

**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Castle Resources Inc**

PO Box 583  
Russell KS 67665

ATTN: Jerry Green

**Carter #1**

**28-5s-27w Decatur,KS**

Start Date: 2016.10.17 @ 12:30:33

End Date: 2016.10.17 @ 18:43:27

Job Ticket #: 64748                      DST #: 1

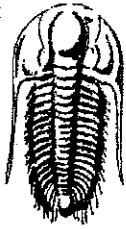
Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Castle Resources Inc  
28-5s-27w Decatur,KS  
Carter #1  
DST # 1  
LKC  
2016.10.17

Printed: 2016.10.19 @ 16:40:38



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Castle Resources Inc

28-5s-27w Decatur,KS

PO Box 583  
Russell KS 67665

**Carter #1**

Job Ticket: 64748

**DST#: 1**

ATTN: Jerry Green

Test Start: 2016.10.17 @ 12:30:33

## GENERAL INFORMATION:

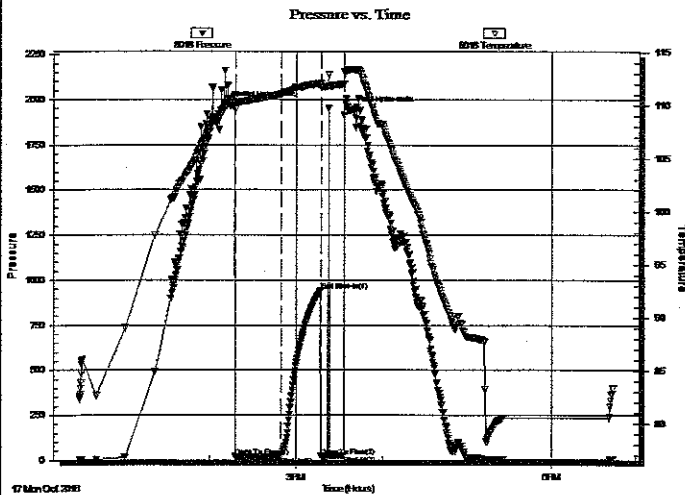
Formation: **LKC**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:17:43  
 Time Test Ended: 18:43:27  
 Interval: **3907.00 ft (KB) To 3970.00 ft (KB) (TVD)**  
 Total Depth: 3907.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ray Schwager  
 Unit No: 77  
 Reference Elevations: 2710.00 ft (KB)  
 2705.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8018

Inside

Press@RunDepth: 21.79 psig @ 3913.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.10.17 End Date: 2016.10.17 Last Calib.: 2016.10.17  
 Start Time: 12:30:33 End Time: 18:43:27 Time On Btm: 2016.10.17 @ 14:14:43  
 Time Off Btm: 2016.10.17 @ 15:37:28

TEST COMMENT: 30-IFP-w k bl 1/4" died in 20 min  
 30-ISIP-no bl  
 15-FFP-no bl flushed tool, pulled tool



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1967.13	110.48	Initial Hydro-static
3	18.53	109.58	Open To Flow (1)
35	21.79	111.04	Shut-in(1)
63	941.82	112.09	End Shut-in(1)
63	22.25	111.68	Open To Flow (2)
79	24.97	112.02	Shut-in(2)
83	1943.01	113.34	Final Hydro-static

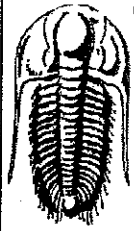
## Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud	0.14

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

TOOL DIAGRAM

Castle Resources Inc

28-5s-27w Decatur, KS

PO Box 583  
Russell KS 67665

Carter #1

Job Ticket: 64748

DST#: 1

ATTN: Jerry Green

Test Start: 2016.10.17 @ 12:30:33

## Tool Information

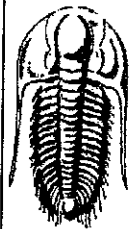
Drill Pipe:	Length: 3900.00 ft	Diameter: 3.80 inches	Volume: 54.71 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			Total Volume: 54.71 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3907.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	63.00 ft			
Tool Length:	84.00 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			3887.00	
Shut in Tool	5.00			3892.00	
Hydraulic tool	5.00			3897.00	
Packer	5.00			3902.00	21.00 Bottom Of Top Packer
Packer	5.00			3907.00	
Stubb	1.00			3908.00	
Perforations	5.00			3913.00	
Recorder	0.00	8018	Inside	3913.00	
Recorder	0.00	8700	Outside	3913.00	
Blank Spacing	33.00			3946.00	
Perforations	21.00			3967.00	
Bullnose	3.00			3970.00	63.00 Bottom Packers & Anchor

**Total Tool Length: 84.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

FLUID SUMMARY

Castle Resources Inc

28-5s-27w Decatur, KS

PO Box 583  
Russell KS 67665

**Carter #1**

Job Ticket: 64748

DST#: 1

ATTN: Jerry Green

Test Start: 2016.10.17 @ 12:30:33

## 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: 53.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.17 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
10.00	Mud	0.140

Total Length: 10.00 ft

Total Volume: 0.140 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

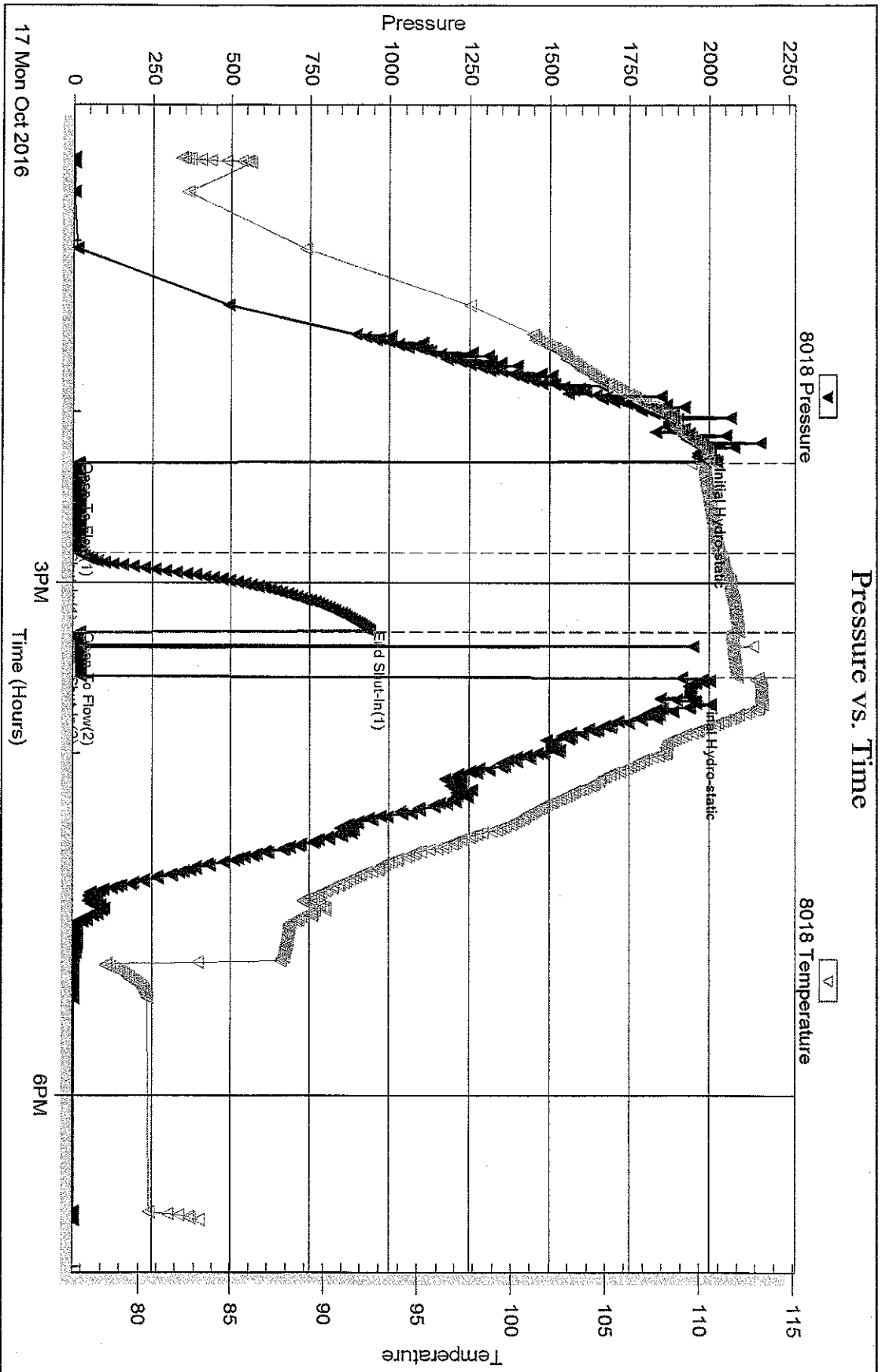
Serial #: 8018

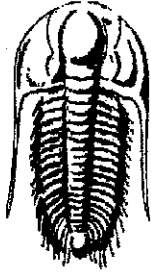
Inside

Castle Resources Inc

Carter #1

DST Test Number: 1





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

## DRILL STEM TEST REPORT

Prepared For: **Castle Resources Inc**

PO Box 583  
Russell KS 67665

ATTN: Jerry Green

**Carter #1**

**28-5s-27w Decatur,KS**

Start Date: 2016.10.18 @ 12:00:47

End Date: 2016.10.18 @ 19:19:56

Job Ticket #: 64749                      DST #: 2

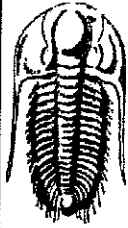
Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2016.10.19 @ 16:33:54

Castle Resources Inc  
28-5s-27w Decatur,KS  
Carter #1  
DST # 2  
LKC HL  
2016.10.18



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Castle Resources Inc  
PO Box 583  
Russell KS 67665  
ATTN: Jerry Green

**28-5s-27w Decatur,KS**  
**Carter #1**  
Job Ticket: 64749      **DST#: 2**  
Test Start: 2016.10.18 @ 12:00:47

## GENERAL INFORMATION:

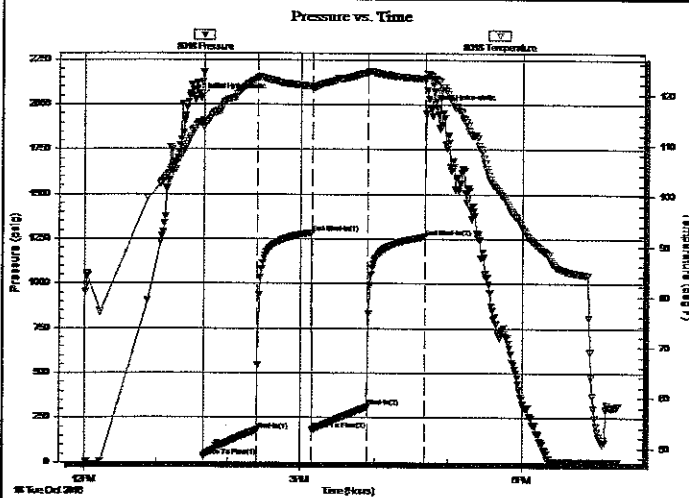
Formation: **LKC I-L**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 13:39:42  
Time Test Ended: 19:19:56  
Interval: **4054.00 ft (KB) To 4150.00 ft (KB) (TVD)**  
Total Depth: 4150.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Ray Schwager  
Unit No: 77  
Reference Elevations: 2710.00 ft (KB)  
2705.00 ft (CF)  
KB to GR/CF: 5.00 ft

## Serial #: 8018

Inside

Press@RunDepth: 309.54 psig @ 4060.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2016.10.18 End Date: 2016.10.18 Last Calib.: 2016.10.18  
Start Time: 12:00:47 End Time: 19:19:56 Time On Btm: 2016.10.18 @ 13:37:12  
Time Off Btm: 2016.10.18 @ 16:44:41

TEST COMMENT: 45-IFP-w k to strg in 14 min  
45-ISIP-no bl  
45-FFP-w k to strg in 19 min  
45-FSIP-surface bl bk



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2035.58	114.39	Initial Hydro-static
3	32.45	113.49	Open To Flow (1)
47	179.10	123.09	Shut-In(1)
92	1284.56	121.59	End Shut-In(1)
92	181.56	121.22	Open To Flow (2)
137	309.54	124.25	Shut-In(2)
184	1262.96	123.09	End Shut-In(2)
188	1975.71	123.80	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbbl)
226.00	OCWM 15%O10%W75%M	3.17
186.00	O&GCWM 5%G15%O25%W55%M	2.61
186.00	OCMW 15%O10%M75%W	2.61
124.00	OCMW 5%O10%M85%W	1.74
0.00	80'GIP	0.00

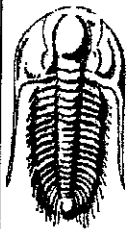
\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Castle Resources Inc

**28-5s-27w Decatur,KS**

PO Box 583  
Russell KS 67665

**Carter #1**

Job Ticket: 64749

**DST#: 2**

ATTN: Jerry Green

Test Start: 2016.10.18 @ 12:00:47

**Tool Information**

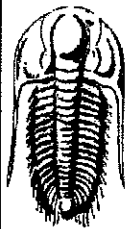
Drill Pipe:	Length: 4057.00 ft	Diameter: 3.80 inches	Volume: 56.91 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 56.91 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	4054.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	96.00 ft			
Tool Length:	117.00 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			4034.00	
Shut In Tool	5.00			4039.00	
Hydraulic tool	5.00			4044.00	
Packer	5.00			4049.00	21.00 Bottom Of Top Packer
Packer	5.00			4054.00	
Stubb	1.00			4055.00	
Perforations	5.00			4060.00	
Recorder	0.00	8018	Inside	4060.00	
Recorder	0.00	8700	Outside	4060.00	
Blank Spacing	65.00			4125.00	
Perforations	22.00			4147.00	
Bullnose	3.00			4150.00	96.00 Bottom Packers & Anchor

**Total Tool Length: 117.00**



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# DRILL STEM TEST REPORT

FLUID SUMMARY

Castle Resources Inc

28-5s-27w Decatur, KS

PO Box 583  
Russell KS 67665

Carter #1

Job Ticket: 64749

DST#: 2

ATTN: Jerry Green

Test Start: 2016.10.18 @ 12:00:47

## 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:

63000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.96 in\*

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
226.00	OCWM 15%O10%W75%M	3.170
186.00	O&GCWM 5%G15%O25%W55%M	2.609
186.00	OCMW 15%O10%M75%W	2.609
124.00	OCMW 5%O10%M85%W	1.739
0.00	80'GIP	0.000

Total Length: 722.00 ft

Total Volume: 10.127 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .13 @65F

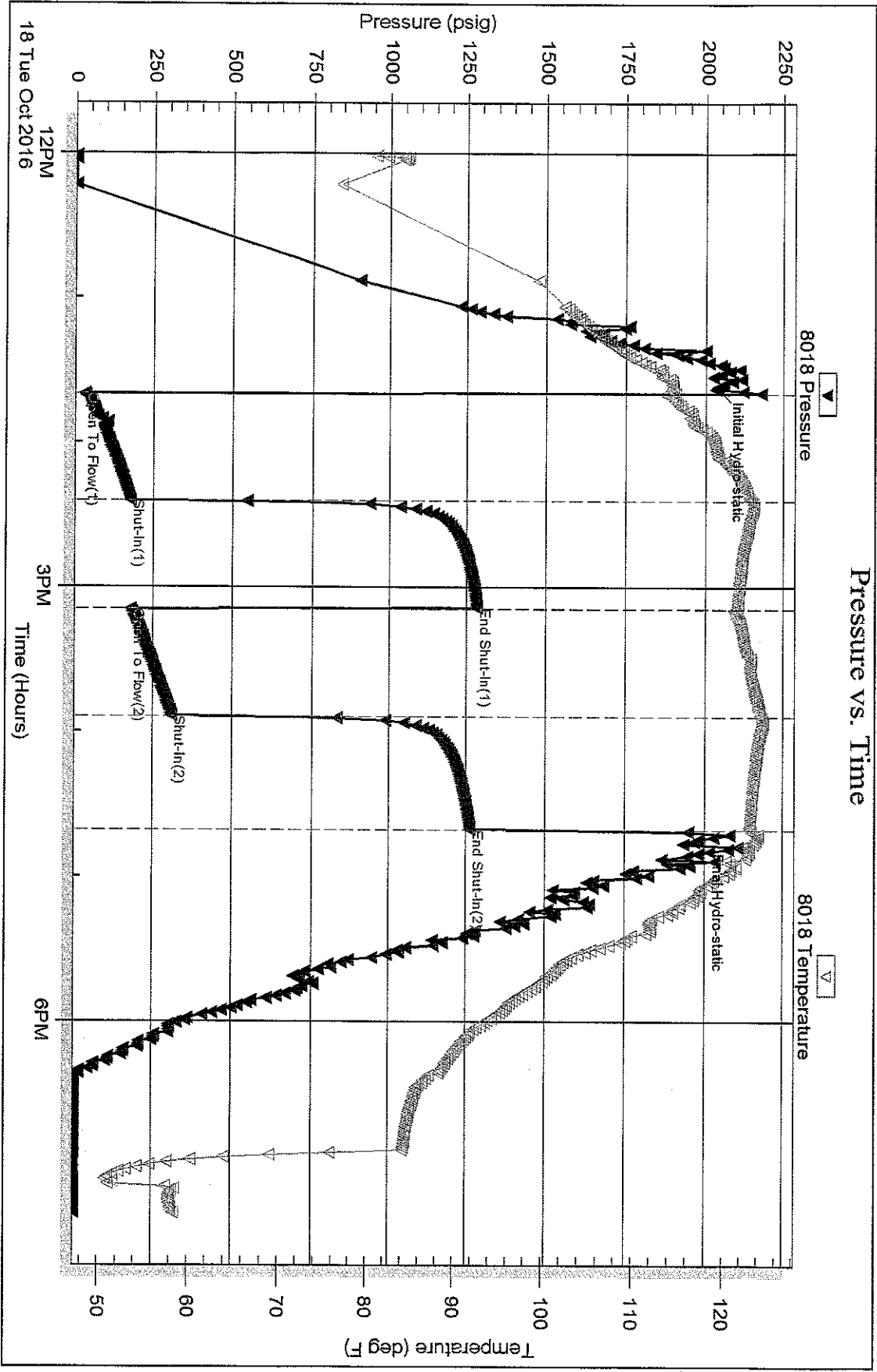
Serial #: 8018

Inside

Castle Resources Inc

Carter #1

DST Test Number: 2

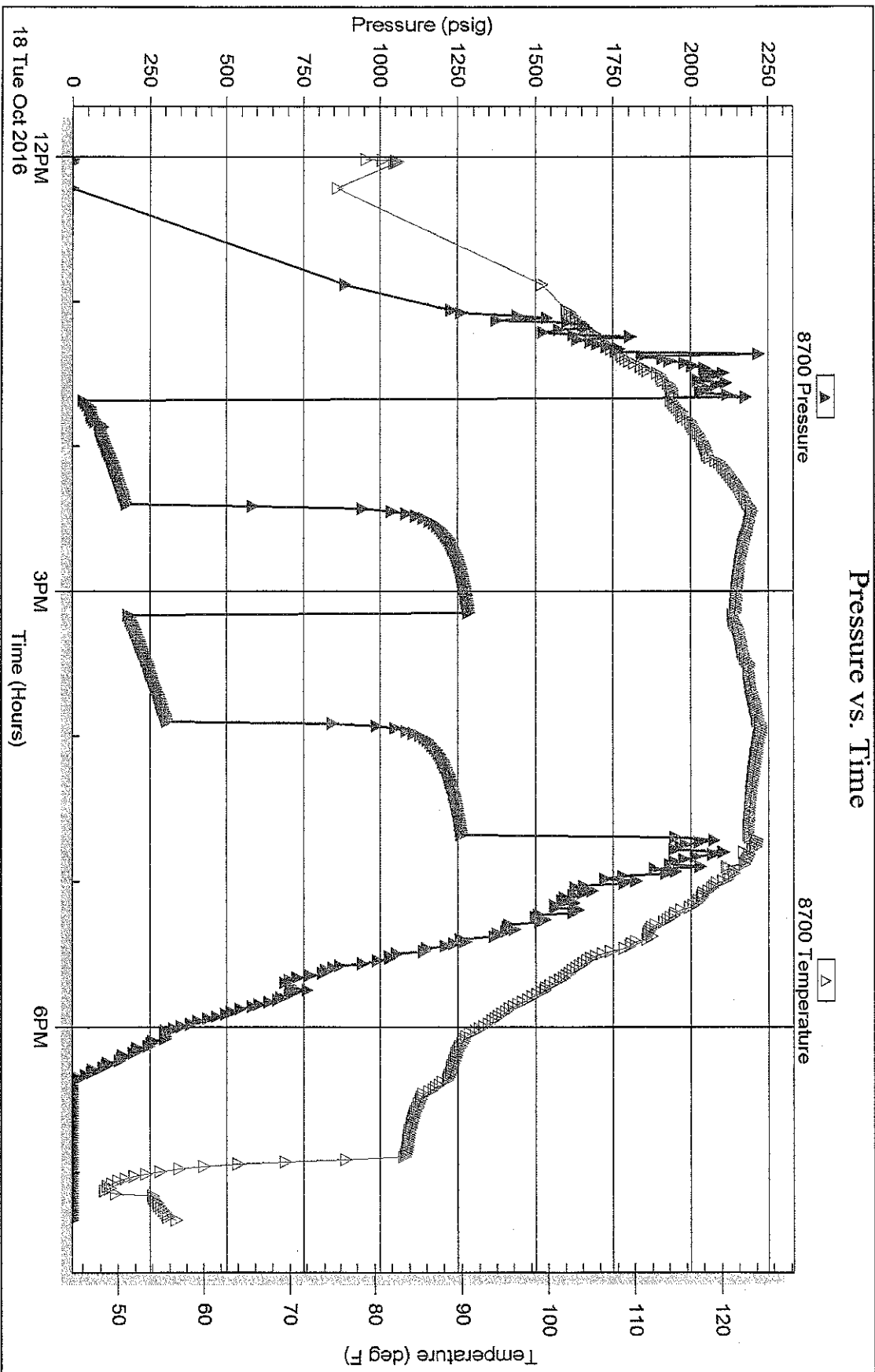


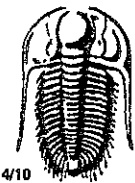
Serial #: 8700

Outside Castle Resources Inc

Carter #1

DST Test Number: 2





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 64748

Well Name & No. CARTER #1 Test No. 1 Date 10-17-2016  
 Company CASTLE Resources Inc. Elevation 2710 KB 2705 GL  
 Address PO Box 583 Russell, Ks 67665  
 Co. Rep / Geo. JERRY GREEN Rig White Knight rig 1  
 Location: Sec. 28 Twp. 5<sup>s</sup> Rge. 27<sup>w</sup> Co. DECATUR State Ks

Interval Tested 3907-3970 Zone Tested LKC  
 Anchor Length 63 Drill Pipe Run 3900 Mud Wt. 9.3  
 Top Packer Depth 3902 Drill Collars Run - Vis 54  
 Bottom Packer Depth 3907 Wt. Pipe Run - WL 7.2  
 Total Depth 3970 Chlorides 2000 ppm System LCM 4#  
 Blow Description IFP - WEAK BLOW 1/4" died in 20 MIN  
ISIP - NO BLOW, flushed tool, got surge,  
pulled tool

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud</u>				

Rec Total 10 BHT 112 Gravity - API RW - @ - °F Chlorides - ppm

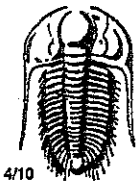
(A) Initial Hydrostatic <u>1967</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>1175</u>
(B) First Initial Flow <u>18</u>	<input type="checkbox"/> Jars	T-Started <u>1230</u>
(C) First Final Flow <u>21</u>	<input type="checkbox"/> Safety Joint	T-Open <u>1415</u>
(D) Initial Shut-in <u>941</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1530</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1843</u>
(F) Second Final Flow <u>24</u>	<input checked="" type="checkbox"/> Mileage <u>220RT</u> 62rt 46.50	Comments
(G) Final Shut-in	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1943</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>15</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>-</u>	<input type="checkbox"/> Day Standby	Total <u>1096.50</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1096.50</u>	

Approved By \_\_\_\_\_

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. 64749

Well Name & No. CARTER #1 Test No. 2 Date 10-18-2016  
 Company Castle Resources Inc Elevation 2710 KB 2705 GL  
 Address PO Box 583 Russell, Ks 67665  
 Co. Rep / Geo. JERRY GREEN Rig Wh. Te Knight rig 1  
 Location: Sec. 28 Twp. 5<sup>s</sup> Rge. 27<sup>w</sup> Co. DECATUR State Ks

Interval Tested 4054-4150 Zone Tested LKC I-L  
 Anchor Length 96 Drill Pipe Run 4057 Mud Wt. 9.7  
 Top Packer Depth 4049 Drill Collars Run - Vis 55  
 Bottom Packer Depth 4054 Wt. Pipe Run - WL 8  
 Total Depth 4150 Chlorides 3000 ppm System LCM 4#  
 Blow Description IFP - WEAK TO STRONG IN 14 MIN  
ISTP - NO BLOW  
FFP - WEAK TO STRONG IN 19 MIN  
FSIP - SURFACE BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>80</u>	<u>GIP</u>				
<u>226</u>	<u>OCWM</u>		<u>15</u>	<u>10</u>	<u>25</u>
<u>186</u>	<u>0<sup>4</sup>GCWM</u>	<u>5</u>	<u>15</u>	<u>25</u>	<u>55</u>
<u>186</u>	<u>OCMW</u>		<u>15</u>	<u>75</u>	<u>10</u>
<u>124</u>	<u>OCMW</u>		<u>5</u>	<u>85</u>	<u>10</u>

Rec Total 722 BHT 123 Gravity - API RW .13 @ - °F Chlorides 63000 ppm

(A) Initial Hydrostatic 2035  Test 1150 T-On Location 1130  
 (B) First Initial Flow 32  Jars \_\_\_\_\_ T-Started 1200  
 (C) First Final Flow 179  Safety Joint \_\_\_\_\_ T-Open 1340  
 (D) Initial Shut-In 1284  Circ Sub \_\_\_\_\_ T-Pulled 1640  
 (E) Second Initial Flow 181  Hourly Standby \_\_\_\_\_ T-Out 1919  
 (F) Second Final Flow 309  Mileage 46.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 1262  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1975  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 45  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 45

Sub Total 1196.50

MP/DST Disc't \_\_\_\_\_  
 Sub Total 1196.50

Approved By \_\_\_\_\_ 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.