

**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **CMX Inc**

1700 North Waterfront Pkwy  
Bldg 300 STE B  
Wichita KS 67202

ATTN: Leah Kasten

**31-20-33 Scott KS**

**Crist 31-1**

Start Date: 2011.01.12 @ 11:30:15

End Date: 2011.01.12 @ 17:17:00

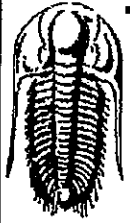
Job Ticket #: 040615      DST #: 1

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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





**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

CMX Inc  
1700 North Waterfront Pkwy  
Bldg 300 STE B  
Wichita KS 67202  
ATTN: Leah Kasten

Crist 31-1  
31-20-33 Scott KS  
Job Ticket: 040615 DST#: 1  
Test Start: 2011.01.12 @ 11:30:15

### Tool Information

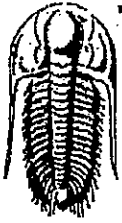
Drill Pipe:	Length: 3793.00 ft	Diameter: 2.80 inches	Volume: 28.89 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 589.00 ft	Diameter: 2.25 inches	Volume: 2.90 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 31.79 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4380.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	73.00 ft			
Tool Length:	101.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4353.00	
Shut In Tool	5.00			4358.00	
Hydraulic tool	5.00			4363.00	
Jars	5.00			4368.00	
Safety Joint	3.00			4371.00	
Packer	5.00			4376.00	28.00 Bottom Of Top Packer
Packer	4.00			4380.00	
Stubb	1.00			4381.00	
Perforations	4.00			4385.00	
Change Over Sub	1.00			4386.00	
Drill Pipe	61.00			4447.00	
Change Over Sub	1.00			4448.00	
Recorder	0.00	8358	Outside	4448.00	
Recorder	0.00	6669	Outside	4448.00	
Bullnose	5.00			4453.00	73.00 Bottom Packers & Anchor

**Total Tool Length: 101.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

CMX Inc

Crist 31-1

1700 North Waterfront Pkwy  
Bldg 300 STE B  
Wichita KS 67202  
ATTN: Leah Kasten

31-20-33 Scott KS

Job Ticket: 040615

DST#: 1

Test Start: 2011.01.12 @ 11:30:15

**Mud and Cushion Information**

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 50.00 sec/qt  
Water Loss: 17.92 in<sup>3</sup>  
Resistivity: 0.00 ohm.m  
Salinity: 3800.00 ppm  
Filter Cake: 2.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: 0 deg API  
Water Salinity: 0 ppm

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
5.00	m 100%	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

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

Laboratory Name: Laboratory Location:

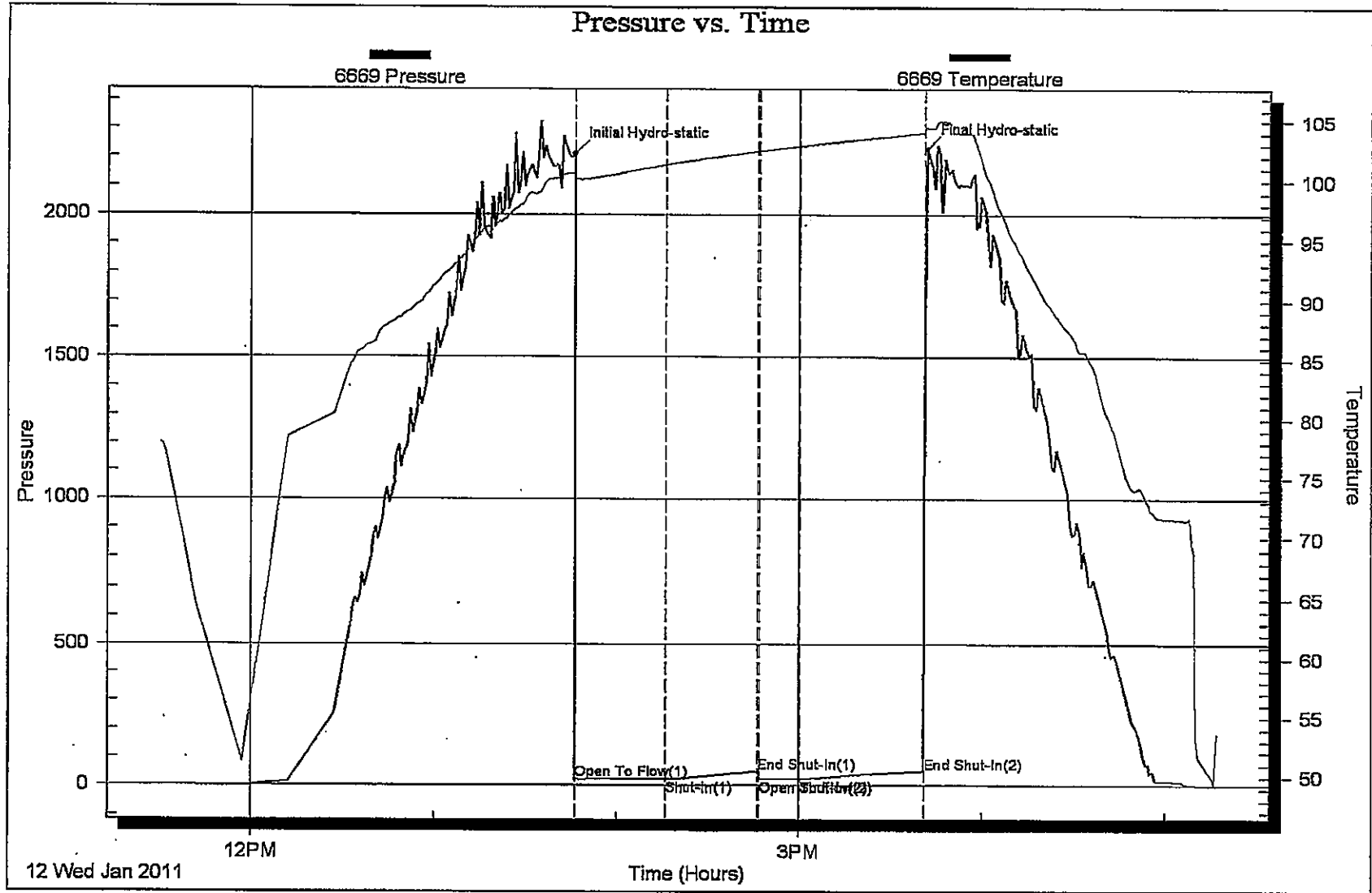
Recovery Comments:

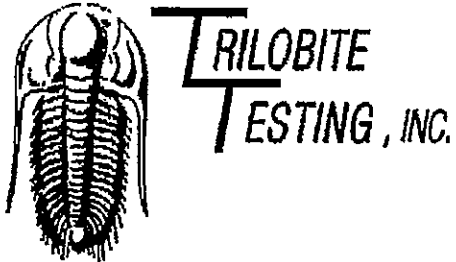
Serial #: 6669

Outside CMX Inc

31-20-33 Scott KS

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **CMX Inc**

1700 North Waterfront Pkwy  
Bldg 300 STE B  
Wichita KS 67202

ATTN: Leah Kasten

**31-20-33 Scott KS**

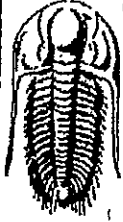
**Crist 31-1**

Start Date: 2011.01.13 @ 21:08:15

End Date: 2011.01.14 @ 02:23:00

Job Ticket #: 040616          DST #: 2

Trilobite Testing, Inc  
PO Box 1733 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

CMX Inc  
 1700 North Waterfront Pkwy  
 Bldg 300 STE B  
 Wichita KS 67202  
 ATTN: Leah Kasten

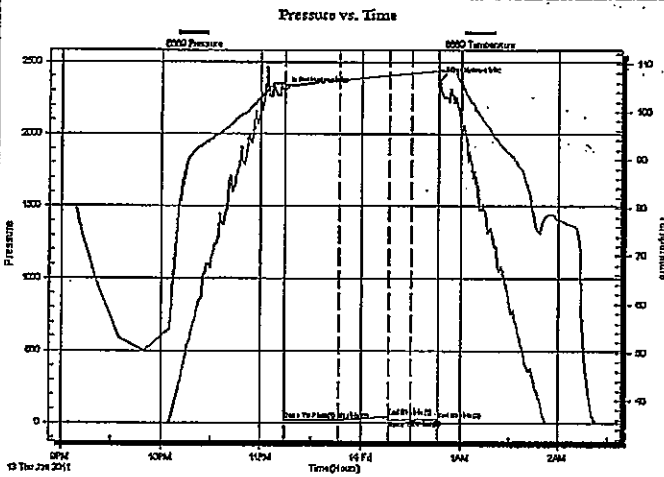
Crist 31-1  
 31-20-33 Scott KS  
 Job Ticket: 040616 DST#: 2  
 Test Start: 2011.01.13 @ 21:08:15

**GENERAL INFORMATION:**

Formation: Cherokee  
 Deviated: No Whipstock ft (KB)  
 Time Tool Opened: 23:14:15  
 Time Test Ended: 02:23:00  
 Interval: 4524.00 ft (KB) To 4603.00 ft (KB) (TVD)  
 Total Depth: 4603.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole  
 Tester: Mike Roberts  
 Unit No: 48  
 Reference Elevations: 2966.00 ft (KB)  
 2957.00 ft (CF)  
 KB to GR/CF: 9.00 ft

Serial #: 6669 Outside  
 Press@RunDepth: 25.02 psig @ 4598.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2011.01.13 End Date: 2011.01.14 Last Calib.: 2011.01.14  
 Start Time: 21:08:15 End Time: 02:23:00 Time On Btm: 2011.01.13 @ 23:14:00  
 Time Off Btm: 2011.01.14 @ 00:47:00

TEST COMMENT: IF:Weak surface blow  
 IS:No return blow  
 FF:No blow  
 FS:No return blow



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2301.86	106.00	Initial Hydro-static
1	23.09	105.49	Open To Flow (1)
33	24.45	106.58	Shut-In(1)
63	44.57	107.60	End Shut-In(1)
63	23.81	107.59	Open To Flow (2)
77	25.02	107.99	Shut-In(2)
93	29.49	108.43	End Shut-In(2)
93	2368.79	108.85	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbt)
5.00	m 100% mud	0.02

**Gas Rates**

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



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## DRILL STEM TEST REPORT

TOOL DIAGRAM

CMX Inc  
1700 North Waterfront Pkwy  
Bldg 300 STEB  
Wichita KS 67202  
ATTN: Leah Kasten

Crist 31-1  
31-20-33 Scott KS  
Job Ticket: 040616      DST#: 2  
Test Start: 2011.01.13 @ 21:08:15

### Tool Information

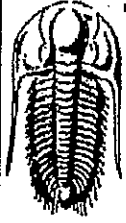
Drill Pipe:	Length: 3937.00 ft	Diameter: 2.80 inches	Volume: 29.98 bbl	Tool Weight: 1500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 589.00 ft	Diameter: 2.25 inches	Volume: 2.90 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 32.88 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	4524.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	79.00 ft			
Tool Length:	107.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4497.00	
Shut In Tool	5.00			4502.00	
Hydraulic tool	5.00			4507.00	
Jars	5.00			4512.00	
Safety Joint	3.00			4515.00	
Packer	5.00			4520.00	28.00      Bottom Of Top Packer
Packer	4.00			4524.00	
Stubb	1.00			4525.00	
Perforations	9.00			4534.00	
Change Over Sub	1.00			4535.00	
Drill Pipe	62.00			4597.00	
Change Over Sub	1.00			4598.00	
Recorder	0.00	8358	Outside	4598.00	
Recorder	0.00	6669	Outside	4598.00	
Bullnose	5.00			4603.00	79.00      Bottom Packers & Anchor

**Total Tool Length: 107.00**



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Crist 31-1

1700 North Waterfront Pkwy  
Bldg 300 STE B  
Wichita KS 67202  
ATTN: Leah Kasten

31-20-33 Scott KS  
Job Ticket: 040616      DST#: 2  
Test Start: 2011.01.13 @ 21:08:15

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 72.00 sec/qt

Cushion Volume:

bbf

Water Loss: 11.57 in<sup>2</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4700.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbf
5.00	m 100% mud	0.025

Total Length: 5.00ft      Total Volume: 0.025 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

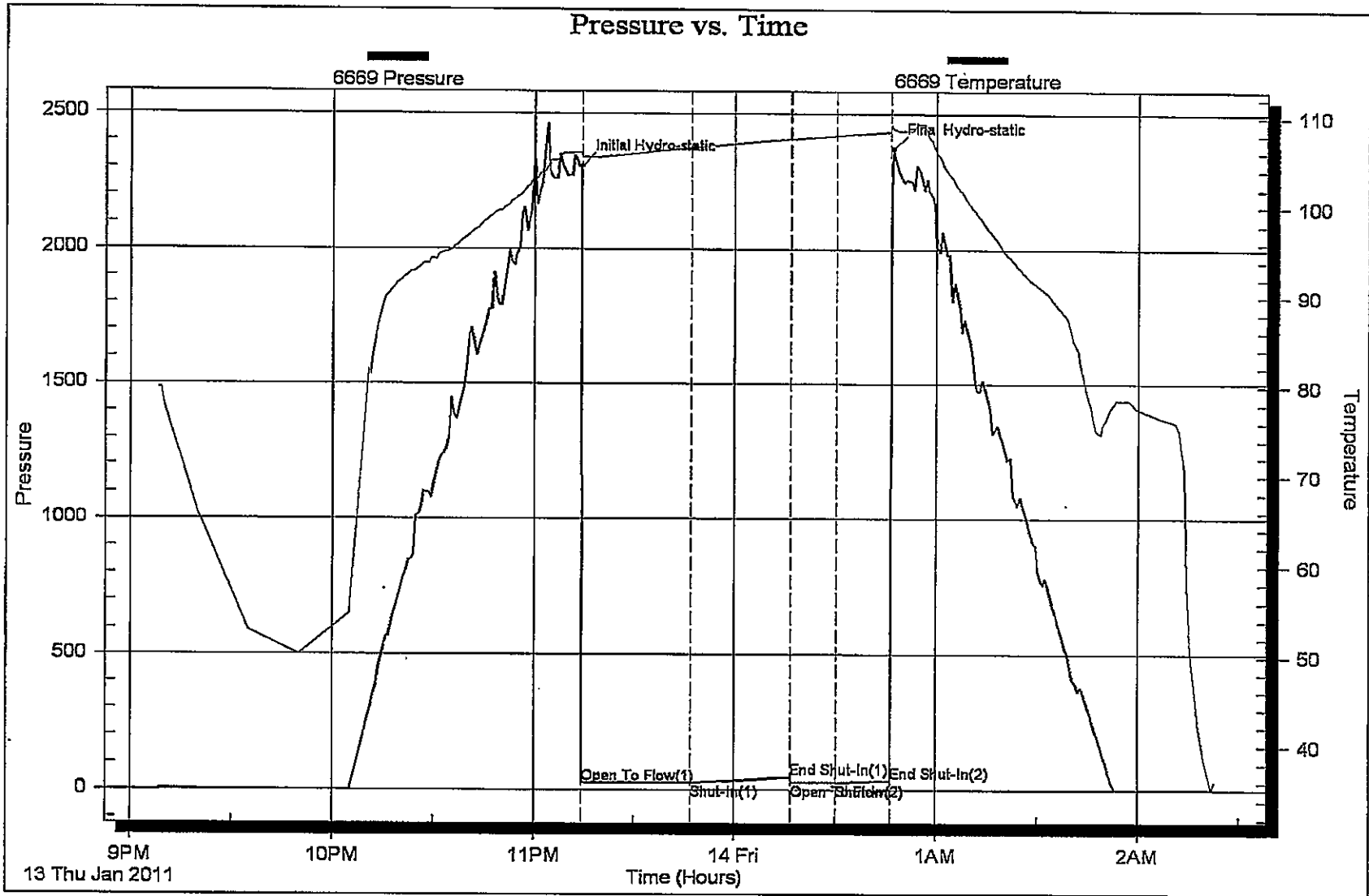
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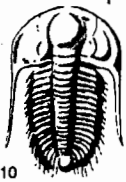
Serial #: 6669

Outside CMX Inc

31-20-33 Scott KS

DST Test Number: 2





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

RECEIVED

JAN 19 2011

NO. 040615 15296

Well Name & No. Crist 31-1 BY: Test No. 1 Date 1-13-11  
 Company Cmx, Inc. Elevation 2946 KB 2957 GL  
 Address 1700 N. Waterfront Plwy Bldg-300 Ste B  
 Co. Rep / Geo. Leah Kasten Rig Duke #4  
 Location: Sec. 31 Twp. 20 S Rge. 33 W Co. Scott State KS

Interval Tested 4380-4453 Zone Tested Marmaton  
 Anchor Length 73 Drill Pipe Run 3793 Mud Wt. 50  
 Top Packer Depth 4376 Drill Collars Run 589 Vis 9.2  
 Bottom Packer Depth 4380 Wt. Pipe Run Ø WL 18  
 Total Depth 4453 Chlorides 3800 ppm System LCM 0

Blow Description IF: Weak Surface Blow  
IS: No Return Blow  
FF: No Blow  
FS: No Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>M</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

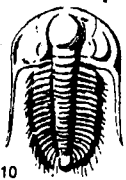
Rec Total 5 BHT 104 Gravity Ø API RW Ø @ Ø ° F Chlorides Ø ppm

(A) Initial Hydrostatic <u>2210</u>	<input checked="" type="checkbox"/> Test <u>1225.00</u>	T-On Location <u>07:45</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250.00</u>	T-Started <u>11:30</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint <u>75.00</u>	T-Open <u>13:45</u>
(D) Initial Shut-In <u>46</u>	<input checked="" type="checkbox"/> Circ Sub <u>W/L</u>	T-Pulled <u>15:00</u>
(E) Second Initial Flow <u>20</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>17:17</u>
(F) Second Final Flow <u>21</u>	<input checked="" type="checkbox"/> Mileage <u>48 RT = \$160.00</u>	Comments <u>full test</u>
(G) Final Shut-In <u>47</u>	<input type="checkbox"/> Sampler	<u>Late Due to</u>
(H) Final Hydrostatic <u>2227</u>	<input type="checkbox"/> Straddle	<u>working on mud pump</u>

Initial Open 30  Ruined Shale Packer  
 Initial Shut-In 30  Ruined Packer  
 Final Flow 15  Extra Copies  
 Final Shut-In 15  Extra Recorder Sub Total Ø  
 Day Standby Total 1610  
 Accessibility MP/DST Disc't

Approved By Leah A. Kasten Our Representative Mike Roberts  
 Sub Total \$1610.00

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.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
JAN 19 2011

## Test Ticket

NO. 040616

Well Name & No. Crist 31-1 Test No. 2 Date 1-14-11  
 Company Cmx, Inc Elevation 2966 KB 2957 GL  
 Address 1700 N. Waterfront Pkwy Bldg 300 Ste B  
 Co. Rep / Geo. Leah Kasten Rig Duke #4  
 Location: Sec. 31 Twp. 20S Rge. 33W Co. SCOTT State KS

Interval Tested 4524-4603 Zone Tested Cherokee  
 Anchor Length 79' Drill Pipe Run 3937 Mud Wt. 9.2  
 Top Packer Depth 4520 Drill Collars Run 589 Vis 72  
 Bottom Packer Depth 4524 Wt. Pipe Run Ø WL 11.6  
 Total Depth 4603 Chlorides 4700 ppm System LCM Ø  
 Blow Description IF: Weak Surface Blow  
ES: NO Return Blow  
FF: NO Blow  
FS: NO Return Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>MUD</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 108 Gravity 1 API RW 1 @ 1 °F Chlorides 1 ppm  
 (A) Initial Hydrostatic 2301  Test 1225.00/- T-On Location 20:00  
 (B) First Initial Flow 23  Jars 250.00/- T-Started 21:08  
 (C) First Final Flow 24  Safety Joint 75.00 T-Open 23:14  
 (D) Initial Shut-In 44  Circ Sub NL T-Pulled 00:45  
 (E) Second Initial Flow 23  Hourly Standby \_\_\_\_\_ T-Out 02:23  
 (F) Second Final Flow 25  Mileage 48RT = \$160.00 Comments Mileage 42  
 (G) Final Shut-In 29  Sampler x 2 120- LOAD LODS  
 (H) Final Hydrostatic 2368  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total Ø  
 Day Standby \_\_\_\_\_ Total 1670-  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1670-

Initial Open 30  
 Initial Shut-In 30  
 Final Flow 15  
 Final Shut-In 15  
 Approved By Leah A Kasta Our Representative Mike Roberts

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