



**WELL NAME:** Red Rocks #1-20  
**OPERATOR:** Amoco Production Company  
**LOCATION:** Sec 20 Rge 15S Twp 42W  
Cheyenne County Colorado  
**DATE:** 03/30/96

# TRILOBITE TESTING L.L.C.

OPERATOR : Amoco Production Company  
WELL NAME: Red Rocks # 1-20  
LOCATION : 20-15S-42W Cheyenne CO  
INTERVAL : 5060.00 To 5170.00 ft

DATE 3-30-96  
KB 4037.00 ft TICKET NO: 9204 DST #1  
GR 4025.00 ft FORMATION: Morrow Sand  
TD 5170.00 ft TEST TYPE: CONVENTIONAL

## RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 15 Rec.	11058	11058	2342			PF Fr. 1833 to 1848 hr
SI 30 Range(Psi )	4500.0	4500.0	4995.0	0.0	0.0	IS Fr. 1848 to 1918 hr
SF 60 Clock(hrs)	AK-1	AK-1	Alpin			SF Fr. 1918 to 2018 hr
FS 120 Depth(ft )	5165.0	5165.0	5062.0	0.0	0.0	FS Fr. 2018 to 2218 hr

	Field	1	2	3	4
A. Init Hydro	2479.0	2473.0	2473.0	0.0	0.0
B. First Flow	155.0	167.0	90.0	0.0	0.0
B1. Final Flow	277.0	300.0	307.0	0.0	0.0
C. In Shut-in	816.0	828.0	834.0	0.0	0.0
D. Init Flow	361.0	371.0	310.0	0.0	0.0
E. Final Flow	466.0	482.0	459.0	0.0	0.0
F. Fl Shut-in	760.0	762.0	738.0	0.0	0.0
G. Final Hydro	2457.0	2413.0	2403.0	0.0	0.0
Inside/Outside	O	O	I		

T STARTED 1620 hr  
T ON BOTM 1830 hr  
T OPEN 1833 hr  
T PULLED 2218 hr  
T OUT 0140 hr

TOOL DATA-----  
Tool Wt. 7000.00 lbs  
Wt Set On Packer 27000.00 lbs  
Wt Pulled Loose 140000.00 lbs  
Initial Str Wt 105000.00 lbs  
Unseated Str Wt 111000.00 lbs  
Bot Choke 0.75 in  
Hole Size 7.88 in  
D Col. ID 2.25 in  
D. Pipe ID 3.80 in  
D.C. Length 558.00 ft  
D.P. Length 4501.00 ft

## RECOVERY

Tot Fluid 975.00 ft of 558.00 ft in DC and 417.00 ft in DP  
100.00 ft of Heavy mud trace water - 100% mud  
217.00 ft of Watery mud - 30% water, 70% mud  
150.00 ft of Mud cut water - 80% water, 20% mud  
508.00 ft of Water - 100% water

SALINITY 0.00 P.P.M. A.P.I. Gravity 0.00

## BLOW DESCRIPTION

Initial Flow -  
Surface blow, built to bottom of  
bucket in 11 min

Initial Shutin -  
No return

Final Flow -  
Surface blow, built to bottom of  
bucket in 25 min

Final Shutin -  
No return

SAMPLES:  
SENT TO:

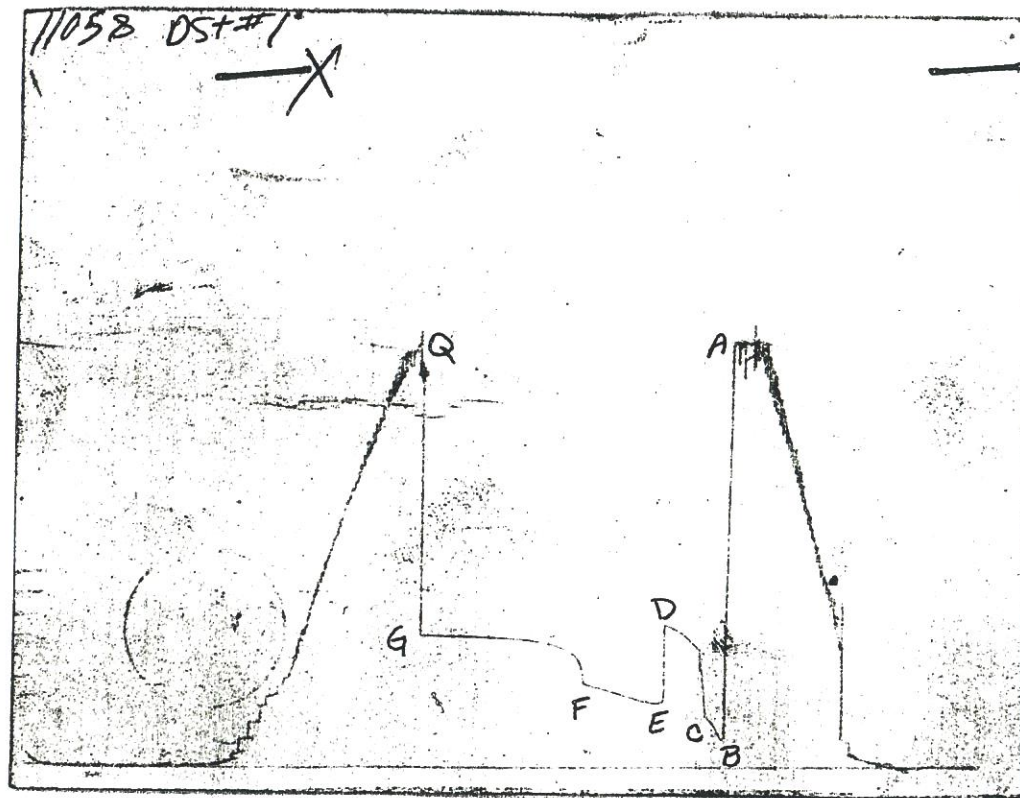
MUD DATA-----  
Mud Type Chemical  
Weight 9.00 lb/cf  
Vis. 57.00 S/L  
W.L. 5.60 in3  
F.C. 0.00 in  
Mud Drop N

Amt. of fill 0.00 ft  
Btm. H. Temp. 138.00 F  
Hole Condition fair  
% Porosity 0.00  
Packer Size 6.75 in  
No. of Packers 2  
Cushion Amt. 0.00  
Cushion Type  
Reversed Out N  
Tool Chased N  
Tester Shane McBride  
Co. Rep. Sam Carmack  
Contr. Kudu  
Rig # 1  
Unit #  
Pump T.

Test Successful: Y



## CHART PAGE



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

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ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING  
TEST: 9204 DST#1 Red Rocks # 1-20 Amoco Prod.  
DATE: 03/30/96 TIME: 08:22:20  
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Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P^2/10^6
3.00	317.2	7.0	127.52		
4.00	319.9	9.7	127.84		
5.00	323.2	12.9	128.13		
6.00	325.9	15.6	128.41		
7.00	328.7	18.4	128.66		
8.00	332.1	21.8	128.87		
9.00	335.5	25.3	129.06		
10.00	338.9	28.6	129.22		
11.00	342.2	31.9	129.37		
12.00	345.9	35.6	129.52		
13.00	349.1	38.9	129.66		
14.00	352.2	42.0	129.83		
15.00	355.4	45.2	129.99		
16.00	358.9	48.6	130.16		
17.00	361.8	51.5	130.34		
18.00	364.7	54.5	130.52		
19.00	367.6	57.3	130.72		
20.00	370.8	60.5	130.91		
21.00	373.6	63.4	131.12		
22.00	376.4	66.1	131.34		
23.00	379.1	68.8	131.57		
24.00	381.7	71.4	131.81		
25.00	384.7	74.4	132.04		
26.00	387.3	77.0	132.27		
27.00	389.9	79.6	132.50		
28.00	392.5	82.2	132.74		
29.00	395.0	84.7	132.97		
30.00	397.8	87.5	133.18		
31.00	400.4	90.1	133.41		
32.00	402.8	92.6	133.62		
33.00	405.3	95.0	133.83		
34.00	407.7	97.4	134.04		
35.00	410.1	99.8	134.23		
36.00	412.7	102.5	134.43		
37.00	414.9	104.7	134.62		
38.00	417.3	107.0	134.79		
39.00	419.4	109.1	134.96		
40.00	421.6	111.4	135.11		
41.00	423.8	113.6	135.23		
42.00	426.3	116.0	135.35		
43.00	428.4	118.2	135.47		
44.00	430.5	120.3	135.57		
45.00	432.6	122.4	135.67		
46.00	434.6	124.3	135.77		
47.00	436.6	126.3	135.86		
48.00	438.6	128.3	135.95		
49.00	440.9	130.7	136.05		
50.00	442.7	132.4	136.16		
51.00	444.6	134.3	136.27		
52.00	446.3	136.0	136.38		
53.00	448.1	137.8	136.49		



ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9204 DST#1 Red Rocks # 1-20 Amoco Prod.

DATE: 03/30/96

TIME: 08:22:20

Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P <sup>2</sup> /10 <sup>6</sup>
45.00	720.9	261.6	138.42	2.6444	0.520
46.00	721.4	262.1	138.42	2.6087	0.520
47.00	721.9	262.5	138.41	2.5745	0.521
48.00	722.4	263.0	138.42	2.5417	0.522
49.00	722.9	263.5	138.41	2.5102	0.523
50.00	723.4	264.0	138.41	2.4800	0.523
51.00	723.8	264.5	138.40	2.4510	0.524
52.00	724.2	264.9	138.39	2.4231	0.524
53.00	724.7	265.4	138.39	2.3962	0.525
54.00	725.0	265.7	138.39	2.3704	0.526
55.00	725.4	266.1	138.38	2.3455	0.526
56.00	725.8	266.5	138.38	2.3214	0.527
57.00	726.1	266.8	138.36	2.2982	0.527
58.00	726.5	267.1	138.36	2.2759	0.528
59.00	726.9	267.6	138.35	2.2542	0.528
60.00	727.1	267.8	138.34	2.2333	0.529
61.00	727.5	268.1	138.34	2.2131	0.529
62.00	727.8	268.5	138.32	2.1935	0.530
63.00	728.1	268.7	138.32	2.1746	0.530
64.00	728.3	269.0	138.31	2.1562	0.530
65.00	728.7	269.3	138.30	2.1385	0.531
66.00	728.9	269.6	138.28	2.1212	0.531
67.00	729.2	269.8	138.27	2.1045	0.532
68.00	729.5	270.2	138.26	2.0882	0.532
69.00	729.7	270.3	138.25	2.0725	0.532
70.00	729.9	270.6	138.25	2.0571	0.533
71.00	730.1	270.8	138.23	2.0423	0.533
72.00	730.3	271.0	138.22	2.0278	0.533
73.00	730.6	271.3	138.22	2.0137	0.534
74.00	730.8	271.5	138.21	2.0000	0.534
75.00	731.0	271.7	138.20	1.9867	0.534
76.00	731.3	271.9	138.19	1.9737	0.535
77.00	731.5	272.2	138.17	1.9610	0.535
78.00	731.7	272.3	138.15	1.9487	0.535
79.00	731.9	272.6	138.15	1.9367	0.536
80.00	732.1	272.8	138.14	1.9250	0.536
81.00	732.3	272.9	138.13	1.9136	0.536
82.00	732.4	273.1	138.12	1.9024	0.536
83.00	732.7	273.4	138.11	1.8916	0.537
84.00	732.8	273.4	138.11	1.8810	0.537
85.00	732.9	273.6	138.09	1.8706	0.537
86.00	733.2	273.9	138.08	1.8605	0.538
87.00	733.4	274.1	138.07	1.8506	0.538
88.00	733.5	274.2	138.06	1.8409	0.538
89.00	733.7	274.4	138.05	1.8315	0.538
90.00	733.9	274.5	138.04	1.8222	0.539
91.00	734.1	274.8	138.03	1.8132	0.539
92.00	734.2	274.9	138.02	1.8043	0.539
93.00	734.4	275.0	138.02	1.7957	0.539
94.00	734.5	275.2	138.01	1.7872	0.540
95.00	734.8	275.5	137.99	1.7789	0.540



\*\*\* TOOL DIAGRAM \*\*\* CONVENTIONAL

WELL NAME: Red Rocks # 1-20

LOCATION : 20-15S-42W Cheyenne CO

TICKET No. 9204 D.S.T. No. 1 DATE 3-30-96

TOTAL TOOL TO BOTTOM OF TOP PACKERS ..... 30

INTERVAL TOOL .....

BOTTOM PACKERS AND ANCHOR ..... 16

TOTAL TOOL ..... 46

DRILL COLLAR ANCHOR IN INTERVAL .....

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands 1 Single Total 94

TOTAL ASSEMBLY ..... 140

D.C. ABOVE TOOLS.Stands6 Single Total 558

D.P. ABOVE TOOLS.Stands48 Single 1 Total 4501

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5199

TOTAL DEPTH ..... 5170

TOTAL DRILL PIPE ABOVE K.B. .... 29

REMARKS:

FLUID SAMPLER DATA

SAMPLER RECOVERY -

Water 3800 ml, Mud 200 ml, Pressure 700 PSI  
Total 4000 ml

SAMPLER ANALYSIS -

Resist .15 ohms @ 60 F; Chlorides 54000 ppm

PIT MUD ANALYSIS -

Chlorides 2400 ppm, Resist 2.6 ohms @ 69 F;  
Vis 57, Mud Wt 9.0, Filt 5.6, LCM 4#

PIPE RECOVERY -

Top - Resist .18 ohms @ 56 F; Chlor 49600 ppm  
Bottom -

Resist .15 ohms @ 60 F; Chlorides 54000 ppm

P.O. SUB	
C.O. SUB 1'	5030
S.I. TOOL 5'	5036
sampler 3'	5039
HMV 5'	5044
JARS 5'	5049
SAFETY JOINT 2'	5051
PACKER top	5055
PACKER bottom	5060
DEPTH 5060	
STUBB 1'-perf	5061
ANCHOR alpine recorder	5062
8'-perf	5069
1' c.o.	5070
T.C.	
DEPTH	
94' drill pipe	5164
1' c.o.	5165
AK-1 recorder	5165
BULLNOSE 5' bullplug	
T.D.	5170



# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

Nº 9204

Well Name & No. <u>Red Rocks 1-20</u>	Test No. <u>1</u>	Date <u>3-30-96</u>
Company <u>Amoco. Pro. Co.</u>	Zone Tested <u>morrow SAND</u>	
Address <u>P.O. Box 800 Room 924 Denver, Colo 80201</u>	Elevation <u>4037'</u>	KB <u>4025'</u> GL
Co. Rep / Geo. <u>Sam Cunniff, Randy Saxe</u>	Cont. <u>Kudo #1</u>	Est. Ft. of Pay <u>    </u> Por. <u>    </u> %
Location: Sec. <u>20</u> Twp. <u>15</u> Rge. <u>42</u>	Co. <u>Cheyenne</u>	State <u>Colo.</u>
No. of Copies <u>Norm</u>	Distribution Sheet (Y, N) <u>    </u>	Turnkey (Y, N) <u>N</u> Evaluation (Y, N) <u>    </u>

Interval Tested <u>5060'</u>	<u>5170'</u>	Initial Str Wt./Lbs. <u>105,000</u>	Unseated Str Wt./Lbs. <u>111,000</u>
Anchor Length <u>    </u>	<u>110'</u>	Wt. Set Lbs. <u>27,000</u>	Wt. Pulled Loose/Lbs. <u>144,000</u>
Top Packer Depth <u>    </u>	<u>5055</u>	Hole Size — 7 7/8" <u>✓</u>	Rubber Size — 6 3/4" <u>✓</u>
Bottom Packer Depth <u>    </u>	<u>5060</u>	Wt. Pipe I.D. — 2.7 Ft. Run <u>    </u>	
Total Depth <u>    </u>	<u>5170'</u>	Drill Collar — 2.25 Ft. Run <u>558'</u>	
Mud Wt. <u>9.0</u> LCM <u>#4</u> Vis. <u>57</u> WL <u>56</u>		Drill Pipe Size <u>4 1/2 x 4</u>	Ft. Run <u>4501'</u>
Blow Description <u>B.O.B. in 11 min.</u>			

T.S.I.: No return.  
F.F. Surface block bolt to B.O.B. 25 min.  
F.S.I.: No return

Recovery — Total Feet <u>975'</u>	Ft. in DC <u>558'</u>	Ft. in WP <u>    </u>	Ft. in DP <u>417'</u>
Rec. <u>100'</u>	Feet Of <u>Heavy Dark mud</u>	%gas <u>    </u>	%oil <u>    </u> %water <u>100%</u> %mud <u>    </u>
Rec. <u>217'</u>	Feet Of <u>watery mud</u>	%gas <u>    </u>	%oil <u>30</u> %water <u>70</u> %mud <u>    </u>
Rec. <u>150'</u>	Feet Of <u>mud cut water</u>	%gas <u>    </u>	%oil <u>80</u> %water <u>20</u> %mud <u>    </u>
Rec. <u>508'</u>	Feet Of <u>water</u>	%gas <u>    </u>	%oil <u>100</u> %water <u>    </u> %mud <u>    </u>
Rec. <u>    </u>	Feet Of <u>    </u>	%gas <u>    </u>	%oil <u>    </u> %water <u>    </u> %mud <u>    </u>
BHT <u>138°</u>	°F Gravity <u>    </u>	°API D@ <u>    </u>	°F Corrected Gravity <u>    </u> °API <u>    </u>
RW <u>15</u> @ <u>60</u>	°F Chlorides <u>54,000</u>	ppm Recovery Chlorides <u>2,400</u>	ppm System <u>    </u>
(A) Initial Hydrostatic Mud <u>2472</u>	PSI <u>2479</u>	Recorder No. <u>2342</u>	T-Started <u>16:20 P.M.</u>
(B) First Initial Flow Pressure <u>89</u>	PSI <u>155</u>	@ (depth) <u>5062'</u>	T-Open <u>18:33 P.M.</u>
(C) First Final Flow Pressure <u>307</u>	PSI <u>277</u>	Recorder No. <u>11058</u>	T-Pulled <u>22:18 P.M.</u>
(D) Initial Shut-in Pressure <u>834</u>	PSI <u>816</u>	@ (depth) <u>5165'</u>	T-Out <u>1:40 A.M.</u>
(E) Second Initial Flow Pressure <u>310</u>	PSI <u>361</u>	Recorder No. <u>    </u>	
(F) Second Final Flow Pressure <u>459</u>	PSI <u>466</u>	@ (depth) <u>    </u>	
(G) Final Shut-in Pressure <u>737</u>	PSI <u>760</u>	Initial Opening <u>15</u>	Test <u>X</u>
(H) Final Hydrostatic Mud <u>2403</u>	PSI <u>2457</u>	Initial Shut-in <u>30</u>	Jars <u>X</u>
		Final Flow <u>60</u>	Safety Joint <u>X</u>
		Final Shut-in <u>120</u>	Straddle <u>    </u>
			Circ. Sub <u>X</u> <u>N/C</u>
			Sampler <u>X</u>
			Extra Packer <u>    </u>
			Elect. Rec <u>X</u>
			Other <u>    </u>

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Approved By