



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1195446
OIL & GAS CONSERVATION DIVISION

Form ACO-1
August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1195446

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR: _____ Producing Method:
 Flowing Pumping Gas Lift Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 710A

Date	Sec.	Twp.	Range	County	State	On Location	Finish
2-14-14	28	4	22	Norton	KS		7:20pm
				Location: Edison 2E 2 1/2 N. W 22			

Lease <i>Belden Unit</i>	Well No. <i>1</i>	Owner To: Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor <i>WV</i>		Charge To <i>Black Diamond Oil</i>
Type Job <i>Surface</i>		Street
Hole Size <i>12 1/4</i>	T.D. <i>208</i>	City
Csg. <i>8 5/8</i>	Depth <i>209</i>	State
Tbg. Size	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Tool	Depth	Cement Amount Ordered <i>1.50* rccm 39mc 2 1/2 gal</i>
Cement Left in Csg.	Shoe Joint <i>20</i>	
Meas Line	Displace <i>12661</i>	

EQUIPMENT

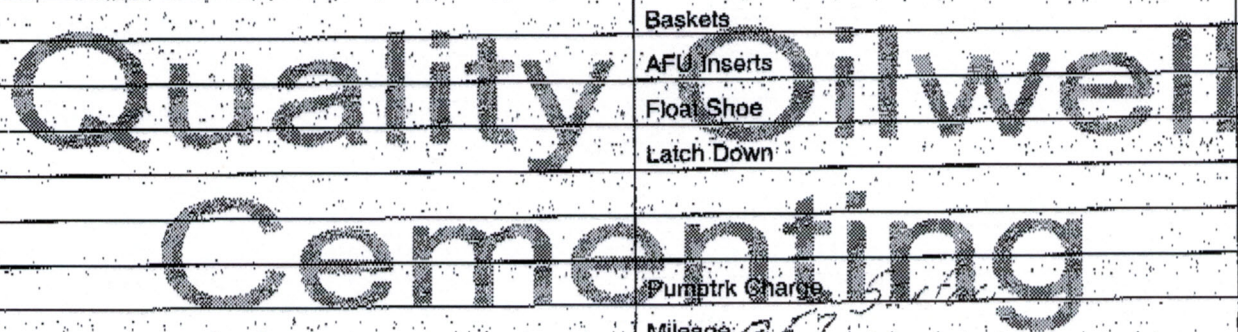
Pumptrk <i>17</i>	No. Cementer	Common <i>150</i>
	Helper <i>WCK</i>	Poz. Mix
Bulktrk <i>1</i>	No. Driver	Gel <i>3</i>
	Driver <i>Lonan</i>	Calcium <i>5</i>
Bulktrk <i>P4</i>	No. Driver	
	Driver <i>Tavis</i>	

JOB SERVICES & REMARKS

Remarks: <i>Cement did circulate</i>	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF.38
	Sand
	Handling <i>58</i>
	Mileage

FLOAT EQUIPMENT

	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down



Pumptrk Charge <i>Surface</i>	Tax
Mileage <i>357</i>	Discount
	Total Charge
X Signature <i>Maui Bess</i>	

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 462

Date	2-20-14	Sec.	28	Twp.	4	Range	22	County	Norton	State	KS	On Location	10:30 AM	Finish	9:50 PM
------	---------	------	----	------	---	-------	----	--------	--------	-------	----	-------------	----------	--------	---------

Location **Edmond 2 E to SE RD 2 1/2 N**

Lease **DI Belden Unit** Well No. **#1** Owner **Winto**

Contractor **WWW** **6**
To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Type Job **long string**

Hole Size **7 7/8** T.D. **3665** Charge To **Black Diamond**

Csg. **5 1/2** Depth **3667** Street **Black Diamond**

Tbg. Size Depth City State

Tool Depth The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. **47.43** Shoe Joint **47.43** Cement Amount Ordered **450 Qm PC 4-flow**

Meas Line Displace **96.5133** **150 Com 1090 Salt 5% Oxidant**

EQUIPMENT

Pumptrk **5** No. Cementer **Matt** Helper **Matt** Common **150**

Bulktrk **19** No. Driver **Lonnie W** Driver **Lonnie W** Poz. Mix **450 Qm BC**

Bulktrk **20** No. Driver **Chad Doug** Driver **Chad Doug** Gel.

pu **JOB SERVICES & REMARKS** Calcium

Remarks: Halls

Rat Hole **30 SWS** Salt **13**

Mouse Hole Flowseal **112 #**

Centralizers **1, 3, 5, 7, 9, 11, 44** Kol-Seal **750 #**

Baskets **2, 4, 6, 8, 45** Mud CLR 48 **5009**

D/V or Port Collar CFL-117 or CD110 CAF 38

Propped Bull Centralizer Sand

Have been mud flush Mileage **620**

plug Port hole mix 580 **512** **FLOAT EQUIPMENT**

down hole Guide Shoe

LIFT 1100 PSI Centralizer **turbos 6 1 Reg**

Land 1800 PSI Baskets **6**

Cement did circulate AFU Inserts

Float Shoe **1**

Latch Down **1**

Pumptrk Charge **prod string**

Mileage **57**

Signature

Tax

Discount

Total Charge

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


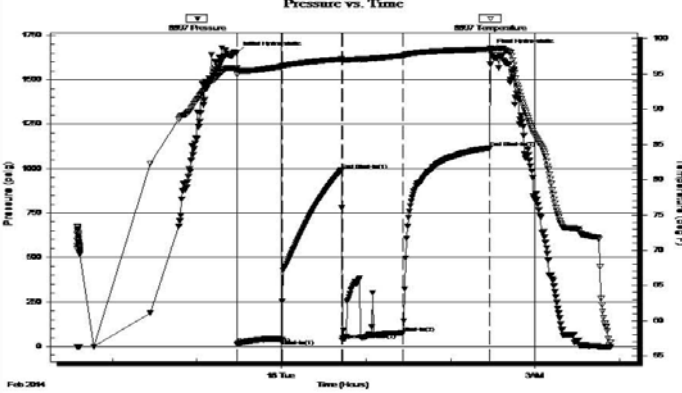
FORMATION TOPS COMPARISON CHART AND CHRONOLOGY OF DAILY ACTIVITY

	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 DST#: 1 Test Start: 2014.02.17 @ 21:35:00																																					
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 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>1652.62</td><td>95.79</td><td>Initial Hydro-static</td></tr> <tr><td>1</td><td>13.39</td><td>94.91</td><td>Open To Flow (1)</td></tr> <tr><td>32</td><td>40.42</td><td>96.06</td><td>Shut-In(1)</td></tr> <tr><td>74</td><td>992.66</td><td>97.10</td><td>End Shut-In(1)</td></tr> <tr><td>75</td><td>34.85</td><td>96.94</td><td>Open To Flow (2)</td></tr> <tr><td>118</td><td>76.15</td><td>97.59</td><td>Shut-In(2)</td></tr> <tr><td>180</td><td>1115.11</td><td>98.49</td><td>End Shut-In(2)</td></tr> <tr><td>180</td><td>1667.90</td><td>98.63</td><td>Final Hydro-static</td></tr> </tbody> </table>		Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation	0	1652.62	95.79	Initial Hydro-static	1	13.39	94.91	Open To Flow (1)	32	40.42	96.06	Shut-In(1)	74	992.66	97.10	End Shut-In(1)	75	34.85	96.94	Open To Flow (2)	118	76.15	97.59	Shut-In(2)	180	1115.11	98.49	End Shut-In(2)	180	1667.90	98.63	Final Hydro-static
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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

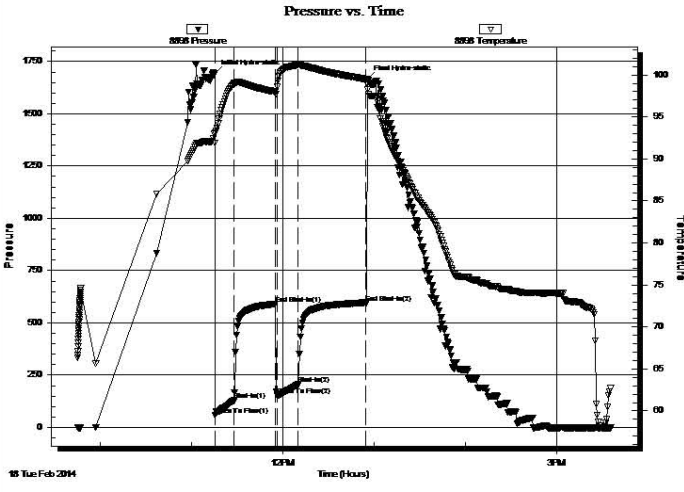
	DRILL STEM TEST REPORT		
	Black Diamond Oil Inc PO Box 641 Hays KS 67601 ATTN: Herb Deines	28-4s-22w-Norton Co Belden Unit #1 Job Ticket: 56109 DST#: 2 Test Start: 2014.02.18 @ 09:45:17	
GENERAL INFORMATION:			
Formation: LKC A			

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

* Recovery from multiple tests

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

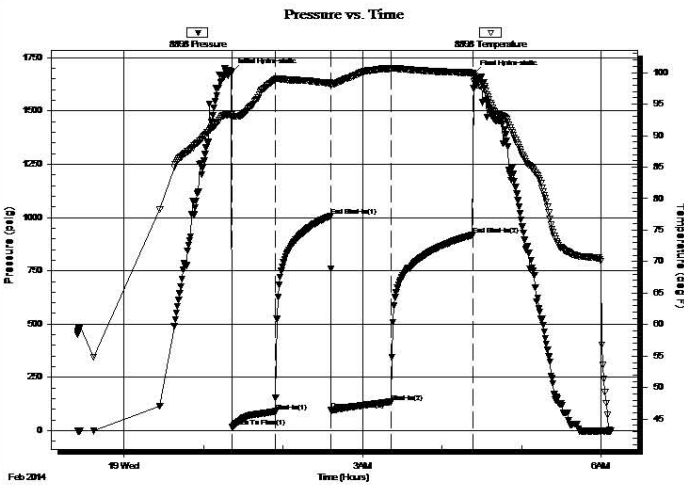
	DRILL STEM TEST REPORT	
	Black Diamond Oil Inc PO Box 641 Hays KS 67601 ATTN: Herb Deines	28-4s-22w-Norton Co Belden Unit #1 Job Ticket: 56110 DST#: 3 Test Start: 2014.02.18 @ 23:25:06

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)

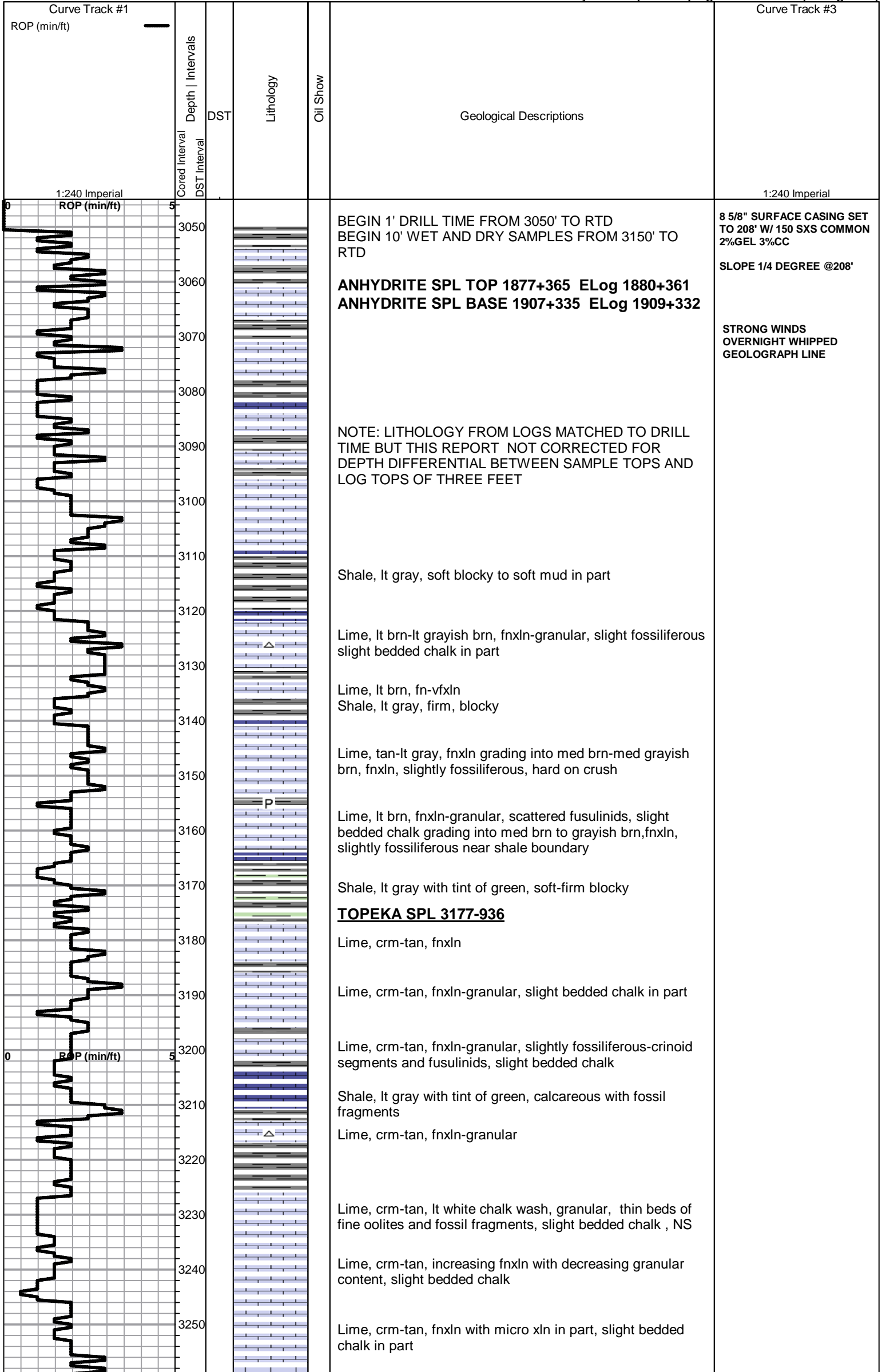
ROCK TYPES

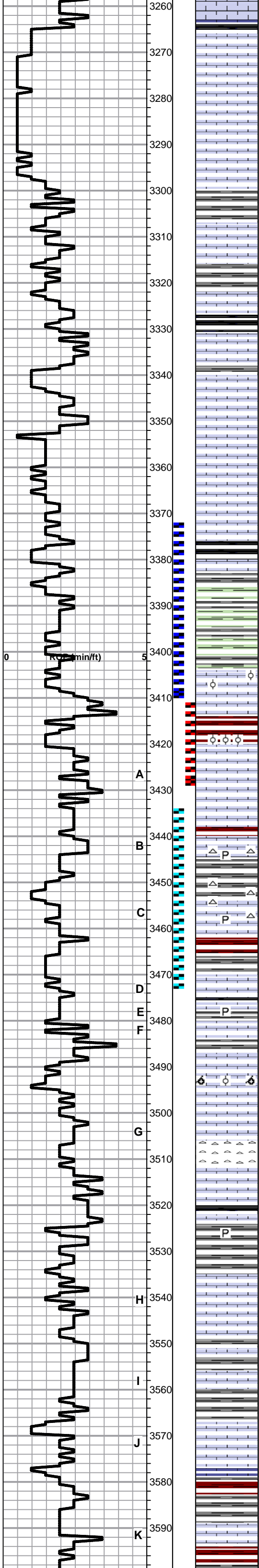
Cht	Lmst fw7>	shale, grn	Carbon Sh	Shgy
Lmst fw<7	Lscongl	shale, gry	shale, red	

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'

