



## DRILL STEM TEST REPORT

Prepared For: **Primal Energy O&G**

21021 Springbrook Plaza Drive  
Texas 77379

ATTN: Tim Hedrick

### **Soeken #1**

#### **10-19s-9w-Rice**

Start Date: 2012.11.08 @ 05:00:00

End Date: 2012.11.08 @ 13:13:00

Job Ticket #: 17869                      DST #: 5

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

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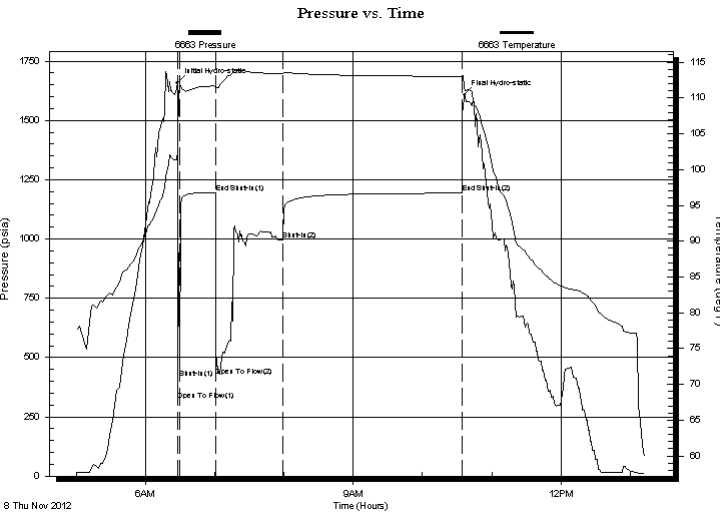
**10-19s-9w-Rice**  
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 Test Start: 2012.11.08 @ 05:00:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 06:28:00 Tester: Dustin Ellis  
 Time Test Ended: 13:13:00 Unit No: 3315-Great Bend-65  
 Interval: **3252.00 ft (KB) To 3309.00 ft (KB) (TVD)** Reference Elevations: 1716.00 ft (KB)  
 Total Depth: 3309.00 ft (KB) (TVD) 1706.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 10.00 ft

**Serial #: 6663 Inside**  
 Press @ Run Depth: 1193.11 psia @ 3305.58 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2012.11.08 End Date: 2012.11.08 Last Calib.: 2012.11.08  
 Start Time: 05:00:00 End Time: 13:12:30 Time On Btm: 2012.11.08 @ 06:27:30  
 Time Off Btm: 2012.11.08 @ 10:36:00

**TEST COMMENT:** 1st Open 2 minute Strong blow blew bottom bucket 1 minute.  
 1st Shut in 30 minutes No blow back  
 2nd Open 60 minutes Strong blow blew bottom bucket 3 minutes.  
 2nd Shut in 150 minutes No blow back.



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1657.74         | 102.53       | Initial Hydro-static |
| 1           | 321.04          | 104.24       | Open To Flow (1)     |
| 2           | 411.64          | 111.41       | Shut-In(1)           |
| 33          | 1196.28         | 111.65       | End Shut-In(1)       |
| 34          | 422.69          | 111.47       | Open To Flow (2)     |
| 91          | 996.04          | 113.45       | Shut-In(2)           |
| 247         | 1193.11         | 113.02       | End Shut-In(2)       |
| 249         | 1607.31         | 111.62       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                 | Volume (bbl) |
|-------------|-----------------------------|--------------|
| 366.00      | Mud cut oil Oil 10% Mud 90% | 5.13         |
| 549.00      | Oil cut gassy mud           | 7.70         |
| 0.00        | Gas 10% Oil 805 Mud 10%     | 0.00         |
| 610.00      | Oil cut mud Oil 90% Mud 90% | 8.56         |
| 0.00        | gravity of oil 36 corrected | 0.00         |

## Gas Rates

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



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**TOOL DIAGRAM**

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**Tool Information**

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3240.00 ft | Diameter: 3.80 inches | Volume: 45.45 bbl              | Tool Weight:           | 2000.00 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:  | 63000.00 lb |
|                           |                    |                       | <u>Total Volume: 45.45 bbl</u> | Tool Chased            | 2.00 ft     |
| Drill Pipe Above KB:      | 8.00 ft            |                       |                                | String Weight: Initial | 58000.00 lb |
| Depth to Top Packer:      | 3252.00 ft         |                       |                                | Final                  | 61000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 57.58 ft           |                       |                                |                        |             |
| Tool Length:              | 77.58 ft           |                       |                                |                        |             |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                        |             |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                     |
|------------------|-------------|------------|----------|------------|------------------------------------|
| Shut-In Tool     | 5.00        |            |          | 3237.00    |                                    |
| Hydraulic Tool   | 5.00        |            |          | 3242.00    |                                    |
| Packer           | 5.00        |            |          | 3247.00    | 20.00      Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3252.00    |                                    |
| Anchor           | 7.00        |            |          | 3259.00    |                                    |
| Change Over Sub  | 0.75        |            |          | 3259.75    |                                    |
| Drill Pipe       | 31.08       |            |          | 3290.83    |                                    |
| Change Over Sub  | 0.75        |            |          | 3291.58    |                                    |
| Anchor           | 13.00       |            |          | 3304.58    |                                    |
| Recorder         | 1.00        | 6663       | Inside   | 3305.58    |                                    |
| Recorder         | 1.00        | 8400       | Outside  | 3306.58    |                                    |
| Bull Plug        | 3.00        |            |          | 3309.58    | 57.58      Bottom Packers & Anchor |

**Total Tool Length: 77.58**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

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### 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: 55.00 sec/qt          | Cushion Volume: bbl        |                 |         |
| Water Loss: 8.00 in <sup>3</sup> | Gas Cushion Type:          |                 |         |
| Resistivity: ohm.m               | Gas Cushion Pressure: psia |                 |         |
| Salinity: 7500.00 ppm            |                            |                 |         |
| Filter Cake: 1.00 inches         |                            |                 |         |

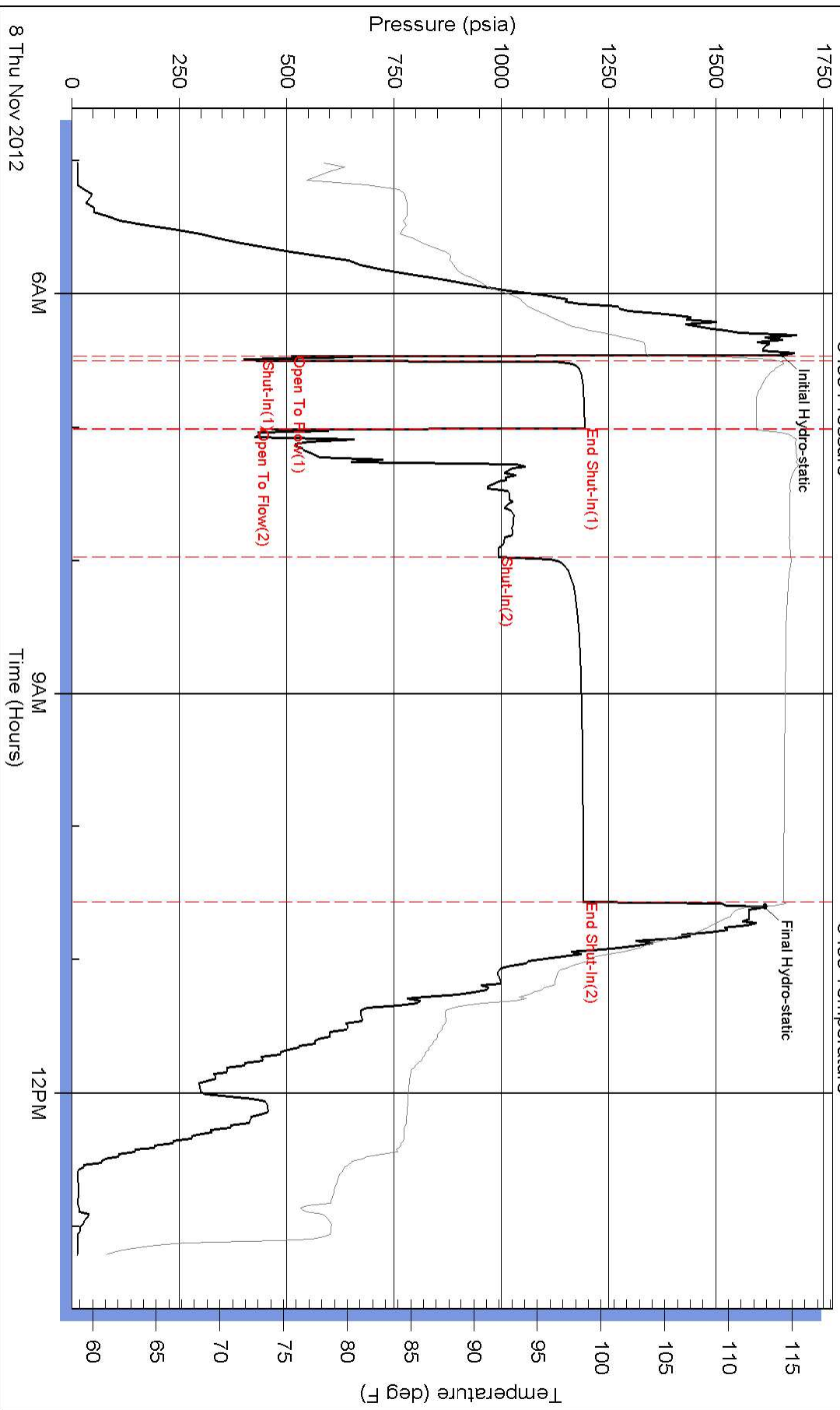
### Recovery Information

Recovery Table

| Length<br>ft | Description                 | Volume<br>bbl |
|--------------|-----------------------------|---------------|
| 366.00       | Mud cut oil Oil 10% Mud 90% | 5.134         |
| 549.00       | Oil cut gassy mud           | 7.701         |
| 0.00         | Gas 10% Oil 805 Mud 10%     | 0.000         |
| 610.00       | Oil cut mud Oil 90% Mud 90% | 8.557         |
| 0.00         | gravity of oil 36 corrected | 0.000         |

Total Length: 1525.00 ft      Total Volume: 21.392 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time



### Pressure vs. Time

