



DRILL STEM TEST REPORT

Prepared For: **TDI Inc.**

1310 Bison Rd
Hays KS 67601

ATTN: Herb Deines

Stackhouse Ranch #1

13-12s-19w Ellis,KS

Start Date: 2014.05.21 @ 00:35:00

End Date: 2014.05.21 @ 07:14:45

Job Ticket #: 58961 DST #: 1

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

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TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

TDI Inc.
1310 Bison Rd
Hays KS 67601
ATTN: Herb Deines

13-12s-19w Ellis,KS
Stackhouse Ranch #1
Job Ticket: 58961 **DST#: 1**
Test Start: 2014.05.21 @ 00:35:00

GENERAL INFORMATION:

Formation: **Toronto - KC "D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:48:00
 Time Test Ended: 07:14:45
 Interval: **3446.00 ft (KB) To 3560.00 ft (KB) (TVD)**
 Total Depth: 3560.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brett Dickinson
 Unit No: 59
 Reference Elevations: 2208.00 ft (KB)
 2200.00 ft (CF)
 KB to GR/CF: 8.00 ft

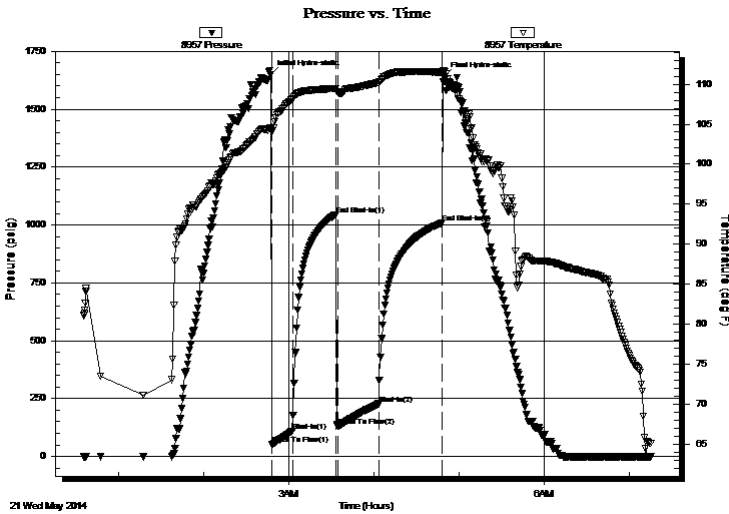
Serial #: 8957

Inside

Press@RunDepth: 227.40 psig @ 3447.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.05.21 End Date: 2014.05.21 Last Calib.: 2014.05.21
 Start Time: 00:35:05 End Time: 07:14:44 Time On Btm: 2014.05.21 @ 02:46:45
 Time Off Btm: 2014.05.21 @ 04:49:00

TEST COMMENT: IF-BOB in 2 min
 IS-BOB in 19 1/2 min
 FF-BOB in 3 min
 FS-BOB in 22 min

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1650.90	104.56	Initial Hydro-static
2	52.61	104.17	Open To Flow (1)
16	110.94	108.11	Shut-In(1)
47	1045.14	109.43	End Shut-In(1)
48	129.94	109.07	Open To Flow (2)
77	227.40	110.21	Shut-In(2)
121	1009.23	111.49	End Shut-In(2)
123	1642.66	111.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	VGO 40%G 60%O	0.84
500.00	GO 20%G 80%O	7.01
0.00	620ft GIP	0.00

Gas Rates

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



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TDI Inc.
 1310 Bison Rd
 Hays KS 67601
 ATTN: Herb Deines

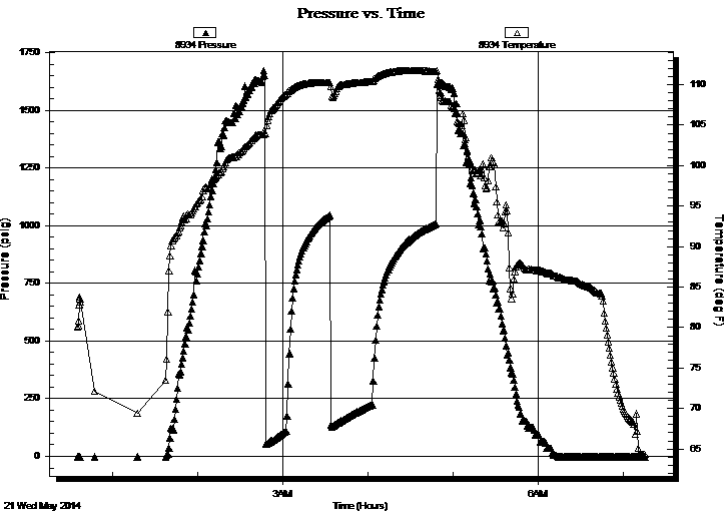
13-12s-19w Ellis,KS
Stackhouse Ranch #1
 Job Ticket: 58961 **DST#: 1**
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 Time Test Ended: 07:14:45 Unit No: 59
 Interval: **3446.00 ft (KB) To 3560.00 ft (KB) (TVD)** Reference Elevations: 2208.00 ft (KB)
 Total Depth: 3560.00 ft (KB) (TVD) 2200.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8934 Outside
 Press@RunDepth: psig @ 3447.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.05.21 End Date: 2014.05.21 Last Calib.: 2014.05.21
 Start Time: 00:35:05 End Time: 07:14:44 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF-BOB in 2 min
 IS-BOB in 19 1/2 min
 FF-BOB in 3 min
 FS-BOB in 22 min



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	VGO 40%G 60%O	0.84
500.00	GO 20%G 80%O	7.01
0.00	620ft GIP	0.00

Gas Rates

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI Inc.
1310 Bison Rd
Hays KS 67601
ATTN: Herb Deines

13-12s-19w Ellis,KS
Stackhouse Ranch #1
Job Ticket: 58961 **DST#: 1**
Test Start: 2014.05.21 @ 00:35:00

Tool Information

Drill Pipe:	Length: 3435.00 ft	Diameter: 3.80 inches	Volume: 48.18 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial	45000.00 lb
Depth to Top Packer:	3446.00 ft			Final	48000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	114.00 ft				
Tool Length:	134.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3431.00	
Hydraulic tool	5.00			3436.00	
Packer	5.00			3441.00	20.00 Bottom Of Top Packer
Packer	5.00			3446.00	
Stubb	1.00			3447.00	
Recorder	0.00	8957	Inside	3447.00	
Recorder	0.00	8934	Outside	3447.00	
Perforations	3.00			3450.00	
Change Over Sub	1.00			3451.00	
Drill Pipe	95.00			3546.00	
Change Over Sub	1.00			3547.00	
Perforations	10.00			3557.00	
Bullnose	3.00			3560.00	114.00 Bottom Packers & Anchor

Total Tool Length: 134.00



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FLUID SUMMARY

TDI Inc. **13-12s-19w Ellis,KS**
 1310 Bison Rd **Stackhouse Ranch #1**
 Hays KS 67601 Job Ticket: 58961 **DST#: 1**
 ATTN: Herb Deines Test Start: 2014.05.21 @ 00:35:00

Mud and Cushion Information

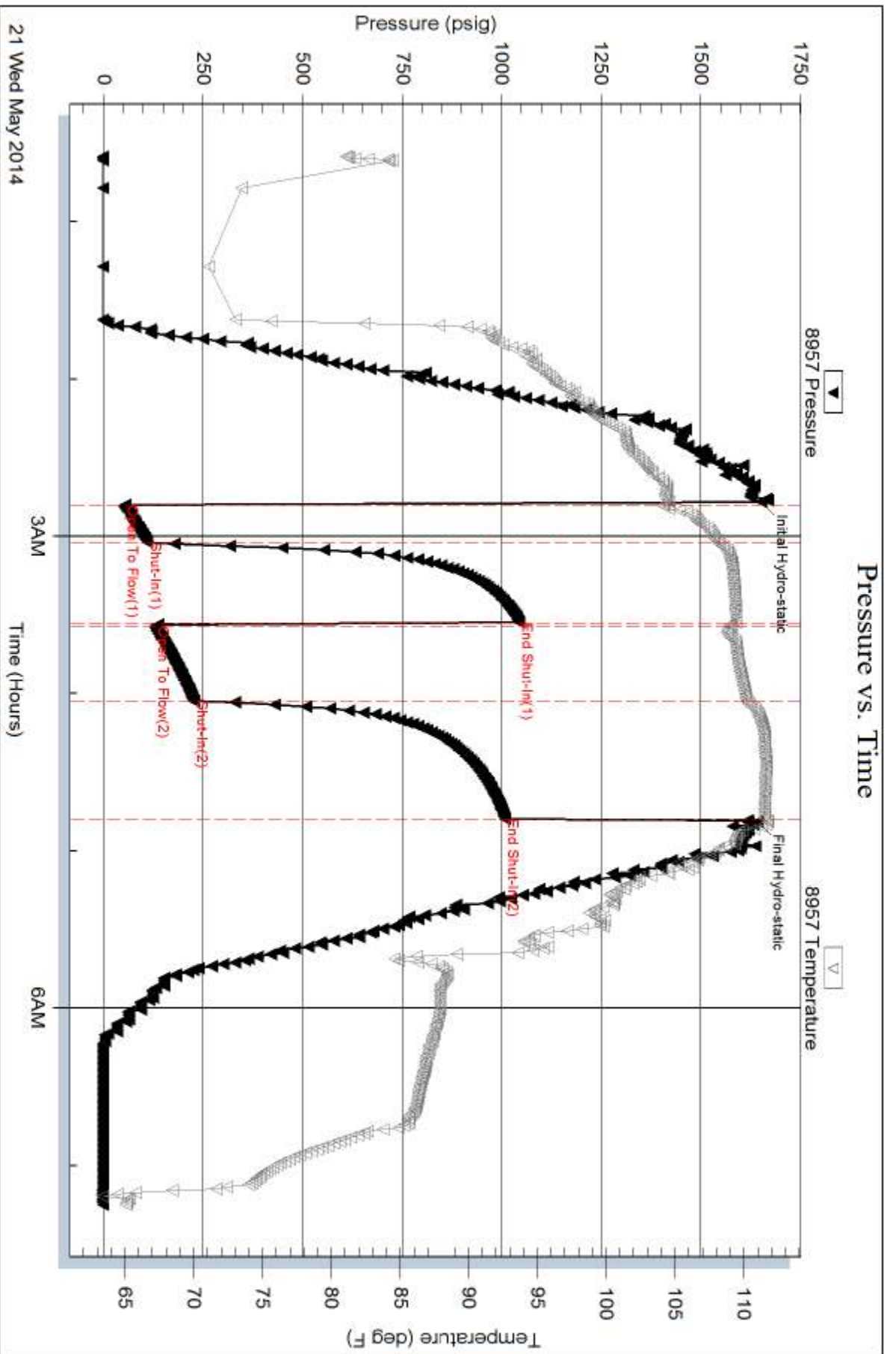
Mud Type: Gel Chem	Cushion Type:	Oil API: 26 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 43.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.98 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2300.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	VGO 40%G 60%O	0.842
500.00	GO 20%G 80%O	7.014
0.00	620ft GIP	0.000

Total Length: 560.00 ft Total Volume: 7.856 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

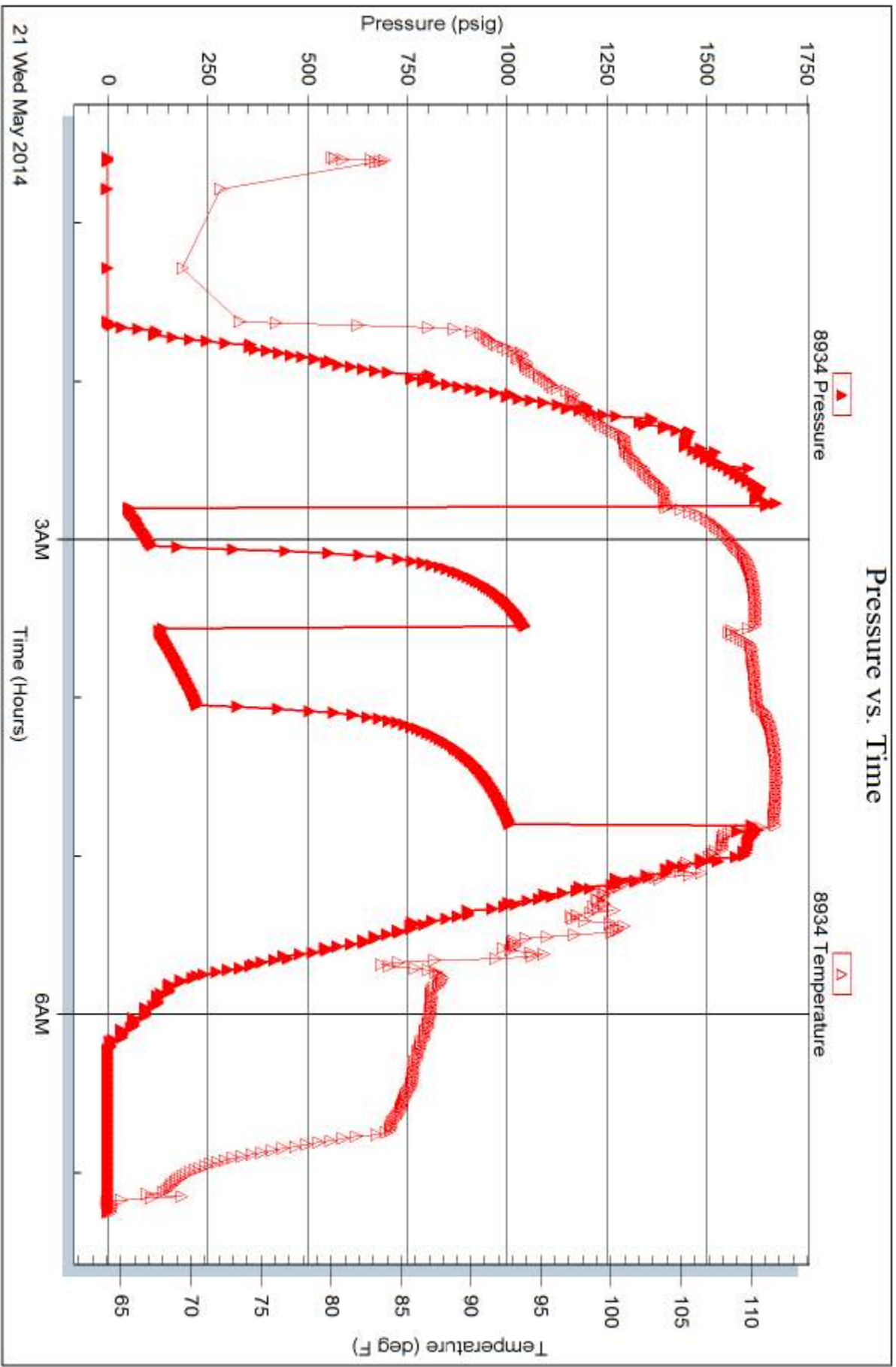


Serial #: 8934

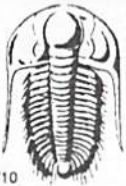
Outside TDI Inc.

Stackhouse Ranch #1

DST Test Number: 1



21 Wed May 2014



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58961

4/10

Well Name & No. Stags house #1 Test No. 1 Date 5/21/14
 Company TDI Inc Elevation 2208 KB ~~2200~~ 2200 GL
 Address 1310 Bison Rd Hays KS 67601
 Co. Rep / Geo. Herb D Rig Southwind #1
 Location: Sec. 13 Twp. 12 Rge. 19 Co. Ellis State KS

Interval Tested 3446-3560 Zone Tested Toronto - KC⁹D
 Anchor Length 114 Drill Pipe Run _____ Mud Wt. 8.8
 Top Packer Depth 3441 Drill Collars Run _____ Vis 43
 Bottom Packer Depth 3446 Wt. Pipe Run _____ WL 8.0
 Total Depth 3560 Chlorides 2,300 ppm System LCM _____

Blow Description IF - BOB in 2 min
1st - BOB in 19 1/2 min
FF - BOB in 3 min
FST - BOB in 22 min

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>UGG</u>	<u>40</u>	<u>60</u>		
<u>300</u>	<u>60</u>	<u>20</u>	<u>80</u>		
Rec _____	Feet of <u>6204 GAP</u>	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

Rec Total 560 BHT 111 Gravity 26 API RW _____ @ _____ °F Chlorides _____ ppm
 (A) Initial Hydrostatic 1,651 Test 1150 T-On Location 00:10
 (B) First Initial Flow 53 Jars _____ T-Started 00:35
 (C) First Final Flow 111 Safety Joint _____ T-Open 2:48
 (D) Initial Shut-In 1,045 Circ Sub _____ T-Pulled 4:48
 (E) Second Initial Flow 130 Hourly Standby _____ T-Out 7:15
 (F) Second Final Flow 227 Mileage 30 RT x 2 93 Comments bedded tools
 (G) Final Shut-In 1,009 Sampler _____ 6:00 22nd
 (H) Final Hydrostatic 1,643 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1243
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1243

Approved By _____ Our Representative Butt 19

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