



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Baird Oil Co LLC**

PO Box 428
Logan KS 67646

ATTN: Jim Baird, Rich Bell

Perkins #3-24

24-7s-20w Rooks,KS

Start Date: 2017.03.19 @ 14:40:39

End Date: 2017.03.19 @ 22:53:48

Job Ticket #: 64131 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.03.21 @ 10:45:54

Baird Oil Co LLC 24-7s-20w Rooks,KS Perkins #3-24 DST # 1 Arbuckle 2017.03.19



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Baird Oil Co LLC

24-7s-20w Rooks,KS

PO Box 428
Logan KS 67646

Perkins #3-24

Job Ticket: 64131

DST#: 1

ATTN: Jim Baird, Rich Bell

Test Start: 2017.03.19 @ 14:40:39

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:38:34
 Time Test Ended: 22:53:48

Test Type: Conventional Bottom Hole (Initial)
 Tester: Ray Schwager
 Unit No: 77

Interval: **3475.00 ft (KB) To 3491.00 ft (KB) (TVD)**
 Total Depth: 3491.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2031.00 ft (KB)
 2023.00 ft (CF)
 KB to GR/CF: 8.00 ft

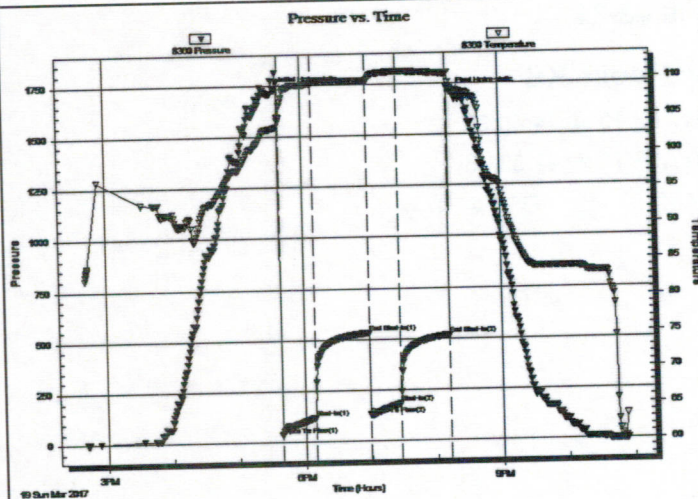
Serial #: 8360

Inside

Press@RunDepth: 183.24 psig @ 3485.00 ft (KB)
 Start Date: 2017.03.19 End Date: 2017.03.19
 Start Time: 14:40:39 End Time: 22:53:48

Capacity: 8000.00 psig
 Last Calib.: 2017.03.19
 Time On Btm: 2017.03.19 @ 17:35:49
 Time Off Btm: 2017.03.19 @ 20:16:03

TEST COMMENT: 30-IFP-w k to BOB in 9 min
 45-ISIP-1 1/2" bl bk
 30-FFP-w k to BOB in 6 min
 45-FSIP-1/2" bl bk



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1724.20	103.47	Initial Hydro-static
3	33.73	104.37	Open To Flow (1)
34	119.79	109.55	Shut-In(1)
83	533.30	109.81	End Shut-In(1)
84	130.03	109.68	Open To Flow (2)
111	183.24	111.08	Shut-In(2)
157	517.87	110.74	End Shut-In(2)
161	1707.14	108.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	O&GCMW 5%G10%O5%M80%W	0.65
62.00	GMWCOil 10%G10%M40%W40%O	0.87
230.00	CO	3.23
0.00	390' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Baird Oil Co LLC

24-7s-20w Rooks, KS

PO Box 428
Logan KS 67646

Perkins #3-24

Job Ticket: 64131

DST#: 1

ATTN: Jim Baird, Rich Bell

Test Start: 2017.03.19 @ 14:40:39

Tool Information

Drill Pipe:	Length: 3351.00 ft	Diameter: 3.80 inches	Volume: 47.01 bbl	Tool Weight: 2200.00 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: 80000.00 lb
		Total Volume:	47.60 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	3475.00 ft			Final 69000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	37.00 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			3455.00	
Shut In Tool	5.00			3460.00	
Hydraulic tool	5.00			3465.00	
Packer	5.00			3470.00	21.00 Bottom Of Top Packer
Packer	5.00			3475.00	
Stubb	1.00			3476.00	
Perforations	9.00			3485.00	
Recorder	0.00	8360	Inside	3485.00	
Recorder	0.00	6751	Outside	3485.00	
Perforations	3.00			3488.00	
Bullnose	3.00			3491.00	16.00 Bottom Packers & Anchor

Total Tool Length: 37.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Baird Oil Co LLC

24-7s-20w Rooks,KS

PO Box 428
Logan KS 67646

Perkins #3-24

Job Ticket: 64131

DST#: 1

ATTN: Jim Baird, Rich Bell

Test Start: 2017.03.19 @ 14:40:39

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

42000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
124.00	O&GCMW 5%G10%O5%M80%W	0.646
62.00	GMWCOil 10%G10%M40%W40%O	0.870
230.00	CO	3.226
0.00	390' GIP	0.000

Total Length: 416.00 ft

Total Volume: 4.742 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .15@75F

Serial #: 8360

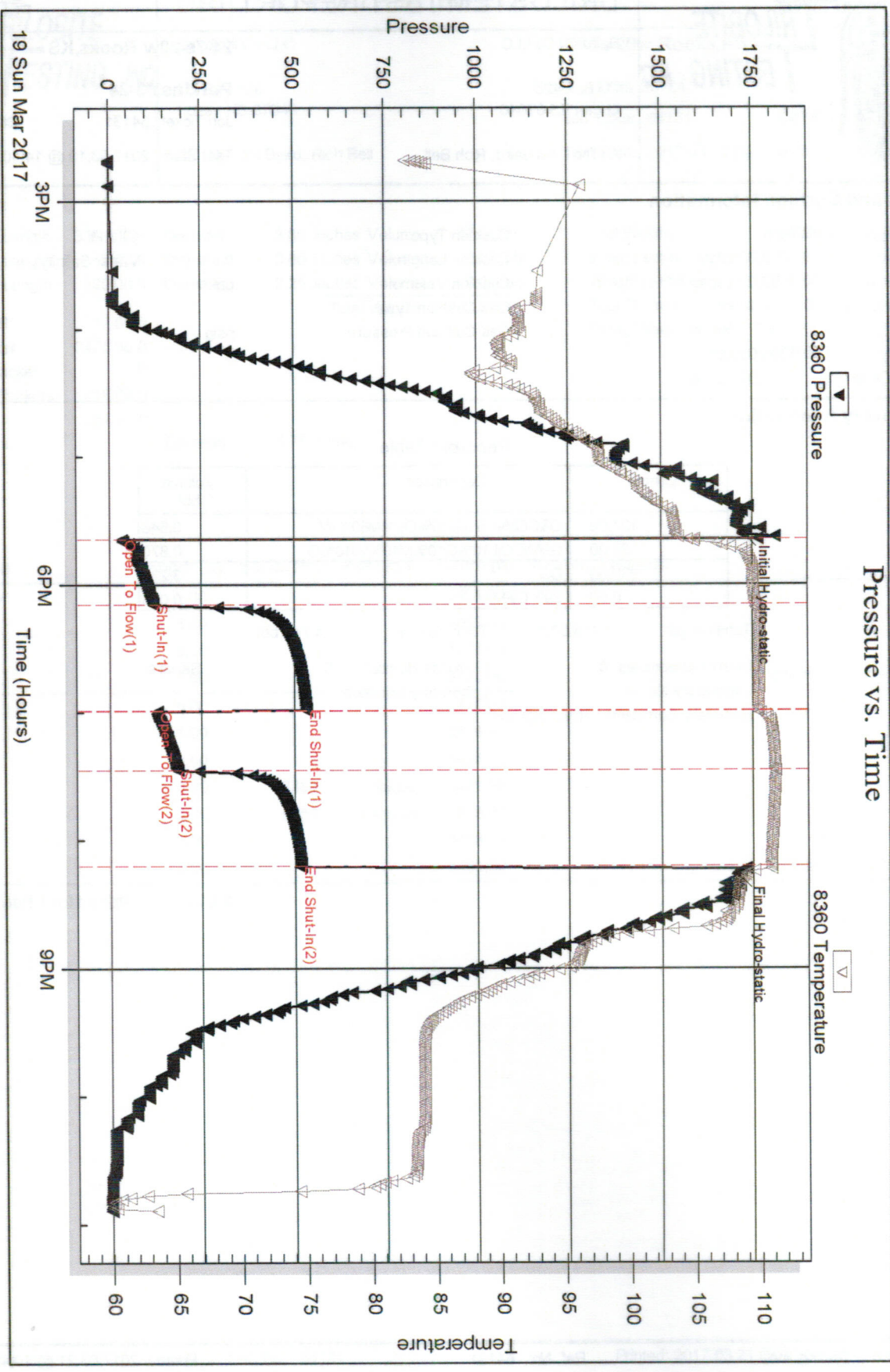
Inside

Baird Oil Co LLC

Perkins #3-24

DST Test Number: 1

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 64131

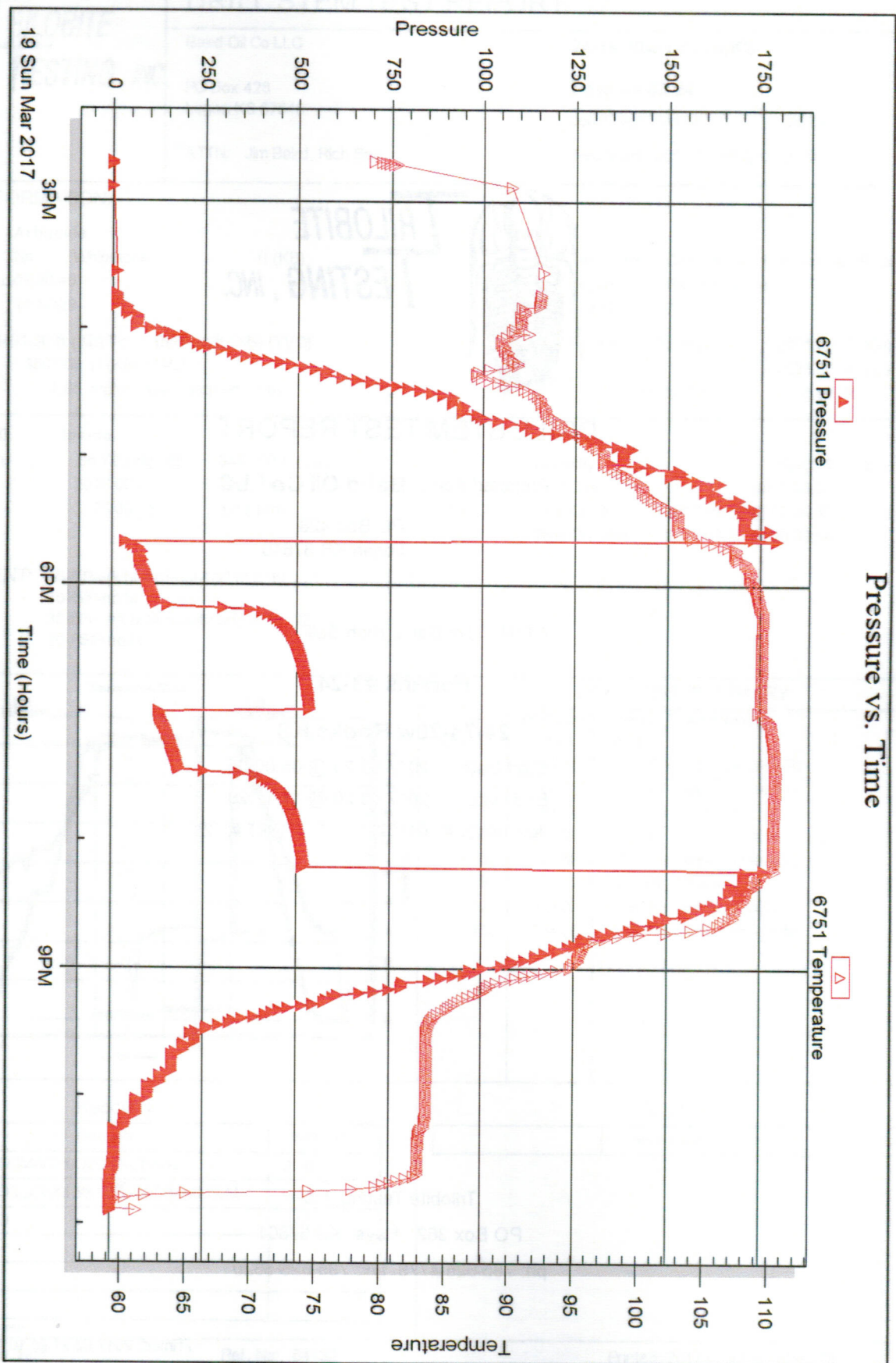
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Serial #: 6751

Outside Baird Oil Co LLC

Perkins #3-24

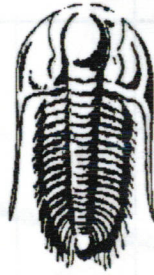
DST Test Number: 1



Trilobe Testing, Inc

Ref. No: 64131

Printed: 2017.03.21 @ 10:45:55



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Baird Oil Co LLC**

PO Box 428
Logan KS 67646

ATTN: Jim Baird, Rich Bell

Perkins #3-24

24-7s-20w Rooks,KS

Start Date: 2017.03.20 @ 05:00:05

End Date: 2017.03.20 @ 11:17:29

Job Ticket #: 64132 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2017.03.21 @ 10:45:28

Baird Oil Co LLC
24-7s-20w Rooks,KS
Perkins #3-24
DST # 2
Atbuckle
2017.03.20



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Baird Oil Co LLC

24-7s-20w Rooks, KS

PO Box 428
Logan KS 67646

Perkins #3-24

ATTN: Jim Baird, Rich Bell

Job Ticket: 64132

DST#: 2

Test Start: 2017.03.20 @ 05:00:05

GENERAL INFORMATION:

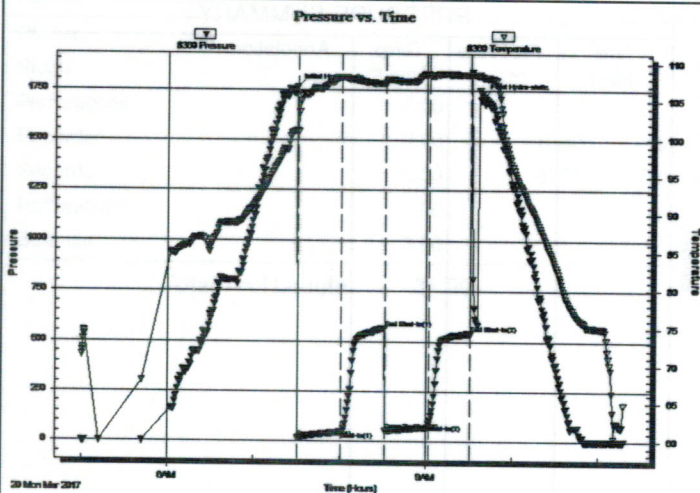
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:30:45
 Time Test Ended: 11:17:29
 Interval: **3491.00 ft (KB) To 3501.00 ft (KB) (TVD)**
 Total Depth: 3501.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 2031.00 ft (KB)
 2023.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8360

Inside

Press@RunDepth: 86.72 psig @ 3497.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2017.03.20 End Date: 2017.03.20 Last Calib.: 2017.03.20
 Start Time: 05:00:05 End Time: 11:17:29 Time On Btm: 2017.03.20 @ 07:29:45
 Time Off Btm: 2017.03.20 @ 09:39:14

TEST COMMENT: 30-IFP-w k bl thru-out 1/2" to 3" bl
 30-ISIP-no bl
 30-FFP-w k bl thru-out surface to 1/2" bl
 30-FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1759.75	101.13	Initial Hydro-static
1	17.63	100.91	Open To Flow (1)
31	47.74	108.12	Shut-In(1)
62	565.95	107.34	End Shut-In(1)
62	52.89	107.16	Open To Flow (2)
92	86.72	108.49	Shut-In(2)
121	539.02	108.45	End Shut-In(2)
130	1714.76	108.11	Final Hydro-static

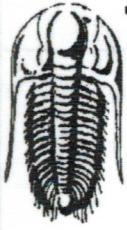
Recovery

Length (ft)	Description	Volume (bbl)
62.00	SOCMW 2%O20%M78%W	0.30
62.00	SO&GCWM 5%G5%O30%W60%M	0.34
5.00	CO	0.07

* Recovery from multiple tests

Gas Rates

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



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DRILL STEM TEST REPORT

Baird Oil Co LLC

24-7s-20w Rooks, KS

PO Box 428
Logan KS 67646

Perkins #3-24

Job Ticket: 64132

DST#: 2

ATTN: Jim Baird, Rich Bell

Test Start: 2017.03.20 @ 05:00:05

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:30:45
 Time Test Ended: 11:17:29

Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77

Interval: **3491.00 ft (KB) To 3501.00 ft (KB) (TVD)**
 Total Depth: 3501.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2031.00 ft (KB)
 2023.00 ft (CF)
 KB to GR/CF: 8.00 ft

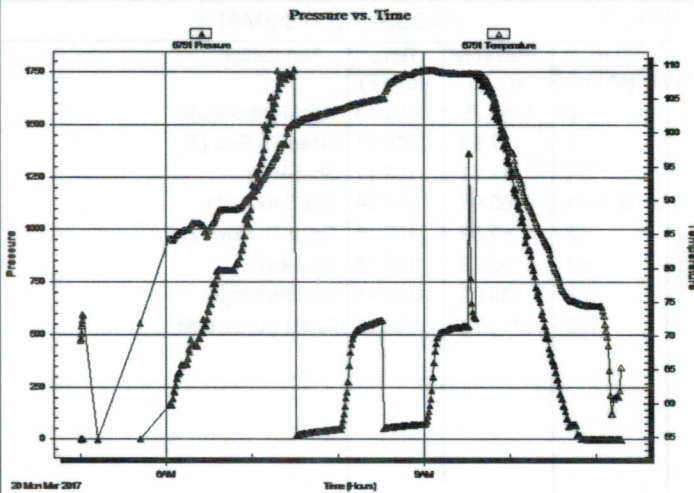
Serial #: 6751

Outside

Press@RunDepth: psig @ 3497.00 ft (KB)
 Start Date: 2017.03.20 End Date: 2017.03.20
 Start Time: 05:00:05 End Time: 11:17:29

Capacity: 8000.00 psig
 Last Calib.: 2017.03.20
 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IFP-w k bl thru-out 1/2" to 3" bl
 30-ISIP-no bl
 30-FFP-w k bl thru-out surface to 1/2" bl
 30-FSIP-no bl



PRESSURE SUMMARY

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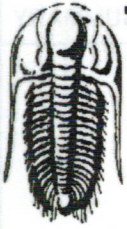
Recovery

Length (ft)	Description	Volume (bbl)
62.00	SOCMW 2%O20%M78%W	0.30
62.00	SO&GCWM 5%G5%O30%W60%M	0.34
5.00	CO	0.07

* Recovery from multiple tests

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Baird Oil Co LLC

24-7s-20w Rooks,KS

PO Box 428
Logan KS 67646

Perkins #3-24

Job Ticket: 64132

DST#: 2

ATTN: Jim Baird, Rich Bell

Test Start: 2017.03.20 @ 05:00:05

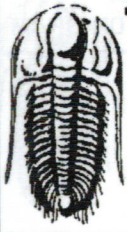
Tool Information

Drill Pipe:	Length: 3381.00 ft	Diameter: 3.80 inches	Volume: 47.43 bbl	Tool Weight: 2200.00 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: 80000.00 lb
			<u>Total Volume: 48.02 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3491.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	10.00 ft			
Tool Length:	31.00 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			3471.00	
Shut In Tool	5.00			3476.00	
Hydraulic tool	5.00			3481.00	
Packer	5.00			3486.00	21.00 Bottom Of Top Packer
Packer	5.00			3491.00	
Stubb	1.00			3492.00	
Perforations	5.00			3497.00	
Recorder	0.00	8360	Inside	3497.00	
Recorder	0.00	6751	Outside	3497.00	
Perforations	1.00			3498.00	
Bullnose	3.00			3501.00	10.00 Bottom Packers & Anchor

Total Tool Length: 31.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Baird Oil Co LLC

24-7s-20w Rooks,KS

PO Box 428
Logan KS 67646

Perkins #3-24

Job Ticket: 64132

DST#: 2

ATTN: Jim Baird, Rich Bell

Test Start: 2017.03.20 @ 05:00:05

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

38000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	SOCMW 2%O20%M78%W	0.305
62.00	SO&GCWM 5%G5%O30%W60%M	0.341
5.00	CO	0.070

Total Length: 129.00 ft Total Volume: 0.716 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .18@70F

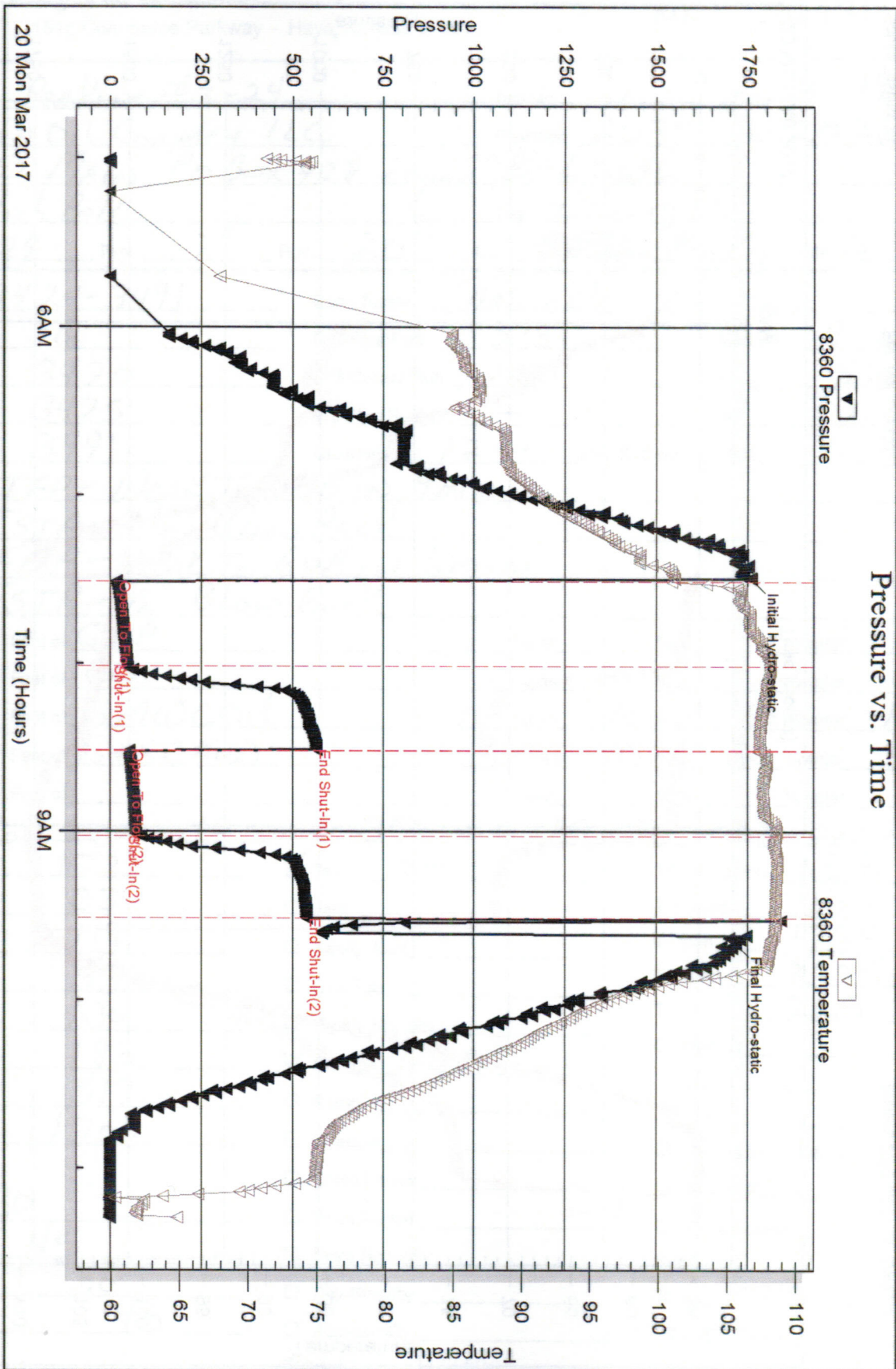
Serial #: 8360

Inside

Baird Oil Co LLC

Perkins #3-24

DST Test Number: 2



Tribotest Testing, Inc

Ref. No: 64132

Printed: 2017.03.21 @ 10:45:29

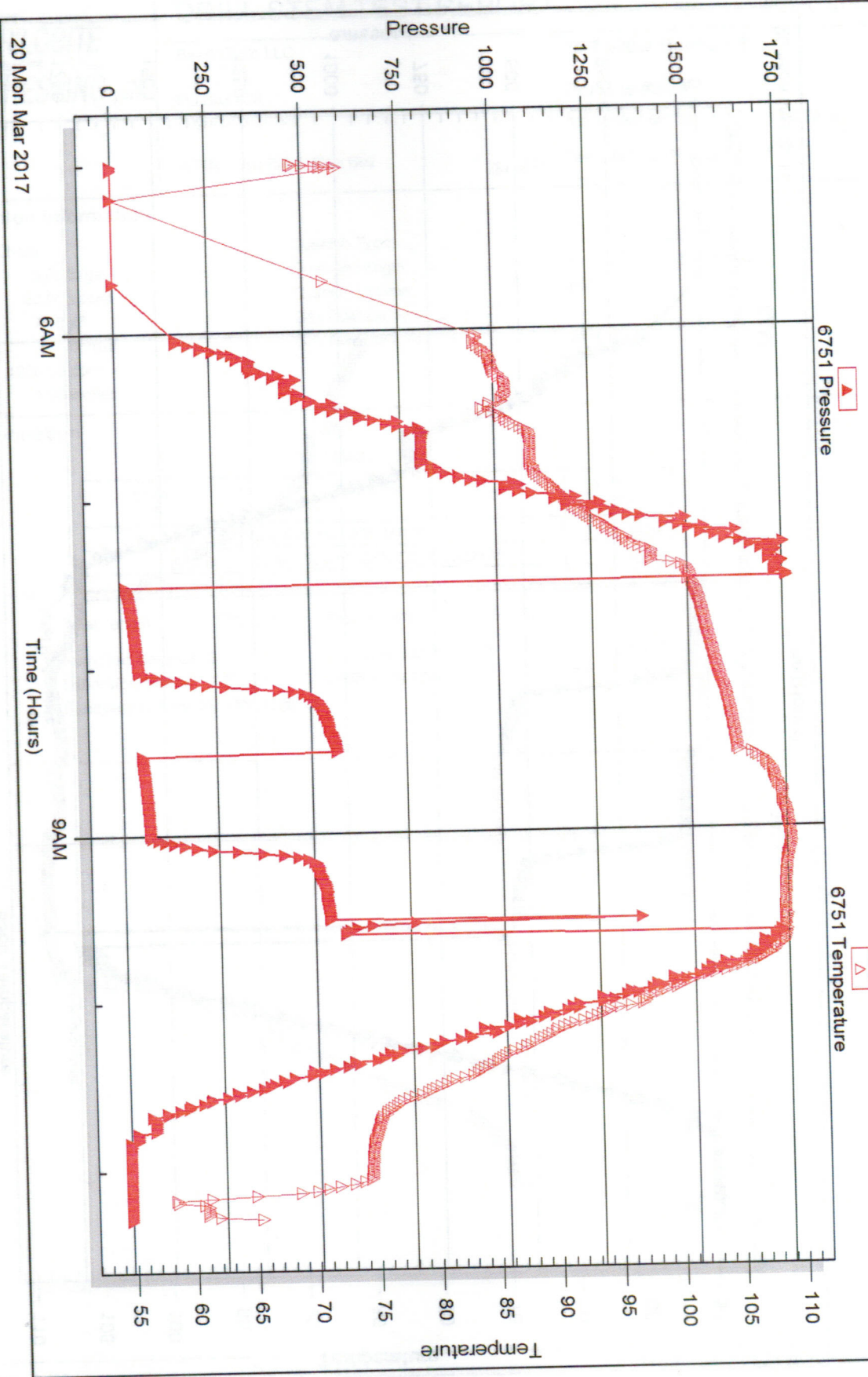
Serial #: 6751

Outside Baird Oil Co LLC

Perkins #3-24

DST Test Number: 2

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 64132

Printed: 2017.03.21 @ 10:45:29



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64131

Well Name & No. Perkins #3-24 Test No. 1 Date 3-19-17
 Company BAIRD OIL COMPANY LLC Elevation 2031 KB 2023 GL
 Address 113 W. MAIN PO BOX 428 LOGAN, K 67646
 Co. Rep / Geo. Rich Bell Rig WWrig12
 Location: Sec. 24 Twp. 7^s Rge. 20^w Co. ~~SEVEN~~ Rocks State Ks

Interval Tested 3475-3491 Zone Tested Arbuckle
 Anchor Length 16 Drill Pipe Run 3351 Mud Wt. 9.2
 Top Packer Depth 3470 Drill Collars Run 120 Vis 52
 Bottom Packer Depth 3475 Wt. Pipe Run - WL 7.2
 Total Depth 3491 Chlorides 1200 ppm System LCM 1 1/2#
 Blow Description IFP - WEAK TO BOBIN 9min
ISTP - 1 1/2" Blow Back
FFP - WEAK TO BOBIN 6min
FSTP - 1/2" Blow Back

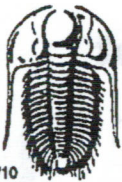
Rec	Feet of	%gas	%oil	%water	%mud
<u>390</u>	<u>GTP</u>				
<u>230</u>	<u>CO</u>				
<u>62</u>	<u>GMWCOIL</u>	<u>10</u>	<u>40</u>	<u>40</u>	<u>10</u>
<u>124</u>	<u>O46CMW</u>	<u>5</u>	<u>10</u>	<u>80</u>	<u>5</u>

Rec Total 416 BHT 110 Gravity 37 API RW .15 @ 75 °F Chlorides 42000 ppm

(A) Initial Hydrostatic <u>1724</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>1350</u>
(B) First Initial Flow <u>33</u>	<input type="checkbox"/> Jars	T-Started <u>1440</u>
(C) First Final Flow <u>119</u>	<input type="checkbox"/> Safety Joint	T-Open <u>1735</u>
(D) Initial Shut-In <u>533</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>2005</u>
(E) Second Initial Flow <u>130</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>2253</u>
(F) Second Final Flow <u>183</u>	<input checked="" type="checkbox"/> Mileage <u>110RT</u> 82.50	Comments
(G) Final Shut-In <u>517</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1707</u>	<input type="checkbox"/> Straddle	
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Day Standby	Total <u>1132.50</u>
Final Flow <u>30</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
Final Shut-In <u>45</u>	Sub Total <u>1132.50</u>	

Approved By Richard Bell Our Representative Ray Schwager *THANK YOU*

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. 64132

Well Name & No. Perkins #3-24 Test No. 2 Date 3-20-17
 Company Baird Oil Company LLC Elevation 2031 KB 2023 GL
 Address 113 W. MAIN PO Box 428 Logan, Ks 67646
 Co. Rep / Geo. Rich Bell Rig WWrig 12
 Location: Sec. 24 Twp. 7^s Rge. 20^w Co. Rooks State Ks

Interval Tested 3491-3501 Zone Tested Arbuckle
 Anchor Length 10 Drill Pipe Run 3381 Mud Wt. 9.2
 Top Packer Depth 3486 Drill Collars Run 120 Vis 52
 Bottom Packer Depth 3491 Wt. Pipe Run — WL 7.2
 Total Depth 3501 Chlorides 1200 ppm System LCM 1 1/2 #

Blow Description IFP - WEAK Blow thru-out 1/2" To 3" Blow
ISTP - NO Blow
FFP - WEAK Blow thru-out SURFACE To 1/2" Blow
FSIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
5	C0				
62	50+6 CWM	5	5	30	60
62	50 CMW		2	78	20

Rec Total 129 BHT 108 Gravity 32 API RW .18 @ 70 ° F Chlorides 38000 ppm

(A) Initial Hydrostatic 1759 Test 1050 T-On Location 0430
 (B) First Initial Flow 17 Jars _____ T-Started 0500
 (C) First Final Flow 47 Safety Joint _____ T-Open 0730
 (D) Initial Shut-In 565 Circ Sub _____ T-Pulled 0930
 (E) Second Initial Flow 52 Hourly Standby _____ T-Out 1117
 (F) Second Final Flow 86 Mileage 82.50 Comments _____
 (G) Final Shut-In 539 Sampler _____
 (H) Final Hydrostatic 1714 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30
 Sub Total 0
 Total 1132.50
 MP/DST Disc't _____
 Sub Total 1132.50

Approved By Richard Bell Our Representative Ray Schwager Thank you
 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.