



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Trek AEU, Inc  
 155 N. Market STE 710  
 Wichita KS, 67202  
 ATTN: Aaron Young

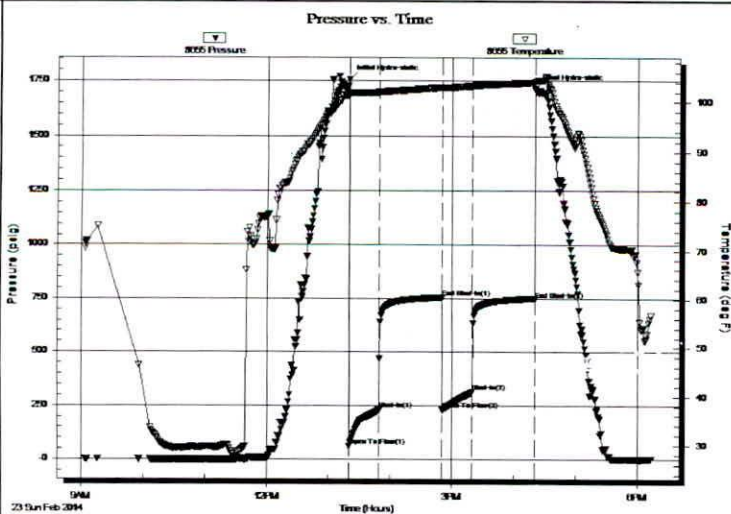
**28-6s-20w Rooks KS**  
**Stice Hill Unit 1-28**  
 Job Ticket: 56078 **DST#: 1**  
 Test Start: 2014.02.23 @ 09:04:00

## GENERAL INFORMATION:

Formation: **Topeka**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 13:19:45 Tester: Cody Bloedorn  
 Time Test Ended: 18:12:45 Unit No: 73  
 Interval: **3353.00 ft (KB) To 3426.00 ft (KB) (TVD)** Reference Elevations: 2239.00 ft (KB)  
 Total Depth: 3426.00 ft (KB) (TVD) 2234.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

**Serial #: 8655 Outside**  
 Press@RunDepth: 311.87 psig @ 3421.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.23 End Date: 2014.02.23 Last Calib.: 2014.02.23  
 Start Time: 09:04:05 End Time: 18:12:45 Time On Btm: 2014.02.23 @ 13:19:30  
 Time Off Btm: 2014.02.23 @ 16:20:15

**TEST COMMENT:** 30 - IF- B.O.B. in 7 minutes  
 60 - ISI- No return  
 30 - FF- B.O.B. in 15 minutes  
 60 - FSI-Surface blow for 5 minutes and then died.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1754.65	101.71	Initial Hydro-static
1	61.53	101.40	Open To Flow (1)
29	228.54	102.01	Shut-In(1)
90	754.35	102.95	End Shut-In(1)
91	231.66	102.85	Open To Flow (2)
120	311.87	103.27	Shut-In(2)
181	745.82	104.02	End Shut-In(2)
181	12.17	104.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
403.00	MV, 50%M, 50%W	3.47
124.00	WM, 20%W, 80%M	1.74

## Gas Rates

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



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**FLUID SUMMARY**

Trek AEU, Inc

**28-6s-20w Rooks KS**

155 N. Market STE 710  
Wichita KS, 67202

**Stice Hill Unit 1-28**

Job Ticket: 56078

**DST#: 1**

ATTN: Aaron Young

Test Start: 2014.02.23 @ 09:04:00

## 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:	30000 ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

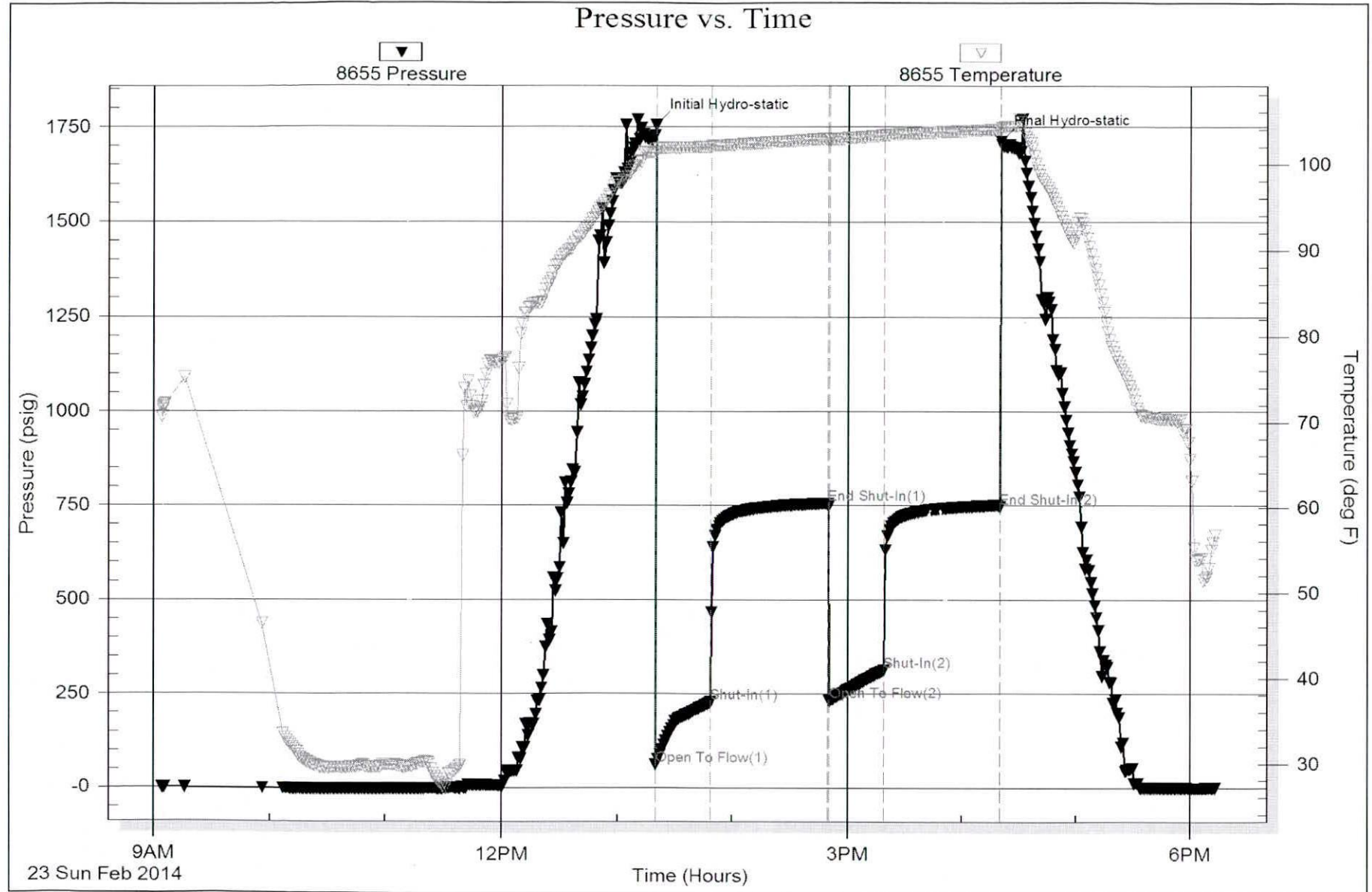
Length ft	Description	Volume bbl
403.00	MW, 50%M, 50%W	3.467
124.00	WM, 20%W, 80%M	1.739

Total Length: 527.00 ft      Total Volume: 5.206 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: .45 @ 40 Degrees = 30,000 Chlorides







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ATTN: Aaron Young

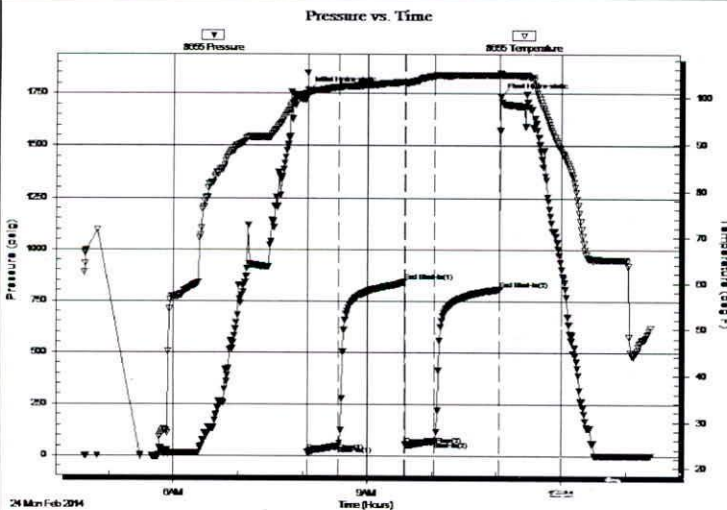
**28-6s-20w Rooks KS**  
**Stice Hill Unit 1-28**  
Job Ticket: 56079      **DST#: 2**  
Test Start: 2014.02.24 @ 04:37:00

## GENERAL INFORMATION:

Formation: **Tor - LKC "A"**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 08:04:15  
Time Test Ended: 13:22:45  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Cody Bloedorn  
Unit No: 73  
Interval: **3450.00 ft (KB) To 3474.00 ft (KB) (TVD)**  
Reference Elevations: 2239.00 ft (KB)  
Total Depth: 3474.00 ft (KB) (TVD)                      2234.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Fair                      KB to GR/CF: 5.00 ft

**Serial #: 8655      Outside**  
Press@RunDepth: 71.14 psig @ 3454.00 ft (KB)                      Capacity: 8000.00 psig  
Start Date: 2014.02.24      End Date: 2014.02.24      Last Calib.: 2014.02.24  
Start Time: 04:37:05      End Time: 13:22:45      Time On Btm: 2014.02.24 @ 08:04:00  
Time Off Btm: 2014.02.24 @ 11:03:15

TEST COMMENT: 30 - IF- 6 1/2" blow  
60 - IS- No return  
30 - FF- 4" blow  
60 - FS- No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1762.79	100.92	Initial Hydro-static
1	20.49	100.44	Open To Flow (1)
29	46.59	102.20	Shut-In(1)
90	843.45	103.28	End Shut-In(1)
91	52.38	103.11	Open To Flow (2)
118	71.14	104.63	Shut-In(2)
179	806.08	104.84	End Shut-In(2)
180	1734.32	104.97	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
124.00	HOCM, 40%M, 60%O	0.61
31.00	GO, 10%G, 90%O	0.15
0.00	286' of G.I.P.	0.00

## Gas Rates

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

\* Recovery from multiple tests



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Trek AEC, Inc

**28-6s-20w Rooks KS**

155 N. Market STE 710  
Wichita KS, 67202

**Stice Hill Unit 1-28**

Job Ticket: 56079

**DST#: 2**

ATTN: Aaron Young

Test Start: 2014.02.24 @ 04:37:00

## 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: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 5.99 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

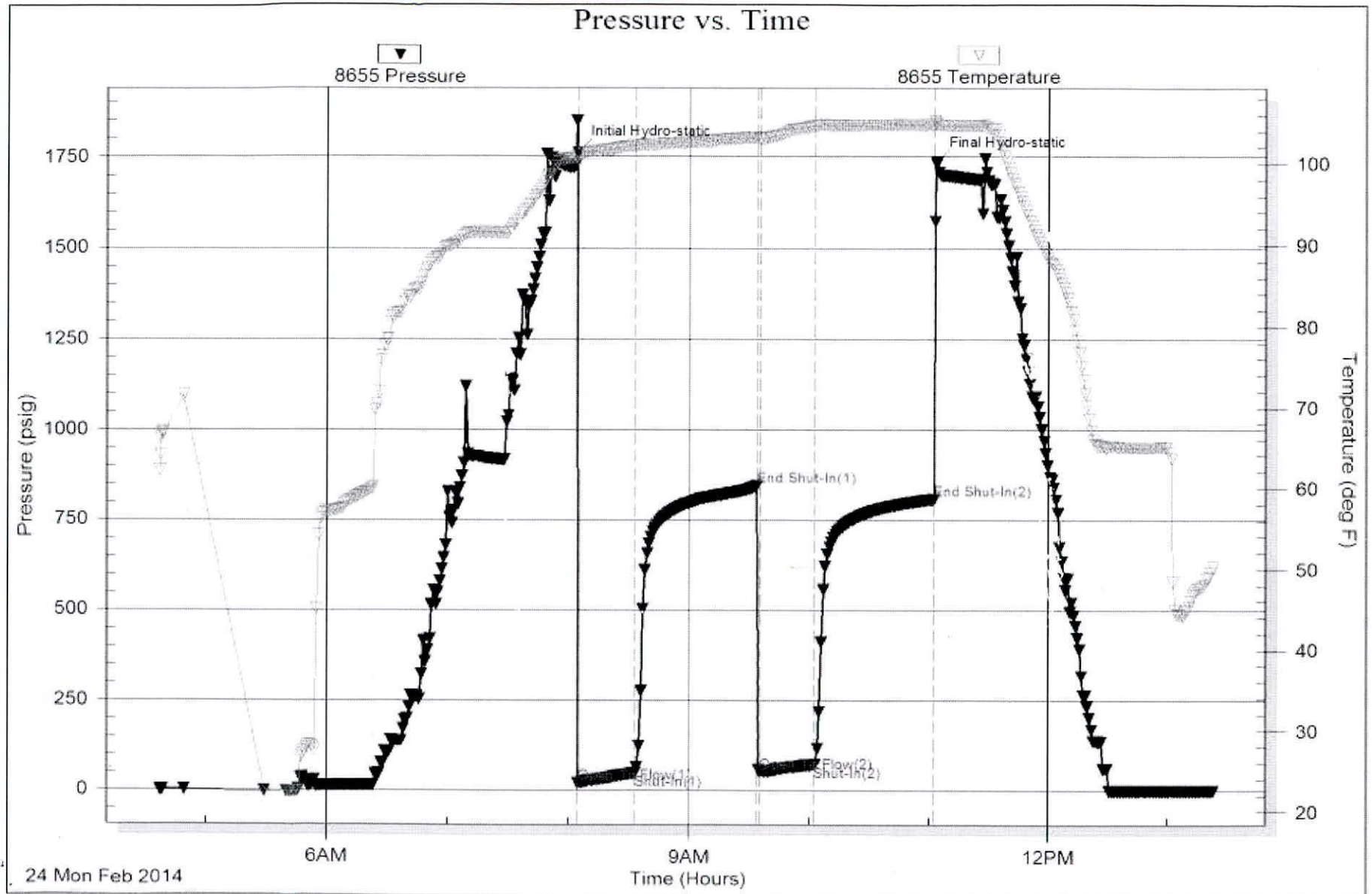
Length ft	Description	Volume bbl
124.00	HOCM, 40%M, 60%O	0.610
31.00	GO, 10%G, 90%O	0.152
0.00	286' of G.I.P.	0.000

Total Length: 155.00 ft      Total Volume: 0.762 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:







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# DRILL STEM TEST REPORT

Trek AEC, Inc  
 155 N. Market STE 710  
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 ATTN: Aaron Young

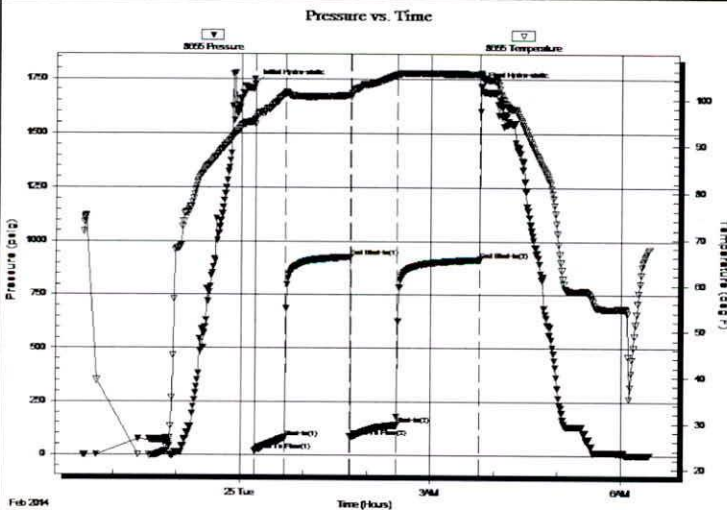
**28-6s-20w Rooks KS**  
**Stice Hill Unit 1-28**  
 Job Ticket: 56080 **DST#: 3**  
 Test Start: 2014.02.24 @ 21:32:00

## GENERAL INFORMATION:

Formation: **Lansing "C"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:13:15  
 Time Test Ended: 06:27:30  
 Interval: **3487.00 ft (KB) To 3508.00 ft (KB) (TVD)**  
 Total Depth: 3508.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Cody Bloedorn  
 Unit No: 73  
 Reference Elevations: 2239.00 ft (KB)  
 2234.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8655 Outside**  
 Press@RunDepth: 140.67 psig @ 3488.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.02.24 End Date: 2014.02.25 Last Calib.: 2014.02.25  
 Start Time: 21:32:05 End Time: 06:27:30 Time On Btm: 2014.02.25 @ 00:13:00  
 Time Off Btm: 2014.02.25 @ 03:47:15

TEST COMMENT: 30 - IF- 6" blow  
 60 - IS- Surface return, died in 35 minutes  
 45 - FF- 8" blow  
 90 - FS- Surface return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1725.94	95.56	Initial Hydro-static
1	17.43	94.67	Open To Flow (1)
29	80.02	101.10	Shut-In(1)
91	927.10	100.77	End Shut-In(1)
91	84.37	100.44	Open To Flow (2)
135	140.67	105.19	Shut-In(2)
214	915.32	105.36	End Shut-In(2)
215	1715.80	105.02	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	WM, 40%W, 60%M	0.00
186.00	MV - with oil spots, 30%M, 70%W	0.99
5.00	Free Oil, 100%O	0.07

## Gas Rates

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

\* Recovery from multiple tests



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# DRILL STEM TEST REPORT

## FLUID SUMMARY

Trek AEC, Inc  
155 N. Market STE 710  
Wichita KS, 67202  
ATTN: Aaron Young

**28-6s-20w Rooks KS**  
**Stice Hill Unit 1-28**  
Job Ticket: 56080      **DST#: 3**  
Test Start: 2014.02.24 @ 21:32:00

### 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:	36000 ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	WM, 40%W, 60%M	0.305
186.00	MW - w ith oil spots, 30%M, 70%W	0.988
5.00	Free Oil, 100%O	0.070

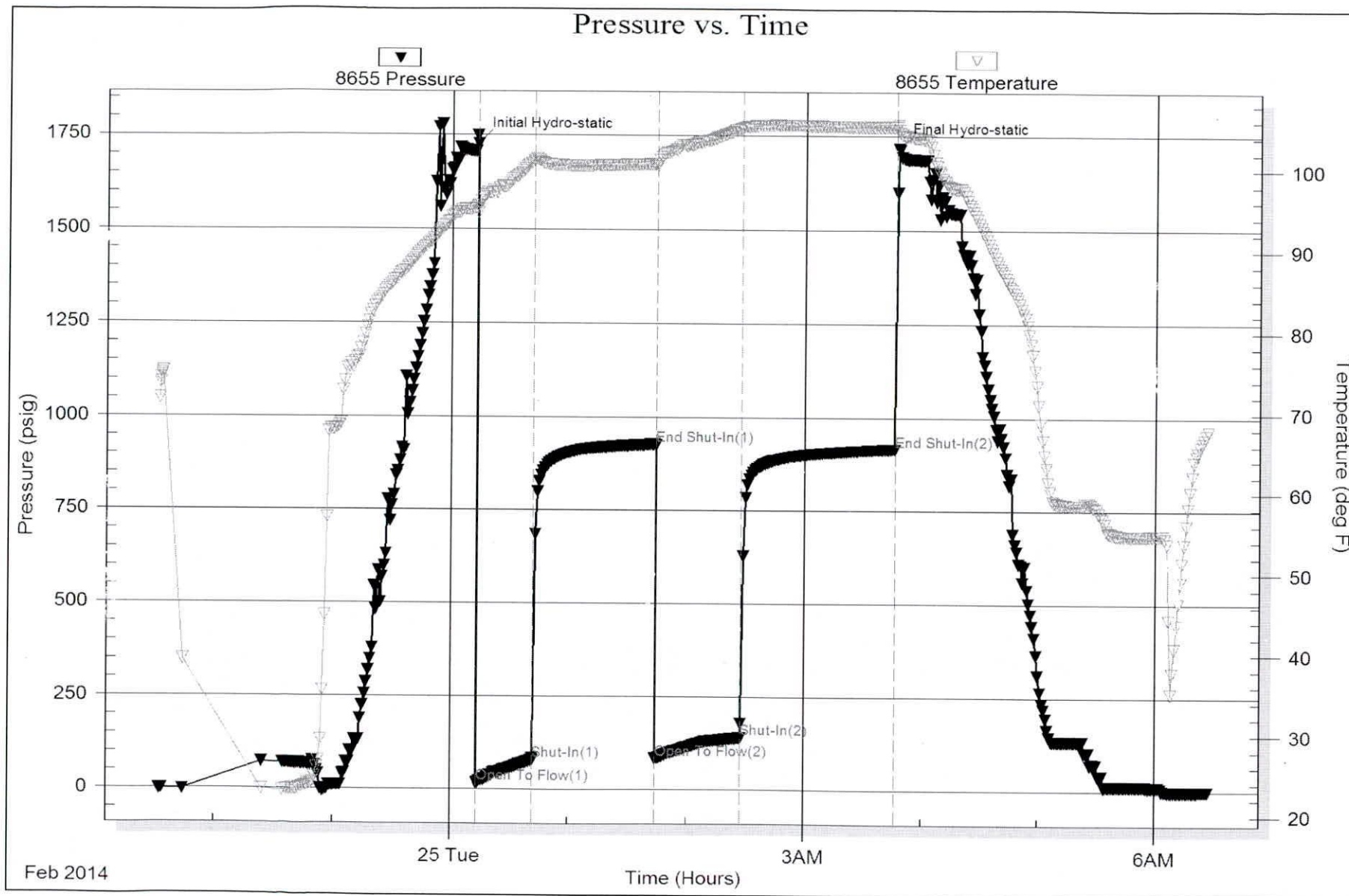
Total Length: 253.00 ft      Total Volume: 1.363 bbl

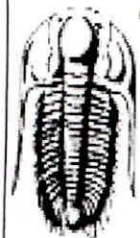
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: Chlorides: .34 @ 41 Degrees = 36000







**TRILOBITE TESTING, INC.**

# WELL STEM TEST REPORT

Trek AEC, Inc  
 155 N. Market STE 710  
 Wichita KS, 67202  
 ATTN: Aaron Young

**28-6s-20w Rooks KS**  
**Stice Hill Unit 1-28**  
 Job Ticket: 56081      DST#: 4  
 Test Start: 2014.02.25 @ 22:44:00

## GENERAL INFORMATION:

Formation: **LKC "H-I"**  
 Deviated: No Whipstock:                      ft (KB)  
 Time Tool Opened: 02:26:45  
 Time Test Ended: 08:51:15  
**Interval: 3592.00 ft (KB) To 3618.00 ft (KB) (TVD)**  
 Total Depth: 3618.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)  
 Tester: Cody Bloedorn  
 Unit No: 73  
 Reference Elevations: 2239.00 ft (KB)  
    2234.00 ft (CF)  
 KB to GR/CF: 5.00 ft

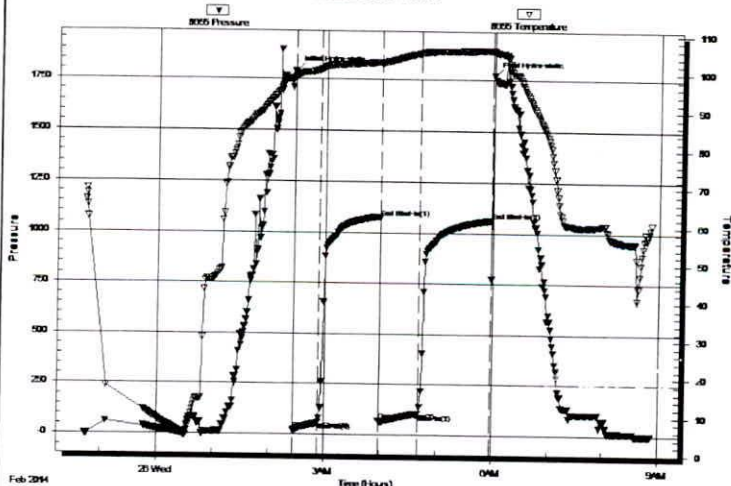
## Serial #: 8655

Outside

Press@RunDepth: 105.88 psig @ 3596.00 ft (KB)  
 Start Date: 2014.02.25      End Date: 2014.02.26  
 Start Time: 22:44:05      End Time: 08:51:15  
 Capacity: 8000.00 psig  
 Last Calib.: 2014.02.26  
 Time On Btm: 2014.02.26 @ 02:26:30  
 Time Off Btm: 2014.02.26 @ 06:00:00

TEST COMMENT: 30 - IF- 7" blow  
 60 - IS- No return  
 45 - FF- B.O.B. in 28 minutes  
 75 - FS- 1/4" return

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1791.48	98.93	Initial Hydro-static
1	19.44	98.56	Open To Flow (1)
28	59.43	100.90	Shut-In(1)
93	1073.35	102.86	End Shut-In(1)
93	69.59	102.41	Open To Flow (2)
135	105.88	105.22	Shut-In(2)
212	1063.90	106.04	End Shut-In(2)
214	1770.90	105.64	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	OCM, 25%O, 75%M	0.30
186.00	GO, 30%G, 70%O	0.99
0.00	186' of G.I.P.	0.00

\* Recovery from multiple tests

## Gas Rates

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



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# WELL STEM TEST REPORT

**FLUID SUMMARY**

Trek AEC, Inc  
155 N. Market STE 710  
Wichita KS, 67202  
ATTN: Aaron Young

**28-6s-20w Rooks KS**  
**Stice Hill Unit 1-28**  
Job Ticket: 56081      **DST#: 4**  
Test Start: 2014.02.25 @ 22:44:00

## Mud and Cushion Information

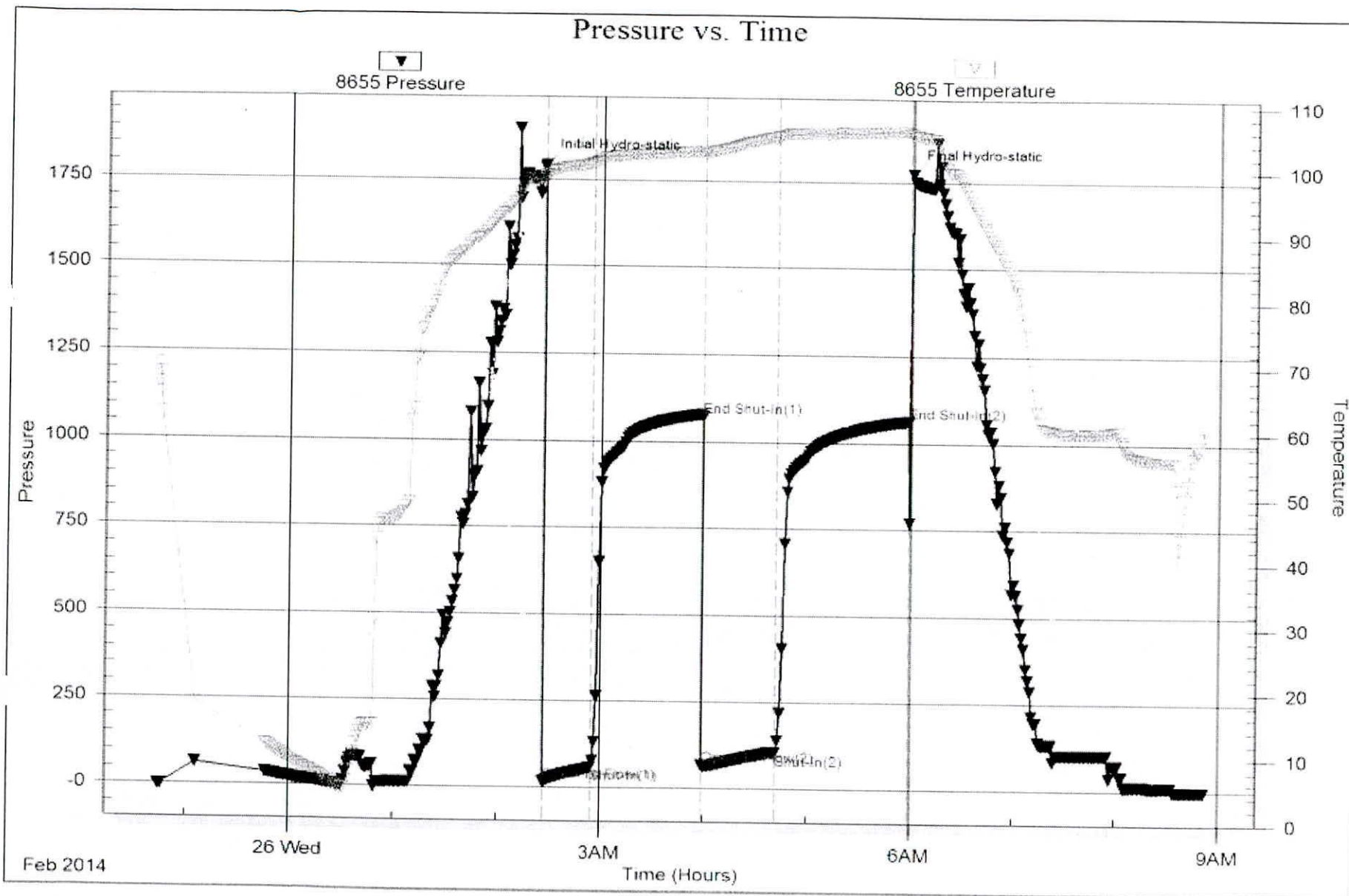
Mud Type: Gel Chem	Cushion Type:	Oil API:	32 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: inches			

## Recovery Information

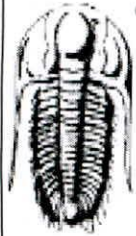
Recovery Table

Length ft	Description	Volume bbl
62.00	OCM, 25%O, 75%M	0.305
186.00	GO, 30%G, 70%O	0.988
0.00	186' of G.I.P.	0.000

Total Length: 248.00 ft      Total Volume: 1.293 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: 30 @ 40 Degrees = 32 Gravity







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155 N. Market STE 710  
Wichita KS, 67202  
ATTN: Aaron Young

**28-6s-20w Rooks KS**  
**Stice Hill Unit 1-28**  
Job Ticket: 56082      **DST#: 5**  
Test Start: 2014.02.26 @ 18:36:00

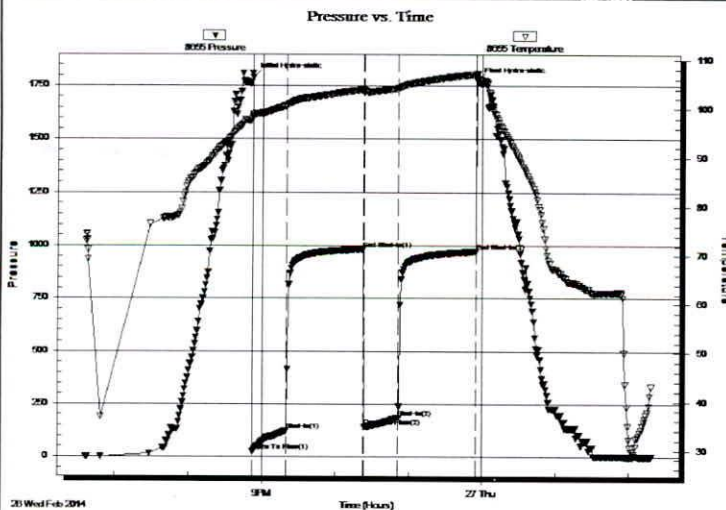
## GENERAL INFORMATION:

Formation: **LKC "J-K"**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 20:52:30  
Time Test Ended: 02:17:45  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Cody Bloedorn  
Unit No: 73  
Interval: **3624.00 ft (KB) To 3654.00 ft (KB) (TVD)**  
Reference Elevations: 2239.00 ft (KB)  
Total Depth: 3654.00 ft (KB) (TVD)                      2234.00 ft (CF)  
Hole Diameter: 7.88 inches Hole Condition: Fair                      KB to GR/CF: 5.00 ft

**Serial #: 8655      Outside**  
Press@RunDepth: 184.47 psig @ 3628.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.02.26      End Date: 2014.02.27      Last Calib.: 2014.02.27  
Start Time: 18:36:05      End Time: 02:17:44      Time On Btm: 2014.02.26 @ 20:52:15  
Time Off Btm: 2014.02.26 @ 23:55:30

TEST COMMENT: 30 - IF- B.O.B. in 5 minutes  
60 - IS- B.O.B. in 27 minutes  
30 - FF- B.O.B. instantly  
60 - FS- 8" return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1786.78	98.85	Initial Hydro-static
1	23.84	98.28	Open To Flow (1)
28	121.97	100.66	Shut-In(1)
91	983.28	103.85	End Shut-In(1)
91	140.93	103.63	Open To Flow (2)
120	184.47	104.21	Shut-In(2)
183	972.08	107.04	End Shut-In(2)
184	1772.20	107.21	Final Hydro-static

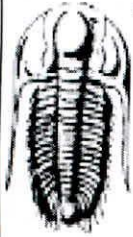
## Recovery

Length (ft)	Description	Volume (bbl)
31.00	GHOCM, 20%G, 30%O, 50%M	0.15
434.00	GO, 30%G, 70%O	4.18
0.00	465' of G.I.P.	0.00

\* Recovery from multiple tests

## Gas Rates

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



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**FLUID SUMMARY**

Trek AEC, Inc  
155 N. Market STE 710  
Wichita KS, 67202  
ATTN: Aaron Young

**28-6s-20w Rooks KS**  
**Stice Hill Unit 1-28**  
Job Ticket: 56082      **DST#: 5**  
Test Start: 2014.02.26 @ 18:36:00

## 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: 47.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

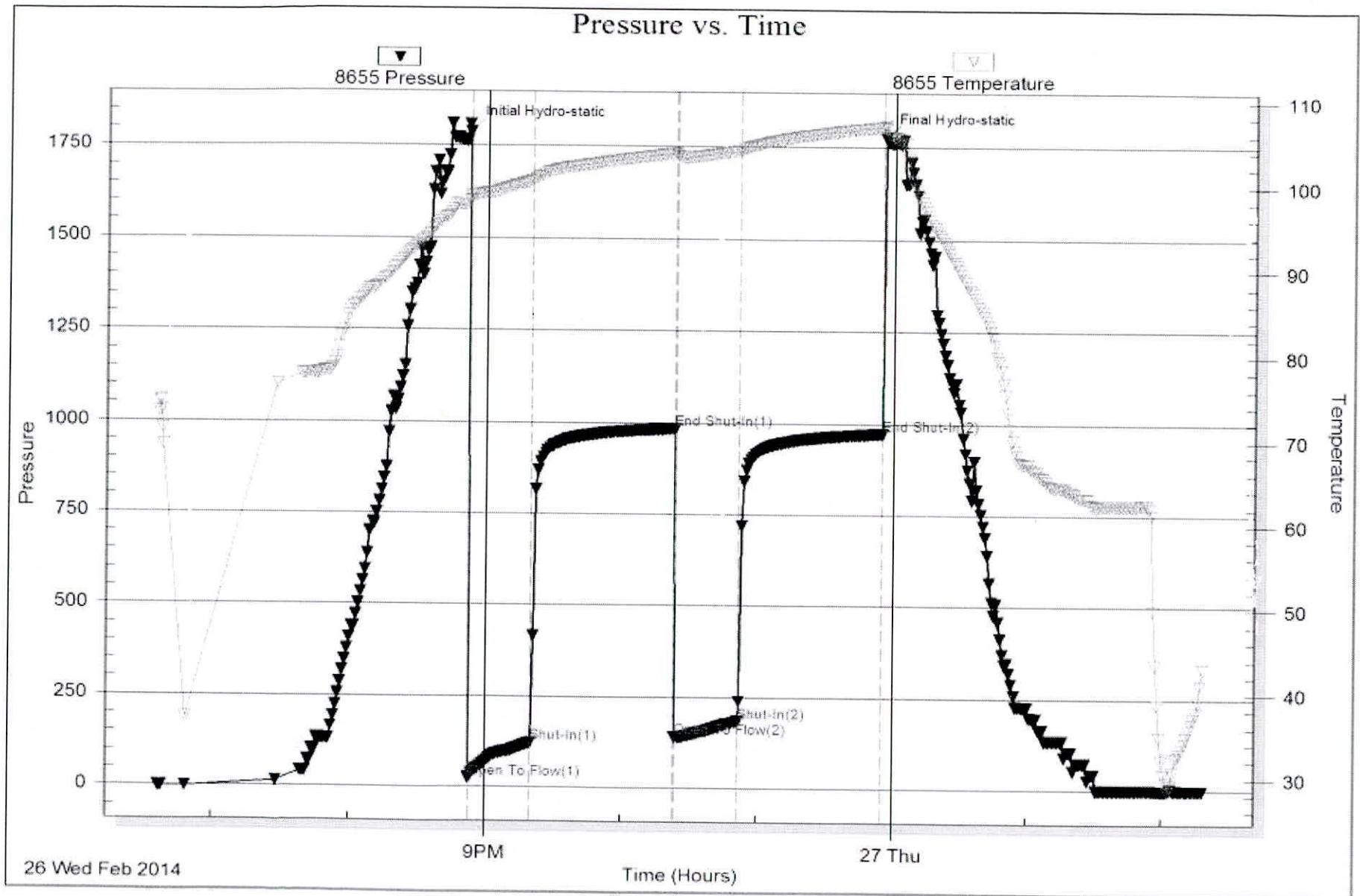
Length ft	Description	Volume bbl
31.00	GHOCM, 20%G, 30%O, 50%M	0.152
434.00	GO, 30%G, 70%O	4.184
0.00	465' of G.I.P.	0.000

Total Length: 465.00 ft      Total Volume: 4,336 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: 30 @ 50 Degrees = 31 Gravity







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 ATTN: Aaron Young

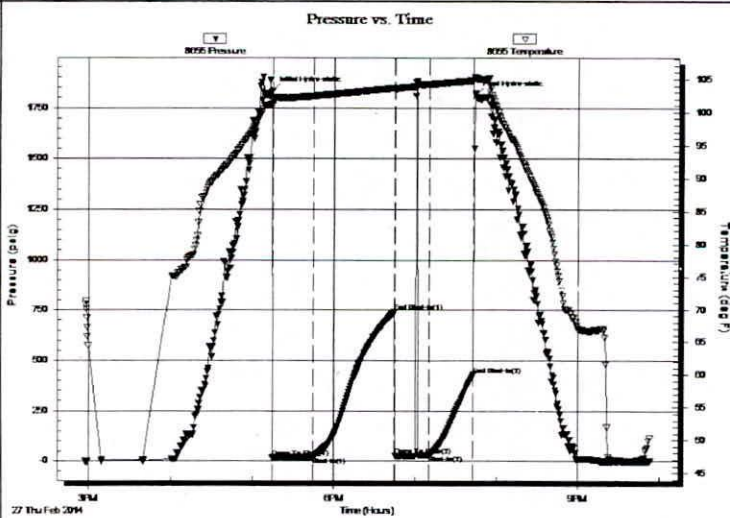
**28-6s-20w Rooks KS**  
**Stice Hill Unit 1-28**  
 Job Ticket: 56083      **DST#: 6**  
 Test Start: 2014.02.27 @ 14:58:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No      Whipstock:      ft (KB)  
 Time Tool Opened: 17:14:45  
 Time Test Ended: 21:53:15  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Cody Bloedorn  
 Unit No: 73  
 Interval: **3684.00 ft (KB) To 3708.00 ft (KB) (TVD)**  
 Total Depth: 3708.00 ft (KB) (TVD)  
 Reference Elevations: 2239.00 ft (KB)  
 Hole Diameter: 7.88 inches      Hole Condition: Fair  
 2234.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8655      Outside**  
 Press@RunDepth: 31.30 psig @ 3685.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2014.02.27      End Date: 2014.02.27      Last Calib.: 2014.02.27  
 Start Time: 14:58:05      End Time: 21:53:14      Time On Btm: 2014.02.27 @ 17:14:30  
 Time Off Btm: 2014.02.27 @ 19:43:30

TEST COMMENT: 30 - IF- 1 3/4" blow  
 60 - ISI- No return  
 30 - FF- No blow for 20 minutes, flushed tool, surged and died  
 30 - FSI- No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1830.59	101.93	Initial Hydro-static
1	17.62	101.05	Open To Flow (1)
30	22.04	102.40	Shut-In(1)
90	739.60	103.64	End Shut-In(1)
91	26.92	103.40	Open To Flow (2)
116	31.30	104.24	Shut-In(2)
148	427.54	104.79	End Shut-In(2)
149	1813.67	105.25	Final Hydro-static

## Recovery

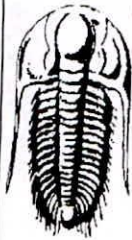
Length (ft)	Description	Volume (bbl)
15.00	OCM, 20%O, 80%M	0.07

\* Recovery from multiple tests

## Gas Rates

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





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TESTING, INC.

# DRILL STEM TEST REPORT

FLUID SUMMARY

Trek AEC, Inc  
155 N. Market STE 710  
Wichita KS, 67202  
ATTN: Aaron Young

**28-6s-20w Rooks KS**  
**Stice Hill Unit 1-28**  
Job Ticket: 56083      DST#: 6  
Test Start: 2014.02.27 @ 14:58:00

## 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: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	OCM, 20%O, 80%M	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: NOT enough oil to check gravity.

