



DRILL STEM TEST REPORT

Prepared For: **Samuel Gary, Jr & Associates**

1515 Wynkoop St Suite 700 Dever CO 80202

ATTN: Chris Mitchell

30-14s-17w Ellis,KS

Copper-Dietz et al #1-30

Start Date: 2012.08.09 @ 15:19:58

End Date: 2012.08.10 @ 00:40:28

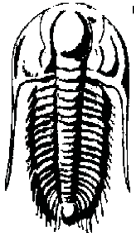
Job Ticket #: 49347 DST #: 1

Trilobite Testing, Inc

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TESTING, INC**

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Job Ticket: 49347 **DST#: 1**
Test Start: 2012.08.09 @ 15:19:58

GENERAL INFORMATION:

Formation: **LKC-A-D**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:20:28
Time Test Ended: 00:40:28
Interval: **3213.00 ft (KB) To 3281.00 ft (KB) (TVD)**
Total Depth: 3281.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Jeff Brown
Unit No: 44
Reference Elevations: 1940.00 ft (KB)
1930.00 ft (CF)
KB to GR/CF: 10.00 ft

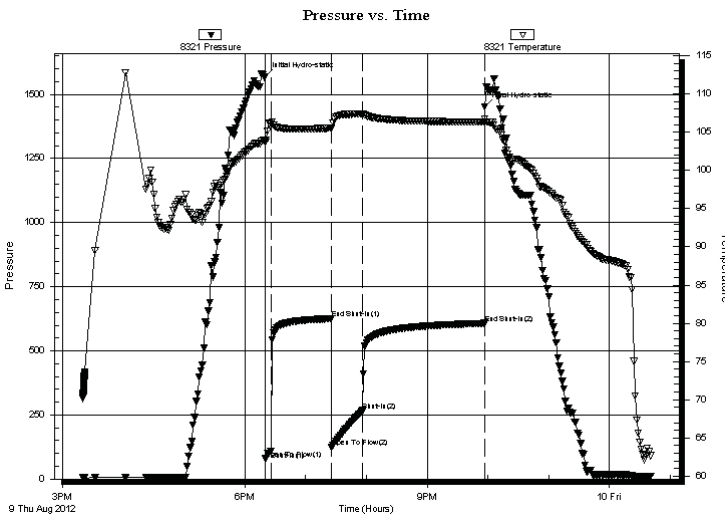
Serial #: 8321

Inside

Press@RunDepth: 267.08 psig @ 3249.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2012.08.09 End Date: 2012.08.10 Last Calib.: 2012.08.10
Start Time: 15:19:59 End Time: 00:40:28 Time On Btm: 2012.08.09 @ 18:19:58
Time Off Btm: 2012.08.09 @ 21:56:58

TEST COMMENT: IFP-Strong blow BOB in 4 min
ISI-Dead no blow back
FFP-Strong blow BOB in 4 1/2 min
FSI-Dead no blow back

PRESSURE SUMMARY



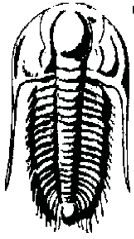
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1568.93	104.00	Initial Hydro-static
1	79.18	103.70	Open To Flow (1)
6	108.72	106.14	Shut-In(1)
65	625.07	105.54	End Shut-In(1)
66	122.92	105.40	Open To Flow (2)
97	267.08	107.37	Shut-In(2)
217	607.44	106.35	End Shut-In(2)
217	1452.88	106.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
434.00	MW 10%M 90%W	6.09
41.00	WM 45%W 55%M	0.58

Gas Rates

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



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TOOL DIAGRAM

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Tool Information

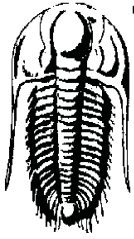
Drill Pipe:	Length: 3221.00 ft	Diameter: 3.80 inches	Volume: 45.18 bbl	Tool Weight:	2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer:	24000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume: 45.18 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	42.00 ft			String Weight: Initial	48000.00 lb
Depth to Top Packer:	3213.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	68.00 ft				
Tool Length:	102.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Recorder	0.00	8679	Fluid	3179.00	
Stubb	5.00			3184.00	
Shut In Tool	5.00			3189.00	
Sampler	2.00			3191.00	
Hydraulic tool	5.00			3196.00	
Jars	5.00			3201.00	
Safety Joint	3.00			3204.00	
Packer	4.00			3208.00	34.00 Bottom Of Top Packer
Packer	5.00			3213.00	
Stubb	1.00			3214.00	
Perforations	2.00			3216.00	
Change Over Sub	1.00			3217.00	
Drill Pipe	31.00			3248.00	
Change Over Sub	1.00			3249.00	
Recorder	0.00	8321	Inside	3249.00	
Recorder	0.00	8737	Outside	3249.00	
Perforations	29.00			3278.00	
Bullnose	3.00			3281.00	68.00 Bottom Packers & Anchor

Total Tool Length: 102.00



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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: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.98 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5500.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
434.00	MW 10%M 90%W	6.088
41.00	WM 45%W55%M	0.575

Total Length: 475.00 ft Total Volume: 6.663 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: 2000 NI of fluid 500 PSI
 200 NI of Mud 1800ML of Water

Pressure vs. Time

