



DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

PO Box 8037
Wichita KS 67208

ATTN: Paul Gunzelman

SD Unit "A" #1-19

19-6s-25w Graham,KS

Start Date: 2013.08.14 @ 06:48:22

End Date: 2013.08.14 @ 15:02:22

Job Ticket #: 041073 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.08.20 @ 16:02:57



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

ATTN: Paul Gunzelman

Job Ticket: 041073

DST#: 1

Test Start: 2013.08.14 @ 06:48:22

GENERAL INFORMATION:

Formation: **LKC C-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:25:22

Time Test Ended: 15:02:22

Test Type: Conventional Bottom Hole (Initial)

Tester: Jeff Brown

Unit No: 67

Interval: 3688.00 ft (KB) To 3728.00 ft (KB) (TVD)

Reference Elevations: 2602.00 ft (KB)

Total Depth: 3728.00 ft (KB) (TVD)

2597.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press @ Run Depth: 167.12 psig @ 3723.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.14

End Date:

2013.08.14

Last Calib.: 2013.08.14

Start Time: 06:48:23

End Time:

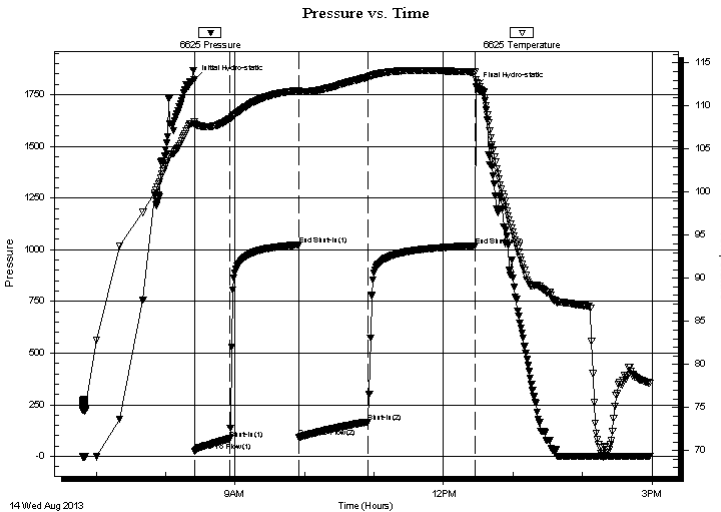
14:58:22

Time On Btm: 2013.08.14 @ 08:24:52

Time Off Btm: 2013.08.14 @ 12:27:52

TEST COMMENT: IFP=Good blow BOB in 12 min
ISI=Weak blow built to 1/4"
FFP=Good blow BOB in 17 min
FSI=Weak blow back built to 1/4"

PRESSURE SUMMARY



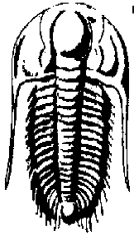
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1824.34	108.14	Initial Hydro-static
1	25.25	107.88	Open To Flow (1)
31	85.10	108.52	Shut-In(1)
90	1023.52	111.80	End Shut-In(1)
91	93.78	111.68	Open To Flow (2)
150	167.12	113.34	Shut-In(2)
242	1019.85	113.93	End Shut-In(2)
243	1790.21	113.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
252.00	MW with a scum of oil 10%M 90%W	3.28
63.00	V SOCGWM 2%O 8%G 20%W 70%M	0.88
63.00	GMCO 5%G 40%M 55%O	0.88
25.00	Gassy Oil 10%G 90%O	0.35
0.00	283-GIP	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Cobalt Energy LLC

19-6s-25w Graham, KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

Job Ticket: 041073 **DST#: 1**

ATTN: Paul Gunzelman

Test Start: 2013.08.14 @ 06:48:22

GENERAL INFORMATION:

Formation: **LKC C-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:25:22

Time Test Ended: 15:02:22

Test Type: Conventional Bottom Hole (Initial)

Tester: Jeff Brown

Unit No: 67

Interval: 3688.00 ft (KB) To 3728.00 ft (KB) (TVD)

Reference Elevations: 2602.00 ft (KB)

Total Depth: 3728.00 ft (KB) (TVD)

2597.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8679 Inside

Press @ Run Depth: psig @ 3723.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.14 End Date: 2013.08.14

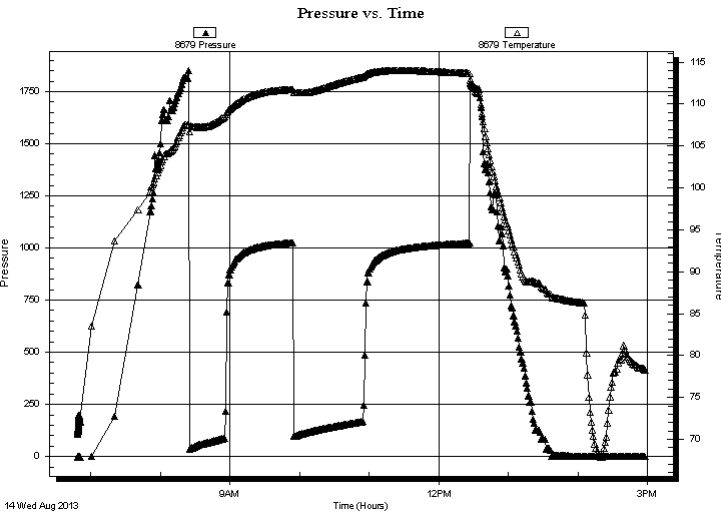
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Start Time: 06:48:52 End Time: 14:57:21

Time On Btm:

Time Off Btm:

TEST COMMENT: IFP=Good blow BOB in 12 min
ISI=Weak blow built to 1/4"
FFP=Good blow BOB in 17 min
FSI=Weak blow back built to 1/4"



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
252.00	MW with a scum of oil 10%M 90%W	3.28
63.00	V SOCGWM 2%O 8%G 20%W 70%M	0.88
63.00	GMCO 5%G 40%M 55%O	0.88
25.00	Gassy Oil 10%G 90%O	0.35
0.00	283-GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

Job Ticket: 041073

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2013.08.14 @ 06:48:22

Tool Information

Drill Pipe:	Length: 3646.00 ft	Diameter: 3.80 inches	Volume: 51.14 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 28.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 51.28 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3688.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	68.00 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			3661.00	
Shut In Tool	5.00			3666.00	
Hydraulic tool	5.00			3671.00	
Jars	5.00			3676.00	
Safety Joint	3.00			3679.00	
Packer	4.00			3683.00	28.00 Bottom Of Top Packer
Packer	5.00			3688.00	
Stubb	1.00			3689.00	
Perforations	2.00			3691.00	
Change Over Sub	1.00			3692.00	
Drill Pipe	30.00			3722.00	
Change Over Sub	1.00			3723.00	
Recorder	0.00	6625	Outside	3723.00	
Recorder	0.00	8679	Inside	3723.00	
Perforations	2.00			3725.00	
Bullnose	3.00			3728.00	40.00 Bottom Packers & Anchor
Total Tool Length:	68.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

Job Ticket: 041073

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2013.08.14 @ 06:48:22

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 60.00 sec/qt
Water Loss: 6.78 in³
Resistivity: ohm.m
Salinity: 1100.00 ppm
Filter Cake: inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 31 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
252.00	MW w ith a scum of oil 10%M 90%W	3.280
63.00	VSOCGWM 2%O 8%G 20%W 70%M	0.884
63.00	GMCO 5%G 40%M 55%O	0.884
25.00	Gassy Oil 10%G 90%O	0.351
0.00	283-GIP	0.000

Total Length: 403.00 ft Total Volume: 5.399 bbl

Num Fluid Samples: 0

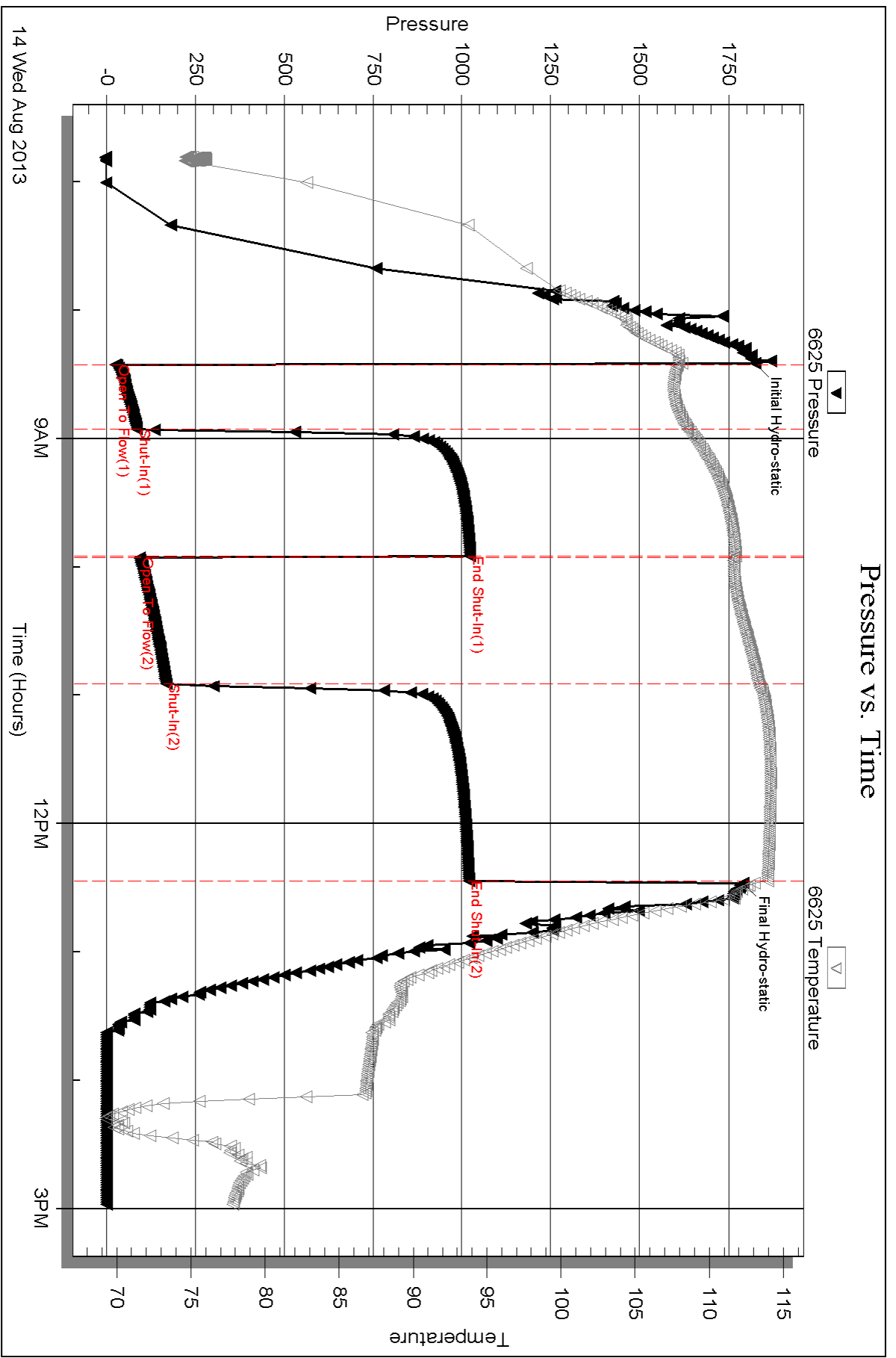
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



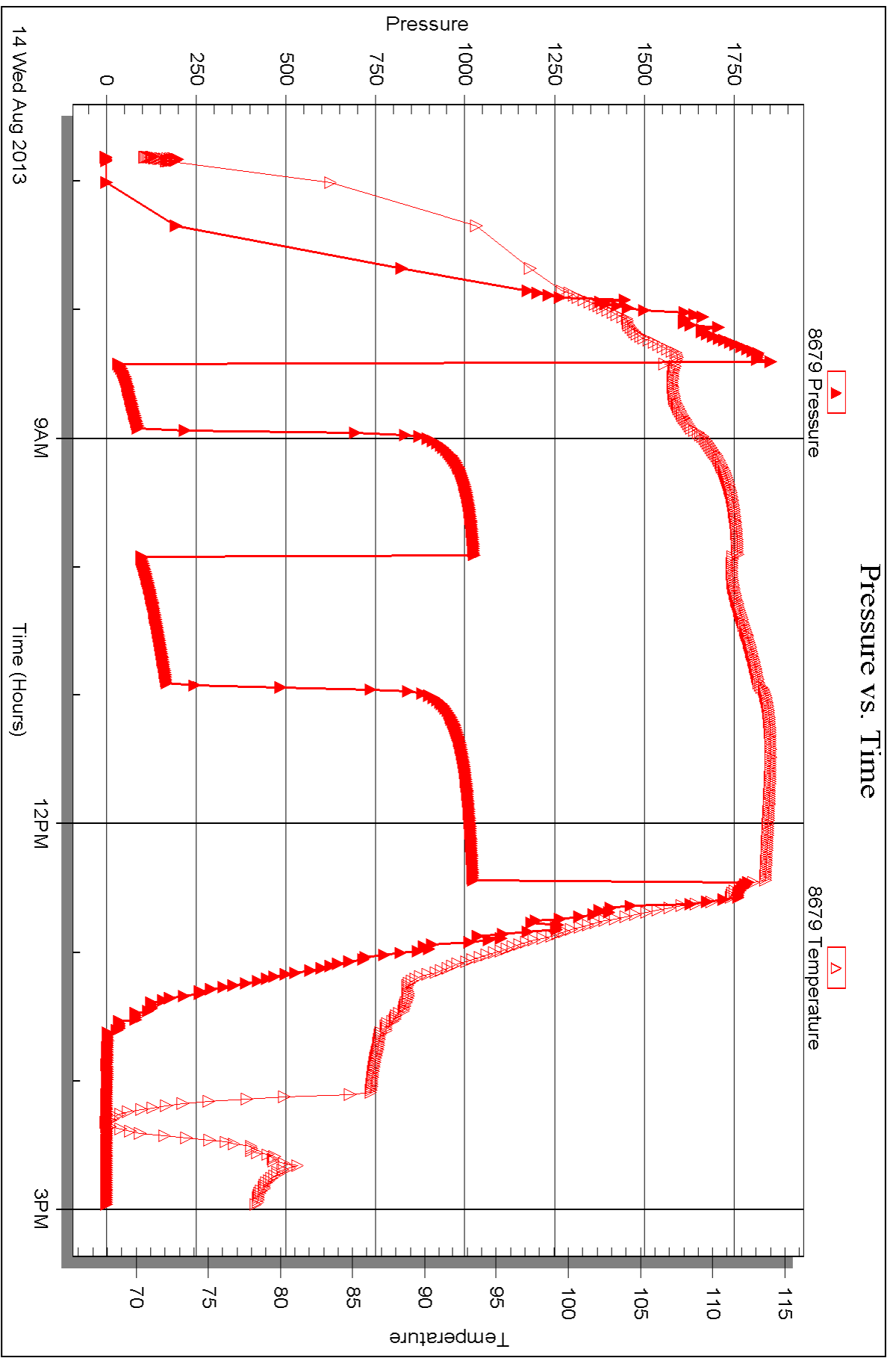
Serial #: 8679

Inside

Cobalt Energy LLC

SD Unit "A" #1-19

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

PO Box 8037
Wichita KS 67208

ATTN: Paul Gunzelman

SD Unit "A" #1-19

19-6s-25w Graham,KS

Start Date: 2013.08.14 @ 22:51:41

End Date: 2013.08.15 @ 06:01:11

Job Ticket #: 041074 DST #: 2

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

Printed: 2013.08.20 @ 16:01:58



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

ATTN: Paul Gunzelman

Job Ticket: 041074

DST#: 2

Test Start: 2013.08.14 @ 22:51:41

GENERAL INFORMATION:

Formation: **LKC E-G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:15:41

Time Test Ended: 06:01:11

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3727.00 ft (KB) To 3774.00 ft (KB) (TVD)

Reference Elevations: 2602.00 ft (KB)

Total Depth: 3728.00 ft (KB) (TVD)

2597.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press @ Run Depth: 51.10 psig @ 3766.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.14

End Date:

2013.08.15

Last Calib.:

2013.08.15

Start Time: 22:51:42

End Time:

06:01:11

Time On Btm:

2013.08.15 @ 00:15:11

Time Off Btm:

2013.08.15 @ 04:21:41

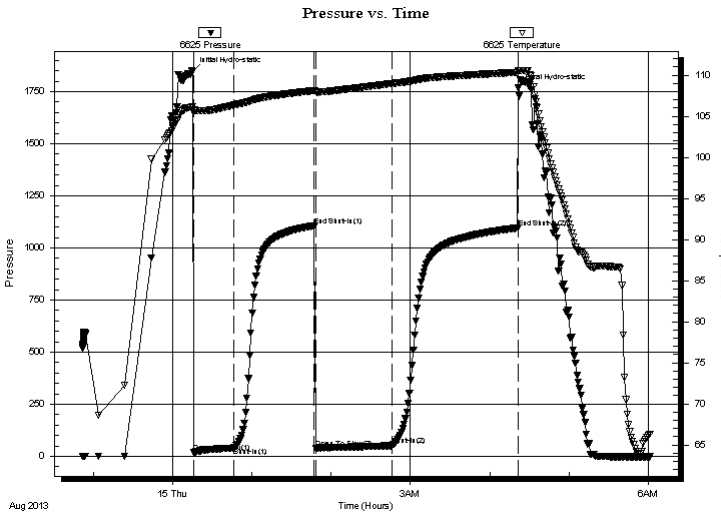
TEST COMMENT: IFP=Weak blow built to 3 1/4"

ISI=Dead no blow back

FFP=Fair blow built to 8"

FSI=Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1846.61	106.15	Initial Hydro-static
1	17.98	105.40	Open To Flow (1)
31	41.28	106.36	Shut-In(1)
92	1107.26	108.13	End Shut-In(1)
93	39.75	107.98	Open To Flow (2)
151	51.10	108.98	Shut-In(2)
246	1095.57	110.34	End Shut-In(2)
247	1766.28	110.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
75.00	HOCGM 10%G 25%O 65%M	0.80
0.00	79-GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

Job Ticket: 041074

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2013.08.14 @ 22:51:41

GENERAL INFORMATION:

Formation: **LKC E-G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:15:41

Time Test Ended: 06:01:11

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3727.00 ft (KB) To 3774.00 ft (KB) (TVD)

Reference Elevations: 2602.00 ft (KB)

Total Depth: 3728.00 ft (KB) (TVD)

2597.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 8679

Inside

Press @ Run Depth: psig @ 3766.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.14

End Date:

2013.08.15

Last Calib.:

2013.08.15

Start Time: 22:51:32

End Time:

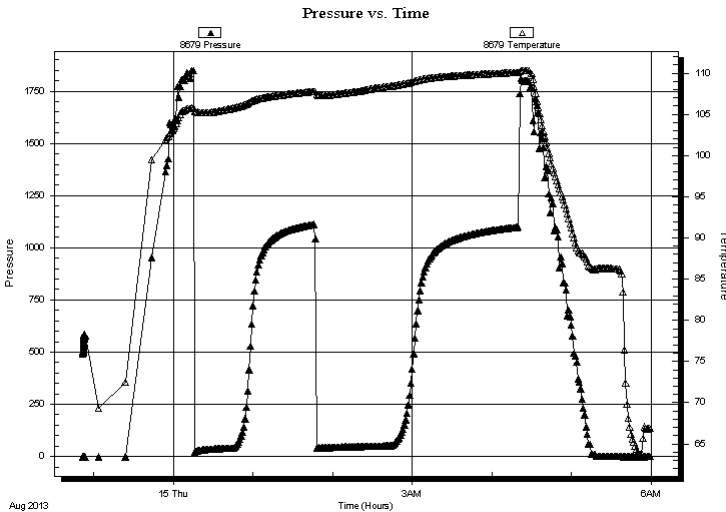
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Time On Btm:

Time Off Btm:

TEST COMMENT: IFP=Weak blow built to 3 1/4"
ISI=Dead no blow back
FFP=Fair blow built to 8"
FSI=Dead no blow back

PRESSURE SUMMARY



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

Length (ft)	Description	Volume (bbl)
75.00	HOCGM 10%G 25%O 65%M	0.80
0.00	79-GIP	0.00

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

Job Ticket: 041074

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2013.08.14 @ 22:51:41

Tool Information

Drill Pipe:	Length: 3678.00 ft	Diameter: 3.80 inches	Volume: 51.59 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length: 28.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 51.73 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	3727.00 ft			Final	53000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	47.00 ft				
Tool Length:	75.00 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			3700.00	
Shut In Tool	5.00			3705.00	
Hydraulic tool	5.00			3710.00	
Jars	5.00			3715.00	
Safety Joint	3.00			3718.00	
Packer	4.00			3722.00	28.00 Bottom Of Top Packer
Packer	5.00			3727.00	
Stubb	1.00			3728.00	
Perforations	5.00			3733.00	
Change Over Sub	1.00			3734.00	
Drill Pipe	31.00			3765.00	
Change Over Sub	1.00			3766.00	
Recorder	0.00	6625	Outside	3766.00	
Recorder	0.00	8679	Inside	3766.00	
Perforations	5.00			3771.00	
Bullnose	3.00			3774.00	47.00 Bottom Packers & Anchor
Total Tool Length:	75.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

Job Ticket: 041074

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2013.08.14 @ 22:51:41

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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1100.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
75.00	HOCGM 10%G 25%O 65%M	0.797
0.00	79-GIP	0.000

Total Length: 75.00 ft Total Volume: 0.797 bbl

Num Fluid Samples: 0

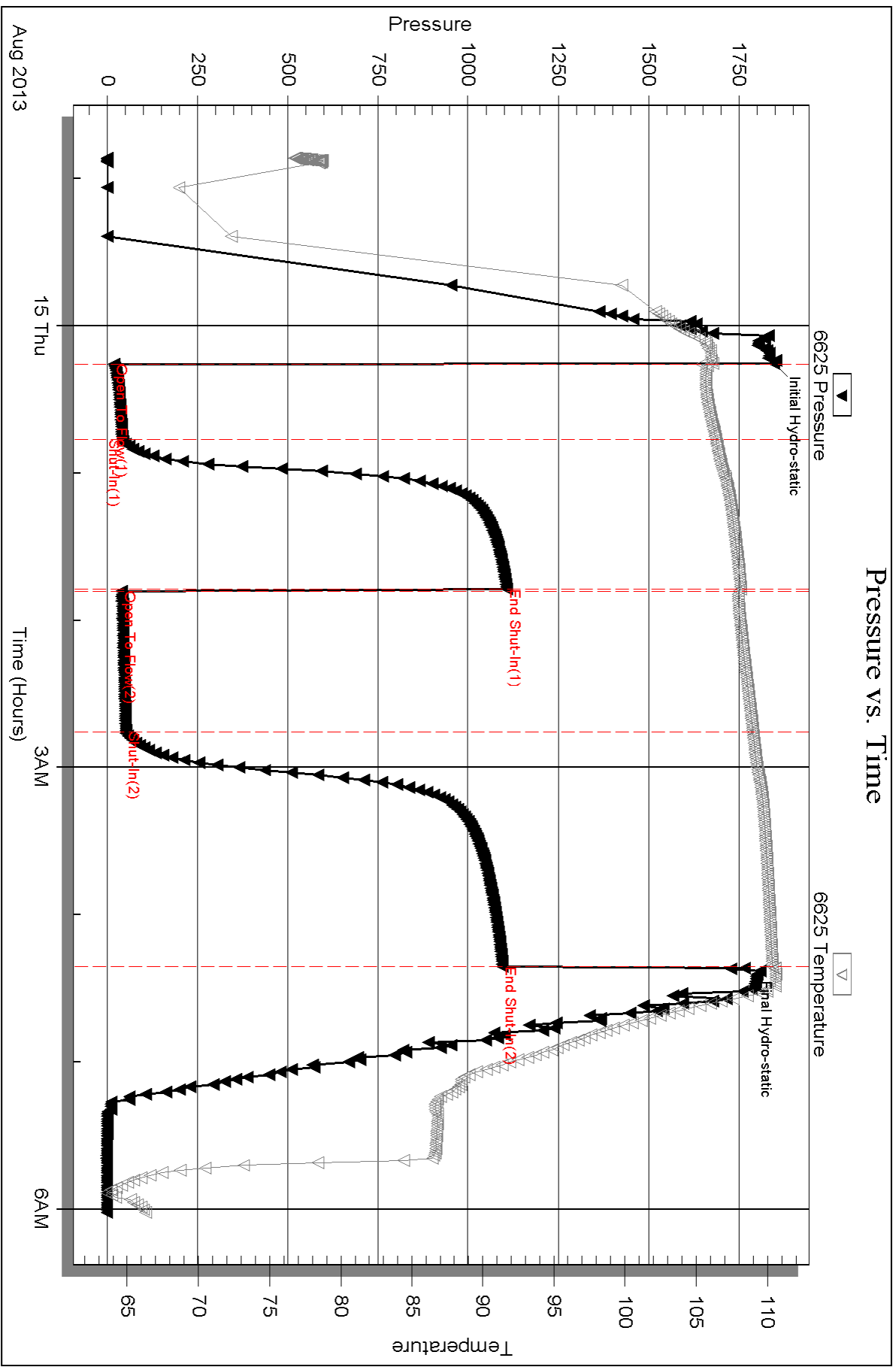
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



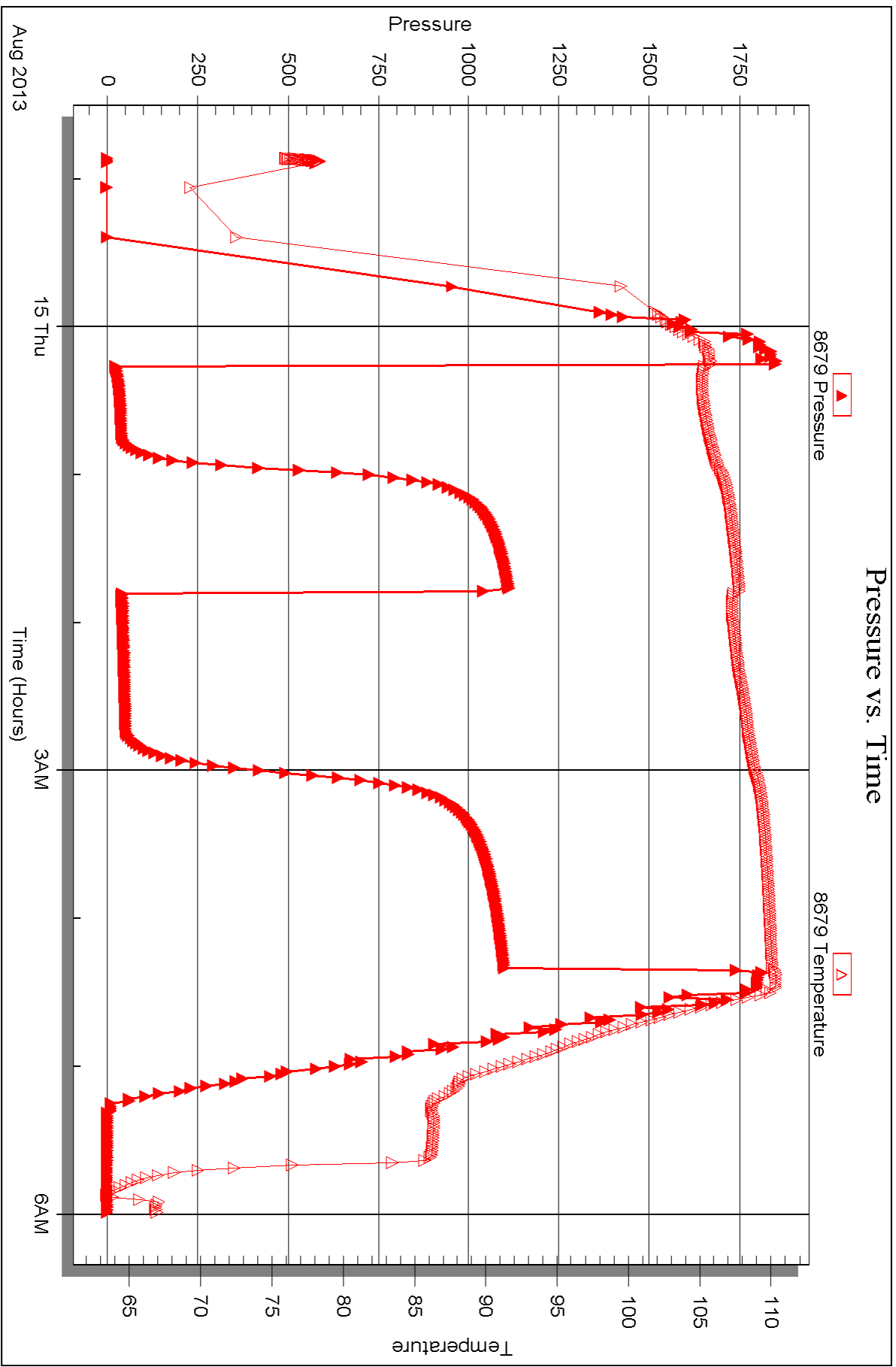
Serial #: 8679

Inside

Cobalt Energy LLC

SD Unit "A" #1-19

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

PO Box 8037
Wichita KS 67208

ATTN: Paul Gunzelman

SD Unit "A" #1-19

19-6s-25w Graham,KS

Start Date: 2013.08.15 @ 13:30:50

End Date: 2013.08.15 @ 22:48:20

Job Ticket #: 041075 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.08.20 @ 16:01:11



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

ATTN: Paul Gunzelman

Job Ticket: 041075

DST#: 3

Test Start: 2013.08.15 @ 13:30:50

GENERAL INFORMATION:

Formation: **LKC-H-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:02:50

Time Test Ended: 22:48:20

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: 3776.00 ft (KB) To 3830.00 ft (KB) (TVD)

Reference Elevations: 2602.00 ft (KB)

Total Depth: 3830.00 ft (KB) (TVD)

2597.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 5.00 ft

Serial #: 6625 Outside

Press @ Run Depth: 676.38 psig @ 3813.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.08.15

End Date:

2013.08.15

Last Calib.: 2013.08.15

Start Time: 13:30:51

End Time:

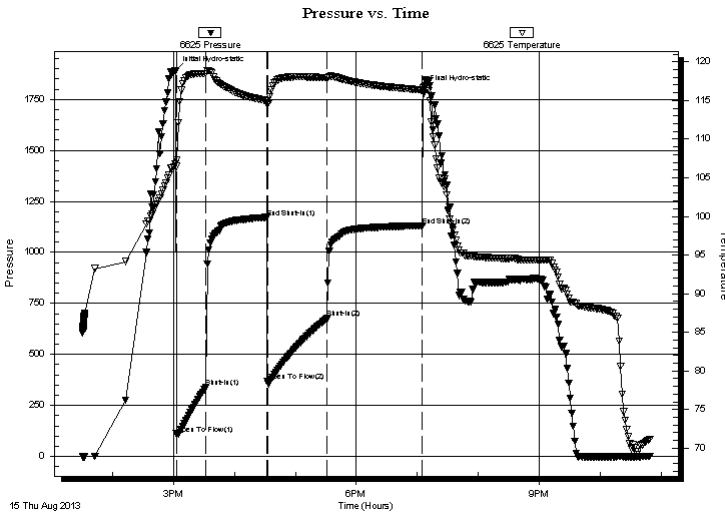
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Time On Btm: 2013.08.15 @ 15:02:20

Time Off Btm: 2013.08.15 @ 19:05:50

TEST COMMENT: IFP=Strong blow BOB in 1 1/2 min
ISI=Good blow back BOB in 5 min
FFP=Strong blow BOB in 2 min
FSI=Good blow back BOB in 22 min. Gas to surface

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1891.82	106.85	Initial Hydro-static
1	110.46	106.51	Open To Flow (1)
30	337.52	118.50	Shut-In(1)
90	1171.60	114.98	End Shut-In(1)
90	367.62	114.60	Open To Flow (2)
149	676.38	117.94	Shut-In(2)
243	1131.32	116.35	End Shut-In(2)
244	1799.07	116.63	Final Hydro-static

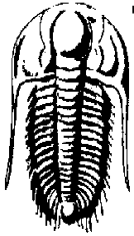
Recovery

Length (ft)	Description	Volume (bbl)
123.00	MCO 40%M 60%O	1.47
1588.00	Gassy OIL 25%G 75%O	22.28
0.00	GTS	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

Job Ticket: 041075 **DST#: 3**

ATTN: Paul Gunzelman

Test Start: 2013.08.15 @ 13:30:50

GENERAL INFORMATION:

Formation: **LKC-H-J**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:02:50
 Time Test Ended: 22:48:20
 Interval: **3776.00 ft (KB) To 3830.00 ft (KB) (TVD)**
 Total Depth: 3830.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Jeff Brown
 Unit No: 67
 Reference Elevations: 2602.00 ft (KB)
 2597.00 ft (CF)
 KB to GR/CF: 5.00 ft

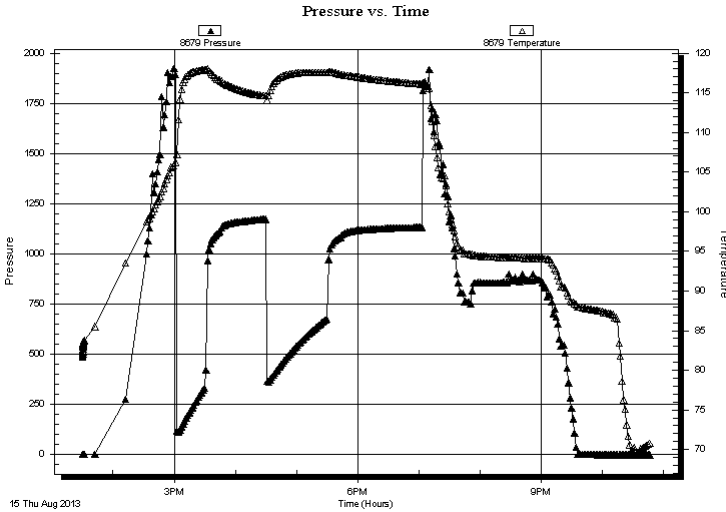
Serial #: 8679

Inside

Press@RunDepth: psig @ 3813.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.08.15 End Date: 2013.08.15 Last Calib.: 2013.08.15
 Start Time: 13:30:17 End Time: 22:46:16 Time On Btm:
 Time Off Btm:

TEST COMMENT: IFP=Strong blow BOB in 1 1/2 min
 ISI=Good blow back BOB in 5 min
 FFP=Strong blow BOB in 2 min
 FSI=Good blow back BOB in 22 min. Gas to surface

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
123.00	MCO 40%M 60%O	1.47
1588.00	Gassy OIL 25%G 75%O	22.28
0.00	GTS	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

Job Ticket: 041075

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2013.08.15 @ 13:30:50

Tool Information

Drill Pipe:	Length: 3741.00 ft	Diameter: 3.80 inches	Volume: 52.48 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length: 28.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose:	69000.00 lb
			<u>Total Volume: 52.62 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	3776.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	54.00 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			3749.00	
Shut In Tool	5.00			3754.00	
Hydraulic tool	5.00			3759.00	
Jars	5.00			3764.00	
Safety Joint	3.00			3767.00	
Packer	4.00			3771.00	28.00 Bottom Of Top Packer
Packer	5.00			3776.00	
Stubb	1.00			3777.00	
Perforations	3.00			3780.00	
Change Over Sub	1.00			3781.00	
Drill Pipe	31.00			3812.00	
Change Over Sub	1.00			3813.00	
Recorder	0.00	6625	Outside	3813.00	
Recorder	0.00	8679	Inside	3813.00	
Perforations	14.00			3827.00	
Bullnose	3.00			3830.00	54.00 Bottom Packers & Anchor
Total Tool Length:	82.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

Job Ticket: 041075

DST#: 3

ATTN: Paul Gunzelman

Test Start: 2013.08.15 @ 13:30:50

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.78 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
123.00	MCO 40%M 60%O	1.470
1588.00	Gassy OIL 25%G 75%O	22.275
0.00	GTS	0.000

Total Length: 1711.00 ft Total Volume: 23.745 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

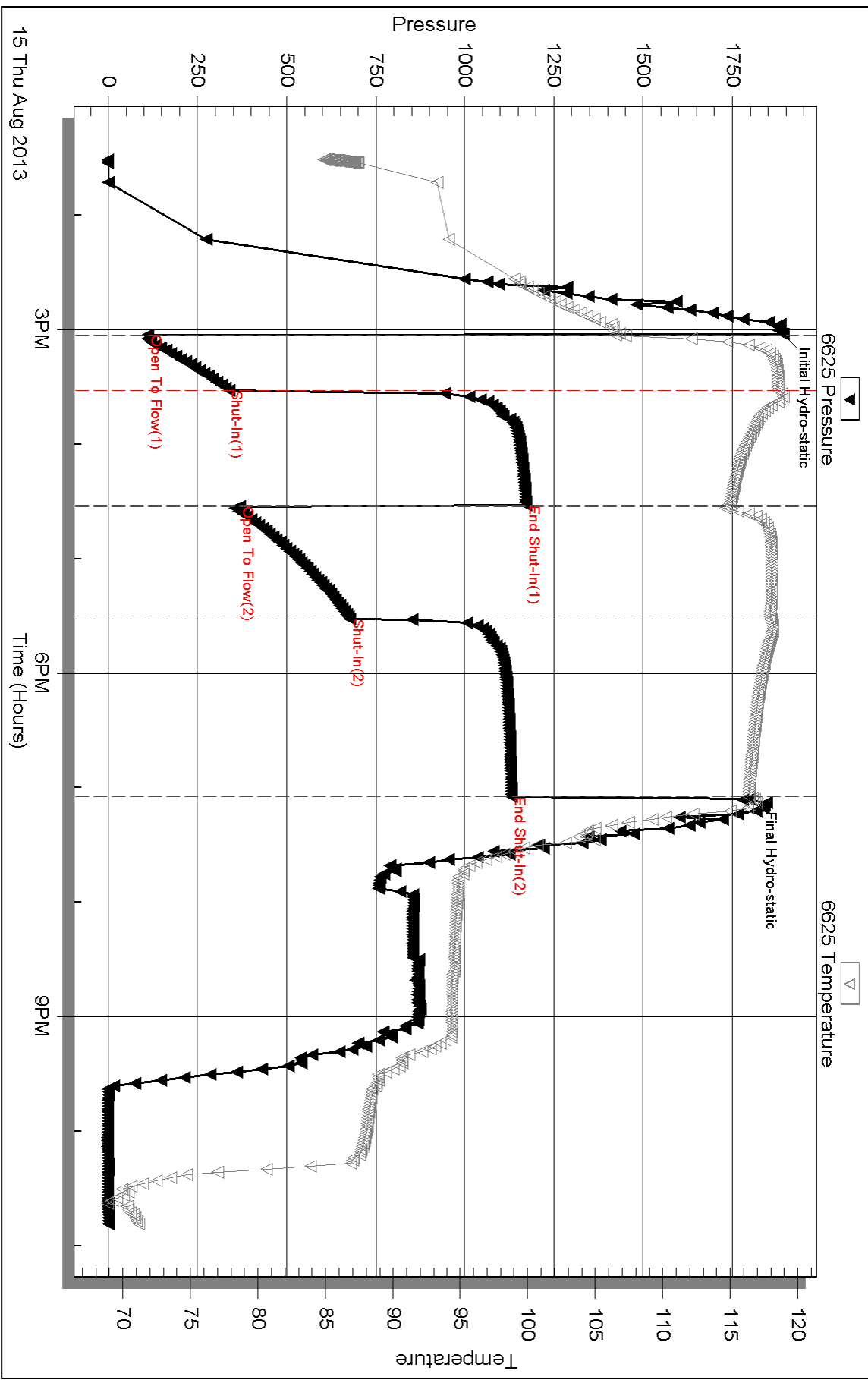
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



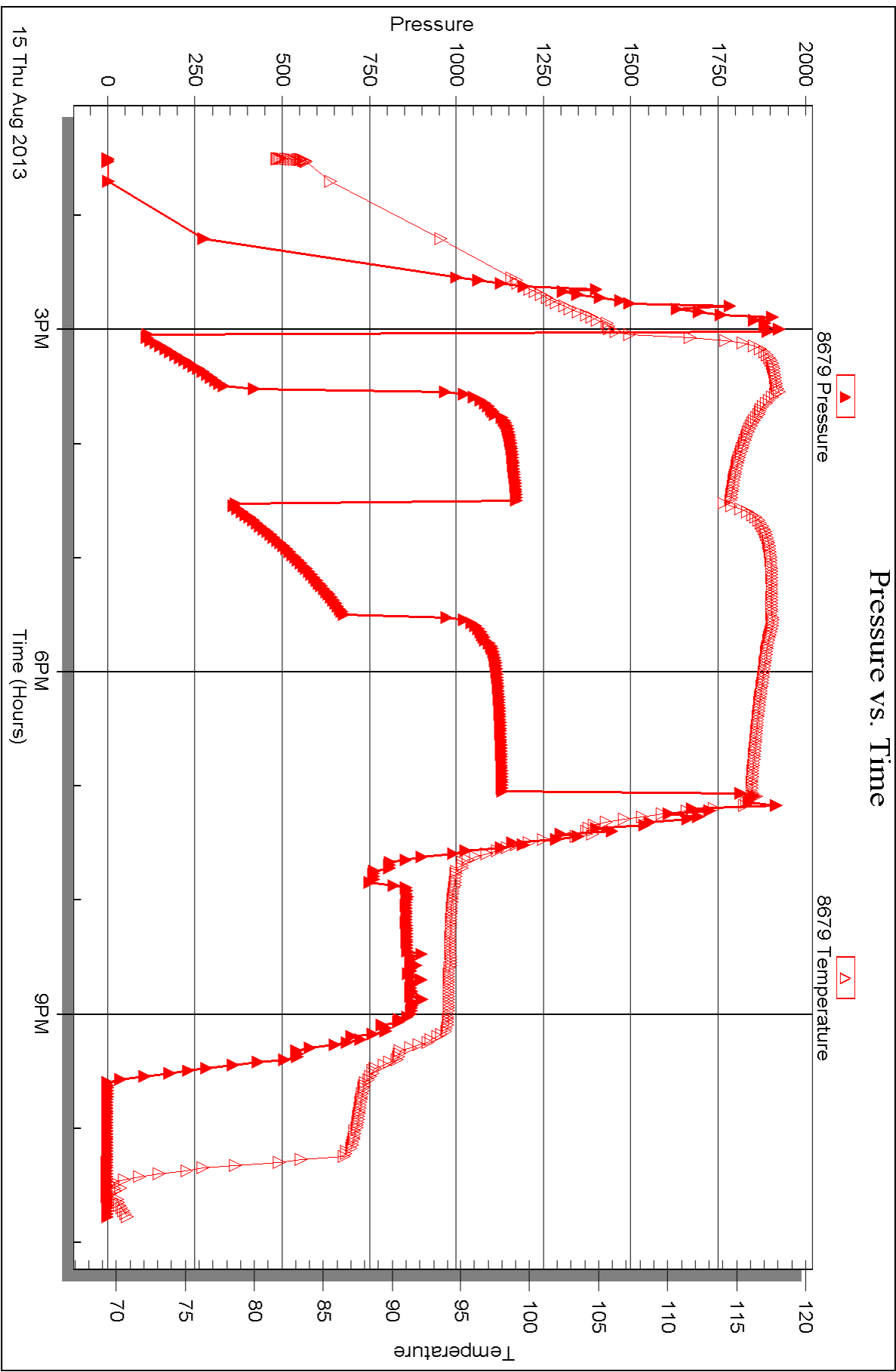
Serial #: 8679

Inside

Cobalt Energy LLC

SD Unit "A" #1-19

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

PO Box 8037
Wichita KS 67208

ATTN: Paul Gunzelman

SD Unit "A" #1-19

19-6s-25w Graham,KS

Start Date: 2013.08.16 @ 07:45:56

End Date: 2013.08.16 @ 16:02:56

Job Ticket #: 041751 DST #: 4

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

Printed: 2013.08.20 @ 16:00:34



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

ATTN: Paul Gunzelman

Job Ticket: 041751

DST#: 4

Test Start: 2013.08.16 @ 07:45:56

GENERAL INFORMATION:

Formation: **LKC K-L**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 08:59:26
 Time Test Ended: 16:02:56
 Interval: **3831.00 ft (KB) To 3864.00 ft (KB) (TVD)**
 Total Depth: 3864.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Jeff Brown
 Unit No: 67
 Reference Elevations: 2602.00 ft (KB)
 2597.00 ft (CF)
 KB to GR/CF: 5.00 ft

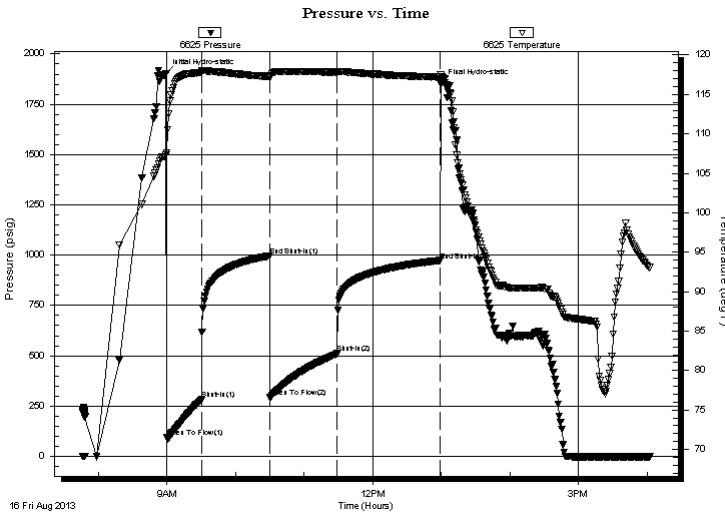
Serial #: 6625

Outside

Press @ Run Depth: 510.95 psig @ 3834.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2013.08.16 End Date: 2013.08.16 Last Calib.: 2013.08.16
 Start Time: 07:45:57 End Time: 16:02:56 Time On Btm: 2013.08.16 @ 08:58:56
 Time Off Btm: 2013.08.16 @ 12:59:26

TEST COMMENT: IFP=Strong blow BOB in 1 1/4 min
 ISI=Good blow back BOB in 18 min
 FFP=Strong blow BOB in 2 min
 FSI=Good blow back BOB in 11 min

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1901.63	107.34	Initial Hydro-static
1	94.44	107.62	Open To Flow (1)
31	282.53	117.78	Shut-In(1)
91	996.72	117.25	End Shut-In(1)
91	292.76	117.07	Open To Flow (2)
150	510.95	117.82	Shut-In(2)
240	973.66	117.19	End Shut-In(2)
241	1850.51	117.46	Final Hydro-static

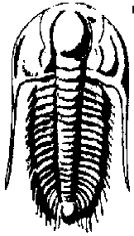
Recovery

Length (ft)	Description	Volume (bbl)
60.00	MW with a scum of oil 15%M 85%W	0.59
63.00	SOCWM 5%O 45%W 50%M	0.88
315.00	MCWO 15%M 15%W 70%O	4.42
822.00	Gassy OIL 30%G 80%O	11.53
0.00	1502-GIP	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

Job Ticket: 041751

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2013.08.16 @ 07:45:56

GENERAL INFORMATION:

Formation: **LKC K-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:59:26

Time Test Ended: 16:02:56

Test Type: Conventional Bottom Hole (Reset)

Tester: Jeff Brown

Unit No: 67

Interval: **3831.00 ft (KB) To 3864.00 ft (KB) (TVD)**

Total Depth: 3864.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2602.00 ft (KB)

2597.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8679 Inside

Press @ Run Depth: psig @ 3834.00 ft (KB)

Start Date: 2013.08.16

End Date:

2013.08.16

Start Time: 07:45:56

End Time:

16:01:25

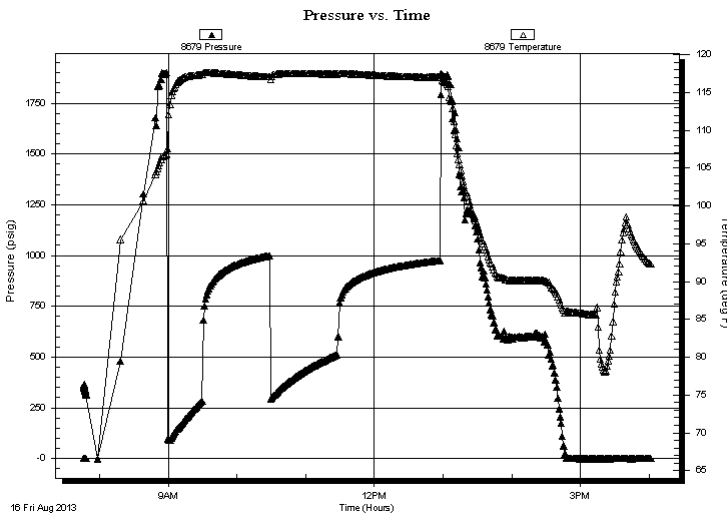
Capacity: 8000.00 psig

Last Calib.: 2013.08.16

Time On Btm:

Time Off Btm:

TEST COMMENT: IFP=Strong blow BOB in 1 1/4 min
ISI=Good blow back BOB in 18 min
FFP=Strong blow BOB in 2 min
FSI=Good blow back BOB in 11 min



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
60.00	MW with a scum of oil 15%M 85%W	0.59
63.00	SOCWM 5%O 45%W 50%M	0.88
315.00	MCWO 15%M 15%W 70%O	4.42
822.00	Gassy OIL 30%G 80%O	11.53
0.00	1502-GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

Job Ticket: 041751

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2013.08.16 @ 07:45:56

Tool Information

Drill Pipe:	Length: 3805.00 ft	Diameter: 3.80 inches	Volume: 53.37 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	22000.00 lb
Drill Collar:	Length: 28.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose:	79000.00 lb
			<u>Total Volume: 53.51 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	55000.00 lb
Depth to Top Packer:	3831.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	33.00 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			3809.00	
Shut In Tool	5.00			3814.00	
Hydraulic tool	5.00			3819.00	
Safety Joint	3.00			3822.00	
Packer	4.00			3826.00	23.00 Bottom Of Top Packer
Packer	5.00			3831.00	
Stubb	1.00			3832.00	
Perforations	2.00			3834.00	
Recorder	0.00	6625	Outside	3834.00	
Recorder	0.00	8679	Inside	3834.00	
Perforations	27.00			3861.00	
Bullnose	3.00			3864.00	33.00 Bottom Packers & Anchor

Total Tool Length: 56.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Cobalt Energy LLC

19-6s-25w Graham,KS

PO Box 8037
Wichita KS 67208

SD Unit "A" #1-19

Job Ticket: 041751

DST#: 4

ATTN: Paul Gunzelman

Test Start: 2013.08.16 @ 07:45:56

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	MW w ith a scum of oil 15%M 85%W	0.587
63.00	SOCWM 5%O 45%W 50%M	0.884
315.00	MCWO 15%M 15%W 70%O	4.419
822.00	Gassy OIL 30%G 80%O	11.530
0.00	1502-GIP	0.000

Total Length: 1260.00 ft

Total Volume: 17.420 bbl

Num Fluid Samples: 0

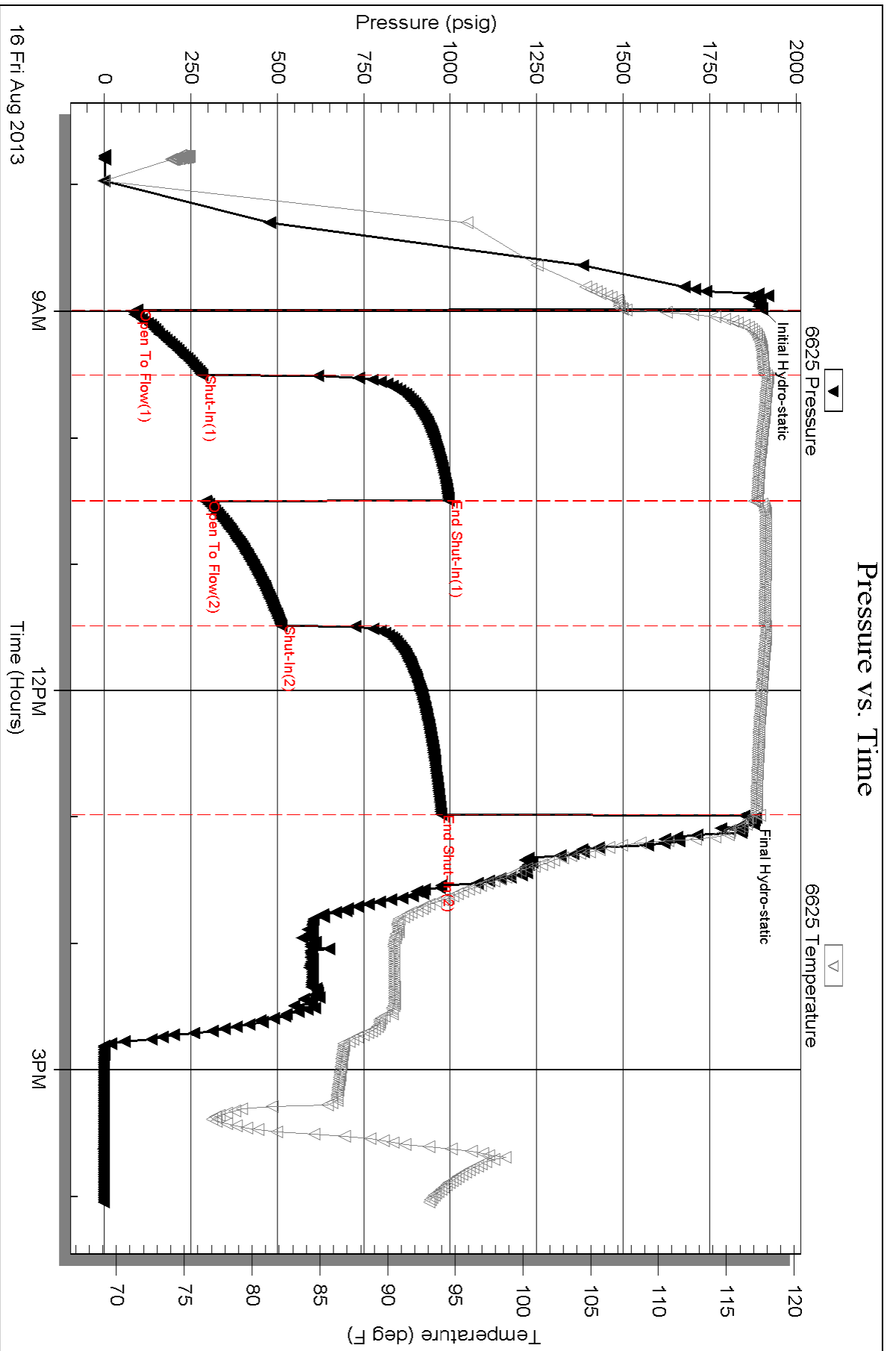
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



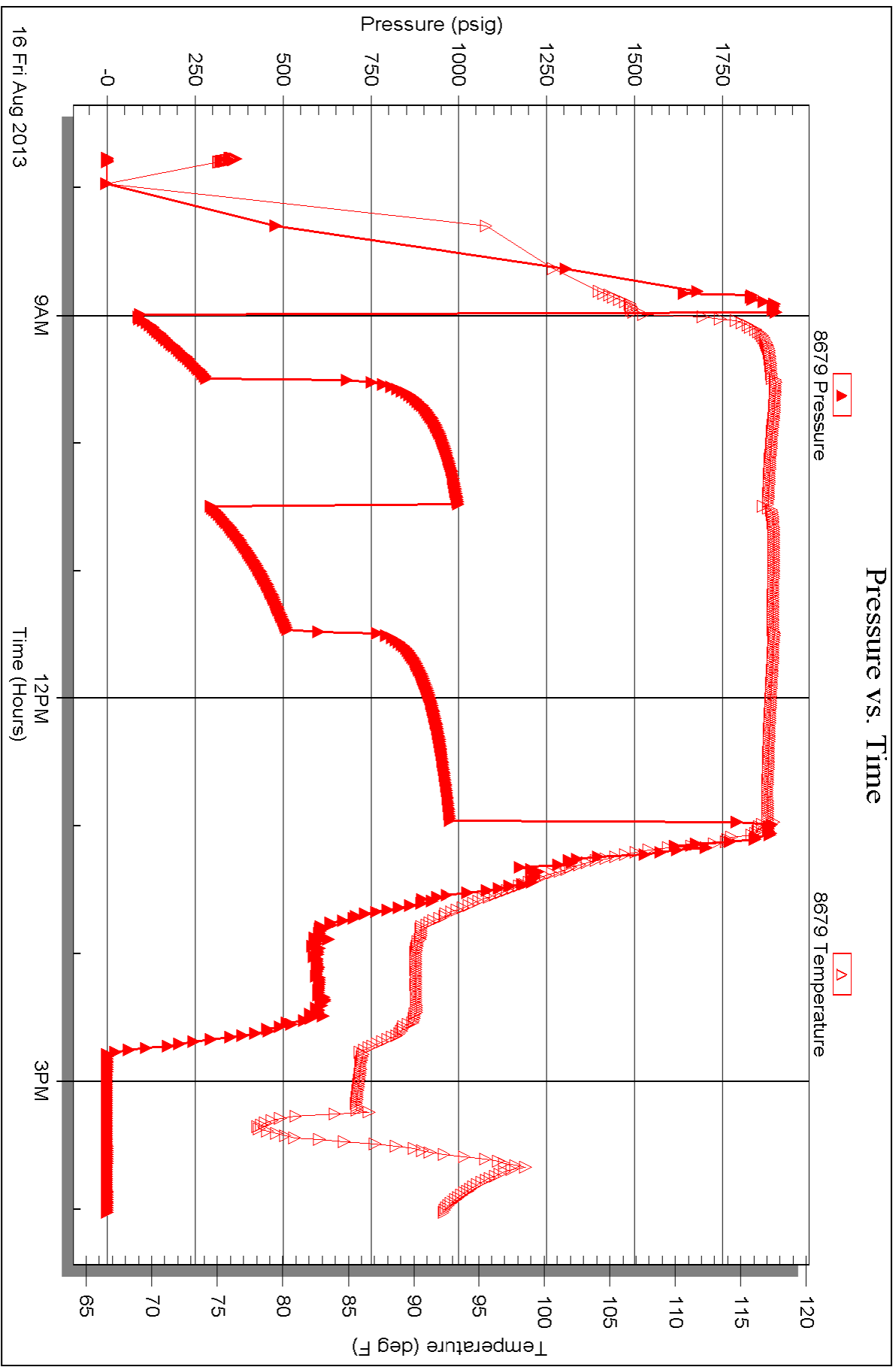
Serial #: 8679

Inside

Cobalt Energy LLC

SD Unit "A" #1-19

DST Test Number: 4





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 041073

Well Name & No. SD UNIT "A" 1-19 Test No. 1 Date 8-14-13
 Company COBALT ENERGY LLC Elevation 2602 KB 2597 GL
 Address PO Box 8037 Wichita KS 67208
 Co. Rep / Geo. Paul Gunzelman Rig Murfin #14
 Location: Sec. 19 Twp. 6S Rge. 25W Co. Gran State KS

Interval Tested 3688 - 3728 Zone Tested LKC - C + D
 Anchor Length 40 Drill Pipe Run 3646 Mud Wt. 9.0
 Top Packer Depth 3683 Drill Collars Run 28 Vis 60
 Bottom Packer Depth 3688 Wt. Pipe Run 0 WL 6.8
 Total Depth 3728 Chlorides 1100 ppm System LCM 2

Blow Description FF-GOOD Blow BOB IN 12 min
BSI-Weak Blow Back Built to 1/4 IN
FF-GOOD Blow BOB IN 17 min
BSI-Weak Blow Back Built to 1/4 IN

Rec	Feet of	%gas	%oil	%water	%mud
<u>25</u>	<u>Cassy oil</u>	<u>10</u>	<u>90</u>		
<u>63</u>	<u>Gmco</u>	<u>5</u>	<u>55</u>		<u>40</u>
<u>63</u>	<u>USOC GWM</u>	<u>8</u>	<u>2</u>	<u>20</u>	<u>70</u>
<u>252</u>	<u>MN with a scum of oil</u>			<u>90</u>	<u>10</u>
	<u>283-GIP-</u>				

Rec Total 403 BHT 114 Gravity 31 API RW 178 @ 71.5 °F Chlorides 42,000 ppm

(A) Initial Hydrostatic 1824 Test 1150 T-On Location 6:30
 (B) First Initial Flow 25 Jars 250 T-Started 6:48
 (C) First Final Flow 85 Safety Joint 75 T-Open 8:27
 (D) Initial Shut-In 1024 Circ Sub T-Pulled 12:27
 (E) Second Initial Flow 94 Hourly Standby T-Out 15:02
 (F) Second Final Flow 127 Mileage 190 RT 92rt
 (G) Final Shut-In 1020 Sampler 142.60
 (H) Final Hydrostatic 1790 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies
 Extra Recorder
 Day Standby
 Accessibility

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 1617.60
 Total 1617.60
 MP/DST Disc't

Approved By _____ Our Representative Jeff Brown

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.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 041074

Well Name & No. SD Unit "A" #1-19 Test No. 2 Date 8-14-13
 Company Cobalt Energy LLC Elevation 2402 KB 2597 GL
 Address PO Box 8037 Wichita KS 67208
 Co. Rep / Geo. Paul Gunzelman Rig Murfin #16
 Location: Sec. 19 Twp. 6S Rge. 25W Co. Colham State KS

Interval Tested 3727-3774 Zone Tested LKC - "E - G"
 Anchor Length 47 Drill Pipe Run 3678 Mud Wt. 9.0
 Top Packer Depth 3722 Drill Collars Run 28 Vis 600
 Bottom Packer Depth 3727 Wt. Pipe Run 0 WL 6.8
 Total Depth 3774 Chlorides 1100 ppm System LCM 2

Blow Description FF - Weak Blow Built to 3 1/4 IN
FSI - Dead No Blow Back
FF - Fair Blow Built to 8 IN
FSI - Dead No Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>75</u>	<u>HOCGM</u>	<u>10</u>	<u>25</u>	<u>65</u>	
	<u>79 - GIP</u>				

Rec Total 75 BHT 110 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1847 Test 1150 T-On Location 22:30
 (B) First Initial Flow 18 Jars 250 T-Started 22:51
 (C) First Final Flow 41 Safety Joint 75 T-Open 00:16
 (D) Initial Shut-In 1107 Circ Sub _____ T-Pulled 4:16
 (E) Second Initial Flow 40 Hourly Standby _____ T-Out 6:01
 (F) Second Final Flow 51 Mileage 142.60 Comments _____
 (G) Final Shut-In 1094 Sampler _____
 (H) Final Hydrostatic 1764 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1617.60
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1617.60

Approved By _____ Our Representative Jeff Brown

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.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 041075

Well Name & No. SD Unit "A" #1-19 Test No. 3 Date 8-15-15
 Company Cobalt Energy LLC Elevation 2602 KB 2597 GL
 Address PO Box 8037 Wichita KS 67208
 Co. Rep / Geo. Paul Gunzelman Rig Murfin #16
 Location: Sec. 19 Twp. 6 S Rge. 25 W Co. Graham State KS

Interval Tested 3776 - 3830 Zone Tested LKC-H-5
 Anchor Length 54 Drill Pipe Run 3741 Mud Wt. 9.1
 Top Packer Depth 3771 Drill Collars Run 28 Vis 53
 Bottom Packer Depth 3776 Wt. Pipe Run 0 WL 7.8
 Total Depth 3830 Chlorides 1200 ppm System LCM 2
 Blow Description IR-Strong Blow Bob IN 1 1/2 min
IS-Good Blow Back Bob IN 5 min
FF-Strong Blow Bob IN 2 min
IS-Good Blow Back Bob IN 22 min. GAS TO SURFACE

Rec	Feet of	%gas	%oil	%water	%mud
<u>123</u>	<u>MCO</u>	<u>60</u>	<u>40</u>		
<u>1588</u>	<u>Cassy oil</u>	<u>25</u>	<u>75</u>		
<u> </u>	<u>2119-GIP</u>				
<u> </u>					
<u> </u>					

Rec Total 1711 BHT 116 Gravity 36 API RW @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1892</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>13:14</u>
(B) First Initial Flow <u>110</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>13:30</u>
(C) First Final Flow <u>338</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>15:02</u>
(D) Initial Shut-In <u>1172</u>	<input checked="" type="checkbox"/> Circ Sub <u>50</u>	T-Pulled <u>19:02</u>
(E) Second Initial Flow <u>368</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>22:48</u>
(F) Second Final Flow <u>676</u>	<input checked="" type="checkbox"/> Mileage <u>142.60</u>	Comments _____
(G) Final Shut-In <u>1131 1131</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>1799</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1667.60</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1667.60</u>	

Approved By _____ Our Representative Jeff Brown

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 041751

Well Name & No. SD Unit "A" #1-19 Test No. 4 Date 8-16-15
 Company Cobalt Energy LLC Elevation 2602 KB 2597 GL
 Address PO Box 8037 Wichita KS 67208
 Co. Rep / Geo. Paul Gunzelman Rig Murfin #16
 Location: Sec. 19 Twp. 4S Rge. 2S Co. Graham State KS

Interval Tested 3831-3864 Zone Tested LKC-K-L
 Anchor Length 33 Drill Pipe Run 3805 Mud Wt. 9.3
 Top Packer Depth 3826 Drill Collars Run 28 Vis 53
 Bottom Packer Depth 3831 Wt. Pipe Run 0 WL 6.8
 Total Depth 3864 Chlorides 900 ppm System LCM 1

Blow Description FF-Strong Blow BOB IN 1 1/4 min
FSI-Good Blow BOB IN 18 min
FF-Strong Blow BOB IN 2 min
FSI-Good Blow Back BOB IN 11 min

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>Feet of MW with ASCUM of oil</u>		<u>85</u>	<u>15</u>	
<u>63</u>	<u>Feet of SOCWM</u>	<u>5</u>	<u>45</u>	<u>50</u>	
<u>315</u>	<u>Feet of MCWA</u>	<u>70</u>	<u>15</u>	<u>15</u>	
<u>822</u>	<u>Feet of Gassy oil</u>	<u>30</u>	<u>70</u>		
<u>0</u>	<u>Feet of 1502-GIP</u>				

Rec Total 1260 BHT 117 Gravity 35 API RW .179 @ 80.5 F Chlorides 35,000 ppm
 (A) Initial Hydrostatic 1902 Test 1150 T-On Location 7:35
 (B) First Initial Flow 94 Jars NO JARS T-Started 7:45
 (C) First Final Flow 283 Safety Joint 75 T-Open 8:59
 (D) Initial Shut-In 997 Circ Sub 50 T-Pulled 12:59
 (E) Second Initial Flow 293 Hourly Standby T-Out 16:02
 (F) Second Final Flow 511 Mileage 142.60
 (G) Final Shut-In 974 Sampler
 (H) Final Hydrostatic 1851 Straddle Ruined Shale Packer
 Shale Packer Ruined Packer
 Extra Packer Extra Copies

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90
 Sub Total 1417.60
 Total 1417.60
 MP/DST Disc't

Approved By _____ Our Representative Jeff Brown

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