

ORIGINAL

14-26s-35w

15-081-21363

Helmerich & Payne Inc.

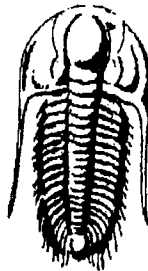
U.S.A. "B" #4

14-26s-35w Kearny KS

DST # 1

KC

2002.01.09



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Helmerich & Payne Inc.**

1579 E 21st.
Tulsa, OK 74114

ATTN: Helmerich & Payne

14-26s-35w Kearny KS

U.S.A. "B" #4

Start Date: 2002.01.09 @ 02:44:53

End Date: 2002.01.09 @ 11:57:52

Job Ticket #: 15017 DST #: 1

15-081-21363

SE NE NW

1200 FNL 2400 FWL

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APR 05 2002
KCC WICHITA

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Helmerich & Payne Inc.

1579 E 21st.
Tulsa, OK 74114

ATTN: Helmerich & Payne

U.S.A. "B" #4

14-26s-35w Kearny KS

Job Ticket: 15017

DST#: 1

Test Start: 2002.01.09 @ 02:44:53

GENERAL INFORMATION:

Formation: **KC**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 05:36:52

Time Test Ended: 11:57:52

Test Type: **Conventional Bottom Hole**

Tester: **Shane McBride**

Unit No: **15**

Interval: **4273.00 ft (KB) To 4300.00 ft (KB) (TVD)**

Total Depth: **4300.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **3009.00 ft (KB)**

2998.00 ft (CF)

KB to GR/CF: **11.00 ft**

Serial #: **3227**

Inside

Press@RunDepth: **562.72 psig @ 4274.00 ft (KB)**

Start Date: **2002.01.09**

End Date:

2002.01.09

Capacity: **7000.00 psig**

Last Calib.: **1899.12.30**

Start Time: **02:44:53**

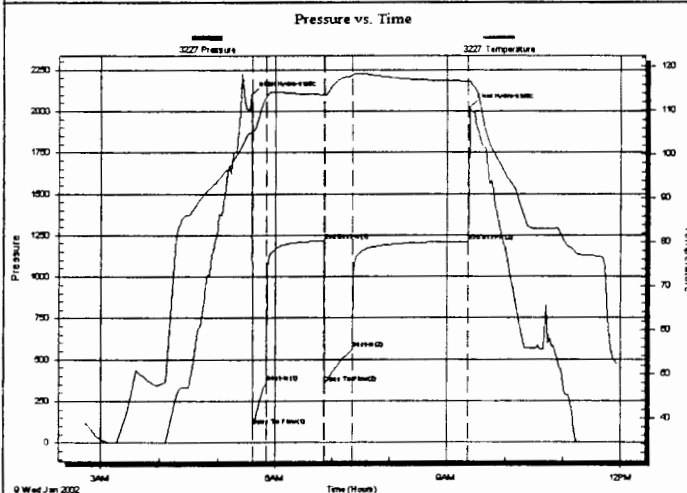
End Time:

11:57:52

Time On Btm: **2002.01.09 @ 05:35:52**

Time Off Btm: **2002.01.09 @ 09:22:52**

TEST COMMENT: B.O.B in 4 min.
No return
B.O.B. in 6 min.
Return blow in 7 min. built to 3" in.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2097.12	105.11	Initial Hydro-static
1	99.21	105.09	Open To Flow (1)
15	357.96	112.94	Shut-In (1)
75	1215.67	113.65	End Shut-In (1)
76	356.70	113.56	Open To Flow (2)
105	562.72	118.06	Shut-In (2)
225	1211.46	116.69	End Shut-In (2)
227	2021.58	116.78	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	c g o 30%g 70%o	0.30
990.00	s o & g c w 5%0 10%g 85%w reversed	8.17
120.00	under circ sub s o c w 3%o 97%w	1.68

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Helmerich & Payne Inc.

U.S.A. "B" #4

1579 E 21st.
Tulsa, OK 74114

14-26s-35w Kearny KS

Job Ticket: 15017

DST#: 1

ATTN: Helmerich & Payne

Test Start: 2002.01.09 @ 02:44:53

Tool Information

Drill Pipe:	Length: 3576.00 ft	Diameter: 3.80 inches	Volume: 50.16 bbl	Tool Weight:	1500.00 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: 688.00 ft	Diameter: 2.25 inches	Volume: 3.38 bbl	Weight to Pull Loose:	100000.0 lb	
			Total Volume:	53.54 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial	70000.00 lb	
Depth to Top Packer:	4273.00 ft			Final	76000.00 lb	
Depth to Bottom Packer:	ft					
Interval between Packers:	27.00 ft					
Tool Length:	57.00 ft					
Number of Packers:	2	Diameter:	6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			4244.00	
S.I. Tool	5.00			4249.00	
Sampler	3.00			4252.00	
HMV	5.00			4257.00	
Jars	5.00			4262.00	
Safety Joint	2.00			4264.00	
Packer	5.00			4269.00	30.00 Bottom Of Top Packer
Packer	4.00			4273.00	
Stubb	1.00			4274.00	
Recorder	0.00	3227	Inside	4274.00	
Perforations	21.00			4295.00	
Recorder	0.00	11057	Outside	4295.00	
Bullnose	5.00			4300.00	27.00 Bottom Packers & Anchor

Total Tool Length: 57.00

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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Helmerich & Payne Inc.

U.S.A. "B" #4

1579 E 21st.
Tulsa, OK 74114

14-26s-35w Kearny KS

Job Ticket: 15017

DST#: 1

ATTN: Helmerich & Payne

Test Start: 2002.01.09 @ 02:44:53

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:

22500 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbl

Water Loss: 13.97 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	c g o 30%g 70%o	0.295
990.00	s o & g c w 5%0 10%g 85%w reversed out	8.166
120.00	under circ sub s o c w 3%o 97%w	1.683

Total Length: 1170.00 ft

Total Volume: 10.144 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

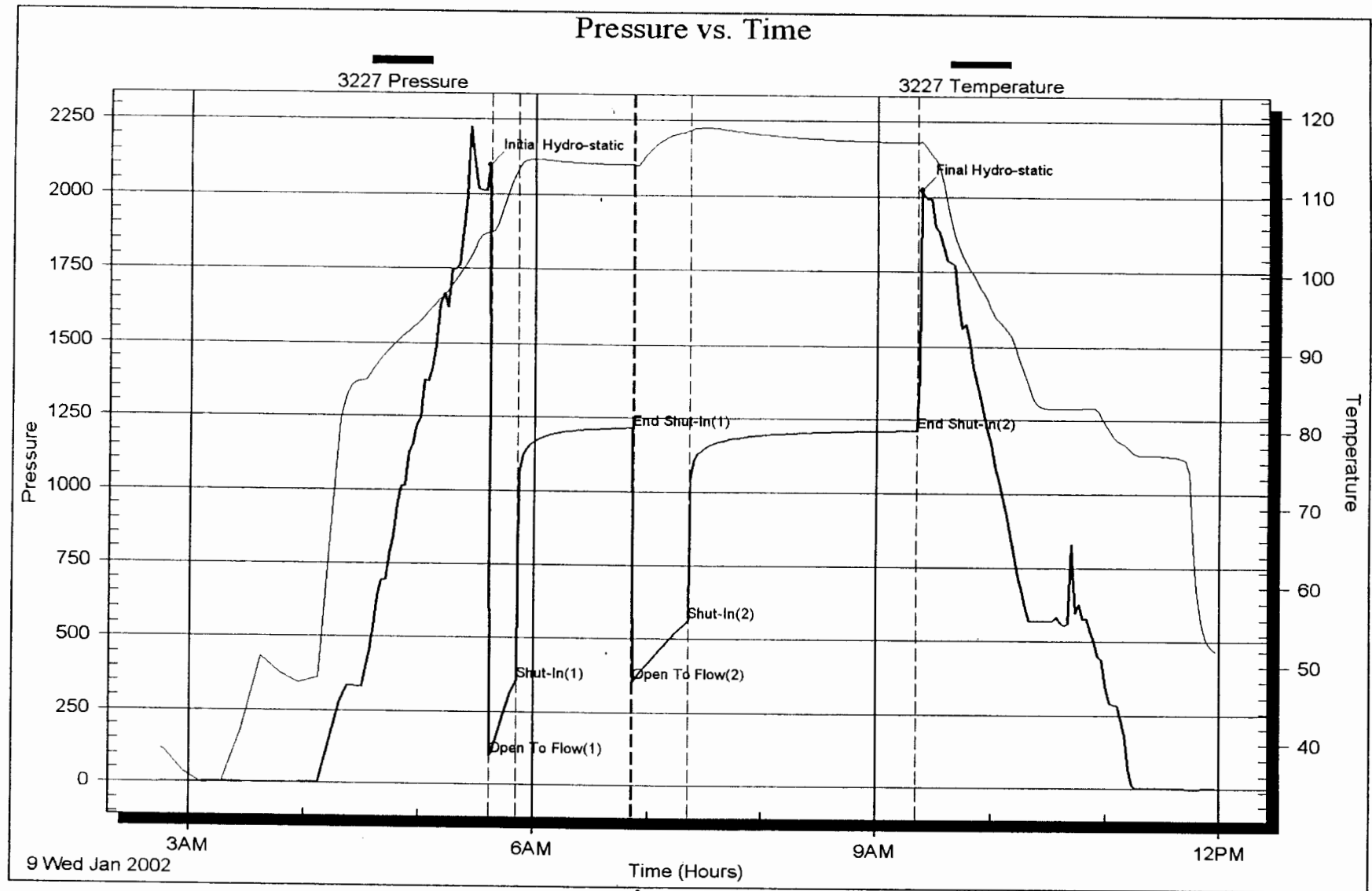
Serial #:

Laboratory Name:

Laboratory Location:

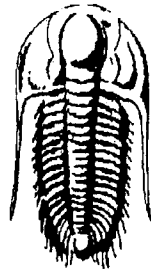
Recovery Comments: RW .38@55F

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ORIGINAL



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Helmerich & Payne Inc.**

1579 E 21st.
Tulsa, OK 74114

ATTN: Helmerich & Payne

14-26s-35w Kearny KS

U.S.A. "B" #4

Start Date: 2002.01.11 @ 17:32:02

End Date: 2002.01.12 @ 03:22:32

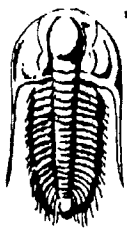
Job Ticket #: 15031 DST #: 2

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Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Helmerich & Payne Inc.

1579 E 21st.
Tulsa, OK 74114

ATTN: Helmerich & Payne

U.S.A. "B" #4

14-26s-35w Kearny KS

Job Ticket: 15031

DST#: 2

Test Start: 2002.01.11 @ 17:32:02

GENERAL INFORMATION:

Formation: **Mississippian**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:33:32

Time Test Ended: 03:22:32

Test Type: Conventional Bottom Hole

Tester: Rod Steinbrink

Unit No: 22

Interval: 5024.00 ft (KB) To 5085.00 ft (KB) (TVD)

Total Depth: 5085.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3009.00 ft (KB)

2998.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 3030

Inside

Press@RunDepth: 53.55 psig @ 5025.00 ft (KB)

Start Date: 2002.01.11

End Date:

2002.01.12

Start Time: 17:32:07

End Time:

03:22:32

Capacity: 7000.00 psig

Last Calib.: 1899.12.30

Time On Btm: 2002.01.11 @ 19:33:17

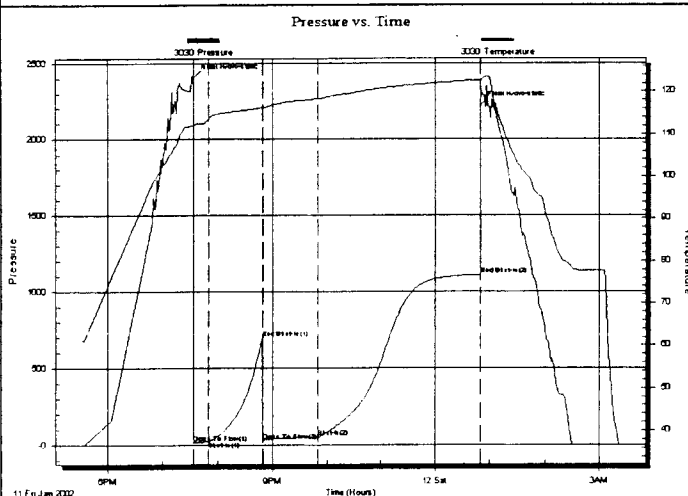
Time Off Btm: 2002.01.12 @ 00:50:31

TEST COMMENT: IF; Weak blow built to 2"

ISI; No blow

FF; Fair blow built to btm in 10 mins decreased to 12" @ 60 mins.

FSI; No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2403.65	112.02	Initial Hydro-static
1	16.82	112.04	Open To Flow (1)
17	25.68	113.66	Shut-In (1)
76	695.67	116.21	End Shut-In (1)
77	29.08	116.23	Open To Flow (2)
137	53.55	118.29	Shut-In (2)
317	1110.49	122.68	End Shut-In (2)
318	2220.08	122.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
825.00	GIP	5.42
90.00	OCM 30% gas 15% oil 55% mud	1.26

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Helmerich & Payne Inc.

U.S.A. "B" #4

1579 E 21st.
Tulsa, OK 74114

14-26s-35w Kearny KS

Job Ticket: 15031

DST#: 2

ATTN: Helmerich & Payne

Test Start: 2002.01.11 @ 17:32:02

Tool Information

Drill Pipe:	Length: 4335.00 ft	Diameter: 3.80 inches	Volume: 60.81 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: 675.00 ft	Diameter: 2.25 inches	Volume: 3.32 bbl	Weight to Pull Loose: 100000.0 lb
			Total Volume: 64.13 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	5024.00 ft			Final 84000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	61.00 ft			
Tool Length:	91.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				
Sampler Data:-800#psi				
3500ml Gas				

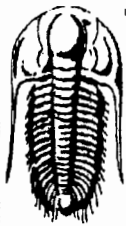
Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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S.I. Tool	5.00			4999.00	
Sampler	3.00			5002.00	
HMV	5.00			5007.00	
Jars	5.00			5012.00	
Safety Joint	2.00			5014.00	
Packer	5.00			5019.00	30.00 Bottom Of Top Packer
Packer	5.00			5024.00	
Stubb	1.00			5025.00	
Recorder	0.00	3030	Inside	5025.00	
Perforations	22.00			5047.00	
C.O. Sub	1.00			5048.00	
Anchor	31.00			5079.00	
C.O. Sub	1.00			5080.00	
Recorder	0.00	13371	Outside	5080.00	
Bullnose	5.00			5085.00	61.00 Bottom Packers & Anchor

Total Tool Length: 91.00

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OIL & GAS
KCC WICHITA
JAN 15 2002



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Helmerich & Payne Inc.

U.S.A. "B" #4

1579 E21st.
Tulsa ,OK 74114

14-26s-35w Kearny KS

Job Ticket: 15031

DST#: 2

ATTN: Helmerich & Payne

Test Start: 2002.01.11 @ 17:32:02

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: 50.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.97 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
825.00	GIP	5.424
90.00	OCM 30%gas 15%oil 55%mud	1.262

Total Length: 915.00 ft Total Volume: 6.686 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data; 800#psi
3500ml Gas

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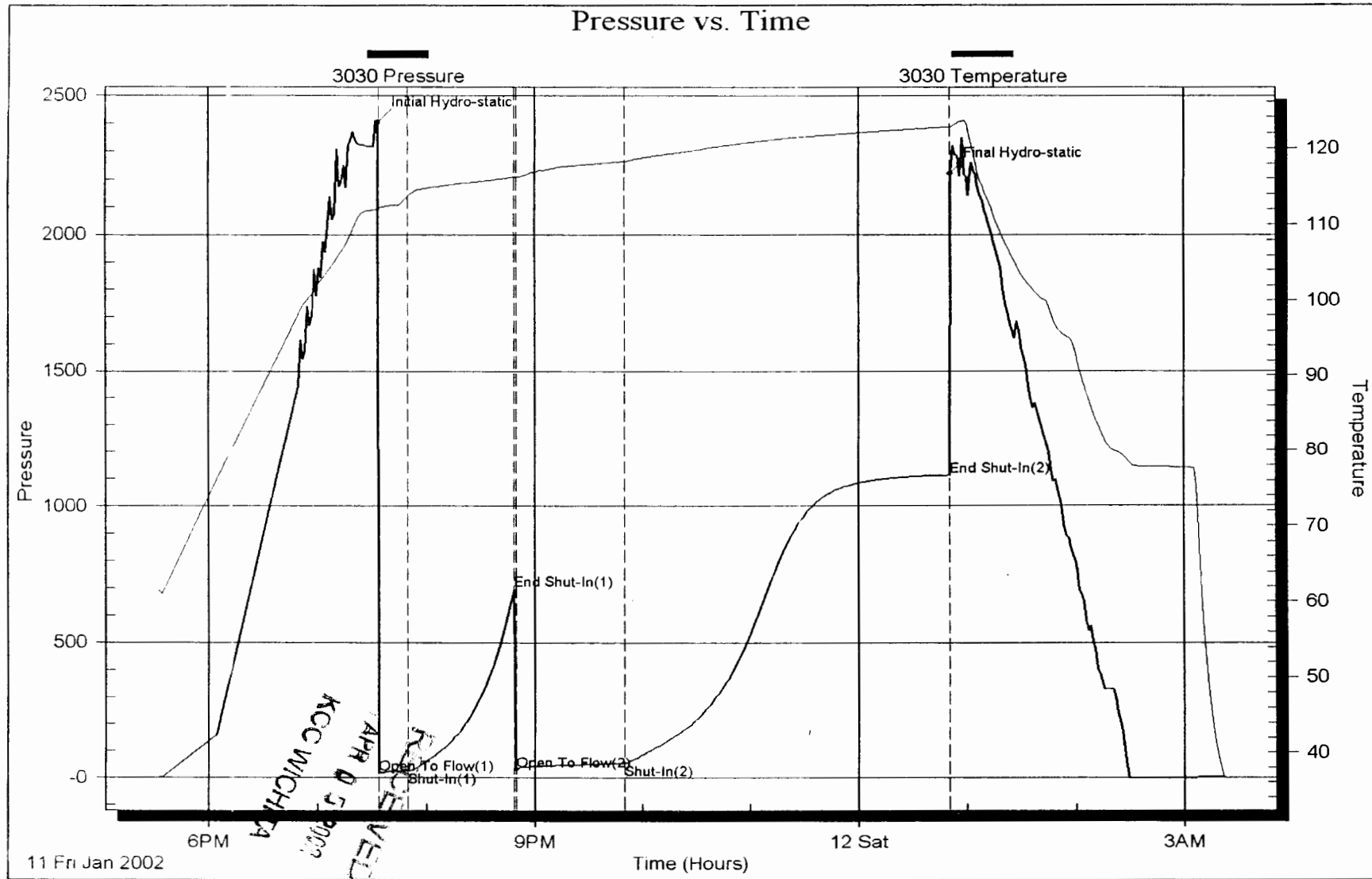
Serial #: 3030

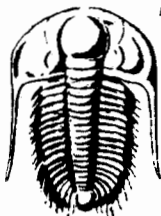
inside

Helmerich & Payne Inc.

14-26s-35w Kearny KS

DST Test Number: 2





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No 15017

Test Ticket

Well Name & No. <u>U.S.A. 'B' #4</u>	Test No. <u>1</u>	Date <u>1-9-02</u>
Company <u>Helmreich & Payne</u>	Zone Tested <u>KC</u>	
Address <u>1579 E 21st, Tulsa, OK 74114</u>	Elevation <u>3009</u>	KB <u>2998</u> GL
Co. Rep / Geo. <u>Brad Rine</u>	Cont. <u>Cheyenne #3</u>	Est. Ft. of Pay <u> </u> Por. <u> </u> %
Location: Sec. <u>14</u> Twp. <u>26S</u> Rge. <u>35W</u>	Co. <u>Kearny</u>	State <u>KS</u>
No. of Copies <u>1</u>	Distribution Sheet (Y, N) <u> </u>	Turnkey (Y, N) <u>1</u> Evaluation (Y, N) <u> </u>

Interval Tested <u>4273</u>	<u>4300</u>	Initial Str Wt./Lbs. <u>70,000</u>	Unseated Str Wt./Lbs. <u>76,000</u>
Anchor Length <u>27</u>		Wt. Set Lbs. <u>30,000</u>	Wt. Pulled Loose/Lbs. <u>100,000</u>
Top Packer Depth <u>4268</u>		Tool Weight <u>1500</u>	
Bottom Packer Depth <u>4273</u>		Hole Size — 7 7/8" ☒	Rubber Size — 6 3/4" ☒
Total Depth <u>4300</u>		Wt. Pipe Run <u>7</u>	Drill Collar Run <u>688'</u>
Mud Wt. <u>9.1</u> LCM <u>#4</u> Vis. <u>52</u> WL <u>14</u>		Drill Pipe Size <u>4 1/2 X H</u>	Ft. Run <u> </u>
Blow Description <u>B.O.B in 4 min</u>			

No return
B.O.B in 6 min
Return blow in 7 min built to 3" m.

Recovery — Total Feet <u>1170</u>	GIP <u>270'</u>	Ft. in DC <u>688'</u>	Ft. in DP <u>482</u>
Rec. <u>60</u> Feet Of <u>C90</u>	30 % gas	70 % oil	% water % mud
Rec. <u>990</u> Feet Of <u>50 3/4 CW</u>	10 % gas	5 % oil	85 % water % mud
Rec. <u>120</u> Feet Of <u>(under circ. sub) 50 CW</u>	% gas	3 % oil	97 % water % mud
Rec. <u> </u> Feet Of <u> </u>	% gas	% oil	% water % mud
Rec. <u> </u> Feet Of <u> </u>	% gas	% oil	% water % mud
BHT <u>117°</u> °F Gravity <u>24</u>	°API D@ <u>50</u>	°F Corrected Gravity <u>25</u>	°API
RW <u>.38</u> @ <u>55°</u> °F	Chlorides <u>22,500</u> ppm	Recovery Chlorides <u>2600</u> ppm	System

(A) Initial Hydrostatic Mud	AK-1 <u>2010</u>	Alpine	PSI Recorder No. <u>3227</u>	T-On Location <u>00:20 A.M.</u>
(B) First Initial Flow Pressure	<u>99</u>	PSI (depth) <u>4274'</u>	T-Started <u>02:00 A.M.</u>	<u>13:05</u>
(C) First Final Flow Pressure	<u>357</u>	PSI Recorder No. <u>11057</u>	T-Open <u>04:20 A.M.</u>	
(D) Initial Shut-In Pressure	<u>1215</u>	PSI (depth) <u>4295'</u>	T-Pulled <u>08:05 A.M.</u>	
(E) Second Initial Flow Pressure	<u>356</u>	PSI Recorder No. <u> </u>	T-Out <u>11:15 A.M.</u>	
(F) Second Final Flow Pressure	<u>562</u>	PSI (depth) <u> </u>	T-Off Location <u>12:20 P.M.</u>	
(G) Final Shut-in Pressure	<u>1211</u>	PSI Initial Opening <u>15</u>	Test X <u>800</u>	
(Q) Final Hydrostatic Mud	<u>2005</u>	PSI Initial Shut-in <u>60</u>	Jars X <u>200</u>	
		Final Flow <u>30</u>	Safety Joint X <u>50</u>	
		Final Shut-in <u>120</u>	Straddle <u> </u>	

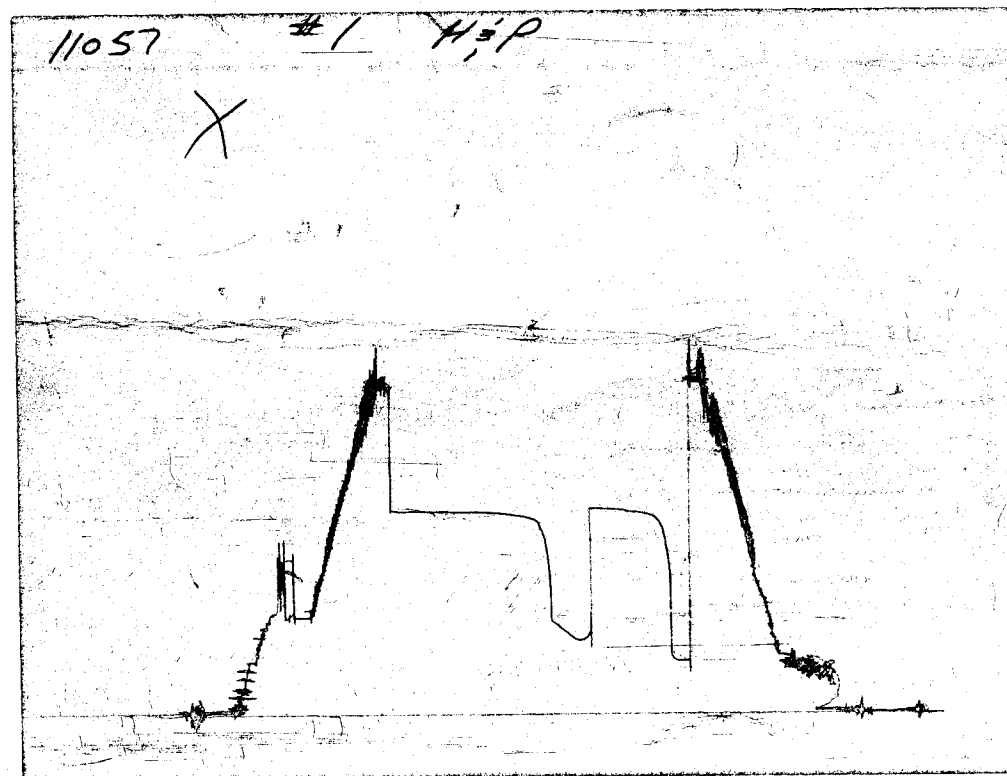
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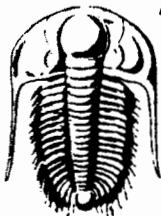
Approved By Brad Rine
Our Representative Shirley Rine

Circ. Sub X 35
Sampler X 200
Extra Packer
Elec. Rec. X 150
Mileage 165 / way
Other 4 hrs 120
TOTAL PRICE \$ 1620

CHART PAGE

This is a photocopy of the actual AK-1 recorder chart





TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No 15031

Test Ticket

Well Name & No. <u>USA 'B' #4</u>	Test No. <u>2</u>	Date <u>1-11-02</u>
Company <u>Helmrich & Payne, Inc.</u>	Zone Tested <u>Mississippian</u>	
Address <u>1579 E. 21st Tulsa, OK 74114</u>	Elevation <u>3009</u>	KB <u>2998</u> GL
Co. Rep / Geo. <u>Monte Dean/Brad R.</u>	Cont. <u>Cheyenne #3</u>	Est. Ft. of Pay <u> </u> Por. <u> </u> %
Location: Sec. <u>14</u>	Twp. <u>26S</u>	Rge. <u>35W</u>
	Co. <u>Kearny</u>	State <u>KS</u>
No. of Copies <u> </u>	Distribution Sheet (Y, N) <u> </u>	Turnkey (Y, N) <u> </u>
	Evaluation (Y, N) <u> </u>	

Interval Tested <u>5024 - 5085</u>	Initial Str Wt./Lbs. <u>80,000</u>	Unseated Str Wt./Lbs. <u>84,000</u>
Anchor Length <u>61'</u>	Wt. Set Lbs. <u>30,000</u>	Wt. Pulled Loose/Lbs. <u>100,000</u>
Top Packer Depth <u>5019</u>	Tool Weight <u>2,000</u>	
Bottom Packer Depth <u>5024</u>	Hole Size — 7 7/8" <u> </u>	Rubber Size — 6 3/4" <u> </u>
Total Depth <u>5085</u>	Wt. Pipe Run <u> </u>	Drill Collar Run <u>675'</u>
Mud Wt. <u>9.0</u> LCM <u>4*</u> Vis. <u>50</u> WL <u>8.0</u>	Drill Pipe Size <u>4 1/2" xH</u>	Ft. Run <u>4335'</u>
Blow Description <u>1F: Weak blow built to 2"</u>		
<u>1S1: No blow.</u>		
<u>FF: Fair blow built to bttm in 10 mins decreased to 12" @ 60</u>		
<u>FS1: No blow</u>		

Recovery — Total Feet <u>90'</u>	GIP <u>825'</u>	Ft. in DC <u>90'</u>	Ft. in DP <u> </u>
Rec. <u> </u>	Feet Of <u> </u>	%gas <u> </u>	%oil <u> </u>
Rec. <u>90'</u>	Feet Of <u>OCM</u>	30%gas <u>15</u>	%oil <u> </u>
Rec. <u> </u>	Feet Of <u> </u>	%gas <u> </u>	%oil <u> </u>
Rec. <u> </u>	Feet Of <u> </u>	%gas <u> </u>	%oil <u> </u>
Rec. <u> </u>	Feet Of <u> </u>	%gas <u> </u>	%oil <u> </u>
BHT <u>122°</u>	°F Gravity <u> </u>	°API D@ <u> </u>	°F Corrected Gravity <u> </u>
RW <u> </u> @ <u> </u>	°F Chlorides <u> </u>	ppm Recovery <u> </u>	Chlorides <u>1,500</u> ppm System

(A) Initial Hydrostatic Mud	AK-1 <u>2431</u>	Alpine	PSI Recorder No. <u>3030</u>	T-On Location <u>1700</u>
(B) First Initial Flow Pressure	<u>16</u>	PSI	(depth) <u>5025</u>	T-Started <u>1730</u>
(C) First Final Flow Pressure	<u>25</u>	PSI	Recorder No. <u>13371</u>	T-Open <u>1933</u>
(D) Initial Shut-In Pressure	<u>695</u>	PSI	(depth) <u>5080</u>	T-Pulled <u>0050</u>
(E) Second Initial Flow Pressure	<u>29</u>	PSI	Recorder No. <u> </u>	T-Out <u>0322</u>
(F) Second Final Flow Pressure	<u>53</u>	PSI	(depth) <u> </u>	T-Off Location <u>0430</u>
(G) Final Shut-in Pressure	<u>1110</u>	PSI	Initial Opening <u>15</u>	Test <u>X</u> <u>900</u>
(Q) Final Hydrostatic Mud	<u>2347</u>	PSI	Initial Shut-in <u>60</u>	Jars <u>X</u> <u>200</u>
			Final Flow <u>60</u>	Safety Joint <u>X</u> <u>50</u>
			Final Shut-in <u>180</u>	Straddle <u> </u>
				Circ. Sub <u>X</u> <u>N/C</u>
				Sampler <u>X</u> <u>200</u>
				Extra Packer <u> </u>
				Elec. Rec. <u>X</u> <u>150</u>
				Mileage <u>65</u>
				Other <u> </u>
				TOTAL PRICE \$ <u>1565</u>

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Approved By Brad Rine

Our Representative Rod Steinbrink

CHART PAGE

This is a photocopy of the actual AK-1 recorder chart

