



DRILL STEM TEST REPORT

Prepared For: **Carrie Exploration & Development**

210 W. 22nd
Hays Kansas, 67601

ATTN: Jeff Lawler

Hayes #C-1

8/21s/11w/Stafford

Start Date: 2013.06.20 @ 00:05:00

End Date: 2013.06.20 @ 06:19:00

Job Ticket #: 17600 DST #: 1

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

Printed: 2013.06.20 @ 06:37:43



DRILL STEM TEST REPORT

Carrie Exploration & Development

8/21s/11w/Stafford

210 W. 22nd
Hays Kansas, 67601

Hayes #C-1

Job Ticket: 17600

DST#: 1

ATTN: Jeff Lawler

Test Start: 2013.06.20 @ 00:05:00

GENERAL INFORMATION:

Formation: **LKC "I-J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:21:30

Time Test Ended: 06:19:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Shane Konzem

Unit No: 3330/50/Great Bend

Interval: **3290.00 ft (KB) To 3340.00 ft (KB) (TVD)**

Reference Elevations: 1803.00 ft (KB)

Total Depth: 3340.00 ft (KB) (TVD)

1795.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: **8405**

Inside

Press @ Run Depth: 196.41 psia @ 3336.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2013.06.20

End Date:

2013.06.20

Last Calib.:

2013.06.20

Start Time: 00:05:00

End Time:

06:19:00

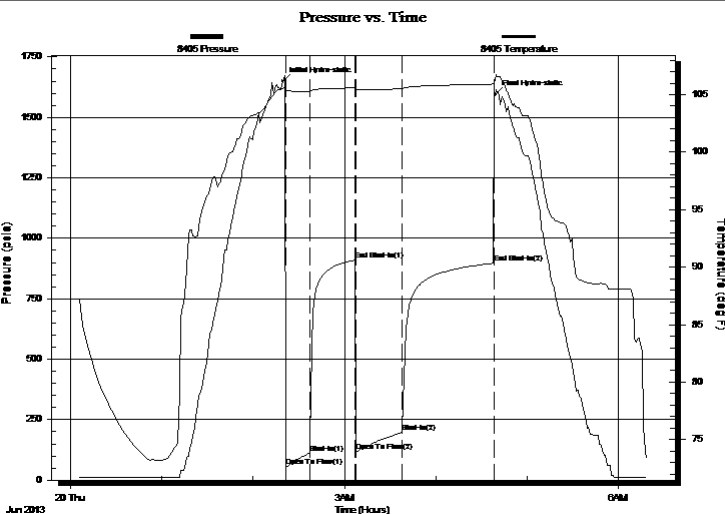
Time On Btm:

2013.06.20 @ 02:19:30

Time Off Btm:

2013.06.20 @ 04:39:00

TEST COMMENT: 1st Open/ 15 Minutes. Good blow built to bottom of 5 gallon bucket in 10 minutes.
1st SHut In/ 30 Minutes. No blow back.
2nd Open/ 30 Minutes. Fair blow built to bottom of 5 gallon bucket in 16 1/2 minutes.
2nd SHut In/ 60 Minutes. No Blow Back.



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1648.25	105.50	Initial Hydro-static
2	56.28	105.37	Open To Flow (1)
18	110.70	105.28	Shut-In(1)
48	910.09	105.59	End Shut-In(1)
48	119.26	105.38	Open To Flow (2)
78	196.41	105.52	Shut-In(2)
139	896.78	105.92	End Shut-In(2)
140	1592.03	106.31	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	No gas	0.00
126.00	20% mud, 80% water, trace of oil	1.77
189.00	10% mud, 90% water, trace of oil.	2.65
0.00	Chloride recov. 31000 ppm	0.00
0.00	esist recov, .22 ohms at 40 degrees	0.00

Gas Rates

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



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Hays Kansas, 67601

Hayes #C-1

Job Ticket: 17600

DST#: 1

ATTN: Jeff Lawler

Test Start: 2013.06.20 @ 00:05:00

GENERAL INFORMATION:

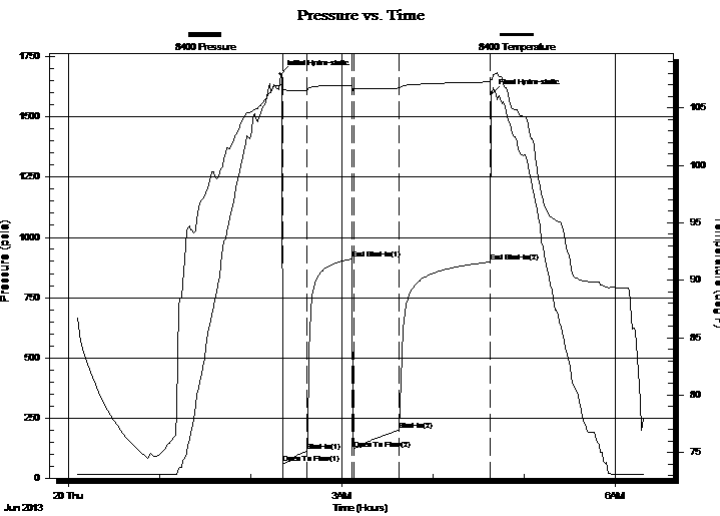
Formation: **LKC "I-J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:21:30
 Time Test Ended: 06:19:00
 Interval: **3290.00 ft (KB) To 3340.00 ft (KB) (TVD)**
 Total Depth: 3340.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Shane Konzem
 Unit No: 3330/50/Great Bend
 Reference Elevations: 1803.00 ft (KB)
 1795.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8400

Outside

Press @ RunDepth: 898.03 psia @ 3337.00 ft (KB) Capacity: 5000.00 psia
 Start Date: 2013.06.20 End Date: 2013.06.20 Last Calib.: 2013.06.20
 Start Time: 00:05:00 End Time: 06:19:30 Time On Btm: 2013.06.20 @ 02:19:30
 Time Off Btm: 2013.06.20 @ 04:39:00

TEST COMMENT: 1st Open/ 15 Minutes. Good blow built to bottom of 5 gallon bucket in 10 minutes.
 1st SHut In/ 30 Minutes. No blow back.
 2nd Open/ 30 Minutes. Fair blow built to bottom of 5 gallon bucket in 16 1/2 minutes.
 2nd SHut In/ 60 Minutes. No Blow Back.



PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1678.20	106.98	Initial Hydro-static
2	60.28	106.60	Open To Flow (1)
18	113.13	106.54	Shut-In(1)
48	911.31	106.99	End Shut-In(1)
49	120.61	106.69	Open To Flow (2)
78	199.05	106.72	Shut-In(2)
139	898.03	107.26	End Shut-In(2)
140	1597.58	107.45	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	No gas	0.00
126.00	20% mud, 80% water, trace of oil	1.77
189.00	10% mud, 90% water, trace of oil.	2.65
0.00	Chloride recov. 31000 ppm	0.00
0.00	esist recov, .22 ohms at 40 degrees	0.00

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

Carrie Exploration & Development

8/21s/11w/Stafford

210 W. 22nd
Hays Kansas, 67601

Hayes #C-1

Job Ticket: 17600

DST#: 1

ATTN: Jeff Lawler

Test Start: 2013.06.20 @ 00:05:00

Tool Information

Drill Pipe:	Length: 3271.00 ft	Diameter: 3.80 inches	Volume: 45.88 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: 52000.00 lb
			<u>Total Volume: 45.88 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	2.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3290.00 ft			Final 41000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	71.00 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			3270.00	
Shut-In Tool	5.00			3275.00	
Hydroic Tool	5.00			3280.00	
Packer	5.00			3285.00	21.00 Bottom Of Top Packer
Packer	5.00			3290.00	
Perforations	45.00			3335.00	
Recorder	1.00	8405	Inside	3336.00	
Recorder	1.00	8400	Outside	3337.00	
Bullnose	3.00			3340.00	50.00 Bottom Packers & Anchor
Total Tool Length:	71.00				



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FLUID SUMMARY

Carrie Exploration & Development

8/21s/11w/Stafford

210 W. 22nd
Hays Kansas, 67601

Hayes #C-1

Job Ticket: 17600

DST#: 1

ATTN: Jeff Lawler

Test Start: 2013.06.20 @ 00:05:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 46.00 sec/qt
Water Loss: 8.20 in³
Resistivity: ohm.m
Salinity: ppm
Filter Cake: inches

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

Oil API: deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	No gas	0.000
126.00	20% mud, 80% water, trace of oil	1.767
189.00	10% mud, 90% water, trace of oil.	2.651
0.00	Chloride recov. 31000 ppm	0.000
0.00	esist recov, .22 ohms at 40 degrees	0.000

Total Length: 315.00 ft Total Volume: 4.418 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Pressure vs. Time

