



DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt, Inc.**

PO Box 47
Great Bend, KS 67530

ATTN: Brad Rine

Brummer #1

4-8S-15W Osborne,KS

Start Date: 2019.09.14 @ 17:29:01

End Date: 2019.09.15 @ 00:33:22

Job Ticket #: 64494 DST #: 1

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

Printed: 2019.09.19 @ 09:29:55



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt, Inc.
 PO Box 47
 Great Bend, KS 67530
 ATTN: Brad Rine

4-8S-15W Osborne, KS

Brummer #1

Job Ticket: 64494

DST#: 1

Test Start: 2019.09.14 @ 17:29:01

GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:49:22

Time Test Ended: 00:33:22

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 2835.00 ft (KB) To 2855.00 ft (KB) (TVD)

Reference Elevations: 1883.00 ft (KB)

Total Depth: 2855.00 ft (KB) (TVD)

1875.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8700 Outside

Press@RunDepth: 16.89 psig @ 2836.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2019.09.14

End Date:

2019.09.15

Last Calib.: 2019.09.15

Start Time: 17:29:02

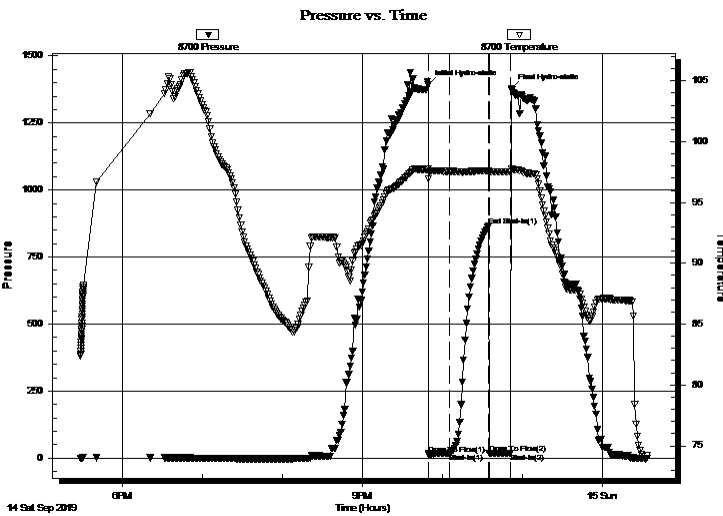
End Time:

00:33:22

Time On Btm: 2019.09.14 @ 21:49:07

Time Off Btm: 2019.09.14 @ 22:51:37

TEST COMMENT: 15- IF- Surface blow died 4 mins
 30- IS- No blow
 10- FF- No blow . Pulled tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1393.07	97.78	Initial Hydro-static
1	14.51	96.94	Open To Flow (1)
16	16.89	97.56	Shut-In(1)
46	865.16	97.62	End Shut-In(1)
46	19.23	97.46	Open To Flow (2)
62	18.64	97.54	Shut-In(2)
63	1377.18	97.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	M	0.01

Gas Rates

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



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DRILL STEM TEST REPORT

Carmen Schmitt, Inc.
 PO Box 47
 Great Bend, KS 67530
 ATTN: Brad Rine

4-8S-15W Osborne, KS
Brummer #1
 Job Ticket: 64494 **DST#: 1**
 Test Start: 2019.09.14 @ 17:29:01

GENERAL INFORMATION:

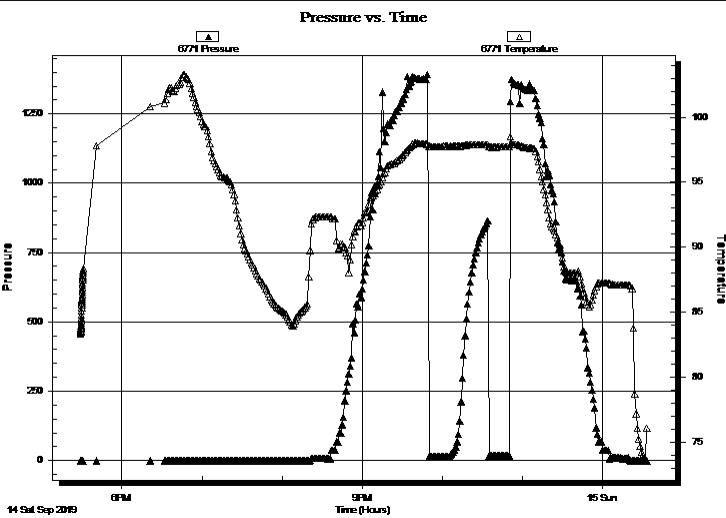
Formation: **Topeka**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 21:49:22 Tester: Brannan Lonsdale
 Time Test Ended: 00:33:22 Unit No: 73

Interval: 2835.00 ft (KB) To 2855.00 ft (KB) (TVD) Reference Elevations: 1883.00 ft (KB)
 Total Depth: 2855.00 ft (KB) (TVD) 1875.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 6771 Inside

Press@RunDepth: psig @ 2836.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.09.14 End Date: 2019.09.15 Last Calib.: 2019.09.15
 Start Time: 17:29:07 End Time: 00:33:27 Time On Btm:
 Time Off Btm:

TEST COMMENT: 15- IF- Surface blow died 4 mins
 30- ISI- No blow
 10- FF- No blow . Pulled tool



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

Recovery		
Length (ft)	Description	Volume (bbl)
3.00	M	0.01

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt, Inc.
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

4-8S-15W Osborne, KS
Brummer #1
Job Ticket: 64494 **DST#: 1**
Test Start: 2019.09.14 @ 17:29:01

Tool Information

Drill Pipe:	Length: 2783.00 ft	Diameter: 3.82 inches	Volume: 39.45 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: 57.00 ft	Diameter: 2.25 inches	Volume: 0.28 bbl	Weight to Pull Loose: 32000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 29000.00 lb
Depth to Top Packer:	2835.00 ft			Final 29000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	48.00 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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Change Over Sub	1.00			2808.00	
Shut In Tool	5.00			2813.00	
Hydraulic tool	5.00			2818.00	
Jars	5.00			2823.00	
Safety Joint	3.00			2826.00	
Packer	5.00			2831.00	28.00 Bottom Of Top Packer
Packer	4.00			2835.00	
Stubb	1.00			2836.00	
Recorder	0.00	6771	Inside	2836.00	
Recorder	0.00	8700	Outside	2836.00	
Perforations	16.00			2852.00	
Bullnose	3.00			2855.00	20.00 Bottom Packers & Anchor

Total Tool Length: 48.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt, Inc.
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

4-8S-15W Osborne, KS
Brummer #1
Job Ticket: 64494 **DST#: 1**
Test Start: 2019.09.14 @ 17:29:01

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: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3100.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

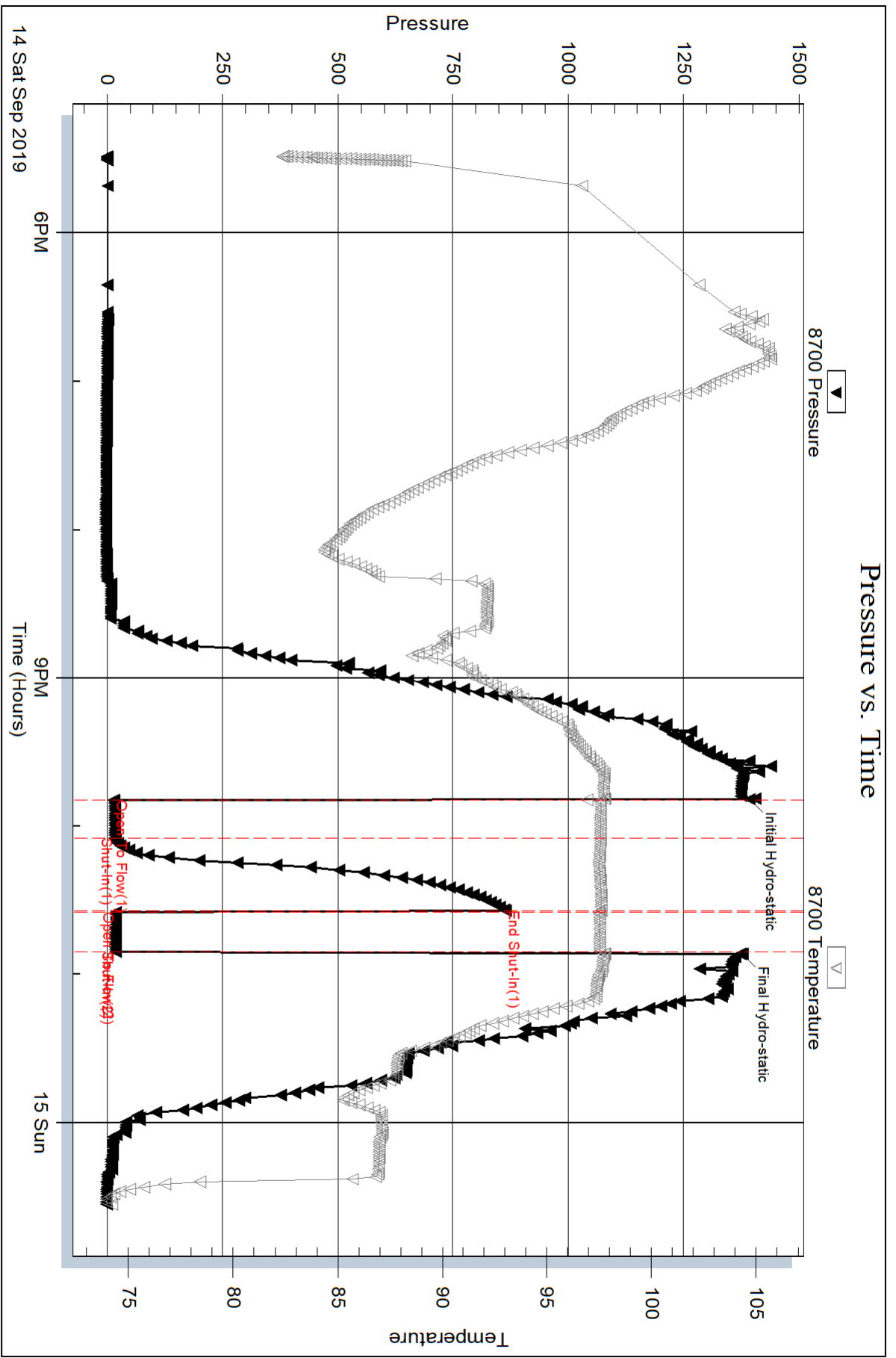
Length ft	Description	Volume bbl
3.00	M	0.015

Total Length: 3.00 ft Total Volume: 0.015 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:



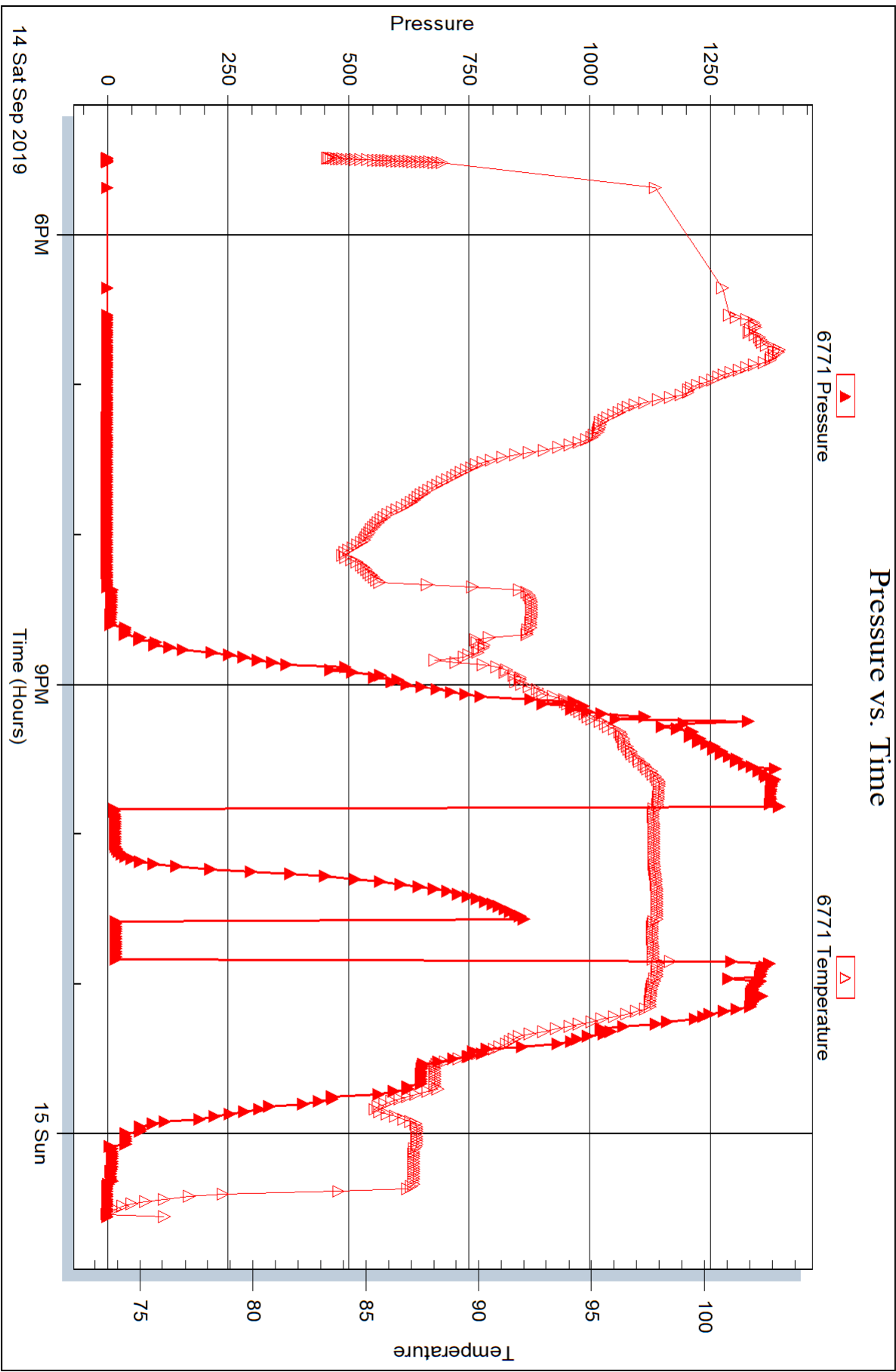
Serial #: 6771

Inside

Carmen Schmitt, Inc.

Bummer #1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt, Inc.**

PO Box 47
Great Bend, KS 67530

ATTN: Brad Rine

Brummer #1

4-8S-15W Osborne,KS

Start Date: 2019.09.15 @ 15:57:04

End Date: 2019.09.15 @ 20:50:10

Job Ticket #: 64495 DST #: 2

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

Printed: 2019.09.19 @ 09:27:34



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt, Inc.
 PO Box 47
 Great Bend, KS 67530
 ATTN: Brad Rine

4-8S-15W Osborne, KS

Brummer #1

Job Ticket: 64495

DST#: 2

Test Start: 2019.09.15 @ 15:57:04

GENERAL INFORMATION:

Formation: **Toronto - LKC "A"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:13:25
 Time Test Ended: 20:50:10
 Interval: **3037.00 ft (KB) To 3099.00 ft (KB) (TVD)**
 Total Depth: 3099.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 1883.00 ft (KB)
 1875.00 ft (CF)
 KB to GR/CF: 8.00 ft

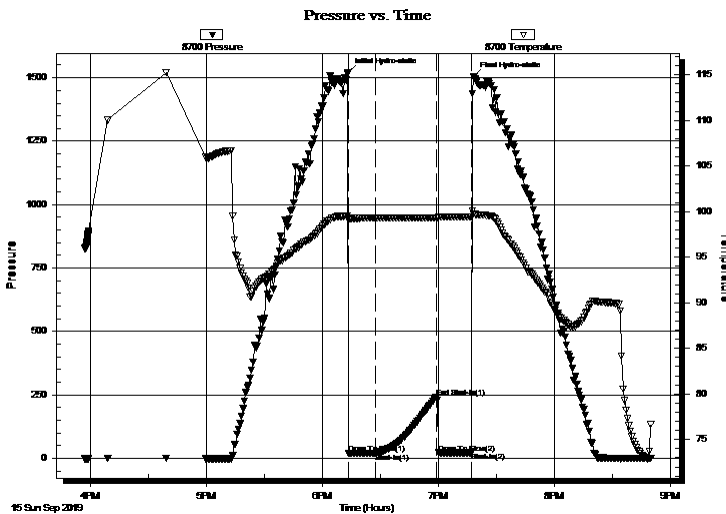
Serial #: 8700

Outside

Press@RunDepth: 20.83 psig @ 3038.00 ft (KB)
 Start Date: 2019.09.15 End Date: 2019.09.15
 Start Time: 15:57:05 End Time: 20:50:10
 Capacity: 8000.00 psig
 Last Calib.: 2019.09.15
 Time On Btm: 2019.09.15 @ 18:13:10
 Time Off Btm: 2019.09.15 @ 19:18:10

TEST COMMENT: 15- IF- Surface blow died 2 mins
 30- IS- No blow
 10- FF- No blow Pulled tool

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1520.81	99.53	Initial Hydro-static
1	20.11	99.04	Open To Flow (1)
15	20.83	99.31	Shut-In(1)
46	241.83	99.33	End Shut-In(1)
47	21.92	99.39	Open To Flow (2)
64	22.22	99.41	Shut-In(2)
65	1504.62	99.75	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	M	0.07

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt, Inc.
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

4-8S-15W Osborne, KS
Brummer #1
Job Ticket: 64495 **DST#: 2**
Test Start: 2019.09.15 @ 15:57:04

Tool Information

Drill Pipe:	Length: 3036.00 ft	Diameter: 3.82 inches	Volume: 43.04 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:	32000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial	29000.00 lb
Depth to Top Packer:	3037.00 ft			Final	29000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	62.00 ft				
Tool Length:	90.00 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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Change Over Sub	1.00			3010.00	
Shut In Tool	5.00			3015.00	
Hydraulic tool	5.00			3020.00	
Jars	5.00			3025.00	
Safety Joint	3.00			3028.00	
Packer	5.00			3033.00	28.00 Bottom Of Top Packer
Packer	4.00			3037.00	
Stubb	1.00			3038.00	
Recorder	0.00	6771	Inside	3038.00	
Recorder	0.00	8700	Outside	3038.00	
Perforations	24.00			3062.00	
Change Over Sub	1.00			3063.00	
Drill Pipe	32.00			3095.00	
Change Over Sub	1.00			3096.00	
Bullnose	3.00			3099.00	62.00 Bottom Packers & Anchor

Total Tool Length: 90.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt, Inc.

4-8S-15W Osborne, KS

PO Box 47
Great Bend, KS 67530

Brummer #1

Job Ticket: 64495

DST#: 2

ATTN: Brad Rine

Test Start: 2019.09.15 @ 15:57:04

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: 44.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	M	0.071

Total Length: 5.00 ft Total Volume: 0.071 bbl

Num Fluid Samples: 0

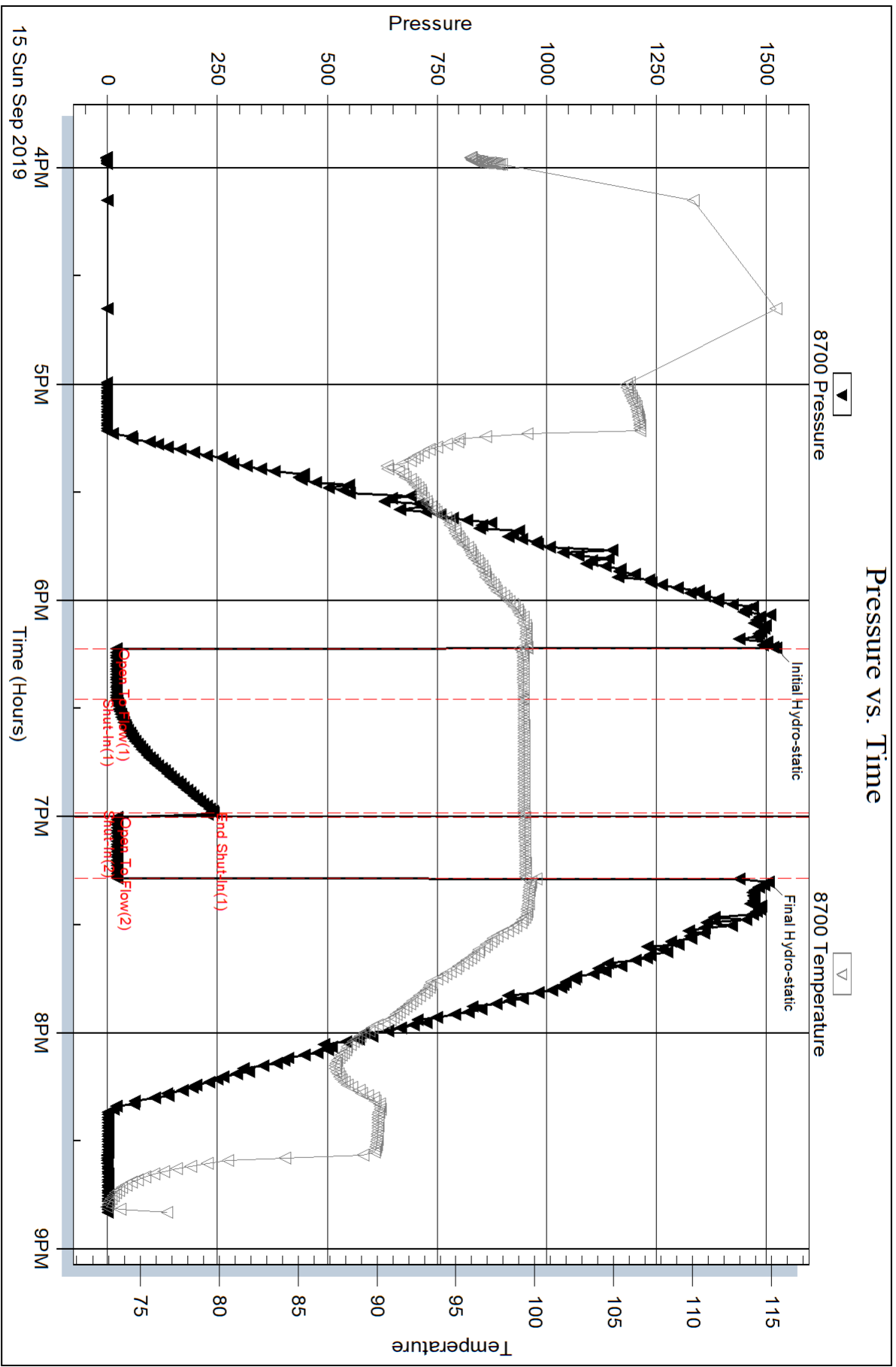
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



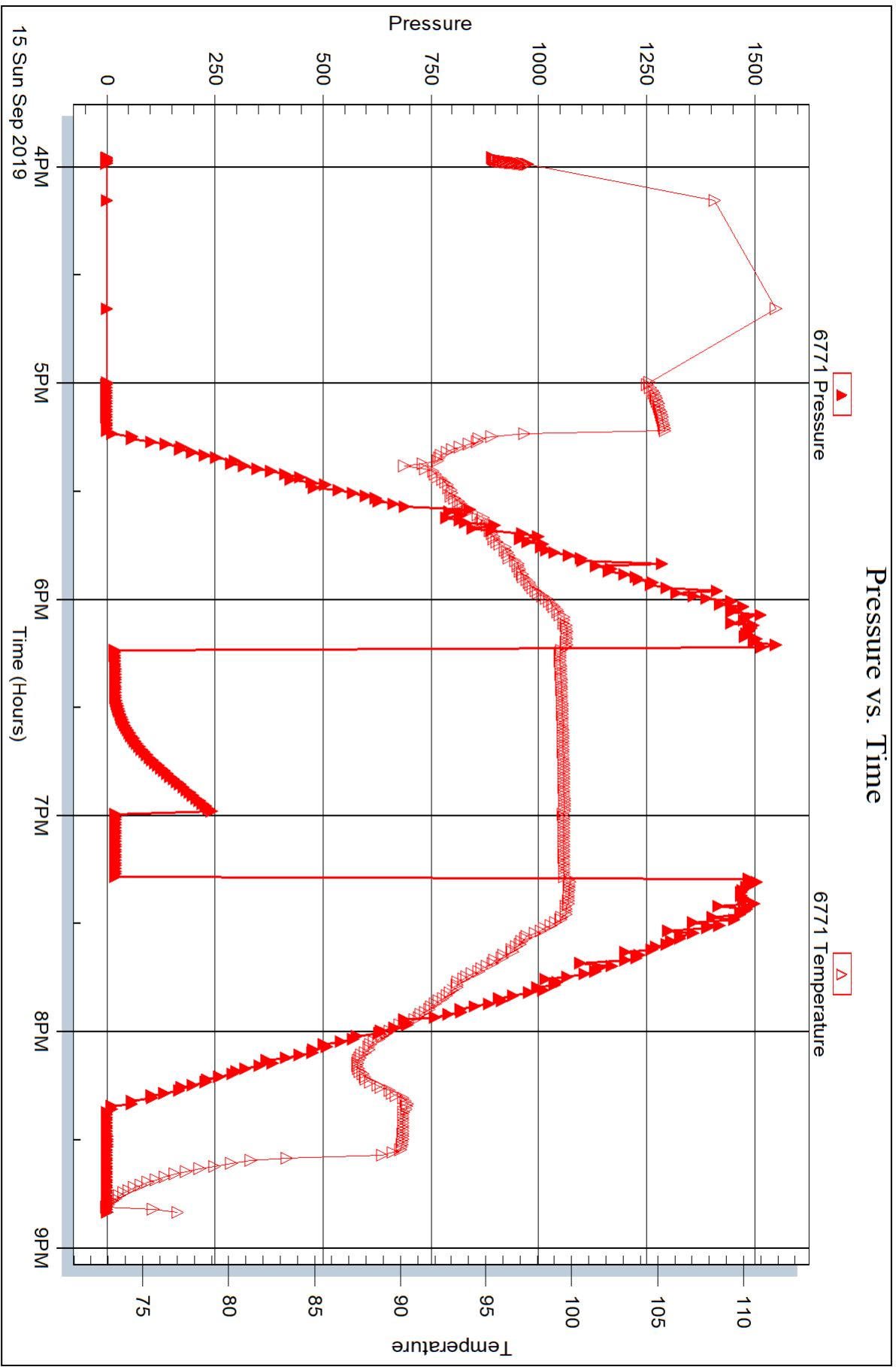
Serial #: 6771

Inside

Carmen Schmitt, Inc.

Bummer #1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt, Inc.**

PO Box 47
Great Bend, KS 67530

ATTN: Brad Rine

Brummer #1

4-8S-15W Osborne,KS

Start Date: 2019.09.16 @ 06:17:19

End Date: 2019.09.16 @ 11:24:25

Job Ticket #: 64496 DST #: 3

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

Printed: 2019.09.19 @ 09:25:58



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt, Inc.
 PO Box 47
 Great Bend, KS 67530
 ATTN: Brad Rine

4-8S-15W Osborne, KS

Brummer #1

Job Ticket: 64496

DST#: 3

Test Start: 2019.09.16 @ 06:17:19

GENERAL INFORMATION:

Formation: **LKC "A-D"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:48:55
 Time Test Ended: 11:24:25
 Interval: **3075.00 ft (KB) To 3162.00 ft (KB) (TVD)**
 Total Depth: 3162.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 1883.00 ft (KB)
 1875.00 ft (CF)
 KB to GR/CF: 8.00 ft

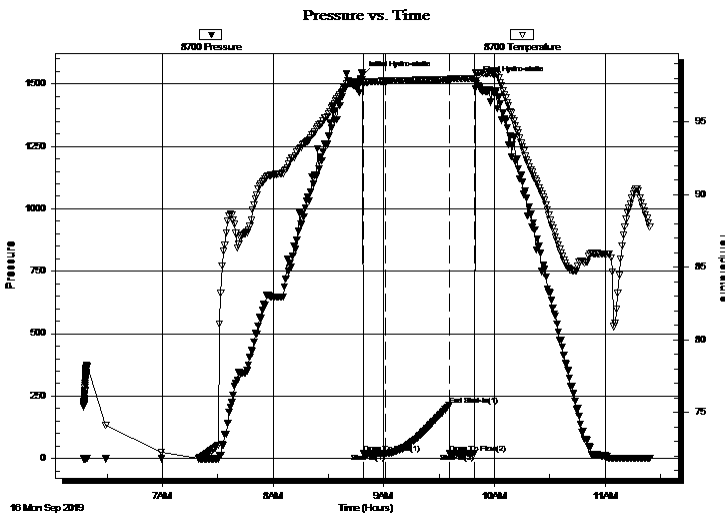
Serial #: 8700

Outside

Press@RunDepth: 20.32 psig @ 3076.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.09.16 End Date: 2019.09.16 Last Calib.: 2019.09.16
 Start Time: 06:17:20 End Time: 11:24:25 Time On Btm: 2019.09.16 @ 08:48:25
 Time Off Btm: 2019.09.16 @ 09:50:10

TEST COMMENT: 15- IF- 0.50" blow
 30- IS- No blow
 10- FF- No blow Pulled tool

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1534.60	97.93	Initial Hydro-static
1	20.90	97.57	Open To Flow (1)
13	20.32	97.83	Shut-In(1)
47	212.04	97.92	End Shut-In(1)
48	20.26	97.87	Open To Flow (2)
61	20.17	98.01	Shut-In(2)
62	1511.95	98.42	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	M	
0.00	Oil spots in tool	

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt, Inc.
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

4-8S-15W Osborne, KS

Brummer #1

Job Ticket: 64496

DST#: 3

Test Start: 2019.09.16 @ 06:17:19

GENERAL INFORMATION:

Formation: **LKC "A-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:48:55

Time Test Ended: 11:24:25

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 3075.00 ft (KB) To 3162.00 ft (KB) (TVD)

Total Depth: 3162.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1883.00 ft (KB)

1875.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 6771

Inside

Press@RunDepth: psig @ 3076.00 ft (KB)

Start Date: 2019.09.16

End Date: 2019.09.16

Capacity: 8000.00 psig

Last Calib.: 2019.09.16

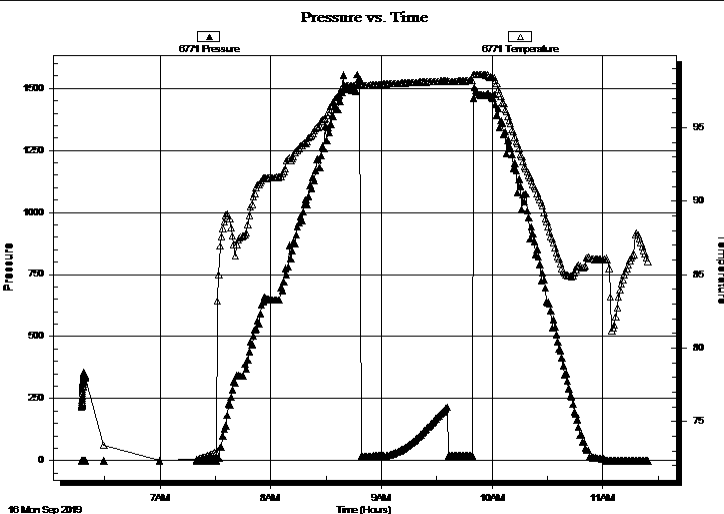
Start Time: 06:17:27

End Time: 11:24:17

Time On Btm:

Time Off Btm:

TEST COMMENT: 15- IF- 0.50" blow
30- IS- No blow
10- FF- No blow Pulled tool



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	M	
0.00	Oil spots in tool	

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt, Inc.
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

4-8S-15W Osborne, KS
Brummer #1
Job Ticket: 64496 **DST#: 3**
Test Start: 2019.09.16 @ 06:17:19

Tool Information

Drill Pipe:	Length: 3068.00 ft	Diameter: 3.82 inches	Volume: 43.49 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: ft	Diameter: 2.25 inches	Volume: - bbl	Weight to Pull Loose: 36000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 29000.00 lb
Depth to Top Packer:	3075.00 ft			Final 29000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	87.00 ft			
Tool Length:	115.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Change Over Sub	1.00			3048.00	
Shut In Tool	5.00			3053.00	
Hydraulic tool	5.00			3058.00	
Jars	5.00			3063.00	
Safety Joint	3.00			3066.00	
Packer	5.00			3071.00	28.00 Bottom Of Top Packer
Packer	4.00			3075.00	
Stubb	1.00			3076.00	
Recorder	0.00	6771	Inside	3076.00	
Recorder	0.00	8700	Outside	3076.00	
Perforations	17.00			3093.00	
Change Over Sub	1.00			3094.00	
Drill Pipe	64.00			3158.00	
Change Over Sub	1.00			3159.00	
Bullnose	3.00			3162.00	87.00 Bottom Packers & Anchor

Total Tool Length: 115.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt, Inc.

4-8S-15W Osborne, KS

PO Box 47
Great Bend, KS 67530

Brummer #1

Job Ticket: 64496

DST#: 3

ATTN: Brad Rine

Test Start: 2019.09.16 @ 06:17:19

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: 44.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
5.00	M	
0.00	Oil spots in tool	

Total Length: 5.00 ft Total Volume: bbl

Num Fluid Samples: 0

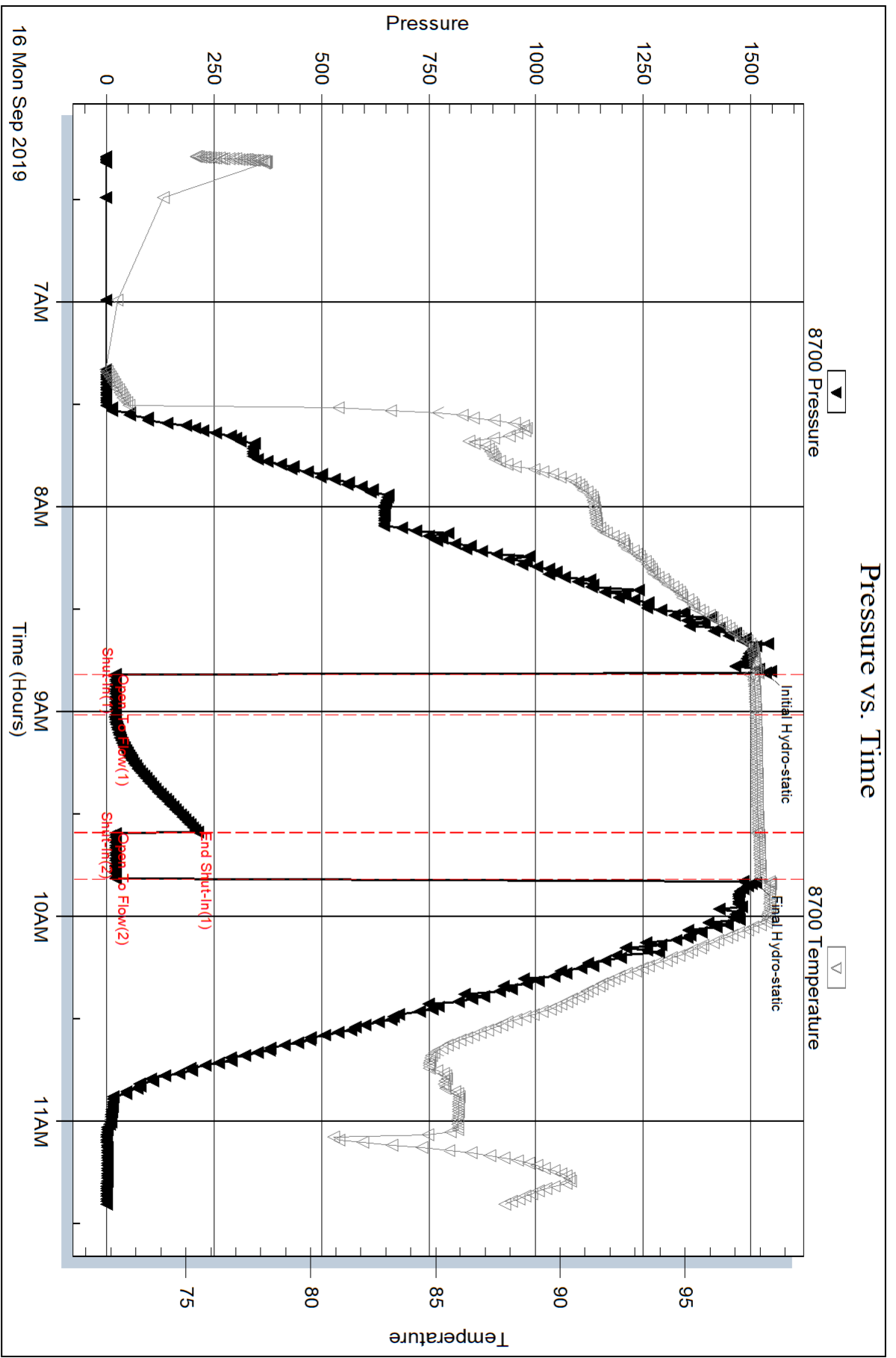
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



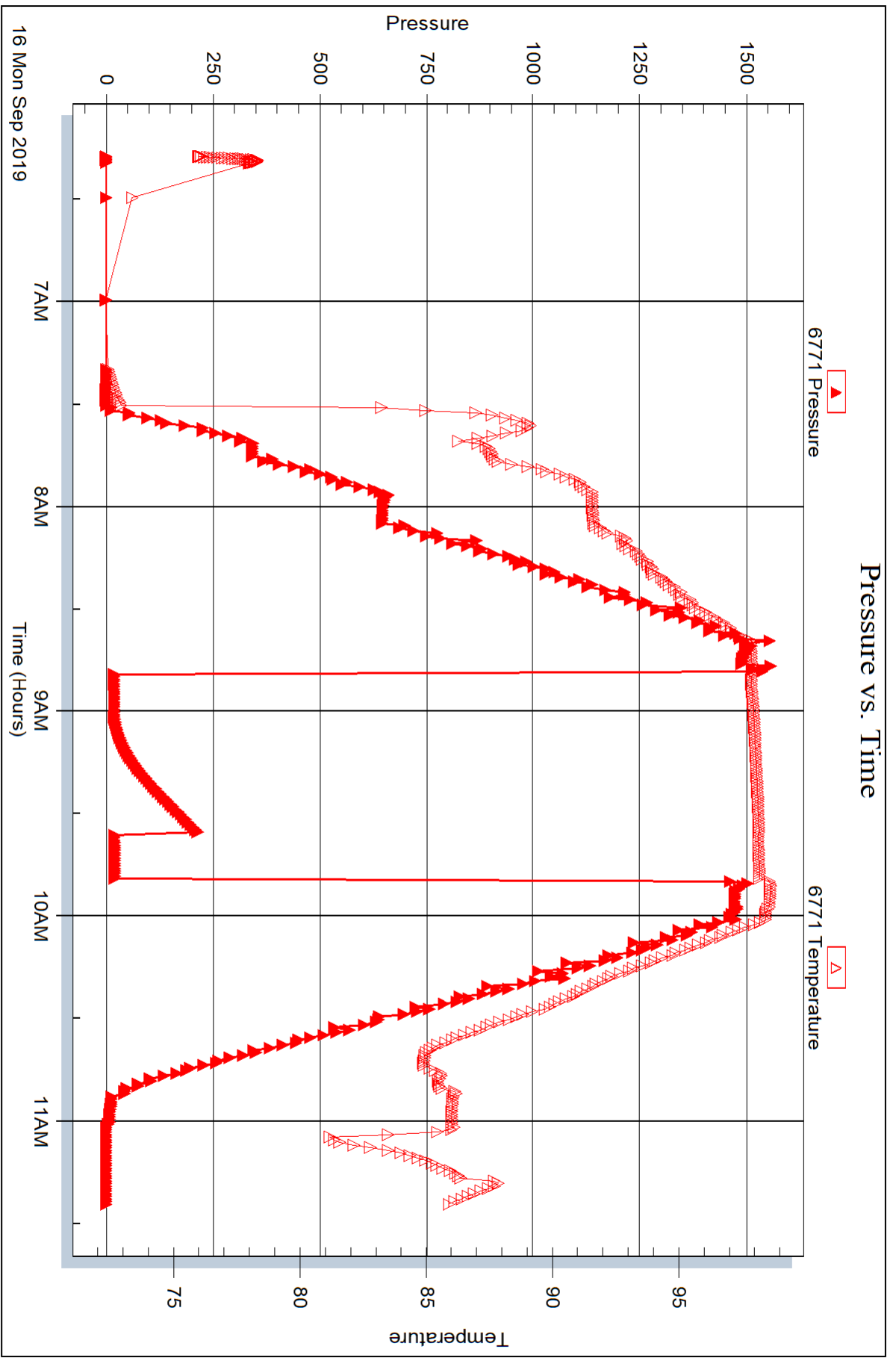
Serial #: 6771

Inside

Carmen Schmitt, Inc.

Bummer #1

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt, Inc.**

PO Box 47
Great Bend, KS 67530

ATTN: Brad Rine

Brummer #1

4-8S-15W Osborne,KS

Start Date: 2019.09.18 @ 13:27:17

End Date: 2019.09.18 @ 18:42:53

Job Ticket #: 64497 DST #: 4

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

Printed: 2019.09.19 @ 09:25:28



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt, Inc.
 PO Box 47
 Great Bend, KS 67530
 ATTN: Brad Rine

4-8S-15W Osborne, KS

Brummer #1

Job Ticket: 64497

DST#: 4

Test Start: 2019.09.18 @ 13:27:17

GENERAL INFORMATION:

Formation: **Viola**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Straddle (Reset)
 Time Tool Opened: 16:03:08
 Tester: Brannan Lonsdale
 Time Test Ended: 18:42:53
 Unit No: 73
 Interval: **3630.00 ft (KB) To 3651.00 ft (KB) (TVD)**
 Reference Elevations: 1883.00 ft (KB)
 Total Depth: 3770.00 ft (KB) (TVD)
 1875.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 8.00 ft

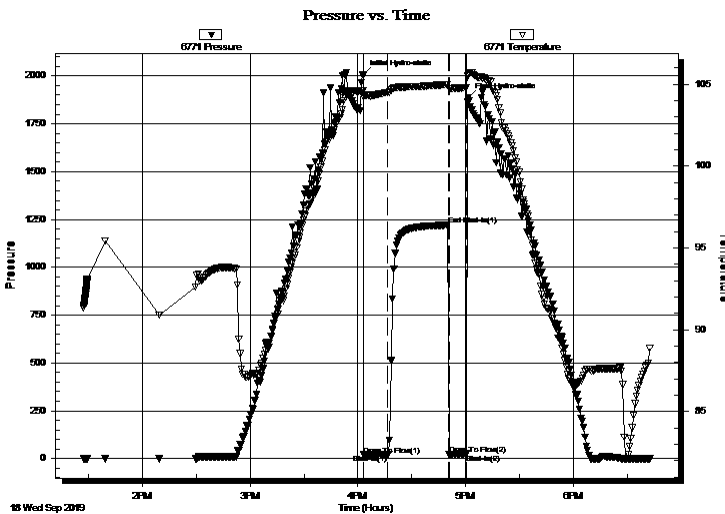
Serial #: 6771

Inside

Press@RunDepth: 20.01 psig @ 3631.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.09.18 End Date: 2019.09.18 Last Calib.: 2019.09.18
 Start Time: 13:27:18 End Time: 18:42:53 Time On Btm: 2019.09.18 @ 16:02:53
 Time Off Btm: 2019.09.18 @ 17:01:23

TEST COMMENT: 15- IF- Slowly built to 0.50"
 30- IS- No blow
 10- FF- No blow Pulled tool

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2004.97	104.62	Initial Hydro-static
1	20.08	104.27	Open To Flow (1)
14	20.01	104.50	Shut-In(1)
48	1220.40	104.99	End Shut-In(1)
48	20.73	104.72	Open To Flow (2)
58	25.05	104.78	Shut-In(2)
59	1888.27	105.57	Final Hydro-static

Recovery

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

* Recovery from multiple tests

Gas Rates

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt, Inc.
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

4-8S-15W Osborne, KS

Brummer #1

Job Ticket: 64497

DST#: 4

Test Start: 2019.09.18 @ 13:27:17

GENERAL INFORMATION:

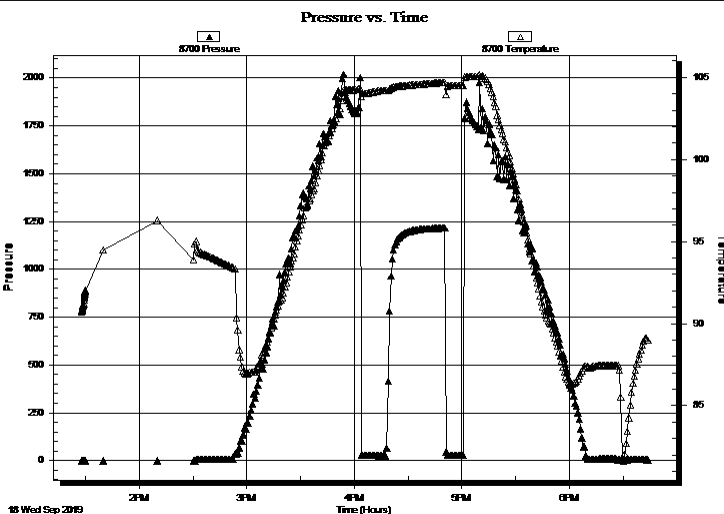
Formation: **Viola**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:03:08
 Time Test Ended: 18:42:53
 Interval: **3630.00 ft (KB) To 3651.00 ft (KB) (TVD)**
 Total Depth: 3770.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Straddle (Reset)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 1883.00 ft (KB)
 1875.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8700

Outside

Press@RunDepth: psig @ 3631.00 ft (KB)
 Start Date: 2019.09.18 End Date: 2019.09.18
 Start Time: 13:27:53 End Time: 18:43:43
 Capacity: 8000.00 psig
 Last Calib.: 2019.09.18
 Time On Btm:
 Time Off Btm:

TEST COMMENT: 15- IF- Slowly built to 0.50"
 30- IS- No blow
 10- FF- No blow Pulled tool



PRESSURE SUMMARY

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

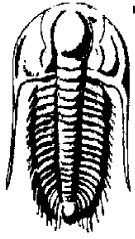
Recovery

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

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt, Inc.
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

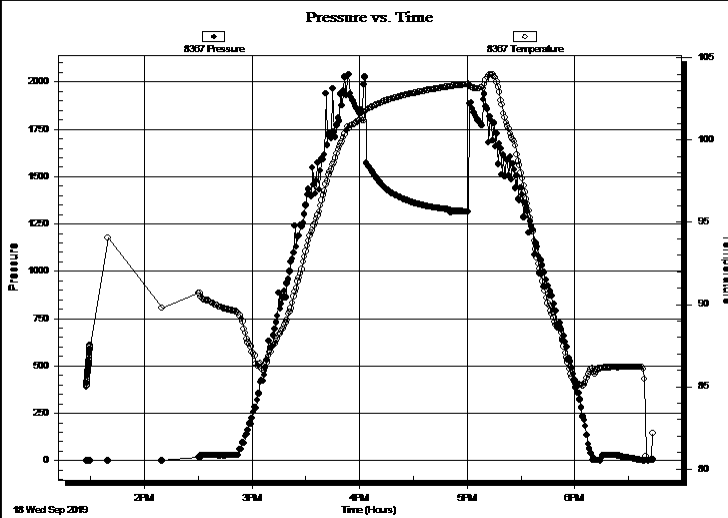
4-8S-15W Osborne, KS
Brummer #1
Job Ticket: 64497 **DST#: 4**
Test Start: 2019.09.18 @ 13:27:17

GENERAL INFORMATION:

Formation:	Viola				
Deviated:	No Whipstock:	ft (KB)	Test Type:	Conventional Straddle (Reset)	
Time Tool Opened:	16:03:08		Tester:	Brannan Lonsdale	
Time Test Ended:	18:42:53		Unit No:	73	
Interval:	3630.00 ft (KB) To 3651.00 ft (KB) (TVD)		Reference Elevations:	1883.00 ft (KB)	
Total Depth:	3770.00 ft (KB) (TVD)			1875.00 ft (CF)	
Hole Diameter:	7.88 inches	Hole Condition: Fair	KB to GR/CF:	8.00 ft	

Serial #: 8367	Below (Straddle)				
Press@RunDepth:	psig @	3671.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2019.09.18	End Date:	2019.09.18	Last Calib.:	2019.09.18
Start Time:	13:27:43	End Time:	18:43:33	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: 15- IF- Slowly built to 0.50"
30- IS- No blow
10- FF- No blow Pulled tool



PRESSURE SUMMARY

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

Recovery

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

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt, Inc.
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

4-8S-15W Osborne, KS
Brummer #1
Job Ticket: 64497 **DST#: 4**
Test Start: 2019.09.18 @ 13:27:17

Tool Information

Drill Pipe:	Length: 3634.00 ft	Diameter: 3.82 inches	Volume: 51.51 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: 40000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 37000.00 lb
Depth to Top Packer:	3630.00 ft			Final 37000.00 lb
Depth to Bottom Packer:	3651.00 ft			
Interval between Packers:	21.00 ft			
Tool Length:	168.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			3603.00	
Shut In Tool	5.00			3608.00	
Hydraulic tool	5.00			3613.00	
Jars	5.00			3618.00	
Safety Joint	3.00			3621.00	
Packer	5.00			3626.00	28.00 Bottom Of Top Packer
Packer	4.00			3630.00	
Stubb	1.00			3631.00	
Recorder	0.00	6771	Inside	3631.00	
Recorder	0.00	8700	Outside	3631.00	
Perforations	16.00			3647.00	
Blank Off Sub	1.00			3648.00	
Blank Spacing	3.00			3651.00	21.00 Tool Interval
Packer	1.00			3652.00	
Stubb	1.00			3653.00	
Perforations	17.00			3670.00	
Change Over Sub	1.00			3671.00	
Recorder	0.00	8367	Below	3671.00	
Drill Pipe	95.00			3766.00	
Change Over Sub	1.00			3767.00	
Bullnose	3.00			3770.00	119.00 Bottom Packers & Anchor

Total Tool Length: 168.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt, Inc.
PO Box 47
Great Bend, KS 67530
ATTN: Brad Rine

4-8S-15W Osborne, KS
Brummer #1
Job Ticket: 64497 **DST#: 4**
Test Start: 2019.09.18 @ 13:27:17

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: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.99 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2600.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	M	0.142

Total Length: 10.00 ft Total Volume: 0.142 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

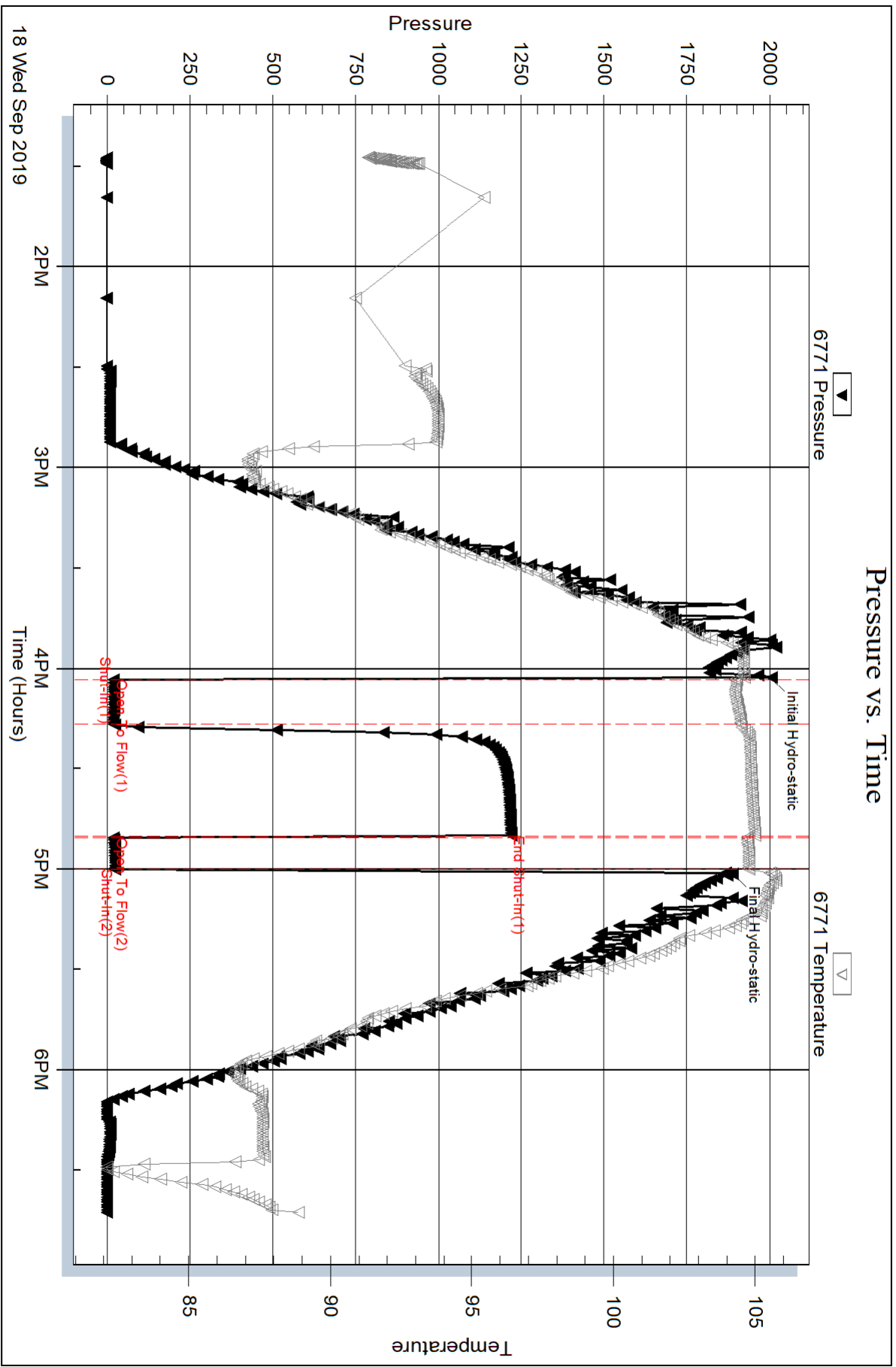
Serial #: 6771

Inside

Carmen Schmitt, Inc.

Bummer #1

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 64497

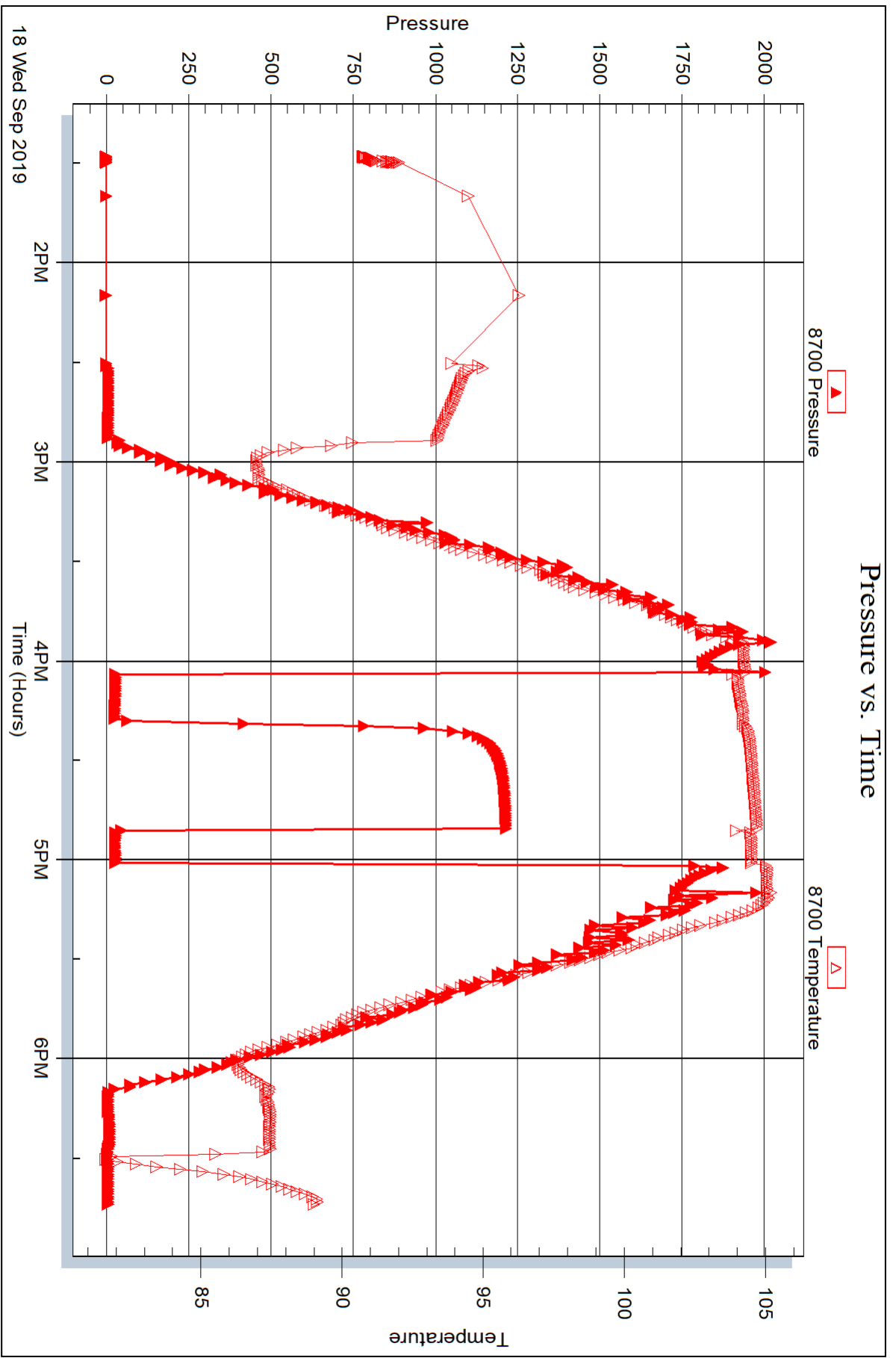
Printed: 2019.09.19 @ 09:25:29

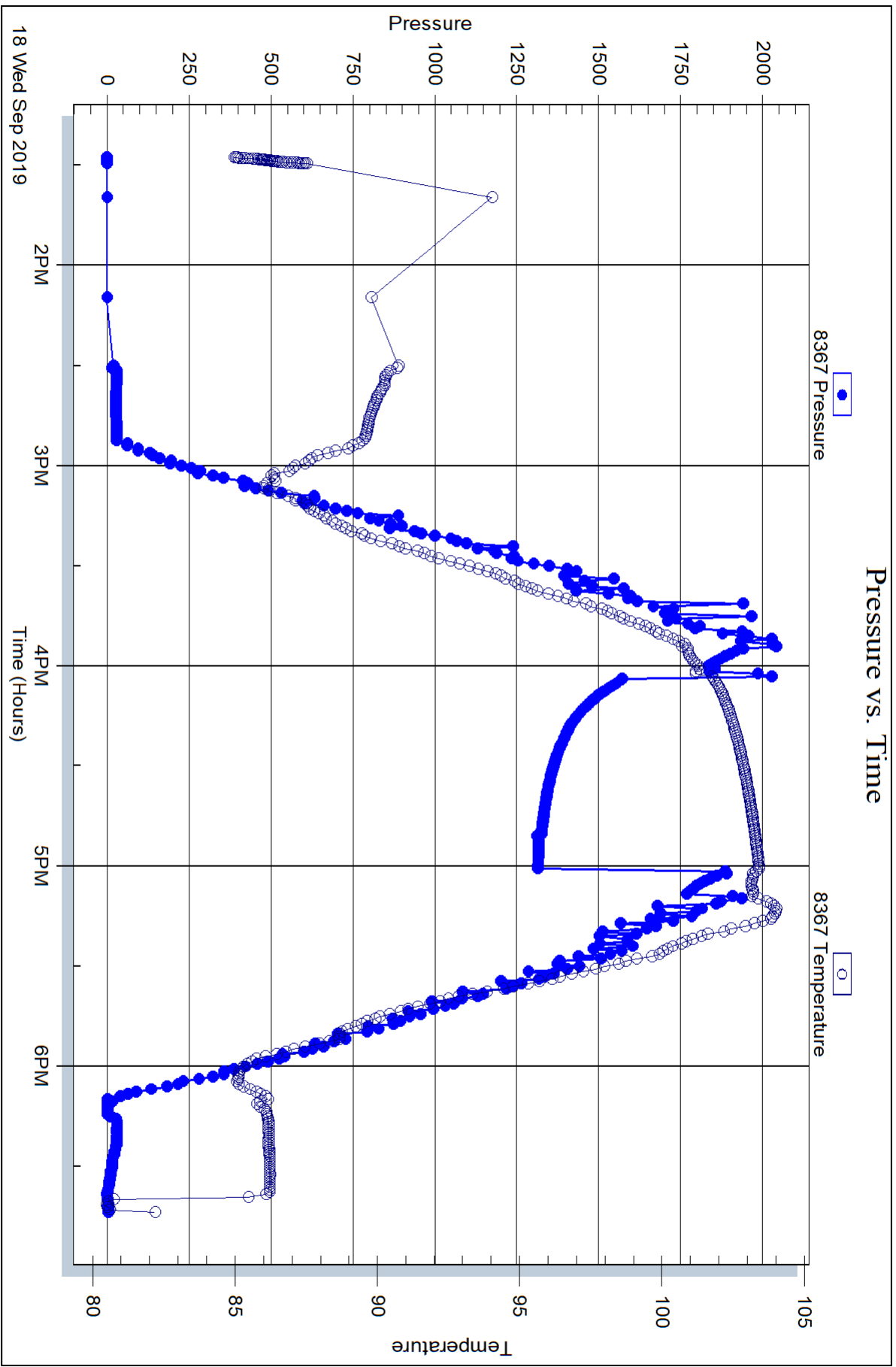
Serial #: 8700

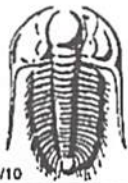
Outside Carmen Schnitt, Inc.

Bummer #1

DST Test Number: 4







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64494

Well Name & No. Brunner #1 Test No. 1 Date 9/14/19
 Company Carmen Schmitt, Inc. Elevation 1883 KB 1875 GL
 Address PO Box 47 Great Bend, KS 67530
 Co. Rep / Geo. Brad Rine Rig Southwind 3.1
 Location: Sec. 4 Twp 8 S Rge. 15 W Co. Osborne State KS

Interval Tested 2835-2855 Zone Tested Topeka
 Anchor Length 20' Drill Pipe Run 2783 Mud Wt. 8.8
 Top Packer Depth 2830 Drill Collars Run 57 Vis 49
 Bottom Packer Depth 2835 Wt. Pipe Run WL 7.2
 Total Depth 2855 Chlorides 3,100 ppm System LCM 2#

Blow Description IF - Surface blow died 4mins
ISF - No blow
FF - No blow pulled tool
BSF -

Rec	Feet of	%gas	%oil	%water	%mud
<u>3</u>	<u>M</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 3' BHT 98° Gravity API RW @ °F Chlorides ppm

(A) Initial Hydrostatic <u>1393</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>1707</u>
(B) First Initial Flow <u>15</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1729</u>
(C) First Final Flow <u>17</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2149</u>
(D) Initial Shut-In <u>865</u>	<input type="checkbox"/> Circ Sub <u> </u>	T-Pulled <u>2244</u>
(E) Second Initial Flow <u>19</u>	<input type="checkbox"/> Hourly Standby <u> </u>	T-Out <u>9/15</u> <u>0035</u>
(F) Second Final Flow <u>19</u>	<input checked="" type="checkbox"/> Mileage <u>142 RT</u> <u>142</u>	Comments <u> </u>
(G) Final Shut-In <u> </u>	<input type="checkbox"/> Sampler <u> </u>	<u> </u>
(H) Final Hydrostatic <u>1377</u>	<input type="checkbox"/> Straddle <u> </u>	<input type="checkbox"/> Ruined Shale Packer <u> </u>
Initial Open <u>15</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer <u> </u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer <u> </u>	<input type="checkbox"/> Extra Copies <u> </u>
Final Flow <u>10↑</u>	<input type="checkbox"/> Extra Recorder <u> </u>	Sub Total <u>0</u>
Final Shut-In <u> </u>	<input type="checkbox"/> Day Standby <u> </u>	Total <u>1917</u>
	<input type="checkbox"/> Accessibility <u> </u>	MP/DST Disc't <u> </u>
	Sub Total <u>1917</u>	

Approved By Our Representative Brennan 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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64495

Well Name & No. Brummer #1-2 Test No. 2 Date 9/15/19
 Company Carmen Schmitt, Inc. Elevation 1883 KB 1875 GL
 Address PO Box 47 Great Bend, KS 67530
 Co. Rep / Geo. Broad Rine Rig Southwind 3.1
 Location: Sec. 4 Twp 8 S Rge. 15 W Co. Osborne State KS

Interval Tested 3037-3099 Zone Tested Toronto-LKC "A"
 Anchor Length 62 Drill Pipe Run 8036 Mud Wt. 9.4
 Top Packer Depth 3032 Drill Collars Run --- Vis 44
 Bottom Packer Depth 3037 Wt. Pipe Run --- WL 8.0
 Total Depth 3099 Chlorides 2,700 ppm System LCM 1#
 Blow Description IF- Surface blow died 2 mins
ISI- No blow
FP- No blow Pulled tool
PSI-

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>M</u>				
Rec	Feet of	%gas	%oil	%water	%mud
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 99° Gravity --- API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic <u>1521</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>1543</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1557</u>
(C) First Final Flow <u>21</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1813</u>
(D) Initial Shut-In <u>242</u>	<input type="checkbox"/> Circ Sub <u>---</u>	T-Pulled <u>1908</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby <u>---</u>	T-Out <u>2052</u>
(F) Second Final Flow <u>22</u>	<input checked="" type="checkbox"/> Mileage <u>142 RT</u> 142	Comments <u>---</u>
(G) Final Shut-In <u>---</u>	<input type="checkbox"/> Sampler <u>---</u>	
(H) Final Hydrostatic <u>150.5</u>	<input type="checkbox"/> Straddle <u>---</u>	<input type="checkbox"/> Ruined Shale Packer <u>---</u>
Initial Open <u>15</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer <u>---</u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer <u>---</u>	<input type="checkbox"/> Extra Copies <u>---</u>
Final Flow <u>10↑</u>	<input type="checkbox"/> Extra Recorder <u>---</u>	Sub Total <u>0</u>
Final Shut-In <u>---</u>	<input type="checkbox"/> Day Standby <u>---</u>	Total <u>1917</u>
	<input type="checkbox"/> Accessibility <u>---</u>	MP/DST Disc't <u>---</u>
	Sub Total <u>1917</u>	

Approved By _____ Our Representative Brennan Lousdale
 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. 64496

Well Name & No. Brunner #1 Test No. 3 Date 9/16/19
 Company Carmen Schmitt, Inc. Elevation 1883 KB 1875 GL
 Address PO Box 47 Great Bend, KS 67530
 Co. Rep / Geo. Brad Rine Rig Southwind 3.1
 Location: Sec. 4 Twp 8 S Rge. 15 W Co. Osborne State KS

Interval Tested 3075-3162 Zone Tested LKC "A-D"
 Anchor Length 87' Drill Pipe Run 3068 Mud Wt. 9.4
 Top Packer Depth 3070 Drill Collars Run --- Vis 44
 Bottom Packer Depth 3075 Wt. Pipe Run --- WL 8.0
 Total Depth 3162 Chlorides 2,700 ppm System LCM 1#

Blow Description IF- 1/2" blow
ISI- No blow
FF- No blow Pulled tool
FSP-

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>M</u>				
	<u>Oil spots in tool</u>				

Rec Total 5' BHT 98° Gravity --- API RW --- @ --- F Chlorides --- ppm

(A) Initial Hydrostatic <u>1535</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>0603</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0617</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0848</u>
(D) Initial Shut-In <u>212</u>	<input type="checkbox"/> Circ Sub <u>---</u>	T-Pulled <u>0943</u>
(E) Second Initial Flow <u>20</u>	<input type="checkbox"/> Hourly Standby <u>---</u>	T-Out <u>1126</u>
(F) Second Final Flow <u>20</u>	<input checked="" type="checkbox"/> Mileage <u>142 BT</u> 142	Comments <u>---</u>
(G) Final Shut-In <u>---</u>	<input type="checkbox"/> Sampler <u>---</u>	
(H) Final Hydrostatic <u>1512</u>	<input type="checkbox"/> Straddle <u>---</u>	<input type="checkbox"/> Ruined Shale Packer <u>---</u>
	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer <u>---</u>
Initial Open <u>15</u>	<input type="checkbox"/> Extra Packer <u>---</u>	<input type="checkbox"/> Extra Copies <u>---</u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder <u>---</u>	Sub Total <u>0</u>
Final Flow <u>10↑</u>	<input type="checkbox"/> Day Standby <u>---</u>	Total <u>1917</u>
Final Shut-In <u>---</u>	<input type="checkbox"/> Accessibility <u>---</u>	MP/DST Disc't <u>---</u>
	Sub Total <u>1917</u>	

Approved By _____ Our Representative Brian Lonsdale

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64497

Well Name & No. Brunner #1 Test No. 4 Date 9/18/19
 Company Carmen Schmitt, Inc. Elevation 1883 KB 1875 GL
 Address PO Box 47 Creek Bend, KS 67530
 Co. Rep / Geo. Brad Rine Rig Southwind 3.1
 Location: Sec. 4 Twp 8 S Rge. 15 W Co. Osborne State KS

Interval Tested 3630-3651 Zone Tested Viola
 Anchor Length 21' Tail: 119' Drill Pipe Run 3634 Mud Wt. 9.3
 Top Packer Depth 3625-3630 Drill Collars Run --- Vis 50
 Bottom Packer Depth 3651 Wt. Pipe Run --- WL 8.0
 Total Depth 3770 Chlorides 3,600 ppm System LCM 1#
 Blow Description IF - slowly built to 0.50"
IST - No blow
FF - No blow Pulled tool
EST -

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

Rec Total 10' BHT 105° Gravity --- API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic <u>2005</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>1226</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1327</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1402</u>
(D) Initial Shut-In <u>1220</u>	<input type="checkbox"/> Circ Sub <u>---</u>	T-Pulled <u>1457</u>
(E) Second Initial Flow <u>21</u>	<input type="checkbox"/> Hourly Standby <u>---</u>	T-Out <u>1842</u>
(F) Second Final Flow <u>25</u>	<input checked="" type="checkbox"/> Mileage <u>142 RT</u> <u>142</u>	Comments <u>---</u>
(G) Final Shut-In <u>1</u>	<input type="checkbox"/> Sampler <u>---</u>	
(H) Final Hydrostatic <u>1888</u>	<input checked="" type="checkbox"/> Straddle <u>600</u>	<input type="checkbox"/> Ruined Shale Packer <u>---</u>
	<input checked="" type="checkbox"/> Shale Packer <u>x2</u> <u>500</u>	<input type="checkbox"/> Ruined Packer <u>---</u>
Initial Open <u>15</u>	<input type="checkbox"/> Extra Packer <u>---</u>	<input type="checkbox"/> Extra Copies <u>---</u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder <u>---</u>	Sub Total <u>433.33</u>
Final Flow <u>10↑</u>	<input checked="" type="checkbox"/> Day Standby <u>1.5d 13h</u>	Total <u>3200.33</u>
Final Shut-In <u>---</u>	<input type="checkbox"/> Accessibility <u>---</u>	MP/DST Disc't <u>---</u>
	Sub Total <u>2767</u>	

Approved By _____

Our Representative Brannan Lousdale

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