



## DRILL STEM TEST REPORT

Prepared For: **Clark Explorations Company**

75 Falcon Hills Drive  
Highlands Ranch, Co 80126

ATTN: Curtis Clark

**32-33s-13w Barber**

**Clark Ranch #2**

Start Date: 2003.11.10 @ 10:15:05

End Date: 2003.11.10 @ 19:02:35

Job Ticket #: 17981      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Clark Explorations Company

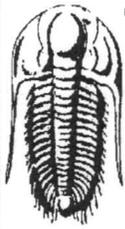
Clark Ranch #2

32-33s-13w Barber

DST # 1

Elgin

2003.11.10



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Clark Explorations Company

**Clark Ranch #2**

75 Falcon Hills Drive  
Highlands Ranch, Co 80126

**32-33s-13w Barber**

ATTN: Curtis Clark

Job Ticket: 17981

**DST#: 1**

Test Start: 2003.11.10 @ 10:15:05

## GENERAL INFORMATION:

Formation: **Elgin**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:44:35

Time Test Ended: 19:02:35

Test Type: Conventional Bottom Hole

Tester: Nick

Unit No: 16

**Interval: 3734.00 ft (KB) To 3800.00 ft (KB) (TVD)**

Total Depth: 3800.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1755.00 ft (KB)

1744.00 ft (CF)

KB to GR/CF: 11.00 ft

## Serial #: 3310

Inside

Press@RunDepth: 731.50 psig @ 3767.00 ft (KB)

Start Date: 2003.11.10 End Date: 2003.11.10

Start Time: 10:15:06 End Time: 19:02:35

Capacity: 7000.00 psig

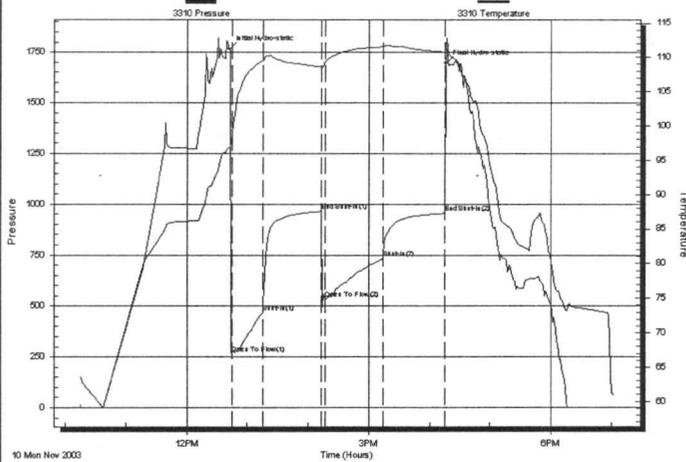
Last Calib.: 1899.12.30

Time On Btm: 2003.11.10 @ 12:41:50

Time Off Btm: 2003.11.10 @ 16:15:50

**TEST COMMENT:** IF-Strong blow O.B.B. in 20sec; GTS in 7min  
IS- Good blow staying O.B.B.  
FF Strong blow O.B.B. as soon as tool opened  
FSI- Good blow staying O.B.B.

Pressure vs. Time



## PRESSURE SUMMARY

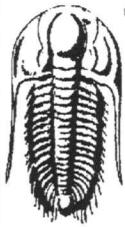
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1766.39	96.79	Initial Hydro-static
3	265.12	98.66	Open To Flow (1)
34	470.68	109.55	Shut-In(1)
92	963.53	108.60	End Shut-In(1)
96	534.53	109.35	Open To Flow (2)
152	731.50	111.53	Shut-In(2)
214	954.68	110.77	End Shut-In(2)
214	1695.61	111.40	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1922.00	GCMW 68% mud 24% w ater 8% gas	25.27

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.50	3.00	117.38
Last Gas Rate	0.50	7.00	144.36
Max. Gas Rate	0.50	19.00	225.31



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Clark Explorations Company

**Clark Ranch #2**

75 Falcon Hills Drive  
Highlands Ranch, Co 80126

**32-33s-13w Barber**

Job Ticket: 17981

**DST#: 1**

ATTN: Curtis Clark

Test Start: 2003.11.10 @ 10:15:05

### Tool Information

Drill Pipe:	Length: 3550.00 ft	Diameter: 3.80 inches	Volume: 49.80 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 82000.00 lb
			<u>Total Volume: 50.71 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	3734.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	66.00 ft			
Tool Length:	88.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3713.00	
Shut In Tool	5.00			3718.00	
Hydraulic tool	5.00			3723.00	
Safety Joint	2.00			3725.00	
Packer	4.00			3729.00	22.00 Bottom Of Top Packer
Packer	5.00			3734.00	
Stubb	1.00			3735.00	
Change Over Sub	1.00			3736.00	
Blank Spacing	30.00			3766.00	
Change Over Sub	1.00			3767.00	
Recorder	0.00	3310	Inside	3767.00	
Perforations	31.00			3798.00	
Recorder	0.00	10242	Outside	3798.00	
Bullnose	2.00			3800.00	66.00 Bottom Packers & Anchor

**Total Tool Length: 88.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Clark Explorations Company

**Clark Ranch #2**

75 Falcon Hills Drive  
Highlands Ranch, Co 80126

**32-33s-13w Barber**

Job Ticket: 17981

**DST#: 1**

ATTN: Curtis Clark

Test Start: 2003.11.10 @ 10:15:05

**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:	42000 ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl		
Water Loss: 0.00 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 9800.00 ppm			
Filter Cake: 0.02 inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
1922.00	GCMW 68% mud 24% water 8% gas	25.266

Total Length: 1922.00 ft      Total Volume: 25.266 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

Clark Explorations Company

**Clark Ranch #2**

75 Falcon Hills Drive  
Highlands Ranch, Co 80126

**32-33s-13w Barber**

Job Ticket: 17981

**DST#: 1**

ATTN: Curtis Clark

Test Start: 2003.11.10 @ 10:15:05

### 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	9	0.50	3.00	117.38
1	15	0.50	3.50	120.75
1	20	0.50	2.50	114.00
1	25	0.38	9.00	85.72
1	30	0.38	10.00	89.38
2	15	0.50	19.00	225.31
2	20	0.50	16.00	205.07
2	25	0.50	12.50	181.46
2	30	0.50	17.00	211.82
2	35	0.50	19.00	225.31
2	40	0.50	15.50	201.70
2	45	0.50	13.00	184.83
2	50	0.50	9.50	161.22
2	55	0.50	9.00	157.85
2	60	0.50	7.00	144.36

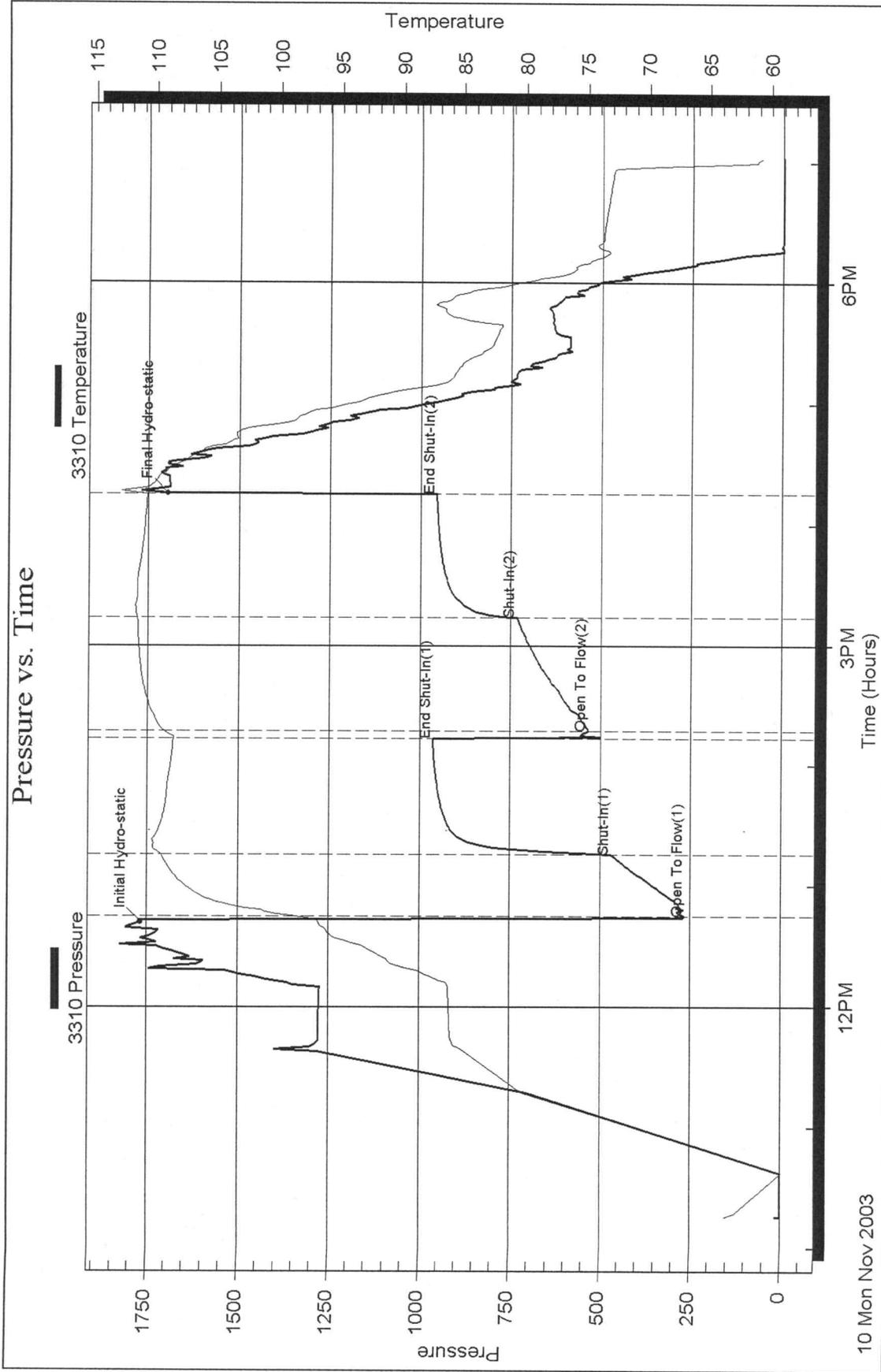
Serial #: 3310

Inside

Clark Explorations Company

32-33s-13w Barber

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Clark Explorations Company**

75 Falcon Hills Drive  
Highlands Ranch, Co 80126

ATTN: Curtis Clark

**32-33s-13w Barber**

**Clark Ranch #2**

Start Date: 2003.11.11 @ 08:50:14

End Date: 2003.11.11 @ 16:18:14

Job Ticket #: 17982                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Clark Explorations Company

**Clark Ranch #2**

75 Falcon Hills Drive  
Highlands Ranch, Co 80126

**32-33s-13w Barber**

Job Ticket: 17982

**DST#: 2**

ATTN: Curtis Clark

Test Start: 2003.11.11 @ 08:50:14

## GENERAL INFORMATION:

Formation: **Snyderville**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:58:59

Time Test Ended: 16:18:14

Test Type: Conventional Bottom Hole

Tester: Nathan

Unit No: 16

Interval: **3954.00 ft (KB) To 4000.00 ft (KB) (TVD)**

Reference Elevations: 1755.00 ft (KB)

Total Depth: 4000.00 ft (KB) (TVD)

1744.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 3310**

**Inside**

Press@RunDepth: 34.93 psig @ 3963.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2003.11.11

End Date:

2003.11.11

Last Calib.: 1899.12.30

Start Time: 08:50:15

End Time:

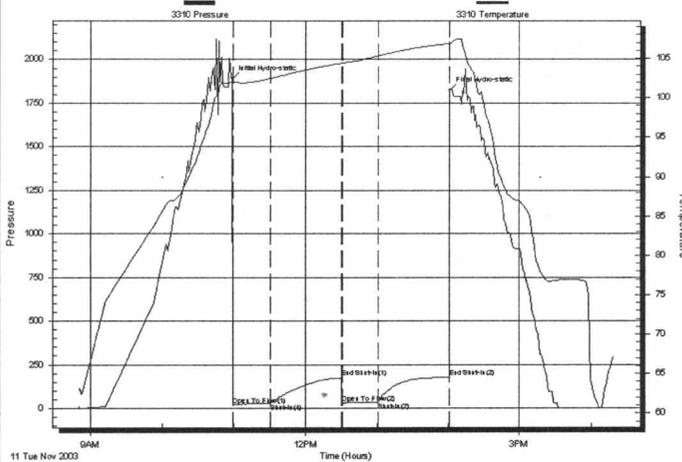
16:18:14

Time On Btm: 2003.11.11 @ 10:58:29

Time Off Btm: 2003.11.11 @ 14:01:14

TEST COMMENT: IF-Fair blow building to 4inches in bucket  
IS- No blow  
FF-Fair blow building to 10inches in bucket  
FS-No blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1887.89	101.95	Initial Hydro-static
1	19.43	102.05	Open To Flow (1)
33	28.52	102.45	Shut-In (1)
92	174.24	104.40	End Shut-In (1)
93	29.80	104.41	Open To Flow (2)
123	34.93	105.30	Shut-In (2)
183	176.62	106.87	End Shut-In (2)
183	1821.80	107.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	Drig mud	0.30

Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Clark Explorations Company  
75 Falcon Hills Drive  
Highlands Ranch, Co 80126  
ATTN: Curtis Clark

**Clark Ranch #2**  
**32-33s-13w Barber**  
Job Ticket: 17982      **DST#: 2**  
Test Start: 2003.11.11 @ 08:50:14

### Tool Information

Drill Pipe:	Length: 3766.00 ft	Diameter: 3.80 inches	Volume: 52.83 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 84000.00 lb
			<u>Total Volume: 53.74 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	3954.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3933.00	
Shut In Tool	5.00			3938.00	
Hydraulic tool	5.00			3943.00	
Safety Joint	2.00			3945.00	
Packer	4.00			3949.00	22.00      Bottom Of Top Packer
Packer	5.00			3954.00	
Stubb	1.00			3955.00	
Perforations	8.00			3963.00	
Recorder	0.00	3310	Inside	3963.00	
Perforations	35.00			3998.00	
Recorder	0.00	10242	Outside	3998.00	
Bullnose	2.00			4000.00	46.00      Bottom Packers & Anchor

**Total Tool Length: 68.00**



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# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Clark Explorations Company

**Clark Ranch #2**

75 Falcon Hills Drive  
Highlands Ranch, Co 80126

**32-33s-13w Barber**

Job Ticket: 17982

**DST#: 2**

ATTN: Curtis Clark

Test Start: 2003.11.11 @ 08:50:14

## 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:	10000 ppm
Viscosity: 38.00 sec/qt	Cushion Volume: bbl		
Water Loss: 16.73 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 8200.00 ppm			
Filter Cake: 0.02 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	Drig mud	0.305

Total Length: 62.00 ft      Total Volume: 0.305 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

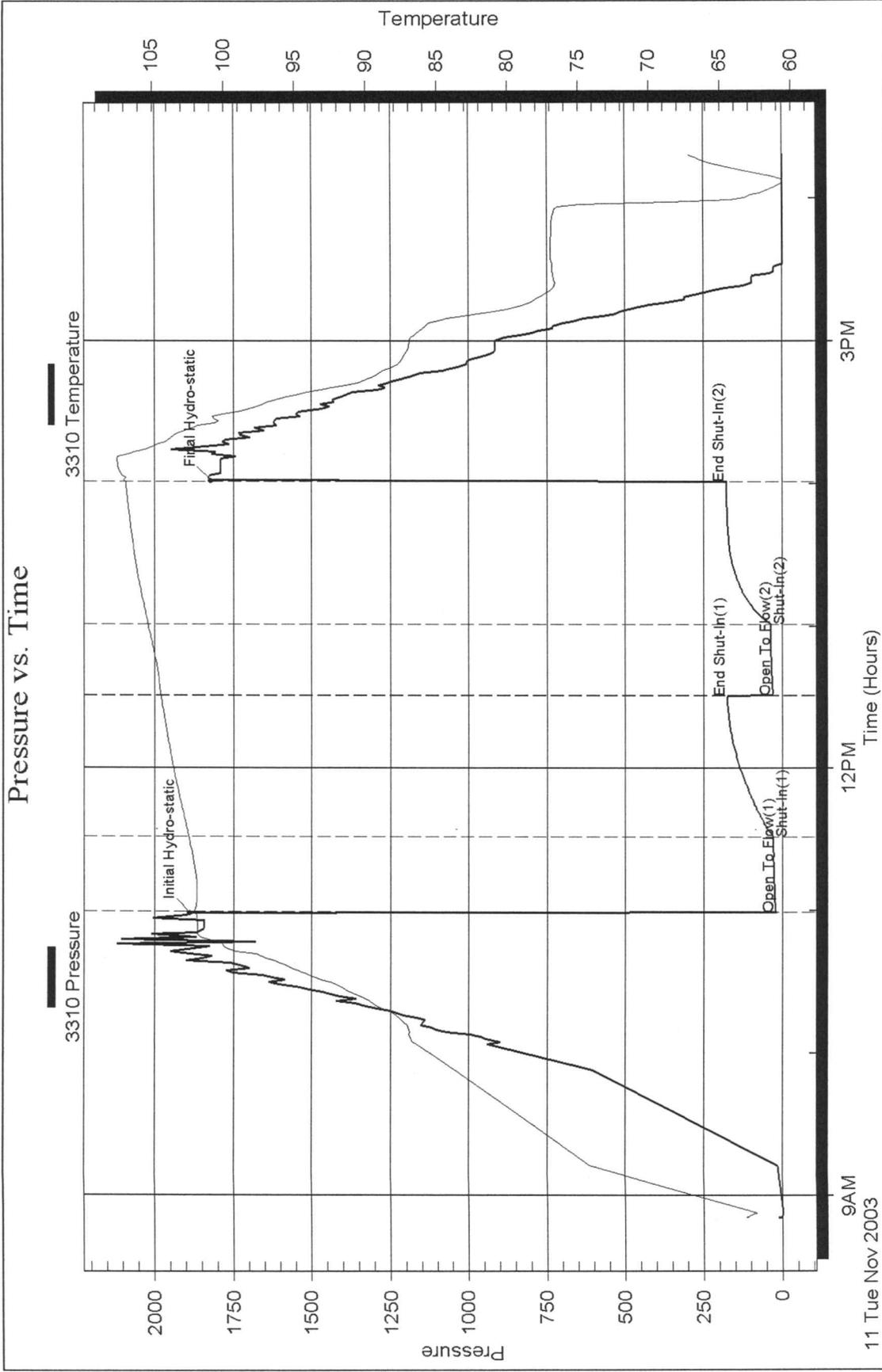
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

# Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Clark Explorations Company**

75 Falcon Hills Drive  
Highlands Ranch, Co 80126

ATTN: Curtis Clark

**32-33s-13w Barber**

**Clark Ranch #2**

Start Date: 2003.11.13 @ 14:31:55

End Date: 2003.11.13 @ 20:59:40

Job Ticket #: 17983                      DST #: 3

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



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TESTING, INC.**

# DRILL STEM TEST REPORT

Clark Explorations Company

**Clark Ranch #2**

75 Falcon Hills Drive  
Highlands Ranch, Co 80126

**32-33s-13w Barber**

Job Ticket: 17983

**DST#: 3**

ATTN: Curtis Clark

Test Start: 2003.11.13 @ 14:31:55

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:39:55

Time Test Ended: 20:59:40

Test Type: Conventional Bottom Hole

Tester: Nathan

Unit No: 16

Interval: **4675.00 ft (KB) To 4725.00 ft (KB) (TVD)**

Reference Elevations: 1755.00 ft (KB)

Total Depth: 4725.00 ft (KB) (TVD)

1744.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

## Serial #: 3310

Inside

Press@RunDepth: 75.01 psig @ 4709.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2003.11.13

End Date: 2003.11.13

Last Calib.: 1899.12.30

Start Time: 14:31:56

End Time: 20:59:40

Time On Btm: 2003.11.13 @ 16:38:40

Time Off Btm: 2003.11.13 @ 18:42:25

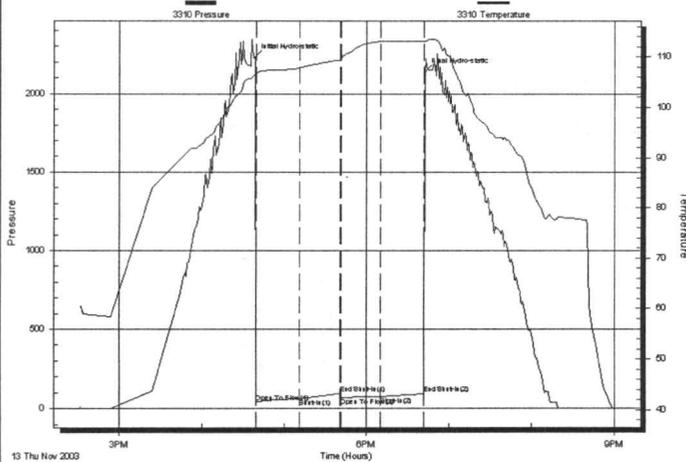
TEST COMMENT: IF-Weak blow building to 3.25 inches

IS- No blow

FF- Weak surface blow dead in 11.5 min.

FSI- No blow

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2227.57	106.40	Initial Hydro-static
2	39.02	106.62	Open To Flow (1)
33	61.39	107.78	Shut-In(1)
62	93.09	109.42	End Shut-In(1)
63	69.54	109.55	Open To Flow (2)
92	75.01	113.05	Shut-In(2)
124	92.13	113.14	End Shut-In(2)
124	2137.69	113.17	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	Mud	0.34

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Clark Explorations Company

**Clark Ranch #2**

75 Falcon Hills Drive  
Highlands Ranch, Co 80126

**32-33s-13w Barber**

Job Ticket: 17983

**DST#: 3**

ATTN: Curtis Clark

Test Start: 2003.11.13 @ 14:31:55

### Tool Information

Drill Pipe:	Length: 4485.00 ft	Diameter: 3.80 inches	Volume: 62.91 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 24000.00 lb
Drill Collar:	Length: 186.00 ft	Diameter: 2.25 inches	Volume: 0.91 bbl	Weight to Pull Loose: 84000.00 lb
			<u>Total Volume: 63.82 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	4675.00 ft			Final 76000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	50.00 ft			
Tool Length:	72.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4654.00	
Shut In Tool	5.00			4659.00	
Hydraulic tool	5.00			4664.00	
Safety Joint	2.00			4666.00	
Packer	4.00			4670.00	22.00 Bottom Of Top Packer
Packer	5.00			4675.00	
Stubb	1.00			4676.00	
Change Over Sub	1.00			4677.00	
Blank Spacing	31.00			4708.00	
Change Over Sub	1.00			4709.00	
Recorder	0.00	3310	Inside	4709.00	
Perforations	14.00			4723.00	
Recorder	0.00	10242	Outside	4723.00	
Bullnose	2.00			4725.00	50.00 Bottom Packers & Anchor

**Total Tool Length: 72.00**



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## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Clark Explorations Company

**Clark Ranch #2**

75 Falcon Hills Drive  
Highlands Ranch, Co 80126

**32-33s-13w Barber**

Job Ticket: 17983

**DST#: 3**

ATTN: Curtis Clark

Test Start: 2003.11.13 @ 14:31:55

### 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: 46.00 sec/qt	Cushion Volume: bbl		
Water Loss: 11.16 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 7200.00 ppm			
Filter Cake: 0.02 inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	Mud	0.344

Total Length: 70.00 ft      Total Volume: 0.344 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

