

OPERATOR

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

Contact Geologist: TOM DENNING
 Contact Phone Nbr: 785-259-3141
 Well Name: ORVILLE # 1
 Location: NE NE SW SE SEC.7-15s-19w
 Pool: WILDCAT
 State: KANSAS

API: 15-051-26,345-00-00
 Field: UNNAMED
 Country: USA



TDI, Inc.
 1310 BISON ROAD
 HAYS, KANSAS 67601
 (785) 628-2593

Scale 1:240 Imperial

Well Name: ORVILLE # 1
 Surface Location: NE NE SW SE SEC.7-15s-19w
 Bottom Location:
 API: 15-051-26,345-00-00
 License Number: 4787
 Spud Date: 8/23/2012 Time: 3:00 PM
 Region: ELLIS COUNTY
 Drilling Completed: 8/29/2012 Time: 4:14 PM
 Surface Coordinates: 1250' FSL & 1330' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 2024.00ft
 K.B. Elevation: 2034.00ft
 Logged Interval: 2900.00ft To: 3707.00ft
 Total Depth: 3707.00ft
 Formation: LANSING-KANSAS CITY
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: Latitude:
 N/S Co-ord: 1250' FSL
 E/W Co-ord: 1330' FEL

LOGGED BY

Company: SOLUTIONS CONSULTING
 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

Rig Type: MUD ROTARY
Spud Date: 8/23/2012
TD Date: 8/29/2012
Rig Release: 8/30/2012

Time: 3:00 PM
Time: 4:14 PM
Time: 8:00 PM

ELEVATIONS

K.B. Elevation: 2034.00ft
K.B. to Ground: 10.00ft

Ground Elevation: 2024.00ft

NOTES

DECISION TO RUN PRODUCTION CASING BASED ON RESULTS OF DST # 3, POSITIVE STRUCTURE AND NUMEROUS SHOWS OF OIL IN OTHER ZONES.

LOGGING DONE BY PIONEER ENERGY SERVICES: DUAL INDUCTION LOG, DUAL COMPENSATED POROSITY LOG AND MICRORESISTIVITY LOG

DRILL STEM TESTING BY TRILOBITE TESTING, INC: 3 DSTS

FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY DEPTH AND ACTIVITY

ORVILLE # 1

1250' FSL & 1330' FEL, SE/4

Sec.7-15s-19w

2024' GL 2034' KB


<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1274+760	1274+ 760
B-Anhydrite	1308+ 726	1312+ 722
Topeka	3017- 983	3008- 974
Heebner Shale	3285-1251	3281-1247
Toronto	3308-1274	3301-1267
LKC	3330-1296	3327-1293
BKC	3580-1546	3579-1545
Conglomerate Sand	3664-1630	3660-1626
Arbuckle	3674-1640	3678-1644
Reagan Sand	3690-1656	3689-1655
RTD	3707-1673	
LTD		3706-1672

SUMMARY OF DAILY ACTIVITY

8-23-12 RU, Spud

- 8-24-12 1010', drilling, ran 31 jts, new 23# 8 5/8" surface casing set to 1282.62' w/ 375 sxs SMD, plug down 9:00 PM, slope ½ degree
- 8-25-12 WOC 12 hrs, kick off drilling plug at 9:00 AM
- 8-26-12 2385', drilling
- 8-27-12 3023', drilling, displace 2875', DST # 1 3188'-3238', slope ¼ degree
- 8-28-12 3285', drilling, DST # 2, 3319'-3370'
- 8-29-12 3535', drilling, RTD 3707', slope @ 3707 ¾ degree, logs
- 8-30-12 3707', DST # 3 straddle test 3362'-3382', run 5 ½" production casing

DST # 1 TEST SUMMARY

	DRILL STEM TEST REPORT	
	TDI, Inc. 1310 Bison Rd. Hays, KS 67601 ATTN: Herb Deines	7/15S/19W-Ellis Orville #1 Job Ticket: 49490 DST#: 1 Test Start: 2012.08.27 @ 21:31:15

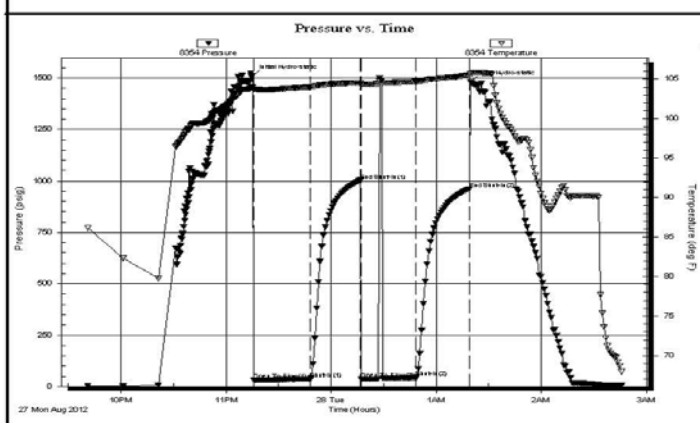
GENERAL INFORMATION:

Formation: Topeka-Oread	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock ft (KB)	Tester: Dustin Rash
Time Tool Opened: 23:15:45	Unit No: 38
Time Test Ended: 02:45:45	Reference Elevations: 2034.00 ft (KB)
Interval: 3188.00 ft (KB) To 3238.00 ft (KB) (TVD)	2027.00 ft (CF)
Total Depth: 3238.00 ft (KB) (TVD)	KB to GR/CF: 7.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Fair

Serial #: 8354

Press@RunDepth: 42.75 psig @ ft (KB)	Capacity: 8000.00 psig
Start Date: 2012.08.27 End Date: 2012.08.28	Last Calib.: 2012.08.28
Start Time: 21:41:15 End Time: 02:45:45	Time On Btm: 2012.08.27 @ 23:15:25
	Time Off Btm: 2012.08.28 @ 01:19:45

TEST COMMENT: IF-Weak 1/2 inch blow throughout.
 ISI-No Return.
 FF-No Blow . Flushed Tool. Weak surface blow . Died @ 11 minutes.
 FSI-No Return.


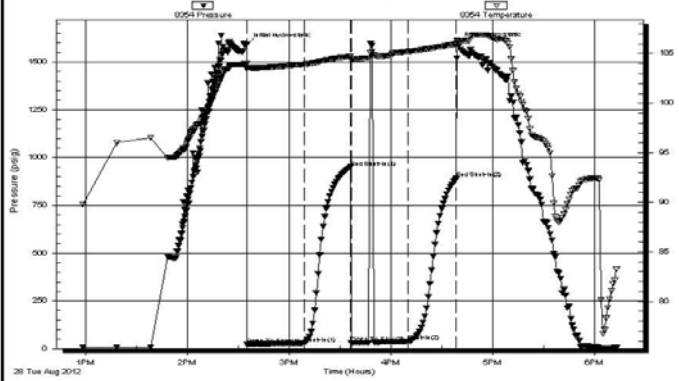


PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1512.71	104.03	Initial Hydro-static
1	32.67	103.73	Open To Flow (1)
33	36.68	104.02	Shut-In(1)
62	1004.15	104.58	End Shut-In(1)
62	36.75	104.21	Open To Flow (2)
93	42.75	104.69	Shut-In(2)
124	961.34	105.51	End Shut-In(2)
125	1480.05	105.72	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
40.00	100% Mud	0.56

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

DST # 2 TEST SUMMARY

 <p>TRILOBITE TESTING, INC.</p>	DRILL STEM TEST REPORT																																						
	TDI, Inc. 1310 Bison Rd. Hays, KS 67601 ATTN: Herb Deines	7/15S/19W-Ellis Orville #1 Job Ticket: 49491 DST#: 2 Test Start: 2012.08.28 @ 12:48:30																																					
GENERAL INFORMATION:																																							
Formation: LKC "A-C" Deviated: No Whipstock ft (KB) Time Tool Opened: 14:35:10 Time Test Ended: 18:13:30		Test Type: Conventional Bottom Hole (Initial) Tester: Dustin Rash Unit No: 38																																					
Interval: 3319.00 ft (KB) To 3370.00 ft (KB) (TVD) Total Depth: 3370.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair		Reference Elevations: 2034.00 ft (KB) 2027.00 ft (CF) KB to GR/CF: 7.00 ft																																					
Serial #: 8354 Inside																																							
Press@RunDepth: 37.82 psig @ 3358.00 ft (KB) Start Date: 2012.08.28 End Date: 2012.08.28 Start Time: 12:58:30 End Time: 18:13:30		Capacity: 8000.00 psig Last Calib.: 2012.08.28 Time On Btm: 2012.08.28 @ 14:34:50 Time Off Btm: 2012.08.28 @ 16:39:30																																					
TEST COMMENT: IF-Weak surface blow. Surging @ 11 minutes. ISI-No Return. FF-No Blow. Flushed Tool. Surface Blow. Died @ 9 minutes. FSI-No Return.																																							
Pressure vs. Time 		PRESSURE SUMMARY																																					
		<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Time (Min.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>1593.71</td><td>103.97</td><td>Initial Hydro-static</td></tr> <tr><td>1</td><td>22.04</td><td>103.64</td><td>Open To Flow (1)</td></tr> <tr><td>35</td><td>29.65</td><td>103.95</td><td>Shut-In(1)</td></tr> <tr><td>62</td><td>950.08</td><td>104.70</td><td>End Shut-In(1)</td></tr> <tr><td>62</td><td>30.59</td><td>104.32</td><td>Open To Flow (2)</td></tr> <tr><td>96</td><td>37.82</td><td>105.21</td><td>Shut-In(2)</td></tr> <tr><td>124</td><td>890.14</td><td>106.02</td><td>End Shut-In(2)</td></tr> <tr><td>125</td><td>1597.40</td><td>106.28</td><td>Final Hydro-static</td></tr> </tbody> </table>	Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation	0	1593.71	103.97	Initial Hydro-static	1	22.04	103.64	Open To Flow (1)	35	29.65	103.95	Shut-In(1)	62	950.08	104.70	End Shut-In(1)	62	30.59	104.32	Open To Flow (2)	96	37.82	105.21	Shut-In(2)	124	890.14	106.02	End Shut-In(2)	125	1597.40	106.28	Final Hydro-static	
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35.00	100% Mud	0.49																																					
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DST # 3 STRADDLE TEST SUMMARY



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

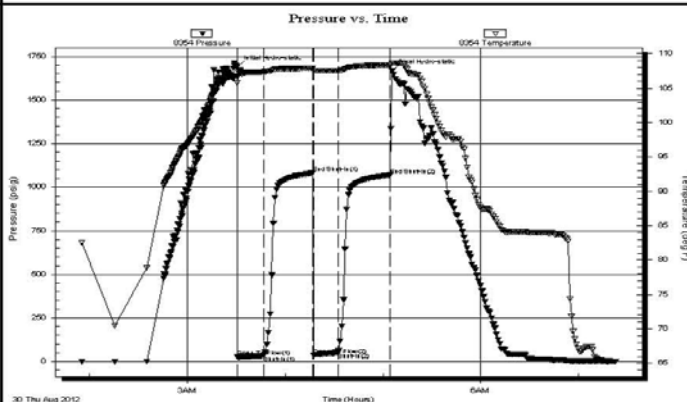
7/15S/19W-Ellis
Orville #1
Job Ticket: 49492 **DST#: 3**
Test Start: 2012.08.30 @ 01:45:15

GENERAL INFORMATION:

Formation: **LKC "D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:30:45
Time Test Ended: 07:23:15
Test Type: Conventional Bottom Hole (Initial)
Tester: Dustin Rash
Unit No: 38
Interval: **3362.00 ft (KB) To 3382.00 ft (KB) (TVD)**
Reference Elevations: 2034.00 ft (KB)
Total Depth: 3707.00 ft (KB) (TVD)
2027.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair
KB to GR/CF: 7.00 ft

Serial #: 8354 Inside
Press@RunDepth: 49.92 psig @ 3363.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.08.30 End Date: 2012.08.30 Last Calib.: 2012.08.30
Start Time: 01:55:15 End Time: 07:23:15 Time On Btm: 2012.08.30 @ 03:30:35
Time Off Btm: 2012.08.30 @ 05:05:45

TEST COMMENT: IF-Strong building blow. BOB in 4 minutes.
ISI-No Return.
FF-Strong blow. BOB in 15 seconds.
FSI-No Return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1691.10	106.80	Initial Hydro-static
1	27.31	105.80	Open To Flow (1)
17	33.93	107.37	Shut-In(1)
47	1080.19	107.88	End Shut-In(1)
48	38.05	107.57	Open To Flow (2)
62	49.92	107.56	Shut-In(2)
94	1070.06	108.37	End Shut-In(2)
96	1666.55	108.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
57.00	40%Oil/60% Mud	0.80
40.00	40%Gas/60%Oil	0.56
0.00	1389' G.I.P.	0.00

Gas Rates

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

Trilobite Testing, Inc

Ref. No: 49492

Printed: 2012.08.30 @ 08:01:06

ROCK TYPES

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

ACCESSORIES

MINERAL

- ▲ Chert, dark
- △ Chert White

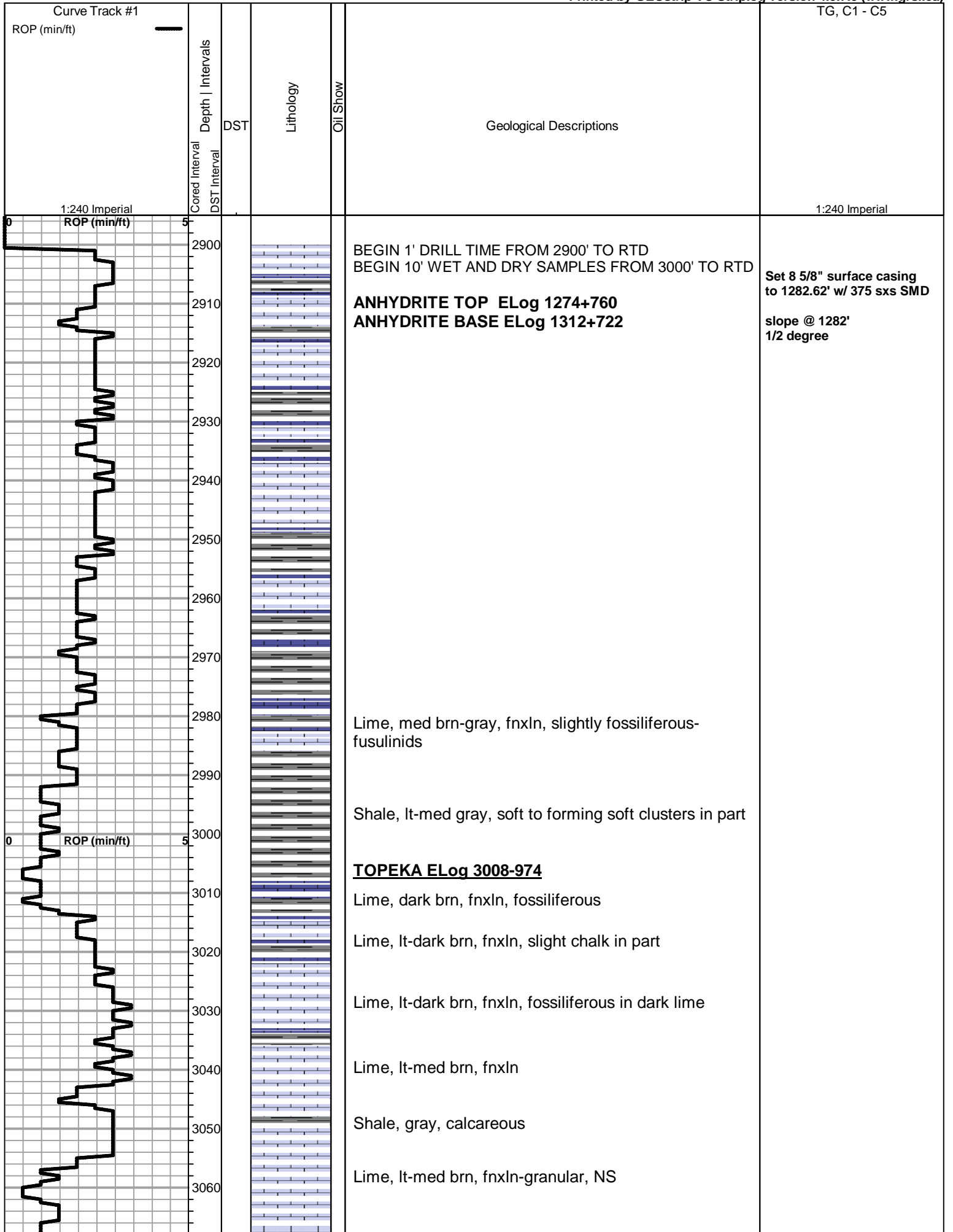
FOSSIL

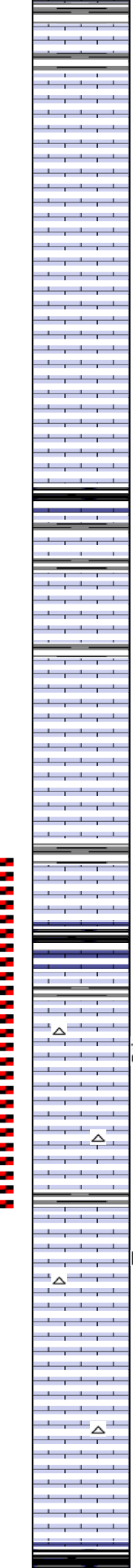
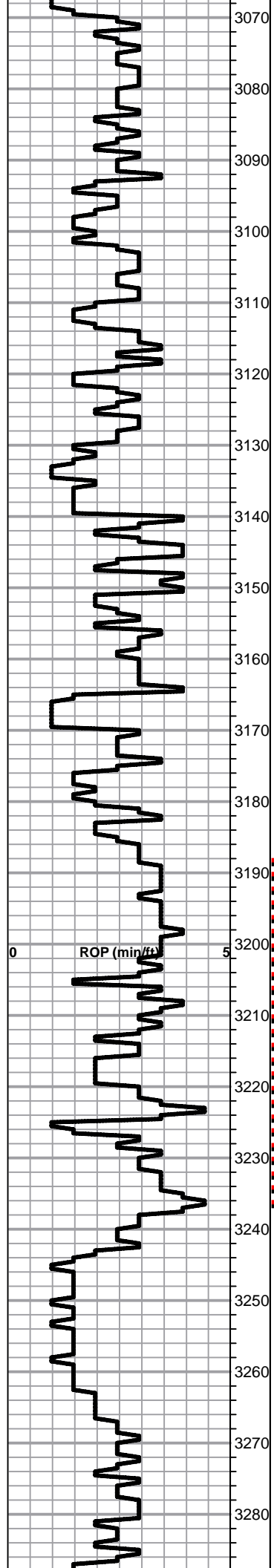
- Oolite
- ⊕ Oomoldic

OTHER SYMBOLS

DST

- DST Int





Lime, lt-med brn-lt gray, fnxln
 Shale, lt gray soft forming soft mud clumps

Lime, med brn-grayish brn, fnxln, slight chalk in part

Lime, med brn-grayish brn, fnxln

Lime, med brn-grayish brn, fnxln-granular in part,
 chalk in part

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

Lime, med brn, fnxln-granular, slight chalk in part

Shale, black carbonaceous, fissile, blocky

Lime, med brn-lt gray, fnxln

Lime, crm, fn- vfxln

Lime crm, fn-vfxln grading into granular, chalky lime,
 NS

Lime, lt brn, fnxln-granular in part

Lime, offwhite-med brn, fnxln

Shale, black carbonaceous, fissile
 Lime, brn-lt grayish brn, fn-vfxln

Lime, med brn, fnxln

Lime, med brn, fnxln with medium intercrystalline
 porosity, good odor, light staining, SFO on break

Lime, lt brn-lt grayish brn, fnxln-granular, slight chalk
 NS

Lime, fnxln with very dense micritic lime in part
 Shale, grayish green, soft and sticky clumps

Lime, crm-lt brn, fnxln-granular, spotty gilsonite

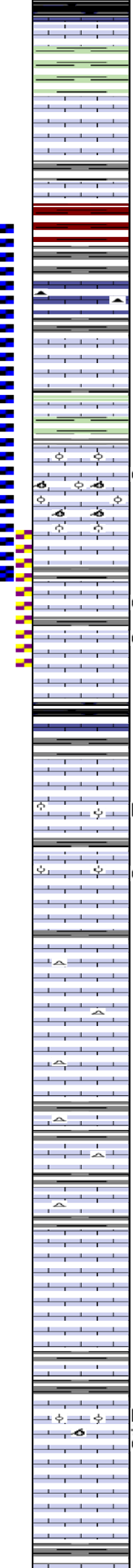
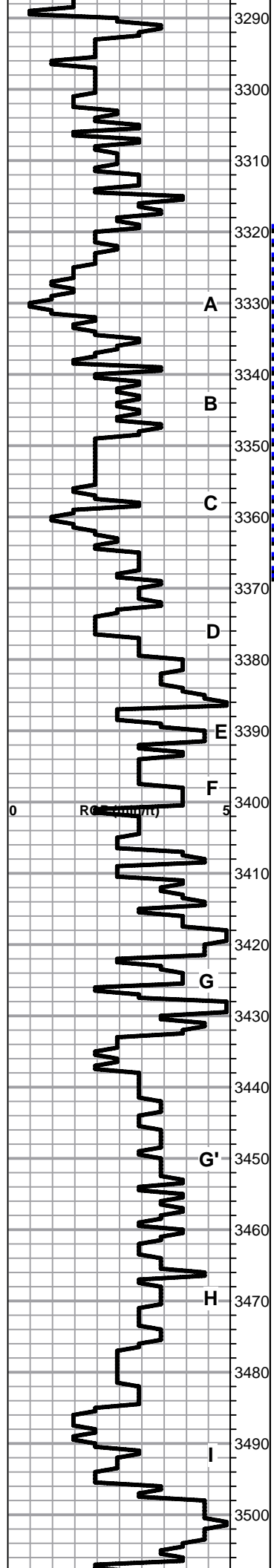
Lime, lt-med brn, granular with scattered gray chert,
 fresh, sharp

Lime, lt-med brn, fn-vfxln, slight bedded chalk in part

Lime, lt-med brn, fnxln-vfxln, slight bedded chalk

HEEBNER SHALE SPL 3285-1251 EL3281-1247

**DST # 1 3188' TO 3238'
 SEE HEADER FOR TEST
 SUMMARY**



Shale, black carbonaceous, fissile, blocky
 Lime, med brn, vfxln, hard, slightly fossiliferous
 Shale, lime green-lt gray, soft mud

TORONTO SPL 3308-1274 ELog 3301-1267
 Lime, white-crm, fn-vfxln, bedded chalk, NS

Lime, lt brn-lt gray, fnxln

Shale, red wash forming soft mud

LKC SPL 3330-1296 ELog 3327-1293
 Lime, med brn-grayish brn, fnxln
 Shale, lime green-lt gray, forming soft mud clusters

Lime, lt-med brn, fnxln grading into mixed color limes

Shale, lime green, soft forming soft mud clusters

Lime, crm-tan, fnxln grading into cemented oolitic zone with oolmoldic in part with scattered staining with lt odor

Lime, lt-med brn, fn-vfxln, slight bedded chalk

Lime, tan-lt brn, fnxln with fine intercrystalline porosity, scattered to saturated staining

Lime, crm, fnxln-vfxln

Shale, gray-black carbonaceous
 Lime, pale green-lt gray, fnxln

Lime, wht-crm, oolitic in part with flakey gilsonite in part

Lime, crm-tan, oolitic with fossil fragments, saturated stain, very lt odor

Lime, crm-tan, fn-vfxln, scattered bedded chalk

Lime crm-lt brn, fn-vfxln with scattered granular, NS

Lime, crm-lt brn, fn-vfxln with scattered cemented oolitic lime in part

Lime, lt-med brn, vf-cryptoxln, slight bedded chalk

Lime, med-dark brn, vfxln, hard, slight fossil content

Lime, dark gray-crm-tan, fn-vfxln, hard

Lime, crm-tan, vf-cryptoxln, poor visible porosity, NS

Lime, brn, fnxln, hard

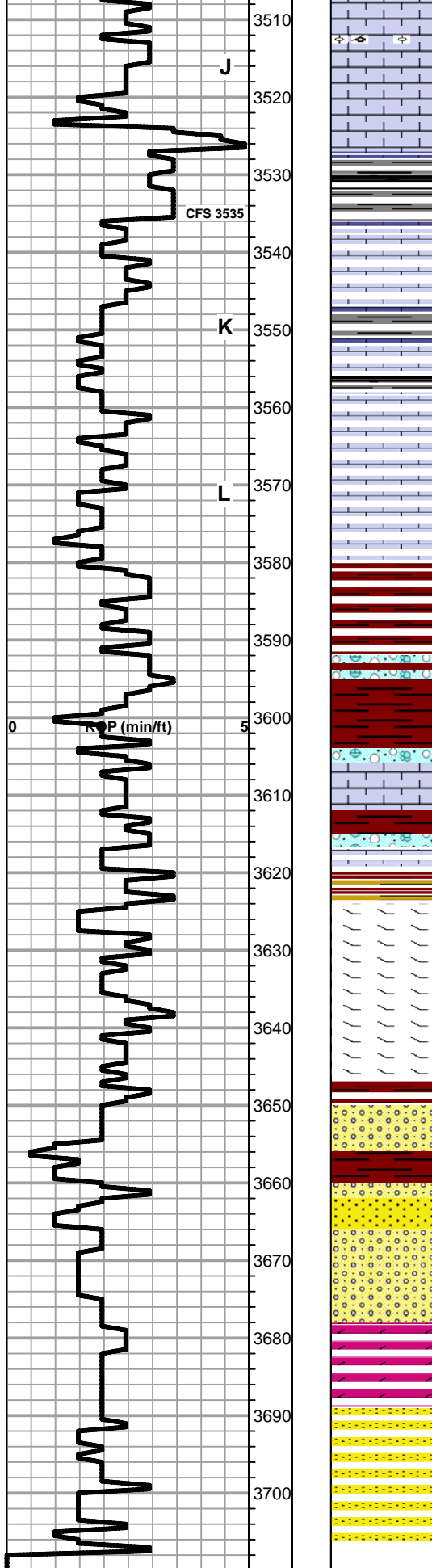
Lime crm-lt brn, fnxln-oolitic/oolmoldic, scattered gilsonite flakes, scat-saturated stain, lt odor

Lime, offwhite, vfxln, hard

Shale, med gray, soft

DST # 2 3319' TO 3370'
 SEE HEADER FOR TEST SUMMARY

DST # 3 STRADDLE TEST
 3362' TO 3382'
 SEE HEADER FOR TEST SUMMARY



* Lime, crm-tan, fnxln with scattered oolitic/oolmoldic with lt scattered staining, vlt odor

Lime, crm, fnxln, chalky

Shale, mix of red, gray, black and lt green shales, soft

Lime, crm-tan, fn-vfxln, brittle on break, bedded chalk

Lime, crm-offwhite, fnxln, bedded chalk in part

Lime, offwhite-crm, fn-vfxln

Lime, crm-lt brn-lt gray, fnxln, slight chalk in part

BKC SPL 3580-1546 ELog 3579-1545

Shale, reddish brn, soft blocky with light red wash

Clastic lime mix with red shale staining

Shale, red wash

Lime, tan, fnxln, chalky with lime clastic mix in part

MARMATON MKR SPL 3727-1593 ELog 3624-1590

Lime, crm-tan, dolomitic in part, fnxln, vari color cherts

Lime, tan, fnxln with fine intercrystalline porosity in part with very light staining, no odor, NFO

Lime, crm-tan, dolomitic, fnxln, cherty grading into trashy clastic mix and red shale with cemented sandstone in part, scattered flakey gilsonite in part

CONGLOMERATE SAND ELog 3660-1626

Sandstone, poorly sorted, cemented with few friable, clean well sorted clusters with lt staining, lt odor and SFO on break

ARBUCKLE 3674-1640 ELog 3678-1644

Dolomite, wht-crm, fnxln-granular, sucrosic in part

REAGAN SAND SPL 3690-1656 ELog 3689-1655

Sandstone,fn-c grained quartz, lt green staining in part, cemented grading into coarser, well sorted, subrounded sandstone, NS

Ran 89 jts new 14# 5 1/2" production casing set to 3703' w/ 125 sxs EA2

Slope 3/4 degree

