KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1160870

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 7076
Name: Black Diamond Oil, Inc.
Address 1: PO BOX 641
Address 2:
City: HAYS State: KS Zip: 67601 + 0641
Contact Person: Kenneth Vehige
Phone: (785) 625-5891
CONTRACTOR: License # 33575
Name: WW Drilling, LLC
Wellsite Geologist: Jeff Lawler
Purchaser:

Designate Type of Completion:

- [x] New Well
- [ ] Re-Entry
- [ ] Workover

- [ ] Oil
- [ ] WSW
- [ ] SWD
- [ ] SIOW
- [ ] Gas
- [x] 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
- [ ] Conv. to GSW
- [ ] Plug Back: Plug Back Total Depth
- [ ] Commingled Permit #:
- [ ] Dual Completion Permit #:
- [ ] SWD Permit #:
- [ ] ENHR Permit #:
- [ ] GSW Permit #:

09/17/2013	09/23/2013	09/24/2013
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-137-20667-00-00
Spot Description:
S2 - SW - SW - SE Sec. 2 Twp. 5 S. R. 21 [ ] East [x] West
175 Feet from [ ] North / [x] South Line of Section
2310 Feet from [x] East / [ ] West Line of Section
Footages Calculated from Nearest Outside Section Corner:
[ ] NE [ ] NW [x] SE [ ] SW
County: Norton
Lease Name: MORRIS UNIT Well #: 1
Field Name: WILDCAT
Producing Formation: NONE
Elevation: Ground: 1991 Kelly Bushing: 1992
Total Depth: 3510 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 219 Feet
Multiple Stage Cementing Collar Used? [ ] Yes [x] No
If yes, show depth set: Feet
If Alternate II completion, cement circulated from: 3510
feet depth to: 0 w/ 150 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 2500 ppm Fluid volume: 350 bbls
Dewatering method used: Evaporated
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

- [ ] **Letter of Confidentiality Received**
  Date:
- [ ] **Confidential Release Date:**
- [x] **Wireline Log Received**
- [x] **Geologist Report Received**
- [ ] **UIC Distribution**

ALT [ ] I [x] II [ ] III **Approved by:** Deanna Garrison **Date:** 10/04/2013

Side Two

1160870

Operator Name: Black Diamond Oil, Inc. Lease Name: MORRIS UNIT Well #: 1

Sec. 2 Twp. 5 S. R. 21 ☐ East ☑ West County: Norton

INSTRUCTIONS: Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

Electric Log Submitted Electronically ☑ Yes ☐ No
(If no, Submit Copy)

List All E. Logs Run:
Attached

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Anhydrite (Top)	1569	423
Topeka	2963	-971
Heebner Shale	3163	-1171
Toronto	3189	-1197
LKC	3205	-1213
Arbuckle	3451	-1459

CASING RECORD ☑ New ☐ 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
Surface	12.25	8.625	23	219	Common	150	3% CC, 2% GEL

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone	-			
	-			

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	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:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)*

PRODUCTION INTERVAL:

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Black Diamond Oil, Inc.
Well Name	MORRIS UNIT 1
Doc ID	1160870

All Electric Logs Run

Sonic Log
Compensated Density/Neutron Log
Dual Induction Log
Micro Log

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 7379

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
9-18-13	2	5	21	Norton	KS		2:30pm

Location Logan 5W E-12N 1 1/2S 1/2E

Lease Mom's Unit Well No. 1

Contractor WW #6

Type Job Surface

Hole Size 12 1/4 T.D. 220

Csg. 8 5/8 Depth 219

Tbg. Size Depth

Tool Depth

Cement Left in Csg. 15' Shoe Joint

Meas Line Displace 13 BC

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.

Charge To Black Diamond

Street

City State

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

Cement Amount Ordered 150 com 3/CC 2%GEL

EQUIPMENT

Pumptrk 15	No.	Cementer	Craig
		Helper	
Bulktrk	No.	Driver	Nick
		Driver	
Bulktrk 1	No.	Driver	
		Driver	Lonnie M

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

8 5/8 on bottom Est. Circulation - Mix 150 sks Displace.

Cement Circulated

Common	150
Poz. Mix	0
Gel.	3
Calcium	5
Hulls	
Salt	
Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	158
Mileage	

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

Pumptrk Charge	Surface
Mileage	65
Tax	
Discount	
Total Charge	

X Signature

Scale 1:240 Imperial

Well Name:	MORRIS UNIT #1		
Surface Location:	S2 SW SW SE 2 - 5S - 21W		
Bottom Location:			
API:	15-137-20667-00-00		
License Number:	7076		
Spud Date:	9/17/2013	Time:	9:45 PM
Region:	NORTON COUNTY, KS		
Drilling Completed:	9/23/2013	Time:	11:59 AM
Surface Coordinates:	175' FSL & 2310' FEL		
Bottom Hole Coordinates:			
Ground Elevation:	1987.00ft		
K.B. Elevation:	1992.00ft		
Logged Interval:	2850.00ft	To:	3510.00ft
Total Depth:	3510.00ft		
Formation:	LANSING - KANSAS CITY		
Drilling Fluid Type:	FRESH WATER / CHEMICAL GEL		

OPERATOR

Company:	BLACK DIAMOND OIL, INC.		
Address:	PO BOX 641 HAYS, KS 67601		
Contact Geologist:	KENNETH VEHIGE		
Contact Phone Nbr:	(785) 625-5891		
Well Name:	MORRIS UNIT #1		
Location:	S2 SW SW SE 2 - 5S - 21W	API:	15-137-20667-00-00
Pool:		Field:	WILDCAT
State:	KANSAS	Country:	USA

SURFACE CO-ORDINATES

Well Type:	Vertical		
Longitude:	-99.6547997	Latitude:	39.6401171
N/S Co-ord:	175' FSL		
E/W Co-ord:	2310' FEL		

LOGGED BY

Company:	SOLUTIONS CONSULTING, INC.		
Address:	108 W 35TH HAYS, KS 67601		
Phone Nbr:	(785)259-3737		
Logged By:	Geologist	Name:	JEFF LAWLER

CONTRACTOR

Contractor:	WW DRILLING, LLC		
Rig #:	6		
Rig Type:	MUD ROTARY		
Spud Date:	9/17/2013	Time:	9:45 PM
TD Date:	9/23/2013	Time:	11:59 AM
Rig Release:	9/24/2013	Time:	2:00 PM

ELEVATIONS

K.B. Elevation:	1992.00ft	Ground Elevation:	1987.00ft
K.B. to Ground:	5.00ft		

NOTES

THE MORRIS UNIT #1 WAS PICKED FROM SEISMIC. ALTHOUGH THE PROSPECT RAN STRUCTURALLY HIGHER TO WELLS IN THE REGION THERE WAS NO ECONOMICAL RECOVERY ON ANY OF THE DRILLSTEM TEST. THE WELL WAS PLUGGED AND ABANDONED. IT IS SUGGESTED THAT FURTHER EVALUATION AND

STUDY GO INTO THE AREA FOR EXPLORATION.

RESPECTFULLY SUBMITTED,
JEFF LAWLER

WELL COMPARISON SHEET

	MORRIS UNIT #1				BRIDGEPORT RIEMAN A #1 NE NE NE 10-5-21				ISERN - WELLS GLENMEIER #1 NE NW NW 14-5-21				EMPIRE DRILLING LOHRMEYER #1 NE NE SE 12-5-21				BLACK DIAMOND OIL, INC. STATES AG 1-36 S2 HE SE NW 36-4-21			
	KB	1992	GL	1987	KB	1998			KB	2082			KB	2021			KB	2077		
	LOG TOPS		SAMPLE TOPS		COMP. CARD	LOG		SMPL.	COMP. CARD	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	1569	423	1570	422	1595	403	+ 20	+ 19					1606	415	+ 8	+ 7	1674	403	+ 20	+ 19
BASE	1605	387	1604	388																
TOPEKA	2963	-971	2956	-964	3028	-1030	+ 59	+ 66	3095	-1013	+ 42	+ 49					3052	-975	+ 4	+ 11
HEEBNER SHALE	3163	-1171	3165	-1173	3176	-1178	+ 7	+ 5	3242	-1160	- 11	- 13	3193	-1172	+ 1	- 1	3259	-1182	+ 11	+ 9
TORONTO	3189	-1197	3189	-1197					3269	-1187	- 10	- 10	3220	-1199	+ 2	+ 2	3287	-1210	+ 13	+ 13
LKC	3205	-1213	3207	-1215	3218	-1220	+ 7	+ 5	3284	-1202	- 11	- 13	3235	-1214	+ 1	- 1	3303	-1226	+ 13	+ 11
BKC	3396	-1404	3399	-1407									3427	-1406	+ 2	- 1	3483	-1406	+ 2	- 1
CONGLOMERATE													3481	-1460						
ARBUCKLE	3451	-1459	3452	-1460	3469	-1471	+ 12	+ 11	3524	-1442	- 17	- 18	3499	-1478	+ 19	+ 18	3553	-1476	+ 17	+ 16
REAGAN									3576	-1494										
PRE-CAMBRIAN					3595	-1597														
TOTAL DEPTH	3510	-1518	3510	-1518	3620	-1622	+ 104	+ 104	3643	-1561	+ 43	+ 43	3576	-1555	+ 37	+ 37	3595	-1518	+ 0	+ 0

DST #1 TORONTO - LKC 'A' 3160' - 3224'

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5S-21W - Norton, KS

Morris Unit #1

Job Ticket: 53536 **DST#: 1**

Test Start: 2013.09.20 @ 21:45:00

GENERAL INFORMATION:

Formation: **Toronto - LKC "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:00:30
Time Test Ended: 04:44:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

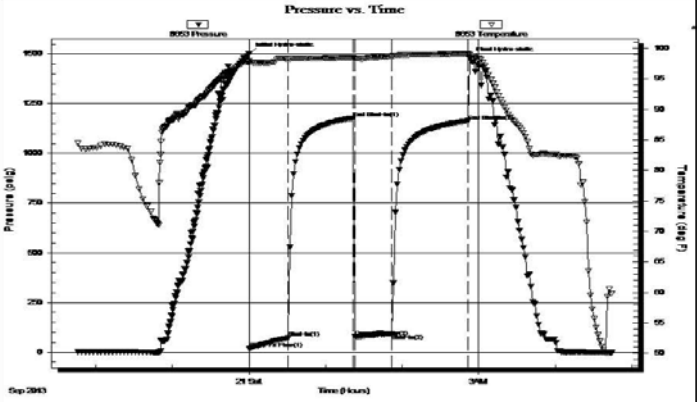
Interval: 3160.00 ft (KB) To 3224.00 ft (KB) (TVD)
Total Depth: 3224.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8653 **Outside**
Press@RunDepth: 92.92 psig @ 3161.00 ft (KB)
Start Date: 2013.09.20 End Date: 2013.09.21
Start Time: 21:46:00 End Time: 04:44:00

Capacity: 8000.00 psig
Last Calib.: 2013.09.21
Time On Btm: 2013.09.21 @ 00:00:00
Time Off Btm: 2013.09.21 @ 02:53:00

TEST COMMENT: 30 - IF- 1/4" Blow built to 7 1/2"
45 - ISI- No Return
30 - FF- Weak Surface Blow started at 1 min. Built to 5"
60 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1501.90	97.96	Initial Hydro-static
1	17.19	97.60	Open To Flow (1)
31	71.15	98.26	Shut-In(1)
82	1177.66	98.49	End Shut-In(1)
83	77.85	98.31	Open To Flow (2)
112	92.92	98.71	Shut-In(2)
172	1163.32	99.13	End Shut-In(2)
173	1477.26	98.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	MW 30W 70M	0.59
40.00	Mud 100M	0.56

Gas Rates

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

DST #2 LKC C-D 3222' - 3262'

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5S-21W - Norton, KS

Morris Unit #1

Job Ticket: 53537 **DST#: 2**

Test Start: 2013.09.21 @ 11:14:00

GENERAL INFORMATION:

Formation: **LKC "C-D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:48:50
Time Test Ended: 17:34:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

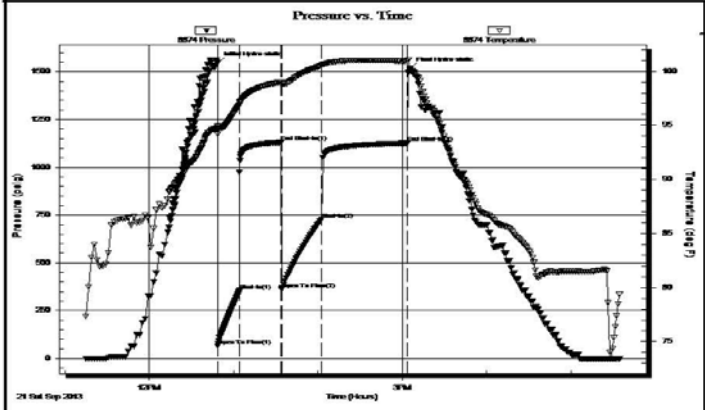
Interval: 3222.00 ft (KB) To 3262.00 ft (KB) (TVD)
Total Depth: 3262.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**
Press@RunDepth: 727.42 psig @ 3223.00 ft (KB)
Start Date: 2013.09.21 End Date: 2013.09.21
Start Time: 11:15:00 End Time: 17:34:30

Capacity: 8000.00 psig
Last Calib.: 2013.09.21
Time On Btm: 2013.09.21 @ 12:48:40
Time Off Btm: 2013.09.21 @ 15:05:30

TEST COMMENT: 15 - IF- BoB in 3 1/2 min.
30 - ISI- Weak Surface Return started at 7 min. Built to 1"
30 - FF- BoB in 3 min.
60 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1547.06	94.93	Initial Hydro-static
1	64.43	94.17	Open To Flow (1)
16	354.61	96.85	Shut-In(1)
45	1130.69	98.98	End Shut-In(1)
46	362.85	98.71	Open To Flow (2)
74	727.42	100.50	Shut-In(2)
135	1126.76	100.92	End Shut-In(2)
137	1518.47	100.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud (Heavy) 100M	0.02
1047.00	MW 5M 95W	13.64
378.00	MW 40M 60W	5.30
0.00	Show of oil spots in tool	0.00

Gas Rates

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

DST #3 LKC I - J 3328' - 3365'

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5S-21W - Norton, KS

Morris Unit #1

Job Ticket: 53538 **DST#: 3**

Test Start: 2013.09.22 @ 07:26:00

GENERAL INFORMATION:

Formation: **LKC "I-J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:12:40
Time Test Ended: 15:21:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

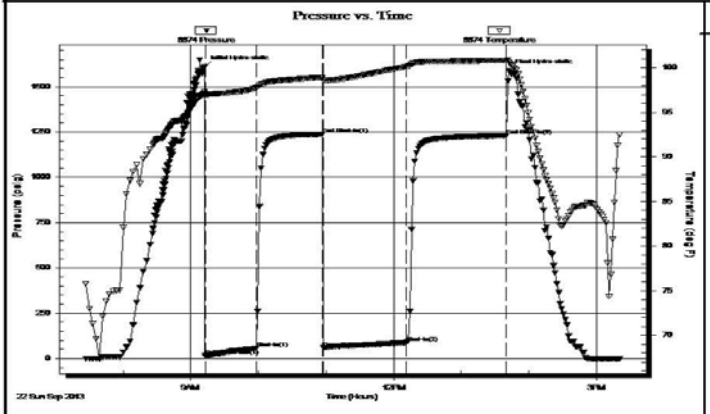
Interval: 3328.00 ft (KB) To 3365.00 ft (KB) (TVD)
Total Depth: 3365.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**
Press@RunDepth: 87.53 psig @ 3329.00 ft (KB)
Start Date: 2013.09.22 End Date: 2013.09.22
Start Time: 07:27:00 End Time: 15:21:30

Capacity: 8000.00 psig
Last Calib.: 2013.09.22
Time On Btm: 2013.09.22 @ 09:12:10
Time Off Btm: 2013.09.22 @ 13:42:30

TEST COMMENT: 45 - IF- 1/2" Blow built to 4 1/2"
60 - ISI- No Return
75 - FF- Surface Blow started at 5 min. Built to 6 1/4"
90 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1611.47	97.30	Initial Hydro-static
1	14.07	96.96	Open To Flow (1)
46	54.53	97.72	Shut-In(1)
105	1236.72	98.90	End Shut-In(1)
106	58.10	98.59	Open To Flow (2)
180	87.53	100.12	Shut-In(2)
268	1228.56	100.80	End Shut-In(2)
271	1588.48	100.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	MW 50M 50W	0.30
60.00	MW 20M 80W	0.30
30.00	MW 40M 60W	0.42

Gas Rates

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

DST #4 LKC K - L 3363' - 3400'

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5S-21W - Norton, KS

Morris Unit #1

Job Ticket: 53539 **DST#: 4**

Test Start: 2013.09.22 @ 22:55:00

GENERAL INFORMATION:

Formation: **LKC "K-L"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:58:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack

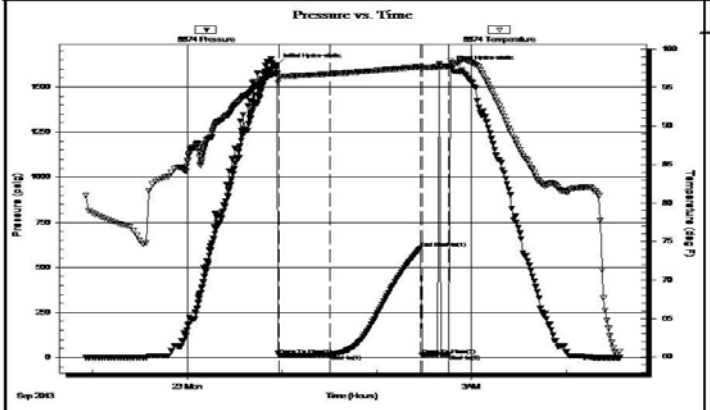
Time Test Ended: 04:34:00 Unit No: 66

Interval: **3363.00 ft (KB) To 3400.00 ft (KB) (TVD)** Reference Elevations: 1992.00 ft (KB)
Total Depth: 3400.00 ft (KB) (TVD) 1987.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**

Press@RunDepth:	14.96 psig @	3364.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2013.09.22	End Date:	2013.09.23	Last Calib.:	2013.09.23
Start Time:	22:56:00	End Time:	04:34:00	Time On Btm:	2013.09.23 @ 00:57:00
				Time Off Btm:	2013.09.23 @ 02:46:30

TEST COMMENT: 30 - IF- 1/8" Blow built to
60 - ISI- No Return
20- FF- No Blow - Flushed tool at 10 min. - No Blow
Pulled tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1625.34	96.81	Initial Hydro-static
1	13.12	96.41	Open To Flow (1)
34	14.96	96.77	Shut-In(1)
91	606.96	97.67	End Shut-In(1)
92	14.11	97.35	Open To Flow (2)
109	18.38	97.72	Shut-In(2)
110	1610.40	98.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100M	0.05

Gas Rates

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

Trilobite Testing, Inc Ref. No: 53539 Printed: 2013.09.23 @ 06:48:56

ROCK TYPES

Cht, Dolprim, Dolsec, Lmst fw7>, shale, grn, shale, gry, Carbon Sh, shale, red, Shcol, Lscongl

ACCESSORIES

MINERAL
Sandy

FOSSIL
Oolite
Oomoldic

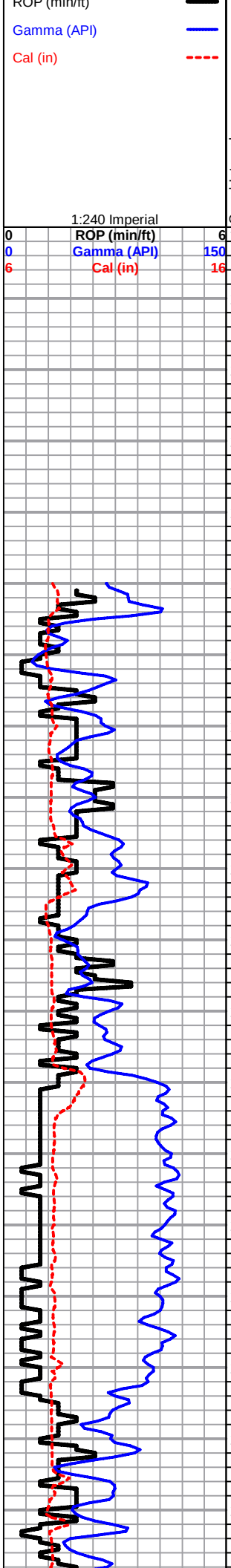
STRINGER
Chert

OTHER SYMBOLS

MISC
Daily Report
Digital Photo
Document
Folder
Link
Vertical Log File
Horizontal Log File
Core Log File
Drill Cuttings Rpt

DST
DST Int
DST alt

Curve Track #1 | Curve Track #3



Depth | Intervals

Cored Interval

DST Interval

DST

Lithology

Oil Show

Geological Descriptions

1:240 Imperial

1' DRILL TIME THROUGH ANHYDRITE FROM 1560' - 1630'
1' DRILL TIME FROM 2850' - RTD
10' WET/DRY SAMPLES FROM 2900' - RTD

GEOLOGICAL SUPERVISION BY JEFF LAWLER FROM 2900' - RTD

8 5/8" SURFACE PIPE SET @ 220' DEV. SURVEY 384 dgr.

ANHYDRITE TOP 1570' (+422) E-LOG 1569' (+423)
BASE 1604' (+388) E-LOG 1605' (+387)

Lm- Cream Buff, FXLN, dense, vry well cemented, sl fsl, tight w/ minimal vis. porosity

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

Lm- Cream, F-Med XLN, fsl & oolitic, mod. dev. w/ mostly consistant fn ppt porosity, barren

Lm- Cream Buff, Vf-Fn Grn, dense, well cemented siltstone, sl gritty,

Lm- Lt Gray, VFXLN, dense, vry well cemented, fsl & bioclastic, no vis. porosity, sl trashy

Lm- Lt Gray, VFXLN, tight & vry well cemented, no vis. porosity

Sh- Lt Gray, sl gummy, silty & calcareous

Sh-Ss- Dove Gray Cream, Fn Grn loosely cemented shaley/Ss & sl sandy shale

Sh- Maroon Lm Green Lt Gray, gritty & earthy, dense & blocky, soft sl sandy gray wash, few sl micaceous

TOPEKA 2956' (-964) E-LOG 2963' (-971) Lm- Cream Lt Gray, FXLN, dense & well cemented, sl trashy, fsl w/ few fragments, tight w/ minimal vis. to sctrd micro XLN porosity

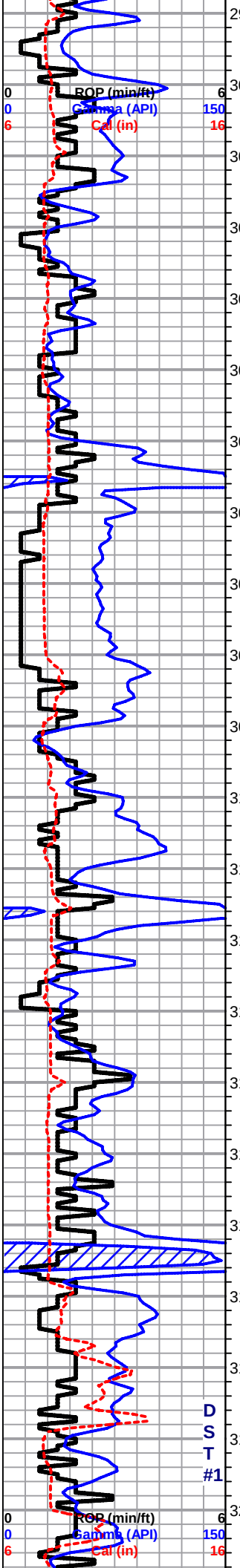
D

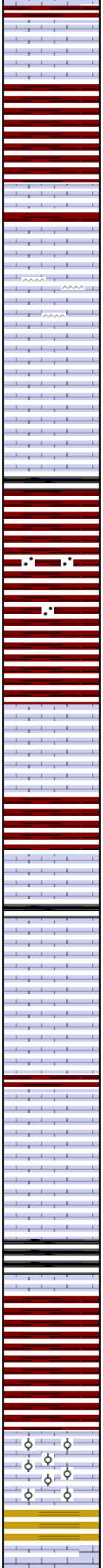
Lm- Cream Off White, FXLN, well cemented, poorly dev., gritty sl cherty ls w/ minimal vis. porosity, 1 PC W/ WK RARE DO STN, NO SFO, NO ODR

Ss/Sh- Lt Gray, sandy & friable, sl unconsolidated & spkld w/ glauconite, silty & calcareous sh

Lm- Cream, VFXLN, fsl, vry dense & well cemented, tight cherty ls w/o vis. porosity

1:240 Imperial





Lm- Cream, FXLN, fsl & oolitic, mod dev. appearance, tight & well cemented w/ clear siliceous innermatrix cementation & no effective matrix porosity

Lm- Cream Buff, mix of VFXLN, well cemented & tight w/ minimal vis. porosity & cream granular, sl sandy ls, loosely cemented & crumbly w/ mostly consistant fn ppt porosity, barren

Lm/Chert- Cream, F-Med XLN, girtty & granular, massive, fsl & oolitic, sl dev. w/ sctrd vry fn ppt porosity, well cemented, barren, cream vitreous fresh bedded chert, & soft white chalk

Lm- Cream Off White, Vf Grn, vry dense, loosely cemented mud supported matrix, no vis. porosity, chalk A/A

Lm- Cream, VFXLN, dense, vry well cemented, tight w/ minimal sctrd micro XLN secondary porosity, clean & barren

Sh- Black, soft & silty, carbonaceous

Lm- Buff, VFXLN, dense, vry well cemented cherty fsl high-energy ls w/ sctrd micro XLN secondary porosity, tight

Sh- Cream Maroon Lt Gray, sandy soft shale, some calcareous, sl sandy gray wash

Sh- Maroon White, gritty & earthy, maroon wash, gummy white chalk

Lm- Cream w/ Maroon & Ylw tint, sl unconsolidated, sl granular, fsl, sl dev. w/ sctrd vry fn ppt & XLN porosity, vry well cemented, barren

Sh- Maroon White, gummy argillaceous clumps & soft white chalk

Sh- Black, gritty, soft, carbonaceous

Lm- Cream Off White, FXLN, sl fsl, poorly dev. & tight w/ sctrd XLN porosity, few sl sandy ls pcs

Lm- Cream Off White, VFXLN, dense, vry well cemented, tight & lithographic w/o vis. porosity, few pcs of mudstone

Lm- Tan Buff, FXLN, oolitic, few sl granular, poorly dev. w/ dense XLN porosity, minimal effective porosity, barren

Lm- Cream Buff, Vf Grn VFXLN, dense, sl chalky in part, loosely cemented siltstone, vry poor intergranular porosity

HEEBNER 3165' (-1173) E-LOG 3163' (-1171) Sh- Black, soft, fissile, carbonaceous

Sh- Maroon Lt Gray, gritty & earthy, silty & soft, sl sandy

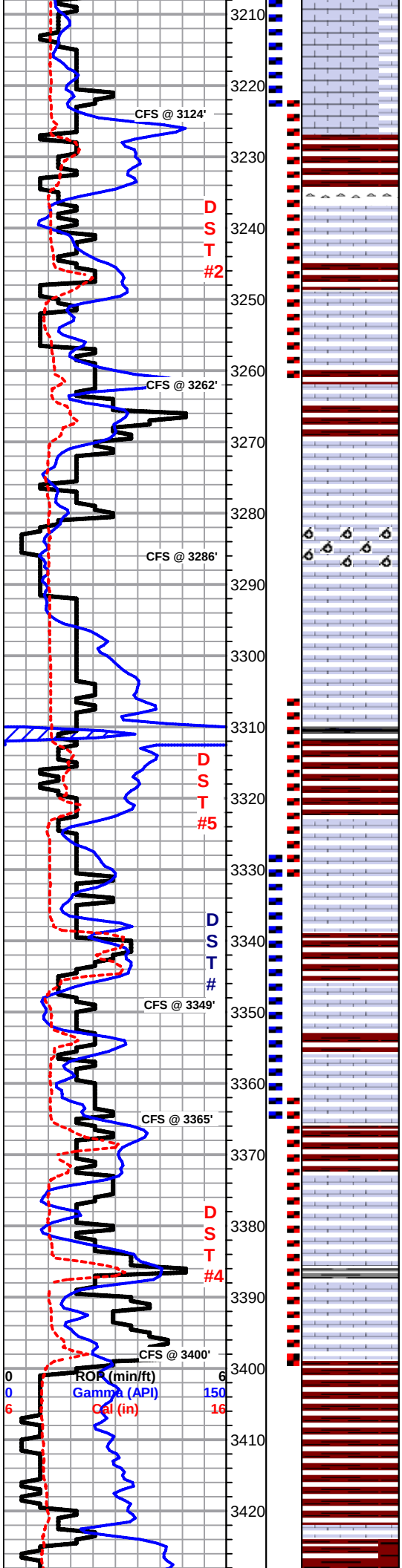
TORONTO 3189' (-1197) E-LOG 3189' (-1197) Lm- Cream, F-Med XLN, fsl & oolitic, well dev. w/ mostly consistant fn ppt interoolitic porosity, SCTRD LT BRWN STN, SL SFO, GD GSY SHEEN, FR-GD ODR

Sh- Brown Maroon Lt Gray, gritty & earthy, soft, silty & calcareous

LKC 3207' (-1215) E-LOG 3205' (-1213) Lm- Cream Off White, F-Med XLN, poorly dev. & fsl,

SHORT TRIP STRAP - 1.47'

DST #1 TORONTO - LKC A 3160' - 3224'



mostly tight w/ sctrd micro XLN & XLN porosity, vry clean, few pcs w/ sctrd secondary recrystallization porosity, barren

Lm- Cream Off White, VF-FXLN, dense, vry well cemented, tight w/ minimal vis. porosity, some sub-crypto XLN, vry clean, barren

Sh- Maroon Brown Lm Green, gritty & earthy, sl waxy, silty

Chert- Smokey Brown Semi-Translucent, vitreous fresh bedded sl fsl chert w/o vis. porosity

Lm- Cream Tan, FXLN, mix of gritty sl dolomitic ls, massive & vry well cemented, minimal vis. porosity, & FXLN, fsl & sl oolitic, poor-mod fn ppt interoolitic porosity, SCTRD DRL BLK STN, MOSTLY ALONG EDGE PLANES, STRINGY, NO ODR

DST #2
LKC C-D
3222' - 3262'

Lm- Cream Off White, FXLN, sl fsl, dense, well cemented, poorly dev. & sl chalky in part, sl tight w/ sctrd XLN porosity, clean & barren

Lm- Cream Off White, VFXLN, dense, vry well cemented cherty ls, tight w/ no vis. porosity, vry clean, barren

Lm- White Cream, VFXLN, fsl, dense, massive, vry well cemented, sub-granular & gritty, sl dolomitic ls, mostly tight w/ vry minimal micro XLN porosity, clean & barren, egg-shell white fresh bedded sharp angular chert

Lm- Cream Tan, oolitic/oomoldic, partial to complete skeletal dissolution w/ sctrd intervugular connectivity, well dev. well cemented, barren

Lm- Cream Tan, VF-FXLN, poorly dev., mostly tight, some chalky in part, dense well cemented ls, some sl cherty & some fresh bedded vitreous chert, all vry clean & barren

Sh- Maroon Black Drk Gray, gritty & earthy, fissile silty & carbonaceous, silty & calcareous

DST #5
STRADDLE
LKC H
3306' - 3332'

Lm- Cream Off White, VF-FXLN, dense, vry well cemented, poorly dev. mostly tight w/ minimal vis. to sctrd micro XLN porosity, vry clean & barren

Sh- Lm Green Maroon, gummy argillaceous clumps

Lm- Lt Green Tint, Vf Grn, dense, algal ls w/o vis. porosity, barren

Sh- Maroon Lm Green, gummy argillaceous clumps

SURVEY 1/4 dgr.

DST #3
LKC I - J
3328' - 3365'

Lm- Cream, Med XLN, oolitic, mostly consistant ppt interoolitic porosity, SCTRD DRK STN, TR FO, GD GSY SHEEN, TR ODR

Sh- Maroon Brown Lm Green, gritty & earthy, silty, sl waxy

Lm- White Cream, F-Med XLN, mix of mod. well dev. oolitic ls w/ mostly consistant fn ppt porosity, few spkld w/ micro pyrite inclusions, SCTRD DRK STN, TR-SL SFO, GD GSY SHEEN, FNT ODR, & white vf grn, dense, loosely cemented mud stone, sl chalky in part w/ poor vis. porosity, vry clean & barren

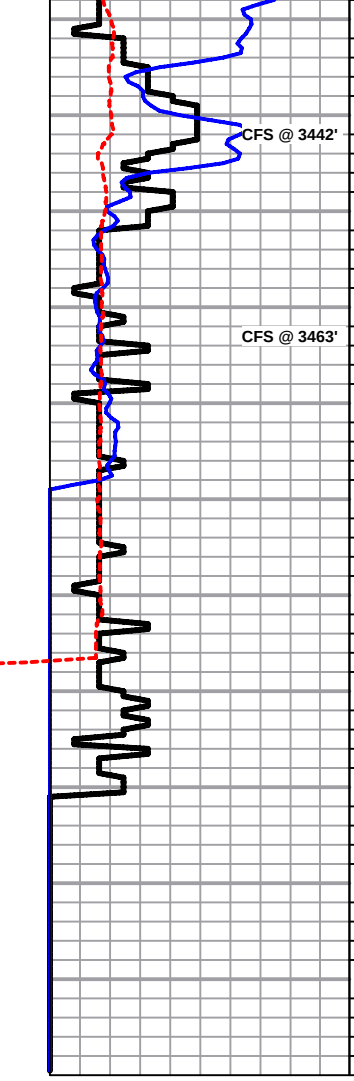
DST #4
LKC K-L
3363' - 3400'

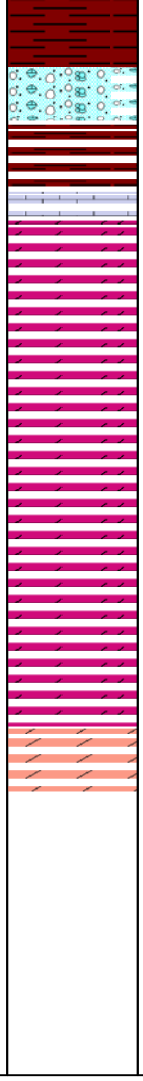
Sh- Lt Gray Maroon, silty & sl pebbley, gritty & earthy

Lm- Cream Off White, Vf Grn, dense loosely cemented mud supported ls, chalky in part, poor vis. porosity, vry clean

BKC 3399' (-1407) E-LOG 3396' (-1404) Sh- Maroon Cream w/ Maroon tint, blocky & dense, gritty & earthy, sandy shale lime & shaley Ss

Lm- White Off White, fsl, dense, vry well cemented, mostly tight w/ sctrd micro XLN porosity, vry clean, barren





Conglomerate- Cream w/ Maroon tint, mix of shaley conglomerate & conglomerate ls, massive, loosely to well cemented, all w/ maroon tint, sctrd XLN & secondary recrystallization XLN porosity

Sh- Maroon Lt Gray, gritty & earthy, silty & soft, sl pebbley, calcareous
Lm- Cream, FXLN mix of poorly dev. fsl ls w/ dense sctrd micro XLN porosity, vry clean & sl arenaceous ls w/ med grn sub-angular qtz inclusions, loosely cemented & crumbly w/ sctrd XLN porosity, all barren

ARBUCKLE 3452' (-1460) E-LOG 3451' (-1459) Dol- Cream Off White, F-Med XLN, dense well cemented, dev. from tight FXLN w/ minimal vis. porosity to mod. well dev. Med XLN w/ mostly consistant fn ppt interXLN porosity, all barren, 1 PCS OF CRS XLN, CHERTY QTZ CLEAR TO SEMI-FROSTED, LOOSELY CEMENTED W/ GD XLN POROSITY, SCTRD DRK STN, TR FO, GD GSY SHEEN, NO ODR

Dolo- Cream Off White, Med XLN, few Crs XLN pcs, sucrosic mod well dev euhedral rhombs w/ consistant ppt interXLN porosity, well cemented, massive, barren

Dolo- FXLN, girtty sub-sucrosic, loosely cemented, maroon tinted, mostly consistant vry fn ppt porosity, barren

Dolo-VF-FXLN, A/A

Dolo- Tan, Med-Crs XLN, vry well dev. euhedral rhombs w/ GD ppt interXLN porosity, sctrd sub-rounded fn-med grn qtz inclusions & spkld w/ glauconite/chlorite, barren

Dolo-Tan, A/A w/ fn grn qtz inclustions, dense dolomitic cementation, some w/ VFXLN matrix, no vis. porosity

RTD 3510' (-1518) LTD 3510' (-1518) @ 11:59 9/23/2013

DST #5 LKC H.jpg

DST #5 BTM_PKR.jpg

DST #5 LKC H.jpg

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5S-21W - Norton, KS

Morris Unit #1

Job Ticket: 53540 **DST#: 5**

Test Start: 2013.09.23 @ 21:47:00

GENERAL INFORMATION:

Formation: **LKC "H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:39:50
Time Test Ended: 04:56:30

Test Type: Conventional Straddle (Reset)
Tester: Kevin Mack / Bob Ham
Unit No: 66

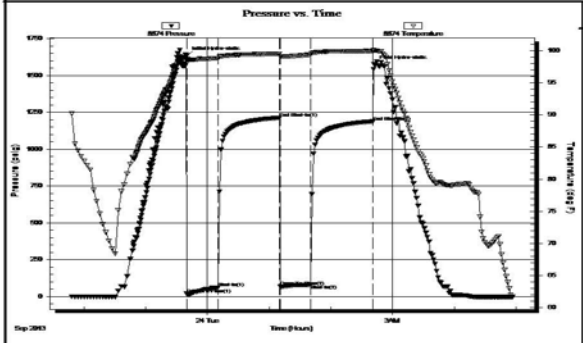
Interval: 3306.00 ft (KB) To 3332.00 ft (KB) (TVD)
Total Depth: 3510.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**
Press@RunDepth: 82.52 psig @ 3307.00 ft (KB)
Start Date: 2013.09.23 End Date: 2013.09.24
Start Time: 21:48:00 End Time: 04:56:30

Capacity: 8000.00 psig
Last Calib.: 2013.09.24
Time On Btm: 2013.09.23 @ 23:39:30
Time Off Btm: 2013.09.24 @ 02:42:00

TEST COMMENT: IF - 1/8" Built to 4 3/4" in 30 Min.
ISI - No B.B.
F.F. - Surface Blow Started @ 5 Min. Built to 3"
F.S.I - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1633.60	99.07	Initial Hydro-static
1	16.84	98.44	Open To Flow (1)
31	59.60	98.76	Shut-In(1)
91	1213.11	99.48	End Shut-In(1)
91	68.94	99.07	Open To Flow (2)
121	82.52	99.37	Shut-In(2)
182	1188.67	99.92	End Shut-In(2)
183	1574.73	100.01	Final Hydro-static

Recovery

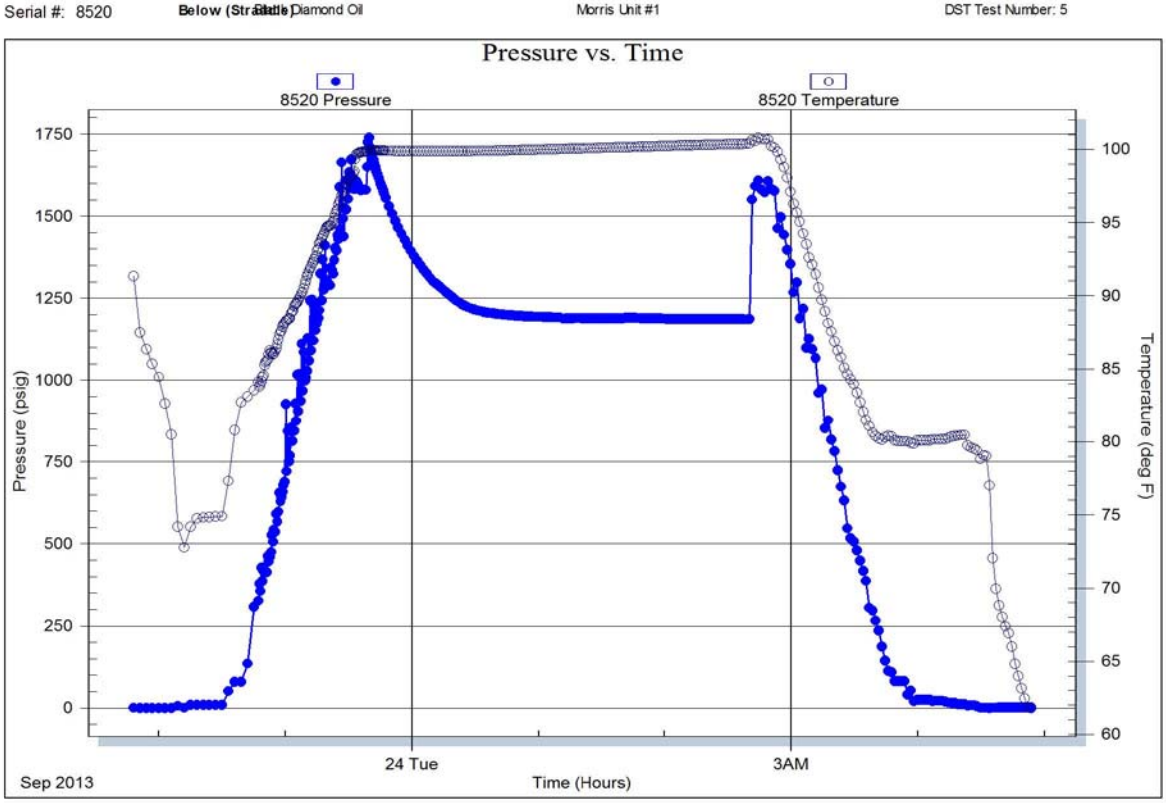
Length (ft)	Description	Volume (bbl)
161.00	H,C,M,W 40%MUD 60%WATER	1.17

* Recovery from multiple tests

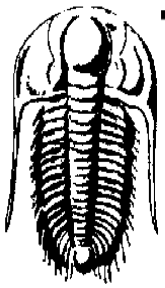
Gas Rates

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

DST #5 BTM_PKR.jpg



Trilobite Testing, Inc Ref. No: 53540 Printed: 2013.09.24 @ 10:02:58



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil**

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

Morris Unit #1

2-5s-21w Norton,KS

Start Date: 2013.09.20 @ 21:45:00
End Date: 2013.09.21 @ 04:44:00
Job Ticket #: 53536 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.09.25 @ 13:54:43

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53536 **DST#: 1**

Test Start: 2013.09.20 @ 21:45:00

GENERAL INFORMATION:

Formation: **Toronto - LKC "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:00:30
Time Test Ended: 04:44:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 3160.00 ft (KB) To 3224.00 ft (KB) (TVD)
Total Depth: 3224.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

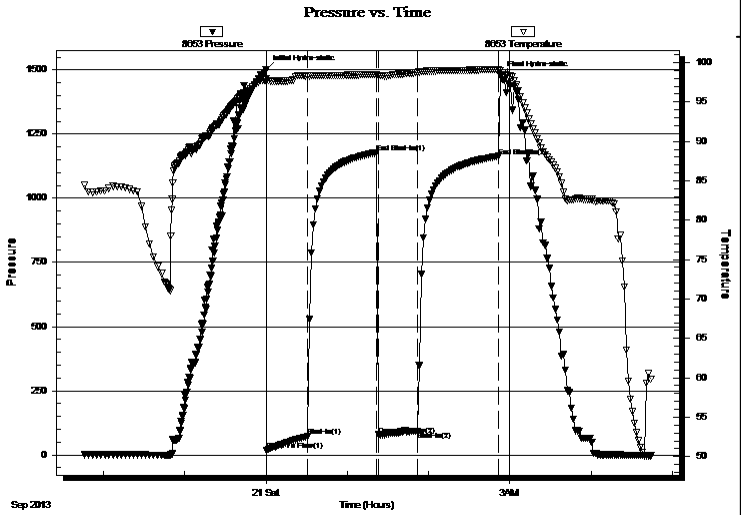
Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8653 **Outside**

Press@RunDepth: 92.92 psig @ 3161.00 ft (KB)
Start Date: 2013.09.20 End Date: 2013.09.21
Start Time: 21:46:00 End Time: 04:44:00

Capacity: 8000.00 psig
Last Calib.: 2013.09.21
Time On Btm: 2013.09.21 @ 00:00:00
Time Off Btm: 2013.09.21 @ 02:53:00

TEST COMMENT: 30 - IF- 1/4" Blow built to 7 1/2"
45 - ISI- No Return
30 - FF- Weak Surface Blow started at 1 min. Built to 5"
60 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1501.90	97.96	Initial Hydro-static
1	17.19	97.60	Open To Flow (1)
31	71.15	98.26	Shut-In(1)
82	1177.66	98.49	End Shut-In(1)
83	77.85	98.31	Open To Flow (2)
112	92.92	98.71	Shut-In(2)
172	1163.32	99.13	End Shut-In(2)
173	1477.26	98.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	MW 30W 70M	0.59
40.00	Mud 100M	0.56

Gas Rates

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

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53536 **DST#: 1**

Test Start: 2013.09.20 @ 21:45:00

GENERAL INFORMATION:

Formation: **Toronto - LKC "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:00:30
Time Test Ended: 04:44:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 3160.00 ft (KB) To 3224.00 ft (KB) (TVD)
Total Depth: 3224.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

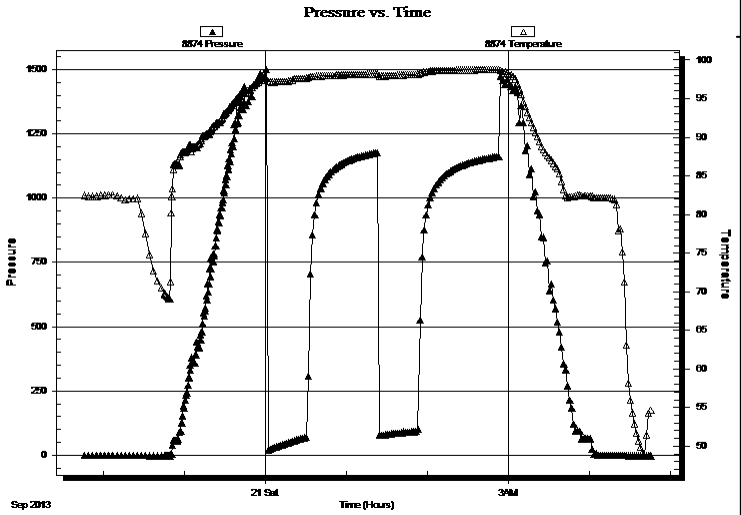
Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: psig @ 3161.00 ft (KB)
Start Date: 2013.09.20 End Date: 2013.09.21
Start Time: 21:46:00 End Time: 04:45:30

Capacity: 8000.00 psig
Last Calib.: 2013.09.21
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF- 1/4" Blow built to 7 1/2"
45 - ISI- No Return
30 - FF- Weak Surface Blow started at 1 min. Built to 5"
60 - FSI- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	MW 30W 70M	0.59
40.00	Mud 100M	0.56

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53536 **DST#: 1**

Test Start: 2013.09.20 @ 21:45:00

Tool Information

Drill Pipe:	Length:	3025.00 ft	Diameter:	3.80	inches	Volume:	42.43	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:	25000.00 lb
Drill Collar:	Length:	120.00 ft	Diameter:	2.25	inches	Volume:	0.59	bbl	Weight to Pull Loose:	60000.00 lb
						Total Volume:	43.02	bbl	Tool Chased	ft
Drill Pipe Above KB:		5.00 ft							String Weight: Initial	45000.00 lb
Depth to Top Packer:		3160.00 ft							Final	48000.00 lb
Depth to Bottom Packer:		ft								
Interval between Packers:		84.00 ft								
Tool Length:		104.00 ft								
Number of Packers:		2	Diameter:	6.75	inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3141.00		
Shut In Tool	5.00			3146.00		
Hydraulic tool	5.00			3151.00		
Packer	5.00			3156.00	20.00	Bottom Of Top Packer
Packer	4.00			3160.00		
Stubb	1.00			3161.00		
Recorder	0.00	8653	Outside	3161.00		
Recorder	0.00	8874	Inside	3161.00		
Perforations	13.00			3174.00		
Change Over Sub	1.00			3175.00		
Drill Pipe	63.00			3238.00		
Change Over Sub	1.00			3239.00		
Bullnose	5.00			3244.00	84.00	Bottom Packers & Anchor
Total Tool Length:	**104.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53536 **DST#: 1**

Test Start: 2013.09.20 @ 21:45:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	8.00 lb/gal	Cushion Length:	ft	Water Salinity:	39000 ppm
Viscosity:	69.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.78 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	300.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	MW 30W 70M	0.590
40.00	Mud 100M	0.561

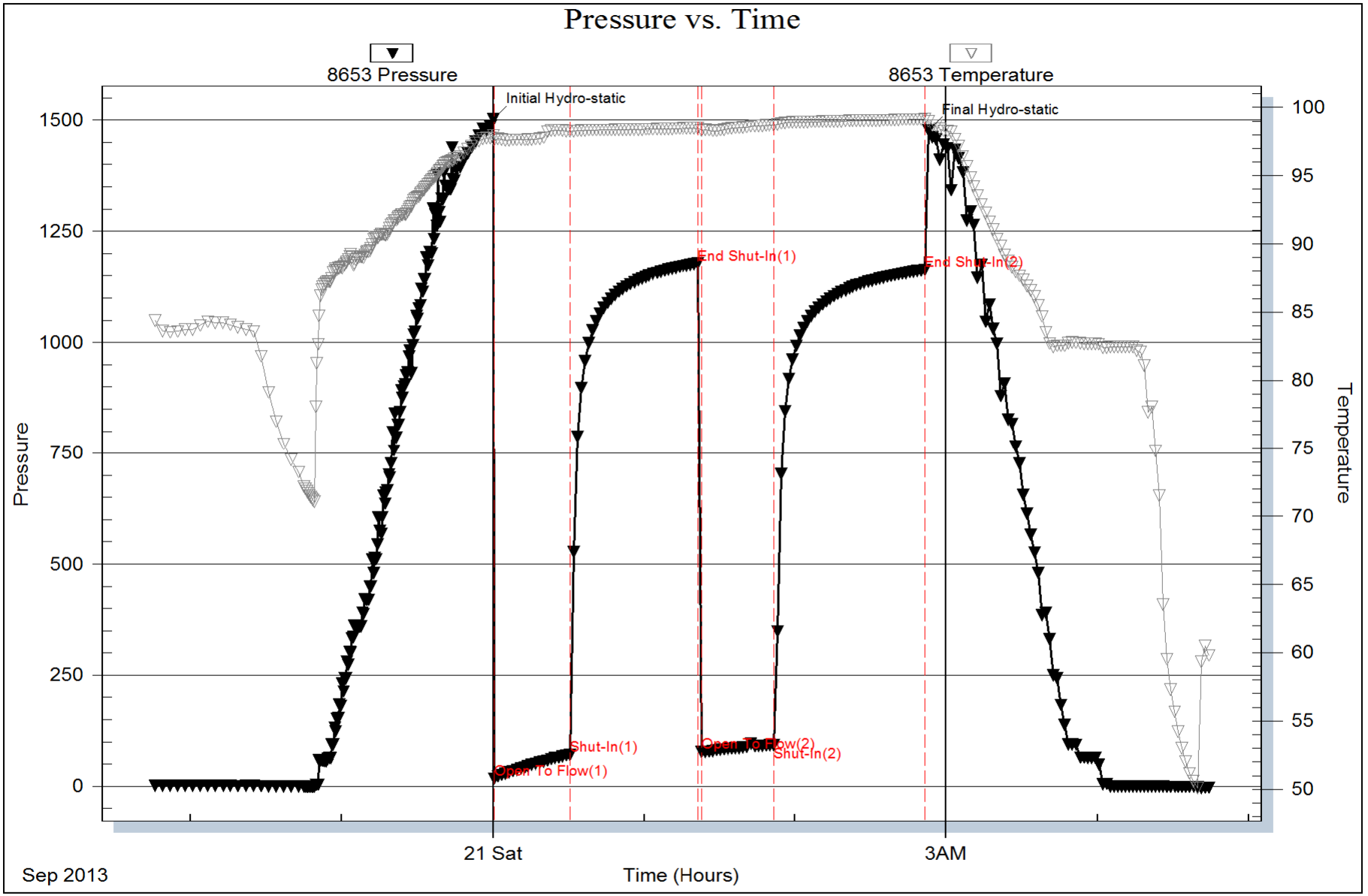
Total Length: 160.00 ft Total Volume: 1.151 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

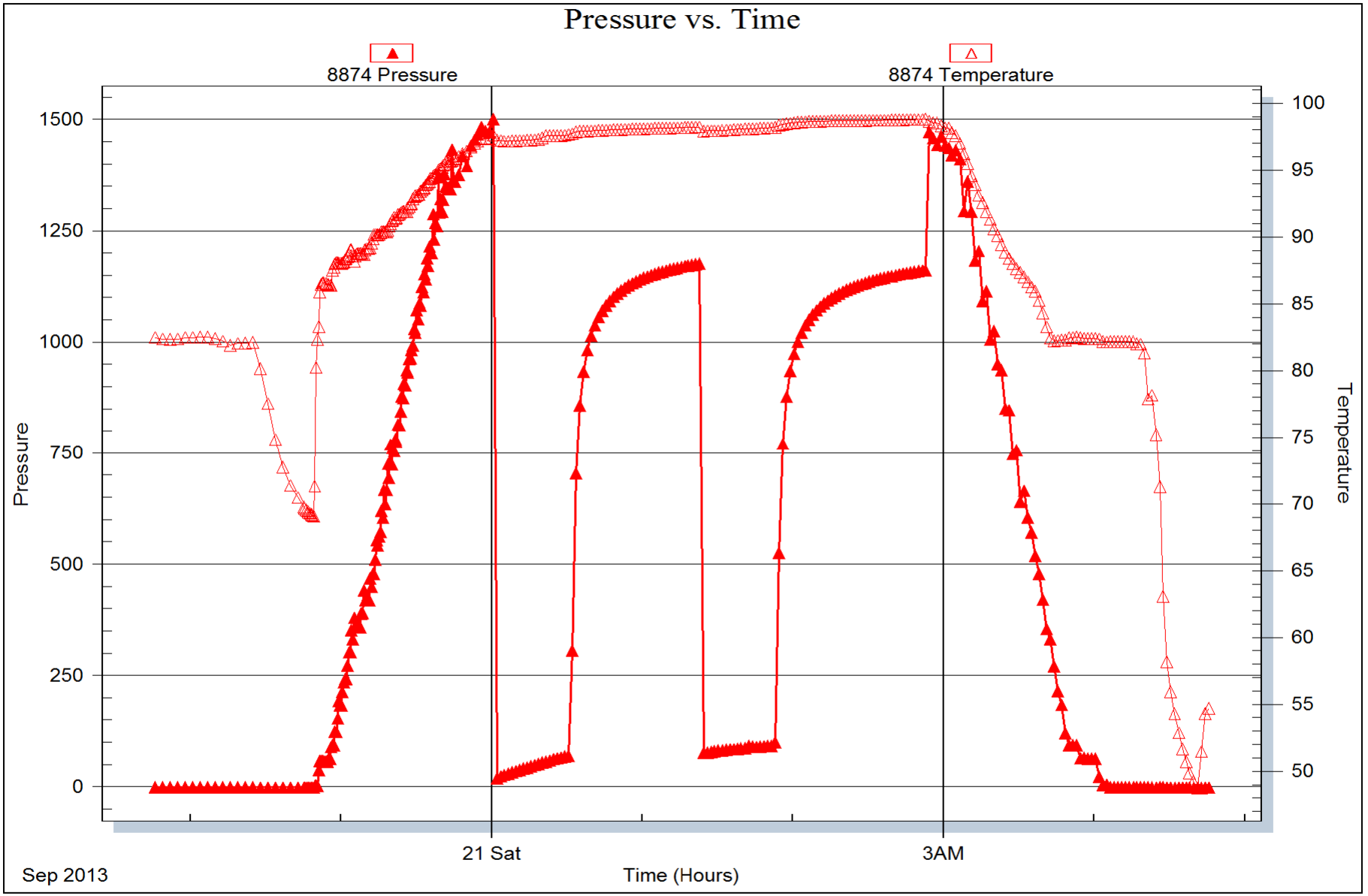
Recovery Comments: RW = .27 @ 51 = 39000ppm

Serial #: 8653 **Outside** Black Diamond Oil Morris Unit #1 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 53536 Printed: 2013.09.25 @ 13:54:45

Serial #: 8874 **Inside** Black Diamond Oil Morris Unit #1 DST Test Number: 1



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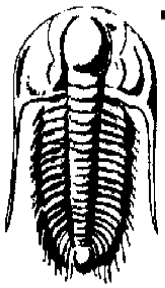


TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil**

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

Morris Unit #1

2-5s-21w Norton,KS

Start Date: 2013.09.21 @ 11:14:00
End Date: 2013.09.21 @ 17:34:30
Job Ticket #: 53537 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.09.25 @ 13:54:14

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53537 **DST#: 2**

Test Start: 2013.09.21 @ 11:14:00

GENERAL INFORMATION:

Formation: **LKC "C-D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:48:50
Time Test Ended: 17:34:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 3222.00 ft (KB) To 3262.00 ft (KB) (TVD)
Total Depth: 3262.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

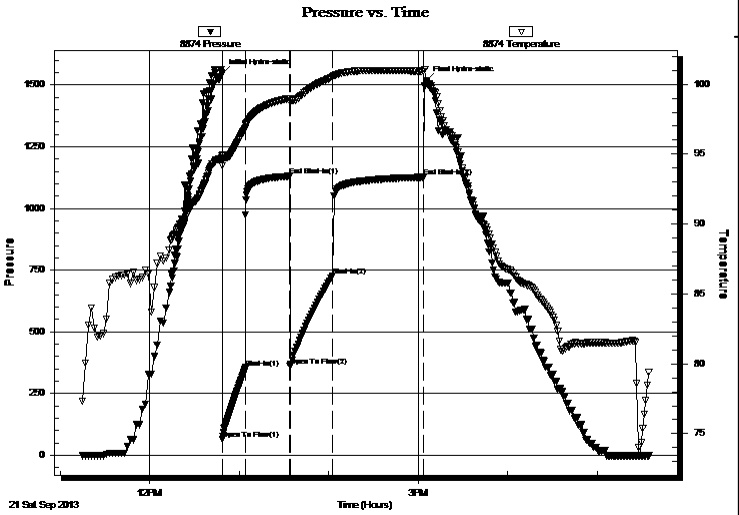
Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 727.42 psig @ 3223.00 ft (KB)
Start Date: 2013.09.21 End Date: 2013.09.21
Start Time: 11:15:00 End Time: 17:34:30

Capacity: 8000.00 psig
Last Calib.: 2013.09.21
Time On Btm: 2013.09.21 @ 12:48:40
Time Off Btm: 2013.09.21 @ 15:05:30

TEST COMMENT: 15 - IF- BoB in 3 1/2 min.
30 - ISI- Weak Surface Return started at 7 min. Built to 1"
30 - FF- BoB in 3 min.
60 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1547.06	94.93	Initial Hydro-static
1	64.43	94.17	Open To Flow (1)
16	354.61	96.85	Shut-In(1)
45	1130.69	98.98	End Shut-In(1)
46	362.85	98.71	Open To Flow (2)
74	727.42	100.50	Shut-In(2)
135	1126.76	100.92	End Shut-In(2)
137	1518.47	100.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud (Heavy) 100M	0.02
1047.00	MW 5M 95W	13.64
378.00	MW 40M 60W	5.30
0.00	Show of oil spots in tool	0.00

Gas Rates

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

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53537 **DST#: 2**

Test Start: 2013.09.21 @ 11:14:00

GENERAL INFORMATION:

Formation: **LKC "C-D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:48:50
Time Test Ended: 17:34:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 3222.00 ft (KB) To 3262.00 ft (KB) (TVD)
Total Depth: 3262.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

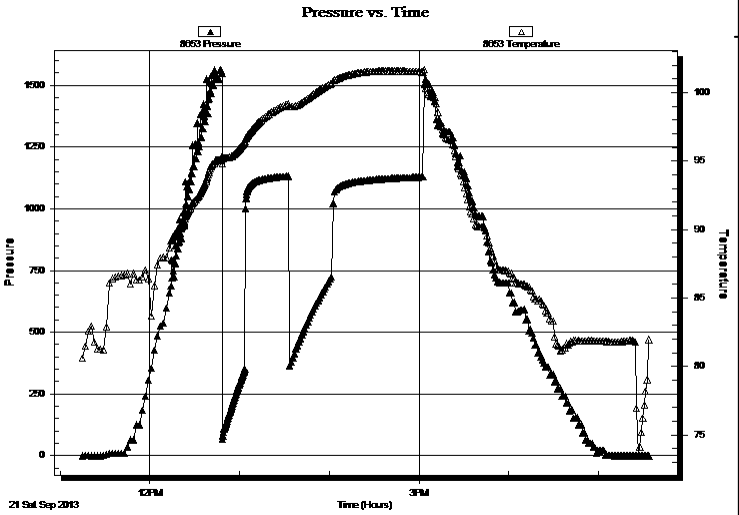
Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8653 **Outside**

Press@RunDepth: psig @ 3223.00 ft (KB)
Start Date: 2013.09.21 End Date: 2013.09.21
Start Time: 11:15:00 End Time: 17:33:30

Capacity: 8000.00 psig
Last Calib.: 2013.09.21
Time On Btm:
Time Off Btm:

TEST COMMENT: 15 - IF- BoB in 3 1/2 min.
30 - ISI- Weak Surface Return started at 7 min. Built to 1"
30 - FF- BoB in 3 min.
60 - FSI- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud (Heavy) 100M	0.02
1047.00	MW 5M 95W	13.64
378.00	MW 40M 60W	5.30
0.00	Show of oil spots in tool	0.00

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53537 **DST#: 2**

Test Start: 2013.09.21 @ 11:14:00

Tool Information

Drill Pipe:	Length:	3102.00 ft	Diameter:	3.80	inches	Volume:	43.51	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:	25000.00 lb
Drill Collar:	Length:	120.00 ft	Diameter:	2.25	inches	Volume:	0.59	bbl	Weight to Pull Loose:	60000.00 lb
						Total Volume:	44.10	bbl	Tool Chased	ft
Drill Pipe Above KB:		20.00 ft							String Weight: Initial	45000.00 lb
Depth to Top Packer:		3222.00 ft							Final	52000.00 lb
Depth to Bottom Packer:		ft								
Interval between Packers:		40.00 ft								
Tool Length:		60.00 ft								
Number of Packers:		2	Diameter:	6.75	inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3203.00		
Shut In Tool	5.00			3208.00		
Hydraulic tool	5.00			3213.00		
Packer	5.00			3218.00	20.00	Bottom Of Top Packer
Packer	4.00			3222.00		
Stubb	1.00			3223.00		
Recorder	0.00	8653	Outside	3223.00		
Recorder	0.00	8874	Inside	3223.00		
Perforations	1.00			3224.00		
Change Over Sub	1.00			3225.00		
Drill Pipe	31.00			3256.00		
Change Over Sub	1.00			3257.00		
Bullnose	5.00			3262.00	40.00	Bottom Packers & Anchor
Total Tool Length:	**60.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53537 **DST#: 2**

Test Start: 2013.09.21 @ 11:14:00

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:	7500 ppm
Viscosity:	51.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.96 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	300.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud (Heavy) 100M	0.025
1047.00	MW 5M 95W	13.639
378.00	MW 40M 60W	5.302
0.00	Show of oil spots in tool	0.000

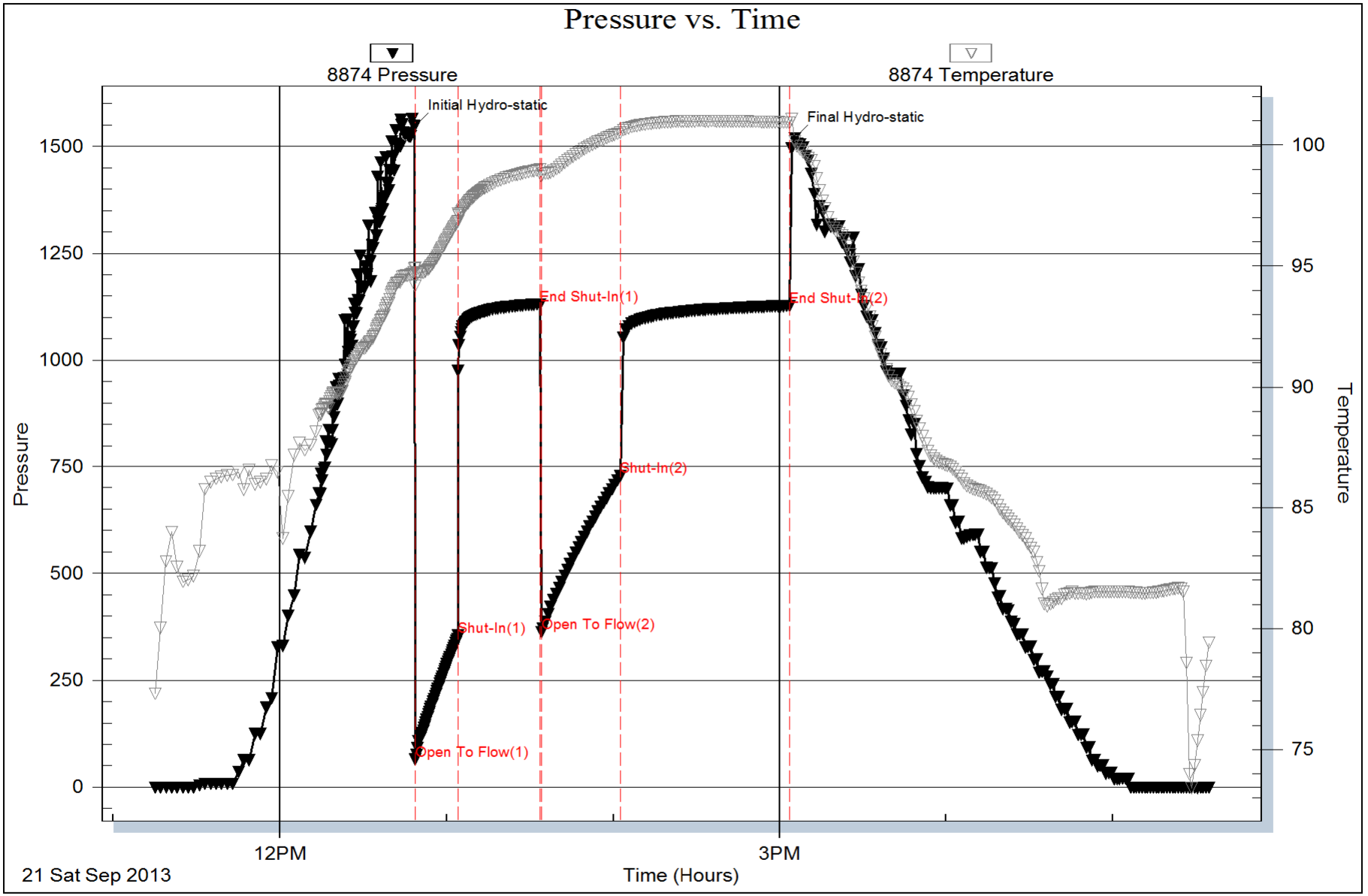
Total Length: 1430.00 ft Total Volume: 18.966 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

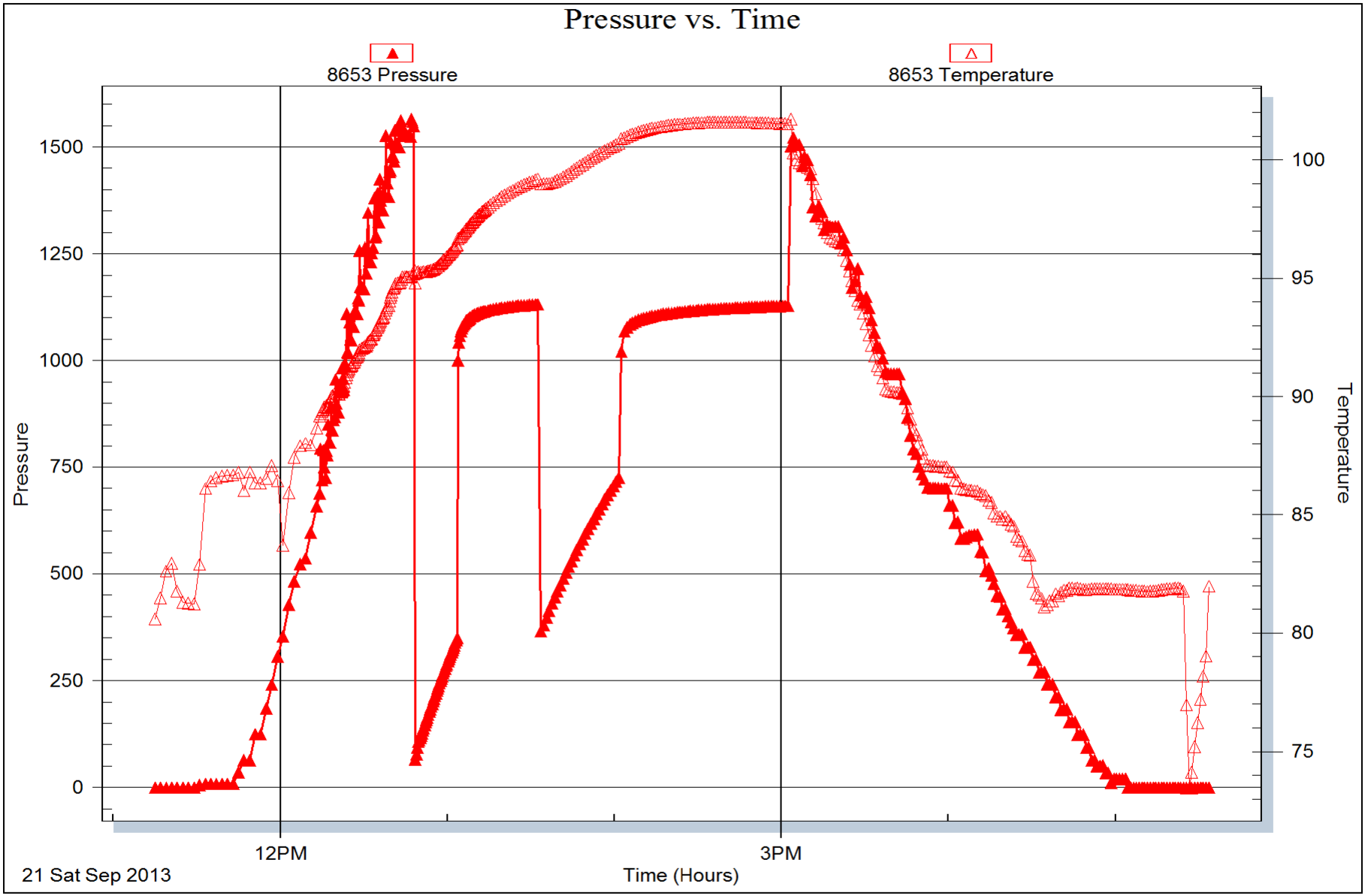
Recovery Comments: RW = .065 @ 92 deg = 7,500ppm

Serial #: 8874 **Inside** Black Diamond Oil Morris Unit #1 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 53537 Printed: 2013.09.25 @ 13:54:16

Serial #: 8653 **Outside** Black Diamond Oil Morris Unit #1 DST Test Number: 2



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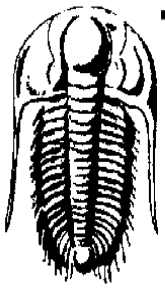


TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil**

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

Morris Unit #1

2-5s-21w Norton,KS

Start Date: 2013.09.22 @ 07:26:00
End Date: 2013.09.22 @ 15:21:30
Job Ticket #: 53538 DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.09.25 @ 13:53:39

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53538 **DST#: 3**

Test Start: 2013.09.22 @ 07:26:00

GENERAL INFORMATION:

Formation: **LKC "I-J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:12:40
Time Test Ended: 15:21:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 3328.00 ft (KB) To 3365.00 ft (KB) (TVD)
Total Depth: 3365.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

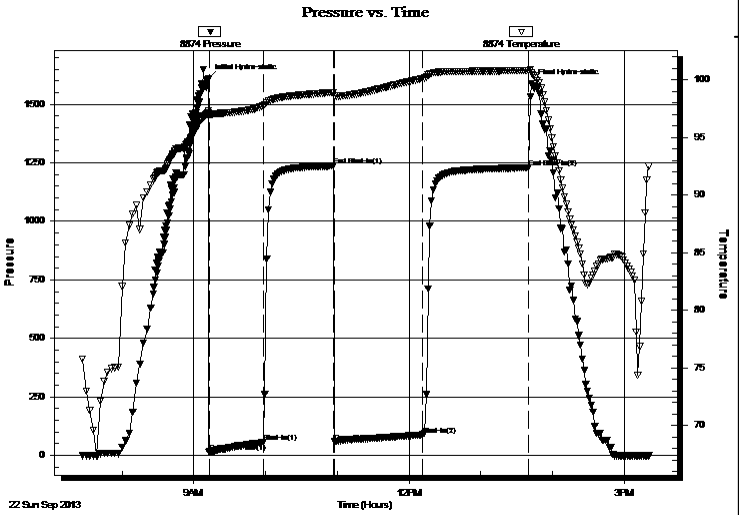
Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 87.53 psig @ 3329.00 ft (KB)
Start Date: 2013.09.22 End Date: 2013.09.22
Start Time: 07:27:00 End Time: 15:21:30

Capacity: 8000.00 psig
Last Calib.: 2013.09.22
Time On Btm: 2013.09.22 @ 09:12:10
Time Off Btm: 2013.09.22 @ 13:42:30

TEST COMMENT: 45 - IF- 1/2" Blow built to 4 1/2"
60 - ISI- No Return
75 - FF- Surface Blow started at 5 min. Built to 6 1/4"
90 - FSI- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1611.47	97.30	Initial Hydro-static
1	14.07	96.96	Open To Flow (1)
46	54.53	97.72	Shut-In(1)
105	1236.72	98.90	End Shut-In(1)
106	58.10	98.59	Open To Flow (2)
180	87.53	100.12	Shut-In(2)
268	1228.56	100.80	End Shut-In(2)
271	1588.48	100.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	MW 50M 50W	0.30
60.00	MW 20M 80W	0.30
30.00	MW 40M 60W	0.42

Gas Rates

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

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53538 **DST#: 3**

Test Start: 2013.09.22 @ 07:26:00

GENERAL INFORMATION:

Formation: **LKC "I-J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:12:40
Time Test Ended: 15:21:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 3328.00 ft (KB) To 3365.00 ft (KB) (TVD)
Total Depth: 3365.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

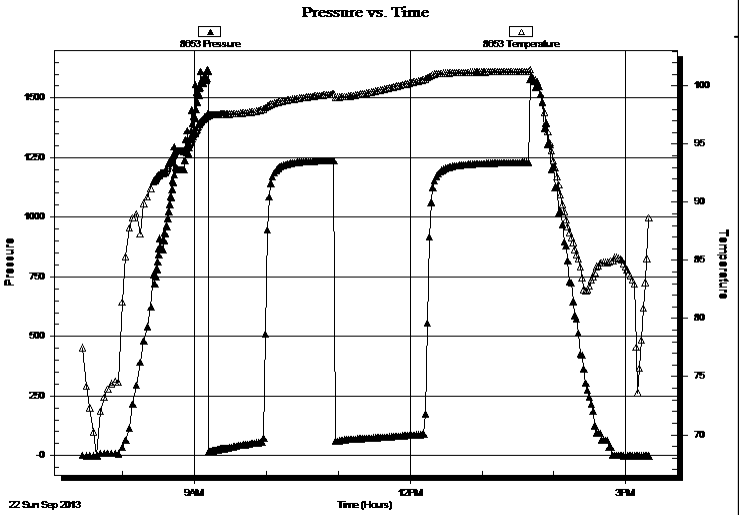
Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8653 **Outside**

Press@RunDepth: psig @ 3329.00 ft (KB)
Start Date: 2013.09.22 End Date: 2013.09.22
Start Time: 07:27:00 End Time: 15:19:30

Capacity: 8000.00 psig
Last Calib.: 2013.09.22
Time On Btm:
Time Off Btm:

TEST COMMENT: 45 - IF- 1/2" Blow built to 4 1/2"
60 - ISI- No Return
75 - FF- Surface Blow started at 5 min. Built to 6 1/4"
90 - FSI- No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	MW 50M 50W	0.30
60.00	MW 20M 80W	0.30
30.00	MW 40M 60W	0.42

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53538 **DST#: 3**

Test Start: 2013.09.22 @ 07:26:00

Tool Information

Drill Pipe:	Length:	3195.00 ft	Diameter:	3.80	inches	Volume:	44.82	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:	25000.00 lb
Drill Collar:	Length:	120.00 ft	Diameter:	2.25	inches	Volume:	0.59	bbl	Weight to Pull Loose:	60000.00 lb
						Total Volume:	45.41	bbl	Tool Chased	ft
Drill Pipe Above KB:		7.00 ft							String Weight: Initial	45000.00 lb
Depth to Top Packer:		3328.00 ft							Final	47000.00 lb
Depth to Bottom Packer:		ft								
Interval between Packers:		37.00 ft								
Tool Length:		57.00 ft								
Number of Packers:		2	Diameter:	6.75	inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3309.00		
Shut In Tool	5.00			3314.00		
Hydraulic tool	5.00			3319.00		
Packer	5.00			3324.00	20.00	Bottom Of Top Packer
Packer	4.00			3328.00		
Stubb	1.00			3329.00		
Recorder	0.00	8653	Outside	3329.00		
Recorder	0.00	8874	Inside	3329.00		
Perforations	1.00			3330.00		
Change Over Sub	1.00			3331.00		
Drill Pipe	30.00			3361.00		
Change Over Sub	1.00			3362.00		
Bullnose	3.00			3365.00	37.00	Bottom Packers & Anchor
Total Tool Length:	**57.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53538 **DST#: 3**

Test Start: 2013.09.22 @ 07:26:00

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:	47.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.76 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	3000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

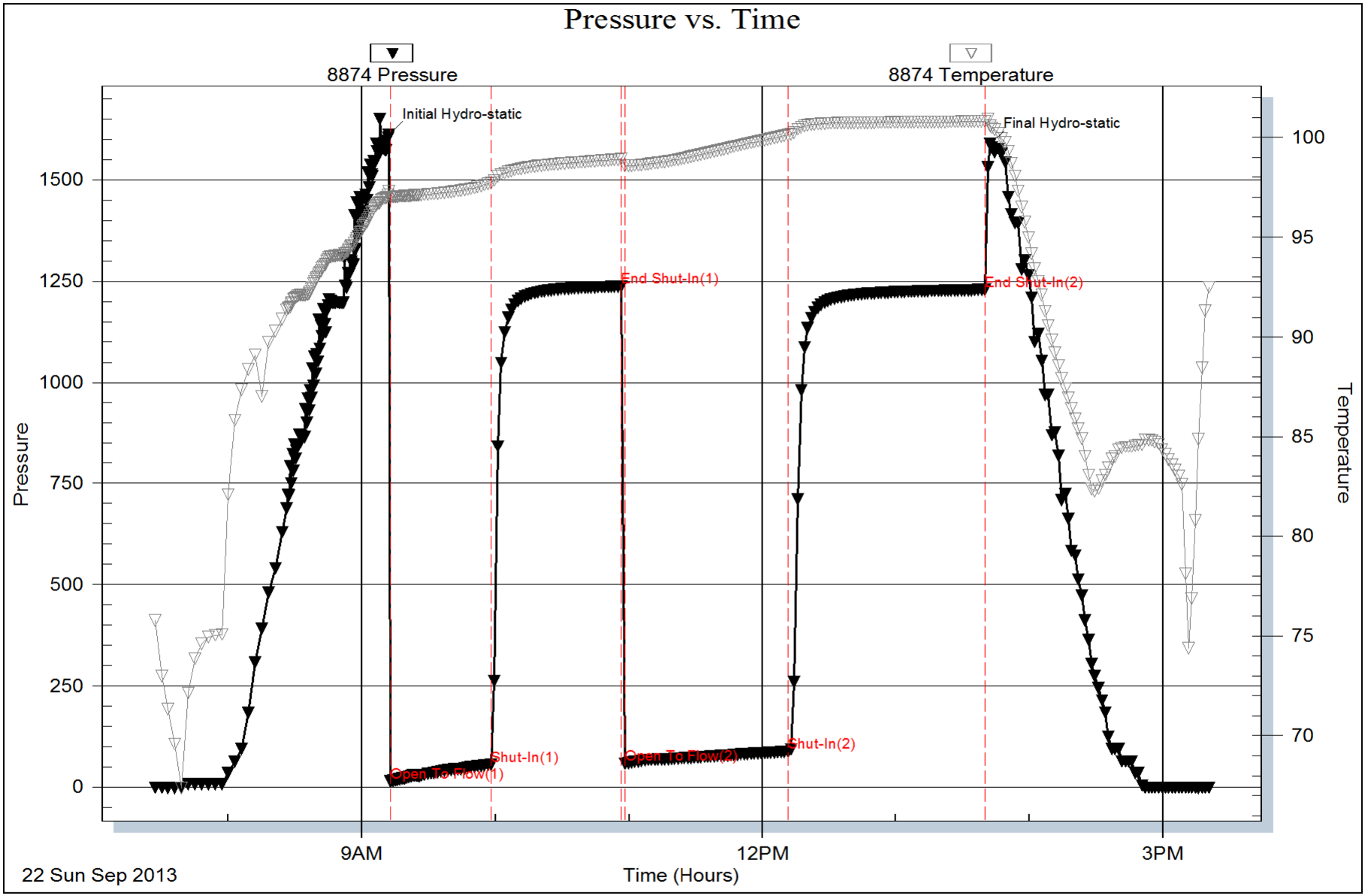
Recovery Table

Length ft	Description	Volume bbl
60.00	MW 50M 50W	0.295
60.00	MW 20M 80W	0.295
30.00	MW 40M 60W	0.421

Total Length: 150.00 ft Total Volume: 1.011 bbl

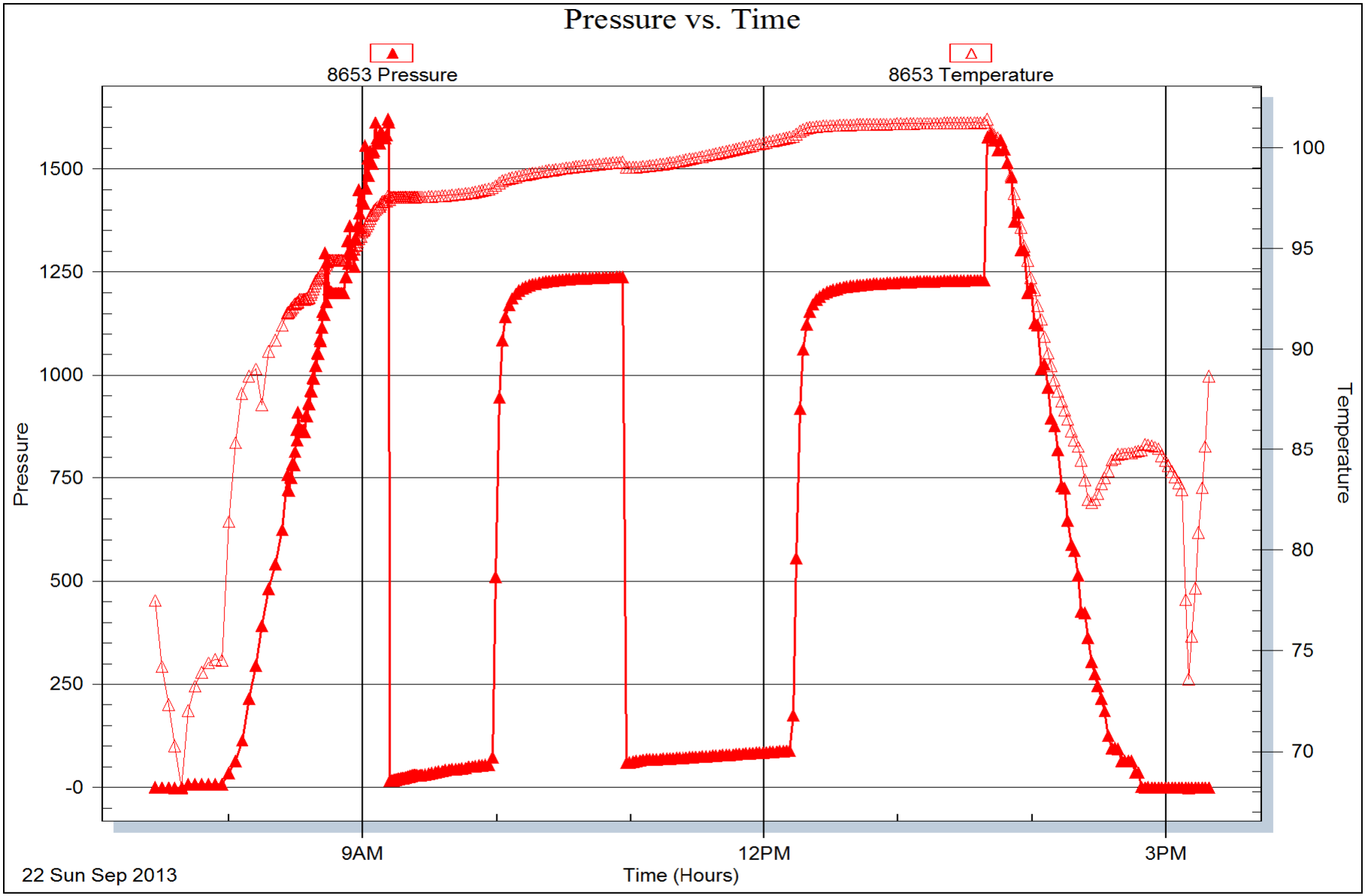
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8874 **Inside** Black Diamond Oil Morris Unit #1 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 53538 Printed: 2013.09.25 @ 13:53:40

Serial #: 8653 **Outside** Black Diamond Oil Morris Unit #1 DST Test Number: 3



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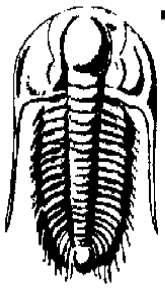


TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil**

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

Morris Unit #1

2-5s-21w Norton,KS

Start Date: 2013.09.22 @ 22:55:00
End Date: 2013.09.23 @ 04:34:00
Job Ticket #: 53539 DST #: 4

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.09.25 @ 13:52:00

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53539 **DST#: 4**

Test Start: 2013.09.22 @ 22:55:00

GENERAL INFORMATION:

Formation: **LKC "K-L"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:58:00
Time Test Ended: 04:34:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 3363.00 ft (KB) To 3400.00 ft (KB) (TVD)
Total Depth: 3400.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

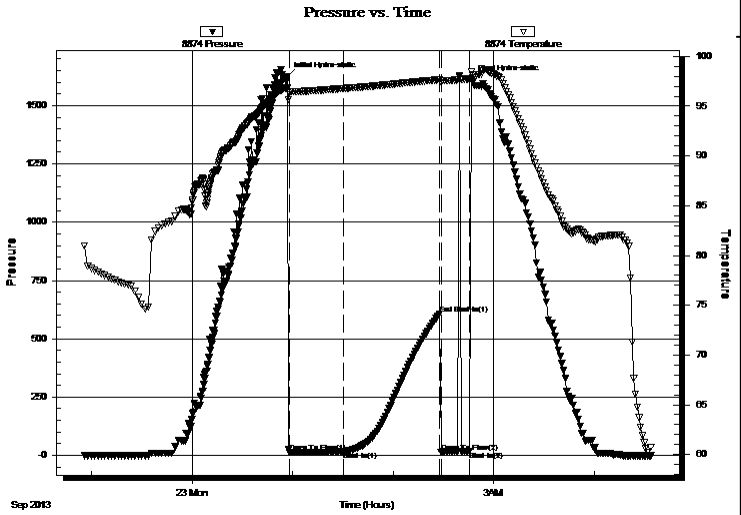
Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 14.96 psig @ 3364.00 ft (KB)
Start Date: 2013.09.22 End Date: 2013.09.23
Start Time: 22:56:00 End Time: 04:34:00

Capacity: 8000.00 psig
Last Calib.: 2013.09.23
Time On Btm: 2013.09.23 @ 00:57:00
Time Off Btm: 2013.09.23 @ 02:46:30

TEST COMMENT: 30 - IF- 1/8" Blow built to
60 - ISI- No Return
20- FF- No Blow - Flushed tool at 10 min. - No Blow
Pulled tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1625.34	96.81	Initial Hydro-static
1	13.12	96.41	Open To Flow (1)
34	14.96	96.77	Shut-In(1)
91	606.96	97.67	End Shut-In(1)
92	14.11	97.35	Open To Flow (2)
109	18.38	97.72	Shut-In(2)
110	1610.40	98.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100M	0.05

Gas Rates

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

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53539 **DST#: 4**

Test Start: 2013.09.22 @ 22:55:00

GENERAL INFORMATION:

Formation: **LKC "K-L"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:58:00
Time Test Ended: 04:34:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Kevin Mack
Unit No: 66

Interval: 3363.00 ft (KB) To 3400.00 ft (KB) (TVD)
Total Depth: 3400.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

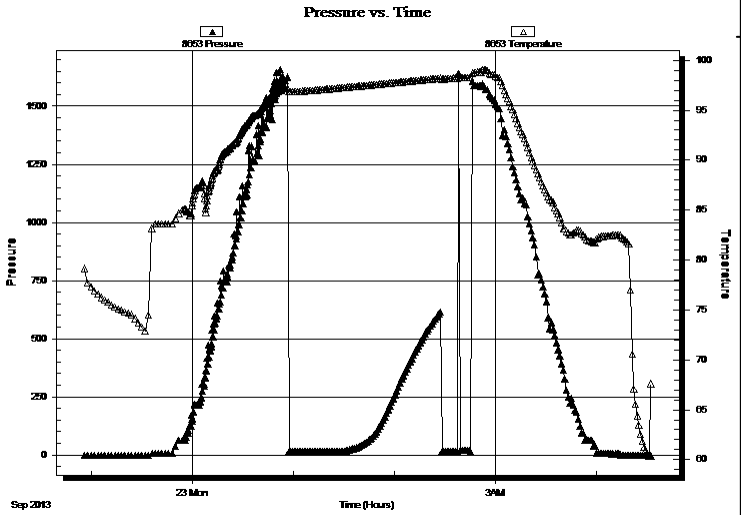
Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8653 **Outside**

Press@RunDepth: psig @ 3364.00 ft (KB)
Start Date: 2013.09.22 End Date: 2013.09.23
Start Time: 22:56:00 End Time: 04:32:30

Capacity: 8000.00 psig
Last Calib.: 2013.09.23
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF- 1/8" Blow built to
60 - ISI- No Return
20- FF- No Blow - Flushed tool at 10 min. - No Blow
Pulled tool



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud 100M	0.05

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53539 **DST#: 4**

Test Start: 2013.09.22 @ 22:55:00

Tool Information

Drill Pipe:	Length:	3256.00 ft	Diameter:	3.80 inches	Volume:	45.67 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:		25000.00 lb
Drill Collar:	Length:	120.00 ft	Diameter:	2.25 inches	Volume:	0.59 bbl	Weight to Pull Loose:		50000.00 lb
					Total Volume:	46.26 bbl	Tool Chased		ft
Drill Pipe Above KB:		33.00 ft					String Weight:	Initial	45000.00 lb
Depth to Top Packer:		3363.00 ft						Final	45000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		37.00 ft							
Tool Length:		57.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3344.00		
Shut In Tool	5.00			3349.00		
Hydraulic tool	5.00			3354.00		
Packer	5.00			3359.00	20.00	Bottom Of Top Packer
Packer	4.00			3363.00		
Stubb	1.00			3364.00		
Recorder	0.00	8653	Outside	3364.00		
Recorder	0.00	8874	Inside	3364.00		
Perforations	1.00			3365.00		
Change Over Sub	1.00			3366.00		
Drill Pipe	30.00			3396.00		
Change Over Sub	1.00			3397.00		
Bullnose	3.00			3400.00	37.00	Bottom Packers & Anchor
Total Tool Length:	**57.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53539 **DST#: 4**

Test Start: 2013.09.22 @ 22:55:00

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:	47.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.77 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	3000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

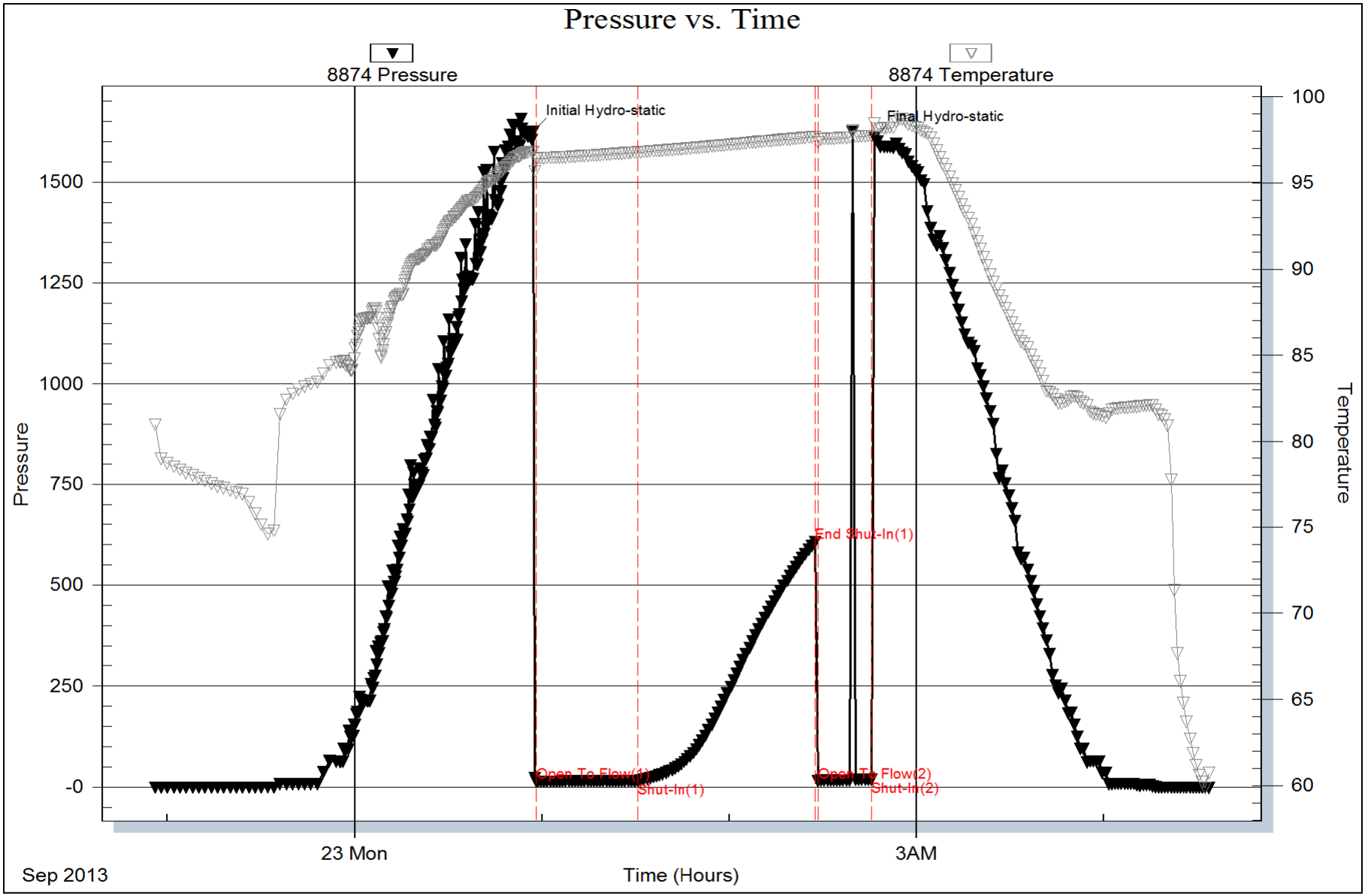
Recovery Table

Length ft	Description	Volume bbl
10.00	Mud 100M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

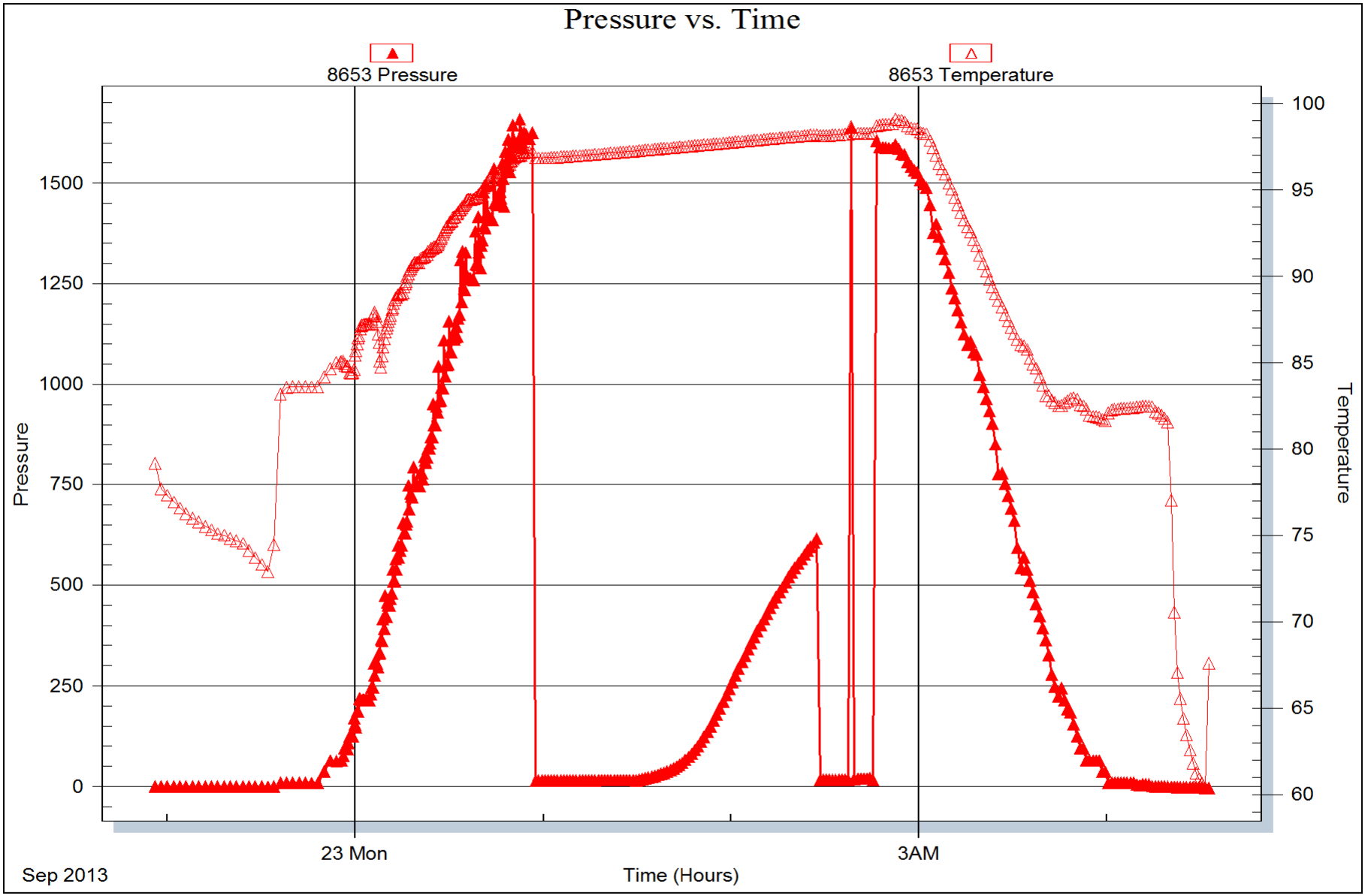
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8874 **Inside** Black Diamond Oil Morris Unit #1 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 53539 Printed: 2013.09.25 @ 13:52:01

Serial #: 8653 **Outside** Black Diamond Oil Morris Unit #1 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 53539 Printed: 2013.09.25 @ 13:52:01

DRILL STEM TEST REPORT

Prepared For: **Black Diamond Oil**

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

Morris Unit #1

2-5s-21w Norton,KS

Start Date: 2013.09.23 @ 21:47:00
End Date: 2013.09.24 @ 04:56:30
Job Ticket #: 53540 DST #: 5

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.09.25 @ 13:51:08

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53540 **DST#: 5**

Test Start: 2013.09.23 @ 21:47:00

GENERAL INFORMATION:

Formation: **LKC "H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:39:50
Time Test Ended: 04:56:30

Test Type: Conventional Straddle (Reset)
Tester: Kevin Mack / Bob Ham
Unit No: 66

Interval: 3306.00 ft (KB) To 3332.00 ft (KB) (TVD)
Total Depth: 3510.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

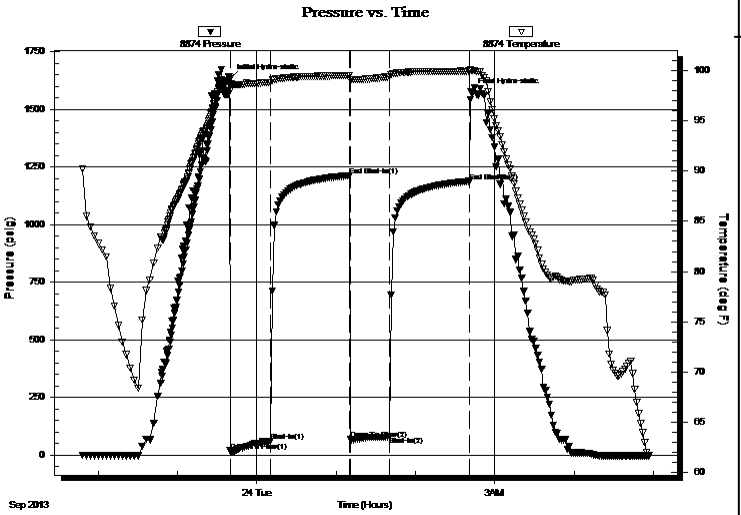
Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8874 **Inside**

Press@RunDepth: 82.52 psig @ 3307.00 ft (KB)
Start Date: 2013.09.23 End Date: 2013.09.24
Start Time: 21:48:00 End Time: 04:56:30

Capacity: 8000.00 psig
Last Calib.: 2013.09.24
Time On Btm: 2013.09.23 @ 23:39:30
Time Off Btm: 2013.09.24 @ 02:42:00

TEST COMMENT: IF - 1/8" Built to 4 3/4" in 30 Min.
ISI - No B.B.
F.F. - Surface Blow Started @ 5 Min. Built to 3"
F.S.I - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1633.60	99.07	Initial Hydro-static
1	16.84	98.44	Open To Flow (1)
31	59.60	98.76	Shut-In(1)
91	1213.11	99.48	End Shut-In(1)
91	68.94	99.07	Open To Flow (2)
121	82.52	99.37	Shut-In(2)
182	1188.67	99.92	End Shut-In(2)
183	1574.73	100.01	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
161.00	H,C,M,W 40%MUD 60%WATER	1.17

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53540 **DST#: 5**

Test Start: 2013.09.23 @ 21:47:00

GENERAL INFORMATION:

Formation: **LKC "H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:39:50
Time Test Ended: 04:56:30

Test Type: Conventional Straddle (Reset)
Tester: Kevin Mack / Bob Ham
Unit No: 66

Interval: 3306.00 ft (KB) To 3332.00 ft (KB) (TVD)
Total Depth: 3510.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

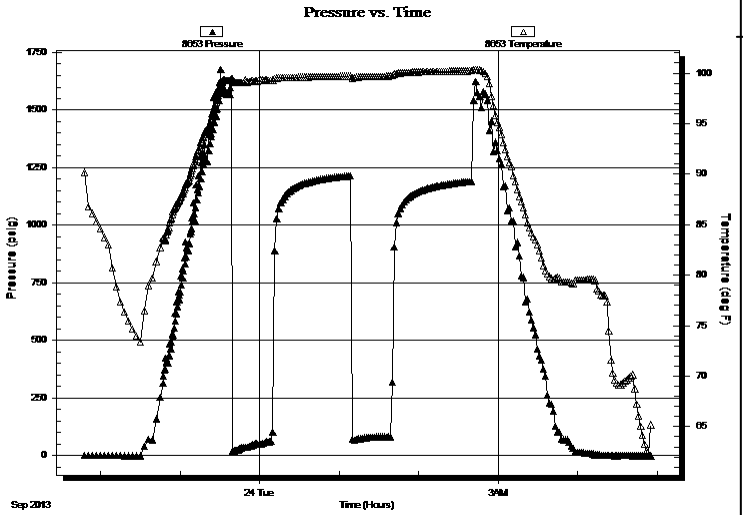
Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8653 **Outside**

Press@RunDepth: psig @ 3307.00 ft (KB)
Start Date: 2013.09.23 End Date: 2013.09.24
Start Time: 21:48:00 End Time: 04:55:00

Capacity: 8000.00 psig
Last Calib.: 2013.09.24
Time On Btm:
Time Off Btm:

TEST COMMENT: IF - 1/8" Built to 4 3/4" in 30 Min.
ISI - No B.B.
F.F. - Surface Blow Started @ 5 Min. Built to 3"
F.S.I - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
161.00	H,C,M,W 40%MUD 60%WATER	1.17

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53540 **DST#: 5**

Test Start: 2013.09.23 @ 21:47:00

GENERAL INFORMATION:

Formation: **LKC "H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:39:50
Time Test Ended: 04:56:30

Test Type: Conventional Straddle (Reset)
Tester: Kevin Mack / Bob Ham
Unit No: 66

Interval: 3306.00 ft (KB) To 3332.00 ft (KB) (TVD)
Total Depth: 3510.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

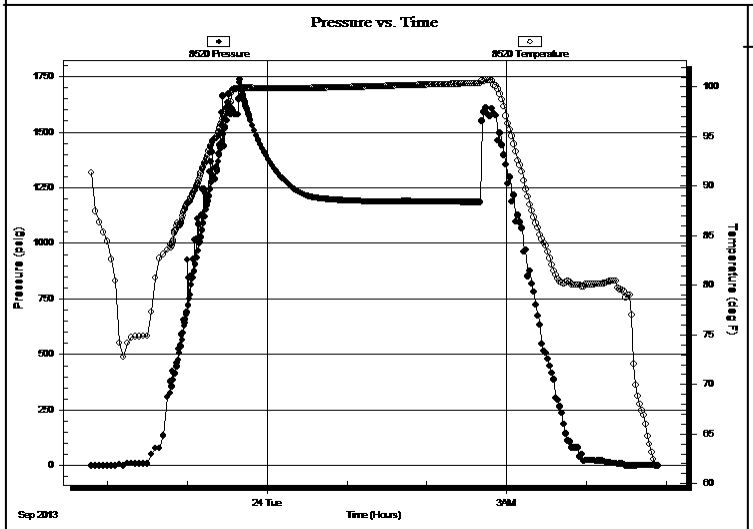
Reference Elevations: 1992.00 ft (KB)
1987.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8520 **Below (Straddle)**

Press@RunDepth: psig @ 3332.00 ft (KB)
Start Date: 2013.09.23 End Date: 2013.09.24
Start Time: 21:48:00 End Time: 04:54:30

Capacity: 8000.00 psig
Last Calib.: 1899.12.30
Time On Btm:
Time Off Btm:

TEST COMMENT: IF - 1/8" Built to 4 3/4" in 30 Min.
ISI - No B.B.
F.F. - Surface Blow Started @ 5 Min. Built to 3"
F.S.I - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
161.00	H,C,M,W 40%MUD 60%WATER	1.17

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53540 **DST#: 5**

Test Start: 2013.09.23 @ 21:47:00

Tool Information

Drill Pipe:	Length:	3175.00 ft	Diameter:	3.80 inches	Volume:	44.54 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:		25000.00 lb
Drill Collar:	Length:	120.00 ft	Diameter:	2.25 inches	Volume:	0.59 bbl	Weight to Pull Loose:		50000.00 lb
					Total Volume:	45.13 bbl	Tool Chased		ft
Drill Pipe Above KB:		9.00 ft					String Weight:	Initial	45000.00 lb
Depth to Top Packer:		3306.00 ft						Final	46000.00 lb
Depth to Bottom Packer:		3327.00 ft							
Interval between Packers:		21.00 ft							
Tool Length:		221.00 ft							
Number of Packers:		3	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3287.00		
Shut In Tool	5.00			3292.00		
Hydraulic tool	5.00			3297.00		
Packer	5.00			3302.00	20.00	Bottom Of Top Packer
Packer	4.00			3306.00		
Stubb	1.00			3307.00		
Recorder	0.00	8653	Outside	3307.00		
Recorder	0.00	8874	Inside	3307.00		
Perforations	19.00			3326.00		
Blank Off Sub	1.00			3327.00	21.00	Tool Interval
Packer	4.00			3331.00		
Stubb	1.00			3332.00		
Recorder	0.00	8520	Below	3332.00		
Perforations	15.00			3347.00		
Change Over Sub	1.00			3348.00		
Drill Pipe	155.00			3503.00		
Change Over Sub	1.00			3504.00		
Bullnose	3.00			3507.00	180.00	Bottom Packers & Anchor
Total Tool Length:	**221.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond Oil

PO Box 641
Hays, KS 67601

ATTN: Jeff Lawler

2-5s-21w Norton,KS

Morris Unit #1

Job Ticket: 53540 **DST#: 5**

Test Start: 2013.09.23 @ 21:47:00

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:	57.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.97 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	3000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
161.00	H,C,M,W 40%MUD 60%WATER	1.165

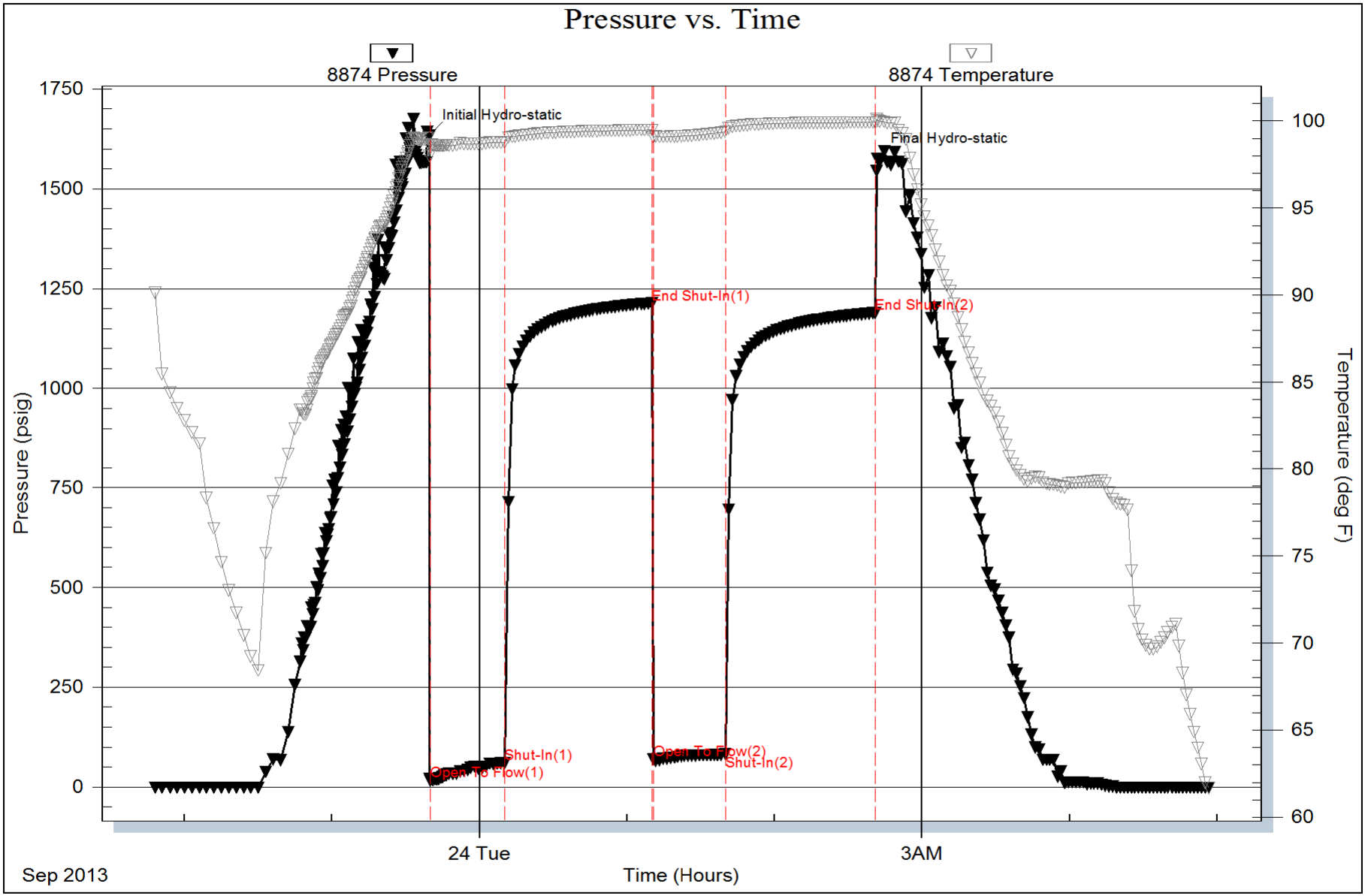
Total Length: 161.00 ft Total Volume: 1.165 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

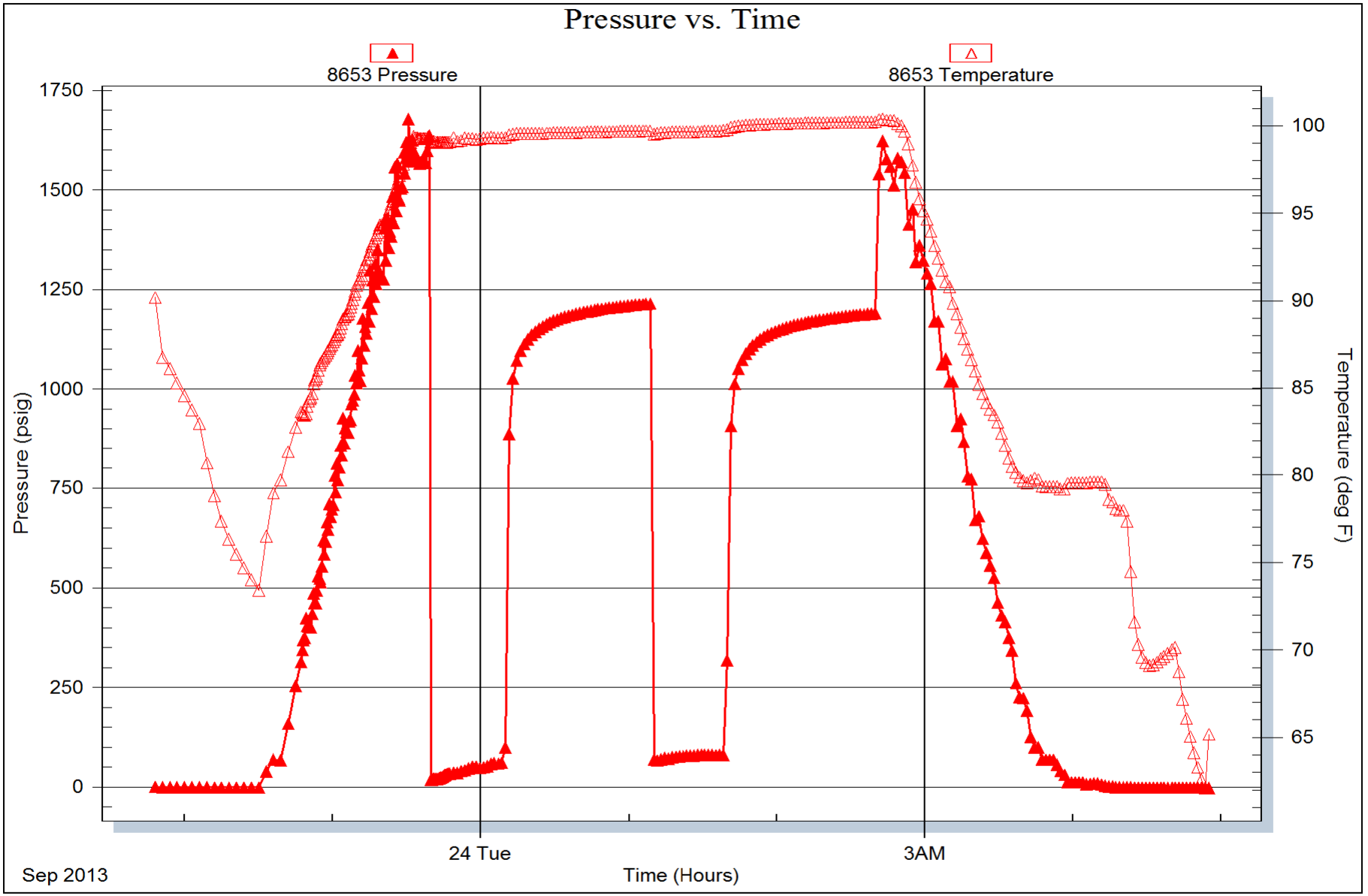
Recovery Comments:

Serial #: 8874 **Inside** Black Diamond Oil Morris Unit #1 DST Test Number: 5



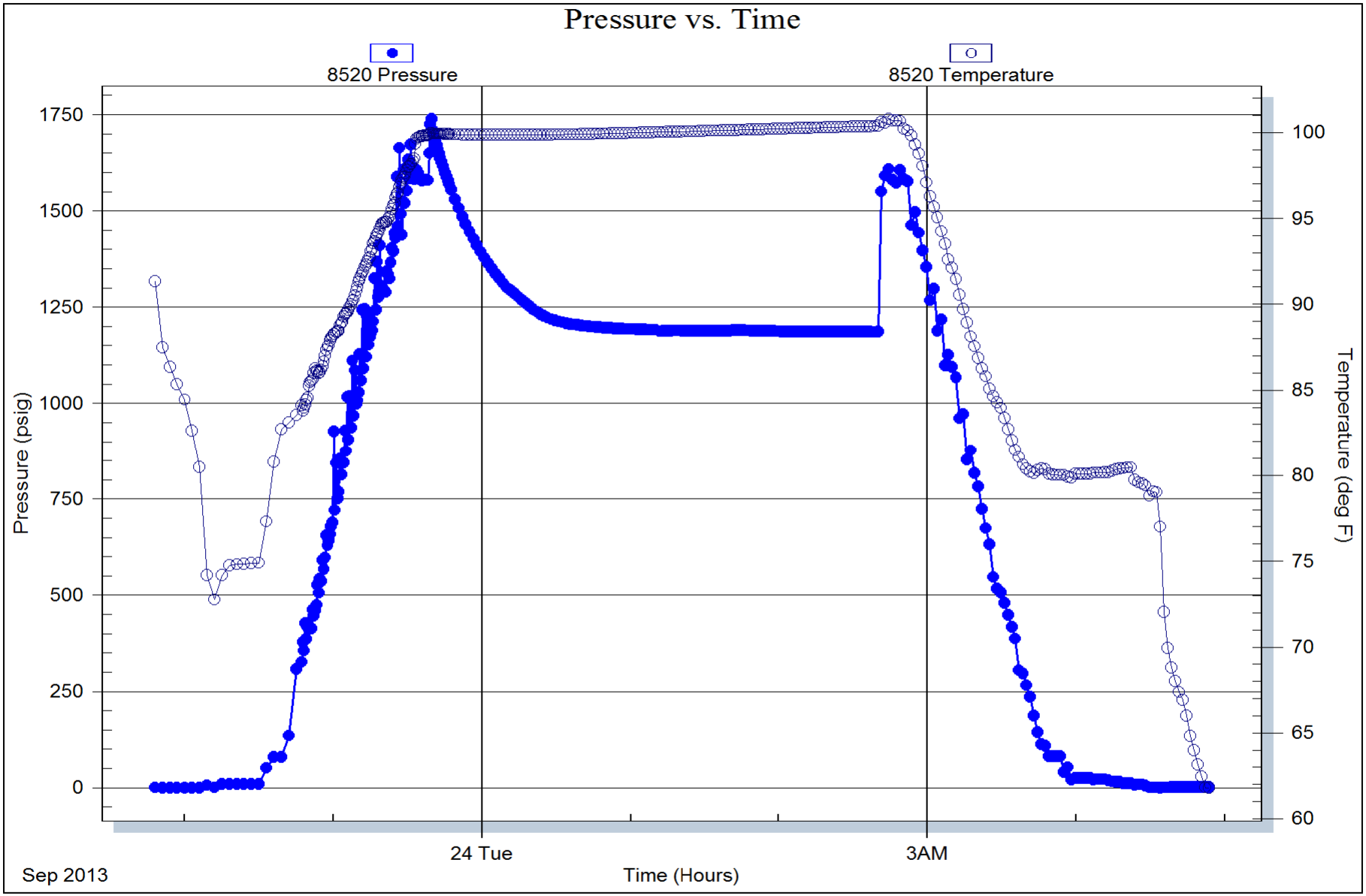
Trilobite Testing, Inc Ref. No: 53540 Printed: 2013.09.25 @ 13:51:10

Serial #: 8653 **Outside** Black Diamond Oil Morris Unit #1 DST Test Number: 5



Trilobite Testing, Inc Ref. No: 53540 Printed: 2013.09.25 @ 13:51:10

Serial #: 8520 Below (Straddle) Diamond Oil Morris Unit #1 DST Test Number: 5



Trilobite Testing, Inc Ref. No: 53540 Printed: 2013.09.25 @ 13:51:10

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 53536

Well Name & No. Morris Unit #1 Test No. 1 Date 9-28-13

Company Black Diamond Oil Elevation 1992 KB 1987 GL

Address PO Box 641 Hays, KS 67601

Co. Rep / Geo. Jeff Lawler Rig WW#6

Location: Sec. 2 Twp. 5S Rge. 21W Co. Norton State KS

Interval Tested 3160 - 3224 Zone Tested Toronto - LKC "A"

Anchor Length 84 Drill Pipe Run 3025 Mud Wt. 8.5

Top Packer Depth 3156 Drill Collars Run 120 Vis 64

Bottom Packer Depth 3160 Wt. Pipe Run 0 WL 8.8

Total Depth 3224 Chlorides 3000 ppm System LCM 2.5#

Blow Description IF - 1/4" Blow built to 7 1/2"

ISI - No Return

FF - Weak Surface Blow started at 1 min. Built to 5"

FSI - No Return

Rec 40	Feet of Mud	%gas	%oil	%water 100	%mud	
Rec 120	Feet of WM	%gas	%oil 30	%water 70	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	

Rec Total 160 BHT 99 Gravity — API RW 27 @ 51 °F Chlorides 34,000 ppm

(A) Initial Hydrostatic 1501	☒ Test 1150	T-On Location 9:00 PM	
(B) First Initial Flow 17	☐ Jars	T-Started 9:45 PM	
(C) First Final Flow 71	☐ Safety Joint	T-Open 12:01 AM	
(D) Initial Shut-In 1177	☒ Circ Sub N/C	T-Pulled 2:46 AM	
(E) Second Initial Flow 77	☐ Hourly Standby	T-Out 4:50 AM	
(F) Second Final Flow 92	☒ Mileage 128 RT 198.40	Comments	
(G) Final Shut-In 1163	☐ Sampler		
(H) Final Hydrostatic 1477	☐ Straddle	☐ Ruined Shale Packer	
	☐ Shale Packer	☐ Ruined Packer	
Initial Open 30	☐ Extra Packer	☐ Extra Copies	
Initial Shut-In 45	☐ Extra Recorder	Sub Total 0	
Final Flow 30	☐ Day Standby	Total 1348.40	
Final Shut-In 60	☐ Accessibility	MP/DST Disc't	
	Sub Total 1348.40		

Approved By _____ Our Representative _____

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

4/10

Test Ticket

NO. 53537

Well Name & No. Morris Unit #1 Test No. 2 Date 9-21-13

Company Black Diamond Oil Elevation 1992 KB 1987 GL

Address PO Box 641 Hays, KS 67601

Co. Rep / Geo. Jeff Kessler Rig WW #6

Location: Sec. 2 Twp. 5S Rge. 21W Co. Norton State KS

Interval Tested ~~3160-3262~~ 3222-3262 Zone Tested LKC "C-D"

Anchor Length 40' Drill Pipe Run 3102 Mud Wt. 9

Top Packer Depth 3218 Drill Collars Run 120 Vis 51

Bottom Packer Depth 3222 Wt. Pipe Run 0 WL 8.0

Total Depth 3262 Chlorides 3000 ppm System LCM 2#

Blow Description IF- BoB in 3½ min

ISI- Weak Surface Return Started at 7 min. Built to 1"

FF- BoB in 3 min.

FSI- NO Return

Rec 378	Feet of MW	%gas	%oil 60	%water 40	%mud	
Rec 1047	Feet of MW	%gas	%oil 95	%water 5	%mud	
Rec 5	Feet of Mud (Heavy)	%gas	%oil	%water 100	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	

Rec Total 1430 BHT 101 Gravity — API RW .065 @ 92 °F Chlorides 7,500 ppm

(A) Initial Hydrostatic	1547	☒ Test	1150	T-On Location	11:00 AM
(B) First Initial Flow	64	☐ Jars		T-Started	11:14 AM
(C) First Final Flow	354	☐ Safety Joint		T-Open	12:48 PM
(D) Initial Shut-In	1130	☒ Circ Sub	N/C	T-Pulled	3:03 PM
(E) Second Initial Flow	362	☐ Hourly Standby		T-Out	5:40 PM
(F) Second Final Flow	727	☒ Mileage	128RT 198.40	Comments	
(G) Final Shut-In	1126	☐ Sampler			
(H) Final Hydrostatic	1518	☐ Straddle		☐ Ruined Shale Packer	
		☐ Shale Packer		☐ Ruined Packer	
Initial Open	15	☐ Extra Packer		☐ Extra Copies	
Initial Shut-In	30	☐ Extra Recorder		Sub Total	0
Final Flow	30	☐ Day Standby		Total	1348.40
Final Shut-In	60	☐ Accessibility		MP/DST Disc't	
		Sub Total	1348.40		

Approved By _____ Our Representative _____

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 53538

Well Name & No. Morris Unit #1 Test No. 3 Date 9-22-13

Company Black Diamond Oil Elevation 1992 KB 1987 GL

Address PO Box 641 Hays, KS 67601

Co. Rep / Geo. Jeff Lawler Rig WW #6

Location: Sec. 2 Twp. 5S Rge. 21W Co. Norton State KS

Interval Tested 3328-3365 Zone Tested LKC "I-J"

Anchor Length 37 Drill Pipe Run 3195 Mud Wt. 9.2

Top Packer Depth 3324 Drill Collars Run 120 Vis 47

Bottom Packer Depth 3328 Wt. Pipe Run 0 WL 8.8

Total Depth 3365 Chlorides 3,0000 ppm System LCM 2#

Blow Description IF- ½" Blow built to 4½"
ISI- No Return
FF- Surface Blow started at 5 min. Built to 6¼"
FSI- No Return

Rec 30	Feet of MW	%gas	%oil 60	%water 40	%mud	
Rec 60	Feet of MW	%gas	%oil 80	%water 20	%mud	
Rec 60	Feet of MW	%gas	%oil 50	%water 50	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	

Rec Total 150 BHT 101 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1611	☒ Test 1150	T-On Location 5:50 AM
(B) First Initial Flow 14	☐ Jars	T-Started 7:26 AM
(C) First Final Flow 54	☐ Safety Joint	T-Open 9:15 AM
(D) Initial Shut-In 1236	☒ Circ Sub N/C	T-Pulled 1:45 PM
(E) Second Initial Flow 58	☐ Hourly Standby	T-Out 3:30 PM
(F) Second Final Flow 87	☒ Mileage 128 RT 198.40	Comments
(G) Final Shut-In 1228	☐ Sampler	
(H) Final Hydrostatic 1588	☐ Straddle	☐ Ruined Shale Packer
	☐ Shale Packer	☐ Ruined Packer
Initial Open 45	☐ Extra Packer	☐ Extra Copies
Initial Shut-In 60	☐ Extra Recorder	Sub Total 0
Final Flow 75	☐ Day Standby	Total 1348.40
Final Shut-In 90	☐ Accessibility	MP/DST Disc't
	Sub Total 1348.40	

Approved By _____ Our Representative _____

TRILOBITE TESTING INC.
1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 53539

Well Name & No. Morris Unit #1 Test No. 4 Date 9-22-13
Company Black Diamond Oil. Elevation 1992 KB 1987 GL
Address PO Box 641 Hays, KS 67601
Co. Rep / Geo. Jeff Lawler Rig WW #6
Location: Sec. 2 Twp. 5S Rge. 21W Co. Norton State KS

Interval Tested 3363-3408 Zone Tested LKC "K-L"
Anchor Length 37 Drill Pipe Run 3256 Mud Wt. 8.5 9.2
Top Packer Depth 3359 Drill Collars Run 120 Vis 69 47
Bottom Packer Depth 3363 Wt. Pipe Run Ø WL 8.8 8.8
Total Depth 3408 Chlorides 3,400 ppm System LCM 2 2#

Blow Description IF- 1/8" Blow built to
ISI- No Return
FF- No Blow- Flushed tool at 10 min. - No Blow
FSI- Pulled tool

Rec 10	Feet of Mud	%gas	%oil	%water 100	%mud	
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 10 BHT 98 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1625	☒ Test 1150	T-On Location 10:30 PM
(B) First Initial Flow 13	☐ Jars	T-Started 10:55 PM
(C) First Final Flow 14	☐ Safety Joint	T-Open 1:00 AM
(D) Initial Shut-In 606	☒ Circ Sub N/C	T-Pulled 2:50 AM
(E) Second Initial Flow 14	☐ Hourly Standby	T-Out 4:45 AM
(F) Second Final Flow 18	☒ Mileage 128 RT 198.40	Comments
(G) Final Shut-In Ø	☐ Sampler	
(H) Final Hydrostatic 1610	☐ Straddle	☐ Ruined Shale Packer
	☐ Shale Packer	☐ Ruined Packer
Initial Open 30	☐ Extra Packer	☐ Extra Copies
Initial Shut-In 60	☐ Extra Recorder	Sub Total 0
Final Flow 20	☐ Day Standby	Total 1348.40
Final Shut-In —	☐ Accessibility	MP/DST Disc't
	Sub Total 1348.40	

Approved By Our Representative

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.

4/10

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 53540

Well Name & No. Morris Unit #1 Test No. 5 Date 9-23-13

Company Black Diamond Oil Elevation 1992 KB 1987 GL

Address PO Box 641 Hays, KS 67601

Co. Rep / Geo. Jeff Lawler Rig WW #6

Location: Sec. 2 Twp. 5S Rge. 21W Co. Norton State KS

Interval Tested 3306-3332 Zone Tested LKC "H"

Anchor Length 26' Drill Pipe Run 3164 Mud Wt. 9.2

Top Packer Depth 3302- Drill Collars Run 120 Vis 57

Bottom Packer Depth 3306 / 3332 - straddle packer Wt. Pipe Run 2,500 # WL 8.0

Total Depth 3510 Chlorides ppm System LCM 2.5#

Blow Description IF - 1/8" Blow built to 4 3/4"

ISI - No Return

FF - Surface Blow started at 5 min. Built to 3"

FSI - No Return

Rec 161	Feet of (total Fluid) [redacted] H,M,C,W	%gas	%oil 60	%water 40	%mud	
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 161 BHT 100 Gravity — API RW .18 @ °F Chlorides 49,000 ppm

(A) Initial Hydrostatic	1634	Test 1150	T-On Location 7:30 PM
(B) First Initial Flow	17	Jars 250	T-Started 9:47 PM
(C) First Final Flow	60	Safety Joint 75	T-Open 11:40 PM
(D) Initial Shut-In	1213	Circ Sub N/C	T-Pulled 2:40 AM
(E) Second Initial Flow	69	Hourly Standby	T-Out 5:00 Am.
(F) Second Final Flow	83	Mileage 128 RT 198.40	Comments
(G) Final Shut-In	1189	Sampler	
(H) Final Hydrostatic	1575	Straddle 600	Ruined Shale Packer
		Shale Packer	Ruined Packer
Initial Open	30	Extra Packer	Extra Copies
Initial Shut-In	60	Extra Recorder	Sub Total 0
Final Flow	30	Day Standby	Total 2273.40
Final Shut-In	60	Accessibility	MP/DST Disc't
		Sub Total 2273.40	25% 75

Our Representative Kevin

Approved By

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 o
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.