

OPERATOR

Company: IA OPERATING, INC.
Address: 9915 W 21ST ST, STE B
WICHITA, KS 67205

Contact Geologist: JEFF MOWRY, JULIE BURROWS
Contact Phone Nbr: 316-721-0036
Well Name: BEIKER TRUST #13-1
Location: SE NE SW SE S13 T10 R21W
API: 15-065-24085-00-00
Pool:
State: KANSAS

Field: COOPER
Country: USA

Scale 1:240 Imperial

Well Name: BEIKER TRUST #13-1
Surface Location: SE NE SW SE S13 T10 R21W
Bottom Location:
API: 15-065-24085-00-00
License Number: 33335
Spud Date: 12/2/2014 Time: 2:45 PM
Region: GRAHAM COUNTY
Drilling Completed: 12/9/2014 Time: 9:44 AM
Surface Coordinates: 690 FSL & 1360 FEL
Bottom Hole Coordinates:
Ground Elevation: 2253.00ft
K.B. Elevation: 2261.00ft
Logged Interval: 3200.00ft To: 3950.00ft
Total Depth: 3950.00ft
Formation: ARBUCKLE
Drilling Fluid Type: CHEMICAL / FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
Longitude: -99.609966
Latitude: 39.178277
N/S Co-ord: 690 FSL
E/W Co-ord: 1360 FEL

LOGGED BY

Company: SOLUTIONS CONSULTING, INC.
Address: 108 WEST 35TH
HAYS, KANSAS 67601

Phone Nbr: 785-650-4540 / 785-639-1337
Logged By: Geologist

Name: STEVE REED

CONTRACTOR

Contractor: DISCOVERY DRILLING
Rig #: 2
Rig Type: MUD ROTARY
Spud Date: 12/2/2014 Time: 2:45 PM
TD Date: 12/9/2014 Time: 9:44 AM
Rig Release: 12/10/2014 Time: 4:15 AM

ELEVATIONS

K.B. Elevation: 2261.00ft Ground Elevation: 2253.00ft
K.B. to Ground: 8.00ft

NOTES

BEIKER TRUST #13-1 RAN VERY LOW TO AREA PRODUCERS, AND WAS VERY HIGH TO IMMEDIATE SURROUNDING WELLS GIVING A STRUCTURAL ADVANTAGE, BUT DUE TO MODERATE SHOWS, LACK OF DEVELOPMENT. LACK OF PERMEABILITY. RESULTS OF ALL DST'S. AND LOG ANALYSIS IT WAS DETERMINED

NOT TO BE COMMERCIALY PRODUCTIVE. DECISION WAS MADE TO PLUG AND ABANDON.

OPEN HOLE LOGGING PROVIDED BY: NABORS COMPLETION AND PRODUCTION SERVICES COMPANY
DUAL INDUCTION LOG, COMPENSATED DENSITY/NEUTRON LOG, MICRORESISTIVITY LOG, AND
SONIC LOGS WERE PERFORMED

DRILL STEM TESTING PROVIDE BY: TRILOBITE TESTERS, INC.
FOUR (4) CONVENTIONAL DRILL STEM TESTS WERE COMPLETED

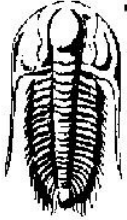
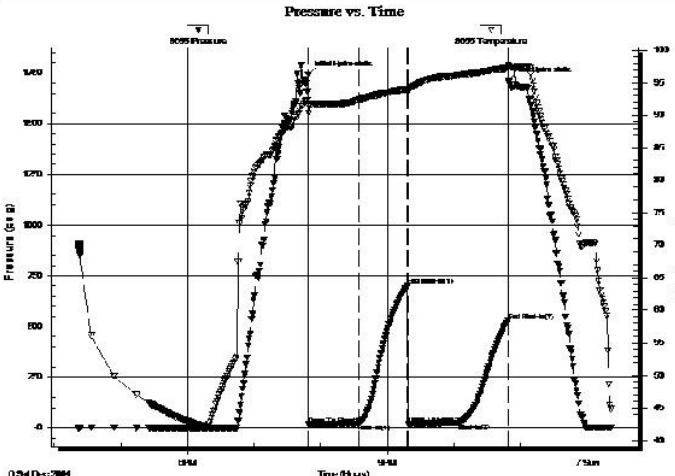
FORMATION TOPS COMPARISON AND DAILY ACTIVITY SUMMARY

	DRILLING WELL				COMPARISON WELL				COMPARISON WELL				COMPARISON WELL			
	BEIKER TRUST #13-1				CINDY - SUZANNE #1				ACHESON #1				HOLZHAUER C-1			
	SE NE SW SE				SW NW NE NW				SE SE SE NW				SE SE SE SW			
	Sec. 13, T10S R21W				Sec. 13, T10S R21W				Sec. 24, T10S R21W				Sec. 18, T10S R20W			
	2261 KB				PRODUCER		Structural		PRODUCER		Structural		D&A		Structural	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Anhydrite Top	1738	523	1734	527	1753	534	-11	-7	1657	546	-23	-19	1665	497	26	30
Anhydrite Base	1779	482	1778	483	1798	489	-7	-6	NA	NA	NA	NA	NA	NA	NA	NA
Topeka	3290	-1029	3286	-1025	3291	-1004	-25	-21	3216	-1013	-16	-12	NA	NA	NA	NA
Heebner	3495	-1234	3494	-1233	3493	-1206	-28	-27	3419	-1216	-18	-17	3437	-1275	41	42
Toronto	3521	-1260	3518	-1257	3518	-1231	-29	-26	3444	-1241	-19	-16	3459	-1297	37	40
Lansing	3536	-1275	3535	-1274	3534	-1247	-28	-27	3460	-1257	-18	-17	3477	-1315	40	41
Base KC	3757	-1496	3754	-1493	3754	-1467	-29	-26	3683	-1480	-16	-13	3637	-1475	-21	-18
Arbuckle	3837	-1576	3833	-1572	3814	-1527	-49	-45	3763	-1560	-16	-12	3848	-1686	110	114
Total Depth	3950	-1689	3948	-1687	3925	-1638	-51	-49	3816	-1613	-76	-74	3870	-1708	19	21

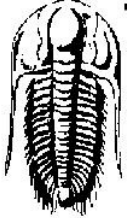
SUMMARY OF DAILY ACTIVITY

- 12-2-14** R.U., spud @ 2:45pm, 8 5/8" surface casing set at 221 w/150 sxs common, 2% gel, 3% cc, plug down @ 8:45pm, WOC, drilled plug @ 4:45am
- 12-3-14** 421, drilling
- 12-4-14** 2350, drilling, displaced @ 2981
- 12-5-14** 3050, drilling, CFS @ 3528, CFS @ 3550
- 12-6-14** 3550, drilling, CFS @ 3580, CFS @ 3620, short trip (20 stands) , CTCH, TOWB for DST #1 3543-3620, strap .53 long, survey 1/2°
- 12-7-14** 3690, drilling, CFS @ 3722, CFS @ 3740, TOWB for DST #2 3651-3740, drilling, CFS @ 3830, CFS @ 3840, CFS @ 3845, TOWB for DST #3 3754 to 3845
- 12-8-14** 3845, TIWT, DST #3, drilling, CFS @ 3850, CFS @ 3860, TOWB for DST #4 3845 to 3860
- 12-9-14** 3875, drilling, TD of 3950 reached @ 9:44am, CTCH, TOWB for logs, logging, prepare for plugging, plugging w/305 sks 60/40 poz, 4%Gel-1/4# FS/-, completed 4:15am
- 12-10-14** release rig

DST #1 SUMMARY

 TRILOBITE TESTING, INC.	<h3>DRILL STEM TEST REPORT</h3>																																														
IA Operating, Inc 9915 W 21st STE B Wichita, KS 67205 ATTN: Steve Reed		Sec. 13-10s-21w Graham, KS Beiker Trust #13-1 Job Ticket: 60990 DST#:1 Test Start: 2014.12.06 @ 16:21:00																																													
GENERAL INFORMATION:																																															
Formation: LKC "A-F" Deviated: No Whipstock: ft (KB) Time Tool Opened: 19:49:00 Time Test Ended: 00:21:30		Test Type: Conventional Bottom Hole (Initial) Tester: Phillip Gage Unit No: 62																																													
Interval: 3543.00 ft (KB) To 3620.00 ft (KB) (TVD) Total Depth: 3620.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair		Reference Elevations: 2261.00 ft (KB) 2253.00 ft (CF) KB to GR/CF: 8.00 ft																																													
Serial #: 8655 Outside																																															
Press@RunDepth: 22.79 psig @ 3544.00 ft (KB) Start Date: 2014.12.06 End Date: 2014.12.07 Start Time: 16:21:01 End Time: 00:21:30		Capacity: 8000.00 psig Last Calib.: 2014.12.07 Time On Btm: 2014.12.06 @ 19:48:30 Time Off Btm: 2014.12.06 @ 22:49:00																																													
TEST COMMENT: 45-IF-Built to 1" 45-ISI- No Return 45-FF-Built to 1/4" 45-FSI-No Return																																															
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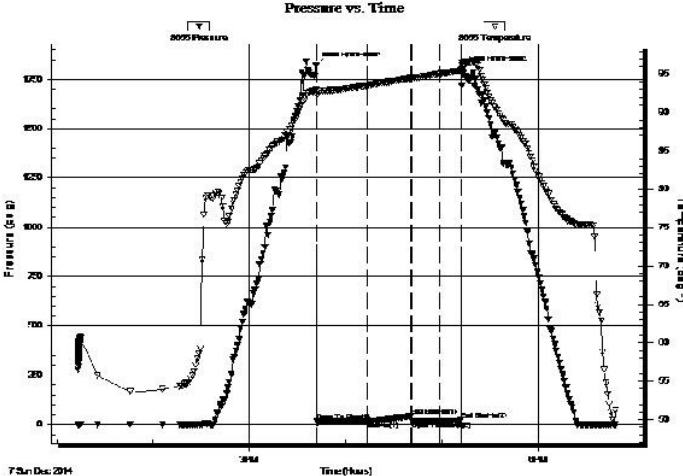
DST #2 SUMMARY

 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT		
IA Operating, Inc 9915 W 21st STE B Wichita, KS 67205 ATTN: Steve Reed		Sec. 13-10s-21w Graham, KS Beiker Trust #13-1 Job Ticket: 60991 DST#:2 Test Start: 2014.12.07 @ 13:13:00	

GENERAL INFORMATION:			
Formation:	LKC "H-K"		
Deviated:	No	Whipstock:	ft (KB)
Time Tool Opened:	15:42:00		
Time Test Ended:	18:48:30		
Interval:	3651.00 ft (KB) To 3740.00 ft (KB) (TVD)		
Total Depth:	3740.00 ft (KB) (TVD)		
Hole Diameter:	7.88 inches	Hole Condition:	Fair
		Reference Elevations:	2261.00 ft (KB) 2253.00 ft (CF)
		KB to GR/CF:	8.00 ft

Serial #: 8655 Outside			
Press@RunDepth:	15.15 psig @	3652.00 ft (KB)	
Start Date:	2014.12.07	End Date:	2014.12.07
Start Time:	13:13:01	End Time:	18:48:30
		Capacity:	8000.00 psig
		Last Calib.:	2014.12.07
		Time On Btm:	2014.12.07 @ 15:41:30
		Time Off Btm:	2014.12.07 @ 17:13:00


TEST COMMENT: 30-IF-Built to 1/2"
 30-ISI-No Return
 15-FF-No Blow
 15-FSI-No Return

	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center;">PRESSURE SUMMARY</th> </tr> <tr> <th style="width: 10%;">Time (Min.)</th> <th style="width: 15%;">Pressure (psig)</th> <th style="width: 10%;">Temp (deg F)</th> <th style="width: 75%;">Annotation</th> </tr> <tr> <td>0</td> <td>1818.35</td> <td>92.89</td> <td>Initial Hydro-static</td> </tr> <tr> <td>1</td> <td>13.50</td> <td>92.22</td> <td>Open To Flow (1)</td> </tr> <tr> <td>32</td> <td>15.08</td> <td>93.49</td> <td>Shut-In(1)</td> </tr> <tr> <td>60</td> <td>43.68</td> <td>94.47</td> <td>End Shut-In(1)</td> </tr> <tr> <td>60</td> <td>14.28</td> <td>94.47</td> <td>Open To Flow (2)</td> </tr> <tr> <td>77</td> <td>15.15</td> <td>95.02</td> <td>Shut-In(2)</td> </tr> <tr> <td>91</td> <td>22.71</td> <td>95.45</td> <td>End Shut-In(2)</td> </tr> <tr> <td>92</td> <td>1800.73</td> <td>96.11</td> <td>Final Hydro-static</td> </tr> </table>	PRESSURE SUMMARY				Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation	0	1818.35	92.89	Initial Hydro-static	1	13.50	92.22	Open To Flow (1)	32	15.08	93.49	Shut-In(1)	60	43.68	94.47	End Shut-In(1)	60	14.28	94.47	Open To Flow (2)	77	15.15	95.02	Shut-In(2)	91	22.71	95.45	End Shut-In(2)	92	1800.73	96.11	Final Hydro-static
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* Recovery from multiple tests

DST #3 SUMMARY

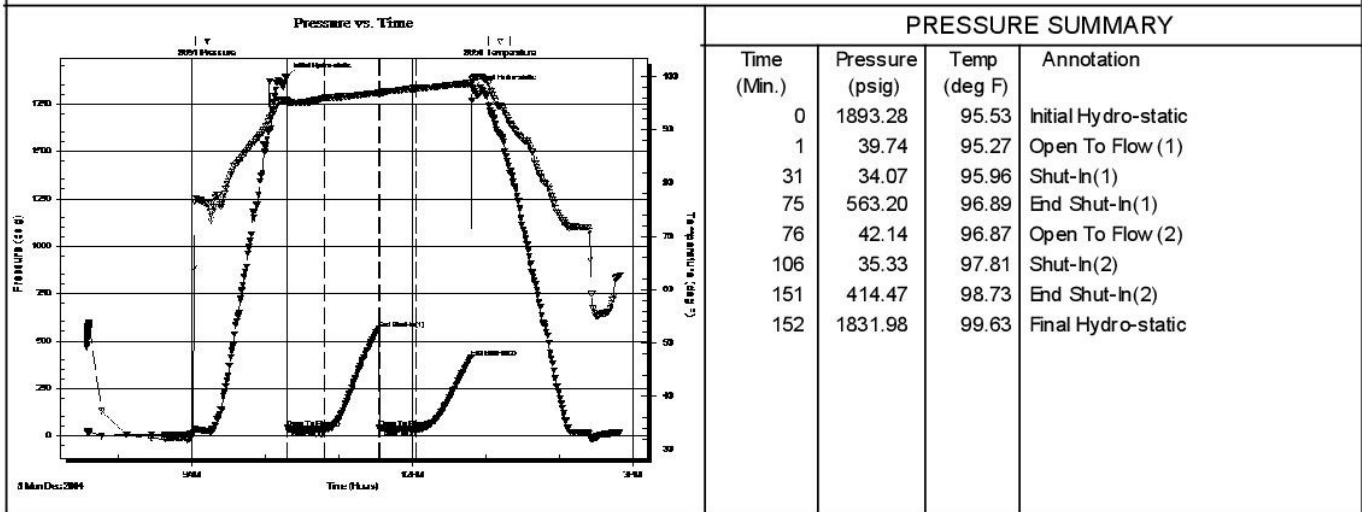
	DRILL STEM TEST REPORT	
	IA Operating, Inc 9915 W 21st STE B Wichita, KS 67205 ATTN: Steve Reed	Sec. 13-10s-21w Graham, KS Beiker Trust #13-1 Job Ticket: 60992 DST#: 3 Test Start: 2014.12.08 @ 07:34:00

GENERAL INFORMATION:

Formation: Arbuckle Deviated: No Whipstock: ft (KB) Time Tool Opened: 10:18:00 Time Test Ended: 14:49:30 Interval: 3754.00 ft (KB) To 3845.00 ft (KB) (TVD) Total Depth: 3845.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair	Test Type: Conventional Bottom Hole (Reset) Tester: Phillip Gage Unit No: 62 Reference Elevations: 2261.00 ft (KB) 2253.00 ft (CF) KB to GR/CF: 8.00 ft
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Serial #: 8651 Inside Press@RunDepth: 35.33 psig @ 3755.00 ft (KB) Start Date: 2014.12.08 End Date: 2014.12.08 Start Time: 07:34:01 End Time: 14:49:30	Capacity: 8000.00 psig Last Calib.: 2014.12.08 Time On Btm: 2014.12.08 @ 10:17:30 Time Off Btm: 2014.12.08 @ 12:49:00
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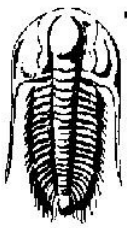
TEST COMMENT: 30-IF-Built to 1 1/4"
 45-IS-No Return
 30-FF-Built to 1/2"
 45-FSI-No Return



Recovery			Gas Rates		
Length (ft)	Description	Volume (bbl)	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2.00	O, 100%o	0.01			
15.00	SOCM, 10%o, 90% m	0.11			

* Recovery from multiple tests

DST #4 SUMMARY

 TRILOBITE TESTING, INC.	<h3>DRILL STEM TEST REPORT</h3>	
IA Operating, Inc 9915 W 21st STE B Wichita, KS 67205 ATTN: Steve Reed	Sec. 13-10s-21w Graham, KS Beiker Trust #13-1 Job Ticket: 60993 DST#:4 Test Start: 2014.12.08 @ 20:39:00	

GENERAL INFORMATION:

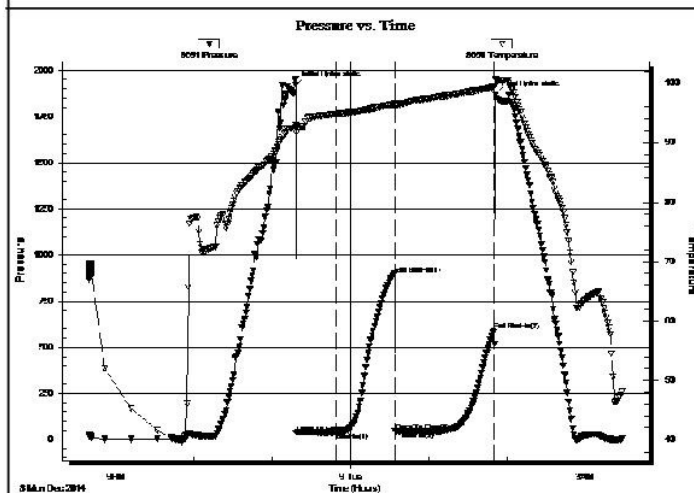
Formation: Arbuckle Deviated: No Whipstock: ft (KB) Time Tool Opened: 23:18:30 Time Test Ended: 03:29:00 Interval: 3845.00 ft (KB) To 3860.00 ft (KB) (TVD) Total Depth: 3860.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair	Test Type: Conventional Bottom Hole (Reset) Tester: Phillip Gage Unit No: 62 Reference Elevations: 2261.00 ft (KB) 2253.00 ft (CF) KB to GR/CF: 8.00 ft
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Serial #: 8651

Inside

Press@RunDepth: 44.67 psig @ 3846.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.12.08 End Date: 2014.12.09	Last Calib.: 2014.12.09
Start Time: 20:39:01 End Time: 03:29:00	Time On Btm: 2014.12.08 @ 23:18:00
	Time Off Btm: 2014.12.09 @ 01:51:30

TEST COMMENT: 30-IF-Built to 1 1/4"
 45-ISI-No Return
 30-FF-Built to 3/4"
 45-FSI-No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1920.96	92.98	Initial Hydro-static
1	35.90	91.59	Open To Flow (1)
32	38.51	94.82	Shut-In(1)
76	898.89	96.48	End Shut-In(1)
77	45.67	96.22	Open To Flow (2)
107	44.67	97.59	Shut-In(2)
152	589.19	99.39	End Shut-In(2)
154	1870.41	100.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	O, 100%o	0.04
15.00	SOCM, 5%o, 95% m	0.11

* Recovery from multiple tests

Gas Rates

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

	Congl		Lmst fw<7		shale, grn		Carbon Sh
	Dolprim		Lmst fw>7		shale, gry		shale, red

ACCESSORIES

MINERAL

▲ Chert, dark
P Pyrite
△ Chert White
Mc Mica

FOSSIL

∩ Bioclastic or Fragmental
F Fossils < 20%
φ Oolite
⊗ Fussilinid

STRINGER

~~~~ Chert  
■ red shale

### TEXTURE

C Chalky  
L Lithogr

## OTHER SYMBOLS

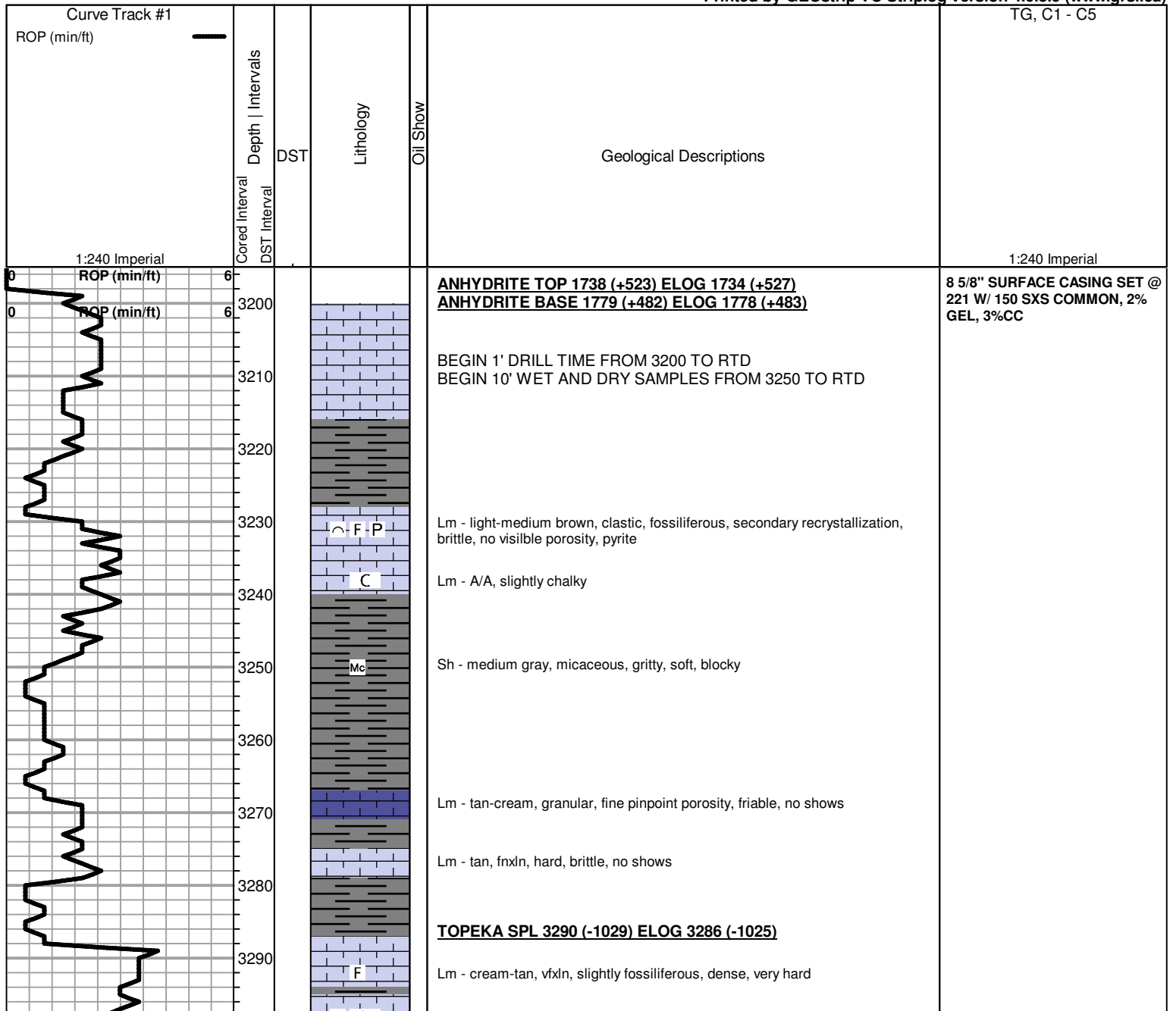
### Oil Show

● Good Show  
● Fair Show  
● Poor Show  
○ Spotted or Trace  
○ Questionable Stn  
D Dead Oil Stn  
■ Fluorescence  
\* Gas

### DST

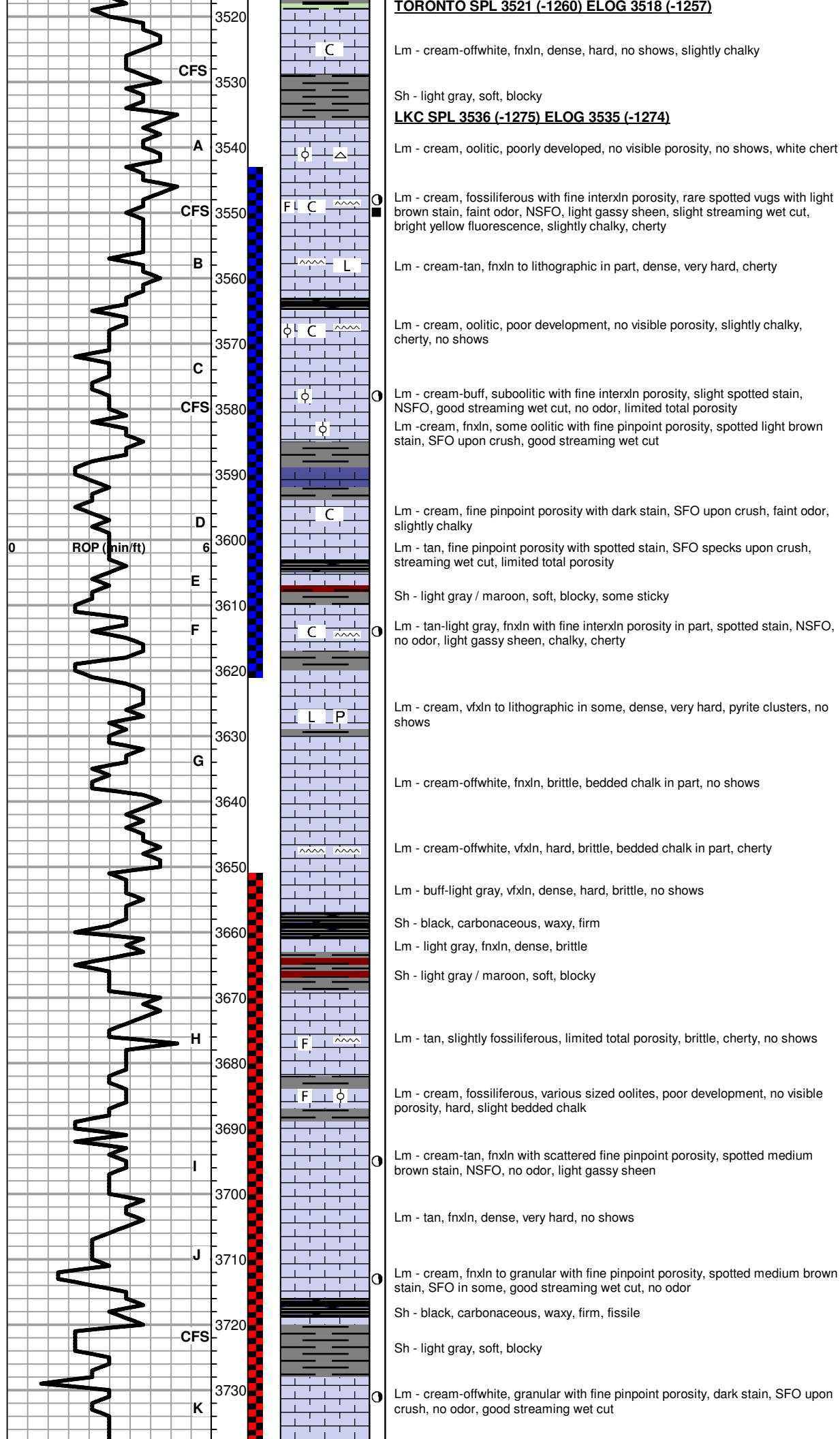
■ DST Int  
■ DST alt  
■ Core  
■ tail pipe  
■ DST  
■ DST  
■ DST

Printed by GEOstrip VC Striplog version 4.0.8.9 ([www.grsi.ca](http://www.grsi.ca))









**TORONTO SPL 3521 (-1260) ELOG 3518 (-1257)**

Lm - cream-offwhite, fnxn, dense, hard, no shows, slightly chalky

Sh - light gray, soft, blocky

**LKC SPL 3536 (-1275) ELOG 3535 (-1274)**

Lm - cream, oolitic, poorly developed, no visible porosity, no shows, white chert

Lm - cream, fossiliferous with fine interxn porosity, rare spotted vugs with light brown stain, faint odor, NSFO, light gassy sheen, slight streaming wet cut, bright yellow fluorescence, slightly chalky, cherty

Lm - cream-tan, fnxn to lithographic in part, dense, very hard, cherty

Lm - cream, oolitic, poor development, no visible porosity, slightly chalky, cherty, no shows

Lm - cream-buff, suboolitic with fine interxn porosity, slight spotted stain, NSFO, good streaming wet cut, no odor, limited total porosity

Lm - cream, fnxn, some oolitic with fine pinpoint porosity, spotted light brown stain, SFO upon crush, good streaming wet cut

Lm - cream, fine pinpoint porosity with dark stain, SFO upon crush, faint odor, slightly chalky

Lm - tan, fine pinpoint porosity with spotted stain, SFO specks upon crush, streaming wet cut, limited total porosity

Sh - light gray / maroon, soft, blocky, some sticky

Lm - tan-light gray, fnxn with fine interxn porosity in part, spotted stain, NSFO, no odor, light gassy sheen, chalky, cherty

Lm - cream, vfxn to lithographic in some, dense, very hard, pyrite clusters, no shows

Lm - cream-offwhite, fnxn, brittle, bedded chalk in part, no shows

Lm - cream-offwhite, vfxn, hard, brittle, bedded chalk in part, cherty

Lm - buff-light gray, vfxn, dense, hard, brittle, no shows

Sh - black, carbonaceous, waxy, firm

Lm - light gray, fnxn, dense, brittle

Sh - light gray / maroon, soft, blocky

Lm - tan, slightly fossiliferous, limited total porosity, brittle, cherty, no shows

Lm - cream, fossiliferous, various sized oolites, poor development, no visible porosity, hard, slight bedded chalk

Lm - cream-tan, fnxn with scattered fine pinpoint porosity, spotted medium brown stain, NSFO, no odor, light gassy sheen

Lm - tan, fnxn, dense, very hard, no shows

Lm - cream, fnxn to granular with fine pinpoint porosity, spotted medium brown stain, SFO in some, good streaming wet cut, no odor

Sh - black, carbonaceous, waxy, firm, fissile

Sh - light gray, soft, blocky

Lm - cream-offwhite, granular with fine pinpoint porosity, dark stain, SFO upon crush, no odor, good streaming wet cut

**DST #1 3543 TO 3620  
SEE HEADER FOR SUMMARY**

**MUD WT 8.9  
VIS 57  
LCM 2.5 #**

**DST #2 3651 TO 3740  
SEE HEADER FOR SUMMARY**

**MUD WT 9.0  
VIS 57**

