



DRILL STEM TEST REPORT

Prepared For: **Ainsworth Operating Co.**

4676 Commercial St. SE
STE # 412
Salem OR 97302

ATTN: Randy Killian

Stinemetz #1

33-6s-22w Graham,KS

Start Date: 2019.09.20 @ 21:06:00

End Date: 2019.09.21 @ 04:42:09

Job Ticket #: 65613 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.09.23 @ 15:58:03



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Ainsworth Operating Co.
 4676 Commercial St. SE
 STE # 412
 Salem OR 97302
 ATTN: Randy Killian

33-6s-22w Graham,KS

Stinemetz #1

Job Ticket: 65613

DST#: 1

Test Start: 2019.09.20 @ 21:06:00

GENERAL INFORMATION:

Formation: **LKC " C - D "**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:21:30

Time Test Ended: 04:42:09

Test Type: Bottom Hole (Initial)

Tester: Ryan Nichols

Unit No: 71

Interval: 3591.00 ft (KB) To 3630.00 ft (KB) (TVD)

Reference Elevations: 2321.00 ft (KB)

Total Depth: 3630.00 ft (KB) (TVD)

2317.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 4.00 ft

Serial #: 8366 Outside

Press@RunDepth: 136.48 psig @ 3592.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.09.20 End Date: 2019.09.21

Last Calib.: 2019.09.21

Start Time: 21:06:01 End Time: 04:42:10

Time On Btm: 2019.09.20 @ 23:21:20

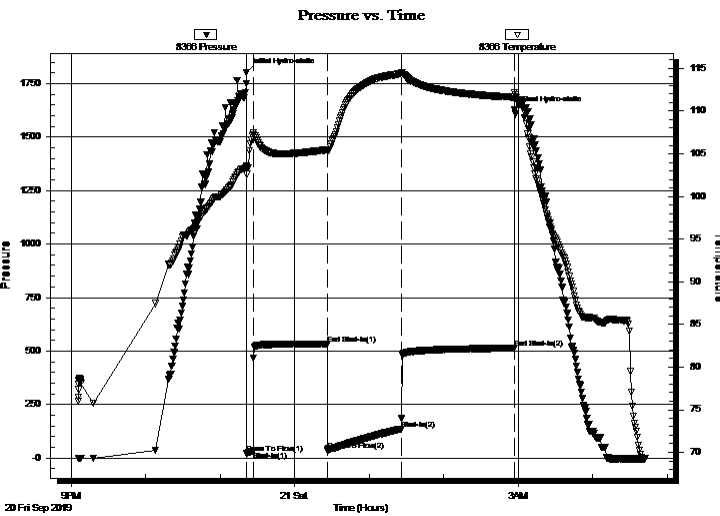
Time Off Btm: 2019.09.21 @ 02:57:20

TEST COMMENT: 5 IF - Slide 4', blow built to 3 1/4"

60 ISI - No return

60 FF - BoB @ 33 mins

90 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1801.78	103.59	Initial Hydro-static
1	20.29	102.60	Open To Flow (1)
6	33.89	107.23	Shut-In(1)
65	533.18	105.47	End Shut-In(1)
66	35.50	105.29	Open To Flow (2)
125	136.48	114.49	Shut-In(2)
216	513.71	111.63	End Shut-In(2)
216	1624.82	112.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
190.00	MCW - 5%M - 95%W	2.38
60.00	MCW 20%M - 80%W	0.84
19.00	OMCW - 10%o - 40%M - 50%W	0.27
1.00	Free Oil 100%o	0.01

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ainsworth Operating Co.

33-6s-22w Graham,KS

4676 Commercial St. SE
STE # 412
Salem OR 97302
ATTN: Randy Killian

Stinemetz #1

Job Ticket: 65613

DST#: 1

Test Start: 2019.09.20 @ 21:06:00

Tool Information

Drill Pipe:	Length: 3552.00 ft	Diameter: 3.80 inches	Volume: 49.83 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: 20000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 49.98 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3591.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	39.00 ft			
Tool Length:	67.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3568.00	
Hydraulic tool	5.00			3573.00	
Jars	5.00			3578.00	
Safety Joint	3.00			3581.00	
Packer	5.00			3586.00	28.00 Bottom Of Top Packer
Packer	5.00			3591.00	
Stubb	1.00			3592.00	
Recorder	0.00	8353	Inside	3592.00	
Recorder	0.00	8366	Outside	3592.00	
Perforations	35.00			3627.00	
Bullnose	3.00			3630.00	39.00 Bottom Packers & Anchor

Total Tool Length: 67.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Ainsworth Operating Co.

33-6s-22w Graham,KS

4676 Commercial St. SE
STE # 412
Salem OR 97302
ATTN: Randy Killian

Stinemetz #1

Job Ticket: 65613

DST#: 1

Test Start: 2019.09.20 @ 21:06:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 61.00 sec/qt

Water Loss: 7.59 in³

Resistivity: ohm.m

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
190.00	MCW - 5%M - 95%W	2.383
60.00	MCW 20%M - 80%W	0.842
19.00	OMCW - 10%o - 40%M - 50%W	0.267
1.00	Free Oil 100%o	0.014

Total Length: 270.00 ft Total Volume: 3.506 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

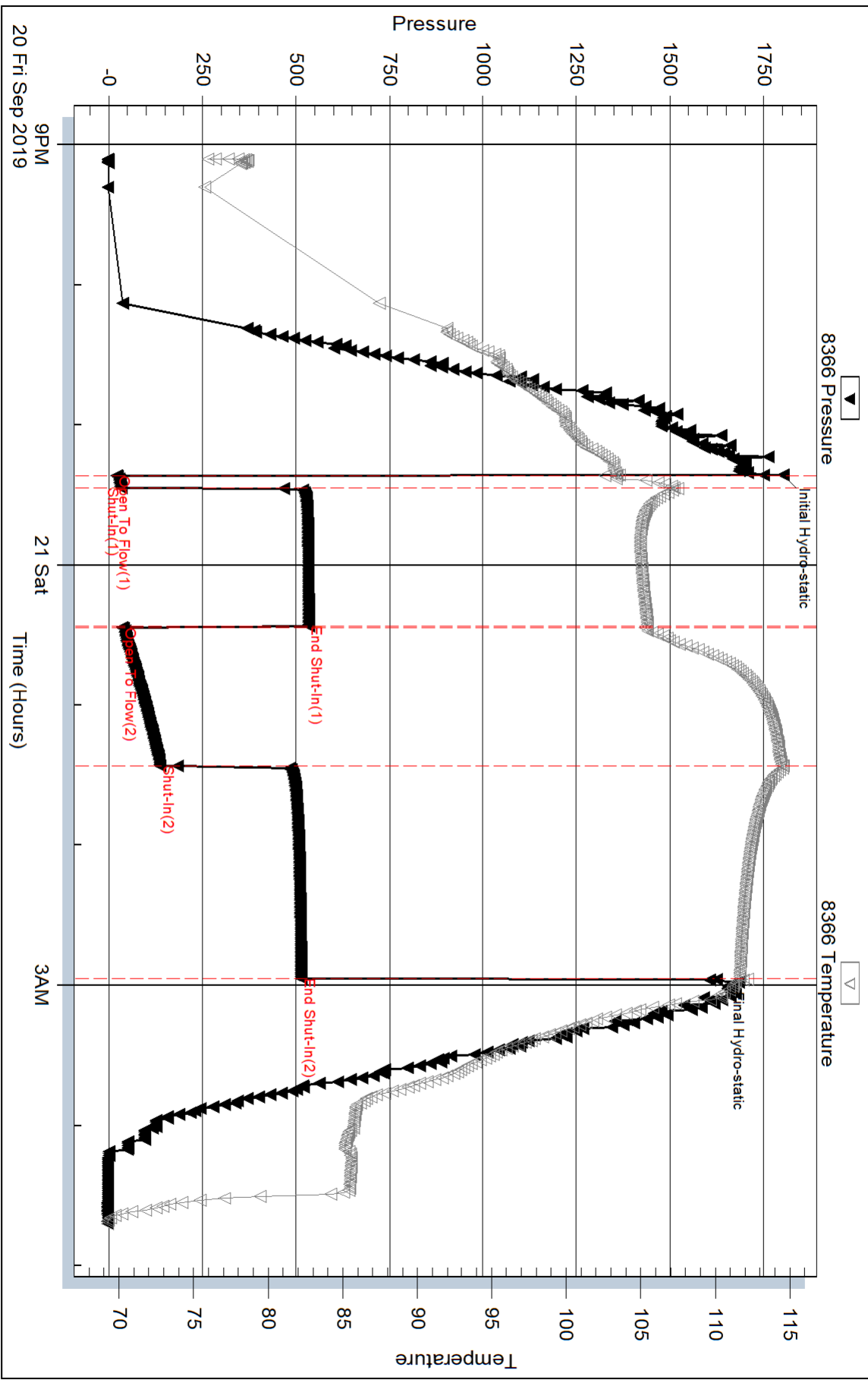
Laboratory Name:

Laboratory Location:

Recovery Comments: RW = .126 @ 63 DEG F

Chlorides = 64,000 ppm

Pressure vs. Time



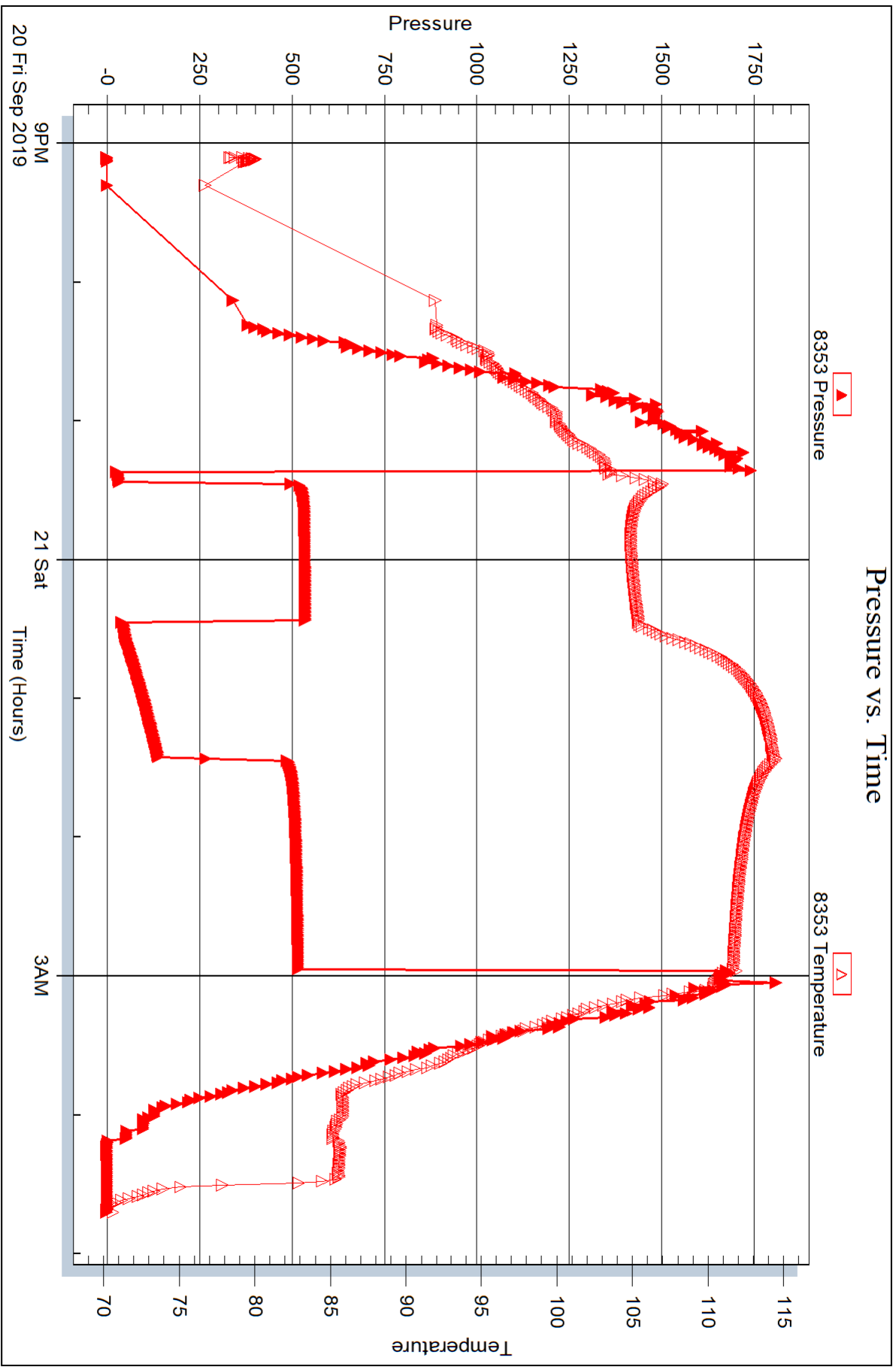
Serial #: 8353

Inside

Airsw orth Operating Co.

Slinemetz #1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 65613

Printed: 2019.09.23 @ 15:58:04



DRILL STEM TEST REPORT

Prepared For: **Ainsworth Operating Co.**

4676 Commercial St. SE
STE # 412
Salem OR 97302

ATTN: Randy Killian

Stinemetz #1

33-6s-22w Graham,KS

Start Date: 2019.09.21 @ 19:06:00

End Date: 2019.09.22 @ 00:06:00

Job Ticket #: 65614 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.09.23 @ 15:54:59



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Ainsworth Operating Co.

33-6s-22w Graham,KS

4676 Commercial St. SE
STE # 412
Salem OR 97302
ATTN: Randy Killian

Stinemetz #1

Job Ticket: 65614

DST#: 2

Test Start: 2019.09.21 @ 19:06:00

GENERAL INFORMATION:

Formation: **LKC "H-L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:02:20

Time Test Ended: 00:06:00

Test Type: Bottom Hole (Reset)

Tester: Ryan Nichols

Unit No: 71

Interval: 3677.00 ft (KB) To 3770.00 ft (KB) (TVD)

Reference Elevations: 2321.00 ft (KB)

Total Depth: 3770.00 ft (KB) (TVD)

2317.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 4.00 ft

Serial #: 8366 Outside

Press@RunDepth: 33.86 psig @ 3678.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.09.21

End Date:

2019.09.22

Last Calib.:

2019.09.22

Start Time: 19:06:01

End Time:

00:06:00

Time On Btm:

2019.09.21 @ 21:02:10

Time Off Btm:

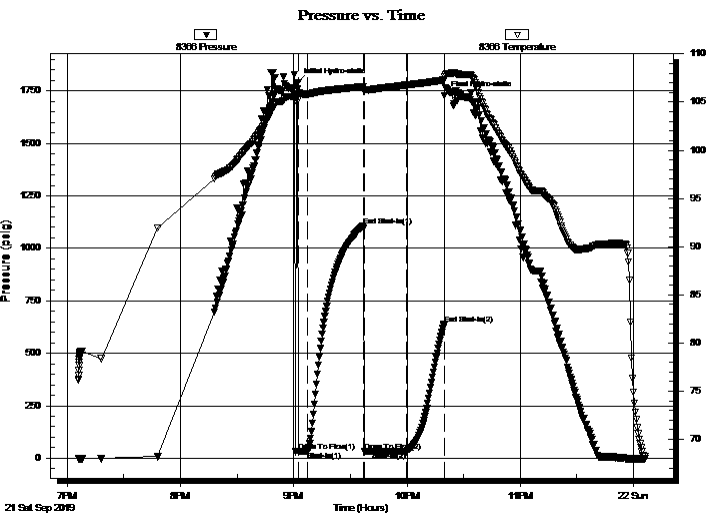
2019.09.21 @ 22:20:00

TEST COMMENT: 5 IF - Blow built to 1/4"

30 ISI - No return

20 FF - No blow

20 FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1788.65	106.34	Initial Hydro-static
1	30.68	105.27	Open To Flow (1)
5	32.62	105.80	Shut-In(1)
35	1106.41	106.60	End Shut-In(1)
36	33.87	106.07	Open To Flow (2)
58	33.86	106.77	Shut-In(2)
78	639.87	107.28	End Shut-In(2)
78	1727.72	107.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
14.00	OCM - 5%o - 95%M	0.07
1.00	OCM - 50%o - 50%M	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

Ainsworth Operating Co.

33-6s-22w Graham,KS

4676 Commercial St. SE
STE # 412
Salem OR 97302
ATTN: Randy Killian

Stinemetz #1

Job Ticket: 65614

DST#: 2

Test Start: 2019.09.21 @ 19:06:00

Tool Information

Drill Pipe:	Length: 3642.00 ft	Diameter: 3.80 inches	Volume: 51.09 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: 20000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 51.24 bbl</u>	Tool Chased 8.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3677.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	93.00 ft			
Tool Length:	121.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3654.00	
Hydraulic tool	5.00			3659.00	
Jars	5.00			3664.00	
Safety Joint	3.00			3667.00	
Packer	5.00			3672.00	28.00 Bottom Of Top Packer
Packer	5.00			3677.00	
Stubb	1.00			3678.00	
Recorder	0.00	8353	Inside	3678.00	
Recorder	0.00	8366	Outside	3678.00	
Perforations	24.00			3702.00	
Blank Spacing	65.00			3767.00	
Bullnose	3.00			3770.00	93.00 Bottom Packers & Anchor

Total Tool Length: 121.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Ainsworth Operating Co.

33-6s-22w Graham,KS

4676 Commercial St. SE
STE # 412
Salem OR 97302
ATTN: Randy Killian

Stinemetz #1

Job Ticket: 65614

DST#: 2

Test Start: 2019.09.21 @ 19:06:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 55.00 sec/qt

Water Loss: 7.59 in³

Resistivity: ohm.m

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
14.00	OCM - 5%o - 95%M	0.069
1.00	OCM - 50%o - 50%M	0.005

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

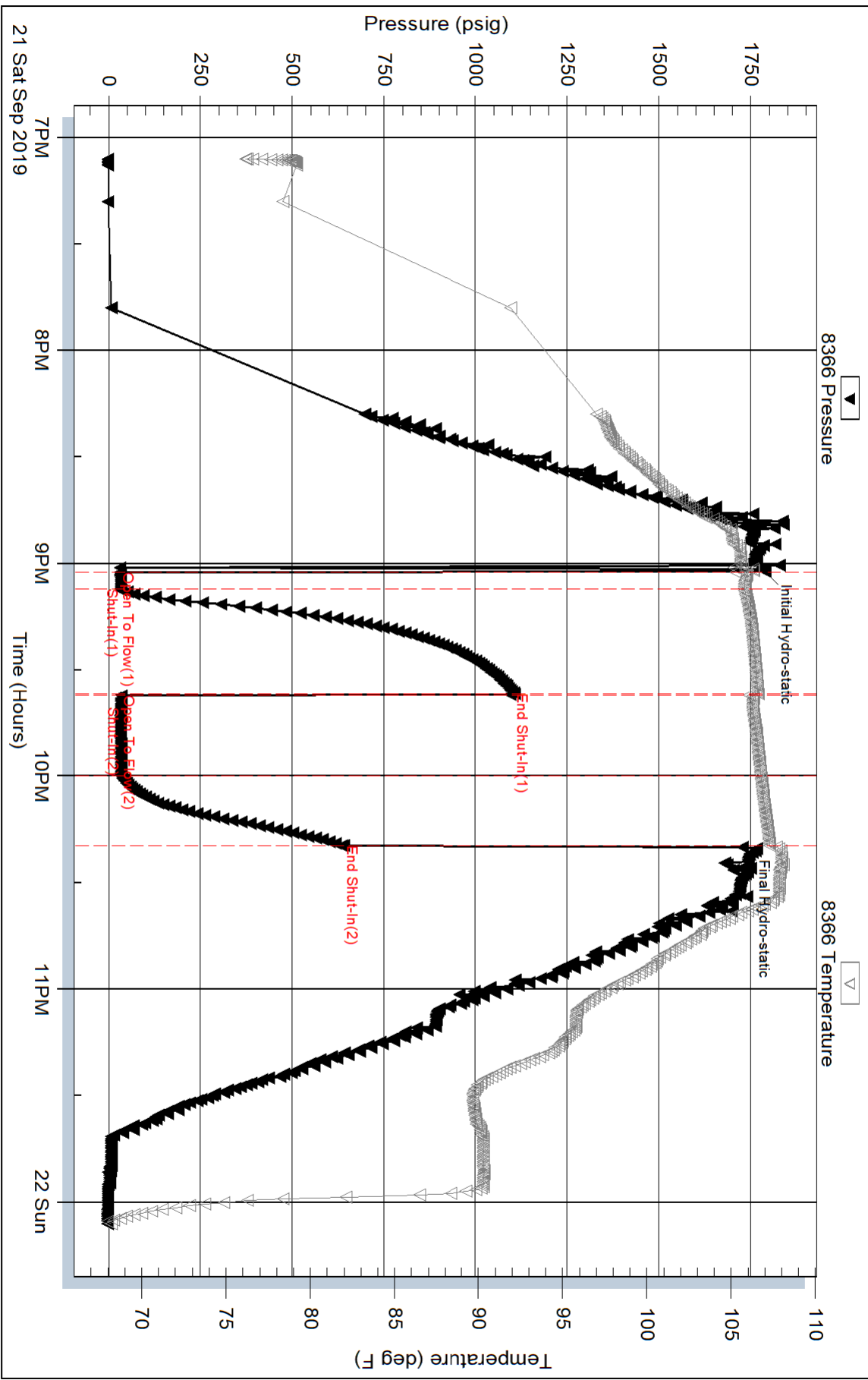
Serial #: 8366

Outside Ainsworth Operating Co.

Sinemetz #1

DST Test Number: 2

Pressure vs. Time



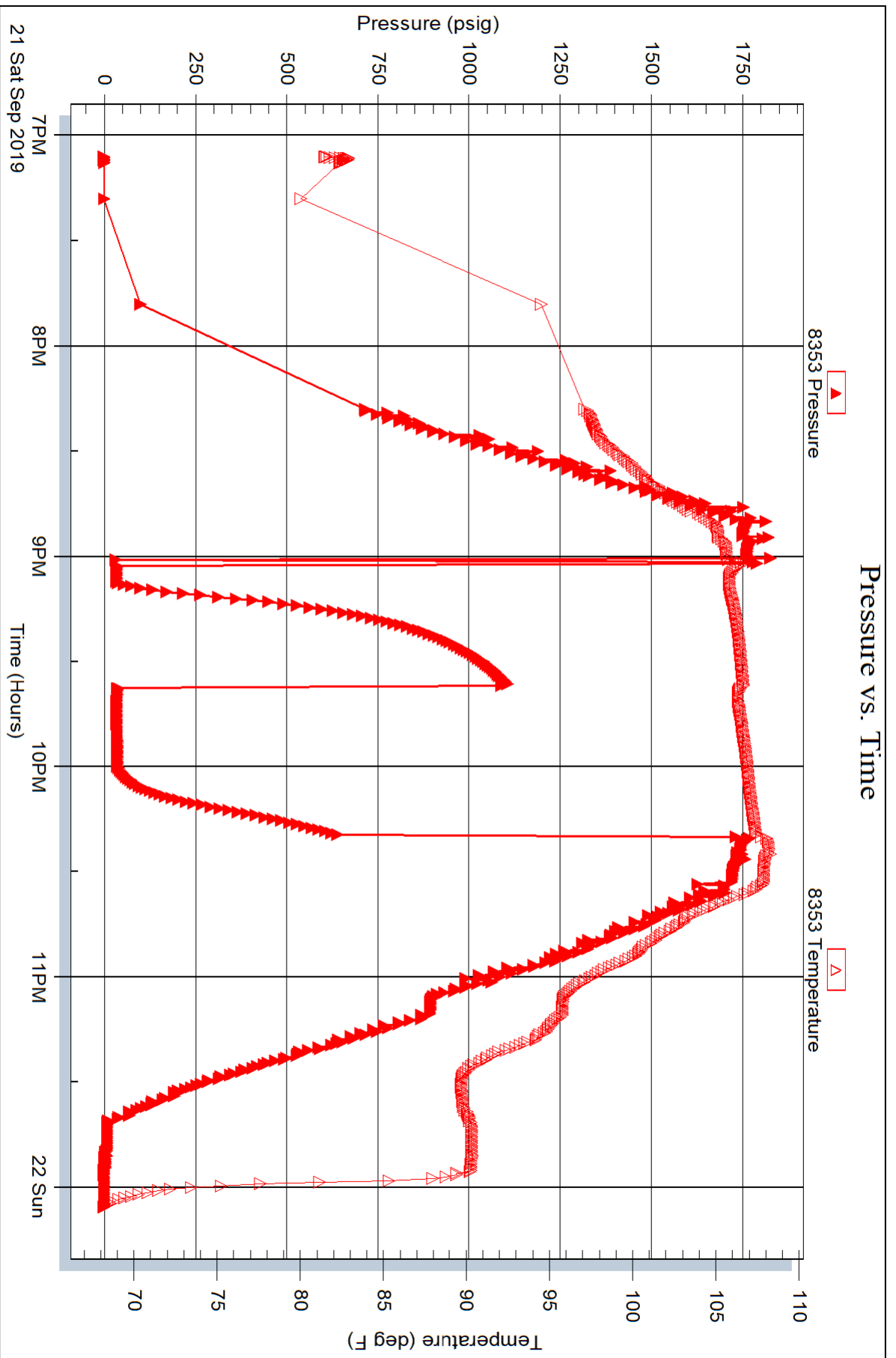
Serial #: 8353

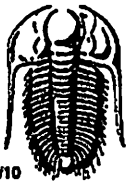
Inside

Airsw orth Operating Co.

Slinemetz #1

DST Test Number: 2





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65613

Well Name & No. Stinemetz #1 Test No. 1 Date 9/20/19
 Company Ainsworth Operating Co. Elevation 2321' KB 2317' GL
 Address 4676 Commercial St. SE STE # 412 Salem OK 97302
 Co. Rep / Geo. Randy Killian Rig Discovery #4
 Location: Sec. 33 Twp 6S Rge. 22W Co. Graham State KS

Interval Tested 3591 - 3630 Zone Tested LKC "c-D"
 Anchor Length 39' Drill Pipe Run 3552' Mud Wt. 8.8
 Top Packer Depth 3586 Drill Collars Run 31 Vls 61
 Bottom Packer Depth 3591 Wt. Pipe Run 0' WL 7.6
 Total Depth 3630 Chlorides 750 ppm System LCM 2
 Blow Description 5 IF - slide 4", Blow built to 3 1/2"
60 ISI - No return
60 FF - Blow built to BoB @ 33 mins
90 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Free Oil</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>19</u>	<u>VSO MCW</u>	<u>10</u>	<u>50</u>	<u>40</u>	<u>0</u>
<u>60</u>	<u>MCW</u>	<u>0</u>	<u>80</u>	<u>20</u>	<u>0</u>
<u>190</u>	<u>MCW</u>	<u>0</u>	<u>95</u>	<u>5</u>	<u>0</u>
<u>0</u>	<u></u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

Rec Total 270' BHT 112° Gravity — API RW .126 @ 63° F Chlorides 64,000 ppm

(A) Initial Hydrostatic <u>1802</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>22:30</u>
(B) First Initial Flow <u>20</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>21:06</u>
(C) First Final Flow <u>34</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>23:21</u>
(D) Initial Shut-In <u>533</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>02:57</u>
(E) Second Initial Flow <u>36</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>04:30</u>
(F) Second Final Flow <u>136</u>	<input checked="" type="checkbox"/> Mileage <u>130 RT 130</u>	Comments <u>—</u>
(G) Final Shut-In <u>514</u>	<input type="checkbox"/> Sampler <u>—</u>	<input type="checkbox"/> EM Tool <u>—</u>
(H) Final Hydrostatic <u>1625</u>	<input type="checkbox"/> Straddle <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer <u>—</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Sub Total <u>0</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby <u>—</u>	Total <u>1405</u>
	<input type="checkbox"/> Accessibility <u>—</u>	MP/DST Disc't <u>—</u>
	Sub Total <u>1405</u>	

Approved By _____ Our Representative Randy Killian

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. 65614

Well Name & No. Stinemetz #1 Test No. 2 Date 9/21/19
 Company Ainsworth Operating Co. Elevation 2321' KB 2317' GL
 Address 4676 Commercial St. SE STE #412 Salem OR 97302
 Co. Rep / Geo. Kandy Killian Rig Discovery #4
 Location: Sec. 33 Twp 25 Rge. 22W Co. Graham State KS

Interval Tested 3677 - 3770 Zone Tested LKC "H-2"
 Anchor Length 93' Drill Pipe Run 3642' Mud Wt. 8.9
 Top Packer Depth 3672 Drill Collars Run 31' Vls 55
 Bottom Packer Depth 3677 Wt. Pipe Run 0' WL 7.6
 Total Depth 3770 Chlorides 750 ppm System LCM 2

Blow Description 5 IF - Blow built to 1/4"
30 IFI - No return
20 FF - No blow
20 FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>OCM</u>	<u>50</u>		<u>50</u>	
<u>14</u>	<u>OCM</u>	<u>5</u>		<u>95</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 15 BHT 107° Gravity — API RW — @ — F Chlorides — ppm

(A) Initial Hydrostatic 1789
 (B) First Initial Flow 31
 (C) First Final Flow 33
 (D) Initial Shut-In 1106
 (E) Second Initial Flow 34
 (F) Second Final Flow 34
 (G) Final Shut-In 640
 (H) Final Hydrostatic 1728

Test 1200
 Jars —
 Safety Joint 75
 Circ Sub —
 Hourly Standby —
 Mileage 130 RT 130
 Sampler —
 Straddle —
 Shale Packer —
 Extra Packer —
 Extra Recorder —
 Day Standby —
 Accessibility —
 Sub Total 1405

T-On Location 18:45
 T-Started 19:06
 T-Open 21:02
 T-Pulled 22:19
 T-Out 23:55
 Comments —
 EM Tool —
 Ruined Shale Packer —
 Ruined Packer —
 Extra Copies —
 Sub Total 0
 Total 1405
 MP/DST Disc't —

Initial Open 5
 Initial Shut-In 30
 Final Flow 20
 Final Shut-In 20

Approved By _____ Our Representative Roy Nichols

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.