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KCC WICHITA



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita KS. 67202

ATTN: Paul Gunzelman

23-24S-37W Kearny

Hannagan #1-23

Start Date: 2003.07.16 @ 15:05:00

End Date: 2003.07.16 @ 21:38:00

Job Ticket #: 17488 DST #: 1

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FROM
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Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Murfin Drilling Company

Hannagan #1-23

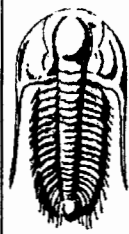
23-24S-37W Kearny

DST # 1

Altamont "C"

2003.07.16

80066



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N Water Ste 300
 Wichita KS. 67202
 ATTN: Paul Gunzelman

Hannagan #1-23
23-24S-37W Kearny
 Job Ticket: 17488 **DST#: 1**
 Test Start: 2003.07.16 @ 15:05:00

GENERAL INFORMATION:

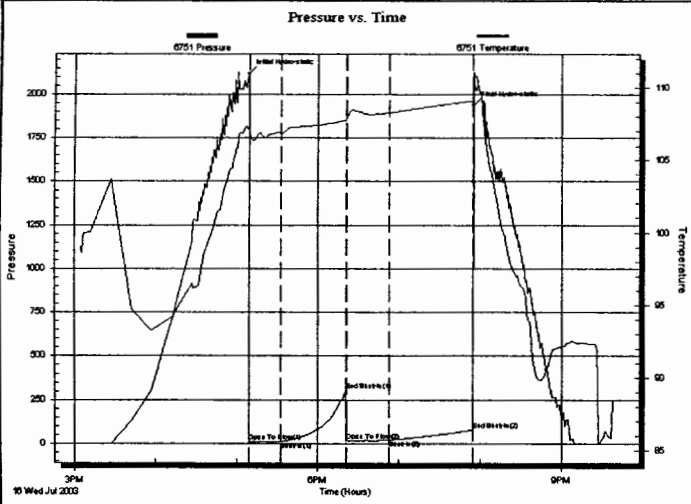
Formation: **Altamont "C"**
 Deviated: **No Whipstock:** ft (KB)
 Time Tool Opened: 17:09:00
 Time Test Ended: 21:38:00
Interval: 4352.00 ft (KB) To 4386.00 ft (KB) (TVD)
 Total Depth: 4386.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good

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Test Type: Conventional Bottom Hole
 Tester: Rod Steinbrink
 Unit No: 22
 Reference Elevations: 3229.00 ft (KB)
 3217.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 6751 **Inside**
 Press@RunDepth: 22.34 psig @ 4353.00 ft (KB) Capacity: 7000.00 psig
 Start Date: 2003.07.16 End Date: 2003.07.16 Last Calib.: 1899.12.30
 Start Time: 15:05:02 End Time: 21:38:00 Time On Btm: 2003.07.16 @ 17:08:45
 Time Off Btm: 2003.07.16 @ 19:55:00

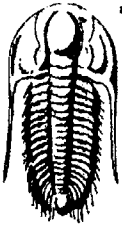
TEST COMMENT: F; Good surge at open blow died in 1 min
 FF; No return blow



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2120.21	107.30	Initial Hydro-static
1	10.24	106.80	Open To Flow (1)
24	12.90	106.81	Shut-in(1)
73	302.79	107.78	End Shut-in(1)
74	14.25	108.04	Open To Flow (2)
104	22.34	108.30	Shut-in(2)
166	78.74	109.13	End Shut-in(2)
167	1938.97	109.74	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
5.00	Oil Spotted Drig. Mud	0.02

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company
250 N Water Ste 300
Wichita KS. 67202
ATTN: Paul Gunzelman

Hannagan #1-23
23-24S-37W Kearny
Job Ticket: 17488 DST#: 1
Test Start: 2003.07.16 @ 15:05:00

Tool Information

Drill Pipe:	Length: 3766.00 ft	Diameter: 3.80 inches	Volume: 52.83 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: 30000.00 lb
Drill Collar:	Length: 580.00 ft	Diameter: 2.25 inches	Volume: 2.85 bbl	Weight to Pull Loose: 140000.0 lb
		Total Volume:	55.68 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 95000.00 lb
Depth to Top Packer:	4352.00 ft			Final 95000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	56.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4335.00	
Hydraulic tool	5.00			4340.00	
Safety Joint	2.00			4342.00	
Packer	5.00			4347.00	22.00 Bottom Of Top Packer
Packer	5.00			4352.00	
Stubb	1.00			4353.00	
Recorder	0.00	6751	Inside	4353.00	
Perforations	28.00			4381.00	
Recorder	0.00	13309	Outside	4381.00	
Bullnose	5.00			4386.00	34.00 Bottom Packers & Anchor
Total Tool Length:	56.00				

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**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company

Hannagan #1-23

250 N Water Ste 300
Wichita KS. 67202

23-24S-37W Kearny

Job Ticket: 17488

DST#: 1

ATTN: Paul Gunzelman

Test Start: 2003.07.16 @ 15:05:00

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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Oil Spotted Drlg. Mud	0.025

Total Length: 5.00 ft

Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6751

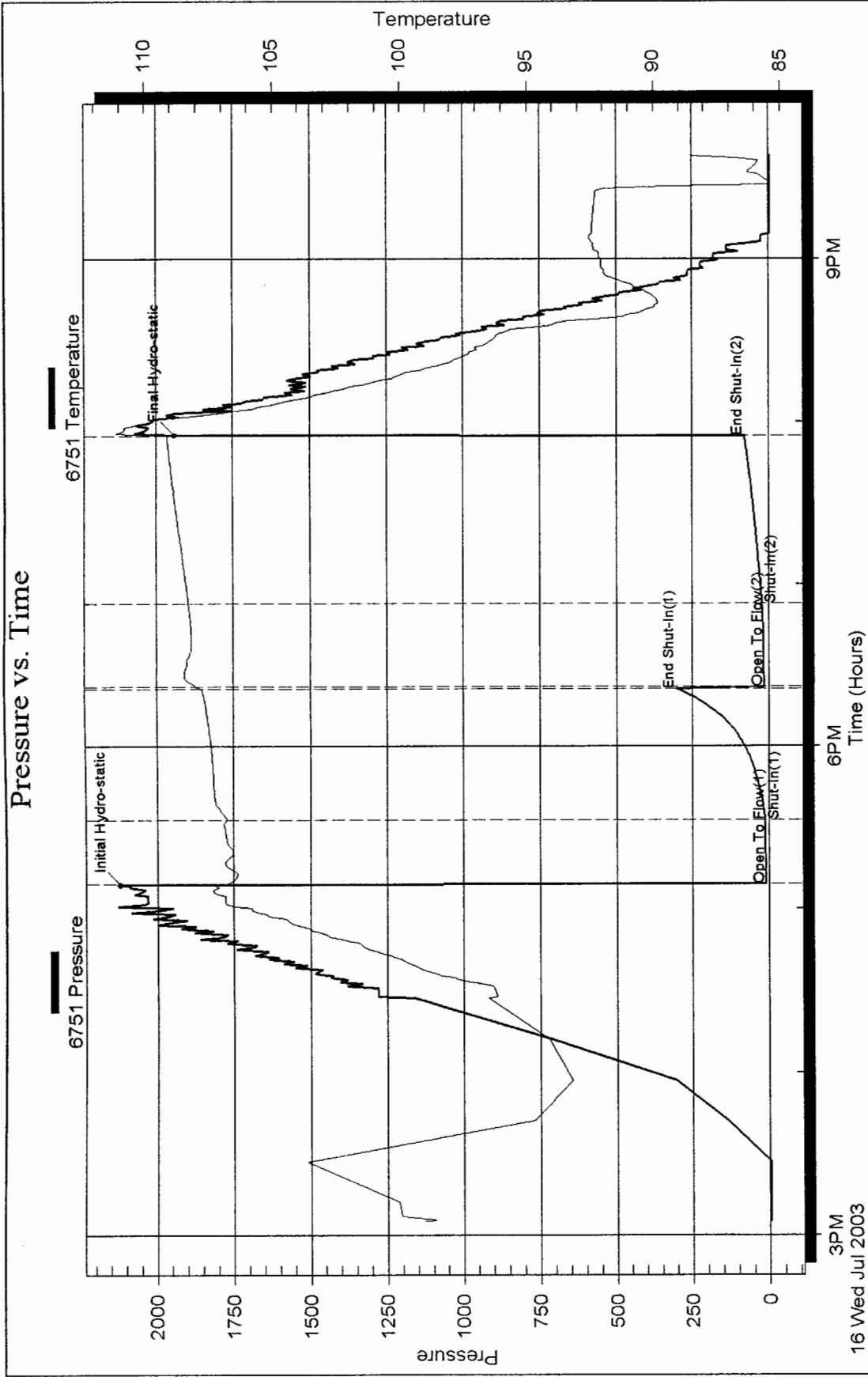
Inside

Murfin Drilling Company

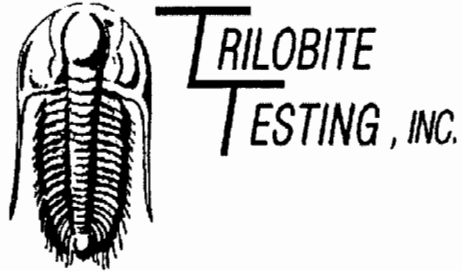
23-24S-37W Kearny

DST Test Number: 1

Pressure vs. Time



16 Wed Jul 2003 3PM



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Company**

250 N Water Ste 300
Wichita KS. 67202

ATTN: Paul Gunzelman

23-24S-37W Kearny

Hannagan #1-23

Start Date: 2003.07.17 @ 05:45:00

End Date: 2003.07.17 @ 12:31:15

Job Ticket #: 17489 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Murfin Drilling Company

Hannagan #1-23

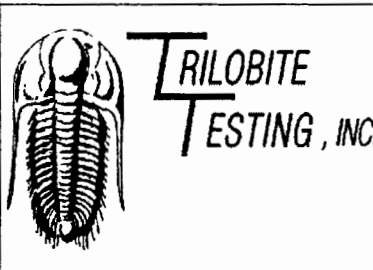
23-24S-37W Kearny

DST # 2

Pawnee

2003.07.17

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DRILL STEM TEST REPORT

Murfin Drilling Company
 250 N Water Ste 300
 Wichita KS. 67202
 ATTN: Paul Gunzelman

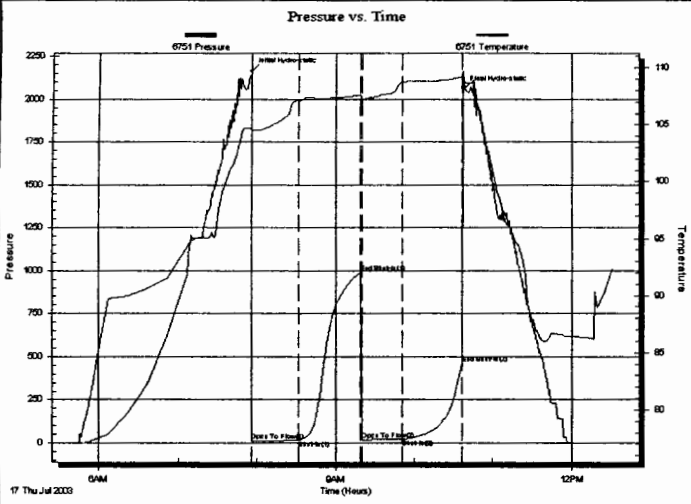
Hannagan #1-23
23-24S-37W Kearny
 Job Ticket: 17489 **DST#: 2**
 Test Start: 2003.07.17 @ 05:45:00

GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:55:30
 Time Test Ended: 12:31:15
 Interval: **4392.00 ft (KB) To 4420.00 ft (KB) (TVD)**
 Total Depth: **4420.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: **Good**
 Test Type: **Conventional Bottom Hole**
 Tester: **Rod Steinbrink**
 Unit No: **22**
 Reference Elevations: **3229.00 ft (KB)**
3217.00 ft (CF)
 KB to GR/CF: **12.00 ft**

Serial #: 6751 **Inside**
 Press@RunDepth: **21.44 psig @ 4393.00 ft (KB)**
 Start Date: **2003.07.17** End Date: **2003.07.17**
 Start Time: **05:45:02** End Time: **12:31:15**
 Capacity: **7000.00 psig**
 Last Calib.: **1899.12.30**
 Time On Btm: **2003.07.17 @ 07:55:15**
 Time Off Btm: **2003.07.17 @ 10:37:30**

TEST COMMENT: **F; Weak surface blow died in 25 mins**
FF; No return blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2161.30	104.71	Initial Hydro-static
1	10.68	104.39	Open To Flow (1)
36	15.62	107.21	Shut-In(1)
84	986.52	107.61	End Shut-In(1)
85	15.74	107.16	Open To Flow (2)
116	21.44	108.74	Shut-In(2)
162	457.61	109.20	End Shut-In(2)
163	2052.13	109.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Drig. Mud w/oil spots	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Company

Hannagan #1-23

250 N Water Ste 300
Wichita KS. 67202

23-24S-37W Kearny

Job Ticket: 17489

DST#: 2

ATTN: Paul Gunzelman

Test Start: 2003.07.17 @ 05:45:00

Tool Information

Drill Pipe:	Length: 3796.00 ft	Diameter: 3.80 inches	Volume: 53.25 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: 30000.00 lb
Drill Collar:	Length: 580.00 ft	Diameter: 2.25 inches	Volume: 2.85 bbl	Weight to Pull Loose: 140000.0 lb
			<u>Total Volume: 56.10 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 95000.00 lb
Depth to Top Packer:	4392.00 ft			Final 95000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	50.00 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			4375.00	
Hydraulic tool	5.00			4380.00	
Safety Joint	2.00			4382.00	
Packer	5.00			4387.00	22.00 Bottom Of Top Packer
Packer	5.00			4392.00	
Stubb	1.00			4393.00	
Recorder	0.00	6751	Inside	4393.00	
Perforations	22.00			4415.00	
Recorder	0.00	13309	Outside	4415.00	
Bullnose	5.00			4420.00	28.00 Bottom Packers & Anchor
Total Tool Length:	50.00				

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DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Company
 250 N Water Ste 300
 Wichita KS. 67202
 ATTN: Paul Gunzelman

Hannagan #1-23
23-24S-37W Kearny
 Job Ticket: 17489 **DST#: 2**
 Test Start: 2003.07.17 @ 05:45:00

Mud and Cushion Information

Mud Type: Gel Chem
 Mud Weight: 9.00 lb/gal
 Viscosity: 51.00 sec/qt
 Water Loss: 7.98 in³
 Resistivity: ohm.m
 Salinity: 2900.00 ppm
 Filter Cake: inches

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

Oil API: deg API
 Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	Drlg. Mud w/oil spots	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time

