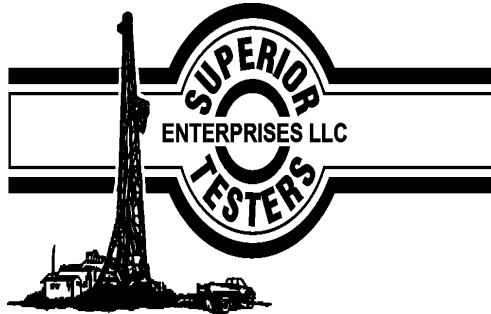




## DRILL STEM TEST REPORT

Prepared For: **L B Exploration**

2135 2nd Rd Holyrood KS 67450+9021

ATTN: Steven Petermann

**Petermann 28 #1**

**28-17-10 Ellsworth**

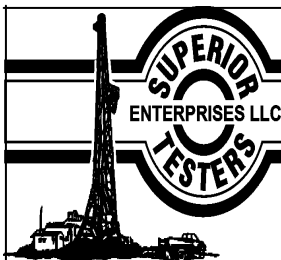
Start Date: 2013.08.21 @ 08:20:00

End Date: 2013.08.21 @ 14:40:30

Job Ticket #: 18426                      DST #: 3

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

Printed: 2013.08.21 @ 14:59:41



# DRILL STEM TEST REPORT

L B Exploration

28-17-10 Ellsworth

2135 2nd Rd Holyrood KS 67450+9021

Petermann 28 #1

ATTN: Steven Petermann

Job Ticket: 18426

DST#: 3

Test Start: 2013.08.21 @ 08:20:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:50:30

Time Test Ended: 14:40:30

Interval: **3268.00 ft (KB) To 3354.00 ft (KB) (TVD)**

Total Depth: 3354.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3320-Great Bend -60

Reference Elevations: 1840.00 ft (KB)

1830.00 ft (CF)

KB to GR/CF: 10.00 ft

## Serial #: 6731

Press@RunDepth: 169.89 psia @ ft (KB)

Start Date: 2013.08.21

End Date:

2013.08.21

Start Time: 08:20:00

End Time:

14:40:30

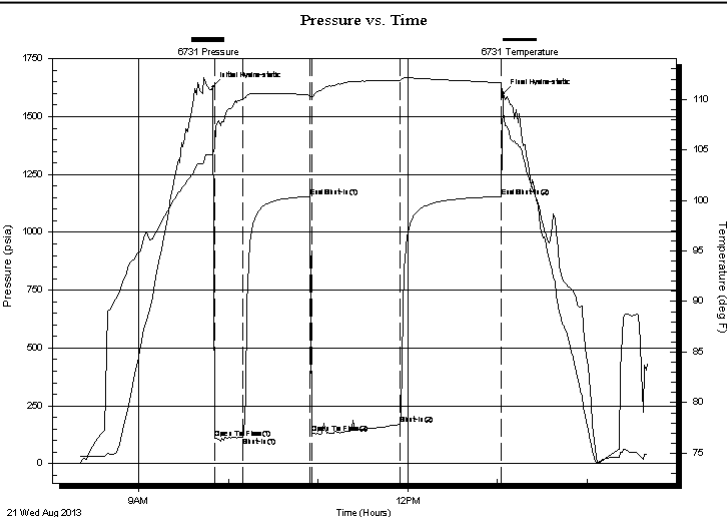
Capacity: psia

Last Calib.: 1899.12.30

Time On Btm: 2013.08.21 @ 09:49:30

Time Off Btm: 2013.08.21 @ 13:04:00

TEST COMMENT: 1st Opening 20 Minutes-Fair blow built 7 inches into water in 20 minutes  
1st Shut-in 45 Minutes-No blow back  
2nd Opening 60 Minutes-Fair blow built bottom of bucket in 45 minutes  
2nd Shut-in 60 Minutes-No blow back



## PRESSURE SUMMARY

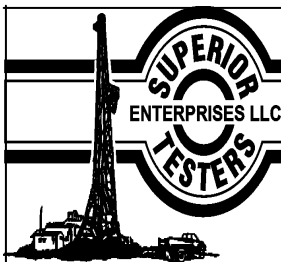
| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1629.79         | 104.61       | Initial Hydro-static |
| 1           | 111.16          | 105.20       | Open To Flow (1)     |
| 20          | 113.73          | 110.03       | Shut-In (1)          |
| 65          | 1155.54         | 110.39       | End Shut-In (1)      |
| 66          | 130.80          | 110.15       | Open To Flow (2)     |
| 125         | 169.89          | 111.89       | Shut-In (2)          |
| 193         | 1154.36         | 111.64       | End Shut-In (2)      |
| 195         | 1598.41         | 108.81       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                                  | Volume (bbl) |
|-------------|----------------------------------------------|--------------|
| 140.00      | oil cut mud 1%oil 99%mud                     | 1.96         |
| 60.00       | oil w ater cut mud 1 %oil 29%w ater 70%r0.84 |              |
| 0.00        | chlorides 28,000 resistivity .15@70degre0.00 |              |
|             |                                              |              |
|             |                                              |              |
|             |                                              |              |

## Gas Rates

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



# DRILL STEM TEST REPORT

L B Exploration

28-17-10 Ellsworth

2135 2nd Rd Holyrood KS 67450+9021

Petermann 28 #1

ATTN: Steven Petermann

Job Ticket: 18426

DST#: 3

Test Start: 2013.08.21 @ 08:20:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:50:30

Time Test Ended: 14:40:30

Interval: **3268.00 ft (KB) To 3354.00 ft (KB) (TVD)**

Total Depth: 3354.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3320-Great Bend -60

Reference Elevations: 1840.00 ft (KB)

1830.00 ft (CF)

KB to GR/CF: 10.00 ft

## Serial #: 8159

Press@RunDepth: 1153.86 psia @ ft (KB)

Capacity: psia

Start Date: 2013.08.21

End Date:

2013.08.21

Last Calib.:

1899.12.30

Start Time: 08:20:00

End Time:

14:40:30

Time On Btm:

2013.08.21 @ 09:49:20

Time Off Btm:

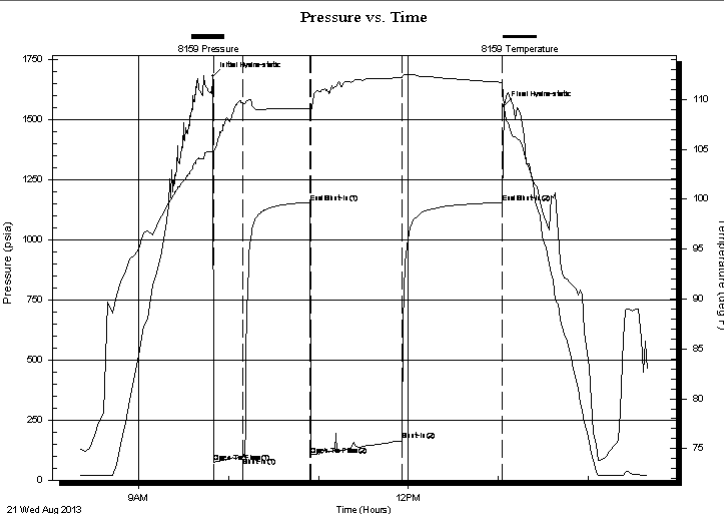
2013.08.21 @ 13:04:00

TEST COMMENT: 1st Opening 20 Minutes-Fair blow built 7 inches into water in 20 minutes

1st Shut-in 45 Minutes-No blow back

2nd Opening 60 Minutes-Fair blow built bottom of bucket in 45 minutes

2nd Shut-in 60 Minutes-No blow back



## PRESSURE SUMMARY

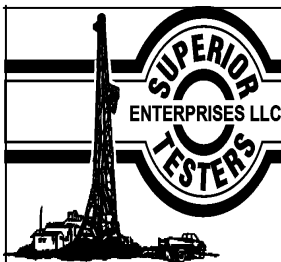
| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1679.47         | 104.72       | Initial Hydro-static |
| 1           | 75.00           | 104.67       | Open To Flow (1)     |
| 21          | 96.60           | 109.63       | Shut-In (1)          |
| 65          | 1154.88         | 109.11       | End Shut-In (1)      |
| 66          | 101.36          | 108.81       | Open To Flow (2)     |
| 127         | 163.68          | 112.16       | Shut-In (2)          |
| 194         | 1153.86         | 111.71       | End Shut-In (2)      |
| 195         | 1556.23         | 109.22       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                                  | Volume (bbl) |
|-------------|----------------------------------------------|--------------|
| 140.00      | oil cut mud 1%oil 99% mud                    | 1.96         |
| 60.00       | oil w ater cut mud 1 %oil 29%w ater 70%r0.84 |              |
| 0.00        | chlorides 28,000 resistivity .15@70degre0.00 |              |
|             |                                              |              |
|             |                                              |              |
|             |                                              |              |

## Gas Rates

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



# DRILL STEM TEST REPORT

TOOL DIAGRAM

L B Exploration

28-17-10 Ellsworth

2135 2nd Rd Holyrood KS 67450+9021

Petermann 28 #1

ATTN: Steven Petermann

Job Ticket: 18426

DST#: 3

Test Start: 2013.08.21 @ 08:20:00

## Tool Information

|                           |         |            |           |             |               |           |                        |             |
|---------------------------|---------|------------|-----------|-------------|---------------|-----------|------------------------|-------------|
| Drill Pipe:               | Length: | 3279.00 ft | Diameter: | 3.80 inches | Volume:       | 46.00 bbl | Tool Weight:           | 1000.00 lb  |
| Heavy Wt. Pipe:           | Length: | 0.00 ft    | Diameter: | 0.00 inches | Volume:       | 0.00 bbl  | Weight set on Packer:  | 20000.00 lb |
| Drill Collar:             | Length: | 0.00 ft    | Diameter: | 0.00 inches | Volume:       | 0.00 bbl  | Weight to Pull Loose:  | 60000.00 lb |
|                           |         |            |           |             | Total Volume: | 46.00 bbl | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      |         | 31.00 ft   |           |             |               |           | String Weight: Initial | 46000.00 lb |
| Depth to Top Packer:      |         | 3268.00 ft |           |             |               |           | Final                  | 47000.00 lb |
| Depth to Bottom Packer:   |         | ft         |           |             |               |           |                        |             |
| Interval between Packers: |         | 86.00 ft   |           |             |               |           |                        |             |
| Tool Length:              |         | 106.00 ft  |           |             |               |           |                        |             |
| Number of Packers:        |         | 2          | Diameter: | 6.75 inches |               |           |                        |             |

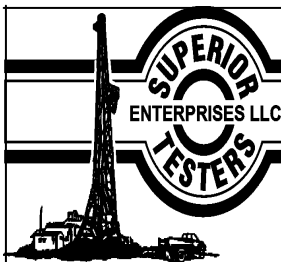
Tool Comments: ruined packer

## Tool Description

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

|                 |       |              |         |                               |
|-----------------|-------|--------------|---------|-------------------------------|
| Shut-In Tool    | 5.00  |              | 3253.00 |                               |
| Hydraulic Tool  | 5.00  |              | 3258.00 |                               |
| Packer          | 5.00  |              | 3263.00 | 20.00 Bottom Of Top Packer    |
| Packer          | 5.00  |              | 3268.00 |                               |
| Anchor          | 15.00 |              | 3283.00 |                               |
| Change Over Sub | 0.75  |              | 3283.75 |                               |
| Drill Pipe      | 63.50 |              | 3347.25 |                               |
| Change Over Sub | 0.75  |              | 3348.00 |                               |
| Anchor          | 1.00  |              | 3349.00 |                               |
| Recorder        | 1.00  | 6731 Inside  | 3350.00 |                               |
| Recorder        | 1.00  | 8159 Outside | 3351.00 |                               |
| Bullnose        | 3.00  |              | 3354.00 | 86.00 Bottom Packers & Anchor |

Total Tool Length: 106.00



# DRILL STEM TEST REPORT

## FLUID SUMMARY

L B Exploration

28-17-10 Ellsworth

2135 2nd Rd Holyrood KS 67450+9021

Petermann 28 #1

Job Ticket: 18426

DST#: 3

ATTN: Steven Petermann

Test Start: 2013.08.21 @ 08:20:00

## Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 52.00 sec/qt

Water Loss: 8.80 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

ppm

ft

bbl

psia

## Recovery Information

Recovery Table

| Length<br>ft | Description                              | Volume<br>bbl |
|--------------|------------------------------------------|---------------|
| 140.00       | oil cut mud 1%oil 99%mud                 | 1.964         |
| 60.00        | oil water cut mud 1 %oil 29%water 70%mud | 0.842         |
| 0.00         | chlorides 28,000 resistivity .15@70deg   | 0.000         |

Total Length: 200.00 ft

Total Volume: 2.806 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: ruined packer

Pressure vs. Time

