



DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating Co.**

1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206

ATTN: Bob Schreiber

S&L #1-14

14-13s-31w Gove,KS

Start Date: 2012.06.24 @ 17:55:15

End Date: 2012.06.24 @ 23:26:45

Job Ticket #: 47958 DST #: 1

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

Printed: 2012.07.05 @ 16:28:03

Grand Mesa Operating Co.
14-13s-31w Gove,KS
S&L #1-14
DST # 1
Lansing "E"
2012.06.24



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Grand Mesa Operating Co.
 1700 N. Waterfront Pkwy
 Bldg 600
 Wichita, KS 67206
 ATTN: Bob Schreiber

14-13s-31w Gove, KS

S&L #1-14

Job Ticket: 47958

DST#: 1

Test Start: 2012.06.24 @ 17:55:15

GENERAL INFORMATION:

Formation: **Lansing "E"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:44:15

Time Test Ended: 23:26:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

Interval: 4042.00 ft (KB) To 4058.00 ft (KB) (TVD)

Total Depth: 4058.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2909.00 ft (KB)

2904.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8354 Inside

Press @ Run Depth: 33.13 psig @ 4044.00 ft (KB)

Start Date: 2012.06.24

End Date:

2012.06.24

Start Time: 18:05:15

End Time:

23:26:45

Capacity: 8000.00 psig

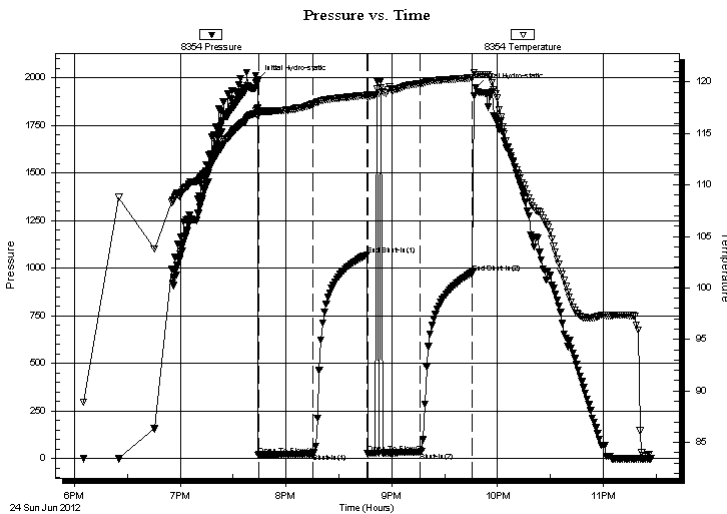
Last Calib.: 2012.06.24

Time On Btm: 2012.06.24 @ 19:44:05

Time Off Btm: 2012.06.24 @ 21:47:45

TEST COMMENT: IF-Weak surface blow . Died @ 30 seconds.
 IS-No Return.
 FF-No Blow . Flushed Tool. No Blow .
 FS-No Return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1990.58	117.52	Initial Hydro-static
1	18.50	116.76	Open To Flow (1)
32	25.22	117.88	Shut-In(1)
62	1071.04	118.72	End Shut-In(1)
63	25.76	118.50	Open To Flow (2)
93	33.13	119.86	Shut-In(2)
122	977.96	120.41	End Shut-In(2)
124	1948.48	120.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	100%Mud	0.07

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Grand Mesa Operating Co.

14-13s-31w Gove,KS

1700 N. Waterfront Pkw y
Bldg 600
Wichita, KS 67206
ATTN: Bob Schreiber

S&L #1-14

Job Ticket: 47958

DST#: 1

Test Start: 2012.06.24 @ 17:55:15

GENERAL INFORMATION:

Formation: **Lansing "E"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:44:15

Time Test Ended: 23:26:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

Interval: 4042.00 ft (KB) To 4058.00 ft (KB) (TVD)

Reference Elevations: 2909.00 ft (KB)

Total Depth: 4058.00 ft (KB) (TVD)

2904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8520 Outside

Press @ Run Depth: psig @ 4044.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.06.24

End Date:

2012.06.24

Last Calib.:

2012.06.24

Start Time: 18:06:25

End Time:

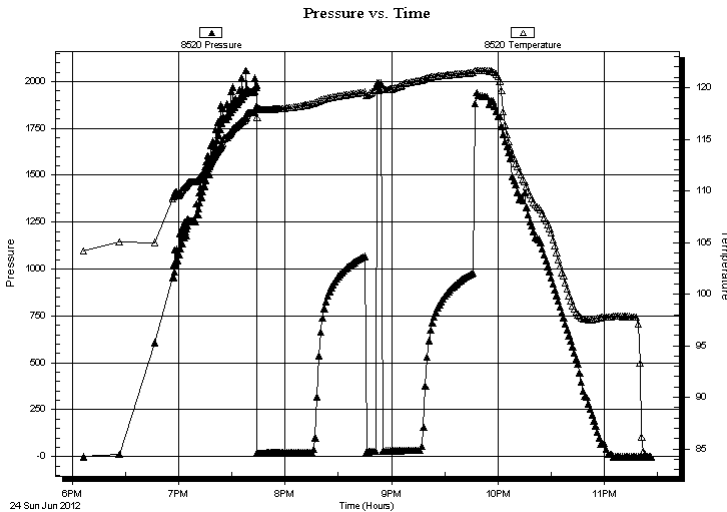
23:26:25

Time On Btm:

Time Off Btm:

TEST COMMENT: IF-Weak surface blow . Died @ 30 seconds.
IS-No Return.
FF-No Blow . Flushed Tool. No Blow .
FS-No Return.

PRESSURE SUMMARY



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

Gas Rates

Length (ft)	Description	Volume (bbl)
15.00	100%Mud	0.07

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Grand Mesa Operating Co.
1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206
ATTN: Bob Schreiber

14-13s-31w Gove,KS

S&L #1-14

Job Ticket: 47958

DST#: 1

Test Start: 2012.06.24 @ 17:55:15

Tool Information

Drill Pipe:	Length: 3905.00 ft	Diameter: 3.70 inches	Volume: 51.93 bbl	Tool Weight: 3000.00 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: 119.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 10000.00 lb
			<u>Total Volume: 52.52 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4042.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	44.00 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			4015.00	
Shut In Tool	5.00			4020.00	
Hydraulic tool	5.00			4025.00	
Jars	5.00			4030.00	
Safety Joint	3.00			4033.00	
Packer	5.00			4038.00	28.00 Bottom Of Top Packer
Packer	4.00			4042.00	
Stubb	1.00			4043.00	
Perforations	1.00			4044.00	
Recorder	0.00	8354	Inside	4044.00	
Recorder	0.00	8520	Outside	4044.00	
Perforations	11.00			4055.00	
Bullnose	3.00			4058.00	16.00 Bottom Packers & Anchor

Total Tool Length: 44.00



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Grand Mesa Operating Co.

14-13s-31w Gove,KS

1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206
ATTN: Bob Schreiber

S&L #1-14

Job Ticket: 47958

DST#: 1

Test Start: 2012.06.24 @ 17:55:15

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 52.00 sec/qt

Water Loss: 6.38 in³

Resistivity: ohm.m

Salinity: 2400.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	100%Mud	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

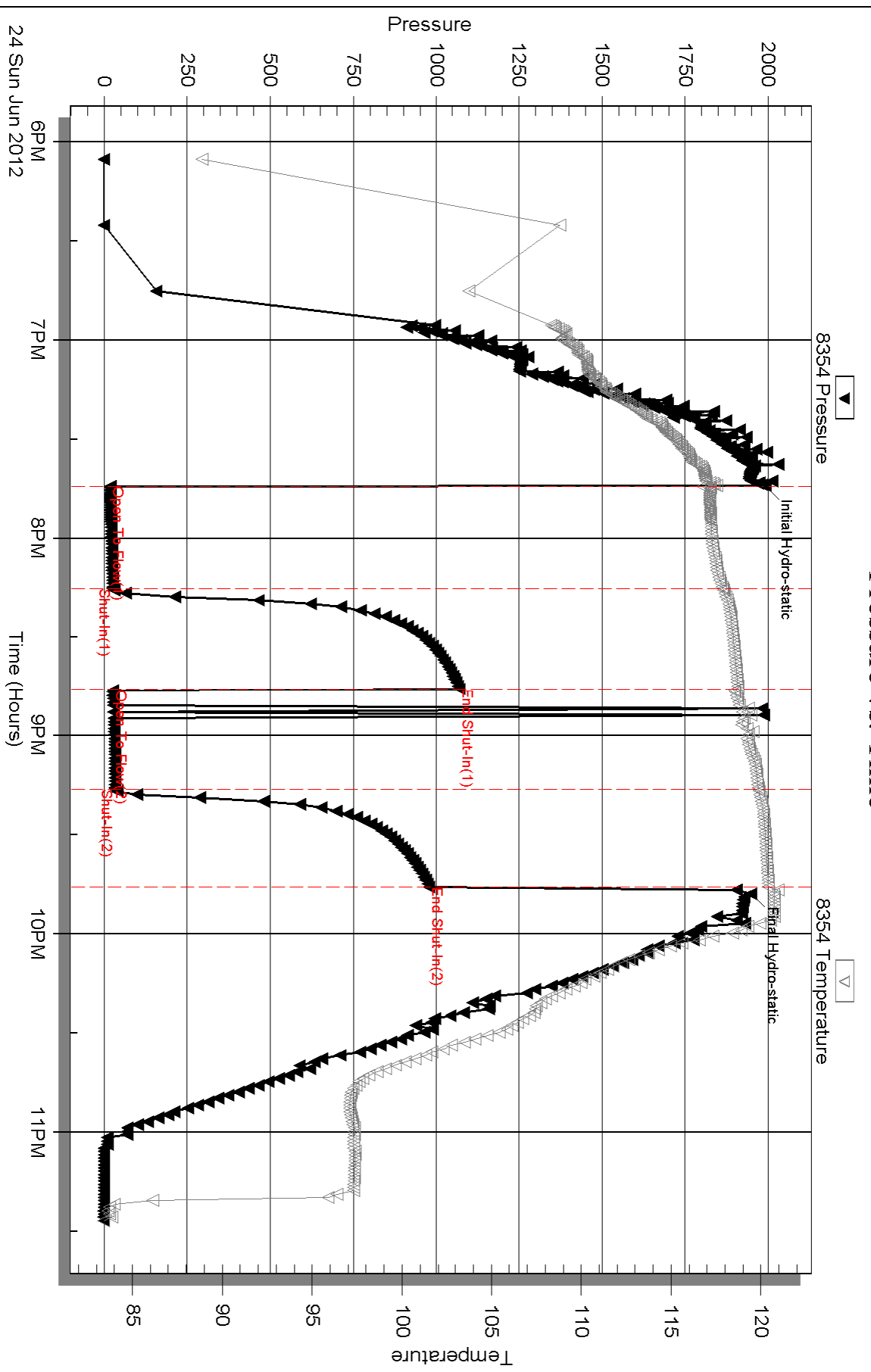
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

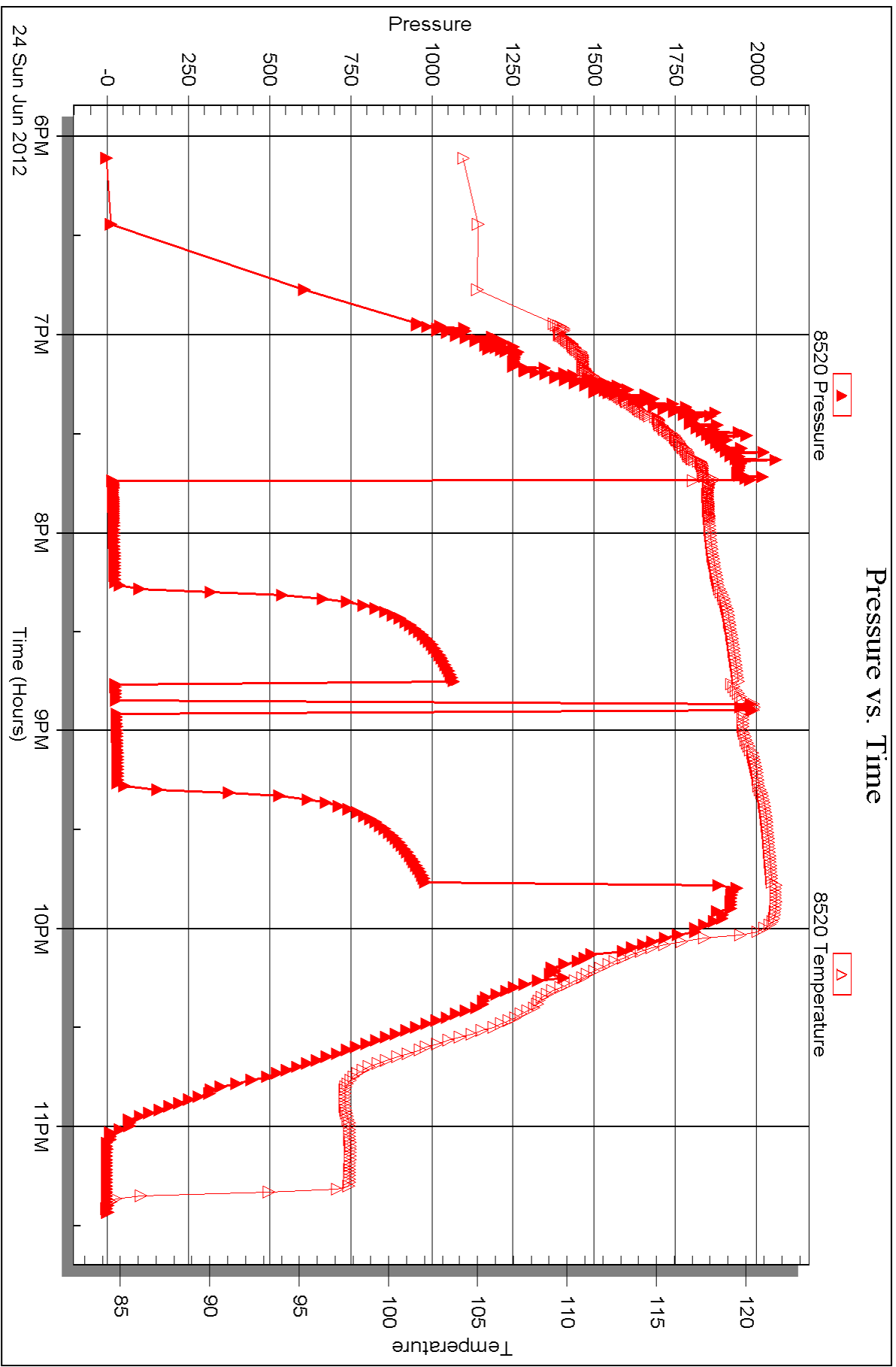


Serial #: 8520

Outside Grand Mesa Operating Co.

S&L #1-14

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating Co.**

1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206

ATTN: Bob Schreiber

S&L #1-14

14-13s-31w Gove,KS

Start Date: 2012.06.25 @ 18:25:15

End Date: 2012.06.26 @ 00:29:45

Job Ticket #: 47959 DST #: 2

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

Printed: 2012.07.05 @ 16:26:50

Grand Mesa Operating Co.
14-13s-31w Gove,KS
S&L #1-14
DST # 2
LKC "H&I"
2012.06.25



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Grand Mesa Operating Co.
1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206
ATTN: Bob Schreiber

14-13s-31w Gove,KS

S&L #1-14

Job Ticket: 47959

DST#: 2

Test Start: 2012.06.25 @ 18:25:15

GENERAL INFORMATION:

Formation: **LKC "H&I"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:34:15
 Time Test Ended: 00:29:45
 Interval: **4119.00 ft (KB) To 4189.00 ft (KB) (TVD)**
 Total Depth: 4189.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Dustin Rash
 Unit No: 38
 Reference Elevations: 2909.00 ft (KB)
 2904.00 ft (CF)
 KB to GR/CF: 5.00 ft

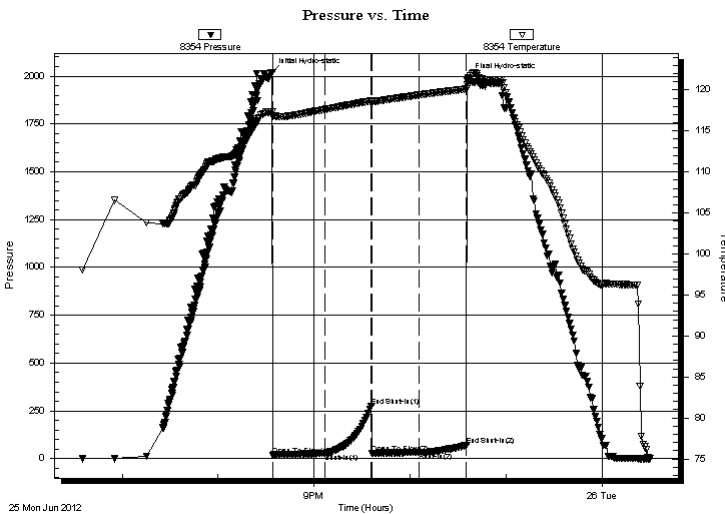
Serial #: 8354

Inside

Press @ Run Depth: 32.51 psig @ 4158.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.06.25 End Date: 2012.06.26 Last Calib.: 2012.06.26
 Start Time: 18:35:15 End Time: 00:29:45 Time On Btm: 2012.06.25 @ 20:33:45
 Time Off Btm: 2012.06.25 @ 22:36:15

TEST COMMENT: IF-Surging surface blow . Died @ 24 minutes.
 IS-No Return.
 FF-No Blow .
 FS-No Return.

PRESSURE SUMMARY



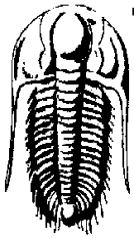
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2019.48	117.36	Initial Hydro-static
1	18.88	116.72	Open To Flow (1)
33	27.72	117.62	Shut-In(1)
62	275.20	118.69	End Shut-In(1)
63	27.73	118.61	Open To Flow (2)
92	32.51	119.39	Shut-In(2)
122	68.81	120.10	End Shut-In(2)
123	1990.99	121.06	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	2%Oil/98%Mud	0.07

Gas Rates

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



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Grand Mesa Operating Co.

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1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206
ATTN: Bob Schreiber

S&L #1-14

Job Ticket: 47959

DST#: 2

Test Start: 2012.06.25 @ 18:25:15

GENERAL INFORMATION:

Formation: **LKC "H&I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:34:15

Time Test Ended: 00:29:45

Interval: 4119.00 ft (KB) To 4189.00 ft (KB) (TVD)

Total Depth: 4189.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

Reference Elevations: 2909.00 ft (KB)

2904.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8520

Outside

Press @ Run Depth: psig @ 4158.00 ft (KB)

Start Date: 2012.06.25

End Date:

2012.06.26

Start Time: 18:35:45

End Time:

00:29:45

Capacity: 8000.00 psig

Last Calib.: 2012.06.26

Time On Btm:

Time Off Btm:

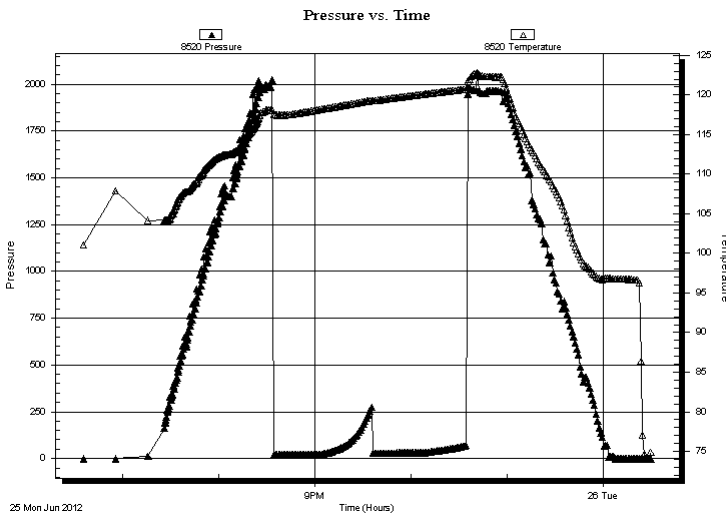
TEST COMMENT: IF-Surging surface blow . Died @ 24 minutes.

ISI-No Return.

FF-No Blow .

FSI-No Return.

PRESSURE SUMMARY



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

Length (ft)	Description	Volume (bbl)
15.00	2%Oil/98%Mud	0.07

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Grand Mesa Operating Co.
1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206
ATTN: Bob Schreiber

14-13s-31w Gove,KS

S&L #1-14

Job Ticket: 47959

DST#: 2

Test Start: 2012.06.25 @ 18:25:15

Tool Information

Drill Pipe:	Length: 4002.00 ft	Diameter: 3.80 inches	Volume: 56.14 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 56.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	4119.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	70.00 ft			
Tool Length:	98.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4092.00	
Shut In Tool	5.00			4097.00	
Hydraulic tool	5.00			4102.00	
Jars	5.00			4107.00	
Safety Joint	3.00			4110.00	
Packer	5.00			4115.00	28.00 Bottom Of Top Packer
Packer	4.00			4119.00	
Stubb	1.00			4120.00	
Perforations	5.00			4125.00	
Change Over Sub	1.00			4126.00	
Drill Pipe	31.00			4157.00	
Change Over Sub	1.00			4158.00	
Recorder	0.00	8354	Inside	4158.00	
Recorder	0.00	8520	Outside	4158.00	
Perforations	28.00			4186.00	
Bullnose	3.00			4189.00	70.00 Bottom Packers & Anchor
Total Tool Length:	98.00				



**TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Grand Mesa Operating Co.

14-13s-31w Gove,KS

1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206
ATTN: Bob Schreiber

S&L #1-14

Job Ticket: 47959

DST#: 2

Test Start: 2012.06.25 @ 18:25:15

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 57.00 sec/qt

Water Loss: 7.58 in³

Resistivity: ohm.m

Salinity: 3000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	2%Oil/98%Mud	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

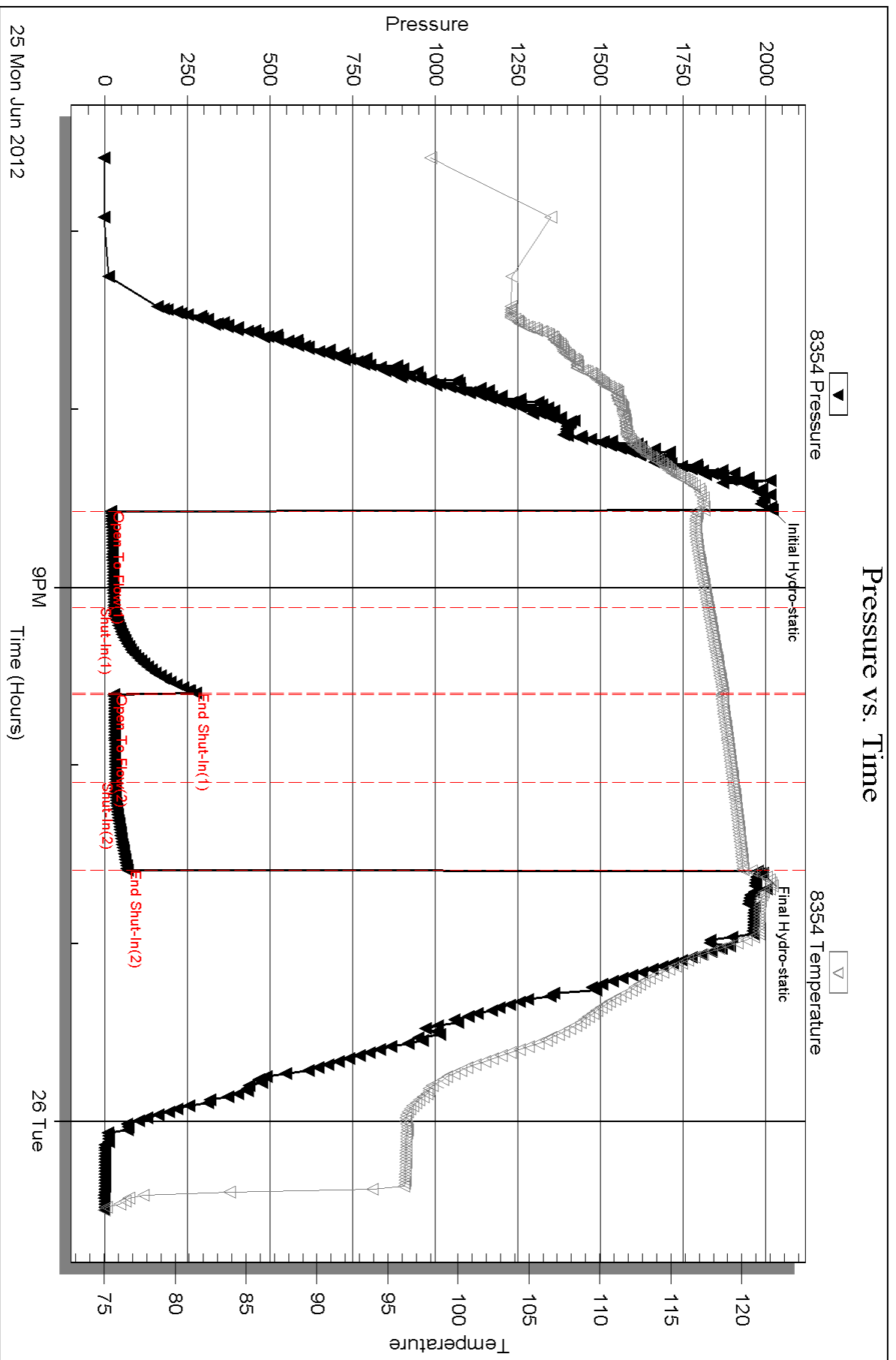
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

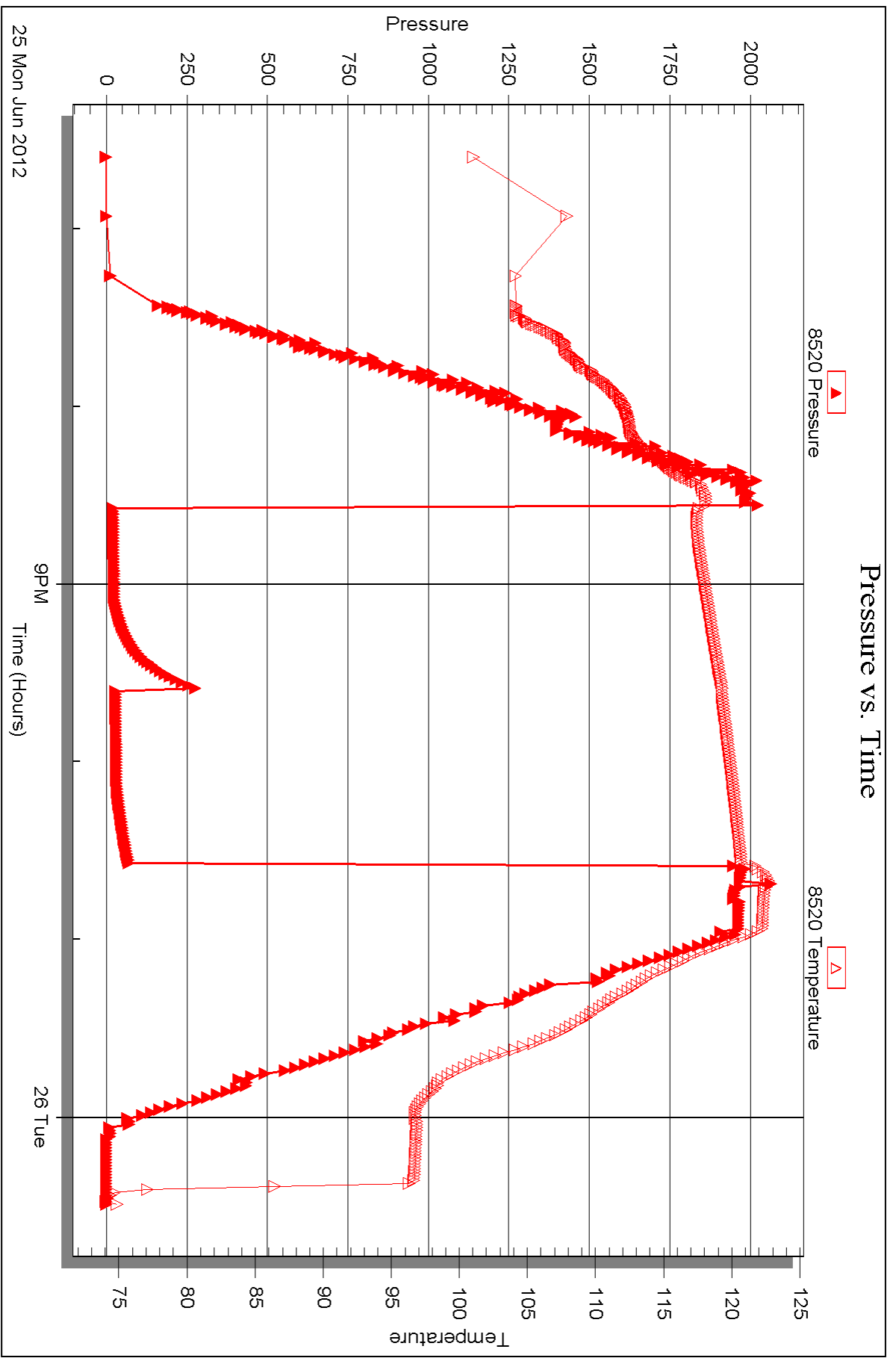


Serial #: 8520

Outside Grand Mesa Operating Co.

S&L #1-14

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating Co.**

1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206

ATTN: Bob Schreiber

S&L #1-14

14-13s-31w Gove,KS

Start Date: 2012.06.27 @ 16:56:15

End Date: 2012.06.27 @ 22:59:15

Job Ticket #: 47960 DST #: 3

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

Printed: 2012.07.05 @ 16:26:14



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Grand Mesa Operating Co.
 1700 N. Waterfront Pkwy
 Bldg 600
 Wichita, KS 67206
 ATTN: Bob Schreiber

14-13s-31w Gove,KS

S&L #1-14

Job Ticket: 47960

DST#: 3

Test Start: 2012.06.27 @ 16:56:15

GENERAL INFORMATION:

Formation: **Fort Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:15:15

Time Test Ended: 22:59:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

Interval: **4433.00 ft (KB) To 4497.00 ft (KB) (TVD)**

Reference Elevations: 2909.00 ft (KB)

Total Depth: 4497.00 ft (KB) (TVD)

2904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8354 Inside

Press @ Run Depth: 23.66 psig @ 4472.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.06.27

End Date:

2012.06.27

Last Calib.:

2012.06.27

Start Time:

17:06:15

End Time:

22:59:15

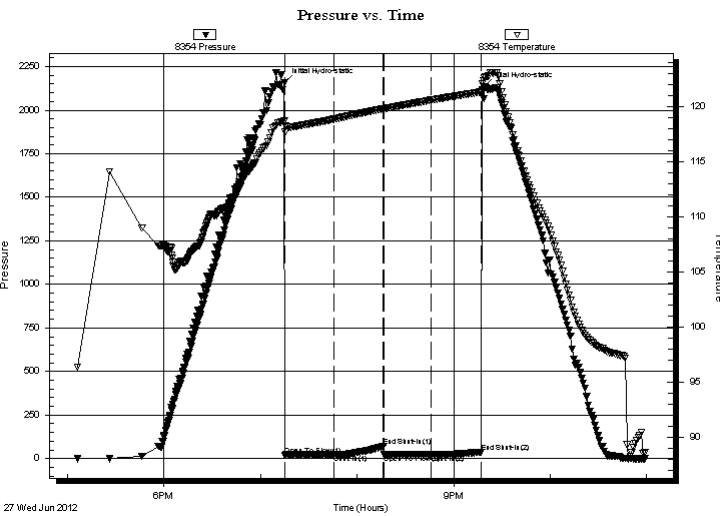
Time On Btm:

2012.06.27 @ 19:14:45

Time Off Btm:

2012.06.27 @ 21:19:15

TEST COMMENT: IF-Weak surface blow . Died @ 11 minutes.
 IS-No Return.
 FF-No Blow .
 FS-No Return.



PRESSURE SUMMARY

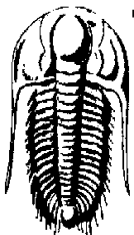
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2160.02	118.65	Initial Hydro-static
1	19.78	117.64	Open To Flow (1)
31	22.91	118.83	Shut-In(1)
62	71.19	119.79	End Shut-In(1)
62	22.03	119.79	Open To Flow (2)
91	23.66	120.55	Shut-In(2)
123	37.51	121.30	End Shut-In(2)
125	2134.97	122.59	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	1%Oil/99%Mud	0.05

Gas Rates

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



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DRILL STEM TEST REPORT

Grand Mesa Operating Co.

14-13s-31w Gove,KS

1700 N. Waterfront Pkw y
Bldg 600
Wichita, KS 67206
ATTN: Bob Schreiber

S&L #1-14

Job Ticket: 47960

DST#: 3

Test Start: 2012.06.27 @ 16:56:15

GENERAL INFORMATION:

Formation: **Fort Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:15:15

Time Test Ended: 22:59:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

Interval: 4433.00 ft (KB) To 4497.00 ft (KB) (TVD)

Reference Elevations: 2909.00 ft (KB)

Total Depth: 4497.00 ft (KB) (TVD)

2904.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8520 Outside

Press @ Run Depth: psig @ 4472.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.06.27 End Date: 2012.06.27

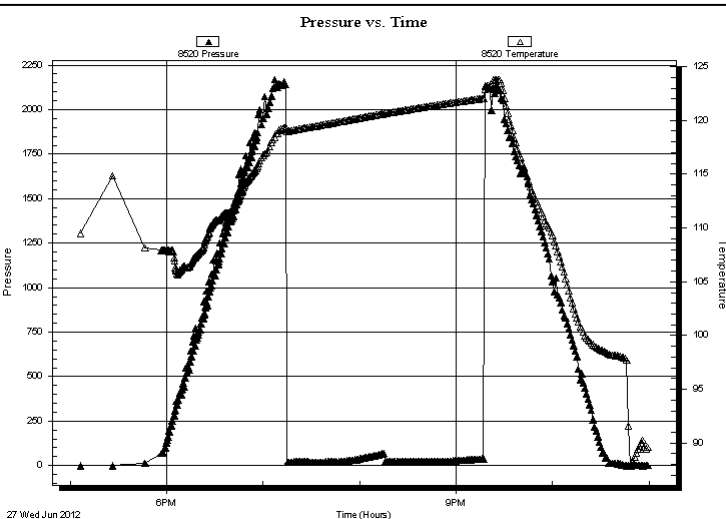
Last Calib.: 2012.06.27

Start Time: 17:06:30 End Time: 22:59:00

Time On Btm:

Time Off Btm:

TEST COMMENT: IF-Weak surface blow . Died @ 11 minutes.
IS-No Return.
FF-No Blow .
FS-No Return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	1%Oil/99%Mud	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Grand Mesa Operating Co.

14-13s-31w Gove,KS

1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206
ATTN: Bob Schreiber

S&L #1-14

Job Ticket: 47960

DST#: 3

Test Start: 2012.06.27 @ 16:56:15

Tool Information

Drill Pipe:	Length: 4306.00 ft	Diameter: 3.80 inches	Volume: 60.40 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 15000.00 lb
		Total Volume: 60.98 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4433.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	92.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

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

Change Over Sub	1.00			4406.00	
Shut In Tool	5.00			4411.00	
Hydraulic tool	5.00			4416.00	
Jars	5.00			4421.00	
Safety Joint	3.00			4424.00	
Packer	5.00			4429.00	28.00 Bottom Of Top Packer
Packer	4.00			4433.00	
Stubb	1.00			4434.00	
Perforations	5.00			4439.00	
Change Over Sub	1.00			4440.00	
Drill Pipe	31.00			4471.00	
Change Over Sub	1.00			4472.00	
Recorder	0.00	8354	Inside	4472.00	
Recorder	0.00	8520	Outside	4472.00	
Perforations	22.00			4494.00	
Bullnose	3.00			4497.00	64.00 Bottom Packers & Anchor
Total Tool Length:	92.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Grand Mesa Operating Co.
1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206
ATTN: Bob Schreiber

14-13s-31w Gove,KS
S&L #1-14
Job Ticket: 47960 **DST#: 3**
Test Start: 2012.06.27 @ 16:56:15

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: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.37 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3400.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	1%Oil/99%Mud	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

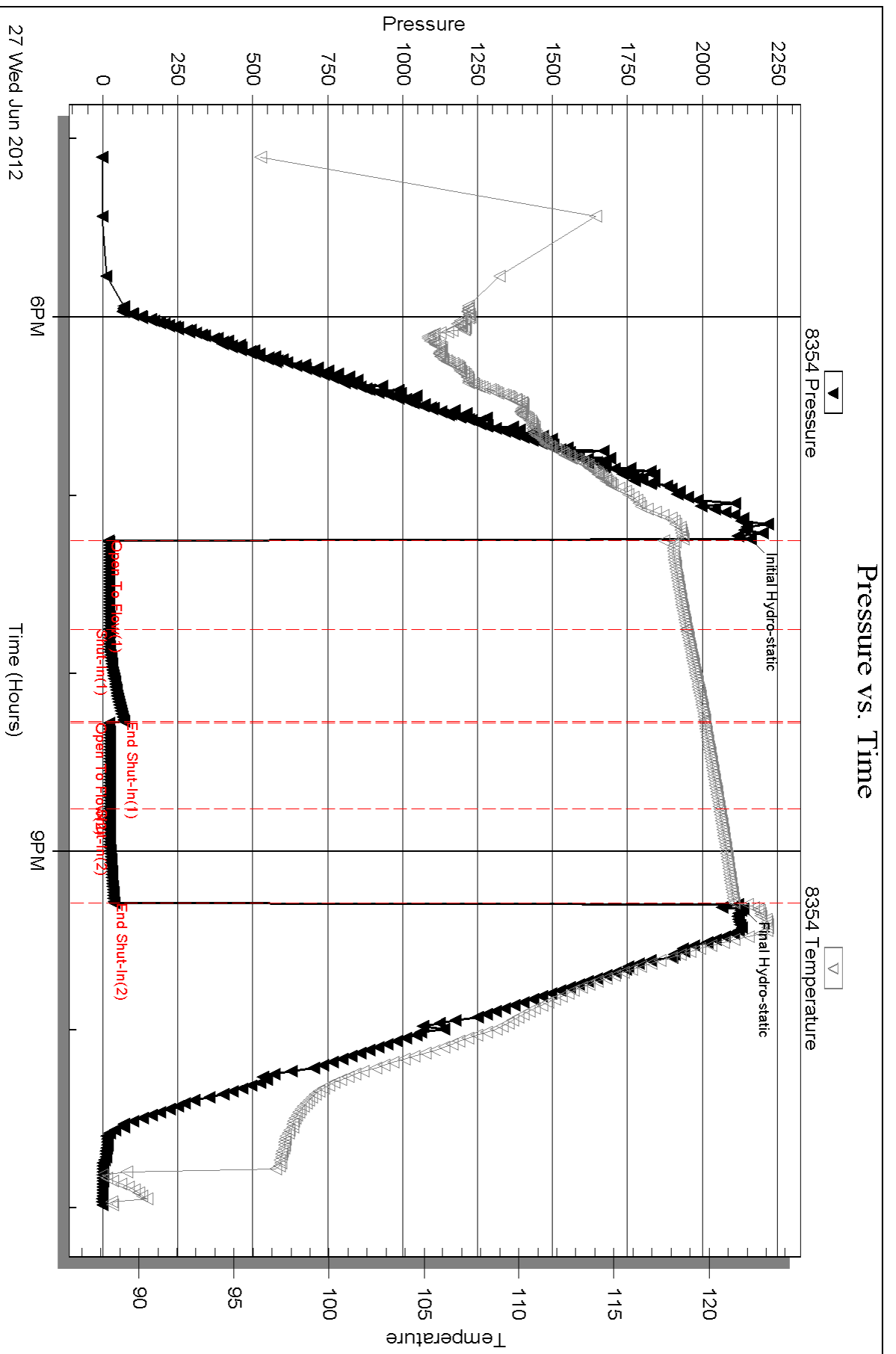
Serial #: 8354

Inside

Grand Mesa Operating Co.

S&L #1-14

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 47960

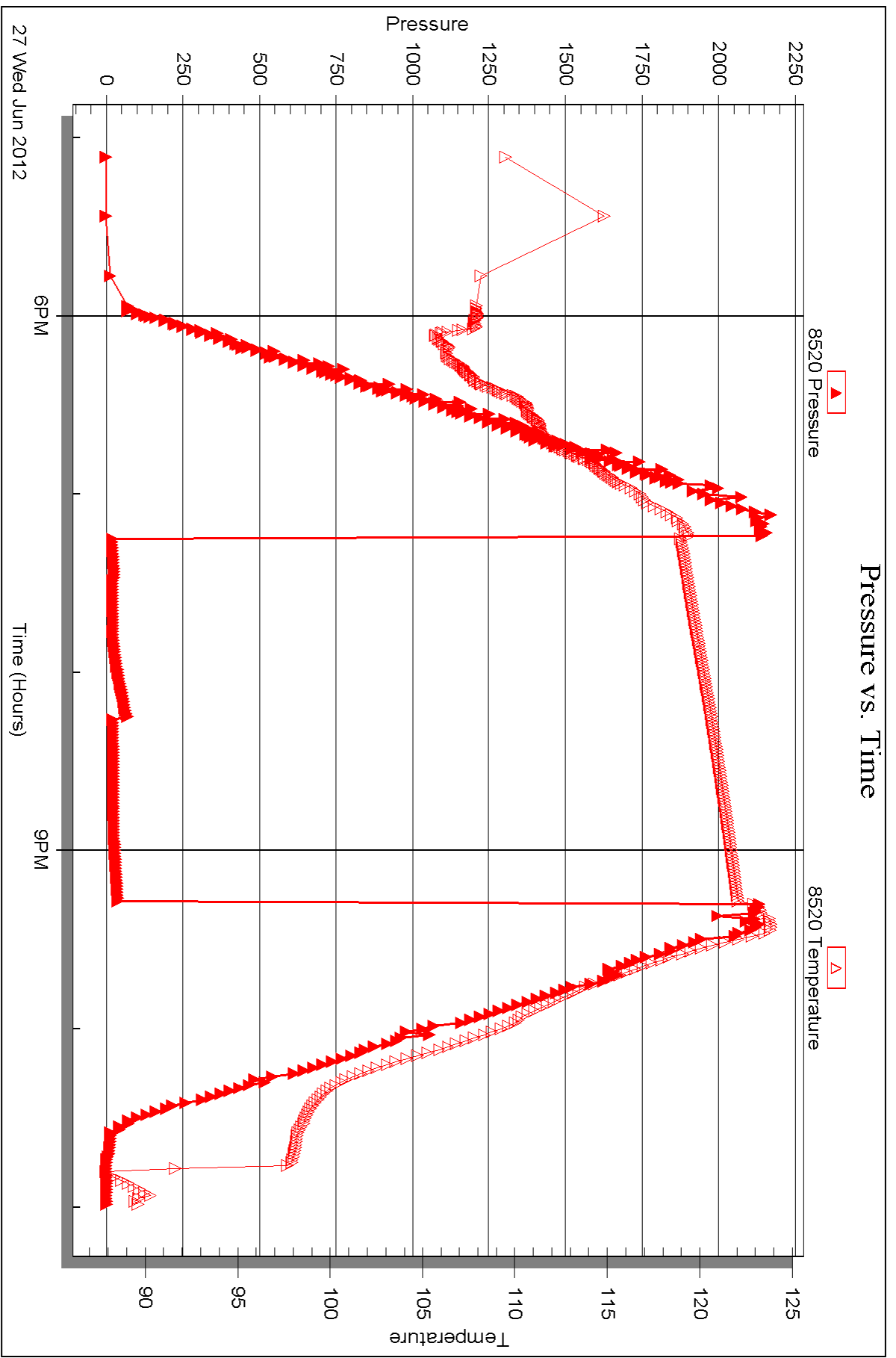
Printed: 2012.07.05 @ 16:26:16

Serial #: 8520

Outside Grand Mesa Operating Co.

S&L #1-14

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Grand Mesa Operating Co.**

1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206

ATTN: Bob Schreiber

S&L #1-14

14-13s-31w Gove,KS

Start Date: 2012.06.28 @ 12:34:00

End Date: 2012.06.28 @ 21:33:00

Job Ticket #: 47752 DST #: 4

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

Printed: 2012.07.05 @ 16:25:27



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Grand Mesa Operating Co.
 1700 N. Waterfront Pkwy
 Bldg 600
 Wichita, KS 67206
 ATTN: Bob Schreiber

14-13s-31w Gove, KS

S&L #1-14

Job Ticket: 47752

DST#: 4

Test Start: 2012.06.28 @ 12:34:00

GENERAL INFORMATION:

Formation: **Johnson**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 14:33:10
 Tester: Cody Bloedorn
 Time Test Ended: 21:33:00
 Unit No: 38
 Interval: **4525.00 ft (KB) To 4568.00 ft (KB) (TVD)**
 Reference Elevations: 2909.00 ft (KB)
 Total Depth: 4563.00 ft (KB) (TVD)
 2904.00 ft (CF)
 Hole Diameter: 7.88 inches
 Hole Condition: Fair
 KB to GR/CF: 5.00 ft

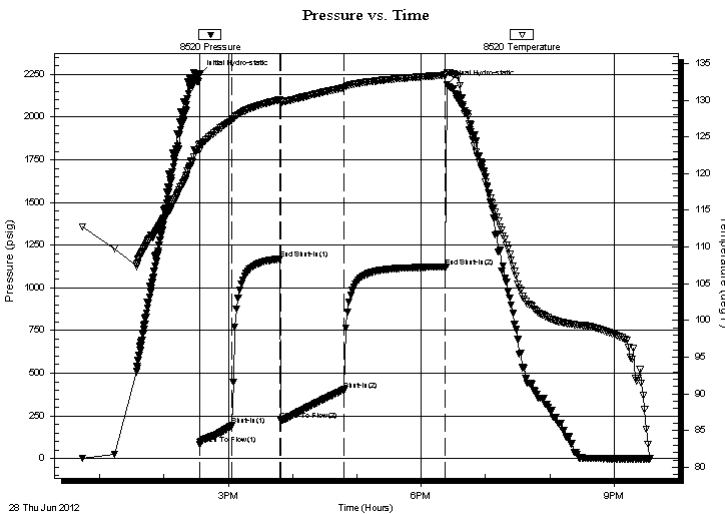
Serial #: 8520

Outside

Press @ Run Depth: 402.83 psig @ 4565.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2012.06.28 End Date: 2012.06.28 Last Calib.: 2012.06.28
 Start Time: 12:44:00 End Time: 21:33:00 Time On Btm: 2012.06.28 @ 14:33:00
 Time Off Btm: 2012.06.28 @ 18:24:00

TEST COMMENT: 30 - IF- B.O.B. in 2 Min.
 45 - IS- B.O.B. in 10 Min.
 60 - FF- B.O.B. instantly
 90 - FS- B.O.B. in 14 Min.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2251.04	124.02	Initial Hydro-static
1	84.89	123.13	Open To Flow (1)
31	194.49	127.25	Shut-In(1)
75	1168.33	130.04	End Shut-In(1)
76	226.91	129.75	Open To Flow (2)
135	402.83	131.69	Shut-In(2)
229	1122.65	133.41	End Shut-In(2)
231	2191.33	133.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
186.00	GHOCM, 10%G, 40%M, 50%O	1.53
945.00	GO, 40%G, 60%O	13.26
0.00	3410' of G.I.P.	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Grand Mesa Operating Co.
1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206
ATTN: Bob Schreiber

14-13s-31w Gove,KS

S&L #1-14

Job Ticket: 47752

DST#: 4

Test Start: 2012.06.28 @ 12:34:00

GENERAL INFORMATION:

Formation: **Johnson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:33:10
Time Test Ended: 21:33:00
Interval: **4525.00 ft (KB) To 4568.00 ft (KB) (TVD)**
Total Depth: 4563.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 2909.00 ft (KB)
2904.00 ft (CF)
KB to GR/CF: 5.00 ft

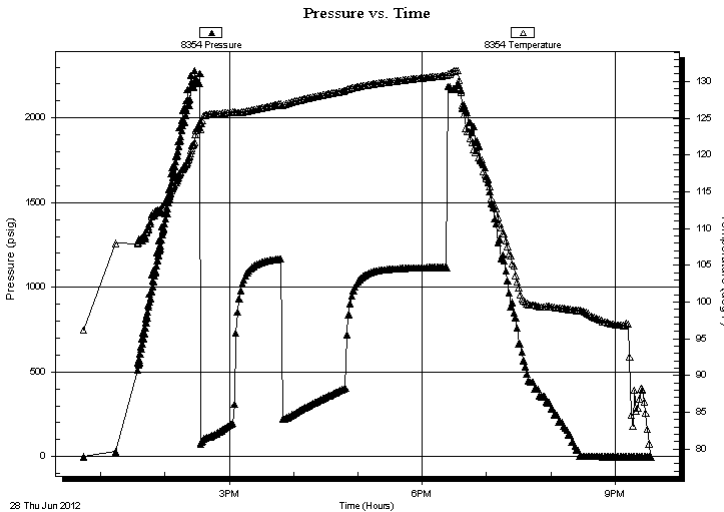
Serial #: 8354

Inside

Press @ Run Depth:	psig @	4565.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2012.06.28	End Date:	2012.06.28	Last Calib.:	2012.06.28
Start Time:	12:44:00	End Time:	21:33:30	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: 30 - IF- B.O.B. in 2 Min.
45 - IS- B.O.B. in 10 Min.
60 - FF- B.O.B. instantly
90 - FS- B.O.B. in 14 Min.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
186.00	GHO CM, 10%G, 40%M, 50%O	1.53
945.00	GO, 40%G, 60%O	13.26
0.00	3410' of G.I.P.	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

Grand Mesa Operating Co.

14-13s-31w Gove,KS

1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206
ATTN: Bob Schreiber

S&L #1-14

Job Ticket: 47752

DST#: 4

Test Start: 2012.06.28 @ 12:34:00

Tool Information

Drill Pipe:	Length: 4397.00 ft	Diameter: 3.80 inches	Volume: 61.68 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 62.26 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4525.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	43.00 ft			
Tool Length:	71.00 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			4498.00	
Shut In Tool	5.00			4503.00	
Hydraulic tool	5.00			4508.00	
Jars	5.00			4513.00	
Safety Joint	3.00			4516.00	
Packer	5.00			4521.00	28.00 Bottom Of Top Packer
Packer	4.00			4525.00	
Stubb	1.00			4526.00	
Perforations	3.00			4529.00	
Change Over Sub	1.00			4530.00	
Drill Pipe	31.00			4561.00	
Change Over Sub	1.00			4562.00	
Perforations	3.00			4565.00	
Recorder	0.00	8354	Inside	4565.00	
Recorder	0.00	8520	Outside	4565.00	
Bullnose	3.00			4568.00	43.00 Bottom Packers & Anchor
Total Tool Length:	71.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Grand Mesa Operating Co.

14-13s-31w Gove,KS

1700 N. Waterfront Pkwy
Bldg 600
Wichita, KS 67206
ATTN: Bob Schreiber

S&L #1-14

Job Ticket: 47752

DST#: 4

Test Start: 2012.06.28 @ 12:34:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
186.00	GHOCM, 10%G, 40%M, 50%O	1.534
945.00	GO, 40%G, 60%O	13.256
0.00	3410' of G.I.P.	0.000

Total Length: 1131.00 ft Total Volume: 14.790 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

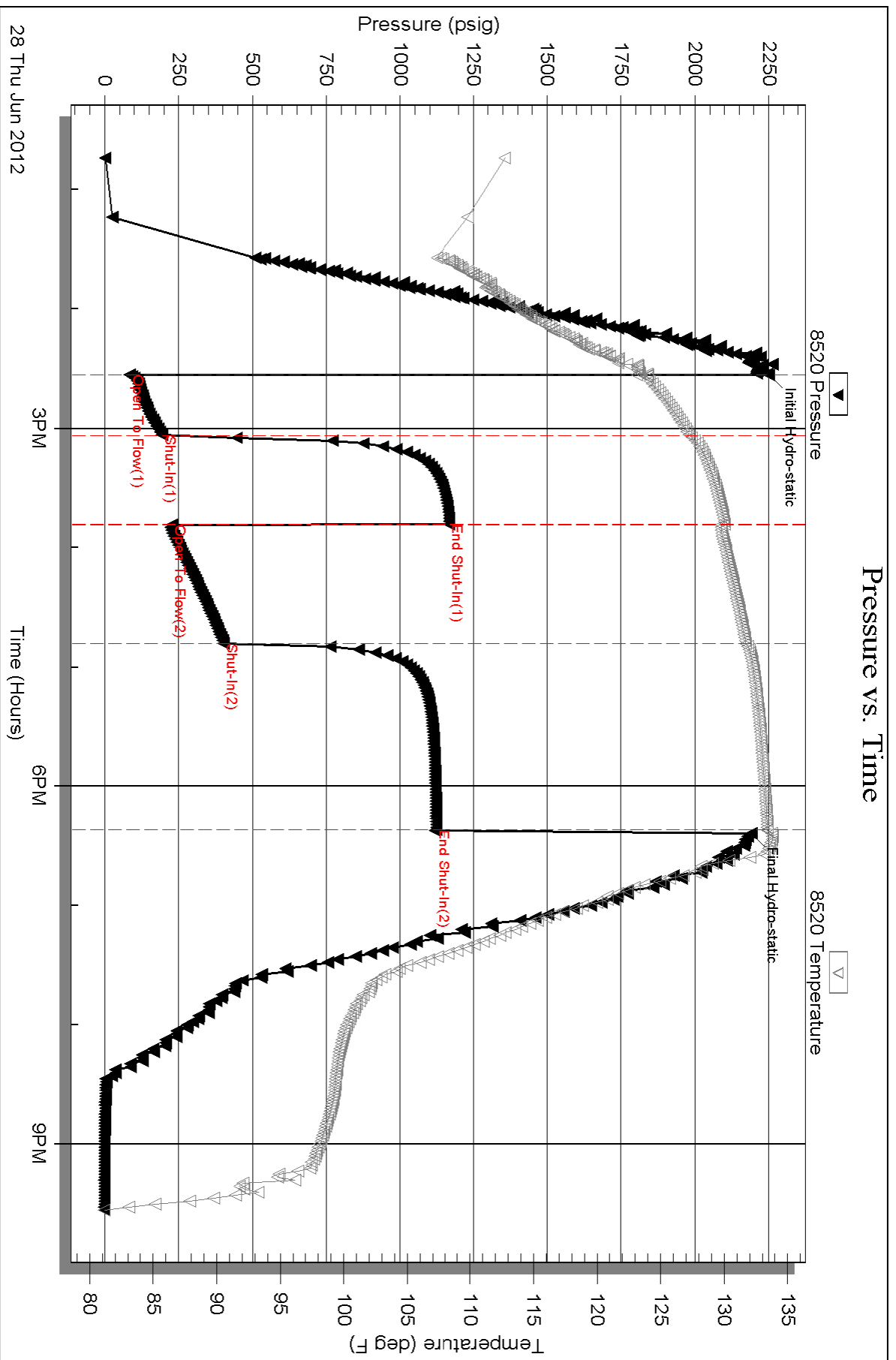
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 28 @ 90 Degrees = 31

Pressure vs. Time



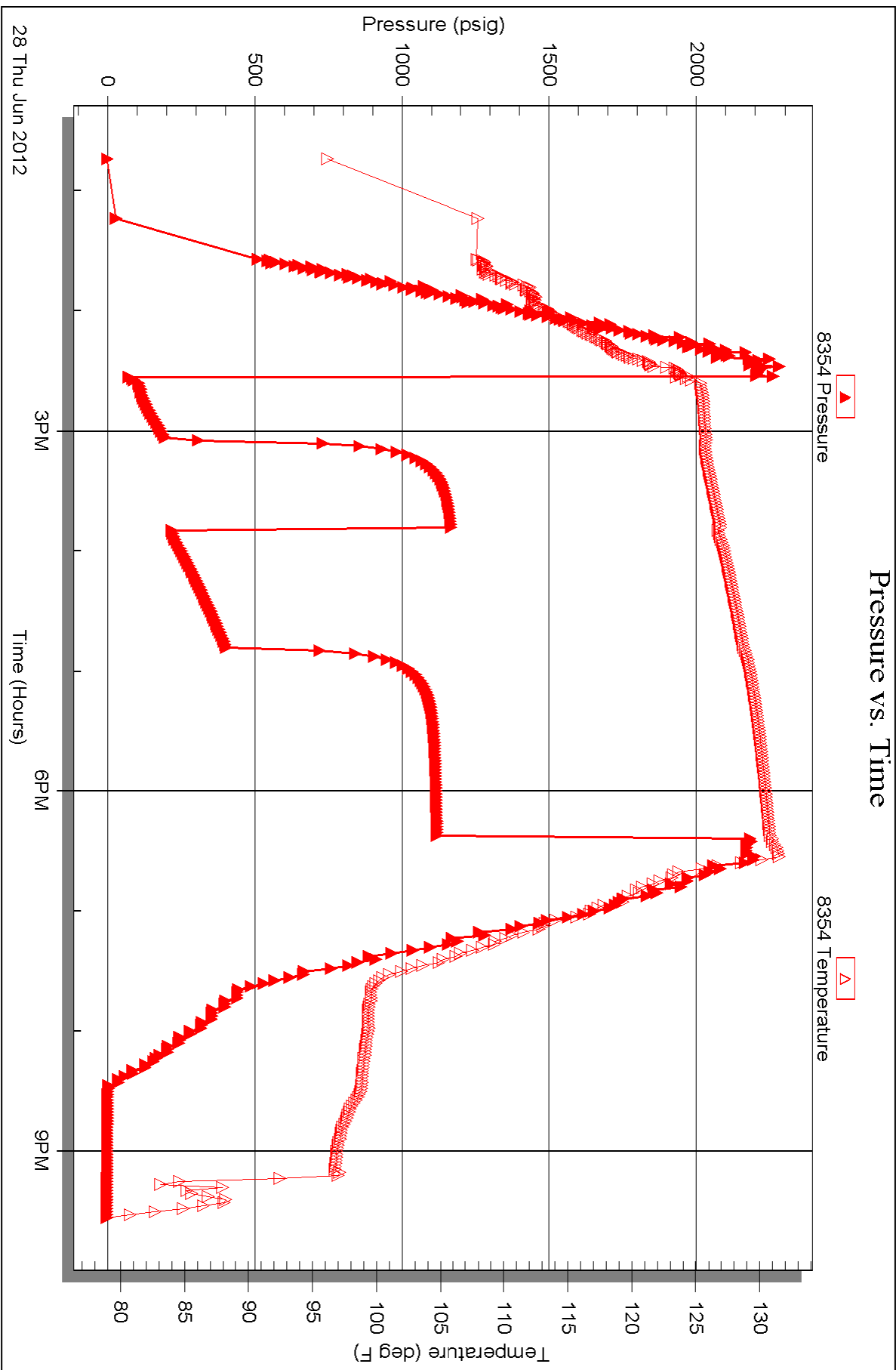
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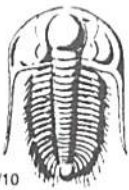
Inside

Grand Mesa Operating Co.

S&L #1-14

DST Test Number: 4





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47958

Well Name & No. Sand L #1-14 Test No. 7 Date 6-24-12
 Company Grand Mesa Operating Co. Elevation 2909 KB 2904 GL
 Address 1700 N. Waverly PKWY Bldg #600 Wichita, KS 67206
 Co. Rep / Geo. _____ Rig Murphy 24
 Location: Sec. 14 Twp. 13S Rge. 31W Co. Gove State KS

Interval Tested 4042-4058 Zone Tested Lansing "E"
 Anchor Length 16' Drill Pipe Run 3905 Mud Wt. 9.1
 Top Packer Depth 4037 Drill Collars Run 118.64 Vis 52
 Bottom Packer Depth 4042 Wt. Pipe Run 0 WL 6.4
 Total Depth 4058 Chlorides 2400 ppm System LCM 5#

Blow Description IF - Weak surface blow. Dried @ 30 seconds.
ISI - No Return.
FF - No Blow. Flushed Tool. No Blow.
FSE - No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>Mud</u>			<u>100</u>	
____	____	____	____	____	____
____	____	____	____	____	____
____	____	____	____	____	____
____	____	____	____	____	____

Rec Total 15 BHT 121 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1991</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>1700</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>1800</u>
(C) First Final Flow <u>25</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>1944</u>
(D) Initial Shut-In <u>1071</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>2145</u>
(E) Second Initial Flow <u>26</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>2330</u>
(F) Second Final Flow <u>33</u>	<input checked="" type="checkbox"/> Mileage 80rt 124	Comments <u>BHT-1753</u>
(G) Final Shut-In <u>978</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>1948</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Open <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Day Standby _____	Total <u>1699</u>
Final Flow <u>30</u>	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
Final Shut-In <u>30</u>	Sub Total <u>1699</u>	

Approved By _____ Our Representative [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.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47959

Well Name & No. Sand 2 #1-14 Test No. 2 Date 6-25-12
 Company Grand Mesa Operating Co. Elevation 2909 KB 2904 GL
 Address 1700 N. Waterfront Pkwy Bldg #600 Wichita, KS 67206
 Co. Rep / Geo. Bob Scheiber Rig Murphy 24
 Location: Sec. 14 Twp. 13S Rge. 31W Co. Cove State KS

Interval Tested 4119-4189 Zone Tested LKC "H+I"
 Anchor Length 70' Drill Pipe Run 4002 Mud Wt. 9.2
 Top Packer Depth 4114 Drill Collars Run 118.64 Vis 57
 Bottom Packer Depth 4119 Wt. Pipe Run ⊖ WL 7.6
 Total Depth 4189 Chlorides 3000 ppm System LCM 4#

Blow Description IF - Surging surface blow. Dried @ 24 minutes.
~~JST - No Return.~~
FF - No Blow.
~~FST - No Return~~

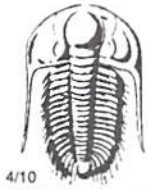
Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>Mud w/oil Specs</u>		<u>2</u>		<u>98</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 15 BHT 121 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2019</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>1800</u>
(B) First Initial Flow <u>19</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>1900</u>
(C) First Final Flow <u>28</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>2034</u>
(D) Initial Shut-In <u>275</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>2235</u>
(E) Second Initial Flow <u>28</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0030</u>
(F) Second Final Flow <u>33</u>	<input checked="" type="checkbox"/> Mileage 124	Comments <u>BHT-1825</u>
(G) Final Shut-In <u>69</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1991</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1699</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1699</u>	

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47960

Well Name & No. Sand L #1-14 Test No. 3 Date 6-27-12
 Company Grand Mesa Operating Co. Elevation 2909 KB 2904 GL
 Address 1700 N. Waterfront Pkwy Bldg #600 Wichita, KS 67206
 Co. Rep / Geo. Bob Schreiber Rig Muyln 24
 Location: Sec. 14 Twp. 13S Rge. 31W Co. Gove State KS

Interval Tested 4433-4497 Zone Tested Fair Scott
 Anchor Length 64' Drill Pipe Run 4306 Mud Wt. 9.3
 Top Packer Depth 4428 Drill Collars Run 118.64 Vis 54
 Bottom Packer Depth 4433 Wt. Pipe Run 0 WL 10.4
 Total Depth 4499 Chlorides 3400 ppm System LCM 4#

Blow Description IF - Weak surface blow. Dried @ 11 minutes.
IST - No Return.
FF - No Blow.
FST - No Return.

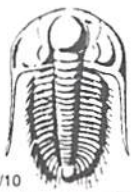
Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>Mud w/oil/Spec</u>	<u>1</u>		<u>99</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 123 Gravity API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic <u>2160</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>1430</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>1730</u>
(C) First Final Flow <u>23</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>1915</u>
(D) Initial Shut-In <u>71</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>2115</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>2300</u>
(F) Second Final Flow <u>24</u>	<input checked="" type="checkbox"/> Mileage 124	Comments <u>Bot-1656</u>
(G) Final Shut-In <u>38</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2135</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1699</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1699</u>	

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47752

Well Name & No. S & L #14 Test No. 4 Date 6-28-12
 Company Grand Mesa Operating Co Elevation 2909 KB 2904 GL
 Address 1700 N. Waterfront Parkway
 Co. Rep / Geo. Bob Schreiber Rig Murfin 24
 Location: Sec. 14 Twp. 13s Rge. 31 W Co. Gove State KS

Interval Tested 4525 - 4568 Zone Tested Johnson
 Anchor Length 43' Drill Pipe Run 4397' Mud Wt. 9.2
 Top Packer Depth 4520 Drill Collars Run 118' Vis 52
 Bottom Packer Depth 4525 Wt. Pipe Run — WL 7.2
 Total Depth 4568 Chlorides 3,000 ppm System LCM —

Blow Description IF - B.O.B. in 2 Min.
ISI - B.O.B. in 10 Min.
FF - B.O.B. instantly
FBI - B.O.B. in 14 Min.

Rec	Feet of	%gas	%oil	%water	%mud
<u>186</u>	<u>6 HOCM</u>	<u>10%</u>	<u>50%</u>	<u>40%</u>	
<u>945</u>	<u>60</u>	<u>40%</u>	<u>60%</u>		
	<u>3410' of G.I.P.</u>				

Rec Total 1131' BHT 133° Gravity 31 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2251</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>12:09 pm</u>
(B) First Initial Flow <u>84</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>12:34 pm</u>
(C) First Final Flow <u>194</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2:34 pm</u>
(D) Initial Shut-In <u>1168</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>6:19 pm</u>
(E) Second Initial Flow <u>226</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>9:33 pm</u>
(F) Second Final Flow <u>462</u>	<input checked="" type="checkbox"/> Mileage <u>124</u>	Comments <u>Picked up tools 6-29-12 @ 10:01 pm</u>
(G) Final Shut-In <u>1122</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>2191</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>45</u>	<input type="checkbox"/> Extra Packer	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Total <u>1699</u>
Final Shut-In <u>90</u>	<input checked="" type="checkbox"/> Day Standby <u>over 24 hrs w No test</u>	MP/DST Disc't
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1699</u>	

Approved By _____ Our Representative Cody Plush

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