

DRILL STEM TEST REPORT

Prepared For: **Castle Resources, Inc.**

PO Box 583
Russell, KS 67655

ATTN: Jerry Green

Moran #1

7-17S-20W Rush,KS

Start Date: 2016.12.26 @ 23:22:48

End Date: 2016.12.27 @ 04:19:48

Job Ticket #: 58223 DST #: 1

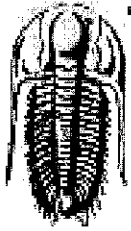
Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2016.12.28 @ 09:15:14

Castle Resources, Inc. 7-17S-20W Rush,KS Moran #1 DST # 1 Cherokee 2016.12.26



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Castle Resources, Inc.

7-17S-20W Rush,KS

PO Box 583
Russell, KS 67655

Moran #1

Job Ticket: 58223 **DST#: 1**

ATTN: Jerry Green

Test Start: 2016.12.26 @ 23:22:48

GENERAL INFORMATION:

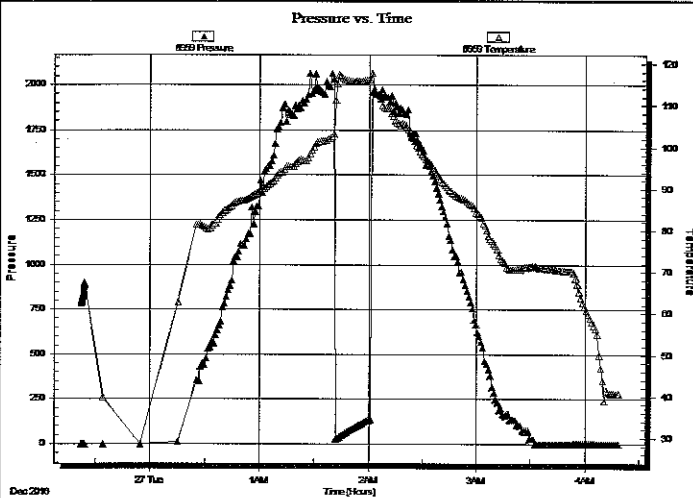
Formation: **Cherokee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:41:48
 Time Test Ended: 04:19:48
 Interval: **4034.00 ft (KB) To 4045.00 ft (KB) (TVD)**
 Total Depth: 4045.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 2161.00 ft (KB)
 2156.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8959

Outside

Press@RunDepth: psig @ 4042.00 ft (KB)
 Start Date: 2016.12.26 End Date: 2016.12.27 Capacity: 8000.00 psig
 Start Time: 23:22:08 End Time: 04:19:07 Last Calib.: 2016.12.27
 Time On Btm:
 Time Off Btm:

TEST COMMENT: 20- IF- BOB 4 mins Pulled tool @ 20 mins



PRESSURE SUMMARY

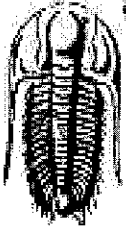
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
270.00	MW, 25%M 75%W H2S present @ 24ppm	3.83

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Castle Resources, Inc.

7-17S-20W Rush, KS

PO Box 583
Russell, KS 67655

Moran #1

Job Ticket: 58223

DST#: 1

ATTN: Jerry Green

Test Start: 2016.12.26 @ 23:22:48

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:

70000 ppm

Viscosity: 45.00 sec/qt

Cushion Volume:

bbf

Water Loss: 19.97 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 18000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
270.00	MW, 25%M75%WH2S present @ 24ppm	3.827

Total Length: 270.00 ft Total Volume: 3.827 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial#:

Laboratory Name:

Laboratory Location:

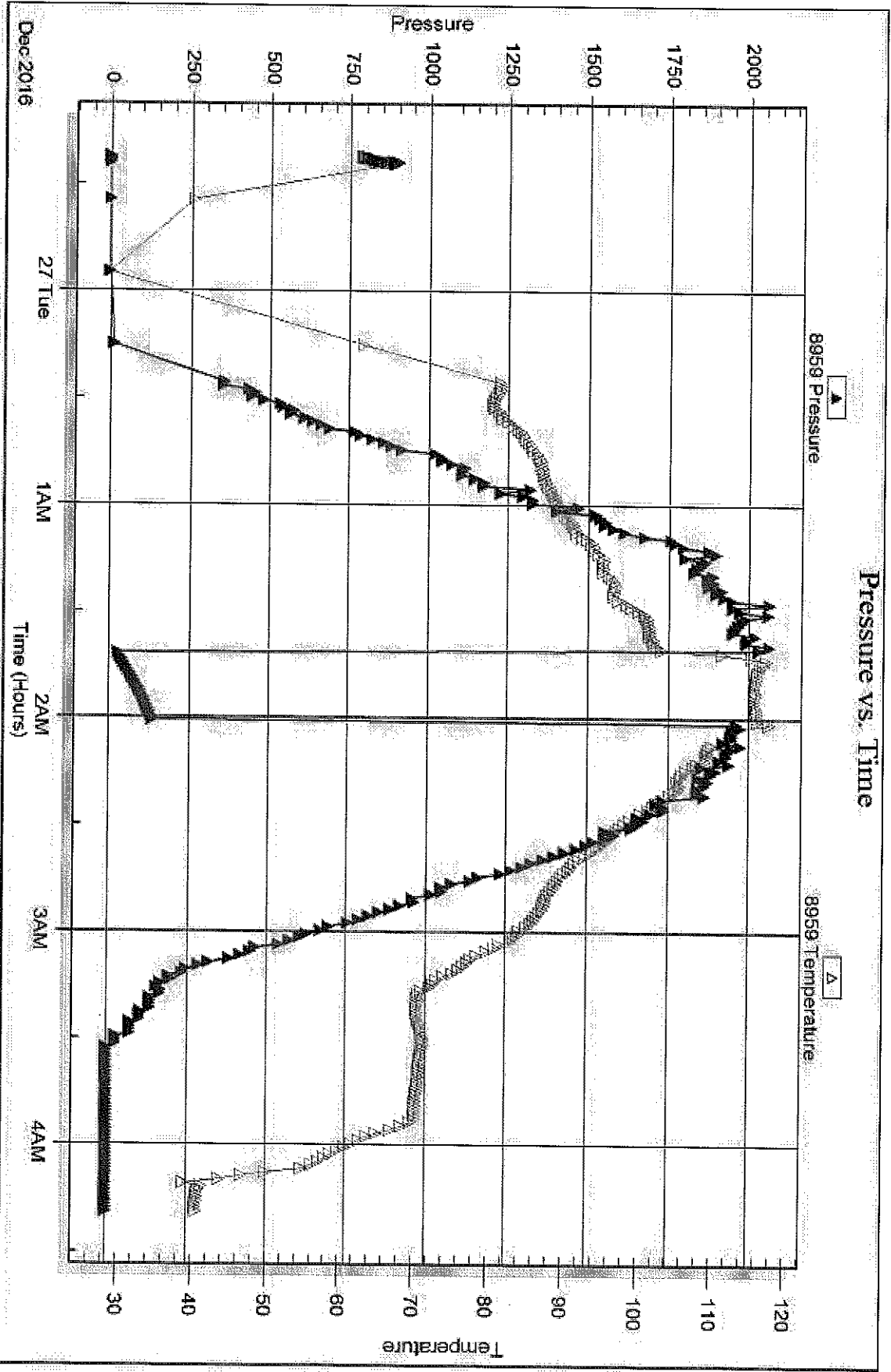
Recovery Comments: RW: .28@35deg

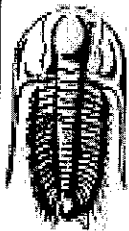
Serial #: 8959

Outside Castle Resources, Inc.

Moran #1

DST Test Number: 1





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Castle Resources, Inc.

7-17S-20W Rush, KS

PO Box 583
Russell, KS 67655

Moran #1

Job Ticket: 58224

DST#: 2

ATTN: Jerry Green

Test Start: 2016.12.27 @ 19:03:47

GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:13:46

Time Test Ended: 00:05:16

Test Type: Conventional Straddle (Reset)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 4057.00 ft (KB) To 4082.00 ft (KB) (TVD)

Total Depth: 4202.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2161.00 ft (KB)

2156.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8959 Outside

Press@RunDepth: psig @ 4058.00 ft (KB)

Start Date: 2016.12.27

End Date:

2016.12.28

Start Time: 19:03:47

End Time:

00:05:16

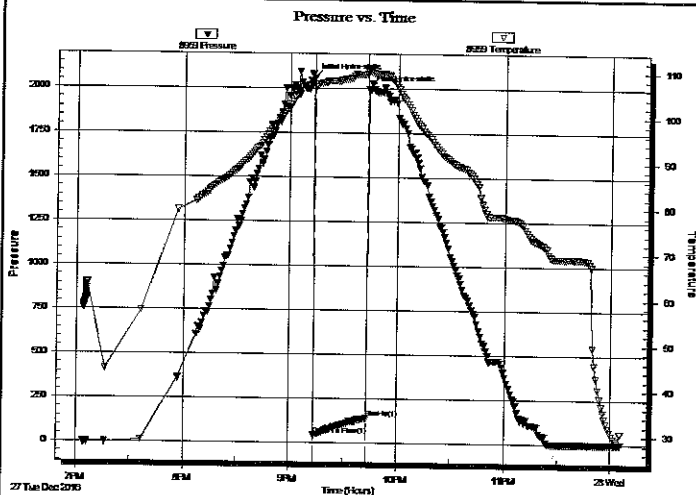
Capacity: 8000.00 psig

Last Calib.: 2016.12.28

Time On Btm: 2016.12.27 @ 21:13:16

Time Off Btm: 2016.12.27 @ 21:43:16

TEST COMMENT: 30- IF- BOB 6mins Pulled tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2061.73	107.18	Initial Hydro-static
1	42.00	106.62	Open To Flow (1)
30	141.11	109.45	Shut-In(1)
30	1992.97	109.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bb)
250.00	VM, 10%W 90%M	3.54

* 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.

7-17S-20W Rush,KS

PO Box 583
Russell, KS 67655

Moran #1

ATTN: Jerry Green

Job Ticket: 58224

DST#: 2

Test Start: 2016.12.27 @ 19:03:47

Tool Information

Drill Pipe:	Length: 4059.00 ft	Diameter: 3.82 inches	Volume: 57.54 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 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: 90000.00 lb
		<u>Total Volume:</u>	- bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4057.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	4082.00 ft			
Interval between Packers:	25.00 ft			
Tool Length:	167.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

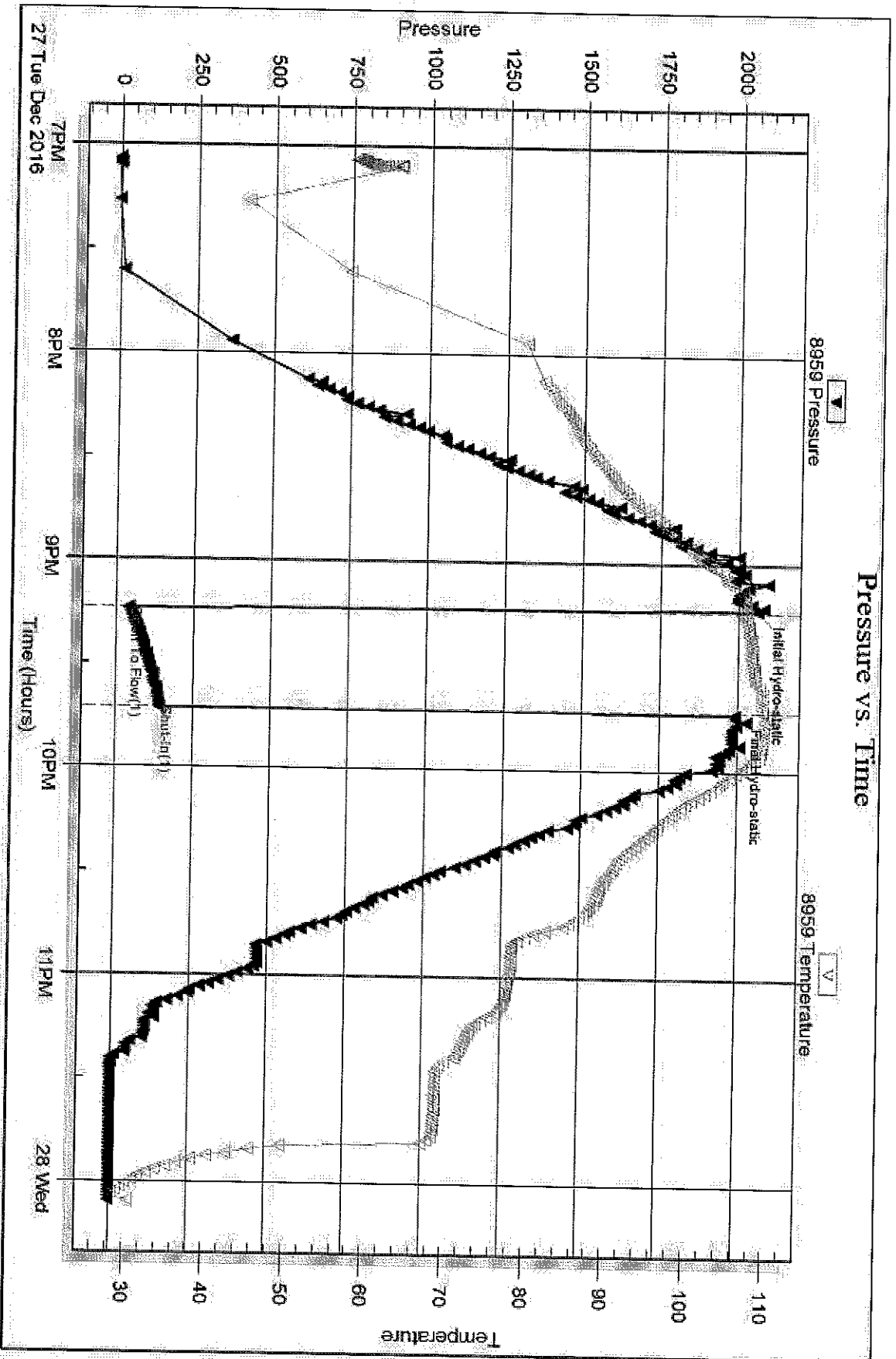
Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4036.00	
Shut In Tool	5.00			4041.00	
Hydraulic tool	5.00			4046.00	
Jars	5.00			4051.00	
Safety Joint	2.00			4053.00	
Packer	4.00			4057.00	22.00 Bottom Of Top Packer
Stubb	1.00			4058.00	
Recorder	0.00	6651	Inside	4058.00	
Recorder	0.00	8959	Outside	4058.00	
Perforations	20.00			4078.00	
Blank Off Sub	1.00			4079.00	
Blank Spacing	3.00			4082.00	25.00 Tool Interval
Packer	1.00			4083.00	
Stubb	1.00			4084.00	
Recorder	0.00	6839	Below	4084.00	
Perforations	18.00			4102.00	
Change Over Sub	1.00			4103.00	
Drill Pipe	95.00			4198.00	
Change Over Sub	1.00			4199.00	
Bullnose	3.00			4202.00	120.00 Bottom Packers & Anchor
Total Tool Length:	167.00				

Serial #: 8959

Outside Castle Resources, Inc.

Moran #1

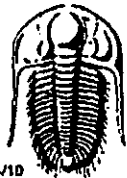
DST Test Number: 2



Tribble Testing, Inc

Ref. No: 58224

Printed: 2016.12.28 @ 09:14:28



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58223

Well Name & No. Moran #1 Test No. 1 Date 12/27/16
 Company Castle Resources, Inc. Elevation 2161 KB 2156 GL
 Address PO Box 583 Russell, KS 67655
 Co. Rep / Geo. Terry Green Rig White Knight
 Location: Sec. 7 Twp. 17 S Rge. 20 W Co. Rush State KS

Interval Tested 4034-4045 Zone Tested Cherokee
 Anchor Length 11' Drill Pipe Run 4027 Mud Wt. 9.1
 Top Packer Depth 4029 Drill Collars Run — Vis 45
 Bottom Packer Depth 4034 Wt. Pipe Run — WL 20.0
 Total Depth 4045 Chlorides 18,000 ppm System LCM 1 1/2 #
 Blow Description IF-303 4mins Pulled tool @ 20mins

Rec	Feet of	%gas	%oil	%water	%mud
<u>270</u>	<u>MMW</u>			<u>75</u>	<u>25</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 270' BHT 117° Gravity — API RW 28 @ 35° F Chlorides 20,000 ppm
 (A) Initial Hydrostatic 2030 Test 1150 T-On Location 12/26 2309
 (B) First Initial Flow 27 Jars 250 T-Started 2322
 (C) First Final Flow 137 Safety Joint 75 T-Open 0141
 (D) Initial Shut-In — Circ Sub — T-Pulled 0201
 (E) Second Initial Flow — Hourly Standby — T-Out 0419
 (F) Second Final Flow — Mileage 26 RT 57 Comments H₂S present @ 24 ppm
 (G) Final Shut-In — Sampler —
 (H) Final Hydrostatic 1985 Straddle —
 Shale Packer —
 Extra Packer —
 Extra Recorder —
 Day Standby —
 Accessibility —
 Sub Total 1532

Approved By — Our Representative Brannon Lonsdale

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.