



1258706



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

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
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) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Black Diamond Oil, Inc.
Well Name	KS Brand 2
Doc ID	1258706

All Electric Logs Run

MICRO LOG
DUAL INDUCTION LOG
COMPENSATED DENSITY/NEUTRON LOG
SONIC LOG





# BLACK DIAMOND OIL INCORPORATED

Scale 1:240 Imperial

Well Name: KS BRAND #2  
Surface Location: SE NW NE NW Sec. 22 - 5S - 21W  
Bottom Location:  
API: 15-137-20733  
License Number: 7076  
Spud Date: 6/8/2015 Time: 3:00 PM  
Region: NORTON COUNTY KANSAS  
Drilling Completed: 6/14/2015 Time: 12:20 AM  
Surface Coordinates: 525' FNL & 1890' FWL  
Bottom Hole Coordinates:  
Ground Elevation: 2149.00ft  
K.B. Elevation: 2154.00ft  
Logged Interval: 3000.00ft To: 3720.00ft  
Total Depth: 3720.00ft  
Formation: GORHAM SAND; REAGAN SAND  
Drilling Fluid Type: FRESH WATER / CHEMICAL GEL

## 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: KS BRAND #2  
Location: SE NW NE NW Sec. 22 - 5S - 21W  
API: 15-137-20733  
Pool:  
State: KANSAS

Field: RAY WEST  
Country: USA

## SURFACE CO-ORDINATES

Well Type: Vertical  
Longitude: -99.6777350  
Latitude: 39.609198  
N/S Co-ord: 525' FNL  
E/W Co-ord: 1890' FWL

## LOGGED BY



Company: BIG CREEK CONSULTING, INC.  
Address: 1909 MAPLE  
ELLIS, KS 67627

Phone Nbr: (785) 259-3737  
 Logged By: Geologist

Name: JEFF LAWLER

**CONTRACTOR**

Contractor: WW DRILLING, LLC  
 Rig #: 6  
 Rig Type: MUD ROTARY  
 Spud Date: 6/8/2015  
 TD Date: 6/14/2015  
 Rig Release: 6/14/2015  
 Time: 3:00 PM  
 Time: 12:20 AM  
 Time: 10:45 PM

**ELEVATIONS**

K.B. Elevation: 2154.00ft  
 K.B. to Ground: 5.00ft  
 Ground Elevation: 2149.00ft

**NOTES**

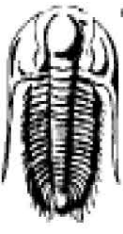
DUE TO A LACK OF ECONOMICAL RECOVERY ON DRILL STEM TEST #3 IT WAS DECIDED TO RUN 5 1/2" CASING WITH THE PRIMARY OBJECTIVE OF MAKING A DEEP DISPOSAL WELL.

RESPECTFULLY SUBMITTED,  
 JEFF LAWLER

**WELL COMPARISON SHEET**

FORMATION	KS BRAND #2				KS BRAND #1				CASTLE RESOURCES				HEMERICH & PAYNE, INC.				BLACK DIAMOND OIL, INC.			
	KB		GL		KB		2149		KB		2099		KB		2217		KB		2134	
	2154		2149		2149		2149		2099		2099		2217		2217		2134		2134	
	LOG TOPS	SAMPLE TOPS	LOG	LOG	SMPL.	LOG	LOG	SMPL.	COMP. CARD	LOG	SMPL.	COMP. CARD	LOG	SMPL.	COMP. CARD	LOG	SMPL.			
DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	
ANHYDRITE TOP	1751	403	1749	405	1753	396	+ 7 + 9	1693	406	- 3 - 1	1817	400	+ 3 + 5	1731	403	+ 0 + 2				
BASE	1780	374	1777	377	1780	369	+ 5 + 8	1729	370	+ 4 + 7				1755	379	- 5 - 2				
TOPEKA	3108	-954	3112	-958	3105	-956	+ 2 - 2					3167	-950	- 4 - 8	3145	-1011	+ 57 + 53			
HEBNER SHALE	3307	-1153	3309	-1155	3305	-1156	+ 3 + 1	3256	-1157	+ 4 + 2	3368	-1151	- 2 - 4	3288	-1154	+ 1 - 1				
TORONTO	3334	-1180	3337	-1183	3333	-1184	+ 4 + 1	3282	-1183	+ 3 + 0	3394	-1177	- 3 - 6	3314	-1180	+ 0 - 3				
LKC	3349	-1195	3355	-1201	3350	-1201	+ 6 + 0	3298	-1199	+ 4 - 2				3330	-1196	+ 1 - 5				
BKC	3536	-1382	3541	-1387	3535	-1386	+ 4 - 1	3485	-1386	+ 4 - 1	3603	-1386	+ 4 - 1	3518	-1384	+ 2 - 3				
GORHAM SAND					3582	-1433					3662	-1445								
REAGAN SAND	3594	-1440	3600	-1446				3540	-1441	+ 1 - 5				3568	-1434	- 6 - 12				
GRAINTE WASH	3648	-1494	3646	-1492																
GRANITE											3705	-1488								
TOTAL DEPTH	3720	-1566	3720	-1566	3583	-1434	- 132 - 132	3601	-1502	- 64 - 64				3568	-1434	- 132 - 132				

**DST #1 SAND 3583' - 3594' (MISRUN)**

 <p><b>TRIOBITE TESTING, INC.</b></p>	<b>DRILL STEM TEST REPORT</b>	
	Black Diamond Oil Po Box 641 Hays KS, 67601 ATTN: Jeff Lawler	<b>22-5s-21w Norton KS</b> <b>KS Brand #2</b> Job Ticket: 62714 <b>DST#:</b> 1 Test Start: 2015.06.12 @ 15:40:00

**GENERAL INFORMATION:**

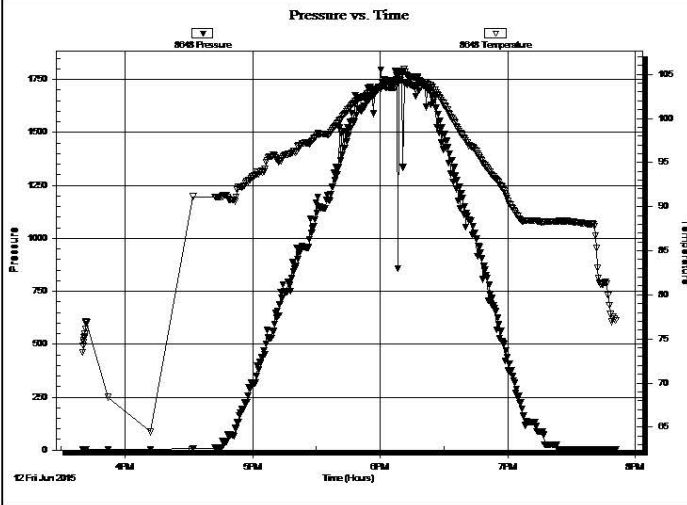
Formation: **Sand**  
 Deviated: No      Whipstock:      ft (KB)  
 Time Tool Opened:  
 Time Test Ended: 19:50:45  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Cody Bloedorn  
 Unit No: 73

Interval: **3583.00 ft (KB) To 3594.00 ft (KB) (TVD)**  
 Total Depth: 3594.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches      Hole Condition: Fair  
 Reference Elevations: 2154.00 ft (KB)  
 2149.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8648**      Inside

Press@RunDepth:      psig @      3591.00 ft (KB)      Capacity:      8000.00 psig  
 Start Date: 2015.06.12      End Date: 2015.06.12      Last Calib.: 2015.06.12  
 Start Time: 15:40:05      End Time: 19:50:45      Time On Btm:  
 Time Off Btm:

TEST COMMENT: Opened tool, packer failure. bled pressure. tried again. packer failure. Pulled tool.



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

Recovery		
Length (ft)	Description	Volume (bbl)
217.00	Mud, 100%M	1.95

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

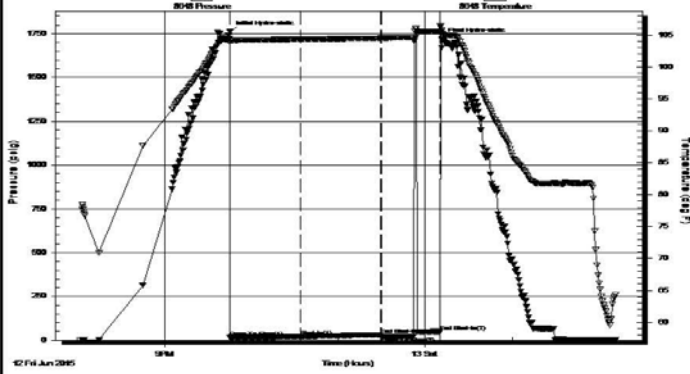
Trilobite Testing, Inc

Ref. No: 62714

Printed: 2015.06.13 @ 11:45:34

**DST #2 SAND 3565' - 3594'**

<p><b>TRILOBITE TESTING, INC.</b></p>	<p><b>DRILL STEM TEST REPORT</b></p>	
	<p>Black Diamond Oil</p> <p>Po Box 641 Hays KS, 67601</p> <p>ATTN: Jeff Lawler</p>	<p><b>22-5s-21w Norton KS</b></p> <p><b>KS Brand #2</b></p> <p>Job Ticket: 62716      <b>DST#: 2</b></p> <p>Test Start: 2015.06.12 @ 20:03:00</p>
<p><b>GENERAL INFORMATION:</b></p> <p>Formation: <b>Sand</b></p> <p>Deviated: No Whipstock:      ft (KB)</p> <p>Time Tool Opened: 21:45:15</p> <p>Time Test Ended: 02:11:15</p> <p><b>Interval: 3565.00 ft (KB) To 3594.00 ft (KB) (TVD)</b></p> <p>Total Depth: 3594.00 ft (KB) (TVD)</p> <p>Hole Diameter: 7.88 inches-Hole Condition: Fair</p> <p>Test Type: Conventional Bottom Hole (Reset)</p> <p>Tester: Cody Bloedorn</p> <p>Unit No: 73</p> <p>Reference Elevations: 2154.00 ft (KB)</p> <p>2149.00 ft (CF)</p> <p>KB to GR/CF: 5.00 ft</p>		
<p><b>Serial #: 8648      Inside</b></p> <p>Press@RunDepth: 20.83 psig @ 3591.00 ft (KB)</p> <p>Start Date: 2015.06.12      End Date: 2015.06.13</p> <p>Start Time: 20:03:05      End Time: 02:11:14</p>	<p>Capacity: 8000.00 psig</p> <p>Last Calib.: 2015.06.13</p> <p>Time On Btm: 2015.06.12 @ 21:45:00</p> <p>Time Off Btm: 2015.06.13 @ 00:11:30</p>	<p>TEST COMMENT: 45 - IF- 1" blow, died completely at 29 minutes</p> <p>60 - IS- No return</p> <p>40 - FF- No blow for 30 minutes, flushed tool, surged and died. w aited 10 minutes and pulled.</p>
<p>Pressure vs. Time</p>		<p>PRESSURE SUMMARY</p>



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1760.62	104.51	Initial Hydro-static
1	17.03	103.89	Open To Flow (1)
49	20.83	104.32	Shut-In(1)
105	31.64	104.51	End Shut-In(1)
105	20.68	104.51	Open To Flow (2)
146	49.11	105.53	End Shut-In(2)
147	1718.95	105.55	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
150.00	Mud, 100% M	1.01

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

\* Recovery from multiple tests  
 Trilobite Testing, Inc Ref. No: 62716 Printed: 2015.06.13 @ 06:47:20

### DST #3 REAGAN SAND 3565' - 3601'

	<b>TRILOBITE TESTING, INC.</b>		<b>DRILL STEM TEST REPORT</b>	
	Black Diamond Oil Po Box 641 Hays KS, 67601 ATTN: Jeff Lawler		<b>22-5s-21w Norton KS</b> <b>KS Brand #2</b> Job Ticket: 62717 <b>DST#: 3</b> Test Start: 2015.06.13 @ 09:43:00	

**GENERAL INFORMATION:**

Formation: **Sand**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 11:41:45  
 Time Test Ended: 16:02:30

Test Type: Conventional Bottom Hole (Reset)  
 Tester: Cody Bloedorn  
 Unit No: 73

Interval: **3565.00 ft (KB) To 3601.00 ft (KB) (TVD)**  
 Total Depth: 3601.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair

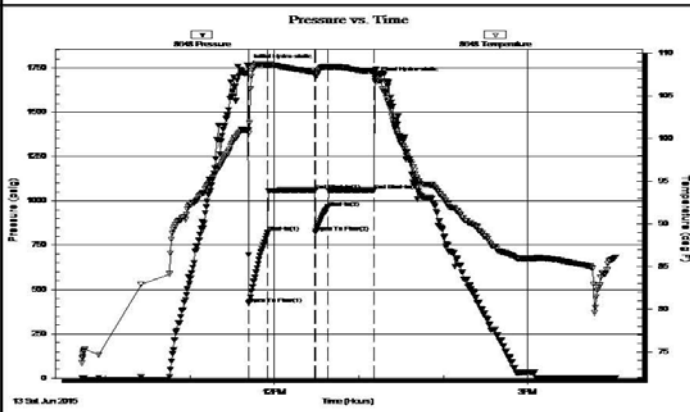
Reference Elevations: 2154.00 ft (KB)  
 2149.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8648 Inside**

Press@RunDepth: 963.89 psig @ 3598.00 ft (KB)  
 Start Date: 2015.06.13 End Date: 2015.06.13  
 Start Time: 09:43:05 End Time: 16:02:29

Capacity: 8000.00 psig  
 Last Calib.: 2015.06.13  
 Time On Btm: 2015.06.13 @ 11:41:15  
 Time Off Btm: 2015.06.13 @ 13:11:15

**TEST COMMENT:** 15 - IF- B.O.B. in 1 minute  
 30 - IS- No return  
 15 - FF- B.O.B. in 1 minute  
 30 - FSI- No return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1762.51	100.97	Initial Hydro-static
1	420.94	100.54	Open To Flow (1)
14	820.00	108.59	Shut-In(1)
48	1059.63	107.73	End Shut-In(1)
48	822.29	107.57	Open To Flow (2)
57	963.89	108.35	Shut-In(2)
90	1060.92	107.71	End Shut-In(2)
90	1692.88	107.93	Final Hydro-static



Recovery		
Length (ft)	Description	Volume (bbl)
1178.00	MW, 20%M, 80%W	15.43
434.00	WM, 30%W, 70%M	6.09
279.00	WM, 10%W, 90%M	3.91
0.00	Oil spots in tool	0.00

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

\* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 62717

Printed: 2015.06.13 @ 22:50:17

### ROCK TYPES

Lmst fw7> shale, grn	shale, gry	shale, red	Ss
Carbon Sh	Shcol	Igne	

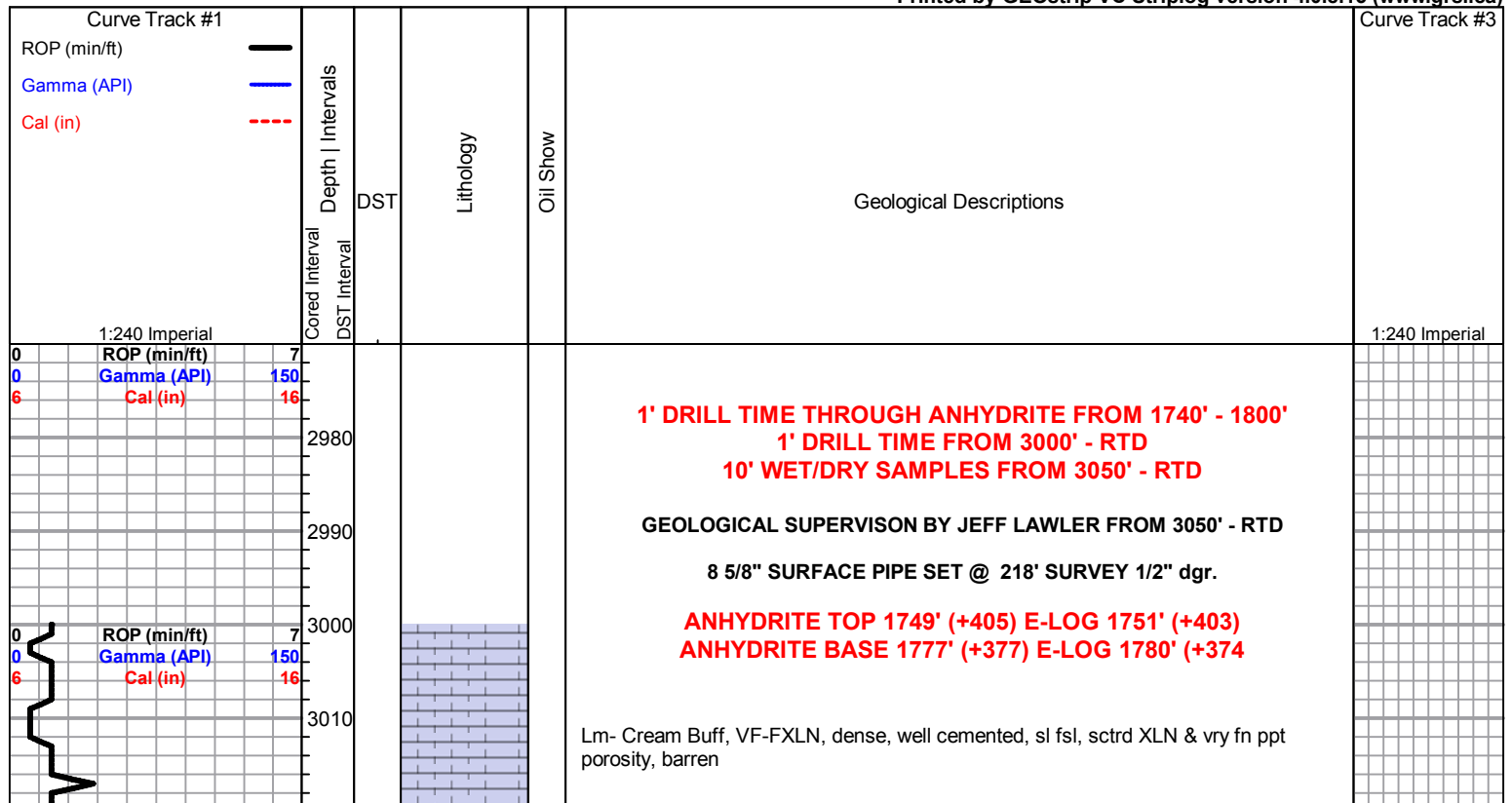
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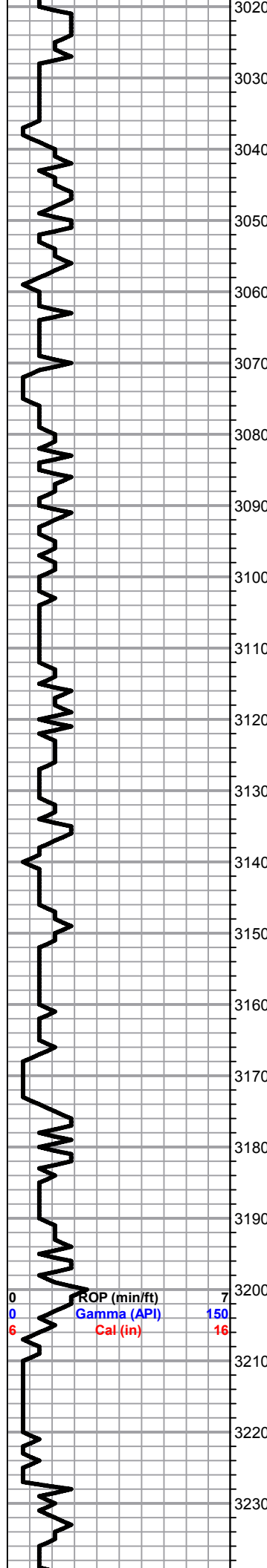
<b>MINERAL</b>	<b>STRINGER</b>
* Sandy	Dolomite
	Sandstone
	Shale

### OTHER SYMBOLS

<b>MISC</b>	<b>DST</b>
Daily Report	DST Int
Digital Photo	DST alt
Document	
Folder	
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](http://www.grsi.ca))





Lm- Cream Mint Green, FXLN Fn Grn, mix of fsl w/ fusulinids, sctrd XLN porosity & loosely cemented & sl chaly arenaceous Ls/calcareous shale

Lm- Cream Gray, FXLN, dense, well cemented, sctrd XLN porosity, chalky loosely cemented fsl mud supported matrix w/ no vis. porosity

Sh- Maroon Gray Lm Green, gritty & earthy, silty & sandy, soft & calcareous, some green wash, few friable clusters of clear to frosted Md Grn, consolidated & well sorted, sub-rounded, spkld w/ glauconite, barren

Lm- Gray, VFXLN, dense, well cemented, tight, no vis. porosity, sl fsl

Lm- Cream Buff Gray, VF-FXLN, dense, high-energy mix, fsl, poorly dev. & sl trashy, interbedded gray calcareous shale & wash

Lm- Cream White Yellow, loosely cemented, chalky heavily arenaceous Ls, barren

Sh- Gray Lm Green, silty & calcareous, silty & soft

**TOPEKA 3112' (-958) E-LOG 3108' (-954)** Lm- Buff, VFXLN, mottled, well cemented, tight w/ no vis. porosity, several pcs of fissile black shale

Lm- Buff, VFXLN, mottled, sl unconsolidated, no vis. porosity, high-energy, several loose crinoids

Lm- Buff, unconsolidated, dense reXLN porosity, bioclastic, few loose bi-vavle casts & loosely cemented cream arenaceous Ls, barren

Lm- Cream Off White, FXLN, dense, well cemented sl dolomitic Ls, some w/ dense reXLN & micro XLN porosity, barren

Lm- Buff Gray, unconsolidated trashy high-energy mix, chalky & loosely cemented, poor vis. porosity

Lm- Cream Tan Off White, CryptoXLN, porcelain like cherty Ls w/o vis. porosity, sharp & angular

Lm- influx of A/A w/ loosely cemented & sl chalky fsl Ls, dense reXLN, clean & barren

Lm- Cream Off White, VF-FXLN, dense, well cemented, mostly tight, some sctrd micro XLN & XLN porosity, gritty sl dolomitic Ls, vry clean, barren

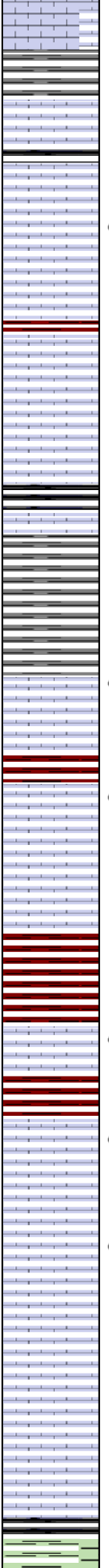
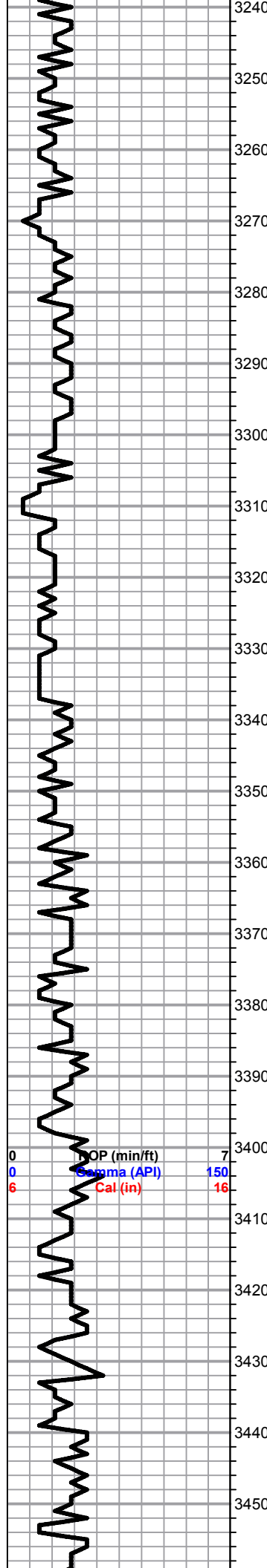
Lm- Cream Tan, VFXLN, sharp & angular cherty Ls w/o vis. porosity, soft white chalk

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

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

Sh/Ss- Maroon Gray Lm Green, gritty & earthy, silty calcareous Ss

Lm- Cream Tan, VF-FXLN, fsl, dense & well cemented, sctrd reXLN, sctrd XLN porosity, barren, much soft white chalk



Sh- Gray Maroon, silty & calcareous, gritty & earthy

Lm- Gray Cream, VFXLN, dense, well cemented, mostly tight w/ min. vis. porosity

Sh- Black, fissile & carbonaceous

Lm- Cream Off White, FXLN, oolitic, poorly dev., dense reXLN & clear replacement cementation, sctrd micro XLN porosity, vry clean & barren

● **Lm- Cream Translucent, VF-FXLN, oolitic, mod. dev. w/ sctrd fn ppt inter oolite porosity, LT SCTRDR STN, NSFO, several pcs of sub-sucrosic VFXLN, loosely cemented w/ consistent XLN porosity, SCTRDR STN, DRK GLOBULES UPON CRUSH, ALL W/ NO ODR**

● -OREAD.jpg

Lm- Cream Tan, VFXLN, dense, well cemented, sctrd micro XLN porosity, barren

Lm- Cream Gray, VF-FXLN, sl fsl, poorly dev., dense to sctrd XLN porosity, barren

● **HEEBNER 3309' (-1155) E-LOG 3307' (-1153) Sh- Black, fissile & carbonaceous**

Sh- Gray Maroon Lm Green, soft & semi-gummy, wash, silty & calcareous

● **TORONTO 3337' (-1183) E-LOG 3334' (-1180) Lm/Chert- Mix of Cream fsl w/ fusulinids, sctrd fn ppt inter fsl porosity, LT SCTRDR STN, NSFO, NO ODR, & cryptoXLN fresh bedded chert w/o vis. porosity**

● -TORONT...

● **LKC 3355' (-1201) E-LOG 3349' (-1195) Lm- Cream Off White, FXLN, well dev. & oolitic w/ consistent inter oolite ppt porosity, DRK STN, HVY SHEEN, FO & GSY BUBBLES UPON CRUSH, GD ODR**

● -A.jpg

Lm- White Off White, VF-FXLN, dense, well cemented, poorly dev & mostly tight w/ sctrd micro XLN & XLN porosity, few pcs of cherty Ls w/ min. vis. porosity, all vry clean

Lm- Gray Buff, VFXLN, dense, well cemented, tight w/ min. vis. porosity

● Lm- Cream Off White, FXLN, oolite, mod. dev. w/ mostly consistent ppt inter oolite porosity, reXLN amongst porosity, LT SCTRDR STN, NSFO, FR-GD ODR  
Chert- Translucent Opaque Tan, cryptoXLN, fresh bedded

● -C.jpg

● Lm- Cream Off White, FXLN, mod. dev. & oolitic w/ sctrd to consistent ppt inter oolite porosity, SCTRDR DRK STN, NSFO, GD ODR, much soft white chalk

● -D.jpg

● Lm- Cream Off White, VF-FXLN, oolitic mix, some poorly dev. & densely packed w/ min. vis. porosity & some mod. dev. w/ consistent ppt inter oolite porosity, SCTRDR STN, NSFO, GD ODR, much soft white chalk

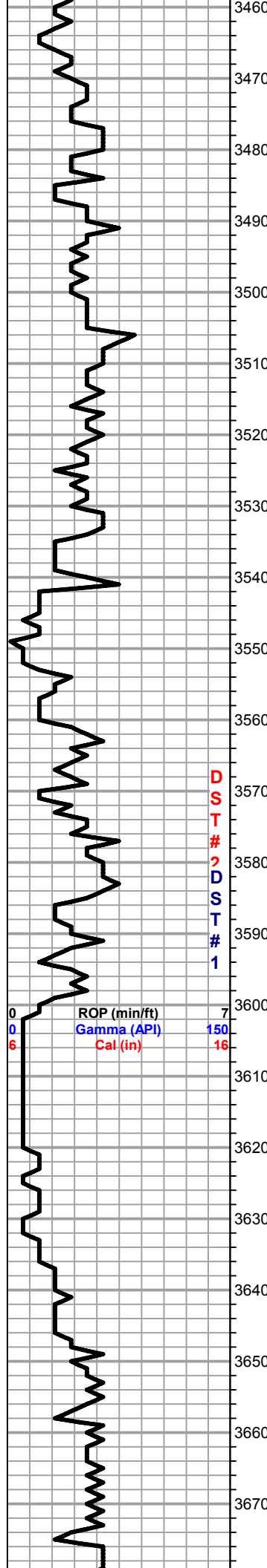
● -E.jpg

Lm- A/A w/ influx of less dev. oolitic Ls & fresh bedded chert

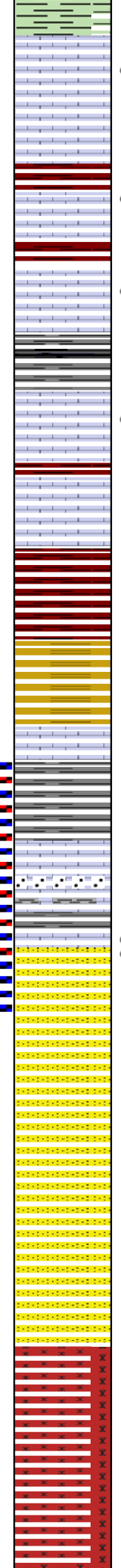
Lm- Cream Off White, VFXLN, dense, well cemented, mostly tight w/ min. vis. porosity, sl chalky in part, barren

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

OP (min/ft) 7  
Gamma (API) 150  
Cal (in) 16



D  
S  
T  
#  
1  
D  
S  
T  
#  
2  
D  
S  
T  
#  
1



Sh- Lm Green Gray, semi-gummy wash, silty & calcareous

Lm- Cream Off White, fsl & oolitic, sctrd dev. w/ sctrd ppt inter oolite & XLN porosity, SCTRD LT STN, NSFO, FR ODR, FEW PCS W/ CONSISTENT VRY FN PPT POROSITY & SUB-SAT FLAKEY STN

Lm- Lm Green, tight mix of mud & grain supported, all mostly tight w/ poor vis. porosity, barren

Lm- Cream Tan, VF-FXLN, well dev. & oolitic, most w/ consistent ppt inter oolite porosity throughout, SUB-SAT STN, FLAKEY, NOSFO, MOD. ODR

Lm- Cream Tan, VF-FXLN, dense, well cemented, sctrd oolitic dev., XLN & sctrd ppt inter oolite porosity, SCTRD DRK STN, FLAKEY, NSFO, MOD. ODR

Sh- Black Green Maroon, soft & carbonaceous, gummy wash, gritty & earthy

Lm- White Off White, FXLN, oolitic, sctrd vry fn ppt inter oolite porosity, LT STN, NSFO, FLAKEY, WK ODR, some chalky carrying A/A stn

Lm- White Cream, VF-FXLN, dense, well cemented, sl fsl, mostly tight w/ sctrd XLN porosity, barren, & some unconsolidated w/ yllw & maroon fn grn inclusions, barren

**BKC 3541' (-1387) E-LOG 3536' (-1382)** Sh- Maroon Lm Green, gritty & earthy, some sandy marron shale, dense & semi-waxy

Sh- Brown Gray, gritty & earthy, dense & waxy

Lm- Cream Off White, VFXLN, dense, well cemented, sl fsl, sctrd XLN porosity, barren

**\*\*STARTING @ 3579' CFS EVERY 2 FEET\*\***

**3581'**- Sh- Brown Gray, gritty & earthy, dense & waxy, striated, Lm- Cream, FXLN, fsl, poorly dev. sctrd XLN porosity, barren

**3583'**- Lm- Cream Yellow, FXLN, loosely cemented, sl unconsolidated w/ round qtz. inclusions, inconspicuous glauconite spkng, sctrd XLN porosity, barren

**3585'**- Sh- Gray Green, dense & waxy, gummy argillaceous clumps

**3589'**- Sh- A/A w/ cream off white Ls, unconsolidated & pebbly, dense XLN porosity, barren

**3591'** - Lm- White Off White, FXLN, sl unconsolidated w/ sub-rounded fn-med grn qtz. inclusions & spkld w/ chlorite/glaucanite, barren, dense XLN porosity, 1 CLUSTER OF FN GRN, CONSOLIDATED & SORTED FROSTED SS, LT CEMENTATION, LT STN, NSFO, SL FRIABLE

**3593'** - Ss- Med Grn, sub-angular, sl friable w/ lt Ca. cementation, consolidated & mod. sorted, SCTRD TO SUB-SAT STN, FR ODR

**3594'** - **REAGAN SAND 3600' (-1446) E-LOG 3594' (-1440)** Ss- A/A, more friable, STN A/A, INCR. ODR

**3596'** - Ss- A/A w/ sl influx, also w/ gray fresh bedded chert

**3601'** - Ss- Med Grn, friable clusters, sub-angular, white cementation, vry similar to A/A, DRK SCTRD STN, TR FO UPON CRUSH, FNT ODR

**DRILL AHEAD AFTER DST #3 RETURN TO 10' SAMPLES**

**3615'** - Ss- A/A clear to frosted, consolidated & poorly sorted Fn-Med Grn, rounded to angular, lt cementation, soft white chalk, clean & barren

**3620'** - Ss- Crs Grn, sub-rounded to angular ind. grains, some vf grn vry friable clusters, consolidated & well sorted, all barren

**GRANITE WASH 3646' (-1492) E-LOG 3648' (-1494)** Pink Salmon Translucent, biotite spkld feldspar, dense XLN or fractured porosity

Granite Wash- A/A w/ influx of salmon colored, some porcelain like granite conglomerate w/ biotite inclusions, few pcs of dolomitic conglomerate w/ min. vis. porosity, also spkld w/ biotite

Granite Wash- A/A

H.jpg

I.jpg

J.jpg

K.jpg

SHORT TRIP STRAP +0.24' SURVEY 1 dgr.

DST #1 SAND 3583' - 3594' MISRUN

DST #2 SAND 3565' - 3594' 45-60-40-0 150' MUD

IFP: 17-20#  
FFP: 20-49#  
SIP: 31-N/A#

3591.jpg

3593.jpg

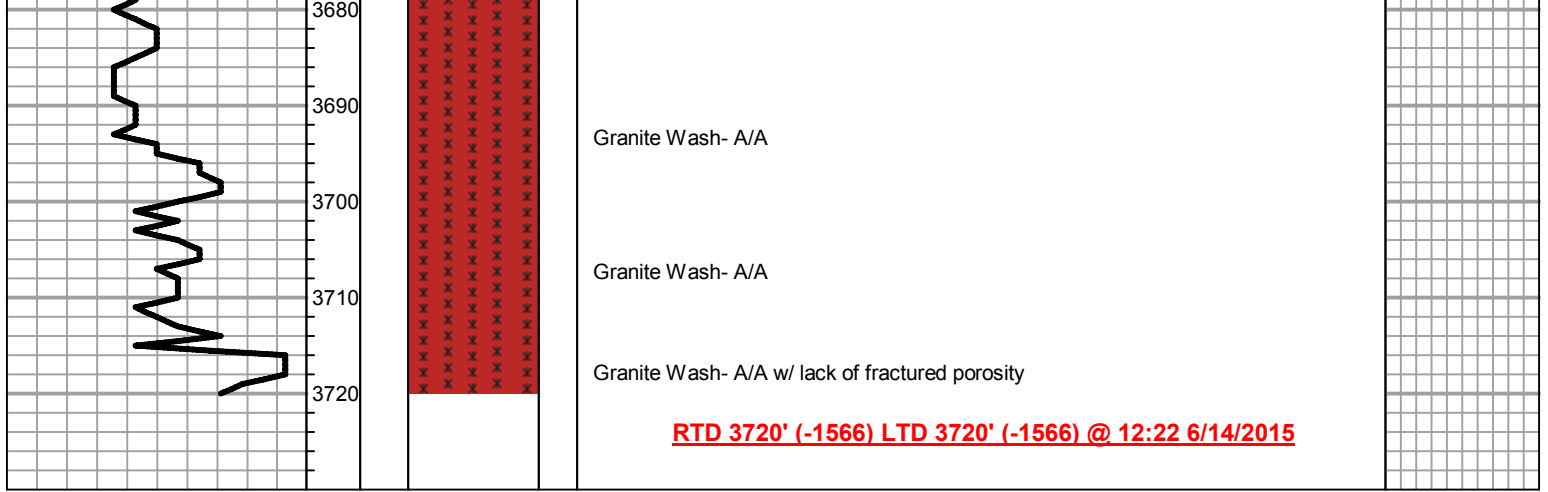
3594.jpg

3601.jpg

DST #3 REAGAN SAND 3565' - 3601' 15-30-15-30

1891' TOTAL FLUID 1178' WM (80W/20M) 434' MW (30W/70M) 279' MW (10W/90M)

IFP: 420-820#  
FFP: 822-963#  
SIP: 1059-1060#



OREAD.jpg

A013 1280x1024 2015/06/11 15:17:45 Unit: mm Magnification: 116.2 x 1



OREAD X 30



0.2 mm



0.5 mm

IKC A X25



0.5 mm

IKC C X25





0.2 mm

I KC C X25



0.2 mm

I KC F X30



0.2 mm

I KC H x 30

I.jpg



J.jpg



K.jpg



3591.jpg



3593.jpg



3594.jpg





0.5 mm

3601' X25





## DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil**

Po Box 641  
Hays KS 67601

ATTN: Jeff Lawler

### **KS Brand #2**

#### **22-5s-21w Norton KS**

Start Date: 2015.06.12 @ 15:40:00

End Date: 2015.06.12 @ 19:50:45

Job Ticket #: 62714                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.06.15 @ 11:20:48









**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Black Diamond Oil

**22-5s-21w Norton KS**

Po Box 641  
Hays KS 67601

**KS Brand #2**

Job Ticket: 62714

**DST#: 1**

ATTN: Jeff Lawler

Test Start: 2015.06.12 @ 15:40:00

## Tool Information

Drill Pipe:	Length: 3462.00 ft	Diameter: 3.80 inches	Volume: 48.56 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 39000.00 lb
			<u>Total Volume: 49.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 35000.00 lb
Depth to Top Packer:	3583.00 ft			Final 35000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	11.00 ft			
Tool Length:	31.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3564.00	
Shut In Tool	5.00			3569.00	
Hydraulic tool	5.00			3574.00	
Packer	5.00			3579.00	20.00 Bottom Of Top Packer
Packer	4.00			3583.00	
Stubb	1.00			3584.00	
Anchor	7.00			3591.00	
Recorder	0.00	8648	Inside	3591.00	
Recorder	0.00	8940	Outside	3591.00	
Bullnose	3.00			3594.00	11.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>31.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Black Diamond Oil

**22-5s-21w Norton KS**

Po Box 641  
Hays KS 67601

**KS Brand #2**

Job Ticket: 62714

**DST#: 1**

ATTN: Jeff Lawler

Test Start: 2015.06.12 @ 15:40:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 250.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
217.00	Mud, 100%M	1.951

Total Length: 217.00 ft      Total Volume: 1.951 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

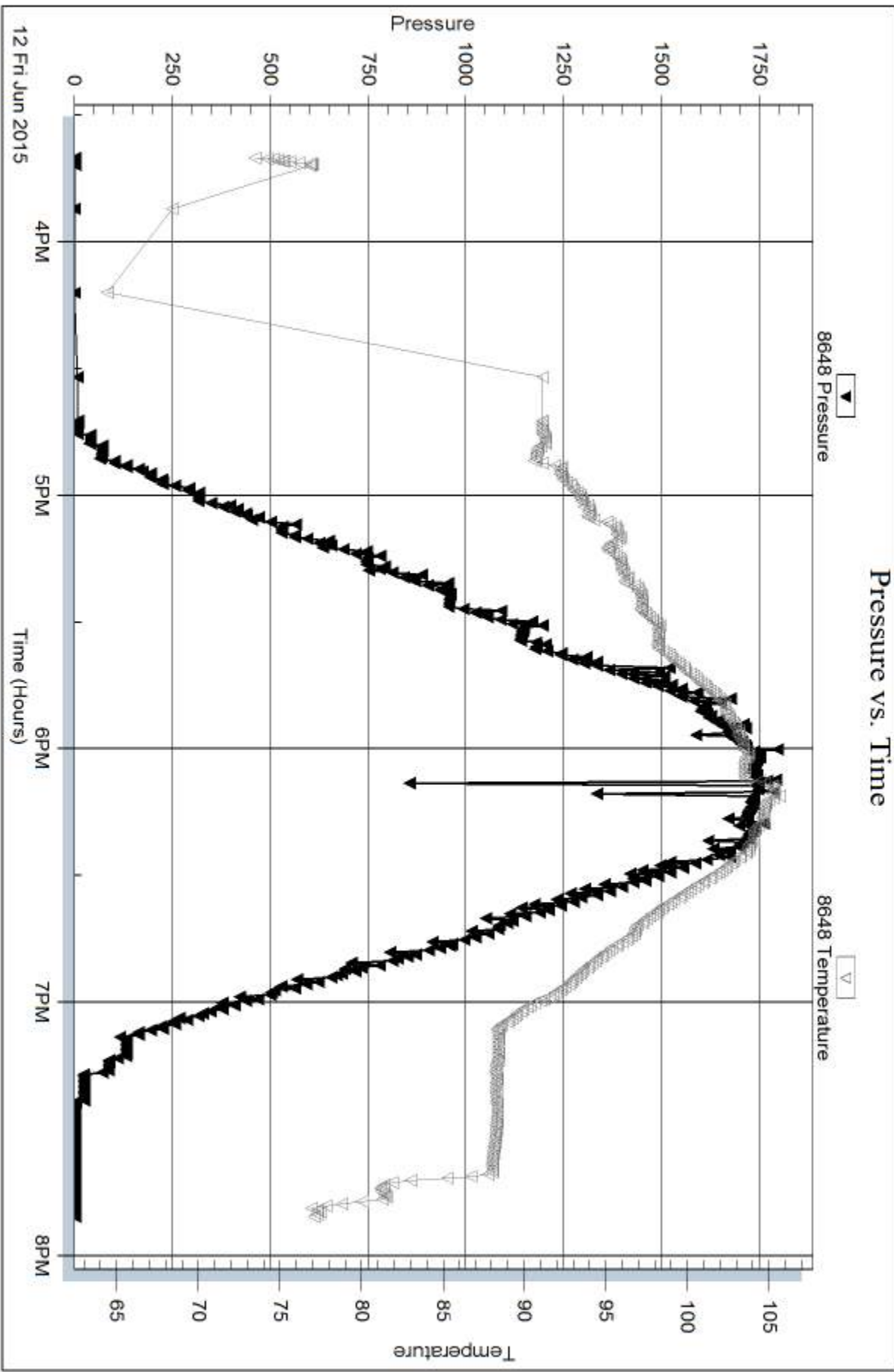
Serial #: 8648

Inside

Black Diamond Oil

KS Brand #2

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 62714

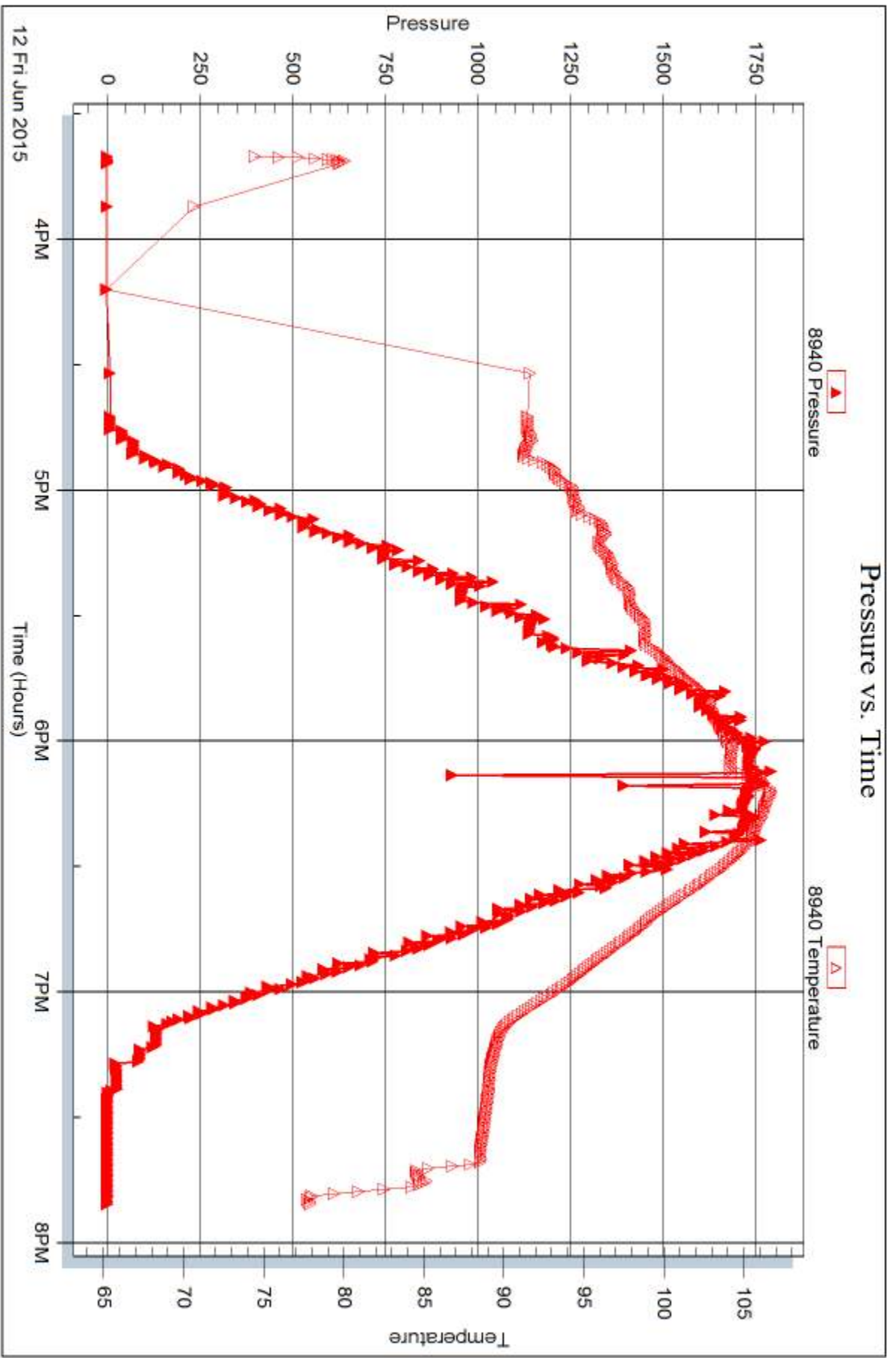
Printed: 2015.06.15 @ 11:20:49

Serial #: 8940

Outside Black Diamond Oil

KS Brand #2

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil**

Po Box 641  
Hays KS 67601

ATTN: Jeff Lawler

### **KS Brand #2**

### **22-5s-21w Norton KS**

Start Date: 2015.06.12 @ 20:03:00

End Date: 2015.06.13 @ 02:11:15

Job Ticket #: 62716                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.06.15 @ 11:19:52



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Black Diamond Oil

**22-5s-21w Norton KS**

Po Box 641  
Hays KS 67601

**KS Brand #2**

Job Ticket: 62716

**DST#: 2**

ATTN: Jeff Lawler

Test Start: 2015.06.12 @ 20:03:00

## GENERAL INFORMATION:

Formation: **Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:45:15

Time Test Ended: 02:11:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 73

**Interval: 3565.00 ft (KB) To 3594.00 ft (KB) (TVD)**

Reference Elevations: 2154.00 ft (KB)

Total Depth: 3594.00 ft (KB) (TVD)

2149.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8648 Inside**

Press@RunDepth: 20.83 psig @ 3591.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.06.12

End Date:

2015.06.13

Last Calib.:

2015.06.13

Start Time: 20:03:05

End Time:

02:11:14

Time On Btm:

2015.06.12 @ 21:45:00

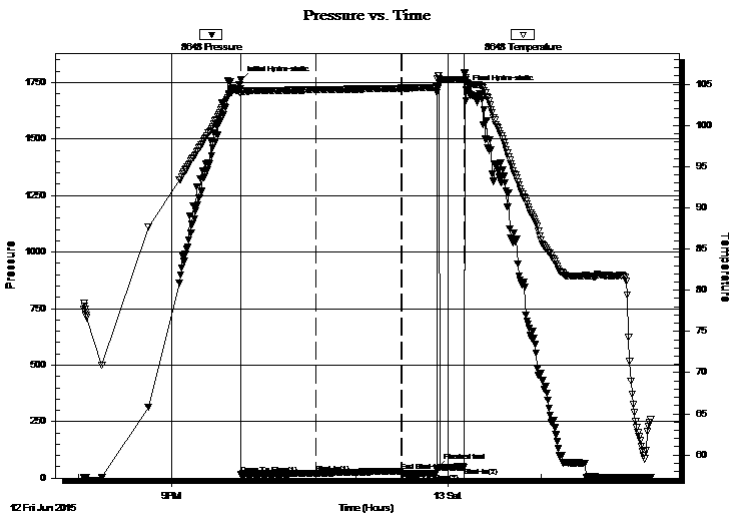
Time Off Btm:

2015.06.13 @ 00:11:30

TEST COMMENT: 45 - IF- 1" blow , died at 29 minutes

60 - IS- No return

40 - FF- No blow for 30 minutes, flushed tool, surged and died. w. waited 10 minutes and pulled.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1760.62	104.51	Initial Hydro-static
1	17.03	103.89	Open To Flow (1)
49	20.83	104.32	Shut-In(1)
105	31.64	104.51	End Shut-In(1)
105	20.68	104.51	Open To Flow (2)
128	41.25	104.65	Flushed tool
146	49.11	105.53	Shut-In(2)
147	1718.95	105.55	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
150.00	Mud, 100%M	1.01

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Black Diamond Oil

**22-5s-21w Norton KS**

Po Box 641  
Hays KS 67601

**KS Brand #2**

Job Ticket: 62716

**DST#: 2**

ATTN: Jeff Lawler

Test Start: 2015.06.12 @ 20:03:00

## Tool Information

Drill Pipe:	Length: 3431.00 ft	Diameter: 3.80 inches	Volume: 48.13 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 39000.00 lb
			<u>Total Volume: 48.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 35000.00 lb
Depth to Top Packer:	3565.00 ft			Final 35000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	29.00 ft			
Tool Length:	49.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3546.00	
Shut In Tool	5.00			3551.00	
Hydraulic tool	5.00			3556.00	
Packer	5.00			3561.00	20.00 Bottom Of Top Packer
Packer	4.00			3565.00	
Stubb	1.00			3566.00	
Anchor	25.00			3591.00	
Recorder	0.00	8648	Inside	3591.00	
Recorder	0.00	8940	Outside	3591.00	
Bullnose	3.00			3594.00	29.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>49.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Black Diamond Oil

**22-5s-21w Norton KS**

Po Box 641  
Hays KS 67601

**KS Brand #2**

Job Ticket: 62716

**DST#: 2**

ATTN: Jeff Lawler

Test Start: 2015.06.12 @ 20:03:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 250.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
150.00	Mud, 100%M	1.011

Total Length: 150.00 ft      Total Volume: 1.011 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

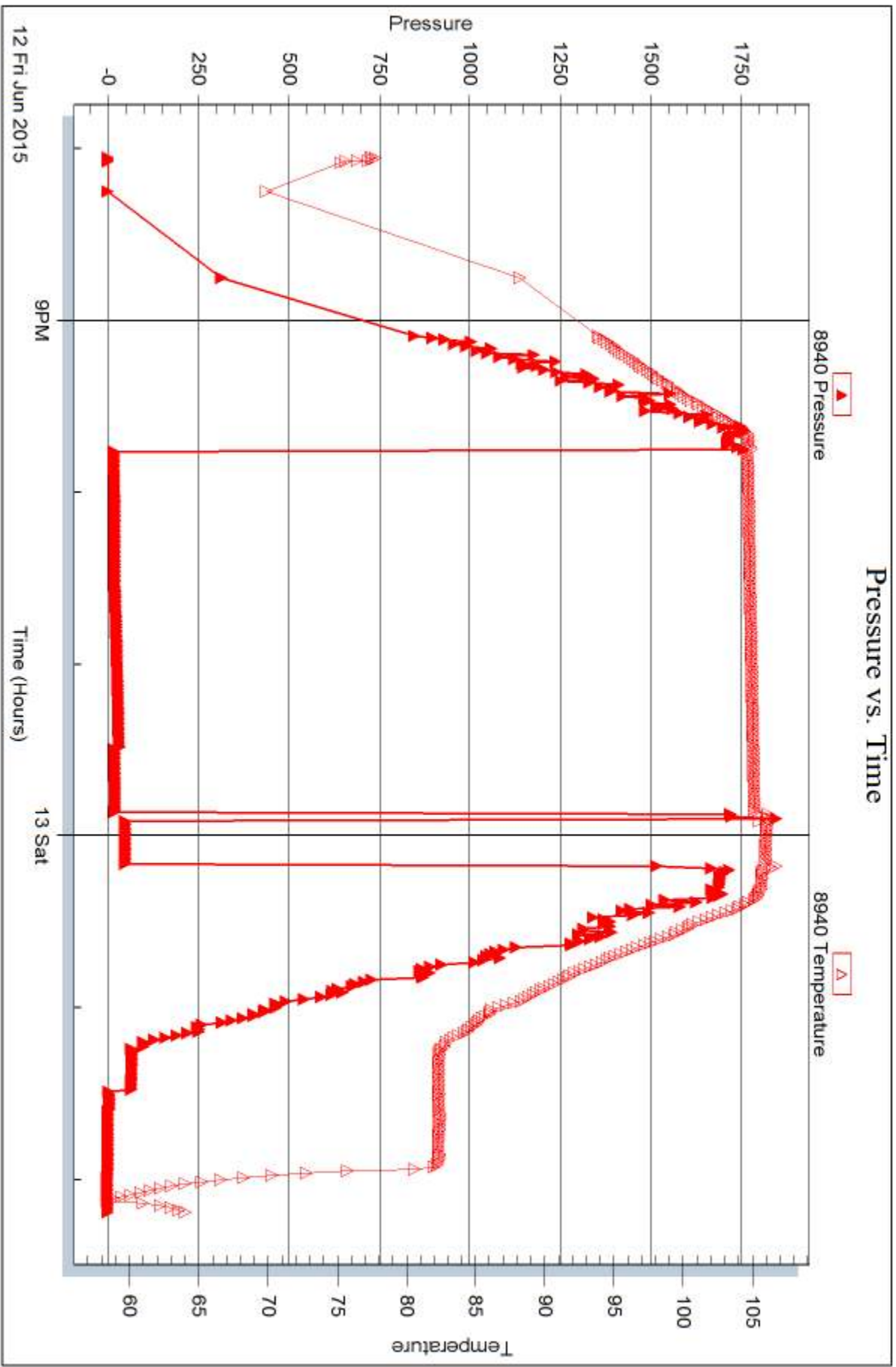


Serial #: 8940

Outside Black Diamond Oil

KS Brand #2

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil**

Po Box 641  
Hays KS 67601

ATTN: Jeff Lawler

### **KS Brand #2**

#### **22-5s-21w Norton KS**

Start Date: 2015.06.13 @ 09:43:00

End Date: 2015.06.13 @ 16:02:30

Job Ticket #: 62717                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.06.15 @ 11:19:40



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Black Diamond Oil

**22-5s-21w Norton KS**

Po Box 641  
Hays KS 67601

**KS Brand #2**

ATTN: Jeff Lawler

Job Ticket: 62717

**DST#: 3**

Test Start: 2015.06.13 @ 09:43:00

## GENERAL INFORMATION:

Formation: **Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:41:45

Time Test Ended: 16:02:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 73

**Interval: 3565.00 ft (KB) To 3601.00 ft (KB) (TVD)**

Reference Elevations: 2154.00 ft (KB)

Total Depth: 3601.00 ft (KB) (TVD)

2149.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8648 Inside**

Press@RunDepth: 963.89 psig @ 3598.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.06.13

End Date:

2015.06.13

Last Calib.:

2015.06.13

Start Time: 09:43:05

End Time:

16:02:29

Time On Btm:

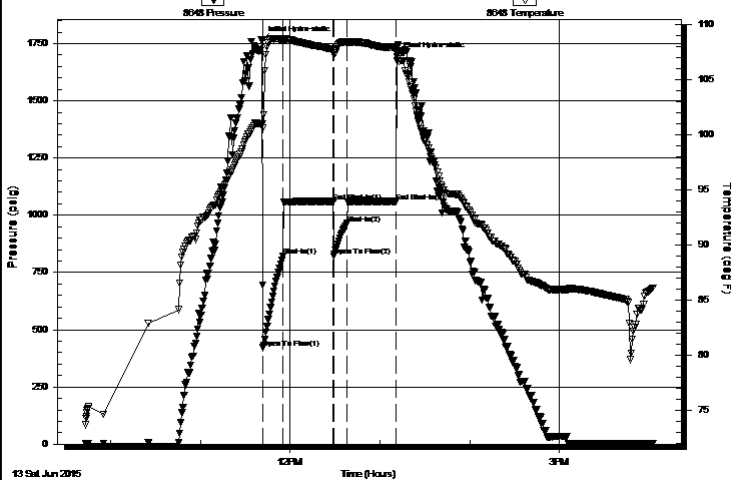
2015.06.13 @ 11:41:15

Time Off Btm:

2015.06.13 @ 13:11:15

**TEST COMMENT:** 15 - IF- B.O.B. in 1 minute  
30 - IS- No return  
15 - FF- B.O.B. in 1 minute  
30 - FS- No return

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1762.51	100.97	Initial Hydro-static
1	420.94	100.54	Open To Flow (1)
14	820.00	108.59	Shut-In(1)
48	1059.63	107.73	End Shut-In(1)
48	822.29	107.57	Open To Flow (2)
57	963.89	108.35	Shut-In(2)
90	1060.92	107.71	End Shut-In(2)
90	1692.88	107.93	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1178.00	MW, 20%M, 80%W	15.43
434.00	WM, 30%W, 70%M	6.09
279.00	WM, 10%W, 90%M	3.91
0.00	Oil spots in tool	0.00

## Gas Rates

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

\* Recovery from multiple tests







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Black Diamond Oil

**22-5s-21w Norton KS**

Po Box 641  
Hays KS 67601

**KS Brand #2**

Job Ticket: 62717

**DST#: 3**

ATTN: Jeff Lawler

Test Start: 2015.06.13 @ 09:43:00

## Tool Information

Drill Pipe:	Length: 3431.00 ft	Diameter: 3.80 inches	Volume: 48.13 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 49000.00 lb
			<u>Total Volume: 48.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 35000.00 lb
Depth to Top Packer:	3565.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	56.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3546.00	
Shut In Tool	5.00			3551.00	
Hydraulic tool	5.00			3556.00	
Packer	5.00			3561.00	20.00 Bottom Of Top Packer
Packer	4.00			3565.00	
Stubb	1.00			3566.00	
Anchor	32.00			3598.00	
Recorder	0.00	8648	Inside	3598.00	
Recorder	0.00	8940	Outside	3598.00	
Bullnose	3.00			3601.00	36.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>56.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Black Diamond Oil

**22-5s-21w Norton KS**

Po Box 641  
Hays KS 67601

**KS Brand #2**

Job Ticket: 62717

**DST#: 3**

ATTN: Jeff Lawler

Test Start: 2015.06.13 @ 09:43:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

41000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
1178.00	MW, 20%M, 80%W	15.431
434.00	WM, 30%W, 70%M	6.088
279.00	WM, 10%W, 90%M	3.914
0.00	Oil spots in tool	0.000

Total Length: 1891.00 ft      Total Volume: 25.433 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .12 @ 80 degrees = 41000

Serial #: 8648

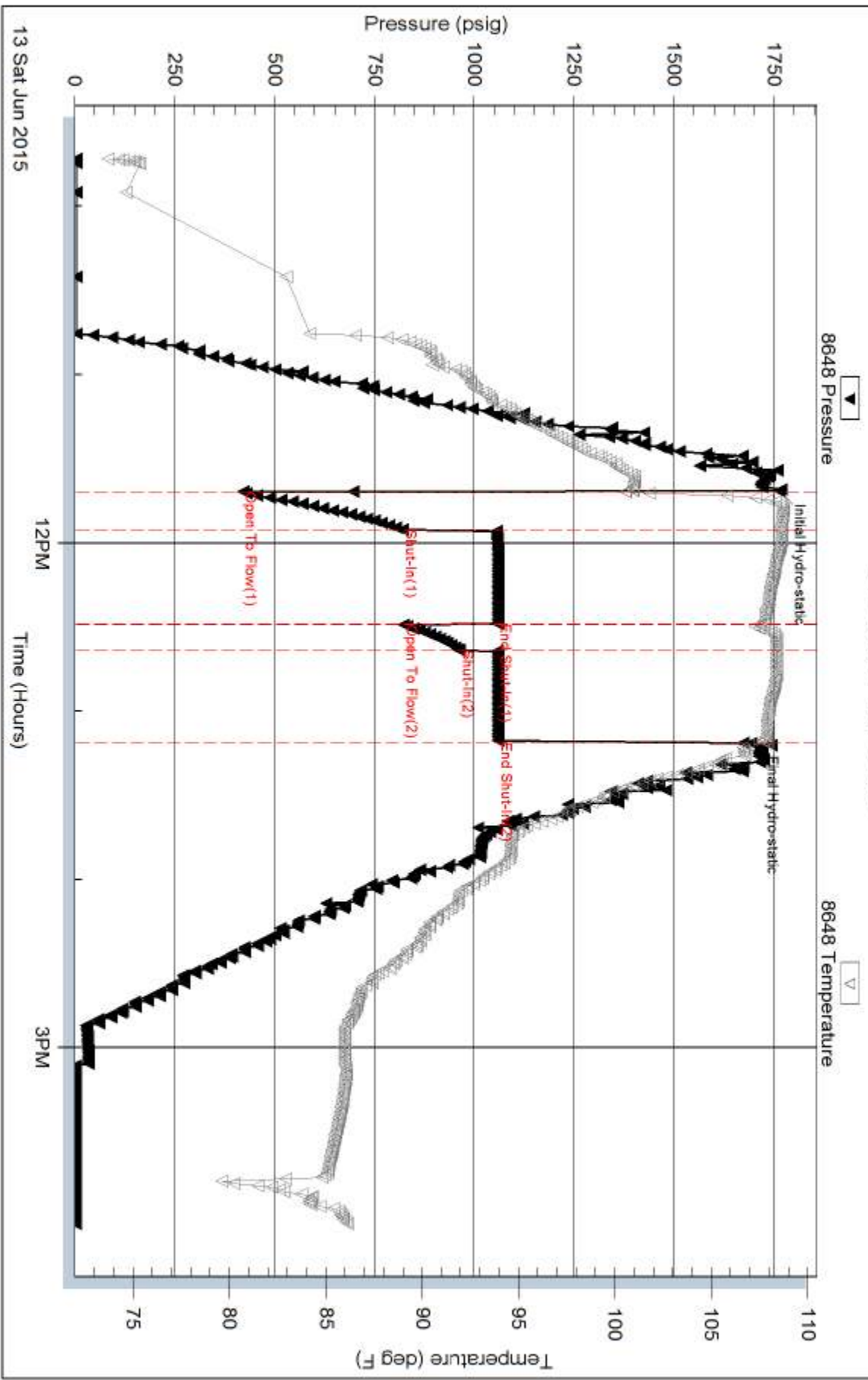
Inside

Black Diamond Oil

KS Brand #2

DST Test Number: 3

### Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 62717

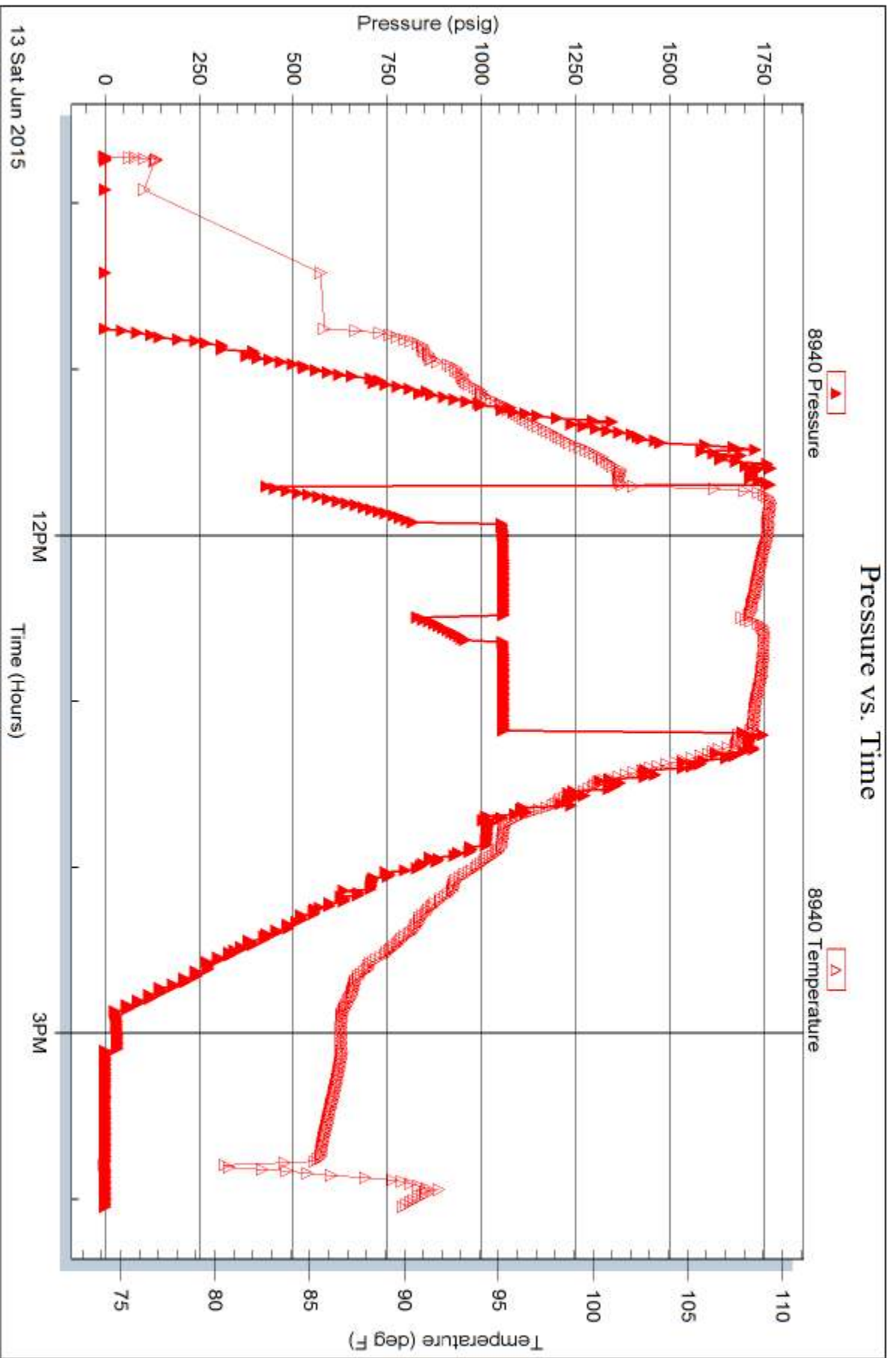
Printed: 2015.06.15 @ 11:19:41

Serial #: 8940

Outside Black Diamond Oil

KS Brand #2

DST Test Number: 3





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62714

Well Name & No. KS Brand #2 Test No. 1 Date 6-12-15  
 Company Black Diamond Oil Elevation 2154 KB 2189 GL  
 Address Po Box 641, Hays KS, 67601  
 Co. Rep / Geo. Jeff Lawler Rig WW6  
 Location: Sec. 22 Twp. 55 Rge. 21W Co. Norton State KS

Interval Tested 3583-3594 Zone Tested Sand  
 Anchor Length 11' Drill Pipe Run 3462 Mud Wt. 8.8  
 Top Packer Depth 3578 Drill Collars Run 120' Vis 52  
 Bottom Packer Depth 3583 Wt. Pipe Run — WL 8  
 Total Depth 3594 Chlorides 250 ppm System LCM 2#  
 Blow Description IF- Open tool. Packer failure, bled pressure.  
ISI - tried again. Packer failure  
FF - pulled tool  
FSI -

Rec	Feet of	%gas	%oil	%water	%mud
<u>217</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 217 BHT \_\_\_\_\_ Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic  Test 850 T-On Location 1511  
 (B) First Initial Flow  Jars \_\_\_\_\_ T-Started 1540  
 (C) First Final Flow  Safety Joint \_\_\_\_\_ T-Open 1816  
 (D) Initial Shut-In  Circ Sub \_\_\_\_\_ T-Pulled 1818  
 (E) Second Initial Flow  Hourly Standby \_\_\_\_\_ T-Out 1953  
 (F) Second Final Flow  Mileage 180RT 131 Comments \_\_\_\_\_  
 (G) Final Shut-In  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic  Straddle \_\_\_\_\_  
 Shale Packer X2 500  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1481

Initial Open \_\_\_\_\_  
 Initial Shut-In \_\_\_\_\_  
 Final Flow \_\_\_\_\_  
 Final Shut-In \_\_\_\_\_

MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative Cody Black

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62716

Well Name & No. KS Brand #2 Test No. 2 Date 6-12-15  
 Company Black Diamond Oil Elevation 2154 KB 2149 GL  
 Address Po box 641, Hays ks. 67601  
 Co. Rep / Geo. Jeff Lawler Rig WW6  
 Location: Sec. 22 Twp. 55 Rge. 21w Co. Norton State KS

Interval Tested 3565-3594 Zone Tested Sand  
 Anchor Length 29' Drill Pipe Run 3431 Mud Wt. 8.8  
 Top Packer Depth 3560 Drill Collars Run 120' Vis 52  
 Bottom Packer Depth 3565 Wt. Pipe Run — WL 8  
 Total Depth 3594 Chlorides 250 ppm System LCM 2#  
 Blow Description IF- 1" blow, died completely in 29 minutes  
ISI- No return  
FF- No blow 30 min. Flushed tool, surged & died waited  
FSI- 10 minutes & pulled

Rec	Feet of	%gas	%oil	%water	%mud
<u>150</u>	<u>Mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 150' BHT 105° Gravity — API RW — @ —° F Chlorides — ppm  
 (A) Initial Hydrostatic 1760  Test — T-On Location 1955  
 (B) First Initial Flow 17  Jars — T-Started 2003  
 (C) First Final Flow 20  Safety Joint — T-Open 2145  
 (D) Initial Shut-In 31  Circ Sub — T-Pulled 1210  
 (E) Second Initial Flow 20  Hourly Standby — T-Out 0211  
 (F) Second Final Flow 49  Mileage 180RT Comments —  
 (G) Final Shut-In —  Sampler —  
 (H) Final Hydrostatic 1718  Straddle —  
 Shale Packer X2 500  Ruined Shale Packer —  
 Extra Packer —  Ruined Packer —  
 Extra Recorder —  Extra Copies —  
 Day Standby — Sub Total 0  
 Accessibility — Total 1550  
 Sub Total 1550 MP/DST Disc't —

Approved By \_\_\_\_\_ Our Representative Cody Blad

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 62717

Well Name & No. KS Brand #2 Test No. 3 Date 6-13-15  
 Company Black Diamond Oil Elevation 2154 KB 2149 GL  
 Address Po Box 641, Hays KS, 67601  
 Co. Rep / Geo. Jeff Lawler Rig WW6  
 Location: Sec. 22 Twp. 55 Rge. 21W Co. Norton State KS

Interval Tested 3565-3601 Zone Tested Sand  
 Anchor Length 36' Drill Pipe Run 3431' Mud Wt. 9.3  
 Top Packer Depth 3560 Drill Collars Run 120' Vis 51  
 Bottom Packer Depth 3565 Wt. Pipe Run — WL 8  
 Total Depth 3601 Chlorides 750 ppm System LCM 2#  
 Blow Description IF - B.O.B. in 1 minute  
ISI - No return  
FF - B.O.B. in 1 minute  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>1178</u>			<u>80</u>	<u>20</u>	
<u>434</u>			<u>30</u>	<u>70</u>	
<u>279</u>			<u>10</u>	<u>90</u>	
	<u>Oil in tool</u>				

Rec Total 1891' BHT 107° Gravity — API RW .12 @ 83° F Chlorides 41,000 ppm

(A) Initial Hydrostatic <u>1762</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>0926</u>
(B) First Initial Flow <u>420</u>	<input type="checkbox"/> Jars	T-Started <u>0943</u>
(C) First Final Flow <u>820</u>	<input type="checkbox"/> Safety Joint	T-Open <u>1139</u>
(D) Initial Shut-In <u>1059</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1309</u>
(E) Second Initial Flow <u>822</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1603</u>
(F) Second Final Flow <u>963</u>	<input checked="" type="checkbox"/> Mileage <u>180RT x2</u> <u>131+131</u>	Comments <u>Loaded tools</u>
(G) Final Shut-In <u>1060</u>	<input type="checkbox"/> Sampler	<u>6-14-15 @ 0804</u>
(H) Final Hydrostatic <u>1692</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input checked="" type="checkbox"/> Shale Packer <u>X2</u> <u>500</u>	<input type="checkbox"/> Ruined Packer
Initial Open <u>15</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>15</u>	<input type="checkbox"/> Day Standby	Total <u>1812</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1812</u>	

Approved By \_\_\_\_\_ Our Representative Cody Black

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# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

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

No. 1460

Cell 785-324-1041

Date	6-14-15	Sec.	22	Twp.	5	Range	21	County	Norton	State	KS	On Location		Finish	6:45 p.m.
Location								Legan SW E-12RD 13 14 33 Pinto							

Lease	K.S. Brand		Well No.	2	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	WW #6				Charge To	Black Diamond									
Type Job	Production String				Street										
Hole Size	7 7/8		T.D.	3720	City	State									
Csg.	5 1/2		Depth	3693	The above was done to satisfaction and supervision of owner agent or contractor.										
Tbg. Size			Depth		Cement Amount Ordered	450 @ 8/20 QmDC 1/4 #10									
Tool			Depth		Meas Line	Displace 85 1/2 15000m 10' Salt 5' Gilsomite 300 gal mud clear									
Cement Left in Csg.	14.60		Shoe Joint	14.60	Common	150									

EQUIPMENT				JOB SERVICES & REMARKS											
Pumptrk	5	No.	Cement Helper	Mig											
Bulktrk	19	No.	Driver	Brett											
Bulktrk	9	No.	Driver	Dawn											
Bulktrk	9	No.	Driver	Chad											

Remarks:	Hulls														
Rat Hole	30SK		Salt 13												
Mouse Hole	Flowseal 112 #														
Centralizers	Kol-Seal 750 #														
Baskets	Mud CLR 48 500 gal														
D/V or Port Collar	CFL-117 or CD110 CAF 38														
5 1/2 size	3693		Buttline	3678									Handling	620	
Est. Circulation - Pump 500 gal mud clear 1000 spacer plus Rthole.				Mileage											
Cement 5 1/2 with 570SK				FLOAT EQUIPMENT											
Clear Lines + Displace Plus.				Guide Shoe											

LA Pressure 1200 #				Centralizer 6 Turbo's											
Dwg loaded 2000 #				Baskets 6											
Cement Circulate!				AFU Inserts											
				Float Shoe 1											
				Latch Down											
				Rotating Head											
				Pumptrk Charge prod string											
				Mileage 70											

Tax											
Discount											
Total Charge											

X Signature *Blair Hugo*  
Maul Bizzo