

OPERATOR

Company: BLACK DIAMOND OIL, INC.
 Address: PO BOX 641
 HAYS, KANSAS 67601

Contact Geologist: KEN VEHIGE
 Contact Phone Nbr: 785-625-5891
 Well Name: BELDEN UNIT # 1
 Location: N2 N2 N2 Sec.28-4s-22w
 Pool:
 State: KANSAS

API: 15-137-20,682-00-00
 Field: HANSEN ESTATE NW
 Country: USA

Scale 1:240 Imperial

Well Name: BELDEN UNIT # 1
 Surface Location: N2 N2 N2 Sec.28-4s-22w
 Bottom Location:
 API: 15-137-20,682-00-00
 License Number: 7076
 Spud Date: 2/14/2014 Time: 3:30 PM
 Region: NORTON COUNTY
 Drilling Completed: 2/19/2014 Time: 7:14 PM
 Surface Coordinates: 330' FNL & 2640' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 2236.00ft
 K.B. Elevation: 2241.00ft
 Logged Interval: 3000.00ft To: 3665.00ft
 Total Depth: 3665.00ft
 Formation: LANSING-KANSAS CITY
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -99.8051588 Latitude: 39.6817719
 N/S Co-ord: 330' FNL
 E/W Co-ord: 2640' 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: WW DRILLING LLC
 Rig #: 6
 Rig Type: MUD ROTARY
 Spud Date: 2/14/2014 Time: 3:30 PM
 TD Date: 2/19/2014 Time: 7:14 PM
 Rig Release: 2/20/2014 Time: 11:30 PM

ELEVATIONS

K.B. Elevation: 2241.00ft Ground Elevation: 2236.00ft
 K.B. to Ground: 5.00ft

NOTES

RECOMMENDATION TO RUN PRODUCTION CASING BASED ON RESULTS OF DST # 2 AND SHOWS OF OIL IN NUMEROUS BENCHES OF LKC.

OPEN HOLE LOGGING: NABORS OPERATIONS AND COMPLETIONS SERVICES CO: DUAL INDUCTION LOG, COMPENSATED DENSITY/NEUTRON POROSITY LOG, MICRO LOG

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


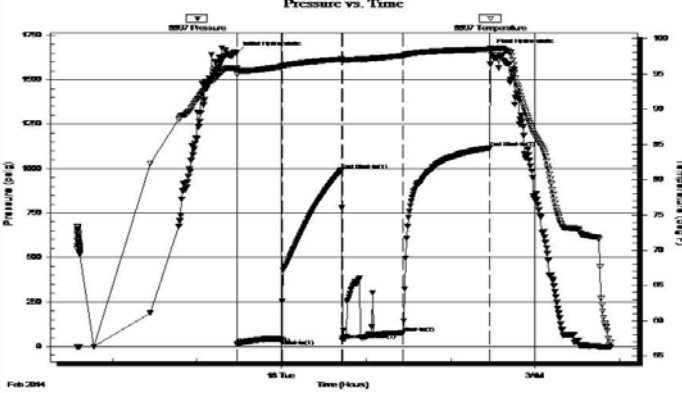
FORMATION TOPS COMPARISON CHART AND CHRONOLOGY OF DAILY ACTIVITY

	BELDEN UNIT #1 N2 N2 N2 SEC.28-4S-22W 2236'GL 2241'KB	SPERRY #1 NE NW SEC.28-4-22W	WAGONER #3 N2 SE NW NE SEC.28-4-22W
<u>FORMATION</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1880 +361	+361	+363
B-Anhydrite	1909 +332	NG	+335
Topeka	3180 -939	NG	- 940
Heebner Sh.	3379-1138	-1138	-1137
Toronto	3406-1165	-1165	-1165
LKC	3424-1183	-1184	-1181
BKC	3613-1372	-1372	-1371
Arbuckle	NR	-1453	-1443
RTD	3665-1424		
LTD	3668-1427		

CHRONOLOGY OF DAILY ACTIVITY

- 2-14-14 RU, Spud 3:30 PM, set 8 5/8" surface casing to 208' w/150 sxs
Common 2%gel 3%CC, plug down 7:30PM, slope ¼ degree
- 2-15-14 251', drill plug at 6:30 AM
- 2-16-14 2150', drilling, finish displacing 2954'
- 2-17-14 3170', drilling, short trip@3350'-32 stands, CFS 3411', DST # 1
Toronto 3372'-3411', strap 3411.31 board 3411.33
- 2-18-14 3425', drilling, CFS 3430' DST # 2 "A" LKC 3411'-3430', slope 1/8
degree, CFS 3460', CFS 3474', DST # 3 "C" & "D" LKC 3434'-3474'
- 2-19-14 3474', finish DST # 3, TIWB, drilling, RTD 3665' @7:14 PM, mini trip,
CCH, TOWB, slope 1 degree @3665', start logs
- 2-20-14 3665', finish logs, TIWB, LDDP, run production casing and cement,
RD, overnight snow storm with high winds during day

DST # 1 3372' TO 3411' TORONTO


	DRILL STEM TEST REPORT																																						
	Black Diamond Oil Inc PO Box 641 Hays KS 67601 ATTN: Herb Deined	28-4s-22w-Norton Co Belden Unit #1 Job Ticket: 56108 Test Start: 2014.02.17 @ 21:35:00	DST#: 1																																				
GENERAL INFORMATION:																																							
Formation: Toronto Deviated: No Whipstock: ft (KB) Time Tool Opened: 23:28:40 Time Test Ended: 03:53:00		Test Type: Conventional Bottom Hole (Initial) Tester: Tate Lang Unit No: 49																																					
Interval: 3372.00 ft (KB) To 3411.00 ft (KB) (TVD) Total Depth: 3411.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Good		Reference Elevations: 2242.00 ft (KB) 2237.00 ft (CF) KB to GR/CF: 5.00 ft																																					
Serial #: 8897 Inside Press@RunDepth: 76.15 psig @ 3375.00 ft (KB) Start Date: 2014.02.17 End Date: 2014.02.18 Start Time: 21:35:01 End Time: 03:53:50		Capacity: 8000.00 psig Last Calib.: 2014.02.18 Time On Btm: 2014.02.17 @ 23:28:30 Time Off Btm: 2014.02.18 @ 02:28:20																																					
TEST COMMENT: Weak surface blow built to 2 1/2 in Dead no blow back Weak surface blow built to 1 1/2 in Dead no blow back																																							
		PRESSURE SUMMARY																																					
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Trilobite Testing, Inc

Ref. No: 56108

Printed: 2014.02.18 @ 05:31:40

DST # 2 3411' TO 3430' "A" ZONE LKC

	DRILL STEM TEST REPORT		
	Black Diamond Oil Inc PO Box 641 Hays KS 67601 ATTN: Herb Deines	28-4s-22w-Norton Co Belden Unit #1 Job Ticket: 56109 Test Start: 2014.02.18 @ 09:45:17	DST#: 2

GENERAL INFORMATION:

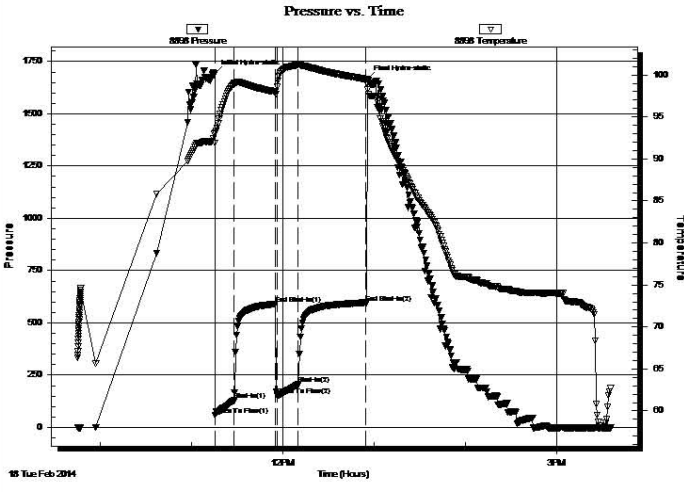
Formation: **LKC A**

Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:15:37 Tester: Tate Lang
 Time Test Ended: 15:35:37 Unit No: 49

Interval: 3411.00 ft (KB) To 3430.00 ft (KB) (TVD) Reference Elevations: 2242.00 ft (KB)
 Total Depth: 3430.00 ft (KB) (TVD) 2237.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8898 Outside
 Press@RunDepth: 205.62 psig @ 3412.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.02.18 End Date: 2014.02.18 Last Calib.: 2014.02.18
 Start Time: 09:45:18 End Time: 15:35:37 Time On Btm: 2014.02.18 @ 11:15:27
 Time Off Btm: 2014.02.18 @ 12:55:47

TEST COMMENT: B.O.B. in 2 mins
 Weak surface blow back built 2 in
 B.O.B. in 4 mins
 Weak blow back built to 1 in




Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1693.69	93.05	Initial Hydro-static
1	59.84	91.92	Open To Flow (1)
13	128.81	98.95	Shut-In(1)
40	590.19	97.96	End Shut-In(1)
41	153.17	98.55	Open To Flow (2)
55	205.62	101.17	Shut-In(2)
100	596.09	99.49	End Shut-In(2)
101	1666.12	98.23	Final Hydro-static

Length (ft)	Description	Volume (bbl)
60.00	20%O 60%W 20%M	0.30
120.00	10%O 80%W 20%M	1.13
390.00	20%G 80%O	5.47
0.00	90 GIP	0.00

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

Trilobite Testing, Inc Ref. No: 56109 Printed: 2014.02.18 @ 16:00:38

DST # 3 3434' TO 3474' "C" AND "D" LKC



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Black Diamond Oil Inc **28-4s-22w-Norton Co**

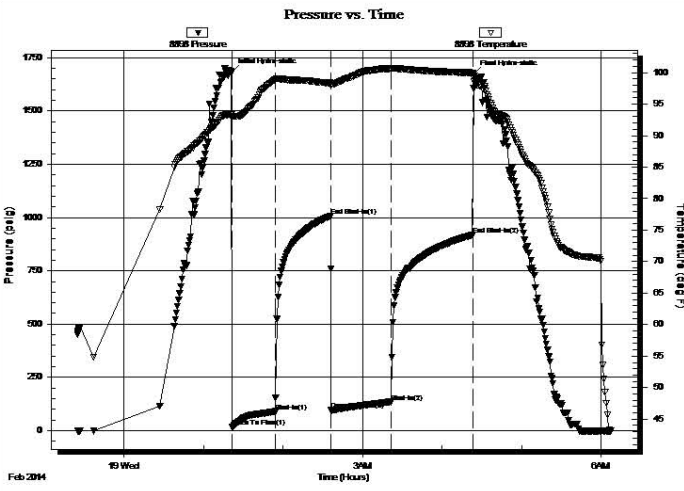
PO Box 641 **Belden Unit #1**
 Hays KS 67601
 Job Ticket: 56110 **DST#: 3**
 ATTN: Herb Deines Test Start: 2014.02.18 @ 23:25:06

GENERAL INFORMATION:
 Formation: LCK "C-D"
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 01:21:36 Tester: Tate Lang
 Time Test Ended: 06:07:26 Unit No: 49

Interval: 3434.00 ft (KB) To 3474.00 ft (KB) (TVD) Reference Elevations: 2242.00 ft (KB)
 Total Depth: 3474.00 ft (KB) (TVD) 2237.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8898 Outside
 Press@RunDepth: 134.62 psig @ 3437.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.02.18 End Date: 2014.02.19 Last Calib.: 2014.02.19
 Start Time: 23:25:07 End Time: 06:07:26 Time On Btm: 2014.02.19 @ 01:21:16
 Time Off Btm: 2014.02.19 @ 04:23:56

TEST COMMENT: B.O.B. in 30 mins
 Dead no blow back
 Strong blow built to 10 in.
 Dead no blow back



Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1683.36	93.38	Initial Hydro-static
1	17.22	92.80	Open To Flow (1)
33	90.45	98.86	Shut-In(1)
75	1008.03	98.34	End Shut-In(1)
75	95.65	97.99	Open To Flow (2)
120	134.62	100.64	Shut-In(2)
182	918.40	99.98	End Shut-In(2)
183	1672.83	98.63	Final Hydro-static

Length (ft)	Description	Volume (bbl)
120.00	80%W 20%M	0.59
75.00	100%M	1.04

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

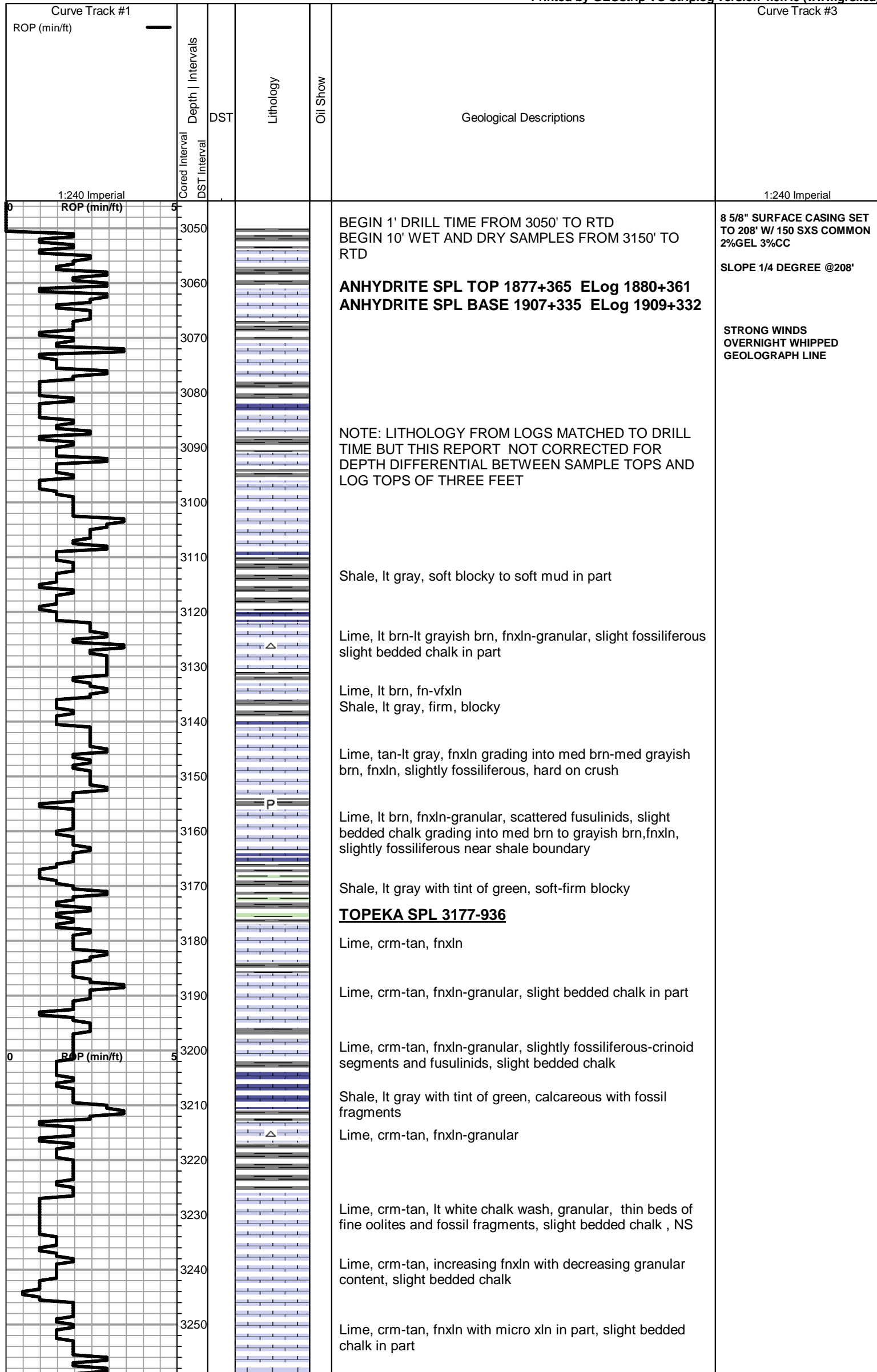
ROCK TYPES

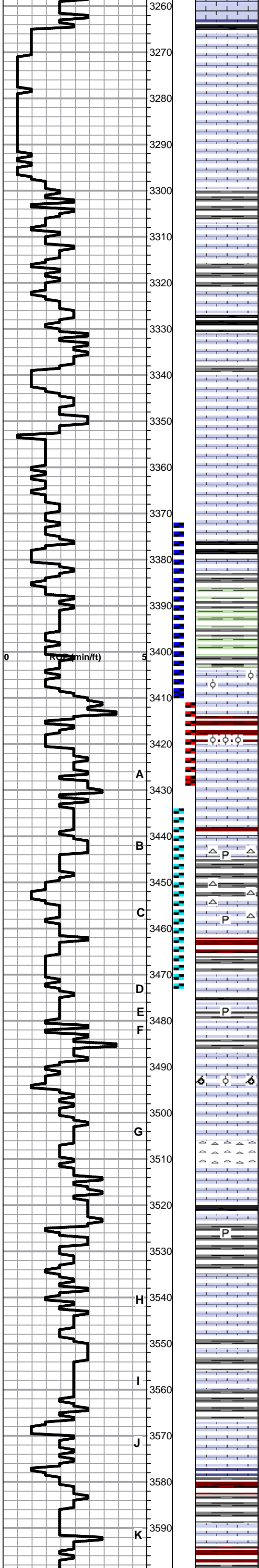
Cht	Lmst fw7>	shale, grn	Carbon Sh	Shgy
Lmst fw<7	Lscongl	shale, gry	shale, red	

ACCESSORIES

MINERAL	FOSSIL
P Pyrite	○ Oolite
* Sandy	⊕ Oomoldic
△ Chert White	

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)





Shale, black carbonaceous, blocky

○ Lime, crm-tan, granular, thin fossil beds in part, NFO, No detectable odor, few chips with trace of oil specks, fair wet cut in few chips indicating lt oil content.

Lime, crm-tan, granular, slight bedded chalk content with increasing fnxln with depth

Lime, pale gray, fnxln with green tint, slightly fossiliferous-fusulinids

Shale, lt gray with green tint, soft blocky

Shale, gray-black carbonaceous, firm blocky
Lime, tan, fn-vfxln, slightly fossiliferous-fusulinids, slight bedded chalk with lt chalky wash with depth

Lime, tan, fnxln to granular in part, bedded chalk, no wet cut

Lime, tan-lt brn, fnxln grading into chalky granular material with depth

Lime, tan-lt brn, fnxln

HEEBNER SHALE SPL 3376-1135

Shale, black carbonaceous, fissile, blocky
Lime, lt-med brn, fn-vfxln

Shale, dove gray-lime green, soft blocky forming soft sticky clumps

TORONTO SPL 3404-1161

● Lime, crm, oolitic with scattered fossil fragments, interoolitic and inter xln porosity, lt odor, scattered to saturated staining.

LKC SPL 3420-1177

● Lime, white-crm, oolitic, interoolitic porosity, scattered to saturated stain, very lt odor, no FO noted. grades rapidly into crm, fn-vfxln

Lime, crm, fnxln, bedded chalk

Shale, reddish brn, soft forming sticky clumps
Lime, crm-lt brn, fnxln, slight bedded chalk

Lime, crm-tan, fnxln, bedded chalk, few chips with fine ppt porosity, trace staining, no odor, NFO, appears poorly developed. Chert, white-tan, fresh, sharp, slightly fossiliferous with fine xln pyrite inclusions in part

Shale, red-lt gray, soft forming sticky mud clumps

● Lime, tan, fossiliferous with visible vugs, some sparry regrowth in part, scat to sat stain, lt gassy oil, very lt to no detectable odor

Lime, lt gray with green tint, fxl, pyrite clusters in part

Lime, crm-tan, fnxln grading into oolitic-oomoldic with interoolitic porosity with scattered vugs, lt odor, lt scattered to saturated staining, NFO noted

Lime, crm-tan, fnxln, bedded chalk, grading into bedded chert zone, white-tan, fresh, sharp, slightly fossiliferous in part

Shale, black carbonaceous, firm, blocky
Lime, med-dark brown, fn-vfxln, with gray mottling in part, fossiliferous with scattered pyrite clusters.

○ Lime, crm-tan, fn-vfxln, bedded chalk, few pieces, slightly fossiliferous with fine pinpoint porosity, trace of lt staining, no odor, NFO

Shale, lt gray tinted with green, calcareous

○ Lime, crm-tan, fnxln, few chips oolitic-fossil fragments with interoolitic and scattered vuggy porosity, no odor, NFO, trace of lt scattered staining.

○ Lime, crm, fnxln with chalky matrix in part, few chips with fine interxln porosity, no odor, NFO, lt wet cut. Appears organic rich in poorly developed porosity system.

Shale, red wash, soft forming sticky clumps

○ Lime, crm, fnxln, fine inter xln porosity, scattered lt staining, NFO, no detectable odor, appears poorly developed

Shale, reddish brn-dark brn, soft forming sticky clumps

SHORT TRIP @ 3350'
PULLED 32 STANDS

DST # 1 3372-3411 TORONTO
SEE HEADER FOR TEST SUMMARY

STRAP 3411.31
BOARD 3411.33

DST # 2 3411' TO 3430' "A"
SEE HEADER FOR TEST SUMMARY

CFS 3430'
SLOPE @3430' 0 DEGREE

DST # 3 3434' TO 3474' "C"
AND "D" SEE HEADER FOR TEST SUMMARY

CFS 3460'

CFS 3474'

CFS 3590'

CFS 3600'

