



DRILL STEM TEST REPORT

Prepared For: **Indian Oil Co**

PO Box 209
Medicine Lodge, KS 67104

ATTN: Aaron Young

Achenbach D #1

1-35s-12w Barber,KS

Start Date: 2016.01.20 @ 14:26:26

End Date: 2016.01.20 @ 23:41:56

Job Ticket #: 57976 DST #: 1

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

Printed: 2016.01.22 @ 16:11:23

Indian Oil Co
1-35s-12w Barber,KS
Achenbach D #1
DST # 1
MIsener
2016.01.20



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Indian Oil Co
PO Box 209
Medicine Lodge, KS 67104
ATTN: Aaron Young

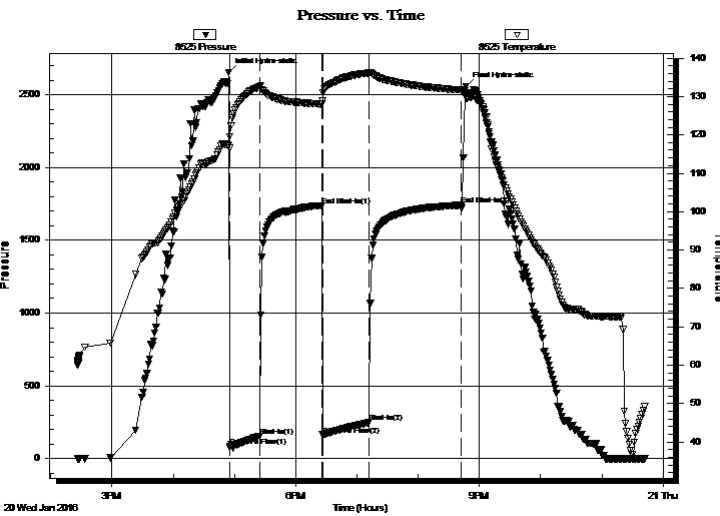
1-35s-12w Barber,KS
Achenbach D #1
Job Ticket: 57976 **DST#: 1**
Test Start: 2016.01.20 @ 14:26:26

GENERAL INFORMATION:

Formation: **Misener**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:55:11
Time Test Ended: 23:41:56
Interval: **5110.00 ft (KB) To 5132.00 ft (KB) (TVD)**
Total Depth: 5132.00 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: 1372.00 ft (KB)
1359.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8525 Inside
Press@RunDepth: 249.43 psig @ 5111.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2016.01.20 End Date: 2016.01.20 Last Calib.: 2016.01.20
Start Time: 14:26:27 End Time: 23:41:56 Time On Btm: 2016.01.20 @ 16:54:26
Time Off Btm: 2016.01.20 @ 20:46:56

TEST COMMENT: IF: Fair Blow , BOB in 12 minutes
IS: 1/2 inch Blow Back
FF: Weak Blow , BOB in 30 minutes
FS: No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2652.93	117.15	Initial Hydro-static
1	84.21	116.55	Open To Flow (1)
31	154.60	132.67	Shut-In(1)
91	1738.00	128.04	End Shut-In(1)
92	164.38	129.01	Open To Flow (2)
138	249.43	136.16	Shut-In(2)
228	1741.88	131.77	End Shut-In(2)
233	2554.49	129.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	2680 GIP	0.00
440.00	Water	4.49
31.00	SOMCW 2%O 24%M 74%W	0.43

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Indian Oil Co
PO Box 209
Medicine Lodge, KS 67104
ATTN: Aaron Young

1-35s-12w Barber,KS
Achenbach D #1
Job Ticket: 57976 **DST#: 1**
Test Start: 2016.01.20 @ 14:26:26

Tool Information

Drill Pipe:	Length: 4915.00 ft	Diameter: 3.80 inches	Volume: 68.94 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: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 110000.0 lb
			<u>Total Volume: 69.85 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 79000.00 lb
Depth to Top Packer:	5110.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	48.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Shale Packer on Bottom

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			5089.00	
Hydraulic tool	5.00			5094.00	
Jars	5.00			5099.00	
Safety Joint	2.00			5101.00	
Packer	5.00			5106.00	26.00 Bottom Of Top Packer
Packer	4.00			5110.00	
Stubb	1.00			5111.00	
Recorder	0.00	8525	Inside	5111.00	
Recorder	0.00	6806	Outside	5111.00	
Perforations	18.00			5129.00	
Bullnose	3.00			5132.00	22.00 Bottom Packers & Anchor

Total Tool Length: 48.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Indian Oil Co
PO Box 209
Medicine Lodge, KS 67104
ATTN: Aaron Young

1-35s-12w Barber, KS
Achenbach D #1
Job Ticket: 57976 **DST#: 1**
Test Start: 2016.01.20 @ 14:26:26

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:	78000 ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.79 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3000.00 ppm			
Filter Cake: 0.02 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	2680 GIP	0.000
440.00	Water	4.487
31.00	SOMCW 2%O 24%M 74%W	0.435

Total Length: 471.00 ft Total Volume: 4.922 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: RW w as .18 @ 38 degrees

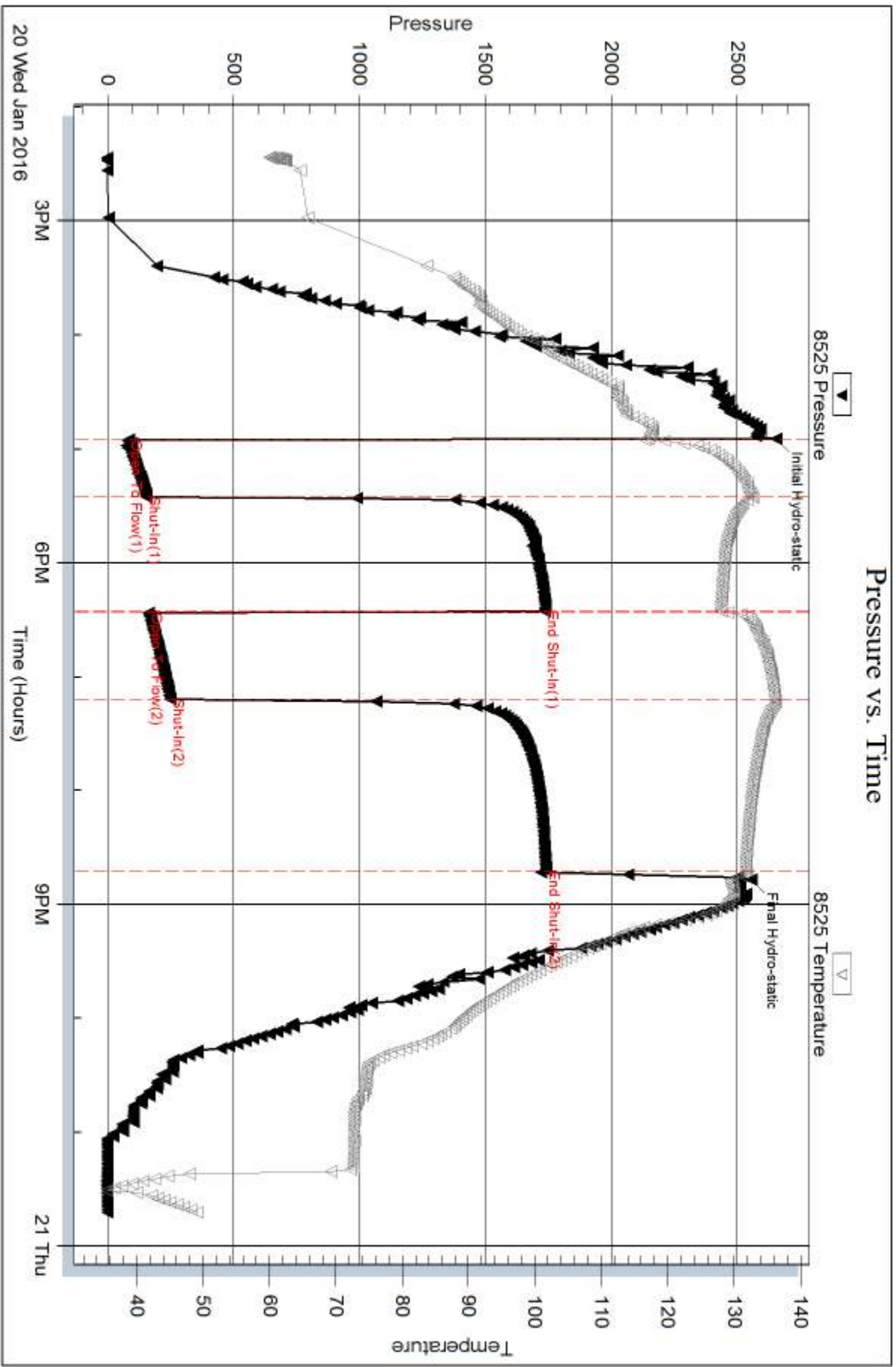
Serial #: 8525

Inside

Indian Oil Co

Achenbach D#1

DST Test Number: 1

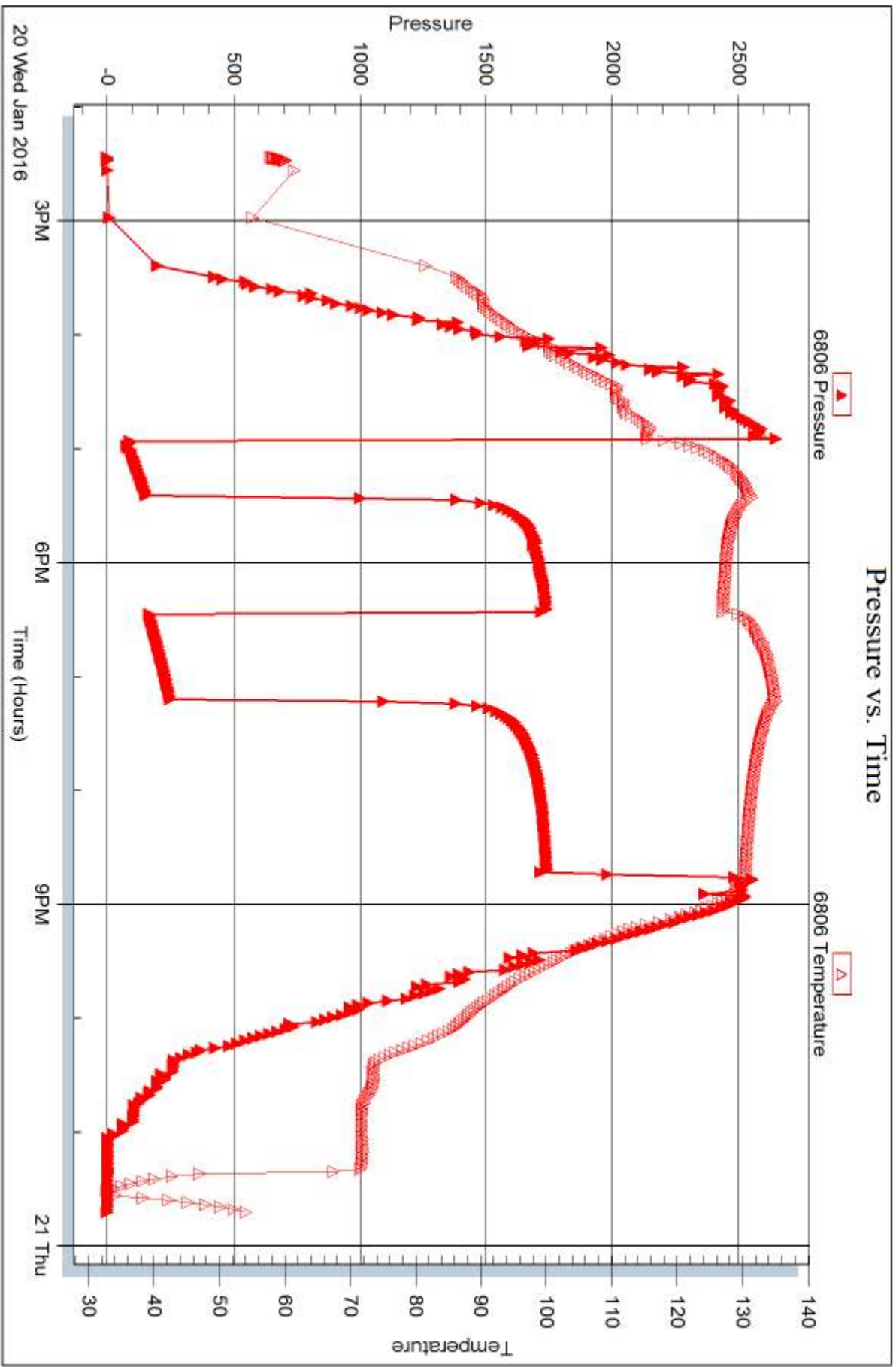


Serial #: 6806

Outside Indian Oil Co

Achenbach D#1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 57976

Printed: 2016.01.22 @ 16:12:08



DRILL STEM TEST REPORT

Prepared For: **Indian Oil Co**

PO Box 209
Medicine Lodge, KS 67104

ATTN: Aaron Young

Achenbach D #1

1-35s-12w Barber,KS

Start Date: 2016.01.22 @ 05:53:37

End Date: 2016.01.22 @ 13:45:37

Job Ticket #: 57977 DST #: 2

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

Printed: 2016.01.22 @ 16:09:52

Indian Oil Co
1-35s-12w Barber,KS
Achenbach D #1
DST # 2
Simpson
2016.01.22



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Indian Oil Co
PO Box 209
Medicine Lodge, KS 67104
ATTN: Aaron Young

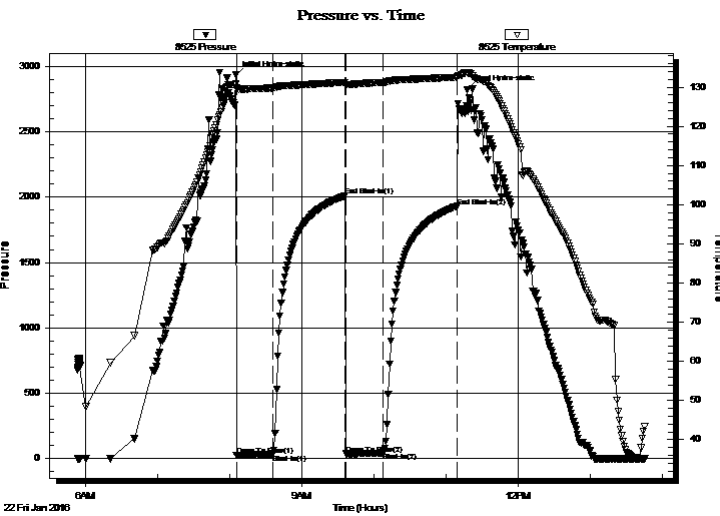
1-35s-12w Barber,KS
Achenbach D #1
Job Ticket: 57977 **DST#: 2**
Test Start: 2016.01.22 @ 05:53:37

GENERAL INFORMATION:

Formation: **Simpson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 08:05:37
Time Test Ended: 13:45:37
Test Type: Conventional Straddle (Reset)
Tester: Leal Cason
Unit No: 74
Interval: **5351.00 ft (KB) To 5370.00 ft (KB) (TVD)**
Reference Elevations: 1372.00 ft (KB)
Total Depth: 5560.00 ft (KB) (TVD) 1359.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 13.00 ft

Serial #: 8525 Inside
Press@RunDepth: 45.32 psig @ 5352.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2016.01.22 End Date: 2016.01.22 Last Calib.: 2016.01.22
Start Time: 05:53:38 End Time: 13:45:37 Time On Btm: 2016.01.22 @ 08:04:52
Time Off Btm: 2016.01.22 @ 11:17:07

TEST COMMENT: IF: Weak 1/2 inch Blow
IS: No Blow Back
FF: Weak Surface Blow, Dead @ 8 minutes
FS: No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2932.45	130.77	Initial Hydro-static
1	26.96	129.56	Open To Flow (1)
31	31.91	129.78	Shut-In(1)
92	2011.00	131.25	End Shut-In(1)
92	36.84	130.72	Open To Flow (2)
123	45.32	131.22	Shut-In(2)
184	1929.87	132.55	End Shut-In(2)
193	2818.94	133.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud	0.05

* Recovery from multiple tests

Gas Rates

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



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Indian Oil Co
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ATTN: Aaron Young

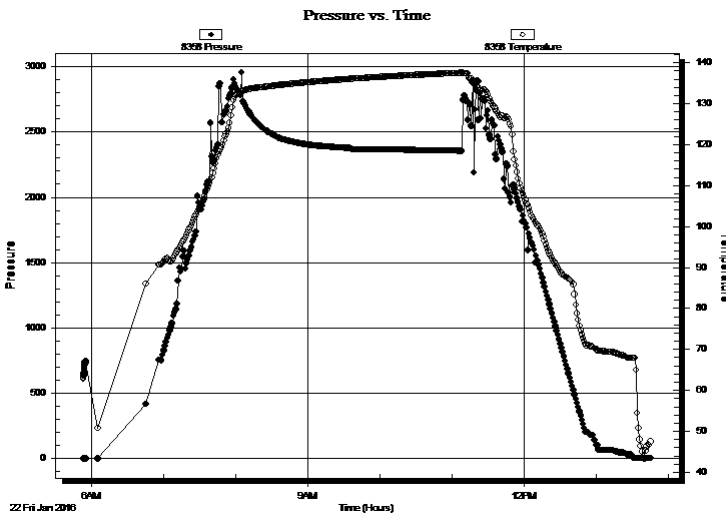
1-35s-12w Barber, KS
Achenbach D #1
Job Ticket: 57977 **DST#: 2**
Test Start: 2016.01.22 @ 05:53:37

GENERAL INFORMATION:

Formation: **Simpson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 08:05:37
Time Test Ended: 13:45:37
Interval: **5351.00 ft (KB) To 5370.00 ft (KB) (TVD)**
Total Depth: 5560.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Straddle (Reset)
Tester: Leal Cason
Unit No: 74
Reference Elevations: 1372.00 ft (KB)
1359.00 ft (CF)
KB to GR/CF: 13.00 ft

Serial #: 8358 Below (Straddle)
Press@RunDepth: psig @ 5394.00 ft (KB)
Start Date: 2016.01.22 End Date: 2016.01.22 Capacity: 8000.00 psig
Start Time: 05:53:38 End Time: 13:45:52 Last Calib.: 2016.01.22
Time On Btm: Time Off Btm:

TEST COMMENT: IF: Weak 1/2 inch Blow
IS: No Blow Back
FF: Weak Surface Blow , Dead @ 8 minutes
FS: No Blow Back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud	0.05

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Indian Oil Co
PO Box 209
Medicine Lodge, KS 67104
ATTN: Aaron Young

1-35s-12w Barber,KS
Achenbach D #1
Job Ticket: 57977 **DST#: 2**
Test Start: 2016.01.22 @ 05:53:37

Tool Information

Drill Pipe:	Length: 5168.00 ft	Diameter: 3.80 inches	Volume: 72.49 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: 185.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose:	110000.0 lb
			<u>Total Volume: 73.40 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	28.00 ft			String Weight: Initial	84000.00 lb
Depth to Top Packer:	5351.00 ft			Final	84000.00 lb
Depth to Bottom Packer:	5370.00 ft				
Interval between Packers:	19.00 ft				
Tool Length:	235.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		

Tool Comments: Shale Packer On Bottom of Heavy Tool
Shale Packer as Straddle Packer

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			5330.00	
Hydraulic tool	5.00			5335.00	
Jars	5.00			5340.00	
Safety Joint	2.00			5342.00	
Packer	5.00			5347.00	26.00 Bottom Of Top Packer
Packer	4.00			5351.00	
Stubb	1.00			5352.00	
Recorder	0.00	8525	Inside	5352.00	
Recorder	0.00	6806	Outside	5352.00	
Perforations	17.00			5369.00	
Blank Off Sub	1.00			5370.00	19.00 Tool Interval
Packer	3.00			5373.00	
Perforations	20.00			5393.00	
Change Over Sub	1.00			5394.00	
Recorder	0.00	8358	Below	5394.00	
Drill Pipe	158.00			5552.00	
Change Over Sub	1.00			5553.00	
Perforations	4.00			5557.00	
Bullnose	3.00			5560.00	190.00 Bottom Packers & Anchor

Total Tool Length: 235.00



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DRILL STEM TEST REPORT

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PO Box 209
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ATTN: Aaron Young

1-35s-12w Barber,KS
Achenbach D #1
Job Ticket: 57977 **DST#: 2**
Test Start: 2016.01.22 @ 05:53:37

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:	ppm
Viscosity: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.59 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 0.02 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Mud	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

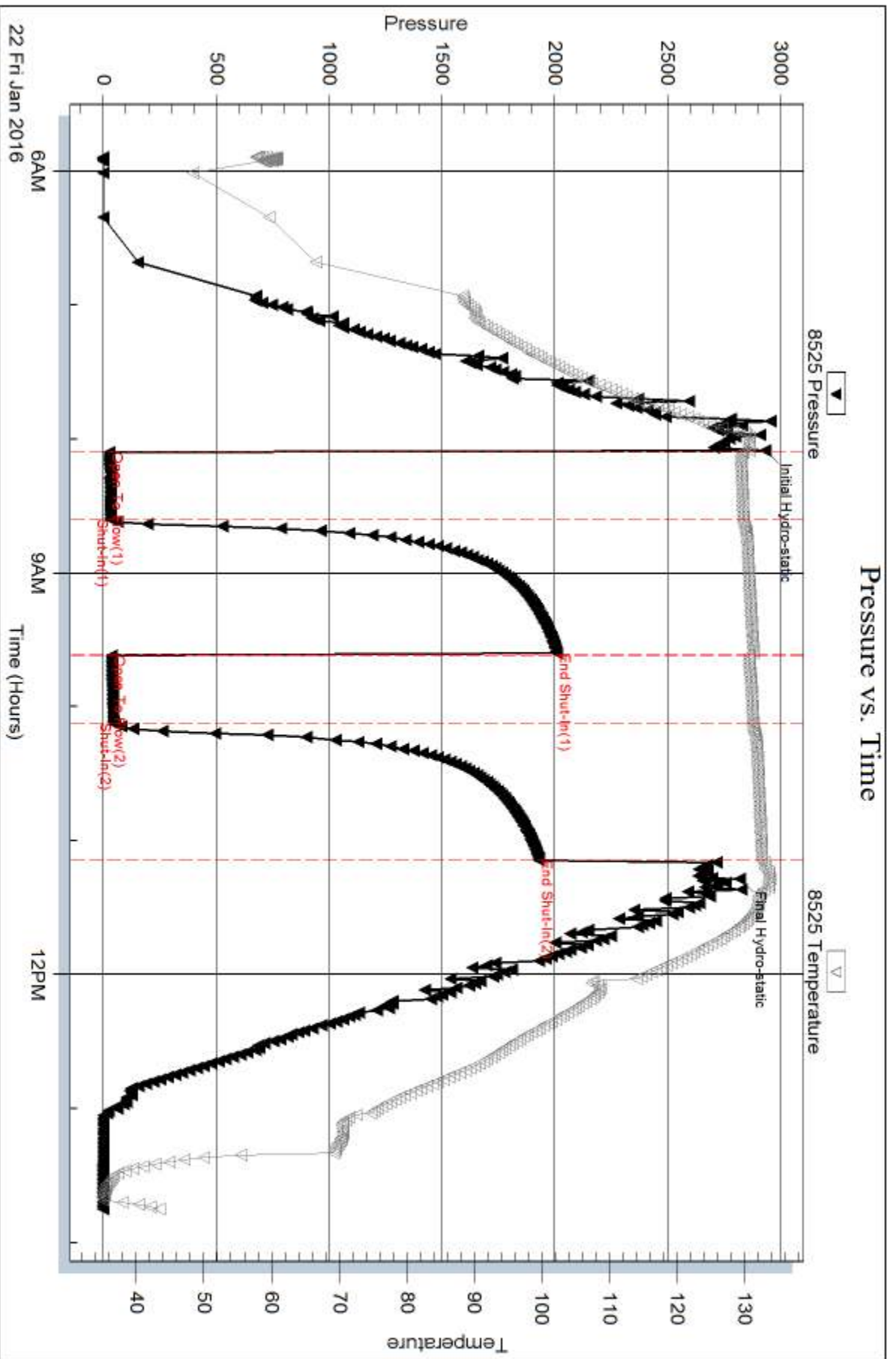
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Inside

Indian Oil Co

Achenbach D#1

DST Test Number: 2

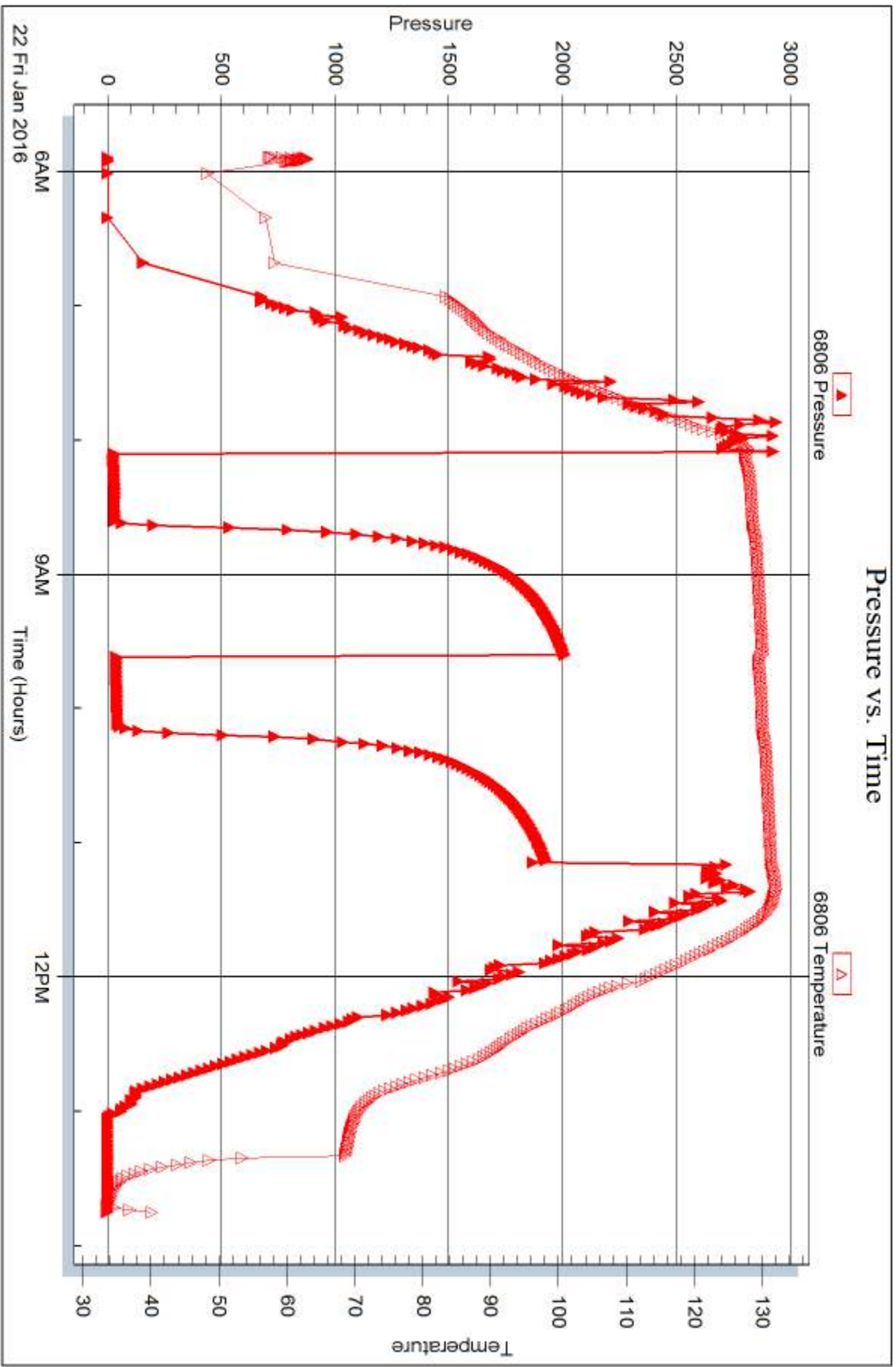


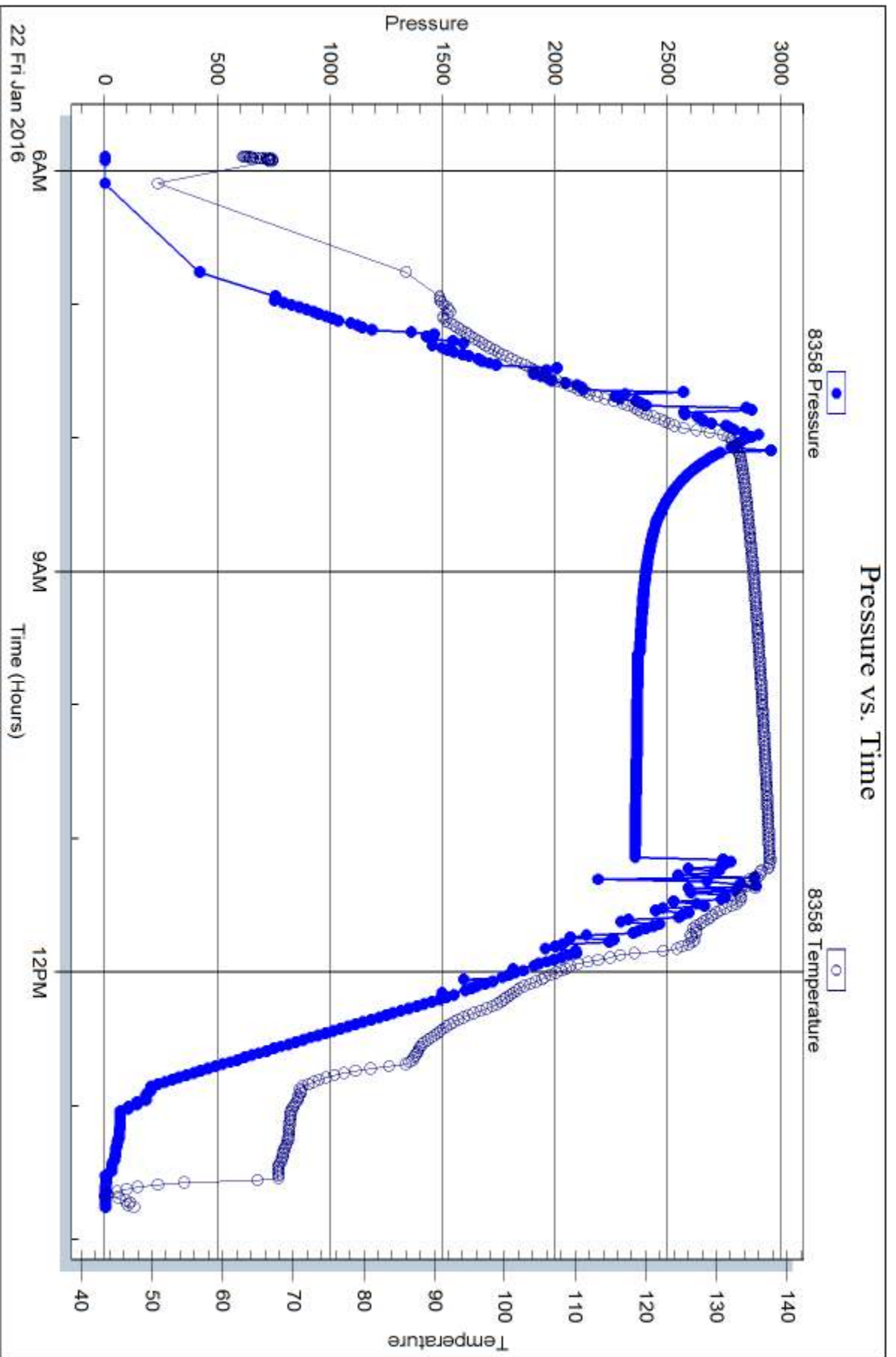
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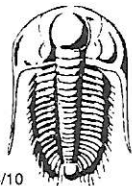
Outside Indian Oil Co

Achenbach D#1

DST Test Number: 2







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57976

Well Name & No. Achenbach D 1 Test No. 1 Date 01/20/16
 Company Indian oil co Elevation 1372 KB 1359 GL
 Address PO Box 209 Medicine Lodge, KS 67104
 Co. Rep / Geo. Aaron Young Rig Duke 7
 Location: Sec. 1 Twp. 35S Rge. Dw Co. Barber State KS

Interval Tested 5110 - 5132 Zone Tested Misener
 Anchor Length 22 Drill Pipe Run 4915 Mud Wt. 9.3
 Top Packer Depth 5105 Drill Collars Run 185 Vis 53
 Bottom Packer Depth 5110 Wt. Pipe Run 6 WL 8.8
 Total Depth 5132 Chlorides 3000 ppm System LCM 10

Blow Description FF: Fair Blow, BOB in 12 minutes
FSI: 12 inch Blow Back
FF: Weak Blow, BOB in 30 minutes
FSI: NO Blow Back

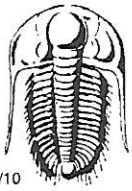
Rec	Feet of	%gas	%oil	%water	%mud
<u>2680</u>	<u>GIP</u>				
<u>31</u>	<u>SOMCW</u>		<u>2</u>	<u>74</u>	<u>24</u>
<u>440</u>	<u>water</u>				

Rec Total 471 BHT 132 Gravity NIC API RW 18 @ 38 °F Chlorides 78000 ppm

(A) Initial Hydrostatic <u>2653</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>11:30</u>
(B) First Initial Flow <u>84</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>14:26</u>
(C) First Final Flow <u>155</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>16:55</u>
(D) Initial Shut-In <u>1738</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>20:42</u>
(E) Second Initial Flow <u>164</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>23:41</u>
(F) Second Final Flow <u>249</u>	<input checked="" type="checkbox"/> Mileage <u>120</u> 110	Comments
(G) Final Shut-In <u>1742</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2554</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>45</u>	<input type="checkbox"/> Day Standby	Total <u>1935</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1935</u>	

Approved By [Signature] 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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57977

Well Name & No. Achenbach D 1 Test No. 2 Date 01/22/16
 Company Indian Oil Co Elevation 1372 KB 1359 GL
 Address PO BOX 209 Medicine Lodge, KS 67104
 Co. Rep / Geo. Agron Young Rig Duke 7
 Location: Sec. 1 Twp. 35S Rge. 12W Co. Barber State KS

Interval Tested 5351 - 5370 Zone Tested Simpson
 Anchor Length 19 Drill Pipe Run 5168 Mud Wt. 9.5
 Top Packer Depth 5346 Drill Collars Run 185 Vis 59
 Bottom Packer Depth 5370 Wt. Pipe Run 0 WL 9.6
 Total Depth 5560 Chlorides 5000 ppm System LCM 7'12

Blow Description IF: weak 1/2 inch Blow
IST: NO Blow Back
FF: weak Surface Blow, dead @ 8 minutes
FST: NO Blow Back

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

Rec Total 10 BHT 133 Gravity NIC API RW NIC @ NIC °F Chlorides NIC ppm

(A) Initial Hydrostatic	<u>2932</u>	<input checked="" type="checkbox"/> Test	<u>1250</u>	T-On Location	<u>04:45</u>
(B) First Initial Flow	<u>27</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>05:53</u>
(C) First Final Flow	<u>32</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>08:05</u>
(D) Initial Shut-In	<u>2011</u>	<input type="checkbox"/> Circ Sub		T-Pulled	<u>11:08</u>
(E) Second Initial Flow	<u>37</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>13:45</u>
(F) Second Final Flow	<u>45</u>	<input checked="" type="checkbox"/> Mileage	<u>120</u> ↑ <u>110</u>	Comments	<u>Successful Straddle</u>
(G) Final Shut-In	<u>1930</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>2818</u>	<input checked="" type="checkbox"/> Straddle	<u>600</u>	<input type="checkbox"/> Ruined Shale Packer	
		<input checked="" type="checkbox"/> Shale Packer	<u>2</u> <u>500</u>	<input type="checkbox"/> Ruined Packer	
Initial Open	<u>30</u>	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
Initial Shut-In	<u>60</u>	<input type="checkbox"/> Extra Recorder		Sub Total	<u>0</u>
Final Flow	<u>30</u>	<input type="checkbox"/> Day Standby		Total	<u>2785</u>
Final Shut-In	<u>60</u>	<input type="checkbox"/> Accessibility		MP/DST Disc't	
		Sub Total	<u>2785</u>		

Approved By Ron Gray Our Representative [Signature]

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