



DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating, Inc**

PO Box 86
Plainville KS 67663

ATTN: Marc Downing

Billips #19-1

19-8s-21w Graham KS

Start Date: 2013.11.02 @ 02:26:00

End Date: 2013.11.02 @ 12:21:00

Job Ticket #: 54492 DST #: 1

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

Printed: 2013.11.06 @ 14:39:33



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

H&C Oil Operating, Inc
 PO Box 86
 Plainville KS 67663
 ATTN: Marc Downing

19-8s-21w Graham KS

Billips #19-1

Job Ticket: 54492

DST#: 1

Test Start: 2013.11.02 @ 02:26:00

GENERAL INFORMATION:

Formation: **LKC "A"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:18:15
 Time Test Ended: 12:21:00
 Interval: **3348.00 ft (KB) To 3384.00 ft (KB) (TVD)**
 Total Depth: 3384.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Cody Bloedorn
 Unit No: 53
 Reference Elevations: 2130.00 ft (KB)
 2125.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6799

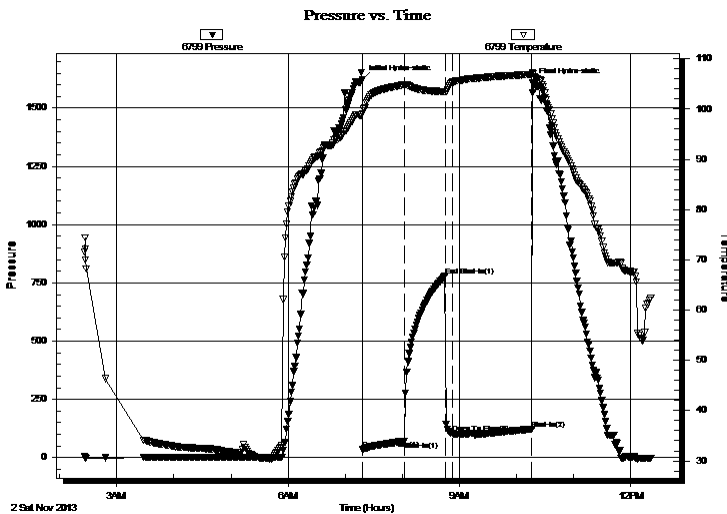
Inside

Press @ Run Depth: 71.47 psig @ 3349.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.11.02 End Date: 2013.11.02 Last Calib.: 2013.11.02
 Start Time: 02:26:05 End Time: 12:21:00 Time On Btm: 2013.11.02 @ 07:17:45
 Time Off Btm: 2013.11.02 @ 10:16:45

TEST COMMENT: 45 - IF- B.O.B. in 24 Minutes
 45 - IS- No return
 30 - FF- 1 1/2" blow
 60 - FS- No return for 10 minutes, 1 1/2" return

PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1623.59	99.03	Initial Hydro-static
1	34.53	99.08	Open To Flow (1)
45	71.47	104.88	Shut-In(1)
87	778.16	103.47	End Shut-In(1)
95	102.89	105.31	Open To Flow (2)
178	122.57	106.87	Shut-In(2)
179	1610.43	107.30	Final Hydro-static



Recovery

Length (ft)	Description	Volume (bbl)
62.00	Mud - w ith oil spots, 100%M	0.87
248.00	WM - w ith oil spots, 20%W, 80%M	3.48

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&C Oil Operating, Inc

19-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Billips #19-1

Job Ticket: 54492

DST#: 1

ATTN: Marc Downing

Test Start: 2013.11.02 @ 02:26:00

Tool Information

Drill Pipe:	Length: 3345.00 ft	Diameter: 3.80 inches	Volume: 46.92 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: lb
			<u>Total Volume: 46.92 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial lb
Depth to Top Packer:	3348.00 ft			Final lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Driller turned tool too many times bc table kept spinning. We lost count of turns bc of it.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3328.00	
Shut In Tool	5.00			3333.00	
Hydraulic tool	5.00			3338.00	
Packer	5.00			3343.00	21.00 Bottom Of Top Packer
Packer	5.00			3348.00	
Stubb	1.00			3349.00	
Recorder	0.00	6799	Inside	3349.00	
Recorder	0.00	8648	Outside	3349.00	
Perforations	32.00			3381.00	
Bullnose	3.00			3384.00	36.00 Bottom Packers & Anchor
Total Tool Length:	57.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating, Inc

19-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Billips #19-1

Job Ticket: 54492

DST#: 1

ATTN: Marc Downing

Test Start: 2013.11.02 @ 02:26:00

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:

bbbl

Water Loss: 5.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	Mud - with oil spots, 100%M	0.870
248.00	WM - with oil spots, 20%W, 80%M	3.479

Total Length: 310.00 ft

Total Volume: 4.349 bbl

Num Fluid Samples: 0

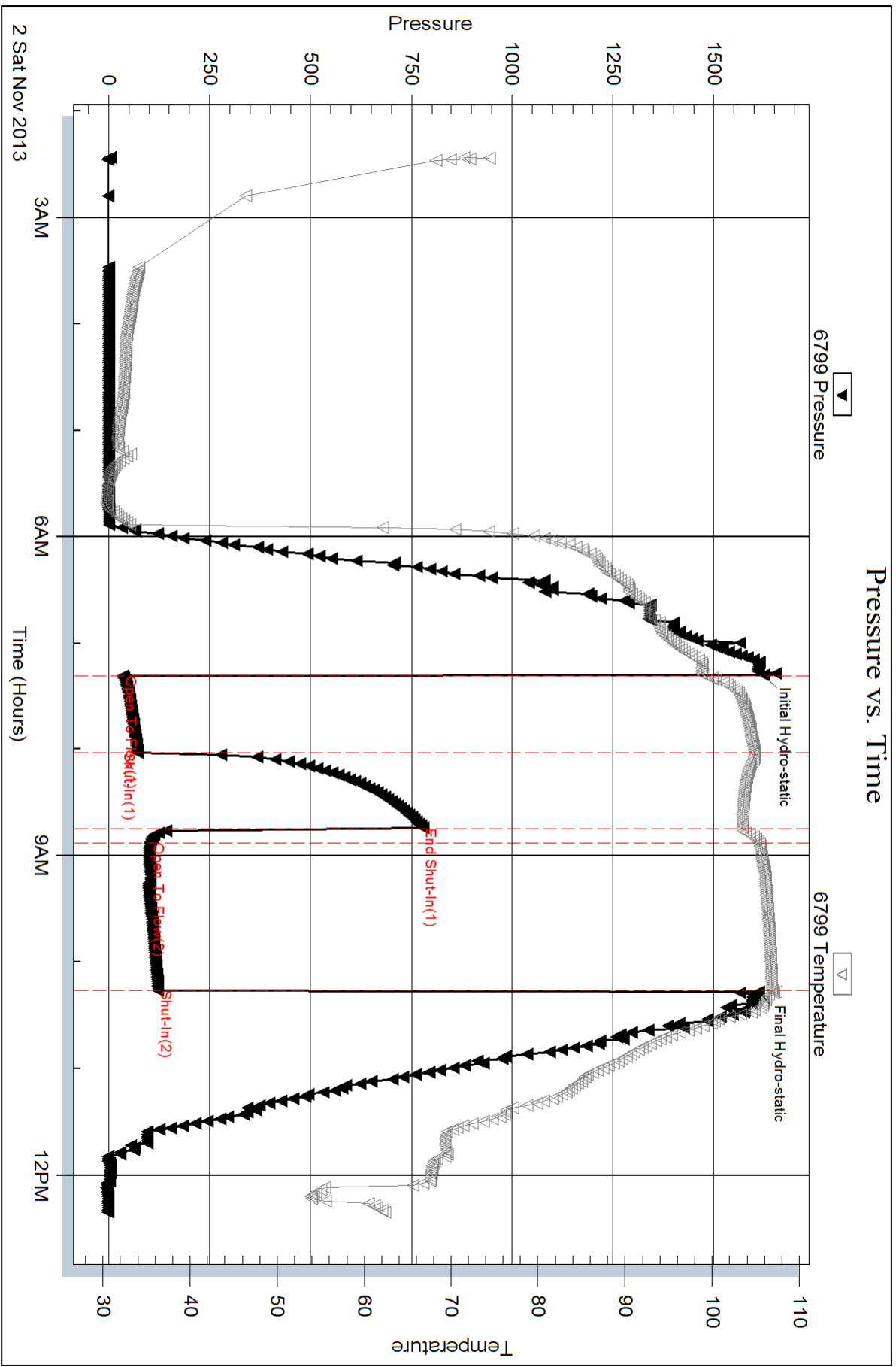
Num Gas Bombs: 0

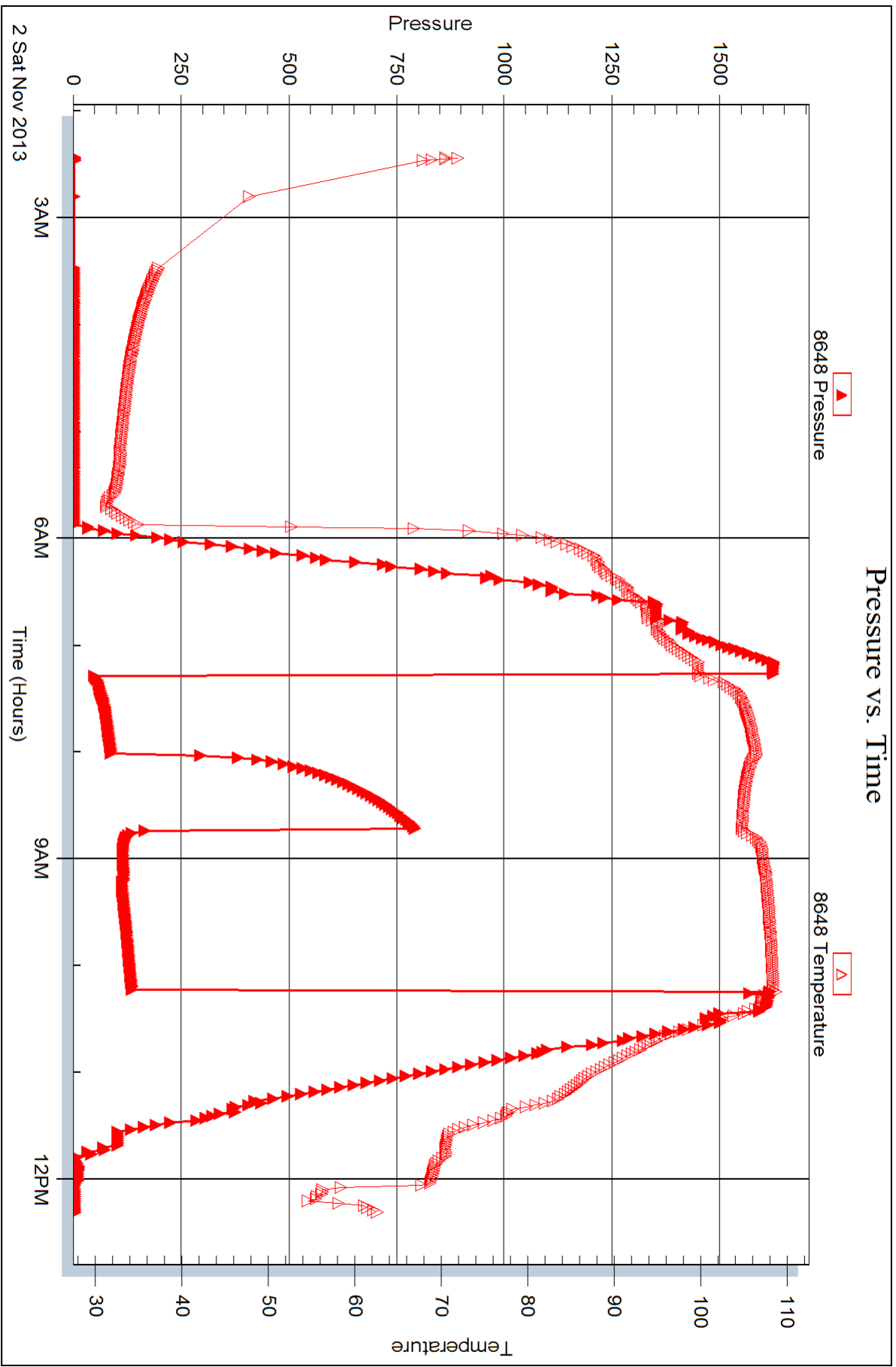
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating, Inc**

PO Box 86
Plainville KS 67663

ATTN: Marc Downing

Billips #19-1

19-8s-21w Graham KS

Start Date: 2013.11.02 @ 18:50:00

End Date: 2013.11.03 @ 01:03:15

Job Ticket #: 54493 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.11.06 @ 14:38:58

H&C Oil Operating, Inc
19-8s-21w Graham KS
Billips #19-1
DST # 2
LKC "C"
2013.11.02



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

H&C Oil Operating, Inc
 PO Box 86
 Plainville KS 67663
 ATTN: Marc Downing

19-8s-21w Graham KS

Billips #19-1

Job Ticket: 54493

DST#: 2

Test Start: 2013.11.02 @ 18:50:00

GENERAL INFORMATION:

Formation: **LKC "C"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:04:30
 Time Test Ended: 01:03:15
 Interval: **3379.00 ft (KB) To 3407.00 ft (KB) (TVD)**
 Total Depth: 3407.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Cody Bloedorn
 Unit No: 53
 Reference Elevations: 2130.00 ft (KB)
 2125.00 ft (CF)
 KB to GR/CF: 5.00 ft

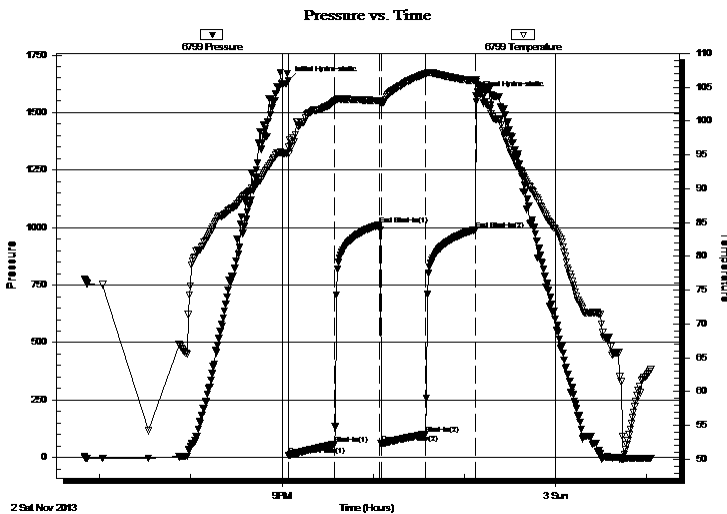
Serial #: 6799

Inside

Press @ Run Depth: 101.75 psig @ 3380.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.11.02 End Date: 2013.11.03 Last Calib.: 2013.11.03
 Start Time: 18:50:05 End Time: 01:03:14 Time On Btm: 2013.11.02 @ 21:04:15
 Time Off Btm: 2013.11.02 @ 23:07:45

TEST COMMENT: 30 - IF- 1/4" blow
 30 - IS- No return
 30 - FF- Surged and died
 30 - FS- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1639.75	96.13	Initial Hydro-static
1	10.10	95.13	Open To Flow (1)
31	57.38	102.90	Shut-In(1)
61	1012.47	102.97	End Shut-In(1)
61	60.19	102.57	Open To Flow (2)
90	101.75	106.96	Shut-In(2)
123	991.50	105.96	End Shut-In(2)
124	1571.92	106.14	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	Mud, 100%M	0.87
124.00	MW - show of oil, 10%M, 90%W	1.74

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&C Oil Operating, Inc

19-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Billips #19-1

Job Ticket: 54493

DST#: 2

ATTN: Marc Downing

Test Start: 2013.11.02 @ 18:50:00

Tool Information

Drill Pipe:	Length: 3376.00 ft	Diameter: 3.80 inches	Volume: 47.36 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 42000.00 lb
			<u>Total Volume: 47.36 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3379.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	49.00 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			3359.00	
Shut In Tool	5.00			3364.00	
Hydraulic tool	5.00			3369.00	
Packer	5.00			3374.00	21.00 Bottom Of Top Packer
Packer	5.00			3379.00	
Stubb	1.00			3380.00	
Recorder	0.00	6799	Inside	3380.00	
Recorder	0.00	8648	Outside	3380.00	
Perforations	24.00			3404.00	
Bullnose	3.00			3407.00	28.00 Bottom Packers & Anchor
Total Tool Length:	49.00				



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating, Inc

19-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Billips #19-1

Job Ticket: 54493

DST#: 2

ATTN: Marc Downing

Test Start: 2013.11.02 @ 18:50:00

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:

30000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	Mud, 100%M	0.870
124.00	MW - show of oil, 10%M, 90%W	1.739

Total Length: 186.00 ft Total Volume: 2.609 bbl

Num Fluid Samples: 0

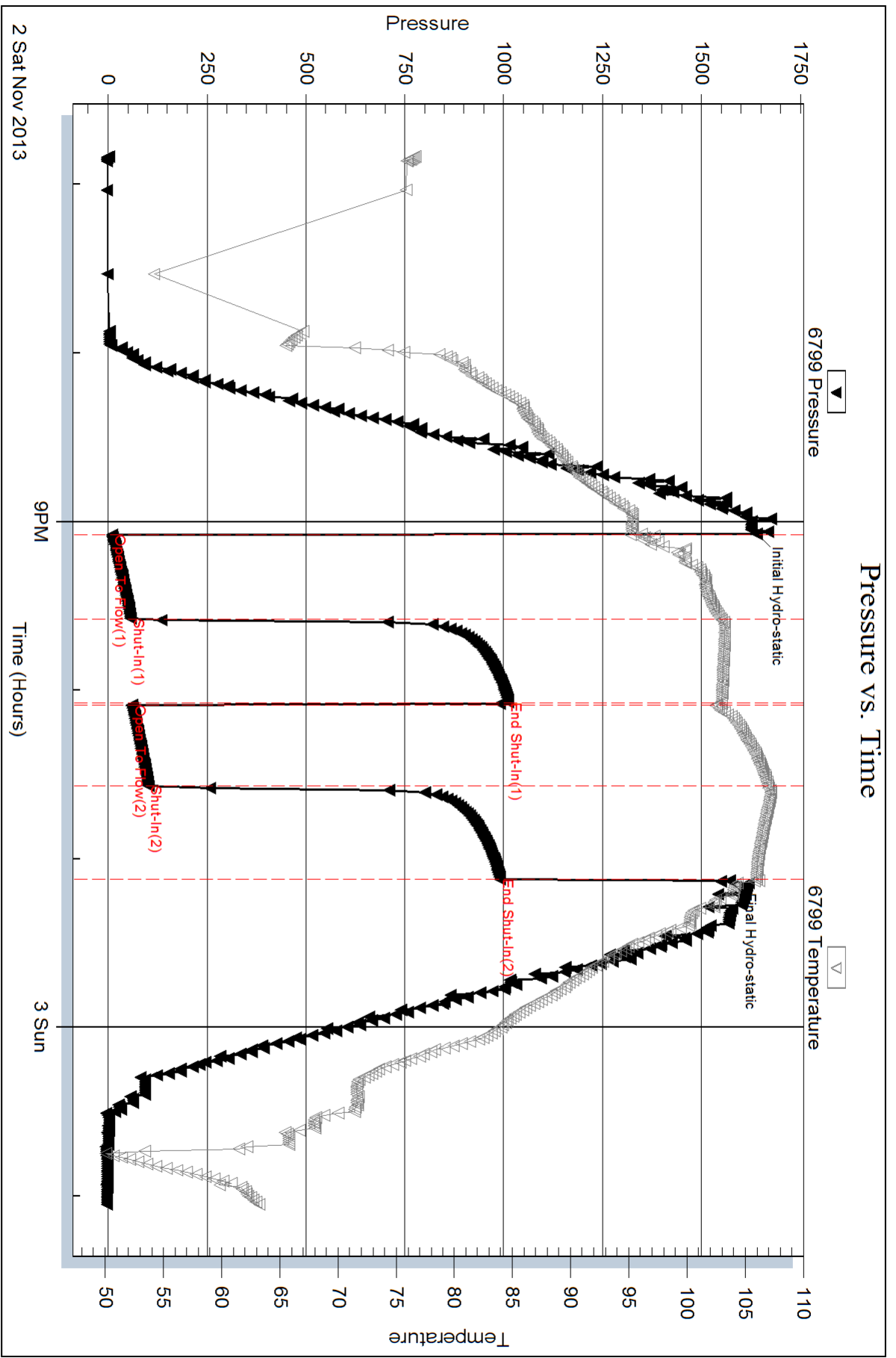
Num Gas Bombs: 0

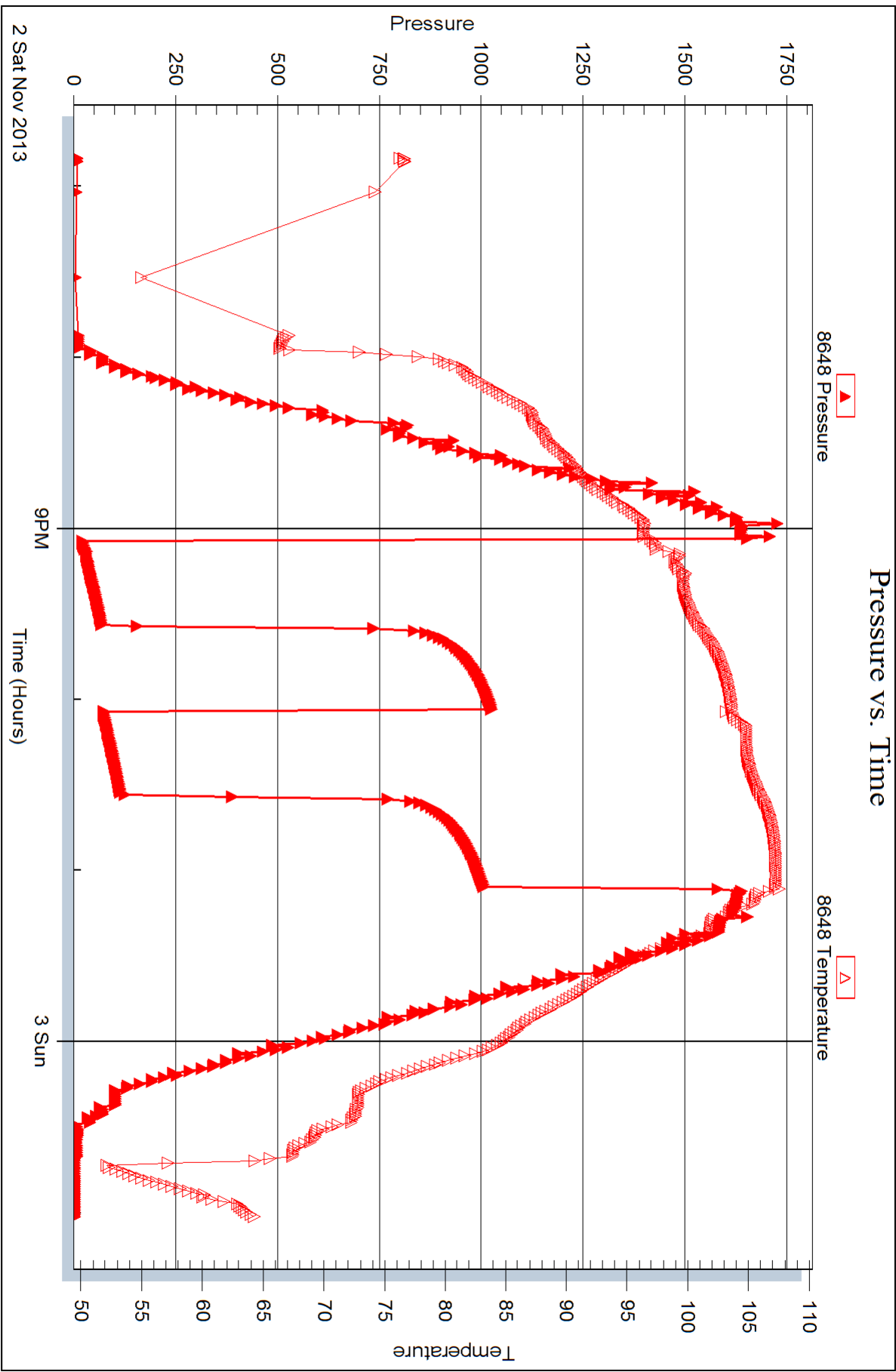
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .26 @ 60 Degrees = 30000







DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating, Inc**

PO Box 86
Plainville KS 67663

ATTN: Marc Downing

Billips #19-1

19-8s-21w Graham KS

Start Date: 2013.11.03 @ 09:40:00

End Date: 2013.11.03 @ 16:33:00

Job Ticket #: 54494 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.11.06 @ 14:38:31

H&C Oil Operating, Inc
19-8s-21w Graham KS
Billips #19-1
DST # 3
LKC "D-F"
2013.11.03



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

H&C Oil Operating, Inc
 PO Box 86
 Plainville KS 67663
 ATTN: Marc Downing

19-8s-21w Graham KS
Billips #19-1
 Job Ticket: 54494 **DST#: 3**
 Test Start: 2013.11.03 @ 09:40:00

GENERAL INFORMATION:

Formation: **LKC "D-F"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:25:00
 Time Test Ended: 16:33:00
Interval: 3402.00 ft (KB) To 3446.00 ft (KB) (TVD)
 Total Depth: 3446.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Cody Bloedorn
 Unit No: 53
 Reference Elevations: 2130.00 ft (KB)
 2125.00 ft (CF)
 KB to GR/CF: 5.00 ft

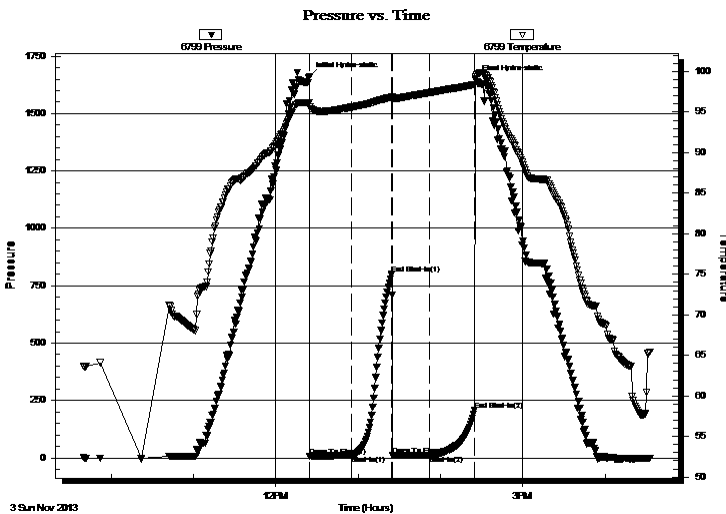
Serial #: 6799

Inside

Press @ RunDepth: 11.67 psig @ 3438.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.11.03 End Date: 2013.11.03 Last Calib.: 2013.11.03
 Start Time: 09:40:05 End Time: 16:32:59 Time On Btm: 2013.11.03 @ 12:24:45
 Time Off Btm: 2013.11.03 @ 14:25:30

TEST COMMENT: 30 - IF- 1/4" blow
 30 - IS- No return
 30 - FF- 1/4" blow
 30 - FS- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1660.09	96.17	Initial Hydro-static
1	7.75	95.71	Open To Flow (1)
31	9.95	95.60	Shut-In(1)
60	800.99	96.85	End Shut-In(1)
61	10.53	96.69	Open To Flow (2)
88	11.67	97.40	Shut-In(2)
121	208.11	98.40	End Shut-In(2)
121	1647.76	99.14	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	VSOCM, 5%O, 95%M	0.21

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&C Oil Operating, Inc

19-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Billips #19-1

Job Ticket: 54494

DST#: 3

ATTN: Marc Downing

Test Start: 2013.11.03 @ 09:40:00

Tool Information

Drill Pipe:	Length: 3407.00 ft	Diameter: 3.80 inches	Volume: 47.79 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 44000.00 lb
			<u>Total Volume: 47.79 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3402.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	65.00 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			3382.00	
Shut In Tool	5.00			3387.00	
Hydraulic tool	5.00			3392.00	
Packer	5.00			3397.00	21.00 Bottom Of Top Packer
Packer	5.00			3402.00	
Stubb	1.00			3403.00	
Perforations	2.00			3405.00	
Change Over Sub	1.00			3406.00	
Drill Pipe	31.00			3437.00	
Change Over Sub	1.00			3438.00	
Recorder	0.00	6799	Inside	3438.00	
Recorder	0.00	8648	Outside	3438.00	
Perforations	5.00			3443.00	
Bullnose	3.00			3446.00	44.00 Bottom Packers & Anchor

Total Tool Length: 65.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating, Inc

19-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Billips #19-1

Job Ticket: 54494

DST#: 3

ATTN: Marc Downing

Test Start: 2013.11.03 @ 09:40:00

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	VSOCM, 5%O, 95%M	0.210

Total Length: 15.00 ft Total Volume: 0.210 bbl

Num Fluid Samples: 0

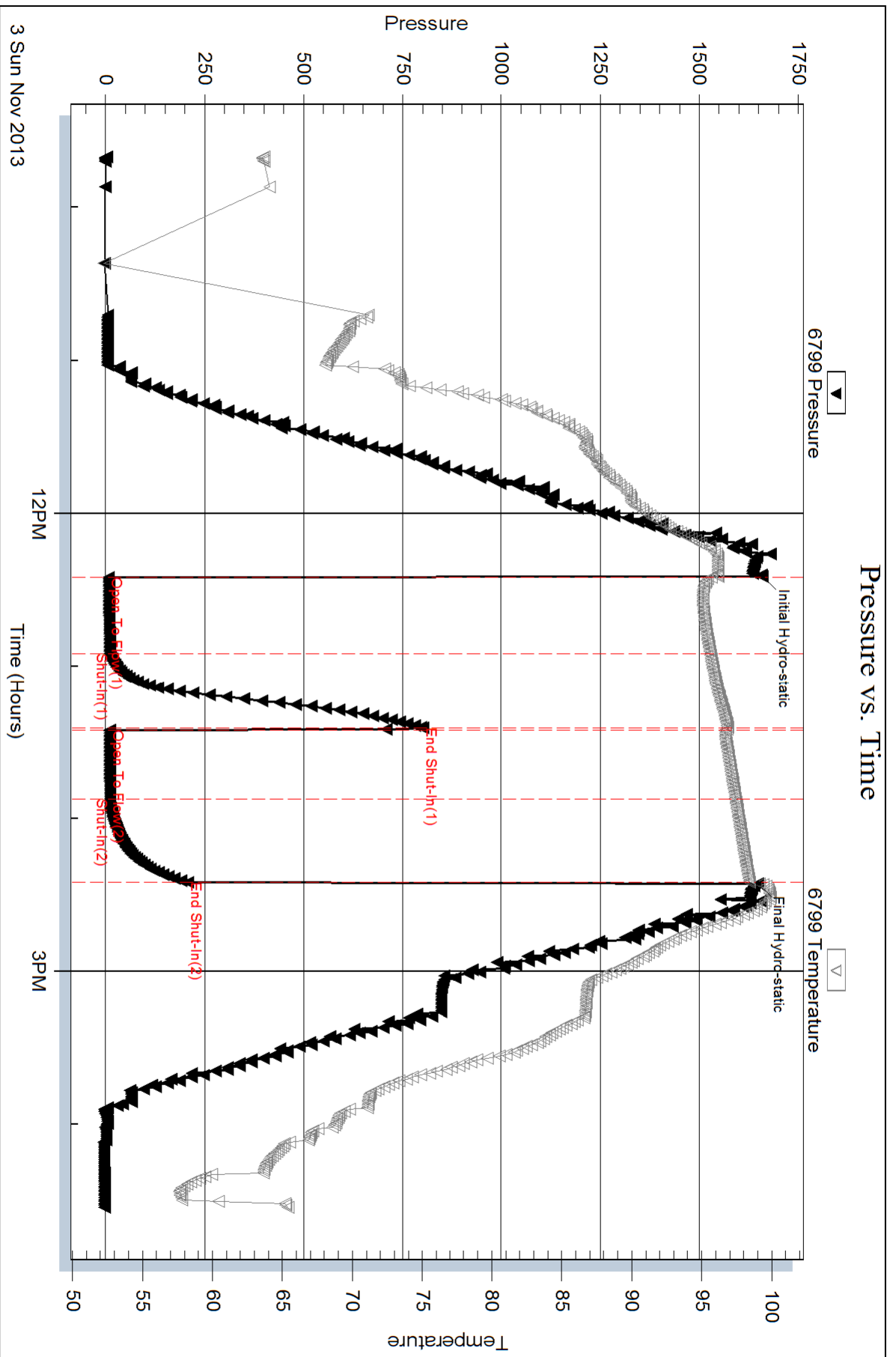
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

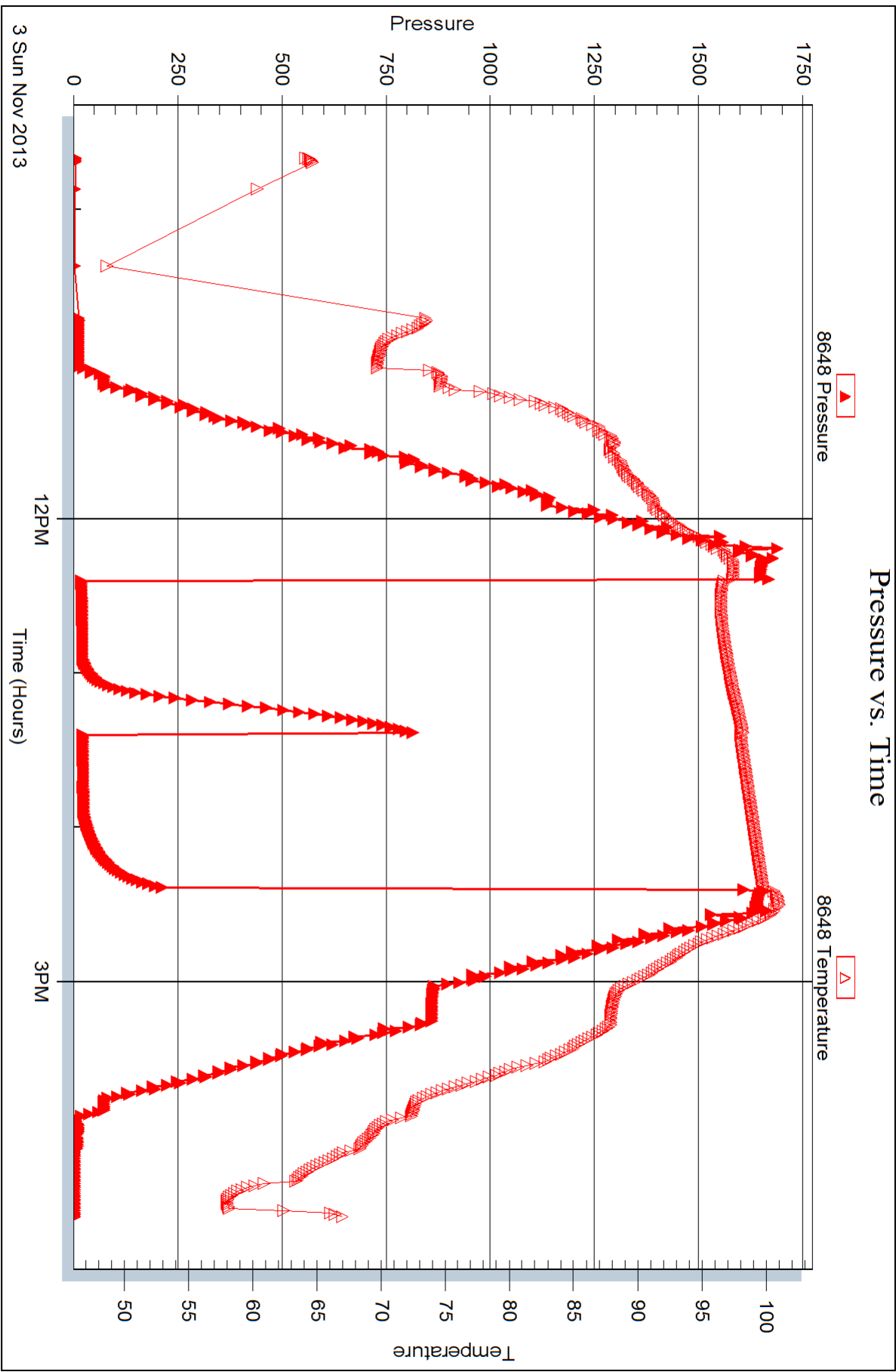


Serial #: 8648

Outside H&C Oil Operating, Inc

Bilips #19-1

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **H&C Oil Operating, Inc**

PO Box 86
Plainville KS 67663

ATTN: Marc Downing

Billips #19-1

19-8s-21w Graham KS

Start Date: 2013.11.04 @ 02:53:00

End Date: 2013.11.04 @ 10:00:30

Job Ticket #: 54495 DST #: 4

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

Printed: 2013.11.06 @ 14:37:51



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

H&C Oil Operating, Inc

19-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Billips #19-1

Job Ticket: 54495

DST#: 4

ATTN: Marc Downing

Test Start: 2013.11.04 @ 02:53:00

GENERAL INFORMATION:

Formation: **LKC "I-J"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 05:47:45
 Tester: Cody Bloedorn
 Time Test Ended: 10:00:30
 Unit No: 53
 Interval: **3498.00 ft (KB) To 3533.00 ft (KB) (TVD)**
 Reference Elevations: 2130.00 ft (KB)
 Total Depth: 3533.00 ft (KB) (TVD)
 2125.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 5.00 ft

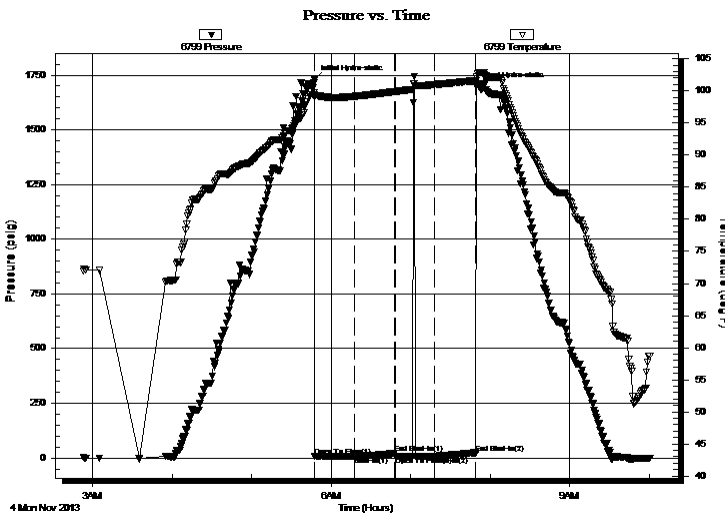
Serial #: 6799

Inside

Press @ Run Depth: 7.41 psig @ 3499.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.11.04 End Date: 2013.11.04 Last Calib.: 2013.11.04
 Start Time: 02:53:05 End Time: 10:00:29 Time On Btm: 2013.11.04 @ 05:47:30
 Time Off Btm: 2013.11.04 @ 07:49:45

TEST COMMENT: 30 - IF- 3/4" blow
 30 - IS- No return
 30 - FF- No blow for 10 minutes. Flushed tool. Surged and died
 30 - FS- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1727.39	99.74	Initial Hydro-static
1	6.06	99.29	Open To Flow (1)
30	6.33	99.12	Shut-In(1)
61	20.81	99.88	End Shut-In(1)
61	6.14	99.89	Open To Flow (2)
91	7.41	100.97	Shut-In(2)
122	21.75	101.59	End Shut-In(2)
123	1696.60	102.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud, spots of oil, 100%M	0.03

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&C Oil Operating, Inc

19-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Billips #19-1

Job Ticket: 54495

DST#: 4

ATTN: Marc Downing

Test Start: 2013.11.04 @ 02:53:00

Tool Information

Drill Pipe:	Length: 3501.00 ft	Diameter: 3.80 inches	Volume: 49.11 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 44000.00 lb
			<u>Total Volume: 49.11 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3498.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	35.00 ft			
Tool Length:	56.00 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			3478.00	
Shut In Tool	5.00			3483.00	
Hydraulic tool	5.00			3488.00	
Packer	5.00			3493.00	21.00 Bottom Of Top Packer
Packer	5.00			3498.00	
Stubb	1.00			3499.00	
Recorder	0.00	6799	Inside	3499.00	
Recorder	0.00	8648	Outside	3499.00	
Perforations	31.00			3530.00	
Bullnose	3.00			3533.00	35.00 Bottom Packers & Anchor
Total Tool Length:	56.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating, Inc

19-8s-21w Graham KS

PO Box 86
Plainville KS 67663

Billips #19-1

Job Ticket: 54495

DST#: 4

ATTN: Marc Downing

Test Start: 2013.11.04 @ 02:53:00

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud, spots of oil, 100%M	0.028

Total Length: 2.00 ft Total Volume: 0.028 bbl

Num Fluid Samples: 0

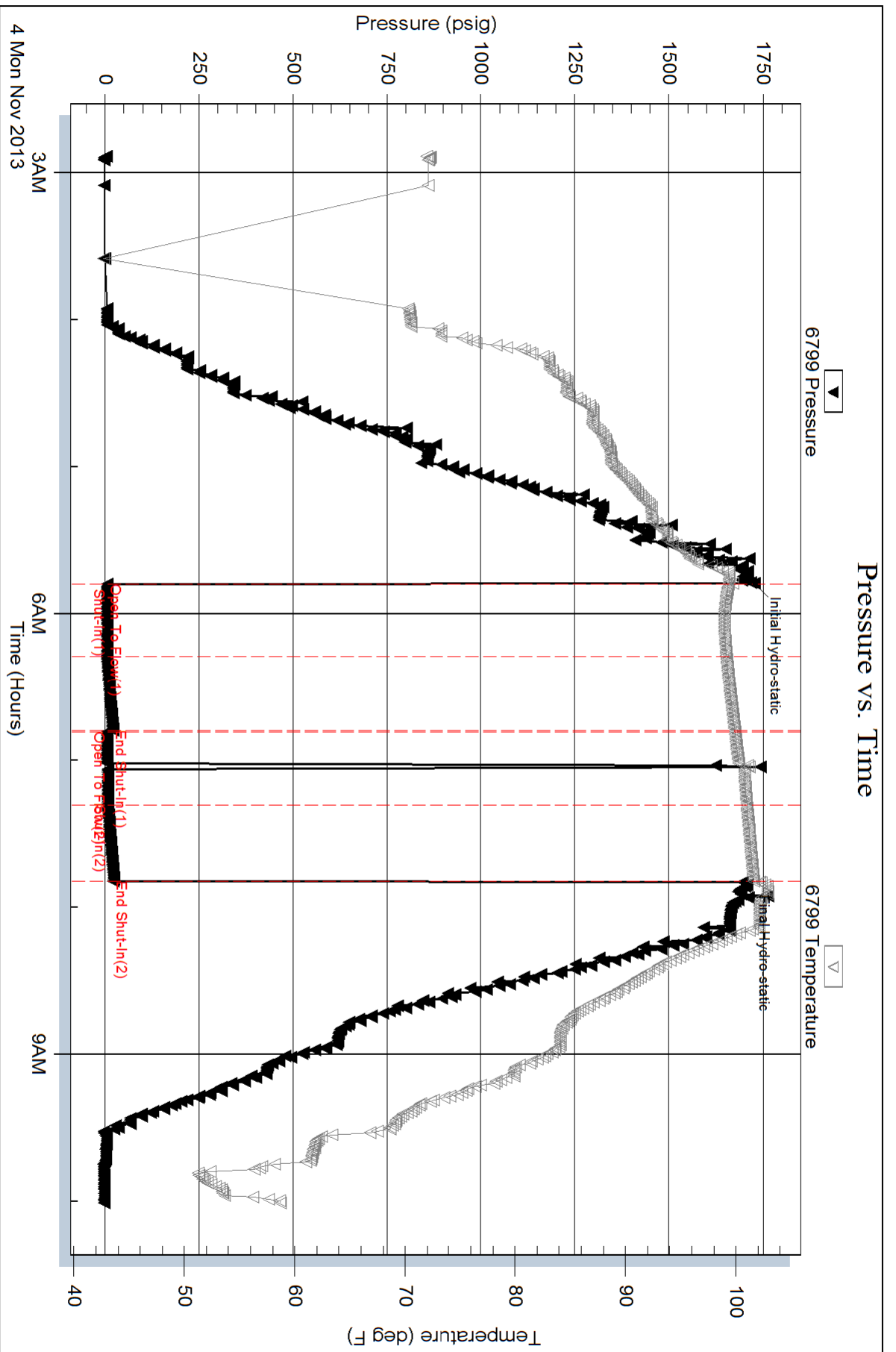
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

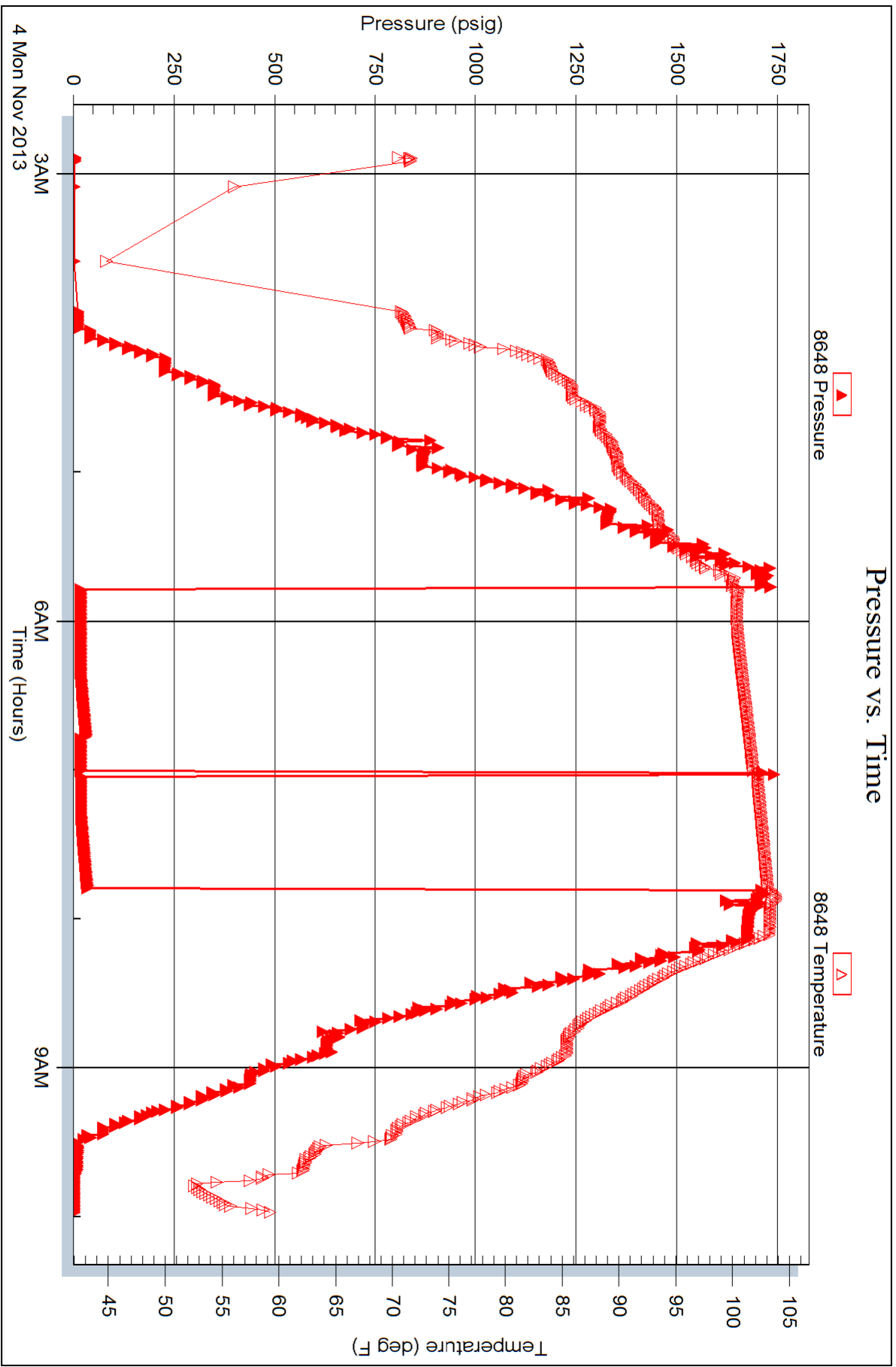


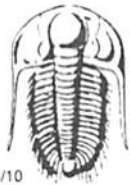
Serial #: 8648

Outside H&C Oil Operating, Inc

Billips #19-1

DST Test Number: 4





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **54492**

Well Name & No. ~~#8000~~ **Billips 19-1** Test No. **1** Date **11-2-13**
 Company **H & C oil operating Inc** Elevation **2130** KB **2125** GL
 Address **Po Box 86, Plainville KS, 67663**
 Co. Rep / Geo. **Marc Downing** Rig **American Eagle #3**
 Location: Sec. **19** Twp. **8s** Rge. **21w** Co. **Graham** State **KS**

Interval Tested **3348-3384** Zone Tested **LKC "A"**
 Anchor Length **36'** Drill Pipe Run **3345'** Mud Wt. **8.6**
 Top Packer Depth **3343** Drill Collars Run **—** Vis **50**
 Bottom Packer Depth **3348** Wt. Pipe Run **—** WL **5.4**
 Total Depth **3384** Chlorides **1200** ppm System LCM **—**

Blow Description **IF- B.O.B. in 24 minutes**
ISI- No return
FF- 1 1/2" blow
FSI- No return for 10 minutes 1 1/2" return

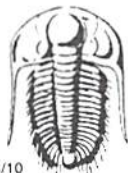
Rec	Feet of	%gas	%oil	%water	%mud
62	Mud with oil spots			100	
248	WM- oil spots		20	80	

Rec Total **310'** BHT **106°** Gravity **—** API RW **—** @ **—** °F Chlorides **—** ppm

(A) Initial Hydrostatic 1623	<input checked="" type="checkbox"/> Test 950	T-On Location 1:20am
(B) First Initial Flow 34	<input type="checkbox"/> Jars	T-Started 2:26am
(C) First Final Flow 71	<input type="checkbox"/> Safety Joint	T-Open 7:15am
(D) Initial Shut-In 778	<input type="checkbox"/> Circ Sub	T-Pulled 10:15am
(E) Second Initial Flow 102	<input type="checkbox"/> Hourly Standby	T-Out 12:21pm
(F) Second Final Flow 122	<input checked="" type="checkbox"/> Mileage 122R 189.10	Comments No 2nd shut in tool turned too many times by rig.
(G) Final Shut-In —	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic 1610	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer
Initial Open 45	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In 45	<input type="checkbox"/> Extra Packer	Sub Total 0
Final Flow 45	<input type="checkbox"/> Extra Recorder	Total 1139.10
Final Shut-In 45	<input type="checkbox"/> Day Standby	MP/DST Disc't
	<input type="checkbox"/> Accessibility	
	Sub Total 1139.10	

Approved By _____ Our Representative **Cody [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. **54493**

Well Name & No. Billips 19-1 Test No. 2 Date 11-2-13
 Company H&C Oil Operating Inc Elevation 2130 KB 2125 GL
 Address Po Box 86, Plainville KS, 67663
 Co. Rep / Geo. Marc Downing Rig American Eagle #3
 Location: Sec. 19 Twp. 8S Rge. 21W Co. Graham State KS

Interval Tested 3379 - 3407 Zone Tested LKC "C"
 Anchor Length 28' Drill Pipe Run 3376' Mud Wt. 9.0
 Top Packer Depth 3374 Drill Collars Run — Vis 60
 Bottom Packer Depth 3379 Wt. Pipe Run — WL 5.4
 Total Depth 3407 Chlorides 1200 ppm System LCM —

Blow Description IF - 1/4" blow died in 17 minutes
ISI - No return
FF - Surged & died
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>124</u>	<u>MW - show of oil</u>		<u>90</u>	<u>10</u>	
<u>62</u>	<u>Mud</u>			<u>100</u>	

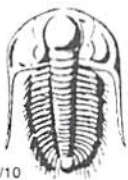
Rec Total 186 BHT 105° Gravity — API RW .26 @ 60° F Chlorides 30,000 ppm

(A) Initial Hydrostatic 1639 Test 1150 T-On Location 6:24 pm
 (B) First Initial Flow 10 Jars _____ T-Started 6:50 pm
 (C) First Final Flow 57 Safety Joint _____ T-Open 9:05 pm
 (D) Initial Shut-In 1012 Circ Sub _____ T-Pulled 11:05 pm
 (E) Second Initial Flow 60 Hourly Standby _____ T-Out 1:04 am
 (F) Second Final Flow 101 Mileage 122 RT 189.10
 (G) Final Shut-In 991 Sampler _____
 (H) Final Hydrostatic 1571 Straddle _____

Initial Open 30 Ruined Shale Packer _____
 Initial Shut-In 30 Ruined Packer _____
 Final Flow 30 Extra Packer _____
 Final Shut-In 30 Extra Recorder _____
 Sub Total 0
 Total 1339.10
 MP/DST Disc't _____
 Sub Total 1339.10

Approved By _____ Our Representative Cody Bell

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54494

Well Name & No. Billips 19-1 Test No. 3 Date 11-3-13
 Company H&C Oil Operating Inc Elevation 2130 KB 2125 GL
 Address Po Box 86, Plainville KS, 67663
 Co. Rep / Geo. Marc Downing Rig American Eagle #3
 Location: Sec. 19 Twp. 8s Rge. 21w Co. Graham State KS

Interval Tested 3402 - 3446 Zone Tested LKC "D-F"
 Anchor Length 44' Drill Pipe Run 3407' Mud Wt. 9.1
 Top Packer Depth 3997 Drill Collars Run — Vis 57
 Bottom Packer Depth 3402 Wt. Pipe Run — WL 5.8
 Total Depth 3446 Chlorides 1,300 ppm System LCM —

Blow Description IF - 1/4" blow
ISI - No return
FF - 1/4" blow
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>VSCCM</u>	<u>5</u>		<u>95</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 15' BHT 98° Gravity — API RW — @ — °F Chlorides — ppm

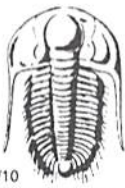
(A) Initial Hydrostatic <u>1660</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>9:14 am</u>
(B) First Initial Flow <u>7</u>	<input type="checkbox"/> Jars	T-Started <u>9:40 am</u>
(C) First Final Flow <u>9</u>	<input type="checkbox"/> Safety Joint	T-Open <u>12:24 pm</u>
(D) Initial Shut-In <u>800</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>2:24 pm</u>
(E) Second Initial Flow <u>10</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>4:32 pm</u>
(F) Second Final Flow <u>11</u>	<input checked="" type="checkbox"/> Mileage <u>122 RT</u> 189.10	Comments
(G) Final Shut-In <u>208</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1647</u>	<input type="checkbox"/> Straddle	

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

Ruined Shale Packer
 Ruined Packer
 Extra Copies
 Sub Total 0
 Total 1339.10
 MP/DST Disc't

Approved By _____ Our Representative Cody B. [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54495

Well Name & No. Billips 19-1 Test No. 4 Date 11-4-13
 Company H&C Oil Operating INC Elevation 2130 KB 2125 GL
 Address Po BOX 86, Plainville KS, 67663
 Co. Rep / Geo. Marc Downing Rig American Eagle #3
 Location: Sec. 19 Twp. 8s Rge. 2/w Co. Graham State KS

Interval Tested 3498 - 3533 Zone Tested LKC "I & J"
 Anchor Length 35' Drill Pipe Run 3501 Mud Wt. 9.1
 Top Packer Depth 3493 Drill Collars Run — Vis 57
 Bottom Packer Depth 3498 Wt. Pipe Run — WL 5.8
 Total Depth 3533 Chlorides 1300 ppm System LCM —

Blow Description IF - 3/4" blow
IST - No return
FF - No blow for 10 min. Flushed tool. Surged & died
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Mud - Spots of oil</u>			<u>100</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 2' BHT 101° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1727 Test 1150 T-On Location 2:29 am
 (B) First Initial Flow 6 Jars — T-Started 2:53 am
 (C) First Final Flow 6 Safety Joint — T-Open 5:47 am
 (D) Initial Shut-In 20 Circ Sub — T-Pulled 7:47 am
 (E) Second Initial Flow 6 Hourly Standby — T-Out 10:00 am
 (F) Second Final Flow 7 Mileage 122RT 378.20 Comments Load tools 11-5-13
 (G) Final Shut-In 21 Sampler — @ 9:05 am
 (H) Final Hydrostatic 1696 Straddle — Ruined Shale Packer —

Initial Open 30 Shale Packer — Ruined Packer —
 Initial Shut-In 30 Extra Packer — Extra Copies —
 Final Flow 30 Extra Recorder — Sub Total 0
 Final Shut-In 30 Day Standby — Total 1528.20
 Accessibility — MP/DST Disc't —
 Sub Total 1528.20

Approved By _____ Our Representative Cody Bloodorn

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