

## DRILL STEM TEST REPORT

Prepared For: **Advantage Res. Inc.**

1775 Sherman St. #1900  
Denver CO 80203

ATTN: Brad Rine

**18-28S-17W Kiowa ~~KS~~ KS**

### **Byrd-Hardy #3**

Start Date: 2001.08.09 @ 13:45:05

End Date: 2001.08.09 @ 22:48:05

Job Ticket #: 14816                      DST #: 1

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Advantage Res. Inc.  
1775 Sherman St. #1900  
Denver CO 80203  
ATTN: Brad Rine

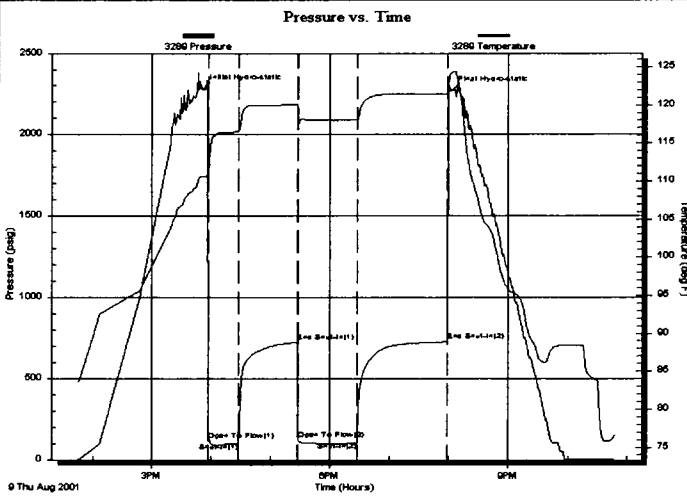
Byrd-Hardy #3  
18-28S-17W Kiowa CO  
Job Ticket: 14816      DST#: 1  
Test Start: 2001.08.09 @ 13:45:05

## GENERAL INFORMATION:

Formation: **Mississippi**  
Deviated: **No** Whipstock: **ft (KB)**  
Time Tool Opened: 15:57:35  
Time Test Ended: 22:48:05  
Interval: **4743.00 ft (KB) To 4828.00 ft (KB) (TVD)**  
Total Depth: **4828.00 ft (KB) (TVD)**  
Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
Test Type: **Conventional Bottom Hole**  
Tester: **Lanny Saloga**  
Unit No: **14**  
Reference Elevations: **2204.00 ft (KB)**  
**2193.00 ft (CF)**  
KB to GR/CF: **11.00 ft**

**Serial #: 3289**      **Inside**  
Press@RunDepth: **102.54 psig @ 4747.00 ft (KB)**      Capacity: **7000.00 psig**  
Start Date: **2001.08.09**      End Date: **2001.08.09**      Last Calib.: **2001.01.13**  
Start Time: **13:45:10**      End Time: **22:48:05**      Time On Btm: **2001.08.09 @ 15:51:05**  
Time Off Btm: **2001.08.09 @ 20:02:20**

**TEST COMMENT:** Strong OBB in 50 sec. GTS in 7 min. See flow chart. I.F.P.  
No blow-back. I.S.I.P.  
See flow chart. F.F.P. "Gas burned."  
No blow-back. F.S.I.P.



## PRESSURE SUMMARY

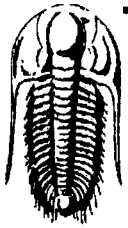
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2281.47	110.66	Initial Hydro-static
7	116.42	110.70	Open To Flow (1)
37	100.44	116.58	Shut-In(1)
97	724.57	120.09	End Shut-In(1)
98	122.67	117.52	Open To Flow (2)
157	102.54	118.06	Shut-In(2)
248	726.91	121.50	End Shut-In(2)
252	2269.53	124.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
200.00	Sli Gas cut Mud 6%G 94%M	0.98
4548.00	GIP	63.73

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.50	6.00	137.61
Last Gas Rate	0.50	14.00	191.58
Max. Gas Rate	0.50	18.00	218.56



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TOOL DIAGRAM

Advantage Res. Inc.  
1775 Sherman St. #1900  
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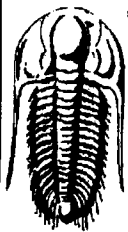
Byrd-Hardy #3  
18-28S-17W Kiowa CO  
Job Ticket: 14816      DST#: 1  
Test Start: 2001.08.09 @ 13:45:05

### Tool Information

Drill Pipe:	Length: 4541.00 ft	Diameter: 3.80 inches	Volume: 63.70 bbl	Tool Weight: 2800.00 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: 207.00 ft	Diameter: 2.25 inches	Volume: 1.02 bbl	Weight to Pull Loose: 3000.00 lb
			<u>Total Volume: 64.72 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4743.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	85.00 ft			
Tool Length:	112.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			4717.00	
S.I. Tool	5.00			4722.00	
HMV	5.00			4727.00	
Jars	5.00			4732.00	
Safety Joint	2.00			4734.00	
Packer	4.00			4738.00	27.00      Bottom Of Top Packer
Packer	5.00			4743.00	
Stubb	1.00			4744.00	
Perforations	3.00			4747.00	
Recorder	0.00	3289	Inside	4747.00	
Perforations	15.00			4762.00	
C.O. Sub	1.00			4763.00	
Blank Spacing	62.00			4825.00	
Recorder	0.00	10242	Inside	4825.00	
C.O. Sub	1.00			4826.00	
Bullnose	2.00			4828.00	85.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>112.00</b>				



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**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Advantage Res. Inc.  
1775 Sherman St. #1900  
Denver CO 80203  
ATTN: Brad Rine

Byrd-Hardy #3  
18-28S-17W Kiowa CO  
Job Ticket: 14816      DST#: 1  
Test Start: 2001.08.09 @ 13:45:05

**Mud and Cushion Information**

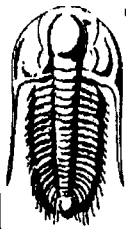
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 47.00 sec/qt	Cushion Volume: bbl		
Water Loss: 9.56 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
200.00	Sli Gas cut Mud 6%G 94%M	0.984
4548.00	GIP	63.733

Total Length: 4748.00 ft      Total Volume: 64.717 bbl  
 Num Fluid Samples: 1      Num Gas Bombs: 1      Serial #: 1  
 Laboratory Name: Caraw ay      Laboratory Location: Liberal KS  
 Recovery Comments:



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## DRILL STEM TEST REPORT

**GAS RATES**

Advantage Res. Inc.  
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ATTN: Brad Rine

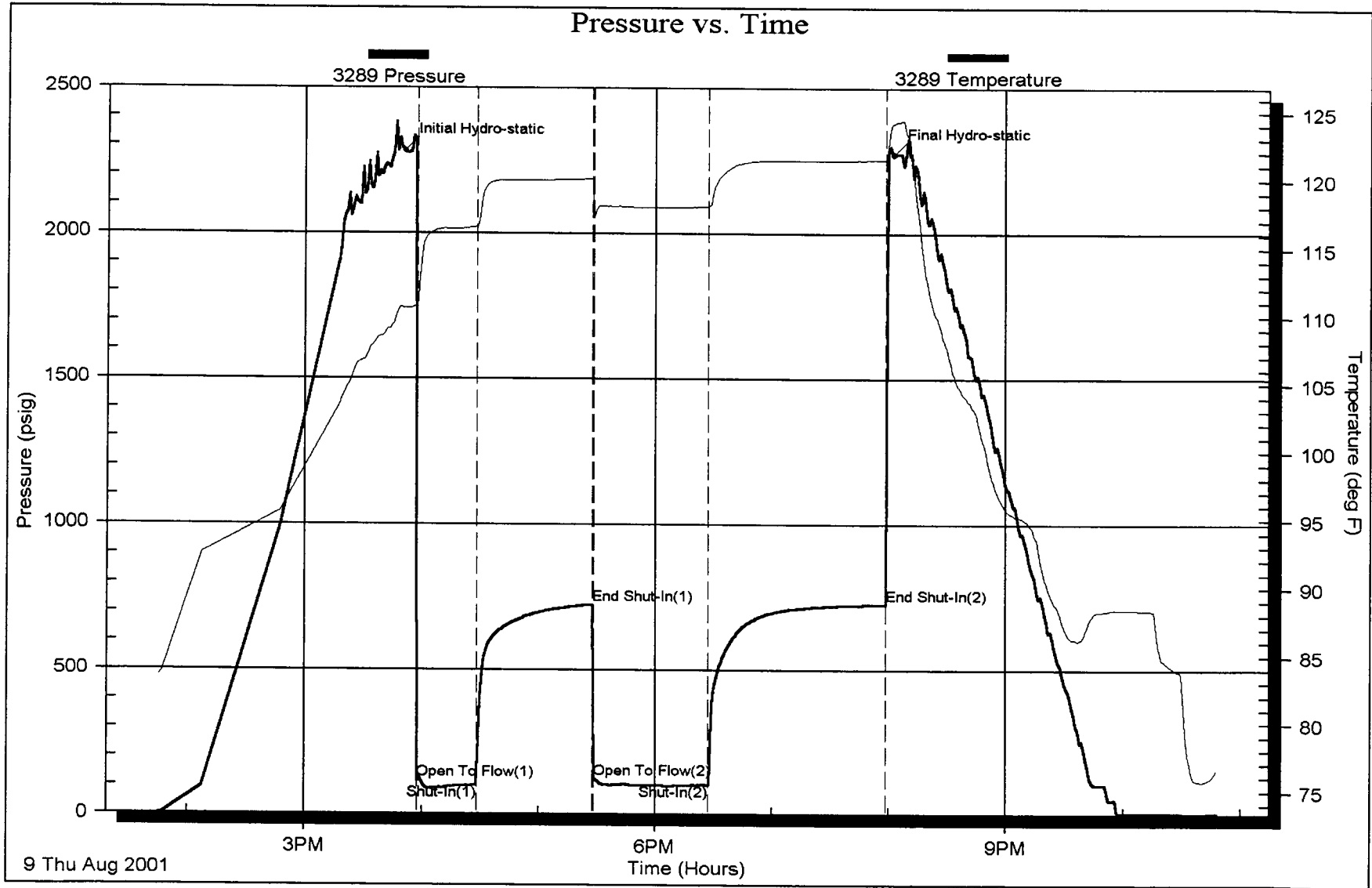
Byrd-Hardy #3  
18-28S-17W Kiowa CO  
Job Ticket: 14816      DST#: 1  
Test Start: 2001.08.09 @ 13:45:05

### Gas Rates Information

Temperature: 59 deg C  
Relative Density: 0.65  
Z Factor: 0.8

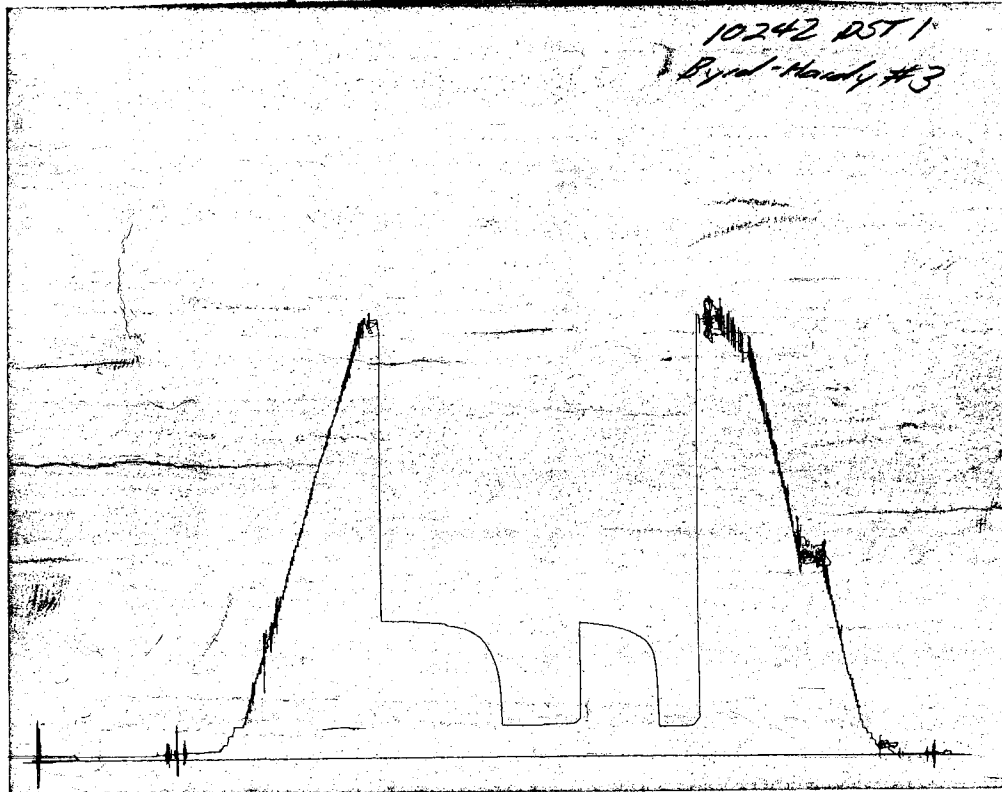
Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m <sup>3</sup> /d)
1	10	0.50	6.00	137.61
1	20	0.50	11.00	171.34
1	30	0.50	12.00	178.09
2	10	0.50	18.00	218.56
2	20	0.50	18.00	218.56
2	30	0.50	16.00	205.07
2	40	0.50	14.00	191.58
2	50	0.50	14.00	191.58
2	60	0.50	14.00	191.58

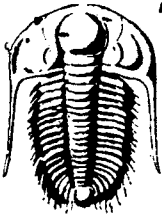


# CHART PAGE

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







# TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

No 14816

## Test Ticket

Well Name & No. Byrd-Handy #3 Test No. 1 Date 8-9-2001  
 Company Advantage Res. Inc. Zone Tested Miss.  
 Address Dancer Colo. 80203 Elevation 2204 KB 2199 GL  
 Co. Rep / Geo. Brad Rine Cont. Duke Rig 1 Est. Ft. of Pay      Por.      %  
 Location: Sec. 18 Twp. 28.5 Rge. 17W. Co. Kiowa State Ks.  
 No. of Copies Req. Distribution Sheet (Y, N) N. Turnkey (Y, N) N. Evaluation (Y, N)     

Interval Tested 4743 - 4828 Initial Str Wt./Lbs. 60,000 Unseated Str Wt./Lbs. 60,000  
 Anchor Length 85' Tool = 27' Wt. Set Lbs. 20,000 Wt. Pulled Loose/Lbs. 3,000  
 Top Packer Depth 4738 Tool Weight 2,800  
 Bottom Packer Depth 4743 Hole Size — 7 7/8" Rubber Size — 6 3/4"  
 Total Depth 4828 Wt. Pipe Run      Drill Collar Run 207  
 Mud Wt. 9.2 LCM 2# Vis. 47 WL 9.6 Drill Pipe Size 4 1/2 NH Ft. Run 4541 32' up  
 Blow Description slung OBB in 50 sec. GTS in 7 min. See Flow chart T.F.P.  
No blow-back. T.S.T.P.  
See Flow chart F.F.P.  
No blow-back. F.S.T.P.

Recovery — Total Feet 200 GIP 4548 Ft. in DC 200 Ft. in DP 0  
 Rec. 200 Feet Of 5 1/2" core cut mud %gas 6 %oil      %water 94 %mud       
 Rec.      Feet Of      %gas      %oil      %water      %mud       
 Rec.      Feet Of      %gas      %oil      %water      %mud       
 Rec.      Feet Of      %gas      %oil      %water      %mud       
 Rec.      Feet Of      %gas      %oil      %water      %mud       
 BHT 121 °F Gravity      °API D@      °F Corrected Gravity      °API  
 RW      @      °F Chlorides      ppm Recovery Chlorides 5,000 ppm System

	AK-1	Alpine			
(A) Initial Hydrostatic Mud	<u>2281</u>	PSI	Recorder No. <u>3289</u>	<u>12:45</u>	T-On Location <u>11:45 AM.</u>
(B) First Initial Flow Pressure	<u>116</u>	PSI	(depth) <u>4747</u>		T-Started <u>1:45 P.M.</u>
(C) First Final Flow Pressure	<u>100</u>	PSI	Recorder No. <u>10242</u>		T-Open <u>4:00 P.M.</u>
(D) Initial Shut-In Pressure	<u>224</u>	PSI	(depth) <u>4825</u>		T-Pulled <u>8:00 P.M.</u>
(E) Second Initial Flow Pressure	<u>122</u>	PSI	Recorder No. <u>    </u>		T-Out <u>11:00 P.M.</u>
(F) Second Final Flow Pressure	<u>102</u>	PSI	(depth) <u>    </u>		T-Off Location <u>    </u>
(G) Final Shut-in Pressure	<u>226</u>	PSI	Initial Opening <u>30</u>	Test <u>800</u> ✓	
(Q) Final Hydrostatic Mud	<u>2269</u>	PSI	Initial Shut-in <u>60</u>	Jars <u>200</u> ✓	

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Approved By Brad Rine

Our Representative Jimmy S. Johnson

Final Flow 60 Safety Joint 150 ✓  
 Final Shut-in 90 Straddle       
 Circ. Sub       
 Sampler       
 Extra Packer       
 Elec. Rec. 150 ✓  
 Mileage 3.5 ✓  
 Other 2 hrs 40 ✓  
 TOTAL PRICE \$ 1,295.00

# NATURAL GAS ANALYSIS REPORT

Sampled by:  
 Trilobite Testing, L. L. C.  
 Hays, Kansas  
 Scott City, Kansas  
 Phone: 800-728-5369  
 Fax: 785-625-5620

Analyzed by:  
 Caraway Analytical, Inc  
 P. O. Box 2137  
 Liberal, Kansas 67905  
 Phone: 620-624-5389  
 Fax: 620-626-7108

<b>Lab Number: 20013638</b>	<b>Analyzed: 08/15/01</b>
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Sample From: Byrd Hardy #3 DST 1	Pressure:
Producer: Advantage Resources	Temperature:

<b>Date: 08/09/01</b>	<b>Location: 18-28-17</b>
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Time:	County: Kiowa	State: Kansas
Sampler: Lanny	Formation: Miss	
Source:		

	Mole %	GPM
Helium	He: 0.171	0.000
Hydrogen	H2: 0.005	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 2.051	0.000
Carbon Dioxide	CO2: 0.027	0.000
Methane	C1: 92.030	0.000
Ethane	C2: 3.323	0.889
Propane	C3: 1.187	0.327
Iso Butane	iC4: 0.196	0.064
Normal Butane	nC4: 0.409	0.129
Iso Pentane	iC5: 0.141	0.052
Normal Pentane	nC5: 0.161	0.058
Hexanes Plus	C6+: 0.299	0.130

TOTAL: 100.000    1.649

Z Fact: 0.9977  
 SP.GR.: 0.6138

BTU (SAT): 1051.6 @ 14.73 psia  
 BTU (DRY): 1070.2 @ 14.73 psia

## OCTANE RATING: 125.0

COMMENTS:

0.000