



DRILL STEM TEST REPORT

Prepared For: **SAMUEL GARY JR & ASSOCIATES INC**

SAMUEL GARY JR & ASSOCIATES INC
1515 WYNKOOP ST SUITE 700
DENVER CO 80202

ATTN: CLAYTON CAMOZZI

3-17S-16W RUSH

YARMER ET AL 1-3

Start Date: 2010.08.02 @ 15:17:00

End Date: 2010.08.02 @ 22:30:30

Job Ticket #: 16339 DST #: 2

Superior Testers Enterprises LLC
PO Box 138 Great Bend KS 67530
1-800-792-6902

Printed: 2010.08.04 @ 08:19:51

SAMUEL GARY JR & ASSOCIATES INC
YARMER ET AL 1-3
3-17S-16W RUSH
DST # 2
Lansing "F & G"
2010.08.02



DRILL STEM TEST REPORT

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YARMER ET AL 1-3

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 DENVER CO 80202
 ATTN: CLAYTON CAMOZZI

3-17S-16W RUSH

Job Ticket: 16339

DST#: 2

Test Start: 2010.08.02 @ 15:17:00

GENERAL INFORMATION:

Formation: **Lansing "F & G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:36:30

Time Test Ended: 22:30:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3320-gb-56

Interval: 3320.00 ft (KB) To 3380.00 ft (KB) (TVD)

Reference Elevations: 1984.00 ft (KB)

Total Depth: 3380.00 ft (KB) (TVD)

1974.00 ft (CF)

Hole Diameter: 6.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8405

Inside

Press @ Run Depth: 93.95 psia @ 3375.98 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.02

End Date:

2010.08.02

Last Calib.:

2010.08.03

Start Time:

15:19:00

End Time:

22:30:30

Time On Btm:

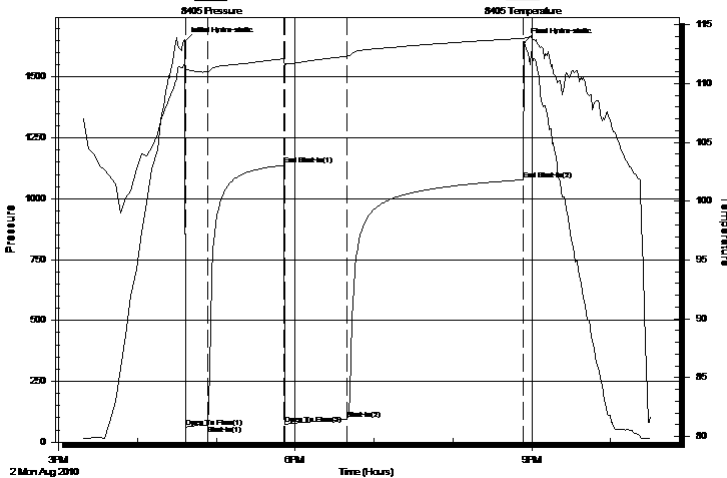
2010.08.02 @ 16:36:00

Time Off Btm:

2010.08.02 @ 20:54:30

TEST COMMENT: 15/Initial Opening Weak building blow built to 2 3/4 inches into the water
 60/Initial Shut-In-No blow back
 45/Final Open-Weak building blow built to 3 3/4 inches into the water
 135/Final Shut-In-No blow back

Pressure vs. Time



PRESSURE SUMMARY

| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1647.04 | 111.72 | Initial Hydro-static |
| 1 | 61.99 | 111.10 | Open To Flow (1) |
| 18 | 70.19 | 110.99 | Shut-In(1) |
| 76 | 1137.78 | 112.13 | End Shut-In(1) |
| 76 | 73.68 | 111.47 | Open To Flow (2) |
| 124 | 93.95 | 112.33 | Shut-In(2) |
| 258 | 1078.13 | 113.85 | End Shut-In(2) |
| 259 | 1641.01 | 113.86 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------------------------|--------------|
| 65.00 | Muddy Water 30% Mud 70% Water | 0.91 |
| | Chlorides 43,000 | 0.00 |
| | Resistivity .14 @ .82 Degrees | |
| | | |
| | | |

Gas Rates

| | Choke (inches) | Pressure (psia) | Gas Rate (Mcf/d) |
|--|----------------|-----------------|------------------|
| | | | |



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ATTN: CLAYTON CAMOZZI

3-17S-16W RUSH

Job Ticket: 16339

DST#: 2

Test Start: 2010.08.02 @ 15:17:00

GENERAL INFORMATION:

Formation: **Lansing "F & G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:36:30

Time Test Ended: 22:30:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3320-gb-56

Interval: 3320.00 ft (KB) To 3380.00 ft (KB) (TVD)

Reference Elevations: 1984.00 ft (KB)

Total Depth: 3380.00 ft (KB) (TVD)

1974.00 ft (CF)

Hole Diameter: 6.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8524 Outside

Press @ RunDepth: 1074.67 psia @ 3376.98 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.02

End Date:

2010.08.02

Last Calib.:

2010.08.03

Start Time: 15:19:00

End Time:

22:29:30

Time On Btm:

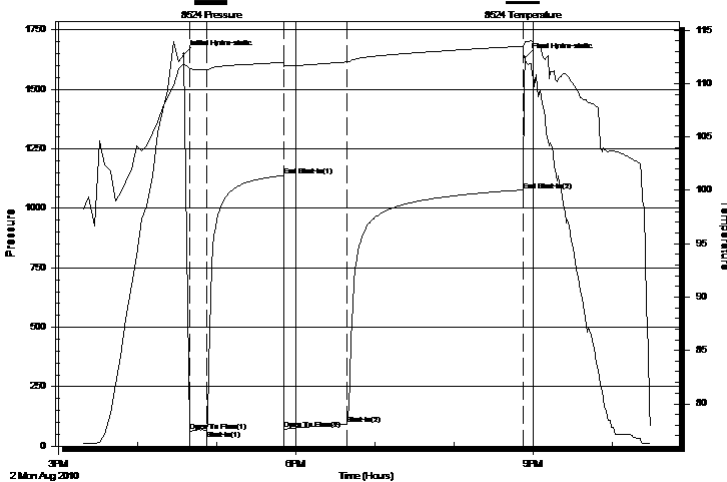
2010.08.02 @ 16:35:00

Time Off Btm:

2010.08.02 @ 20:53:30

TEST COMMENT: 15/Initial Opening Weak building blow built to 2 3/4 inches into the water
60/Initial Shut-In-No blow back
45/Final Open-Weak building blow built to 3 3/4 inches into the water
135/Final Shut-In-No blow back

Pressure vs. Time



PRESSURE SUMMARY

| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1647.07 | 111.88 | Initial Hydro-static |
| 4 | 62.54 | 111.38 | Open To Flow (1) |
| 18 | 67.56 | 111.27 | Shut-In(1) |
| 76 | 1137.28 | 112.00 | End Shut-In(1) |
| 76 | 70.79 | 111.56 | Open To Flow (2) |
| 124 | 93.74 | 112.03 | Shut-In(2) |
| 258 | 1074.67 | 113.50 | End Shut-In(2) |
| 259 | 1635.71 | 113.83 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------------------------|--------------|
| 65.00 | Muddy Water 30% Mud 70% Water | 0.91 |
| | Chlorides 43,000 | 0.00 |
| | Resistivity .14 @ .82 Degrees | |
| | | |
| | | |

Gas Rates

| | Choke (inches) | Pressure (psia) | Gas Rate (Mcf/d) |
|--|----------------|-----------------|------------------|
| | | | |



DRILL STEM TEST REPORT

TOOL DIAGRAM

SAMUEL GARY JR & ASSOCIATES INC

YARMER ET AL 1-3

SAMUEL GARY JR & ASSOCIATES INC 1515
 WYNKOOP ST SUITE 700
 DENVER CO 80202
 ATTN: CLAYTON CAMOZZI

3-17S-16W RUSH

Job Ticket: 16339

DST#: 2

Test Start: 2010.08.02 @ 15:17:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3314.00 ft | Diameter: 3.80 inches | Volume: 46.49 bbl | Tool Weight: 1000.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 2.76 inches | Volume: 0.00 bbl | Weight set on Packer: 20000.00 lb |
| Drill Collar: | Length: 0.00 ft | Diameter: 2.25 inches | Volume: 0.00 bbl | Weight to Pull Loose: 59000.00 lb |
| | | | <u>Total Volume: 46.49 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 23.00 ft | | | String Weight: Initial 54000.00 lb |
| Depth to Top Packer: | 3320.00 ft | | | Final 54000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 59.98 ft | | | |
| Tool Length: | 88.98 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 | | | 3292.00 | |
| Shut-In Tool | 5.00 | | | 3297.00 | |
| Hydraulic Tool | 5.00 | | | 3302.00 | |
| Jars | 6.00 | | | 3308.00 | |
| Safety Joint | 2.00 | | | 3310.00 | |
| Packer | 5.00 | | | 3315.00 | 29.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 3320.00 | |
| Perforations | 5.00 | | | 3325.00 | |
| Change Over Sub | 0.75 | | | 3325.75 | |
| Drill Pipe | 31.48 | | | 3357.23 | |
| Change Over Sub | 0.75 | | | 3357.98 | |
| Perforations | 17.00 | | | 3374.98 | |
| Recorder | 1.00 | 8405 | Inside | 3375.98 | |
| Recorder | 1.00 | 8524 | Outside | 3376.98 | |
| Bullnose | 3.00 | | | 3379.98 | 59.98 Bottom Packers & Anchor |

Total Tool Length: 88.98



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FLUID SUMMARY

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DST#: 2

Test Start: 2010.08.02 @ 15:17:00

Mud and Cushion Information

Mud Type: Gel Chem
 Mud Weight: 9.00 lb/gal
 Viscosity: 49.00 sec/qt
 Water Loss: 10.17 in³
 Resistivity: 0.14 ohm.m
 Salinity: 5800.00 ppm
 Filter Cake: 1.00 inches

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

Oil API: deg API
 Water Salinity: 43000 ppm

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-------------------------------|---------------|
| 65.00 | Muddy Water 30% Mud 70% Water | 0.912 |
| | Chlorides 43,000 | 0.000 |
| | Resistivity .14 @ .82 Degrees | |

Total Length: 65.00 ft Total Volume: 0.912 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: Chlorides 43,000 Resistivity .14 @ 82 Degrees

