSL & 1190' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 2034.00ft
 K.B. Elevation: 2044.00ft
 Logged Interval: 2100.00ft To: 3580.00ft
 Total Depth: 3580.00ft
 Formation: ARBUCKLE
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -99.4700096
 Latitude: 39.3250726
 N/S Co-ord: 1285' FSL
 E/W Co-ord: 1190' 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: 6/29/2015 Time: 7:00 AM
 TD Date: 7/10/2015 Time: 2:00 AM

ELEVATIONS

K.B. Elevation: 2044.00ft
 K.B. to Ground: 10.00ft

Ground Elevation: 2034.00ft

NOTES

RECOMMENDATION TO PLUG AND ABANDON WELL BASED ON NEGATIVE RESULTS OF THREE DSTS

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

DRILL STEM TESTING BY TRILOBITE TESTING INC: ONE CONVENTIONAL TEST AND TWO (2) STRADDLE TESTS

MARCOTTE # 1	ONDRASEK #7	WOLFENDON # 1
NE NE SW SW	SE NW NW	SW NW SW
SEC.29-8S-19W	SEC.32-8-19W	SEC.29-8-19W
2034'GL 2044'KB	KB 2040'	KB 2027'

<u>FORMATION</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1518 +526	+ 534	+ 528
B-Anhydrite	1550 +494		+ 491
Topeka	3009 - 965	- 952	- 963
Heebner Sh.	3216-1172	-1159	-1174
Toronto	3239-1195		-1195
LKC	3254-1210	-1199	-1212
BKC	3469-1425	-1415	
Arbuckle	3502-1458	-1442	
RTD	3580-1536	-1445	-1473

SUMMARY OF DAILY ACTIVITY

6-29-15 Spud 7:00 AM, set 8 5/8" surface casing to 229' w/150 sxs Common 2%Gel 3%CC, plug down 10:00 PM, slope 1/4 degree

6-30-15 231', shut down until 7-06-15

7-06-15 1008', drilling

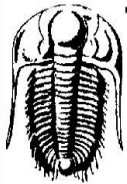
7-07-15 2310', drilling

7-08-15 3000', drilling, CFS 3325'

7-09-15 3445', CFS 3445', DST # 1 3395' to 3445' "I-J" LKC, TIWB

7-10-15 3580', RTD 3580' @2:30 AM, CCH, TOWB, logs, TIWB, DST # 2 straddle test 3454' to 3508' Arbuckle, DST # 3 straddle test 3296' to 3320' "D" LKC

7-11-15 3580'. TIWB. LDDP. P&A



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays KS, 67601
ATTN: Herb Deines

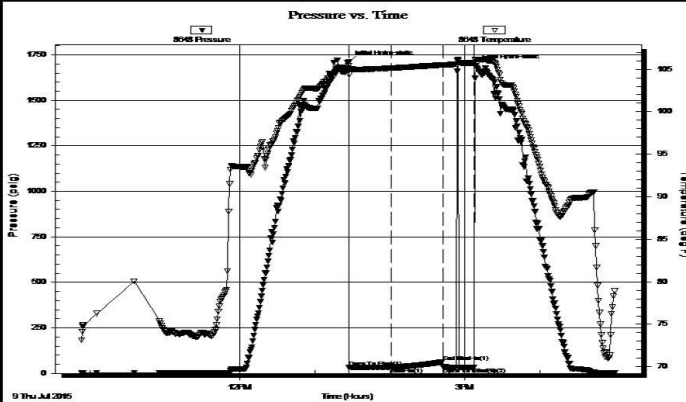
29-8s-19w Rooks KS
Marcotte #1
Job Ticket: 62719 **DST#: 1**
Test Start: 2015.07.09 @ 09:53:00

GENERAL INFORMATION:

Formation: **LKC "I-J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:27:15
 Time Test Ended: 17:00:15
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Cody Bloedorn
 Unit No: 73
 Interval: **3395.00 ft (KB) To 3445.00 ft (KB) (TVD)**
 Total Depth: 3445.00 ft (KB) (TVD)
 Reference Elevations: 2044.00 ft (KB)
 2039.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 KB to GR/CF: 5.00 ft

Serial #: 8648 Inside
 Press@RunDepth: 32.83 psig @ 3400.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.07.09 End Date: 2015.07.09 Last Calib.: 2015.07.09
 Start Time: 09:53:05 End Time: 17:00:14 Time On Btm: 2015.07.09 @ 13:27:00
 Time Off Btm: 2015.07.09 @ 15:08:30

TEST COMMENT: 30 - IF- Surged and died
 45 - IS- No return
 20 - FF- Surged and died, flushed tool after 10 minutes, surged and died, pulled tool after 10 minutes



PRESSURE SUMMARY

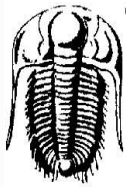
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1710.60	105.44	Initial Hydro-static
1	32.64	104.38	Open To Flow (1)
34	32.83	105.13	Shut-In(1)
75	62.66	105.50	End Shut-In(1)
76	35.17	105.50	Open To Flow (2)
101	34.10	105.76	Shut-In(2)
102	1689.47	106.14	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	Mud, 100% M	0.04

Gas Rates

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



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DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays KS, 67601
ATTN: Herb Deines

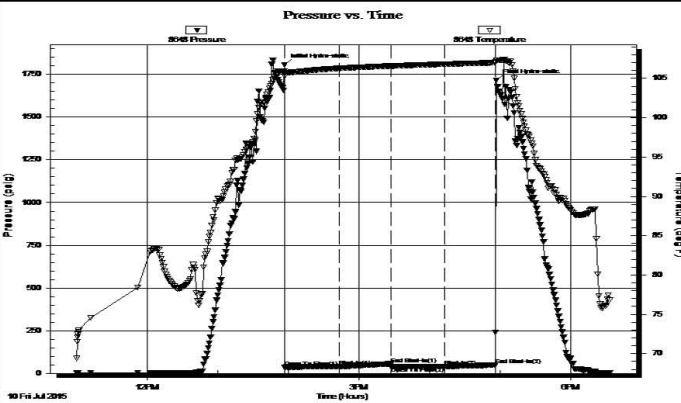
29-8s-19w Rooks KS
Marcotte #1
Job Ticket: 62720 **DST#: 2**
Test Start: 2015.07.10 @ 11:00:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:57:00
Time Test Ended: 18:33:00
Interval: **3454.00 ft (KB) To 3508.00 ft (KB) (TVD)**
Total Depth: 3581.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 2044.00 ft (KB)
2039.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8648 Inside
Press@RunDepth: 40.66 psig @ 3491.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2015.07.10 End Date: 2015.07.10 Last Calib.: 2015.07.10
Start Time: 11:00:05 End Time: 18:32:59 Time On Btm: 2015.07.10 @ 13:56:45
Time Off Btm: 2015.07.10 @ 16:56:45

TEST COMMENT: 45 - IF- 1/4" blow , died in 24 minutes
45 - IS- No return
45 - FF- Surged and died
45 - FS- No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1805.81	105.92	Initial Hydro-static
1	35.96	105.33	Open To Flow (1)
46	39.37	106.28	Shut-In(1)
90	55.17	106.59	End Shut-In(1)
91	39.08	106.58	Open To Flow (2)
136	40.66	106.82	Shut-In(2)
179	48.46	107.01	End Shut-In(2)
180	1714.80	107.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud, 100% M	0.07

* Recovery from multiple tests

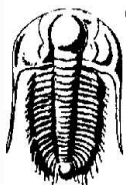
Gas Rates

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

Trilobite Testing, Inc

Ref. No: 62720

Printed: 2015.07.10 @ 23:47:37



TRILOBITE TESTING, INC.

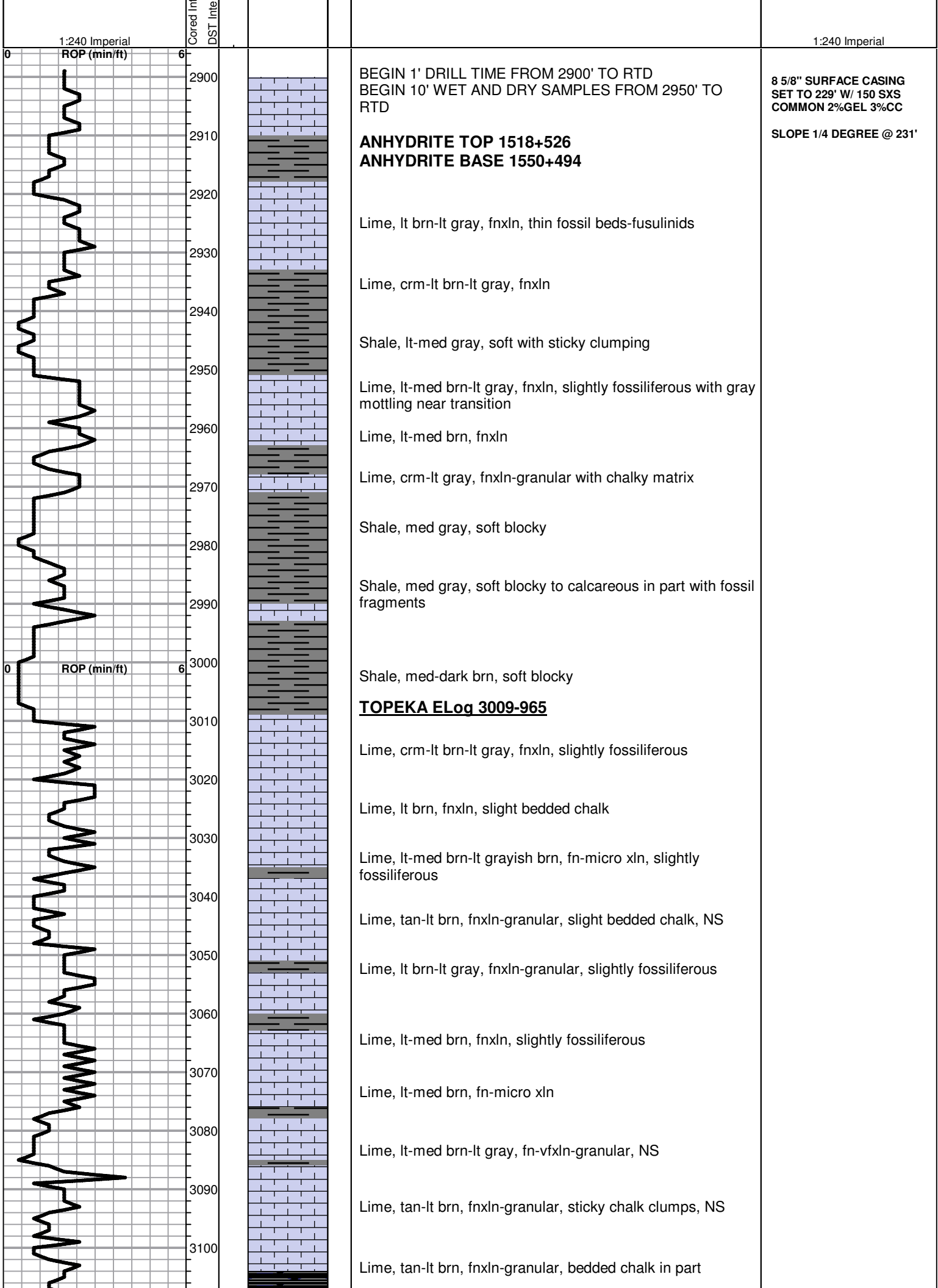
DRILL STEM TEST REPORT

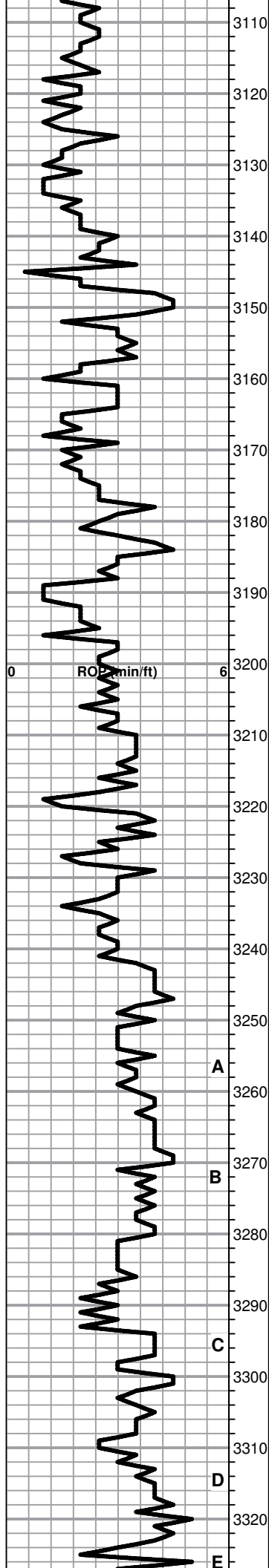
TDI
1310 Bison Rd
Hays KS, 67601
ATTN: Herb Deines

29-8s-19w Rooks KS
Marcotte #1
Job Ticket: 62721 **DST#: 3**
Test Start: 2015.07.10 @ 19:00:00

GENERAL INFORMATION:

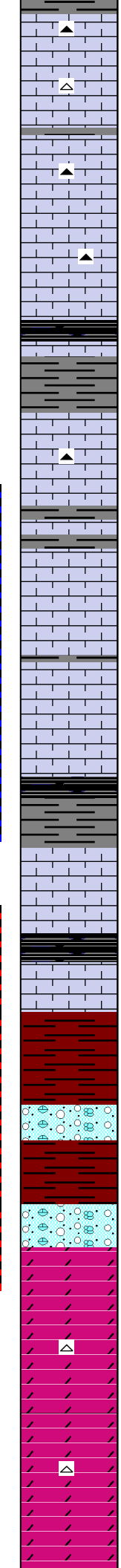
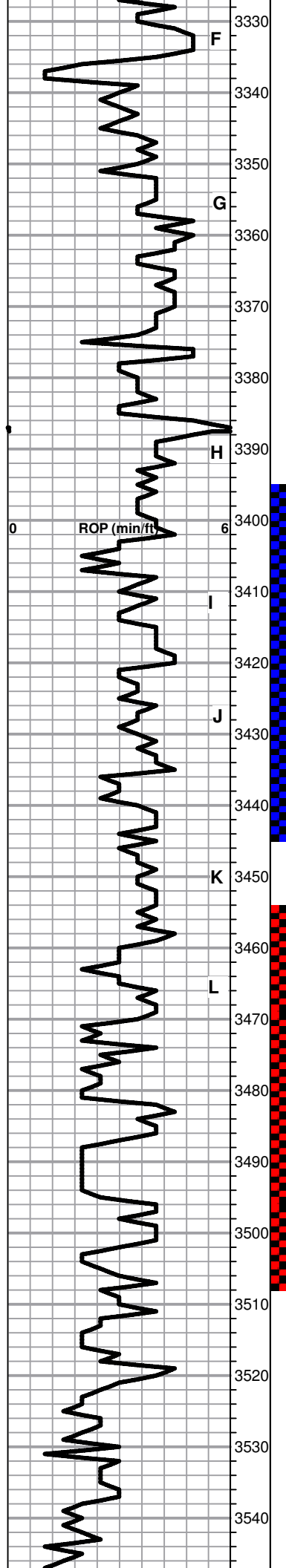
Formation: **LKC "D"**
Deviated: No Whipstock: ft (KB)
Test Type: Conventional Straddle (Reset)





3110	Shale, black carbonaceous, blocky, fissile
3120	Lime, lt brn, fnxln
3130	Lime, lt brn, granular, lt white chalky wash
3140	Lime, lt brn, fnxln-granular, lt chalk wash, NS
3150	Lime, crm-lt brn, fnxln, soft of crush
3160	Lime, crm-lt brn, fn-vfxln
3170	Shale, black carbonaceous, blocky, fissile
3180	Lime, lt-med brn, fnxln-granular in part, NS
3190	Lime, lt brn-lt grayish brn, fnxln Chert, dark brn, fresh, sharp
3200	Lime, lt-med brn, fnxln-granular, lt chalk wash
3210	Lime, lt-med brn, fnxln
3220	Lime, crm, fnxln
<u>HEEBNER SHALE ELog 3216-1172</u>	
3230	Shale, black carbonaceous, fissile, blocky Lime, med brn, fn-micro xln
3240	Shale, lt gray, soft blocky
<u>TORONTO ELog 3239-1195</u>	
3250	Lime, white, mostly fnxln, few chips fine granular, interxln porosity, specks of stain, NFO, No Odor
<u>LKC ELog 3254-1210</u>	
3260	Lime, crm, fnxln Chert, fresh, sharp
3270	Lime, crm, fnxln
3280	Lime, crm, fn-micro xln, slight bedded chalk, clean appearance
3290	Shale, med gray, moderately blocky
3300	Lime, crm, fn-vfxln Chert, brn, oolitic, well cemented, NS
3310	Shale, med gray, soft blocky
3320	Lime, crm, mostly fnxln, few chips fine granular, spotty stain, NFO, No Odor, fair wet cut
3330	Shale, gray-black carbonaceous, blocky Lime, tan, fn-vfxln

DST # 3 STRADDLE TEST
3296' TO 3320' "D" ZONE
SEE HEADER FOR TEST
SUMMARY



3330 F Lime, crm-lt brn, fn-vfxln with oolitic chert, well cemented, NS

3340 Lime, crm-tan, fnxln, chert, white, fresh, sharp

3350 G Lime, crm, fn-micro xln, chert, tan, fresh, sharp

3360 Lime, crm-offwhite, fn-micro xln

3370 Lime, crm-lt gray-dark gray, fnxln
Shale, black carbonaceous, blocky

3380 Shale, med gray-reddish brn, moderately firm, blocky

3390 H Lime, offwhite-crm-tan, fn-micro xln
Chert, tan, fresh, sharp

3400 Lime, offwhite-lt brn, fn-micro xln, NS

3410 * Lime, tan-lt brn, fn-micro xln, very lt odor, no stain, NFO

3420 Lime, tan-lt brn, fn-micro xln

3430 * Lime, lt brn, fnxln, thin zone of fine granular lime with interxln porosity, lt spotty stain, lt odor

3440 Lime, crm-lt brn, fn-micro xln, lt oily sheen on some chips

3450 K Shale, lt-med gray, soft mud, calcareous in part

3460 Lime, crm-offwhite, fn-micro xln

3470 L Shale, lt gray-black carbonaceous, blocky
BKC ELog 3469-1425

3480 Shale, red to reddish brn, soft mud with sticky clumps in part, lt red wash

3490 Shale, red, soft sticky
Clastic lime mix, vari color, fn-vfxln

3500 O Lime, clastic mix, fnxln
ARBUCKLE ELog 3502-1458

3510 D Dolomite, lt brn, fnxln-granular, dark stain, heavy oil globules, very lt odor, scattered staining in interxln porosity

3520 Dolomite, tan-lt brn, fnxln-granular, gilsonitic deposits

3530 Dolomite, crm-lt brn, fnxln-granular, dark stain with scattered heavy oil specks.

3540 Dolomite, crm-tan, fnxln, white chert, fresh, sharp

Dolomite, lt brn, fn-vfxln

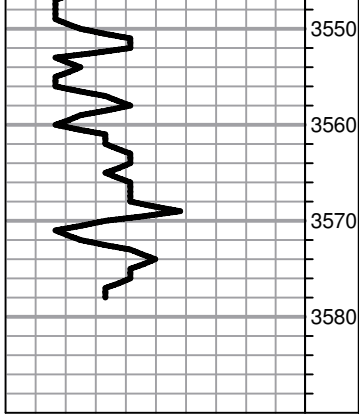
Dolomite, crm-lt brn, fn-vfxln, scattered interxln porosity, lt white shell wash

DST # 1 3395' TO 3445' SEE
HEADER FOR TEST
SUMMARY

SLOPE 3/4 DEGREE

DST #2 STRADDLE TEST
3454' TO 3508' ARBUCKLE
SEE HEADER FOR TEST
SUMMARY

CFS 3493'



3550
3560
3570
3580



white chalk wash
Dolomite, crm-lt brn, fnxln-granular, few oomoldic chips
Dolomite, crm-lt brn, fnxln-granular
Dolomite, crm-lt brn, fnxln-granular
RTD 3580-1536 LTD 3582-1538