OPERATOR

Company:	BLACK DIAMOND OIL, INC.		
Address:	P.O. BOX 641 HAYS, KS 67601		
Contact Geologist:	KENNETH VEHIGE		
Contact Phone Nbr:	(785) 625-5891		
Well Name:	LOGAN NW #1		
Location:	E2 NE NW SE Sec. 24 - 3S - 21W		
API:	15-137-20725-00-00		
Pool:		Field:	UNNAMED
State:	KANSAS	Country:	USA

Scale 1:240 Imperial

Well Name:	LOGAN NW #1		
Surface Location:	E2 NE NW SE Sec. 24 - 3S - 21W		
Bottom Location:			
API:	15-137-20725-00-00		
License Number:	7076		
Spud Date:	12/2/2014	Time:	5:15 PM
Region:	NORTON COUNTY KANSAS		
Drilling Completed:	12/7/2014	Time:	10:22 PM
Surface Coordinates:	2310' FSL & 1600' FEL		
Bottom Hole Coordinates:			
Ground Elevation:	2196.00ft		
K.B. Elevation:	2201.00ft		
Logged Interval:	3100.00ft	To:	3770.00ft
Total Depth:	3770.00ft		
Formation:	LANSING - KANSAS CITY		
Drilling Fluid Type:	FRESH WATER / CHEMICAL GEL		

SURFACE CO-ORDINATES

Well Type:	Vertical
Longitude:	-99.6329161
Latitude:	39.7765756
N/S Co-ord:	2310' FSL
E/W Co-ord:	1600' FEL

LOGGED BY

Company:	BIG CREEK CONSULTING, INC.		
Address:	1909 MAPLE ELLIS, KS 67637		
Phone Nbr:	(785) 259-3737		
Logged By:	Geologist	Name:	JEFF LAWLER

CONTRACTOR

Contractor:	WW DRILLING, LLC		
Rig #:	6		
Rig Type:	MUD ROTARY		
Spud Date:	12/2/2014	Time:	5:15 PM
TD Date:	12/7/2014	Time:	10:22 PM
Rig Release:	12/10/2014	Time:	3:00 AM

ELEVATIONS

K.B. Elevation:	2201.00ft	Ground Elevation:	2196.00ft
K.B. to Ground:	5.00ft		

NOTES

THE LOGAN NW #1 WAS A RELATIVE WILDCAT WELL WITH THE NEAREST WELLS DRILLED APPROXIMATELY 2 MILES IN ALL DIRECTIONS. THE LOGAN NW #1 RAN HIGH TO SURROUNDING WELLS AND CARRIED SHOWS AND POROSITY DEVELOPMENT THROUGHOUT. SIX DRILL STEM TESTS WERE TAKEN. DRILL STEM TESTS TWO THROUGH SIX HAD SEVERE TO PARTIAL PLUGGING THROUGHOUT THE FLOW PERIODS THAT IS VISABLE ON THE DST CHART INCLUDED IN THE REPORT. AFTER DRILL STEM TEST FIVE A DIFFERENT HYDRAULIC TOOL WAS SWITCHED OUT. THERE WAS PARTIAL PLUGGING ON DRILL STEM TEST SIX BUT

WAS CONCLUDED AS A VALID TEST. WITH THE LACK OF ECONOMICAL RECOVERY ON ALL OF THE DRILL STEM TESTS IT WAS DECIDED TO PLUG AND ABANDON THE LOGAN NW #1.

RESPECTFULLY SUBMITTED,
JEFF LAWLER

WELL COMPARISON SHEET

	LOGAN NW #1				BAIRD OIL CO., LLC ARLENE MULDER #1-26 NW SW SE NW 26-3-21				BLACK DIAMOND OIL, INC. SCHEMPER #1 NE SW NE SW 20-2-20				NORTHERN ORDANCE PERRY #1 SW SW 20-320				JONES, SHELBURNE, & FARMER SMITH #1 SW SW NE 15-3-21			
	KB	2201	GL	2196	KB	2275			KB	2165			KB	2195			KB	2313		
	LOG TOPS		SAMPLE TOPS		LOG		LOG	SMPL.	LOG		LOG	SMPL.	COMP. CARD		LOG	SMPL.	COMP. CARD		LOG	SMPL.
FORMATION	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.
ANHYDRITE TOP	1854	347	1857	344	1953	322	+ 25	+ 22	1811	354	- 7	- 10	1843	352	- 5	- 8	2011	302	+ 45	+ 42
BASE	1879	322	1882	319	1978	297	+ 25	+ 22	1836	329	- 7	- 10								
TOPEKA	3220	-1019	3219	-1018	3301	-1026	+ 7	+ 8	3187	-1022	+ 3	+ 4	3224	-1029	+ 10	+ 11				
HEEBNER SHALE	3423	-1222	3426	-1225	3499	-1224	+ 2	- 1	3394	-1229	+ 7	+ 4	3422	-1227	+ 5	+ 2	3545	-1232	+ 10	+ 7
TORONTO	3450	-1249	3453	-1252	3525	-1250	+ 1	- 2	3422	-1257	+ 8	+ 5	3446	-1251	+ 2	- 1	3569	-1256	+ 7	+ 4
LKC	3468	-1267	3470	-1269	3545	-1270	+ 3	+ 1	3440	-1275	+ 8	+ 6	3465	-1270	+ 3	+ 1	3586	-1273	+ 6	+ 4
BKC	3658	-1457	3670	-1469	3738	-1463	+ 6	- 6	3632	-1467	+ 10	- 2					3736	-1423	- 34	- 46
ARBUCKLE			3746	-1545	3813	-1538		- 7	3707	-1542		- 3	3739	-1544		- 1	3856	-1543		- 2
TOTAL DEPTH	3769	-1568	3770	-1569	3925	-1650	+ 82	+ 81	3747	-1582	+ 14	+ 13	3790	-1595	+ 27	+ 26	3868	-1555	- 13	- 14

DST #1 LKC C - D 3480' - 3526'

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Diamond Oil Inc.

P.O. Box 641
Hays, Ks 67601

ATTN: Jeff Lawler

24/3s/21w

Logan NW #1

Job Ticket: 61042 **DST#: 1**

Test Start: 2014.12.06 @ 08:42:00

GENERAL INFORMATION:

Formation: **LKC "C-D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:33:30
Time Test Ended: 16:02:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Brandon Quintana
Unit No: 57

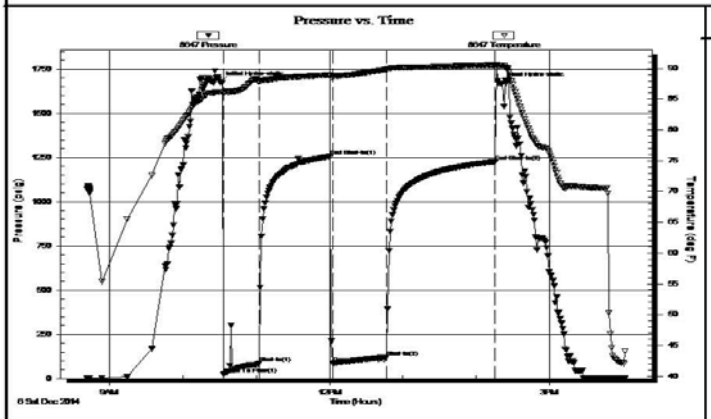
Interval: 3480.00 ft (KB) To 3526.00 ft (KB) (TVD)
Total Depth: 3480.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2201.00 ft (KB)
2196.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8647 **Inside**
Press@RunDepth: 122.48 psig @ 3481.00 ft (KB)
Start Date: 2014.12.06 End Date: 2014.12.06
Start Time: 08:42:01 End Time: 16:02:00

Capacity: 8000.00 psig
Last Calib.: 2014.12.06
Time On Btm: 2014.12.06 @ 10:30:30
Time Off Btm: 2014.12.06 @ 14:19:30

TEST COMMENT: 30 - IF - Opened w / surface blow , built to 7 1/2"
60 - ISI - No Return
45 - FF - Blow built to 9 1/2"
90 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1675.28	86.17	Initial Hydro-static
3	26.78	85.98	Open To Flow (1)
32	87.81	87.80	Shut-In(1)
90	1255.80	88.90	End Shut-In(1)
92	85.43	88.75	Open To Flow (2)
136	122.48	89.80	Shut-In(2)
225	1226.40	90.54	End Shut-In(2)
229	1669.84	90.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
182.00	MW 80%w , 20%m	1.45
50.00	100%m	0.70

Gas Rates

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

DST #2 LKC J - K 3622' - 3662'

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Diamond Oil Inc.

P.O. Box 641
Hays, Ks 67601

ATTN: Jeff Lawler

24/3s/21w

Logan NW #1

Job Ticket: 61043 **DST#: 2**

Test Start: 2014.12.07 @ 09:22:00

GENERAL INFORMATION:

Formation: **LKC "J-K"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:54:30
Time Test Ended: 15:39:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Brandon Quintana
Unit No: 57

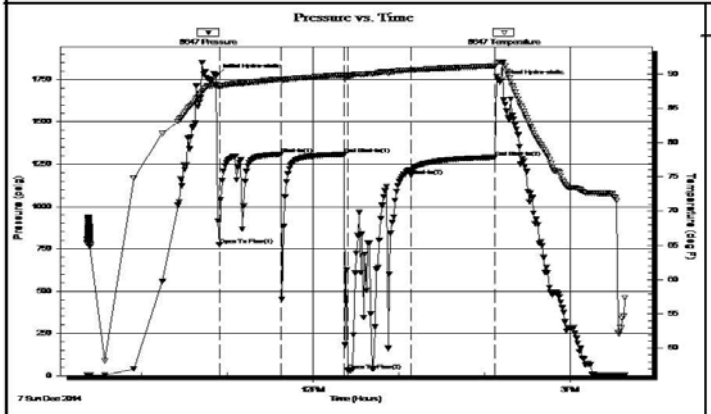
Interval: 3622.00 ft (KB) To 3662.00 ft (KB) (TVD)
Total Depth: 3662.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2201.00 ft (KB)
2196.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8647 **Inside**
Press@RunDepth: 1183.01 psig @ 3623.00 ft (KB)
Start Date: 2014.12.07 End Date: 2014.12.07
Start Time: 09:22:01 End Time: 15:39:00

Capacity: 8000.00 psig
Last Calib.: 2014.12.07
Time On Btm: 2014.12.07 @ 10:52:30
Time Off Btm: 2014.12.07 @ 14:11:30

TEST COMMENT: 45 - IF - Opened w / surface blow , built to 1/2" then died back to surface
45 - ISI - No Return
45 - FF - No Blow
60 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1775.88	88.41	Initial Hydro-static
2	773.13	88.20	Open To Flow (1)
45	1308.37	89.19	Shut-In(1)
89	1307.53	89.82	End Shut-In(1)
92	32.28	89.56	Open To Flow (2)
136	1183.01	90.53	Shut-In(2)
195	1290.12	91.16	End Shut-In(2)
199	1738.71	91.78	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	100%mud	0.05

Gas Rates

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

DST #3 (STRADDLE) LKC J - K 3610' - 3655'

DRILL STEM TEST REPORT

Black Diamond Oil Inc.

P.O. Box 641
Hays, Ks 67601

ATTN: Jeff Lawler

24/3s/21w

Logan NW #1

Job Ticket: 61044 **DST#: 3**

Test Start: 2014.12.08 @ 08:32:00

GENERAL INFORMATION:

Formation: **LKC "J-K"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:46:30
Time Test Ended: 15:06:00

Test Type: Conventional Straddle (Initial)
Tester: Brandon Quintana
Unit No: 57

Interval: 3610.00 ft (KB) To 3655.00 ft (KB) (TVD)
Total Depth: 3769.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

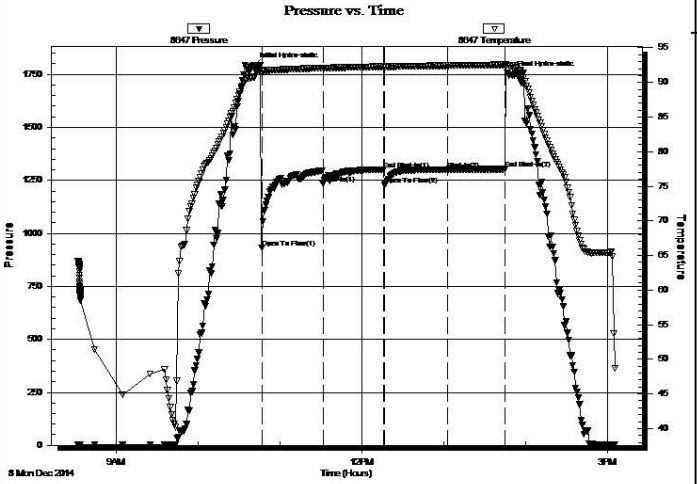
Reference Elevations: 2201.00 ft (KB)
2196.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8647

Press@RunDepth: 1301.86 psig @ ft (KB)
Start Date: 2014.12.08 End Date: 2014.12.08
Start Time: 08:32:01 End Time: 15:06:00

Capacity: 8000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2014.12.08 @ 10:40:30
Time Off Btm: 2014.12.08 @ 13:48:30

TEST COMMENT: 30 - IF - Opened w / surface blow , w ent straight to 2", died back to 1 1/2"
30 - ISI - No Return
30 - FF - No Blow
30 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1790.55	90.76	Initial Hydro-static
6	930.16	91.69	Open To Flow (1)
51	1234.09	92.07	Shut-In(1)
95	1299.16	92.29	End Shut-In(1)
96	1228.33	92.25	Open To Flow (2)
142	1301.86	92.43	Shut-In(2)
184	1302.99	92.55	End Shut-In(2)
188	1747.59	92.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	100%mud	0.34

Gas Rates

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

DST #4 (STRADDLE) TORONTO - LKC A 3420' - 3480' (BOTTOM PACKER CHART AT END OF REPORT)

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Diamond Oil Inc.

P.O. Box 641
Hays, Ks 67601

ATTN: Jeff Lawler

24/3s/21w

Logan NW #1

Job Ticket: 61045 **DST#: 4**

Test Start: 2014.12.08 @ 16:59:00

GENERAL INFORMATION:

Formation: **Toronto & "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:56:30
Time Test Ended: 23:12:30

Test Type: Conventional Straddle (Initial)
Tester: Brandon Quintana
Unit No: 57

Interval: 3420.00 ft (KB) To 3480.00 ft (KB) (TVD)
Total Depth: 3769.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

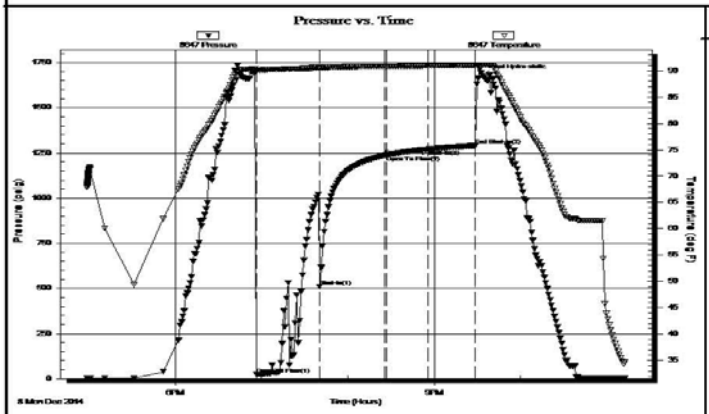
Reference Elevations: 2201.00 ft (KB)
2196.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8647

Press@RunDepth: 1271.39 psig @ ft (KB)
Start Date: 2014.12.08 End Date: 2014.12.08
Start Time: 16:59:01 End Time: 23:12:30

Capacity: 8000.00 psig
Last Calib.: 2014.12.08
Time On Btm: 2014.12.08 @ 18:50:30
Time Off Btm: 2014.12.08 @ 21:33:30

TEST COMMENT: 45 - IF - Opened w / surface blow , built to 1"
45 - ISI - No Return
30 - FF - No Blow
30 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1661.89	90.25	Initial Hydro-static
6	23.50	90.06	Open To Flow (1)
50	508.89	90.52	Shut-In(1)
95	1235.58	90.85	End Shut-In(1)
96	1237.50	90.85	Open To Flow (2)
125	1271.39	90.94	Shut-In(2)
158	1289.96	91.02	End Shut-In(2)
163	1679.74	91.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	100%mud	0.05

Gas Rates

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

ROCK TYPES

Cht
Congl
Dolprim
Lmst fw7>
shale, gry
Carbon Sh
Shblck
shale, red
Arg/Shale
Sltst

ACCESSORIES

STRINGER
Chert

OTHER SYMBOLS

MISC
Daily Report
Digital Photo
Document
Folder

DST
DST Int
DST alt

Link
Vertical Log File
Horizontal Log File
Core Log File
Drill Cuttings Rpt

Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)

Curve Track #1
ROP (min/ft)
Gamma (API)
Cal (in)
1:240 Imperial

Depth | Intervals
Cored Interval
DST Interval

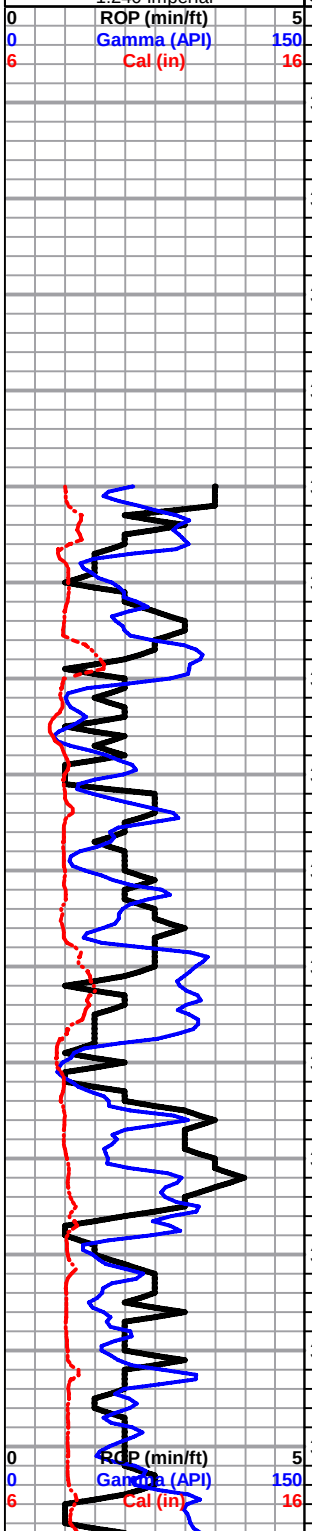
DST

Lithology

Oil Show

Geological Descriptions

Curve Track #3
1:240 Imperial



1' DRILL TIME THROUGH ANHYDRITE FROM 1840' - 1900'
1' DRILL TIME FROM 3100' - RTD
10' WET/DRY SAMPLES FROM 3150' - RTD

GEOLOGICAL SUPERVISION BY JEFF LAWLER FROM 3150' - RTD

8 5/8" SURFACE PIPE SET @ 220' SURVEY 1/2 dgr.

DRILLER'S ANHYDRITE TOP 1857' (+344) E-LOG 1854' (+347)
DRILLER'S ANHYDRITE BASE 1882' (+319) E-LOG 1879' (+322)

Lm- Cream Tan Gray, mix of VFXLN, sub-sucrosic dolomitic Ls w/ consistent XLN porosity, cream VFXLN, fsl & massive, well cemented w/ sctrd vry fn ppt inter fsl porosity, & gray FXLN, trashy high-energy bioclastic w/ sctrd XLN & secondary recrystallization porosity, all barren

Lm- Cream Gray Buff, VF-FXLN, mix of dense, well cemented & poorly dev., fsl, some high-energy bioclasitcs, all w/ sctrd XLN porosity, barren

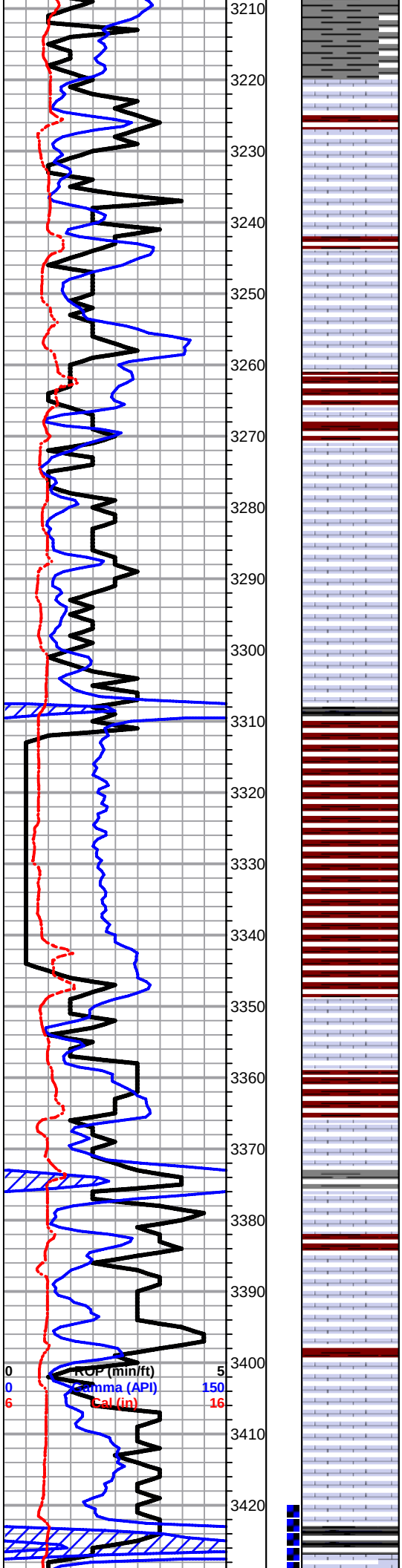
Sh- Gray Maroon White, silty & soft, some sandy lime, gritty & earthy, some wash, soft white chalk

Lm- Cream Buff, VF-FXLN, fsl w/ fusulinds, most well cemented & tight w/ sctd micro XLN porosity, some chalky in part w/ insitu fusulinids, some VFXLN gray Ls w/o vis. porosity & siltstone

Lm- Gray Buff, VFXLN, dense, fsl w/ few fragments, chalky in part w/ poor vis. porosity

Lm- Gray, VFXLN, dense, well cemented, tight w/ min. vis. porosity, some soft siltstone

Lm- Gray, FXLN, dense, well cemented, trashy high-energy fsl & bioclastic w/ dense XLN & recrystallization porosity, barren



Sh/Lm- Gray, silty & calcareous, some soft white chalk & sandy siltstone, few clumps of gummy gray wash, chalky Lm Green siltstone

TOPEKA 3219' (-1018) E-LOG 3220' (-1019) Lm- Cream Tan Buff, FXLN, mix of massive, fsl, some fragments & bioclasitc recrystallization, sctrd-dense XLN porosity, some trashy high-energy bioclastic w/ dense XLN & recrystallization porosity

Lm- Gray, VFXLN, dense, tight w/ min. vis. porosity, some lithographic

Lm- Tan Cream, F-Med XLN, fsl w/ fusulinids & fragments, dense recrystallization, clear replacement cementation, barren

Lm- Cream Buff, VF-FXLN, sl fsl, some chalky in part & sl mottled, poor vis. to sctrd micro XLN & XLN porosity, vry clean & barren

Sh- Maroon Gray, gritty & earthy, dense & silty, some unconsolidated & trashy Ss, well cemented & barren

Lm- Cream Off White, VF-FXLN, fusulinids & oolitic, poorly dev., well cemented & dense, some w/ clear replacement cementation, sctrd to dense XLN porosity, some chalky in part, w/ poor vis. porosity, barren, few pcs of fresh bedded oolitic & clean chert w/o vis. porosity

Lm- Cream, VFXLN mix or dense, sl chalky in part, well cemented w/o vis. porosity or matrix & sl fsl, poorly dev. & mostly tight w/ rare sctrd micro XLN porosity, all vry clean & barren

Lm- A/A w/ incr. in millky tan vitreous fresh bedded chert & soft white chalk

Lm- Cream Off White, VF-FXLN, dense, well cemented, fsl & oolitic, poorly dev. w/ sctrd clear replacement cementation, poor effective porosity, some massive, some loosely cemented, crumbly, & chalky

Sh- Black Maroon, fissile, slaty, carbonaceous, gritty & earthy

Sh- Maroon Gray White, gritty & earthy, semi-sandy gummy wash, silty & calcareous & soft white chalk/lime

Sh- A/A w/ incr. in sandy gummy wash, & maroon & buff Fn Grn consolidated & well sorted Ss, barren

Lm- Cream Off White, VFXLN, dense, well cemented, massive & grainy w/ dense micro XLN porosity, barren

Lm- Gray Buff Lt Maroon, Fn Grn, arenacoues Ls, some chalky in part, some calcaerous siltstone

Sh- Drk Gray, dense & silty, soft, few trashy & unconsolidated

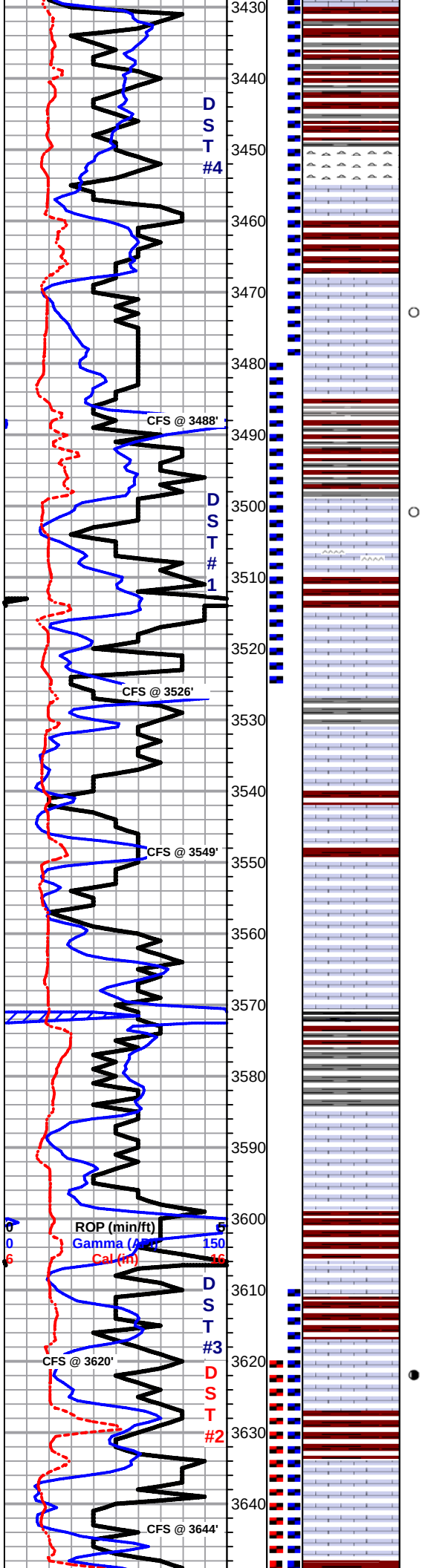
Lm- Cream Buff, VFXLN, dense, well cemented, tight w/ sctrd micro XLN & XLN porosity, several pcs of chalky sl fsl w/ fusulinid, loosely cemented & crumbly

Lm- Cream Off White, VF-FXLN, dense, sl oolitic w/ fusulinids, clear replacement cementation, dense XLN porosity & recrystallization, few pcs of fsl biomicrite w/o vis. porosity, some VFXLN, dense & tight w/o vis. porosity, all vry clean & barren

Lm- Cream Off White, Fn Grn, loosely cemented & semi-crumbly arenaceous Ls w/ poor vis. porosity, chalky

Lm- Buff, VFXLN Vf Grn, dense tight mix, some chalky & loosely cemented, all w/ min. vis. porosity

HEEBNER 3426' (-1225) E-LOG 3423' (-1222) Sh- Black Maroon Gray, fissile & carbonaceous, gritty & earthy, gummy wash



Sh- Maroon Gray, A/A w/ gummy maroon wash & sandy gray shale/lime

TOPEKA 3453' (-1252) E-LOG 3450' (-1249) Chert- Golden Brown Cream Salmon, vitreous fresh bedded chert, some sl fsl, w/o vis. porosity

Lm- Cream Off White, VF-FXLN, fsl mix, poorly dev. w/ sctrd-dense micro XLN porosity, well cemented & chalky loosely cemented crumbly w/ fusulinids & several loose fusulinids, barren

LKC 3470' (-1269) E-LOG 3468' (-1267) Lm- Cream Off White, fsl & sl oolitic, sl sctrd dev. & XLN porosity, few w/ rare vry fn ppt inter oolite porosity, WK SPOTTY STN, 1 PCS W/ SL TR FO UPON CRUSH, TR ODR, DULL HALO FLOR., NO STRM WET CUT, (4-6 pcs total)

Lm- Cream Off White, VF-FXLN, dense, mostly tight, sl fsl, poorly dev. w/ sctrd micro XLN & XLN porosity, some chalky in part, some lithographic w/o vis. porosity

Lm/Chert- Cream Off White, Vf-FXLN, dense, well cemented, consistent micro XLN & vry fn ppt porosity throughout, SCTRD DRK STN, TR FO, TR ODR, BRT YLW FLOR, much barren porosity Golden Brown & Tan fresh bedded chert

Lm/Chert- Cream Off White, VF-FXLN, sl fsl, some chalky in part, mostly tight w/ sctrd XLN porosity at best, barren, several pcs of golden brown, tan, & salmon, some gritty dolomitic chert

Lm- Cream Off White, A/A w/ poorly dev. FXLN oolitic Ls w/ rare sctrd vry fn ppt inter oolite & XLN porosity

Sh- Gray Lm Green Maroon, silty & soft, dense & silty, gritty & earthy

Lm/Chert- Cream Off White, VF-FXLN, oolitic w/ porosity varying w/ min. vis. & clear replacement cementation to sl dev. w/ sctrd XLN & some sctrd fn ppt inter oolite porosity, all well cemented & vry clean & barren, some soft white chalk, much Tan, Milky White, Cream & Salmon fresh bedded chert

Lm- Cream Off White, VFXLN Vf Grn, dense tight mix, sctrd micro XLN & XLN porosity, all vry clean & barren, much soft white chalk

Lm- Cream Mint Green, VFXLN Vf Grn, dense, well cemented mix, all mostly tight w/ poor vis. porosity, some sl oolitic w/ sctrd micro XLN porosity, & well cemented siltstone w/ no vis. porosity, all vry clean & barren, golden brown fresh bedded chert

Sh- Black Drk Gray Maroon Lm Green, fissile & carbonaceous, silty & dense, dense & gritty, soft & semi-calcareous

Sh- A/A w/ gummy wash

Lm- Gray Buff, VF-FXLN, dense, well cemented, mostly tight w/ porosity, some sl fsl

Lm- Tan, VF-FXLN, dense, well cemented, some sl oolitic w/ dense micro XLN & XLN porosity, poorly dev. w/ tight VFXLN w/ no vis. porosity, lithographic

Sh- Maroon Purple Gray, gritty & earthy, some maroon wash, silty & soft

Lm- Cream Off White, FXLN, sl dev. w/ sctrd to dense micro XLN & vry fn ppt porosity, some loosely cemented & crumbly, all clean & barren

Lm- Cream Buff, VF-FXLN, mix of oolitic FXLN w/ sctrd XLN & fn ppt inter oolite porosity, SCTRD DRK STN, TR FO, NO ODR (many pcs.), & dense, vry well cemented & tight VFXLN w/ min. vis. porosity, barren

Lm- Buff Mint Green, VF-FXLN, dense, most well cemented w/ rare ppt & sctrd XLN porosity, some carrying STN A/A, much soft white chalk

Lm- Cream Mustard Yellow, FXLN, oolitic mix, some poorly dev. w/ sctrd-dense XLN porosity, loosely-well cemented & musatrd ylw. oolitic biomicrite w/o vis. porosity & clear replacement cementation, all barren, much soft white chalk

DST #4 (STRADDLE) TORONTO - LKC A 3420' - 3480'

10' MUD

IFP: 23-508#
FFP: 1237-1271#
SIP: 1235-1289#

****SEVERE PLUGGING****

BOTTOM PACKER CHART BELOW

3474.jpg
3474_2.jpg

3495.jpg

SHORT TRIP SURVEY 1 1/4 dgr STRAP +1.00'

DST #1 LKC C - D 3480' - 3526' 30-60-45-90

50' MUD
182' MW (80%W, 20%M)

IFP: 26-87#
FFP: 85-122#
SIP: 1255-1226#

SHORT TRIP SURVEY 3/4 dgr.

DST #2 LKC J - K 3622' - 3662' 45-45-45-60

10' MUD

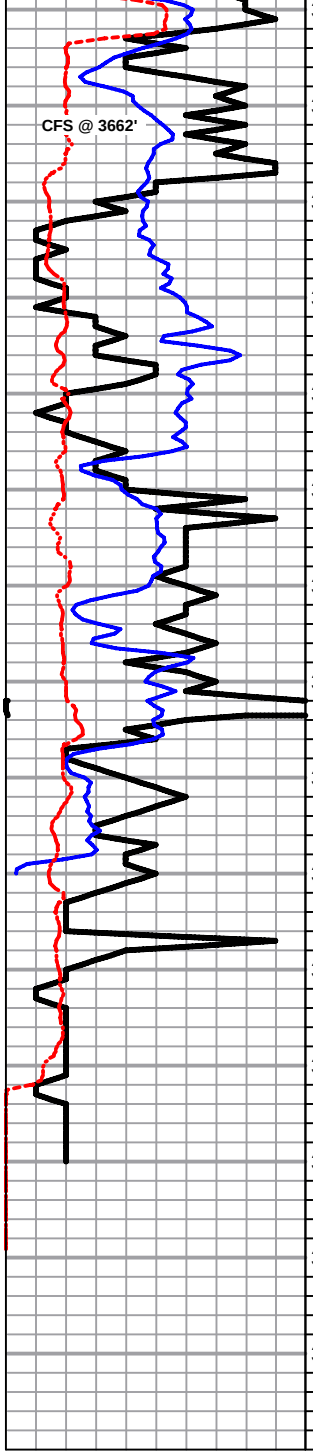
IFP: 773-1308#
FFP: 32-1183#
SIP: 1307-1290#

****NOTE: SEVERE PLUGGING DURING OPEN CYCLES****

3632.jpg

DST #3 LKC J - K STRADDLE 3610' - 3655'

30-30-30-30



3650
3660
3670
3680
3690
3700
3710
3720
3730
3740
3750
3760
3770
3780
3790

Lm- Cream Tan, VF-FXLN, sl fsl, poorly dev. w/ sctrd XLN porosity, some chalky in part, barren

BKC 3670' (-1469) E-LOG 3658' (-1457) Sh- Maroon Gray Lm Green, gritty & earthy, some sl sandy gummy wash, silty & unconsolidated, dense & sl calcareous

Lm- Buff Cream Tan, mix of sl unconsolidated & fsl, loosely cemented w/ dense XLN porosity & tight dense VFXLN w/o vis. porosity

Lm- Cream Off White, FXLN, fsl, poorly dev., mostly well cemented & tight w/ sctrd XLN porosity, barren

Conglomerate- Maroon/Pink Cream, unconsolidated & spkld, some loosely cemented & crumbly, FXLN, dense XLN porosity, some chalky mud supported matrix, all w/ poor vis. porosity

Conglomerate- A/A w/ massive fsl, mud supported matrix & FXLN, trashy & well cemented w/ fsl fragments, well cemented w/ sctrd XLN porosity, some maroon sandy lime

Lm- Cream Off White, VF-FXLN Vf Grn, dense, mix of vry well cemented & tight w/ micro XLN porosity & tight, vry dense XLN porosity throughout, & gummy white chalk, some sl sandy, all vry clean & barren

ARBUCKLE 3746' (-1545) Dolomite- Cream, FXLN, massive, vry well cemented, tight w/ micro XLN porosity, clean & barren

Dolomite- VFXLN, dense, vry well cemented, tight w/ min. vis. porosity, vry clean & barren, few pcs of chert & cherty dolomitic w/o vis. porosity, barren

RTD 3770' (-1569) LTD 3769' (-1568) @ 22:22 12/7/2014

DST 4_btmpkr.jpg

DST 5.jpg

DST 6.jpg

DST 6_BTMPKR.jpg

70' MUD

IFP: 930-1234#
FFP: 1228-1301#
SIP: 1299-1301#

SEVERE PLUGGING

DST #5 LKC K (STRADDLE)
3627' - 3657'

(MISRUN)

308' MUD

DST #6 LKC K (STRADDLE)
3622' - 3644'

DIFFERENT HYDRAULIC SECTION OF TOOL STRING

45-60-45-60

70' MUD

IFP: 30-485#
FFP: 71-84#
SIP: 1280-1247#

SEE CHARTS BELOW

PARTIAL PLUGGING DURING 1st OPEN

10 STAND SHORT TRIP
CTCH 1 1/2 HR.
SURVEY 1 dgr.
TOH FOR LOG

3474.jpg

3474' x 35

3474_2.jpg

3474' x 35

3495.jpg

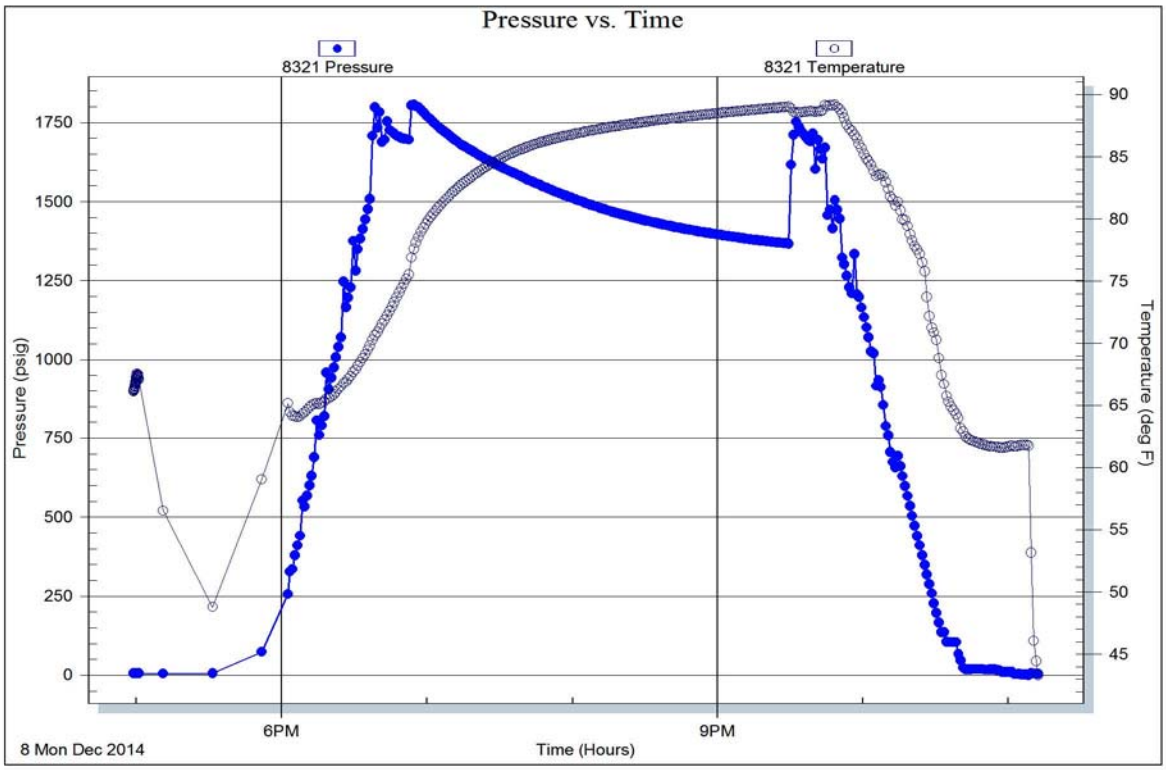
3495' x30

3632.jpg

3632' X 30

DST 4_btmpkr.jpg

Serial #: 8321 Black Diamond Oil Inc. Logan NW #1 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 61045 Printed: 2014.12.08 @ 23:30:32

DST 5.jpg

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Diamond Oil Inc.

P.O. Box 641
Hays, Ks 67601

ATTN: Jeff Lawler

24/3s/21w

Logan NW #1

Job Ticket: 61046 **DST#: 5**

Test Start: 2014.12.09 @ 00:00:00

GENERAL INFORMATION:

Formation: **LKC "J-K"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended:

Test Type: Conventional Straddle (Initial)
Tester: Brandon Quintana
Unit No: 57

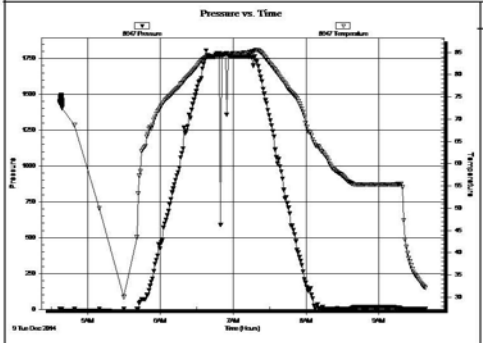
Interval: 3627.00 ft (KB) To 3657.00 ft (KB) (TVD)
Total Depth: 3769.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2201.00 ft (KB)
2196.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8647
Press@RunDepth: psig @ ft (KB)
Start Date: 2014.12.09 End Date: 2014.12.09
Start Time: 04:37:01 End Time: 09:38:30

Capacity: 8000.00 psig
Last Calib.: 2014.12.09
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF -
30 - ISI - MISRUN
30 - FF - PACKER FAILURE
30 - FSI -



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
308.00	100%Mud	3.22

Gas Rates

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

DST 6.jpg

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Diamond Oil Inc.

P.O. Box 641
Hays, Ks 67601

ATTN: Jeff Lawler

24/3s/21w

Logan NW #1

Job Ticket: 61047 **DST#: 6**

Test Start: 2014.12.09 @ 10:24:00

GENERAL INFORMATION:

Formation: **LKC "J-K"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:03:30
Time Test Ended: 17:15:30

Test Type: Conventional Straddle (Initial)
Tester: Brandon Quintana
Unit No: 57

Interval: 3622.00 ft (KB) To 3644.00 ft (KB) (TVD)
Total Depth: 3769.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

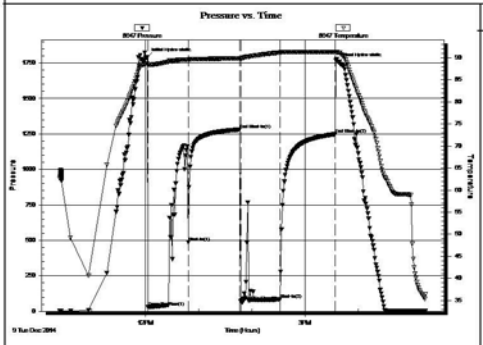
Reference Elevations: 2201.00 ft (KB)
2196.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8647 **Inside**

Press@RunDepth: 84.17 psig @ 3633.00 ft (KB)
Start Date: 2014.12.09 End Date: 2014.12.09
Start Time: 10:24:01 End Time: 17:15:30

Capacity: 8000.00 psig
Last Calib.: 2014.12.09
Time On Btm: 2014.12.09 @ 12:02:30
Time Off Btm: 2014.12.09 @ 15:37:30

TEST COMMENT: 45 - IF - Opened w / surface blow , built to 3 1/2"
60 - ISI - No Return
45 - FF - Blow built to 2 1/4"
60 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1791.72	88.65	Initial Hydro-static
1	30.40	88.37	Open To Flow (1)
46	485.04	89.48	Shut-In(1)
104	1280.86	89.85	End Shut-In(1)
105	71.53	89.72	Open To Flow (2)
149	84.17	91.15	Shut-In(2)
211	1247.93	91.27	End Shut-In(2)
215	1755.13	91.14	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	100%mud	0.34

Gas Rates

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

DST 6_BTMPKR.jpg