

## DRILL STEM TEST REPORT

Prepared For: **EOG Resorces Inc**

3817 NW Expy Ste 500 Oklahoma City OK  
73112

ATTN: Jim Fatherey

**17 34 32 Seward KS**

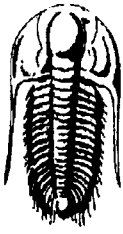
**Cope 17 #1**

Start Date: 2006.04.04 @ 02:00:25

End Date: 2006.04.04 @ 19:13:25

Job Ticket #: 22938                      DST #: 1

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



**TRILOBITE TESTING, INC.**

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EOG Resources Inc

**Cope 17 #1**

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ATTN: Jim Fatherey

Job Ticket: 22938

**DST#: 1**

Test Start: 2006.04.04 @ 02:00:25

## GENERAL INFORMATION:

Formation: **Keys**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:30:40

Time Test Ended: 19:13:25

Test Type: Conventional Straddle

Tester: Harley Davidson

Unit No: 33

Interval: **5940.00 ft (KB) To 5990.00 ft (KB) (TVD)**

Reference Elevations: 2825.00 ft (KB)

Total Depth: 6092.00 ft (KB) (TVD)

2813.00 ft (CF)

Hole Diameter: 778.00 inches Hole Condition: Poor

KB to GR/CF: 12.00 ft

**Serial #: 6751 Inside**

Press@RunDepth: 535.91 psig @ 5943.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2006.04.04

End Date:

2006.04.04

Last Calib.: 1899.12.30

Start Time: 02:00:26

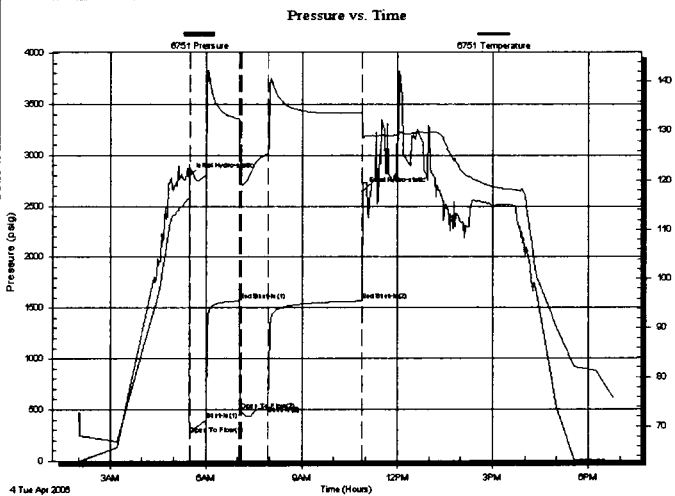
End Time:

19:13:24

Time On Btm: 2006.04.04 @ 05:27:55

Time Off Btm: 2006.04.04 @ 10:53:55

TEST COMMENT: IF BOB ASAO GTS 6 min  
ISI BOB Never died off totally  
FF BOB & GTS ASAO  
FSI BOB



## PRESSURE SUMMARY

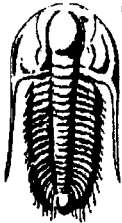
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2794.37	116.34	Initial Hydro-static
3	250.57	121.53	Open To Flow (1)
33	392.44	121.04	Shut-In(1)
96	1567.51	132.34	End Shut-In(1)
99	487.62	119.77	Open To Flow (2)
149	535.91	125.47	Shut-In(2)
325	1566.05	133.54	End Shut-In(2)
326	2644.97	129.57	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5500.00	50% O 50% G	73.86
100.00	95% M 5% O	1.40

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.75	25.00	615.42
Last Gas Rate	0.75	50.00	1005.92
Max. Gas Rate	0.75	50.00	1005.92



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TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

EOG Resources Inc

**Cope 17 #1**

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**17 34 32 Seward KS**

Job Ticket: 22938

**DST#: 1**

ATTN: Jim Fatherey

Test Start: 2006.04.04 @ 02:00:25

### Tool Information

Drill Pipe:	Length: 5563.00 ft	Diameter: 3.80 inches	Volume: 78.03 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: 25000.00 lb
Drill Collar:	Length: 366.00 ft	Diameter: 2.28 inches	Volume: 1.85 bbl	Weight to Pull Loose: lb
			<u>Total Volume: 79.88 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 104000.0 lb
Depth to Top Packer:	5940.00 ft			Final lb
Depth to Bottom Packer:	5990.00 ft			
Interval between Packers:	50.00 ft			
Tool Length:	186.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	2.00			5911.00	
Shut In Tool	5.00			5916.00	
Sampler	3.00			5919.00	
Hydraulic tool	5.00			5924.00	
Jars	5.00			5929.00	
Safety Joint	2.00			5931.00	
Packer	5.00			5936.00	31.00 Bottom Of Top Packer
Packer	4.00			5940.00	
Stubb	1.00			5941.00	
Recorder	0.00	16770	Inside	5941.00	
Perforations	2.00			5943.00	
Recorder	0.00	6751	Inside	5943.00	
Blank Off Sub	1.00			5944.00	
Perforations	46.00			5990.00	50.00 Tool Interval
Packer	5.00			5995.00	
Change Over Sub	1.00			5996.00	
Drill Pipe	93.00			6089.00	
Change Over Sub	1.00			6090.00	
Perforations	1.00			6091.00	
Recorder	0.00	13849	Outside	6091.00	
Bullnose	4.00			6095.00	105.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>186.00</b>				



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**17 34 32 Seward KS**

Job Ticket: 22938

**DST#: 1**

ATTN: Jim Fatherey

Test Start: 2006.04.04 @ 02:00:25

## 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: 45.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5500.00	50% O 50% G	73.865
100.00	95% M 5% O	1.403

Total Length: 5600.00 ft      Total Volume: 75.268 bbl

Num Fluid Samples: 0

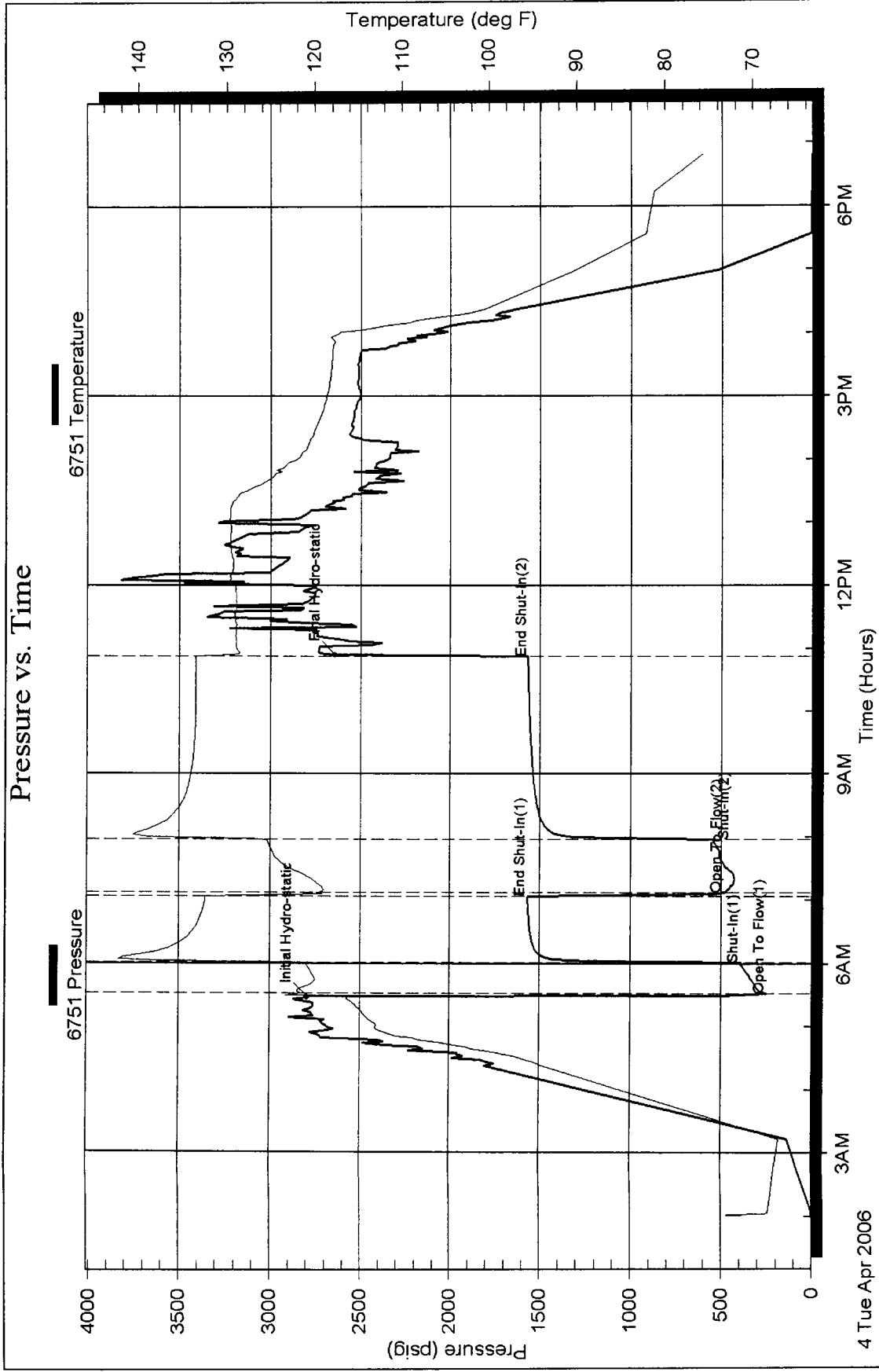
Num Gas Bombs: 0

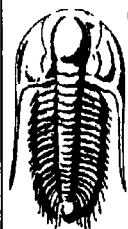
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data 1500 PSI 30 CFD gas Trace of oil "No WATER"





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## DRILL STEM TEST REPORT

**GAS RATES**

EOG Resources Inc

**Cope 17 #1**

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Job Ticket: 22938

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ATTN: Jim Fatherey

Test Start: 2006.04.04 @ 02:00:25

### Gas Rates Information

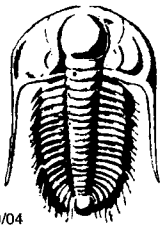
Temperature: 59 deg C

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	0.75	25.00	615.42
1	20	0.75	25.00	615.42
1	30	0.75	25.00	615.42
2	10	0.75	50.00	1005.92
2	20	0.75	50.00	1005.92
2	30	0.75	50.00	1005.92
2	40	0.75	50.00	1005.92
2	50	0.75	50.00	1005.92
2	60	0.75	50.00	1005.92



# TRILOBITE TESTING INC.

P.O. Box 362 • Hays, Kansas 67601

8607

No 22938

## Test Ticket

Well Name & No. Cope 17 #1 Test No. 1 Date 4/4/06  
 Company EOG Resources Inc. Zone Tested Keys  
 Address 3817 NW Expressway, Suite 500 <sup>OK off</sup> 0472112 Elevation 2813 KB 2825 GL  
 Co. Rep / Geo. Jim Cont. Seward Est. Ft. of Pay \_\_\_\_\_ Por. \_\_\_\_\_ %  
 Location: Sec. 17 Twp. 34 Rge. 32 Co. Aber #2 "sorry" State Ks  
 No. of Copies \_\_\_\_\_ Distribution Sheet (Y, N) \_\_\_\_\_ Turnkey (Y, N) \_\_\_\_\_ Evaluation (Y, N) \_\_\_\_\_

Interval Tested 5940 - 5990 Initial Str Wt./Lbs. 105 K Unseated Str Wt/Lbs. 112 K  
 Anchor Length 50 Wt. Set Lbs. 25K Wt. Pulled Loose/Lbs. 150K  
 Top Packer Depth 5935 Tool Weight 2000  
 Bottom Packer Depth 5940 Hole Size 7 7/8" Rubber Size 6 3/4"  
 Total Depth 6092 Wt. Pipe Run 0 Drill Collar Run 366  
 Mud Wt. 9.2 LCM 8 Vis. 45 WL 7.2 Drill Pipe Size 4.5 x H Ft. Run 5363  
 Blow Description IF - BOB, ASAO, GTS 6 min.  
ISI - BOB blow back  
FE - BOB, GTS, ASAO.  
FSI - BOB blow back

Recovery - Total Feet 5600 GIP \_\_\_\_\_ Ft. in DC \_\_\_\_\_ Ft. in DP \_\_\_\_\_  
 Rec. 5500 Feet of 50 %gas 50 %oil \_\_\_\_\_ %water \_\_\_\_\_ %mud \_\_\_\_\_  
 Rec. 100 Feet of \_\_\_\_\_ %gas 5 %oil \_\_\_\_\_ %water 95 %mud \_\_\_\_\_  
 Rec. Below circ 500 Feet of \_\_\_\_\_ %gas \_\_\_\_\_ %oil \_\_\_\_\_ %water \_\_\_\_\_ %mud \_\_\_\_\_  
 Rec. \_\_\_\_\_ Feet of \_\_\_\_\_ %gas \_\_\_\_\_ %oil \_\_\_\_\_ %water \_\_\_\_\_ %mud \_\_\_\_\_  
 BHT \_\_\_\_\_ °F Gravity 38 °API D @ 70 °F Corrected Gravity 39 °API  
 RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery \_\_\_\_\_ Chlorides 1200 ppm System

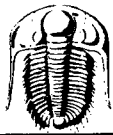
(A) Initial Hydrostatic Mud	AK-1	Alpine	2826	PSI	Recorder No.	11018, 6571	Test	1300.00
(B) First Initial Flow Pressure			251	PSI	(depth)	5935	Jars	250.00
(C) First Final Flow Pressure			392	PSI	Recorder No.	12055	Safety Jt.	75.00
(D) Initial Shut-In Pressure			1568	PSI	(depth)	5990	Circ Sub	50.00
(E) Second Initial Flow Pressure			488	PSI	Recorder No.	11018	Sampler	250.00
(F) Second Final Flow Pressure			536	PSI	(depth)	6092, 5990	Straddle	350.00
(G) Final Shut-In Pressure			1566	PSI	Initial Opening	30	Ext. Packer	
(Q) Final Hydrostatic Mud			2704	PSI	Initial Shut-In	60	Shale Packer	250.00

AFE	BCP	ACP	FAC	Other	Chem.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LOE	New Add	Replace	Repair	General	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Well Name: <u>COPE 17-#1</u>		Approval Initials: <u>[Signature]</u>		Location: <u>OK TX KS</u>	
James Fatheree		580-512-7320		Perc Code: <u>20 - 306</u>	
<u>20</u>		<u>411</u>		<u>[Signature]</u>	

Approved By: [Signature]  
 Our Representative: [Signature]  
 nal Flow \_\_\_\_\_  
 I Shut-In \_\_\_\_\_  
 ocation \_\_\_\_\_  
 -Started \_\_\_\_\_  
 T-Open \_\_\_\_\_  
 T-Pulled \_\_\_\_\_  
 T-Out \_\_\_\_\_

Sub Total: 2762.50  
 Std. By 6.5 200.00  
 Other Acc: 337.50  
 Total: 150.00  
\$3450.00





# TRILOBITE TESTING, INC.

P.O. Box 362 • Hays, Kansas 67601

## FLUID SAMPLER DATA

Ticket No. 22938 Date 4/4/06  
 Company Name EOG Res. Inc  
 Lease Cope 17 #1 Test No. #1  
 County Seward Sec. 17 Twp. 34 Rng. 32

### SAMPLER RECOVERY

Gas 30 CFD ML  
 Oil Trace ML  
 Mud 0 ML  
 Water 0 ML  
 Other \_\_\_\_\_ ML  
 Pressure 1500 PSI ML  
 Total \_\_\_\_\_ ML

### PIT MUD ANALYSIS

Chlorides 1200 ppm.  
 Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
 Viscosity 45  
 Mud Weight 9.2  
 Filtrate 7.2  
 Other \_\_\_\_\_

### SAMPLER ANALYSIS

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
 Chlorides \_\_\_\_\_ ppm.  
 Gravity \_\_\_\_\_ corrected @60F

### PIPE RECOVERY

**TOP**  
 Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
 Chlorides \_\_\_\_\_ ppm.  
**MIDDLE**  
 Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
 Chlorides \_\_\_\_\_ ppm.  
**BOTTOM**  
 Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
 Chlorides \_\_\_\_\_ ppm.



**CHART PAGE**

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

