



DRILL STEM TEST REPORT

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

PO Box 86
Plainville KS 67663

ATTN: Marc Downing

Brachtenbach #2-1

2-9s-23w Graham KS

Start Date: 2013.11.13 @ 23:43:00

End Date: 2013.11.14 @ 08:56:00

Job Ticket #: 54500 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.11.19 @ 10:58:36



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

H&C Oil Operating Inc

2-9s-23w Graham KS

PO Box 86
Plainville KS 67663

Brachtenbach #2-1

ATTN: Marc Downing

Job Ticket: 54500

DST#: 1

Test Start: 2013.11.13 @ 23:43:00

GENERAL INFORMATION:

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

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:04:00

Time Test Ended: 08:56:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 53

Interval: 3609.00 ft (KB) To 3649.00 ft (KB) (TVD)

Reference Elevations: 2279.00 ft (KB)

Total Depth: 3649.00 ft (KB) (TVD)

2274.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6799

Inside

Press@RunDepth: 96.97 psig @ 3646.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.11.13

End Date:

2013.11.14

Last Calib.: 2013.11.14

Start Time: 23:43:05

End Time:

08:56:00

Time On Btm: 2013.11.14 @ 05:03:15

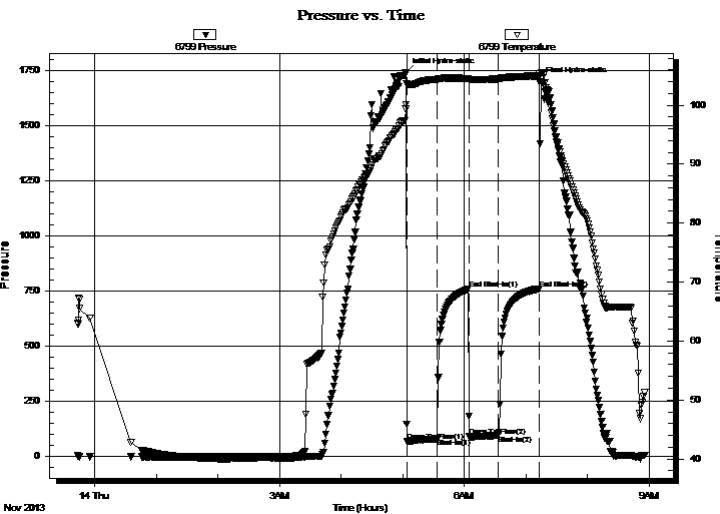
Time Off Btm: 2013.11.14 @ 07:13:15

TEST COMMENT: 30 - IF- 8" blow (tool slid 20')

30 - IS- No return

30 - FF- 1 1/4" blow

30 - FS- No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1741.15	100.12	Initial Hydro-static
1	68.49	103.67	Open To Flow (1)
31	81.27	104.37	Shut-In(1)
61	758.77	104.58	End Shut-In(1)
62	91.20	104.39	Open To Flow (2)
90	96.97	104.47	Shut-In(2)
130	760.86	105.02	End Shut-In(2)
130	1700.86	105.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
85.00	WM - show of oil, 5%W, 95%M	0.92

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&C Oil Operating Inc

2-9s-23w Graham KS

PO Box 86
Plainville KS 67663

Brachtenbach #2-1

Job Ticket: 54500

DST#: 1

ATTN: Marc Downing

Test Start: 2013.11.13 @ 23:43:00

Tool Information

Drill Pipe:	Length: 3562.00 ft	Diameter: 3.80 inches	Volume: 49.97 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 44000.00 lb
			<u>Total Volume: 50.12 bbl</u>	Tool Chased 20.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3609.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	61.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: tool opened and chased 20'

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3589.00	
Shut In Tool	5.00			3594.00	
Hydraulic tool	5.00			3599.00	
Packer	5.00			3604.00	21.00 Bottom Of Top Packer
Packer	5.00			3609.00	
Stubb	1.00			3610.00	
Perforations	3.00			3613.00	
Change Over Sub	1.00			3614.00	
Drill Pipe	31.00			3645.00	
Change Over Sub	1.00			3646.00	
Recorder	0.00	6799	Inside	3646.00	
Recorder	0.00	8648	Outside	3646.00	
Bullnose	3.00			3649.00	40.00 Bottom Packers & Anchor

Total Tool Length: 61.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating Inc

2-9s-23w Graham KS

PO Box 86
Plainville KS 67663

Brachtenbach #2-1

Job Ticket: 54500

DST#: 1

ATTN: Marc Downing

Test Start: 2013.11.13 @ 23:43:00

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
85.00	WM- show of oil, 5%W, 95%M	0.919

Total Length: 85.00 ft Total Volume: 0.919 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

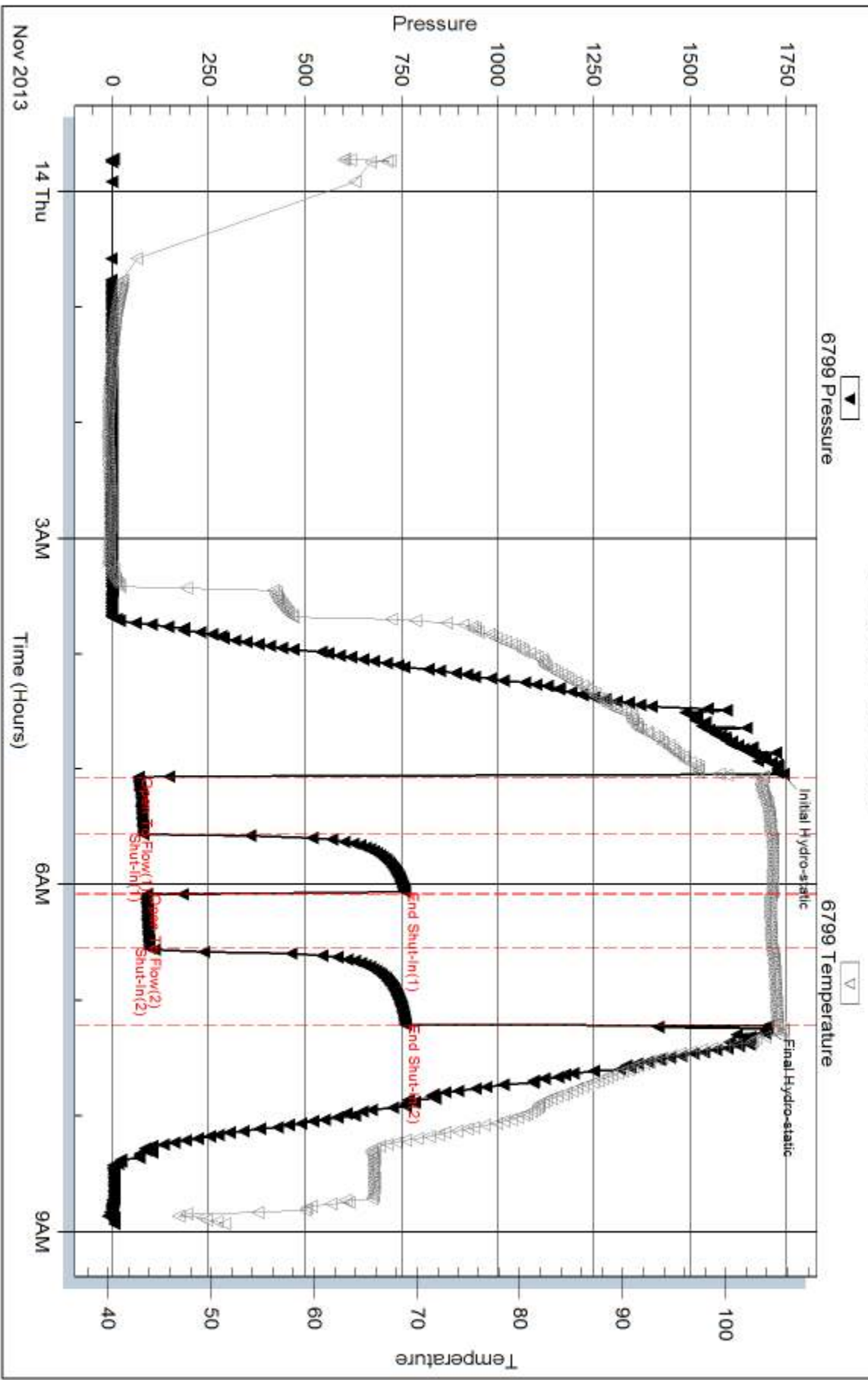
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

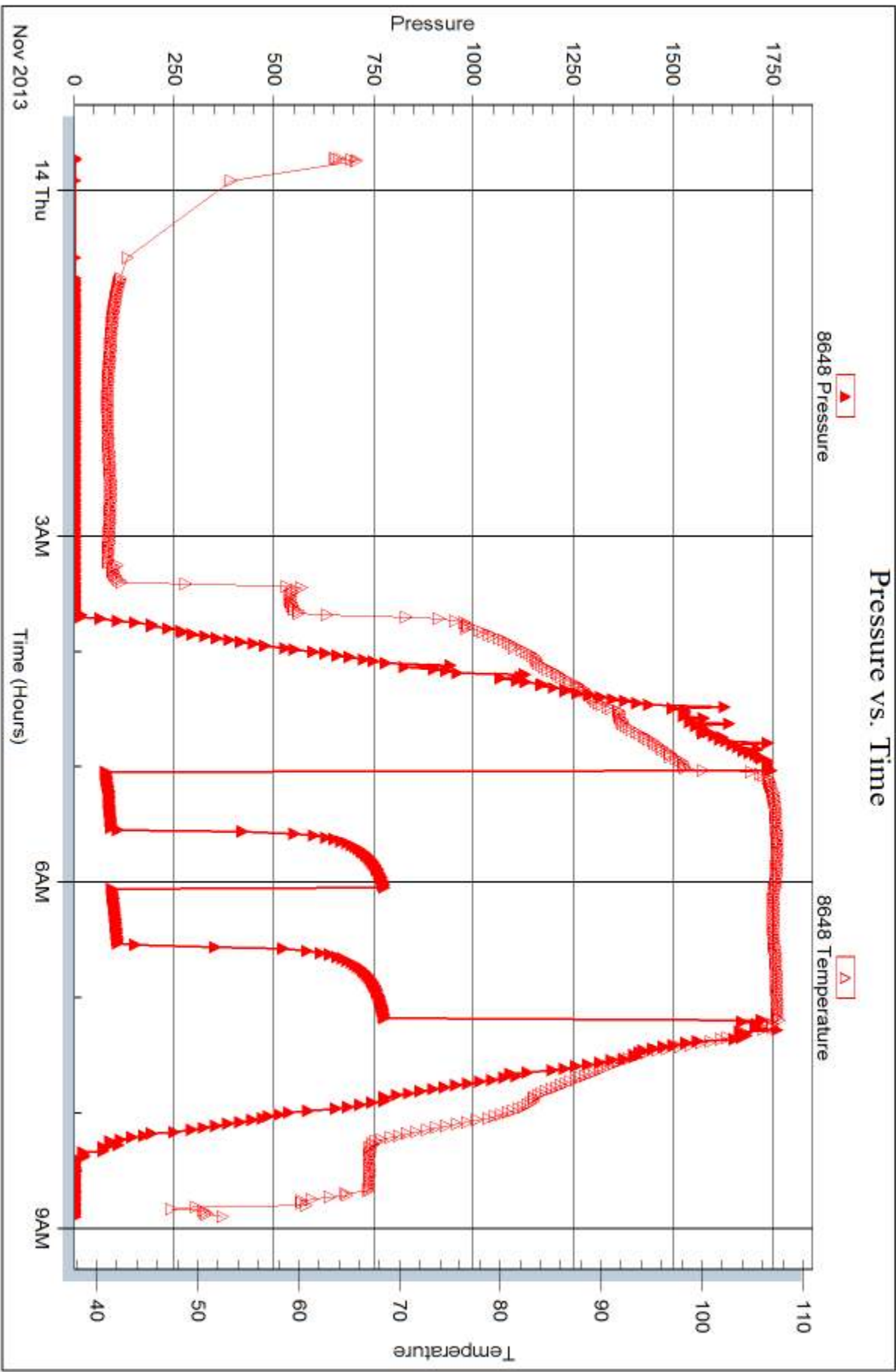


Serial #: 8648

Outside H&C Oil Operating Inc

Brachtenbach #2-1

DST Test Number: 1



Tribble Testing, Inc

Ref. No: 54500

Printed: 2013.11.19 @ 10:58:38



DRILL STEM TEST REPORT

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

PO Box 86
Plainville KS 67663

ATTN: Marc Downing

Brachtenbach #2-1

2-9s-23w Graham KS

Start Date: 2013.11.14 @ 15:34:00

End Date: 2013.11.14 @ 23:14:15

Job Ticket #: 55351 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.11.19 @ 10:58:04

H&C Oil Operating Inc
2-9s-23w Graham KS
Brachtenbach #2-1
DST # 2
LKC "E"
2013.11.14



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

H&C Oil Operating Inc

2-9s-23w Graham KS

PO Box 86
Plainville KS 67663

Brachtenbach #2-1

ATTN: Marc Downing

Job Ticket: 55351

DST#: 2

Test Start: 2013.11.14 @ 15:34:00

GENERAL INFORMATION:

Formation: **LKC "E"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:57:15
 Time Test Ended: 23:14:15
 Interval: **3609.00 ft (KB) To 3678.00 ft (KB) (TVD)**
 Total Depth: 3678.00 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: 2279.00 ft (KB)
 2274.00 ft (CF)
 KB to GR/CF: 5.00 ft

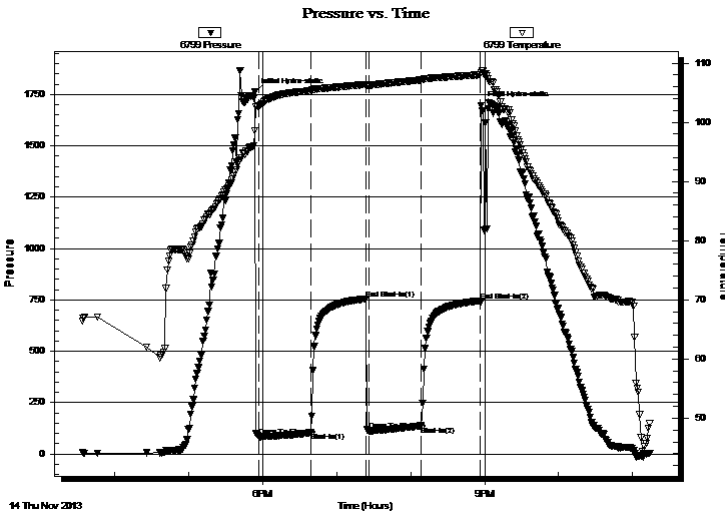
Serial #: 6799

Inside

Press@RunDepth: 137.18 psig @ 3675.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.11.14 End Date: 2013.11.14 Last Calib.: 2013.11.14
 Start Time: 15:34:05 End Time: 23:14:14 Time On Btm: 2013.11.14 @ 17:53:45
 Time Off Btm: 2013.11.14 @ 20:57:00

TEST COMMENT: 45 - IF- 3 1/2" blow
 45 - IS- No return
 45 - FF- 3/4" blow
 45 - FS- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1760.55	98.60	Initial Hydro-static
4	84.53	102.79	Open To Flow (1)
46	103.92	105.35	Shut-In(1)
90	754.78	106.38	End Shut-In(1)
93	114.06	106.23	Open To Flow (2)
135	137.18	107.14	Shut-In(2)
183	745.23	108.02	End Shut-In(2)
184	1696.98	108.36	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	WM, show of oil, 5%W, 95%M	2.34
31.00	VSOCM, 5%O, 95%M	0.43

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

H&C Oil Operating Inc

2-9s-23w Graham KS

PO Box 86
Plainville KS 67663

Brachtenbach #2-1

Job Ticket: 55351

DST#: 2

ATTN: Marc Downing

Test Start: 2013.11.14 @ 15:34:00

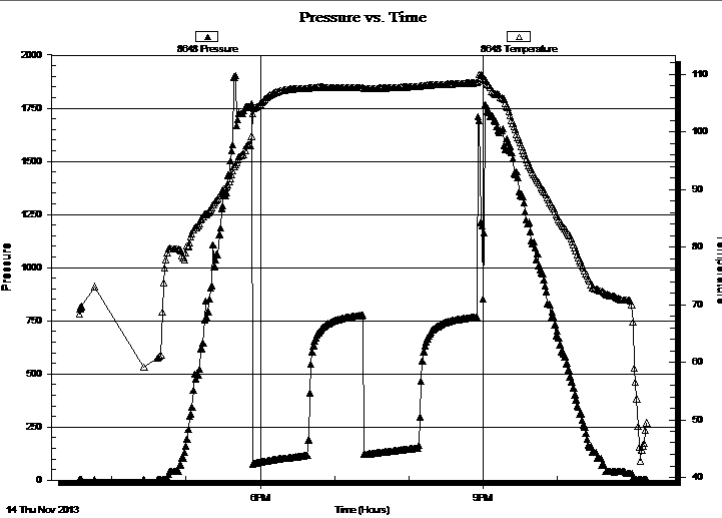
GENERAL INFORMATION:

Formation: **LKC "E"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:57:15
 Time Test Ended: 23:14:15
 Interval: **3609.00 ft (KB) To 3678.00 ft (KB) (TVD)**
 Total Depth: 3678.00 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: 2279.00 ft (KB)
 2274.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8648 Outside
 Press@RunDepth: psig @ 3675.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.11.14 End Date: 2013.11.14 Last Calib.: 2013.11.14
 Start Time: 15:34:05 End Time: 23:12:29 Time On Btm:
 Time Off Btm:

TEST COMMENT: 45 - IF- 3 1/2" blow
 45 - IS- No return
 45 - FF- 3/4" blow
 45 - FS- No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
186.00	WM, show of oil, 5%W, 95%M	2.34
31.00	VSOCM, 5%O, 95%M	0.43

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

H&C Oil Operating Inc

2-9s-23w Graham KS

PO Box 86
Plainville KS 67663

Brachtenbach #2-1

Job Ticket: 55351

DST#: 2

ATTN: Marc Downing

Test Start: 2013.11.14 @ 15:34:00

Tool Information

Drill Pipe:	Length: 3562.00 ft	Diameter: 3.80 inches	Volume: 49.97 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 42000.00 lb
			<u>Total Volume: 50.12 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 38000.00 lb
Depth to Top Packer:	3609.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	69.00 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			3589.00	
Shut In Tool	5.00			3594.00	
Hydraulic tool	5.00			3599.00	
Packer	5.00			3604.00	21.00 Bottom Of Top Packer
Packer	5.00			3609.00	
Stubb	1.00			3610.00	
Perforations	1.00			3611.00	
Change Over Sub	1.00			3612.00	
Drill Pipe	62.00			3674.00	
Change Over Sub	1.00			3675.00	
Recorder	0.00	6799	Inside	3675.00	
Recorder	0.00	8648	Outside	3675.00	
Bullnose	3.00			3678.00	69.00 Bottom Packers & Anchor

Total Tool Length: 90.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating Inc

2-9s-23w Graham KS

PO Box 86
Plainville KS 67663

Brachtenbach #2-1

Job Ticket: 55351

DST#: 2

ATTN: Marc Downing

Test Start: 2013.11.14 @ 15:34:00

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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
186.00	WM, show of oil, 5%W, 95%M	2.336
31.00	VSOCM, 5%O, 95%M	0.435

Total Length: 217.00 ft

Total Volume: 2.771 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

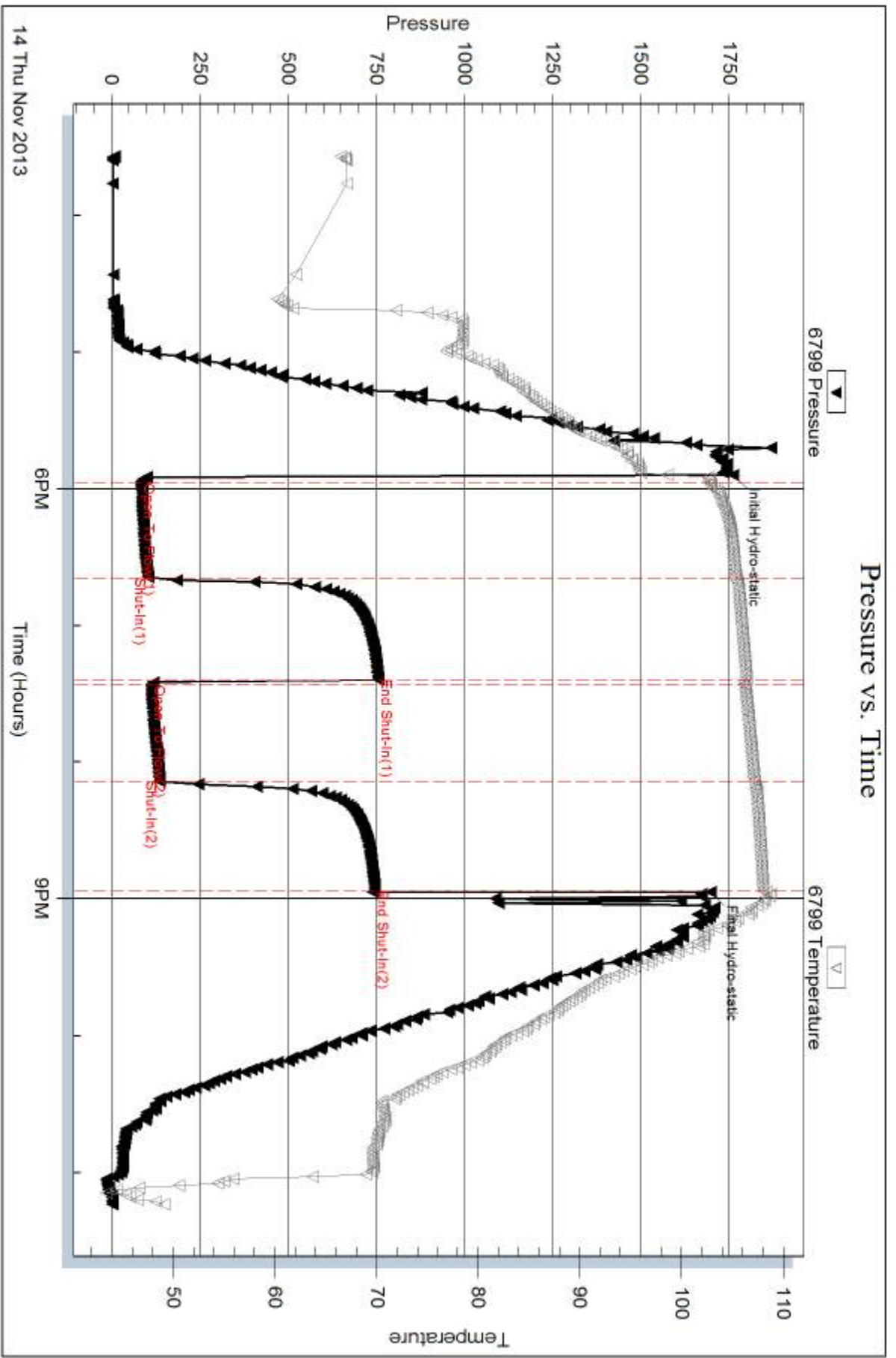
Serial #: 6799

Inside

H&C Oil Operating Inc

Brachtenbach #2-1

DST Test Number: 2



Tribble Testing, Inc

Ref. No: 55351

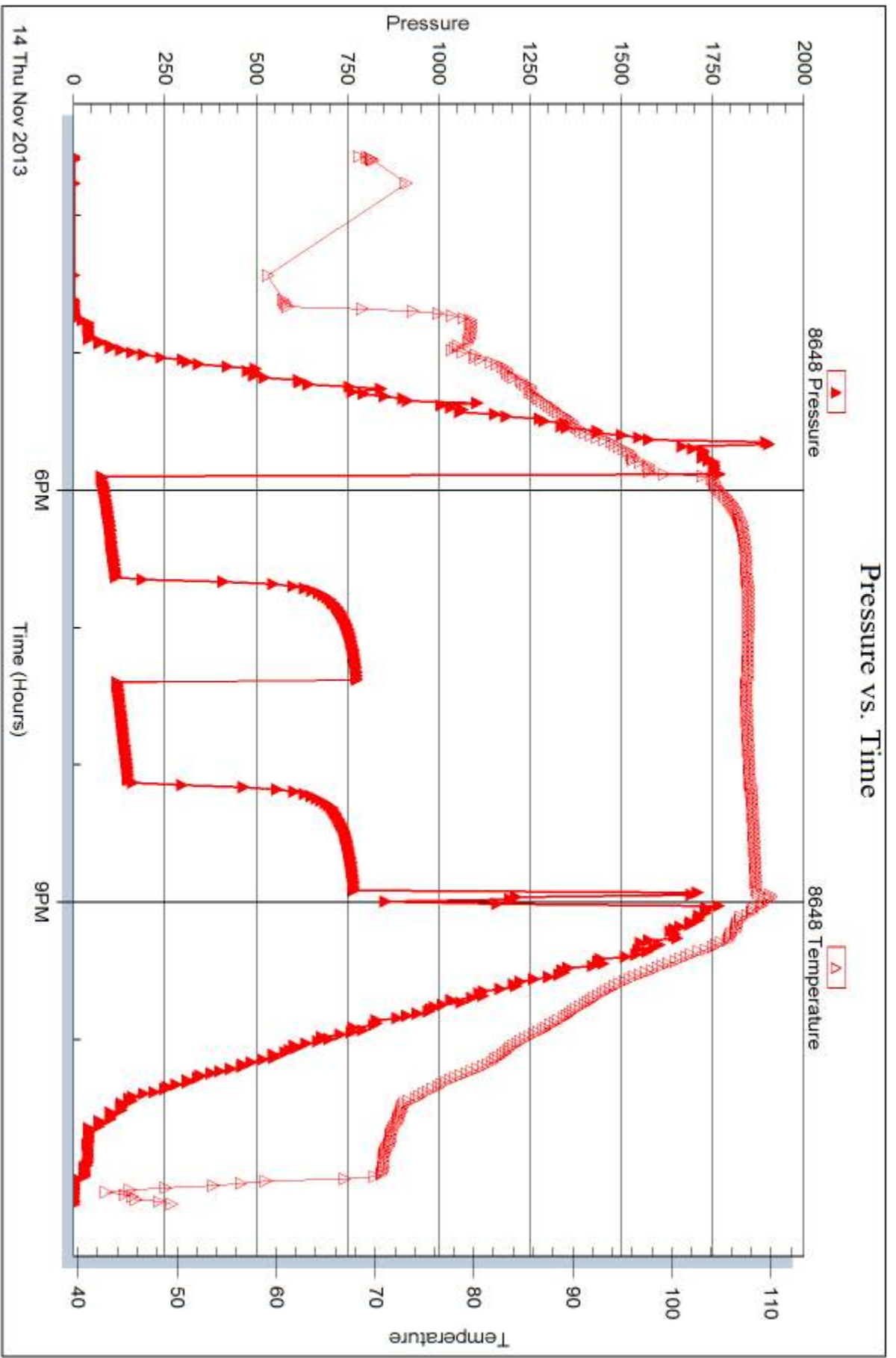
Printed: 2013.11.19 @ 10:58:06

Serial #: 8648

Outside H&C Oil Operating Inc

Brachtenbach #2-1

DST Test Number: 2



14 Thu Nov 2013

Triobite Testing, Inc

Ref. No: 55351

Printed: 2013.11.19 @ 10:58:06



DRILL STEM TEST REPORT

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

PO Box 86
Plainville KS 67663

ATTN: Marc Downing

Brachtenbach #2-1

2-9s-23w Graham KS

Start Date: 2013.11.15 @ 13:19:00

End Date: 2013.11.15 @ 21:00:00

Job Ticket #: 55352 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.11.19 @ 10:57:19



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

H&C Oil Operating Inc

2-9s-23w Graham KS

PO Box 86
Plainville KS 67663

Brachtenbach #2-1

ATTN: Marc Downing

Job Ticket: 55352

DST#: 3

Test Start: 2013.11.15 @ 13:19:00

GENERAL INFORMATION:

Formation: **LKC "H,I,J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:51:00

Time Test Ended: 21:00:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 53

Interval: 3704.00 ft (KB) To 3765.00 ft (KB) (TVD)

Reference Elevations: 2279.00 ft (KB)

Total Depth: 3765.00 ft (KB) (TVD)

2274.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8648

Outside

Press@RunDepth: 333.36 psig @ 3739.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.11.15

End Date:

2013.11.15

Last Calib.:

2013.11.14

Start Time: 13:19:05

End Time:

20:59:59

Time On Btm:

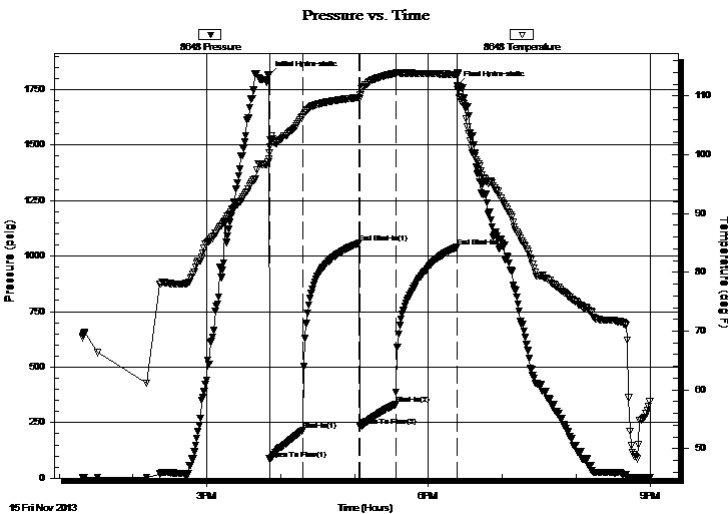
2013.11.15 @ 15:50:15

Time Off Btm:

2013.11.15 @ 18:23:30

TEST COMMENT: 30 - IF- B.O.B. in 2 minutes
45 - IS- 6" return
30 - FF- B.O.B. in 1 minute
45 - FF- 4" return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1814.10	99.26	Initial Hydro-static
1	86.72	101.35	Open To Flow (1)
28	215.02	106.50	Shut-In(1)
74	1058.21	109.75	End Shut-In(1)
74	234.27	109.57	Open To Flow (2)
104	333.36	113.91	Shut-In(2)
153	1039.63	113.65	End Shut-In(2)
154	1766.69	113.97	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	MCO, 40%M, 60%O	1.47
620.00	GO, 50%G, 50%O	8.70
62.00	MCO, 20%M, 80%O	0.87

* 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

2-9s-23w Graham KS

PO Box 86
Plainville KS 67663

Brachtenbach #2-1

Job Ticket: 55352

DST#: 3

ATTN: Marc Downing

Test Start: 2013.11.15 @ 13:19:00

Tool Information

Drill Pipe:	Length: 3660.00 ft	Diameter: 3.80 inches	Volume: 51.34 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: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	54000.00 lb
			<u>Total Volume: 51.49 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	45000.00 lb
Depth to Top Packer:	3704.00 ft			Final	49000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	61.00 ft				
Tool Length:	82.00 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			3684.00	
Shut In Tool	5.00			3689.00	
Hydraulic tool	5.00			3694.00	
Packer	5.00			3699.00	21.00 Bottom Of Top Packer
Packer	5.00			3704.00	
Stubb	1.00			3705.00	
Perforations	1.00			3706.00	
Change Over Sub	1.00			3707.00	
Drill Pipe	31.00			3738.00	
Change Over Sub	1.00			3739.00	
Recorder	0.00	6799	Inside	3739.00	
Recorder	0.00	8648	Outside	3739.00	
Perforations	23.00			3762.00	
Bullnose	3.00			3765.00	61.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

H&C Oil Operating Inc

2-9s-23w Graham KS

PO Box 86
Plainville KS 67663

Brachtenbach #2-1

Job Ticket: 55352

DST#: 3

ATTN: Marc Downing

Test Start: 2013.11.15 @ 13:19:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 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 bbl
124.00	MCO, 40%M, 60%O	1.466
620.00	GO, 50%G, 50%O	8.697
62.00	MCO, 20%M, 80%O	0.870

Total Length: 806.00 ft Total Volume: 11.033 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

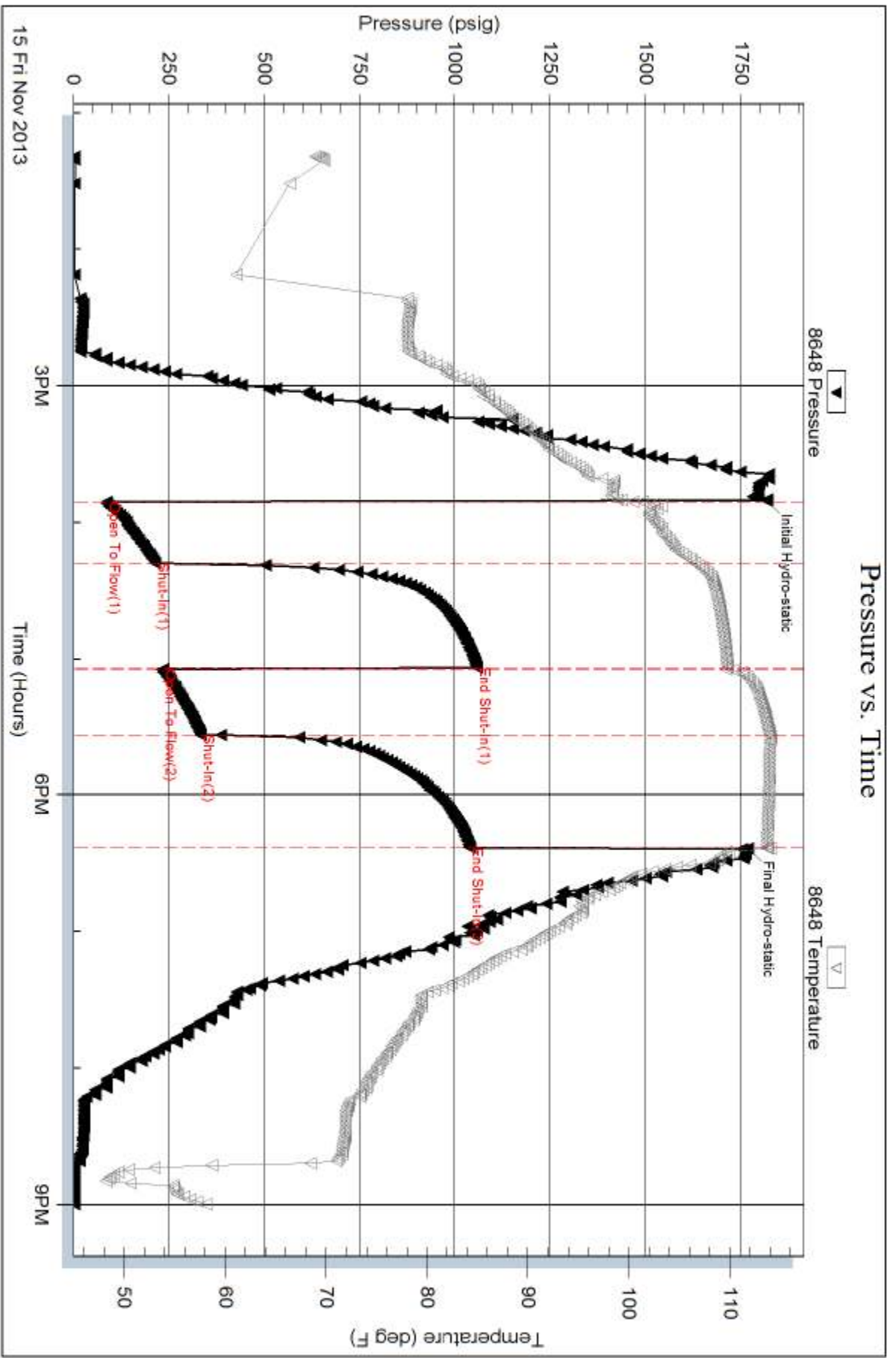
Recovery Comments: 36 @ 80 Degrees = 34 Gravity

Serial #: 8648

Outside H&C Oil Operating Inc

Brachtenbach #2-1

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 55352

Printed: 2013.11.19 @ 10:57:22

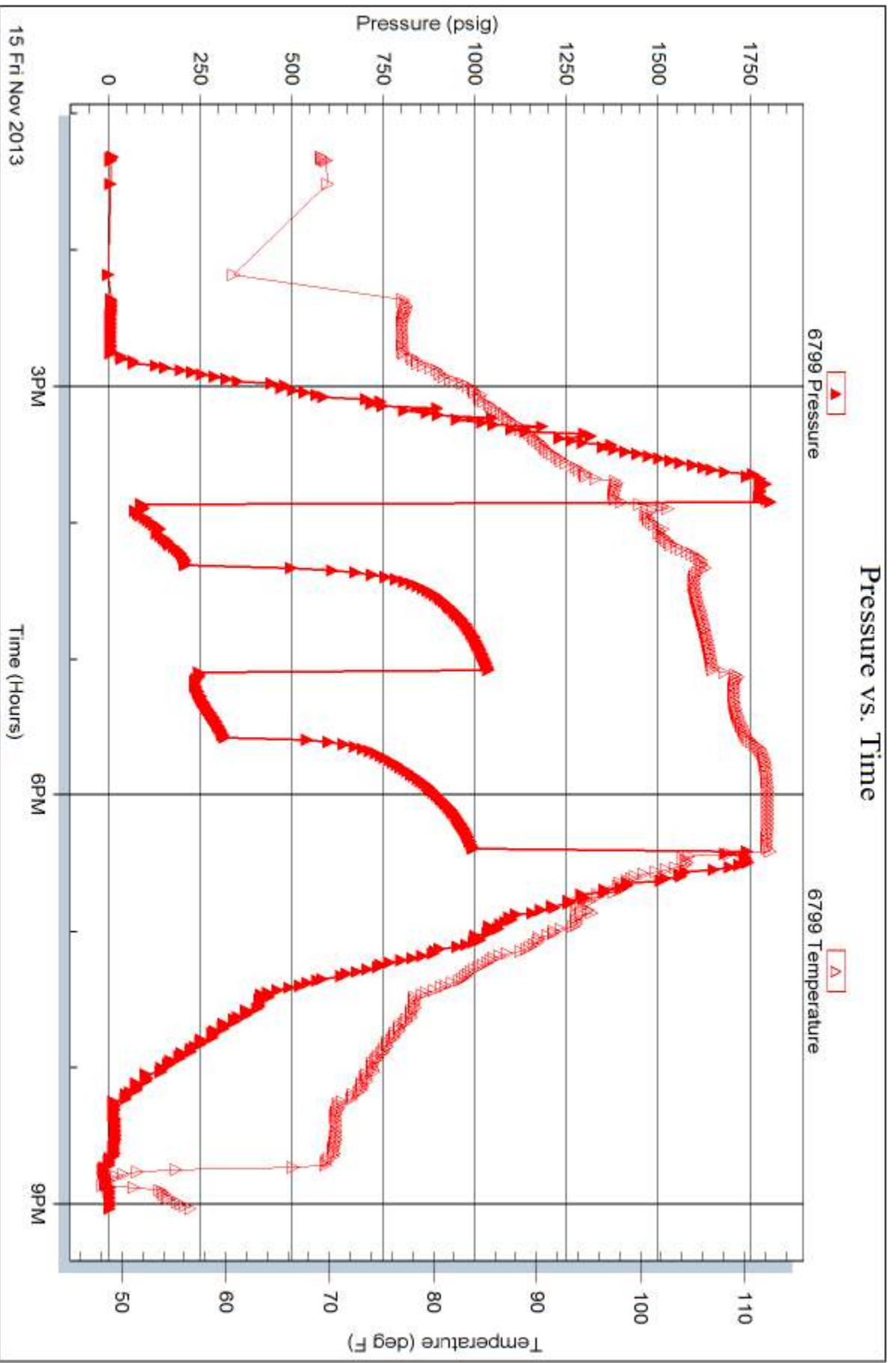
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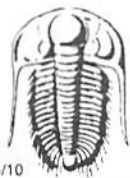
Inside

H&C Oil Operating Inc

Brachtenbach #2-1

DST Test Number: 3





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **54500**

Well Name & No. Braughtenbach #2-1 Test No. 1 Date 11-13-13
 Company H&C Oil Operating Inc Elevation 2279 KB 2274 GL
 Address Plainville KS, 67663 Po Box 86
 Co. Rep / Geo. Marc Downing Rig American Eagle #3
 Location: Sec. 2 Twp. 9S Rge. 23W Co. Graham State KS

Interval Tested 3609 - 3649 Zone Tested LKC "C-D"
 Anchor Length 40' Drill Pipe Run 3562' Mud Wt. 8.7
 Top Packer Depth 3604 Drill Collars Run — Vis 56
 Bottom Packer Depth 3609 Wt. Pipe Run — WL 6.0
 Total Depth 3649 Chlorides 500 ppm System LCM —

Blow Description IF- 8" blow instantly (slid 20' to bottom)
ISI- No return
FF- 1 1/4" blow
FSI- No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>85</u>	<u>WM show of oil</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 85' BHT 105° Gravity — API RW — @ — °F Chlorides — ppm

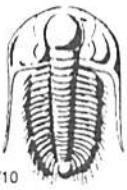
(A) Initial Hydrostatic 1741 Test 1150 T-On Location 22:20
 (B) First Initial Flow 68 Jars — T-Started 23:43 11:43pm
 (C) First Final Flow 81 Safety Joint — T-Open 05:04
 (D) Initial Shut-In 758 Circ Sub — T-Pulled 07:04
 (E) Second Initial Flow 91 Hourly Standby — T-Out 08:56
 (F) Second Final Flow 96 Mileage 106 RT 164.30 Comments —
 (G) Final Shut-In 760 Sampler —
 (H) Final Hydrostatic 1700 Straddle —
 Shale Packer —
 Shale Packer —
 Extra Packer —
 Extra Recorder —
 Day Standby —
 Accessibility —

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

Sub Total 0
 Total 1314.30
 MP/DST Disc't —

Approved By — Our Representative Cody Bloedorn

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. **55351**

Well Name & No. Brachtenbach #2-1 Test No. 2 Date 11-14-13
 Company H&C Oil Operating Inc Elevation 2279 KB 2274 GL
 Address Po Box 86, Plainville KS, 67663
 Co. Rep / Geo. Marc Downing Rig American Eagle #3
 Location: Sec. 2 Twp. 9S Rge. 23W Co. Graham State KS

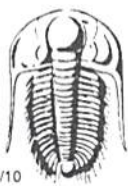
Interval Tested 3609 - 3678 Zone Tested LKC "E"
 Anchor Length 69' Drill Pipe Run 3562' Mud Wt. 8.9
 Top Packer Depth 3604 Drill Collars Run 30' Vis 55
 Bottom Packer Depth 3609 Wt. Pipe Run — WL 6.0
 Total Depth 3678 Chlorides 800 ppm System LCM —
 Blow Description IF - 3 1/2" blow
ISI - No return
FF - 3/4" blow
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>186</u>	<u>WM, oil show</u>			<u>5</u>	<u>95</u>
<u>31</u>	<u>USOCM</u>		<u>5</u>		<u>95</u>
Rec Total	<u>217'</u>	BHT	<u>108°</u>	Gravity	<u>—</u>
				API RW	<u>—</u>
				@	<u>—</u> °F
				Chlorides	<u>—</u> ppm

(A) Initial Hydrostatic 1760 Test 1150 T-On Location 15:13
 (B) First Initial Flow 84 Jars — T-Started 15:34
 (C) First Final Flow 103 Safety Joint — T-Open 17:53
 (D) Initial Shut-In 754 Circ Sub — T-Pulled 20:53
 (E) Second Initial Flow 114 Hourly Standby — T-Out 23:13
 (F) Second Final Flow 137 Mileage 106 RT 164.30 Comments —
 (G) Final Shut-In 745 Sampler —
 (H) Final Hydrostatic 1696 Straddle —
 Ruined Shale Packer —
 Shale Packer — Ruined Packer —
 Extra Packer — Extra Copies —
 Extra Recorder — Sub Total 0
 Day Standby — Total 1314.30
 Accessibility — MP/DST Disc't —
 Sub Total 1314.30

Approved By _____ Our Representative Cody Bloodorn

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **55352**

Well Name & No. Brachtenbach # 2-1 Test No. 3 Date 11-15-13
 Company H&C Oil Operating Inc Elevation 2279 KB 2274 GL
 Address Po Box 86, Plainville KS, 67663
 Co. Rep / Geo. Marc Downing Rig American Eagle #3
 Location: Sec. 2 Twp. 9s Rge. 23w Co. Graham State KS

Interval Tested 3704 - 3765 Zone Tested LKC "H, I, J"
 Anchor Length 61 Drill Pipe Run 3660' Mud Wt. 8.9
 Top Packer Depth 3699 Drill Collars Run 30' Vis 51
 Bottom Packer Depth 3704 Wt. Pipe Run — WL 5.4
 Total Depth 3765 Chlorides 1200 ppm System LCM —

Blow Description IF - B.O.B. in 2 minutes
ISI - 6" return
FF - B.O.B. in 1 minute
FSI - 4" return

Rec	Feet of	%gas	%oil	%water	%mud
<u>124</u>	<u>MCO</u>	<u>60</u>	<u>—</u>	<u>40</u>	<u>—</u>
<u>620</u>	<u>60</u>	<u>50</u>	<u>50</u>	<u>—</u>	<u>—</u>
<u>62</u>	<u>MCO</u>	<u>80</u>	<u>—</u>	<u>20</u>	<u>—</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>1736' G.I.P.</u>	%gas	%oil	%water	%mud

Rec Total 806' BHT 113° Gravity 34 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1814 Test 1150 T-On Location 09:32
 (B) First Initial Flow 86 Flow T-Started 13:19 1:19pm
 (C) First Final Flow 215 Safety Joint — T-Open 15:51 3:51pm
 (D) Initial Shut-In 1058 Circ Sub — T-Pulled 18:21
 (E) Second Initial Flow 234 Hourly Standby 2.5h 250 T-Out 21:02
 (F) Second Final Flow 333 Mileage 106 RT 328.60
 (G) Final Shut-In 1039 Sampler —
 (H) Final Hydrostatic 1786 Straddle —

Initial Open 30 Ruined Shale Packer —
 Initial Shut-In 45 Ruined Packer —
 Final Flow 30 Extra Packer —
 Final Shut-In 45 Extra Recorder — Sub Total 0
 Day Standby — Total 1728.60
 Accessibility — MP/DST Disc't —
 Sub Total 1728.60

Approved By _____ Our Representative Coby

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