



DRILL STEM TEST REPORT

Prepared For: **Palmer Oil**
PO Box 399
Garden City, KS 67846

ATTN: Wyatt Urban

Laura #21-4

21-32s-37w Stevens,KS

Start Date: 2013.12.30 @ 10:17:39

End Date: 2013.12.30 @ 21:05:09

Job Ticket #: 51912 DST #: 1

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

Printed: 2014.01.02 @ 10:47:48



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Palmer Oil
PO Box 399
Garden City, KS 67846
ATTN: Wyatt Urban

21-32s-37w Stevens,KS

Laura #21-4

Job Ticket: 51912

DST#: 1

Test Start: 2013.12.30 @ 10:17:39

GENERAL INFORMATION:

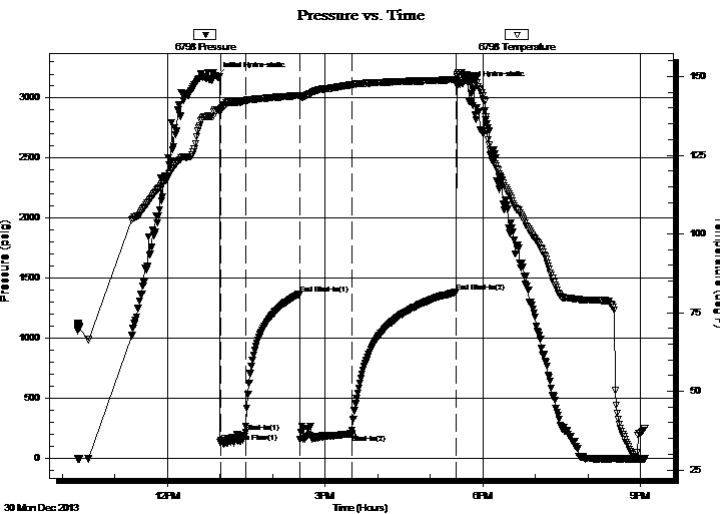
Formation: **St. Louis**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 13:00:24
 Tester: Leal Cason
 Time Test Ended: 21:05:09
 Unit No: 74
 Interval: **6341.00 ft (KB) To 6400.00 ft (KB) (TVD)**
 Reference Elevations: 3154.00 ft (KB)
 Total Depth: 6400.00 ft (KB) (TVD) 3141.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 13.00 ft

Serial #: 6798

Inside

Press@RunDepth: 207.38 psig @ 6342.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.12.30 End Date: 2013.12.30 Last Calib.: 2013.12.30
 Start Time: 10:17:40 End Time: 21:05:09 Time On Btm: 2013.12.30 @ 12:55:54
 Time Off Btm: 2013.12.30 @ 17:30:24

TEST COMMENT: IF: Strong Blow , BOB in 3 1/2 minutes
 IS: No Blow Back
 FF: Strong Blow , BOB in 1 minute, GTS in 10 minutes, TSTM
 FFS: No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3177.66	139.51	Initial Hydro-static
5	133.59	138.73	Open To Flow (1)
34	219.16	142.39	Shut-In(1)
95	1369.03	143.99	End Shut-In(1)
96	161.65	143.55	Open To Flow (2)
155	207.38	147.39	Shut-In(2)
274	1389.66	149.09	End Shut-In(2)
275	3100.87	150.10	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
184.00	GMWCO 24%G 10%M 20%W 46%O	0.90
298.00	GOCM 22%G 10%O 68%M	4.18

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Palmer Oil
 PO Box 399
 Garden City, KS 67846
 ATTN: Wyatt Urban

21-32s-37w Stevens,KS

Laura #21-4

Job Ticket: 51912 **DST#: 1**
 Test Start: 2013.12.30 @ 10:17:39

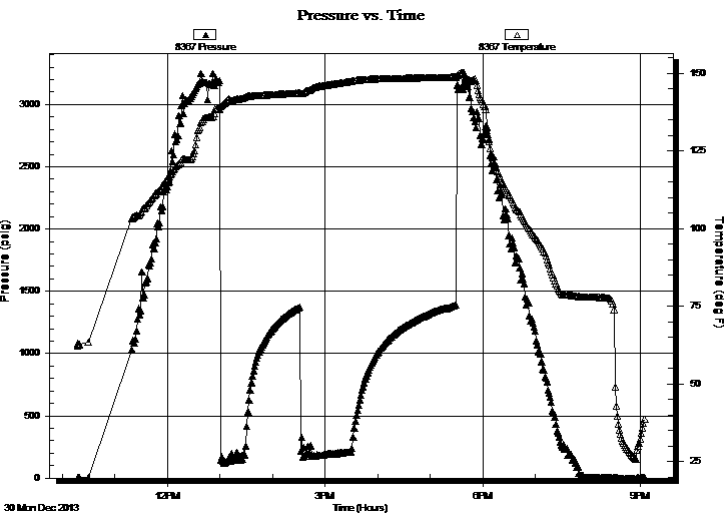
GENERAL INFORMATION:

Formation: **St. Louis**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 13:00:24
 Time Test Ended: 21:05:09
 Interval: **6341.00 ft (KB) To 6400.00 ft (KB) (TVD)**
 Total Depth: 6400.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Leal Cason
 Unit No: 74
 Reference Elevations: 3154.00 ft (KB)
 3141.00 ft (CF)
 KB to GR/CF: 13.00 ft

Serial #: 8367 Outside

Press@RunDepth: psig @ 6342.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.12.30 End Date: 2013.12.30 Last Calib.: 2013.12.30
 Start Time: 10:17:40 End Time: 21:05:24 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: Strong Blow , BOB in 3 1/2 minutes
 IS: No Blow Back
 FF: Strong Blow , BOB in 1 minute, GTS in 10 minutes, TSTM
 FFS: No Blow Back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
184.00	GMWCO 24%G 10%M 20%W 46%O	0.90
298.00	GOCM 22%G 10%O 68%M	4.18

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Palmer Oil
PO Box 399
Garden City, KS 67846
ATTN: Wyatt Urban

21-32s-37w Stevens,KS
Laura #21-4
Job Ticket: 51912 **DST#: 1**
Test Start: 2013.12.30 @ 10:17:39

Tool Information

Drill Pipe:	Length: 6158.00 ft	Diameter: 3.80 inches	Volume: 86.38 bbl	Tool Weight: 2100.00 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: 184.00 ft	Diameter: 2.25 inches	Volume: 0.90 bbl	Weight to Pull Loose: 125000.0 lb
		Total Volume: 87.28 bbl		Tool Chased 19.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 86000.00 lb
Depth to Top Packer:	6341.00 ft			Final 88000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.00 ft			
Tool Length:	85.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Shut In Tool	5.00			6320.00	
Hydraulic tool	5.00			6325.00	
Jars	5.00			6330.00	
Safety Joint	2.00			6332.00	
Packer	5.00			6337.00	26.00 Bottom Of Top Packer
Packer	4.00			6341.00	
Stubb	1.00			6342.00	
Recorder	0.00	6798	Inside	6342.00	
Recorder	0.00	8367	Outside	6342.00	
Perforations	6.00			6348.00	
Change Over Sub	1.00			6349.00	
Drill Pipe	32.00			6381.00	
Change Over Sub	1.00			6382.00	
Perforations	15.00			6397.00	
Bullnose	3.00			6400.00	59.00 Bottom Packers & Anchor

Total Tool Length: 85.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Palmer Oil
PO Box 399
Garden City, KS 67846
ATTN: Wyatt Urban

21-32s-37w Stevens,KS
Laura #21-4
Job Ticket: 51912 **DST#: 1**
Test Start: 2013.12.30 @ 10:17:39

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 10.00 lb/gal	Cushion Length: ft	Water Salinity:	62000 ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.79 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3800.00 ppm			
Filter Cake: 0.02 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	GTS	0.000
184.00	GMWCO 24%G 10%M 20%W 46%O	0.905
298.00	GOCM 22%G 10%O 68%M	4.180

Total Length: 482.00 ft Total Volume: 5.085 bbl

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

Laboratory Name: Laboratory Location:

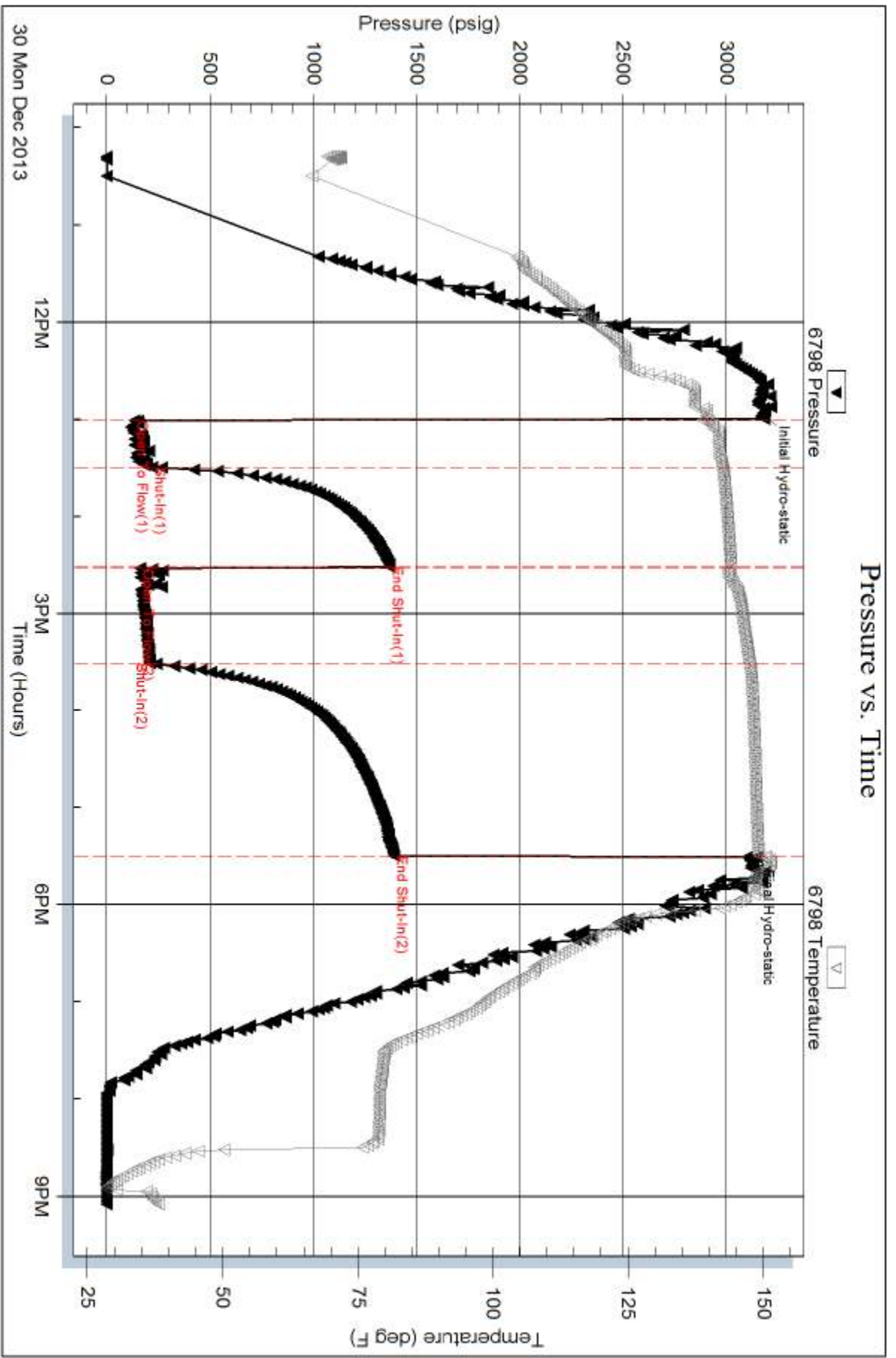
Recovery Comments: RW w as .24 @ 36 degrees

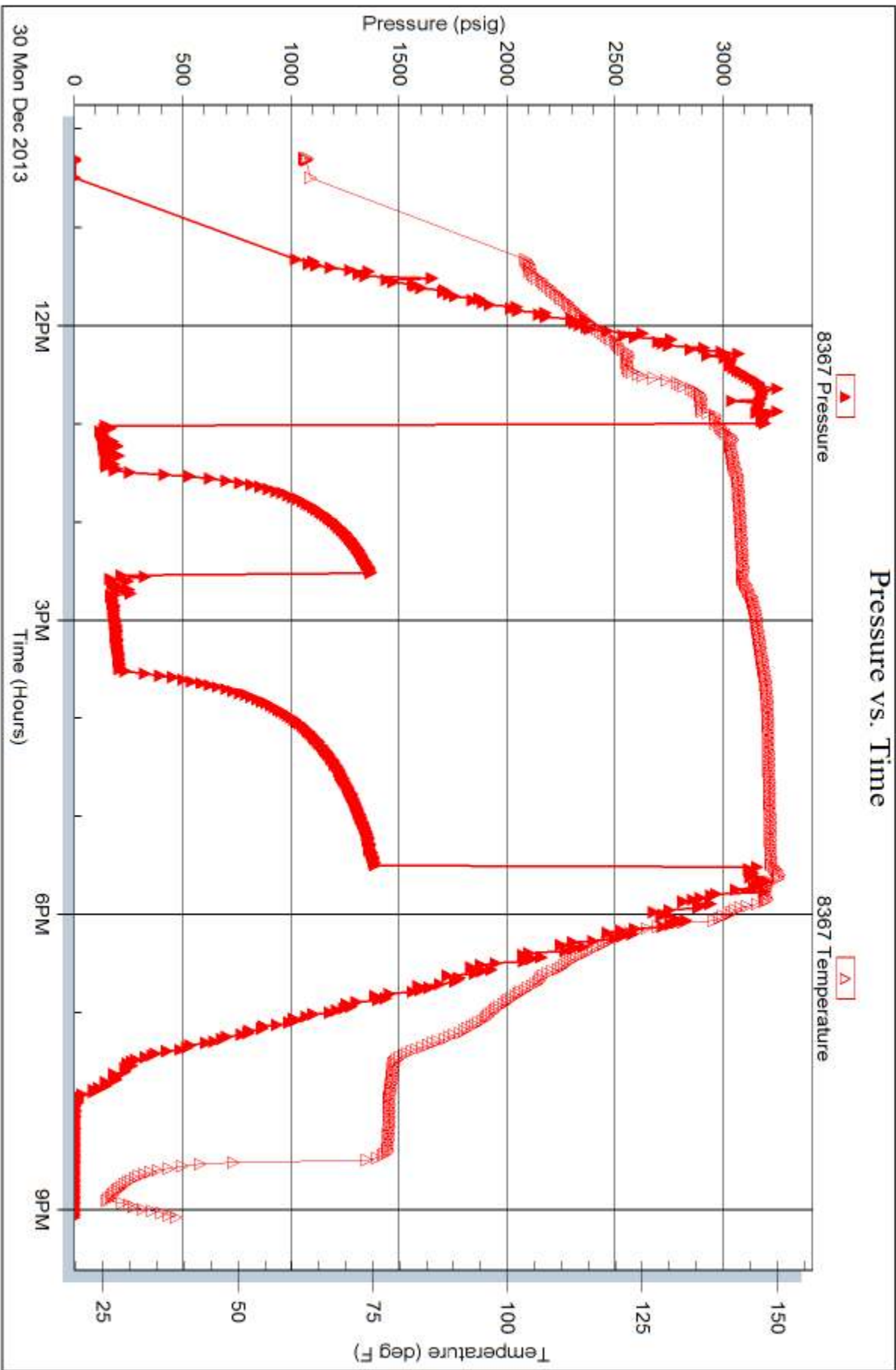
Serial #: 6798

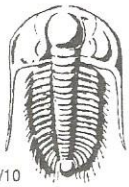
Inside Palmer Oil

Laura #21-4

DST Test Number: 1







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51912

Well Name & No. Laura 21-4 Test No. 1 Date 12/30/13
 Company Palmer Oil Elevation 3154 KB 3141 GL
 Address PO Box 399 Garden City, KS 67846
 Co. Rep / Geo. Wyatt Urban Rig Duke 9
 Location: Sec. 21 Twp. 32S Rge. 37W Co. Stevens State KS

Interval Tested 6341 - 6400 Zone Tested ST. LOUIS
 Anchor Length 59 Drill Pipe Run 6158 Mud Wt. 9.5
 Top Packer Depth 6346 Drill Collars Run 184 Vis 52
 Bottom Packer Depth 6341 Wt. Pipe Run 0 WL 2.8
 Total Depth 6400 Chlorides 3800 ppm System LCM 2#

Blow Description IF: Strong Blow, BOB in 3 1/2 minutes
ISI: NO Blow Back

FF: Strong Blow, BOB in 1 minute, GTS in 10 minutes, TSTM

FSI: NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>5860</u>	<u>GIP</u>				
<u>298</u>	<u>GOCM</u>	<u>22</u>	<u>10</u>		<u>68</u>
<u>184</u>	<u>GMWCO</u>	<u>24</u>	<u>46</u>	<u>20</u>	<u>10</u>

Rec Total 472 BHT 150 Gravity NIC API RW .24 @ 36° F Chlorides 62000 ppm

(A) Initial Hydrostatic 3178 Test 1450 T-On Location 09:15
 (B) First Initial Flow 134 Jars 250 T-Started 10:17
 (C) First Final Flow 219 Safety Joint 75 T-Open 13:00
 (D) Initial Shut-In 1369 Circ Sub _____ T-Pulled 17:29
 (E) Second Initial Flow 162 Hourly Standby _____ T-Out 21:05
 (F) Second Final Flow 207 Mileage 165 210rt 325.50 Comments _____
 (G) Final Shut-In 1390 Sampler _____
 (H) Final Hydrostatic 3101 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer 320
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 2420.50
 Accessibility _____ MP/DST Disc't _____

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 120
 Sub Total 2100.50

Approved By _____ Our Representative [Signature]

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.