

**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Cholla Production, LLC**

7851 S. Elati Street
Suite 201
Littleton, CO 80120

ATTN: Tom Pronold

16-19-33 Scott,KS

Metzger #1-16

Start Date: 2010.08.22 @ 08:58:00

End Date: 2010.08.22 @ 16:02:24

Job Ticket #: 39598 DST #: 1

KCC
DEC 01 2010
CONFIDENTIAL

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

RECEIVED
DEC 06 2010
KCC WICHITA

Cholla Production, LLC

Metzger #1-16

16-19-33 Scott,KS

DST # 1

LKC

2010.08.22



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Cholla Production, LLC

Metzger #1-16

7851 S. Elati Street
Suite 201
Littleton, CO 80120
ATTN: Tom Pronold

16-19-33 Scott,KS

Job Ticket: 39598

DST#: 1

Test Start: 2010.08.22 @ 08:58:00

Tool Information

Drill Pipe:	Length: 4061.00 ft	Diameter: 3.80 inches	Volume: 56.97 bbl	Tool Weight: 2700.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.58 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.50 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4192.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	54.50 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			4162.50	
Shut In Tool	5.00			4167.50	
Sampler	3.00			4170.50	
Hydraulic tool	5.00			4175.50	
Jars	5.00			4180.50	
Safety Joint	2.50			4183.00	
Packer	5.00			4188.00	30.50 Bottom Of Top Packer
Packer	4.00			4192.00	
Stubb	1.00			4193.00	
Perforations	3.00			4196.00	
Recorder	0.00	8357	Inside	4196.00	
Recorder	0.00	6751	Outside	4196.00	
Perforations	17.00			4213.00	
Bullnose	3.00			4216.00	24.00 Bottom Packers & Anchor

Total Tool Length: 54.50



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FLUID SUMMARY

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ATTN: Tom Pronold

16-19-33 Scott,KS

Job Ticket: 39598

DST#: 1

Test Start: 2010.08.22 @ 08:58:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

25000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
240.00	MW 40%M 60%W	2.237

Total Length: 240.00 ft Total Volume: 2.237 bbl

Num Fluid Samples: 0

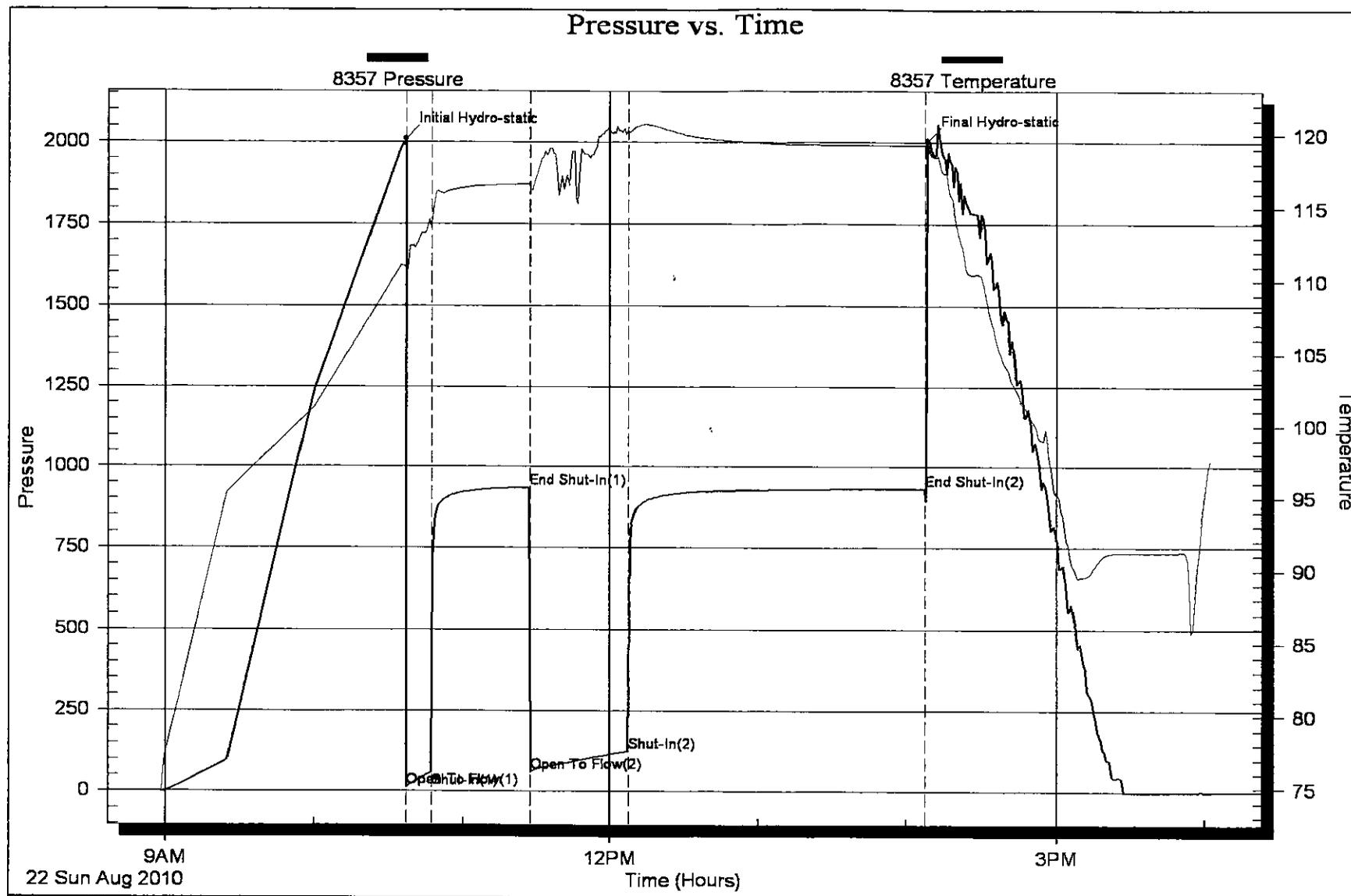
Num Gas Bombs: 0

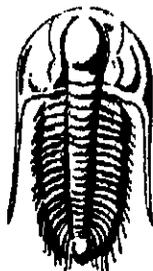
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Oil spots in tool.
RW .202 @ 99F





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Prepared For: **Cholla Production, LLC**

7851 S. Elati Street
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ATTN: Tom Pronold

16-19-33 Scott,KS

Metzger #1-16

Start Date: 2010.08.23 @ 07:28:00

End Date: 2010.08.23 @ 16:49:30

Job Ticket #: 39599 DST #: 2

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Cholla Production, LLC

7851 S. Elati Street
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ATTN: Tom Pronold

Metzger #1-16

16-19-33 Scott,KS

Job Ticket: 39599

DST#: 2

Test Start: 2010.08.23 @ 07:28:00

GENERAL INFORMATION:

Formation: **Bottom KC - Marmaton**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 09:31:18

Time Test Ended: 16:49:30

Test Type: **Conventional Bottom Hole**

Tester: **Chuck Smith**

Unit No: **37**

Interval: **4282.00 ft (KB) To 4356.00 ft (KB) (TVD)**

Total Depth: **4356.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2970.00 ft (KB)**

2965.00 ft (CF)

KB to GR/CF: **5.00 ft**

Serial #: 8357

Inside

Press@RunDepth: **481.72 psig @ 4284.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2010.08.23**

End Date: **2010.08.23**

Last Calib.: **2010.08.23**

Start Time: **07:28:05**

End Time: **16:49:30**

Time On Btm: **2010.08.23 @ 09:28:06**

Time Off Btm: **2010.08.23 @ 13:07:47**

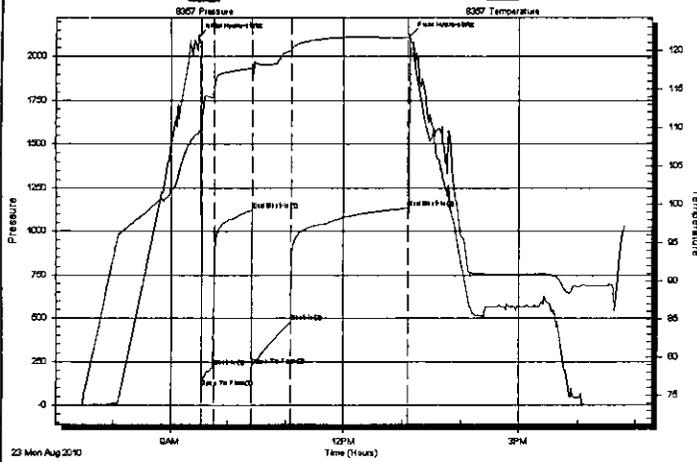
TEST COMMENT: IF: B.O.B. @ 3 min. (Mud dropped @ open 10')

IS: B.O.B. @ 21 min.

FF: B.O.B. @ 3 min.

FSI: B.O.B. @ 4 1/2 min.

Pressure vs. Time



PRESSURE SUMMARY

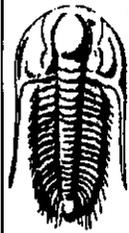
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2112.95	109.43	Initial Hydro-static
4	98.35	111.62	Open To Flow (1)
17	219.62	113.99	Shut-In(1)
56	1121.50	117.67	End Shut-In(1)
57	226.32	117.11	Open To Flow (2)
98	481.72	120.03	Shut-In(2)
218	1134.07	121.62	End Shut-In(2)
220	2118.77	121.94	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	GMCO 30%G 30%M 40%O	0.61
1177.00	GMCO 5%M 45%G 50%O	16.51
60.00	GMCO 15%G 15%M 70%O	0.84
0.00	1488 Feet GIP	0.00

Gas Rates

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



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DRILL STEM TEST REPORT

TOOL DIAGRAM

Cholla Production, LLC

Metzger #1-16

7851 S. Elati Street
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ATTN: Tom Pronold

16-19-33 Scott,KS

Job Ticket: 39599

DST#: 2

Test Start: 2010.08.23 @ 07:28:00

Tool Information

Drill Pipe:	Length: 4162.00 ft	Diameter: 3.80 inches	Volume: 58.38 bbl	Tool Weight: 2700.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 58.99 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	34.50 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4282.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	74.00 ft			
Tool Length:	104.50 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			4252.50	
Shut In Tool	5.00			4257.50	
Sampler	3.00			4260.50	
Hydraulic tool	5.00			4265.50	
Jars	5.00			4270.50	
Safety Joint	2.50			4273.00	
Packer	5.00			4278.00	30.50 Bottom Of Top Packer
Packer	4.00			4282.00	
Stubb	1.00			4283.00	
Perforations	1.00			4284.00	
Recorder	0.00	8357	Inside	4284.00	
Recorder	0.00	6751	Outside	4284.00	
Perforations	5.00			4289.00	
Change Over Sub	1.00			4290.00	
Drill Pipe	62.00			4352.00	
Change Over Sub	1.00			4353.00	
Bullnose	3.00			4356.00	74.00 Bottom Packers & Anchor
Total Tool Length:	104.50				



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ATTN: Tom Pronold

16-19-33 Scott,KS

Job Ticket: 39599

DST#: 2

Test Start: 2010.08.23 @ 07:28:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

25 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	GMCO 30%G 30%M 40%O	0.610
1177.00	GMCO 5%M 45%G 50%O	16.510
60.00	GMCO 15%G 15%M 70%O	0.842
0.00	1488 Feet GIP	0.000

Total Length: 1361.00 ft Total Volume: 17.962 bbl

Num Fluid Samples: 0

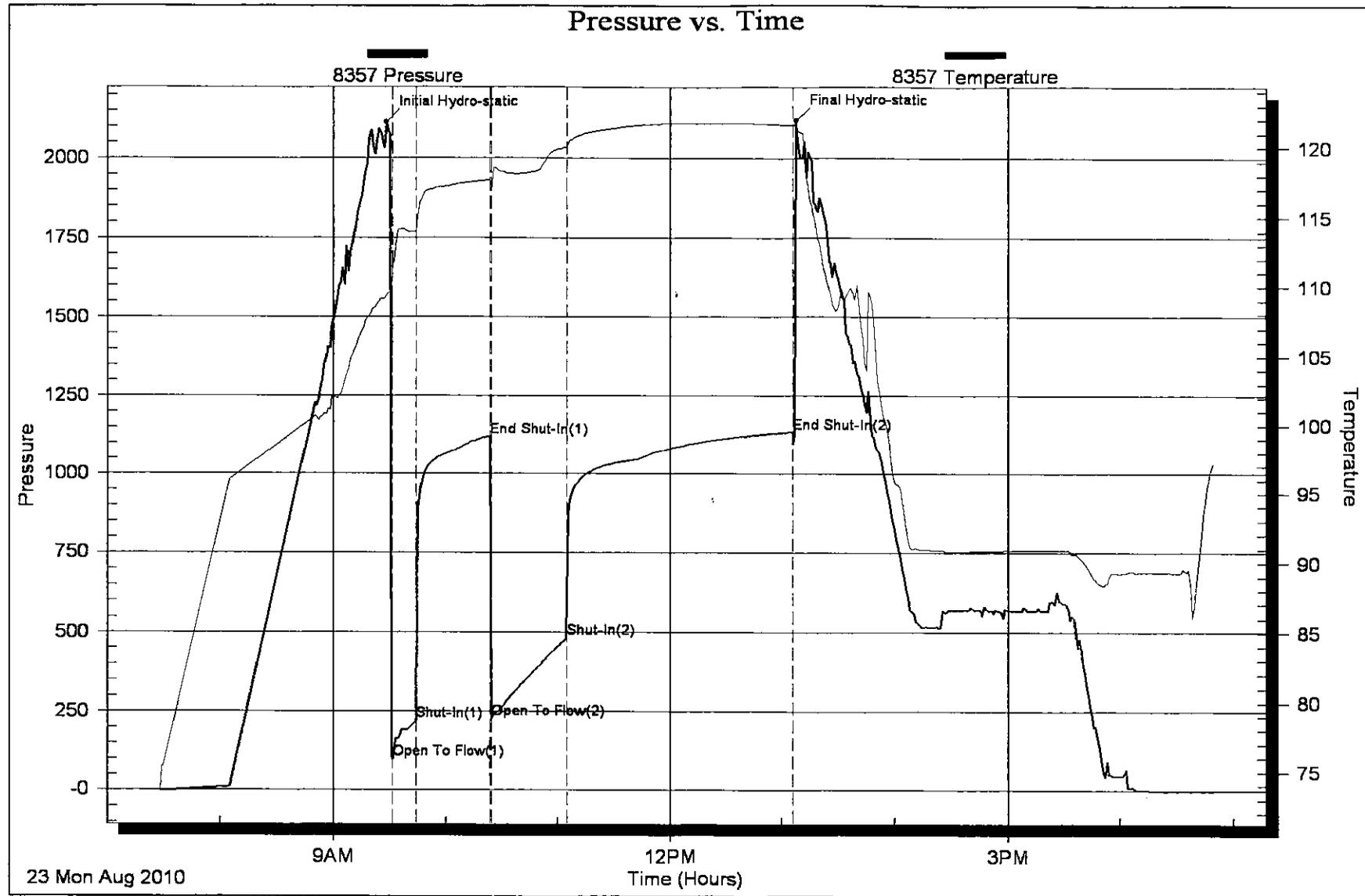
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 29 @ 100 Degrees F = 25.





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ATTN: Tom Pronold

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Metzger #1-16

Start Date: 2010.08.24 @ 01:53:13

End Date: 2010.08.24 @ 10:21:00

Job Ticket #: 39600 DST #: 3

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Metzger #1-16

16-19-33 Scott,KS

Job Ticket: 39600

DST#: 3

Test Start: 2010.08.24 @ 01:53:13

GENERAL INFORMATION:

Formation: **Marmaton**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:37:43
Time Test Ended: 10:21:00

Test Type: Conventional Bottom Hole
Tester: Chuck Smith
Unit No: 37

Interval: **4356.00 ft (KB) To 4394.00 ft (KB) (TVD)**
Total Depth: 4394.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2970.00 ft (KB)
2965.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8357

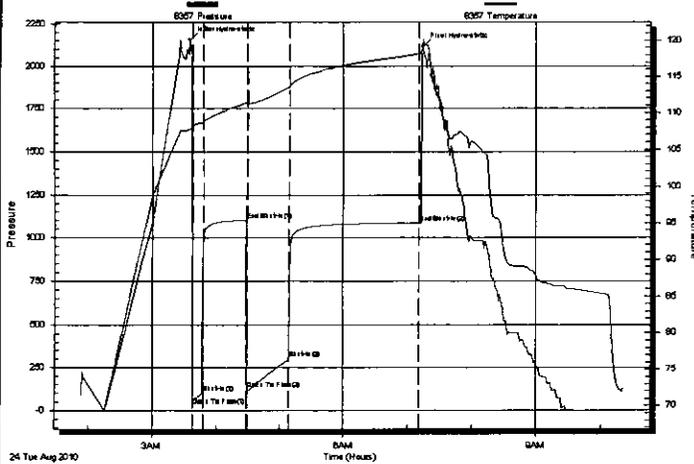
Inside

Press@RunDepth: 301.84 psig @ 4359.00 ft (KB)
Start Date: 2010.08.24 End Date: 2010.08.24
Start Time: 01:53:18 End Time: 10:21:01

Capacity: 8000.00 psig
Last Calib.: 2010.08.24
Time On Btm: 2010.08.24 @ 03:35:01
Time Off Btm: 2010.08.24 @ 07:13:55

TEST COMMENT: IF: B.O.B. @ 4 min.
IS: B.O.B. @ 29 min.
FF: B.O.B. @ 5 min.
FS: B.O.B. @ 36 min.

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2154.89	107.82	Initial Hydro-static
3	26.13	107.47	Open To Flow (1)
13	101.33	108.72	Shut-In(1)
55	1101.91	111.41	End Shut-In(1)
55	122.27	111.01	Open To Flow (2)
95	301.84	113.67	Shut-In(2)
216	1088.24	118.18	End Shut-In(2)
219	2112.42	119.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	GMCO 15%G 15%M 70%O	1.48
682.00	GO 35%G 65%O	9.57
32.00	GO 30%G 70%O	0.45
0.00	900 Feet GIP	0.00

Gas Rates

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



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TOOL DIAGRAM

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Job Ticket: 39600

DST#: 3

Test Start: 2010.08.24 @ 01:53:13

Tool Information

Drill Pipe:	Length: 4226.00 ft	Diameter: 3.80 inches	Volume: 59.28 bbl	Tool Weight: 2700.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 59.89 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.50 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	4356.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	68.50 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			4326.50	
Shut In Tool	5.00			4331.50	
Sampler	3.00			4334.50	
Hydraulic tool	5.00			4339.50	
Jars	5.00			4344.50	
Safety Joint	2.50			4347.00	
Packer	5.00			4352.00	30.50 Bottom Of Top Packer
Packer	4.00			4356.00	
Stubb	1.00			4357.00	
Perforations	2.00			4359.00	
Recorder	0.00	8357	Inside	4359.00	
Recorder	0.00	6751	Outside	4359.00	
Change Over Sub	1.00			4360.00	
Drill Pipe	30.00			4390.00	
Change Over Sub	1.00			4391.00	
Bullnose	3.00			4394.00	38.00 Bottom Packers & Anchor
Total Tool Length:	68.50				



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Job Ticket: 39600

DST#: 3

Test Start: 2010.08.24 @ 01:53:13

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4800.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
186.00	GMCO 15%G 15%M 70%O	1.480
682.00	GO 35%G 65%O	9.567
32.00	GO 30%G 70%O	0.449
0.00	900 Feet GIP	0.000

Total Length: 900.00 ft Total Volume: 11.496 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 29 @ 70 Degrees F = 28.

Sampler Data:

