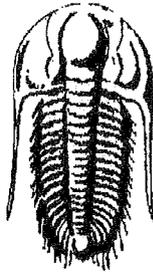


15-065-23554

34-9s-24w

Shel



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Phillips Exploration Co LC**

1601 Sagebrush  
Wichita KS 67230-7010

ATTN: Jim Phillips

**34-9s-24w Graham KS**

**Herman Trust #3-34**

Start Date: 2009.07.19 @ 14:12:35

End Date: 2009.07.19 @ 18:57:29

Job Ticket #: 35400          DST #: 1

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Phillips Exploration Co LC

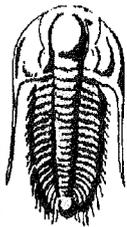
Herman Trust #3-34

34-9s-24w Graham KS

DST # 1

LKC

2009.07.19



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Phillips Exploration Co LC

Herman Trust #3-34

1601 Sagebrush  
Wichita KS 67230-7010

34-9s-24w Graham KS

ATTN: Jim Phillips

Job Ticket: 35400

DST#: 1

Test Start: 2009.07.19 @ 14:12:35

## GENERAL INFORMATION:

Formation: **LKC**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 16:08:30  
 Time Test Ended: 18:57:29

Test Type: Conventional Bottom Hole  
 Tester: Ray Schwaeger  
 Unit No: 42

Interval: **3850.00 ft (KB) To 3904.00 ft (KB) (TVD)**  
 Total Depth: 3904.00 ft (KB) (TVD)  
 Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 2513.00 ft (KB)  
 2508.00 ft (CF)  
 KB to GR/CF: 5.00 ft

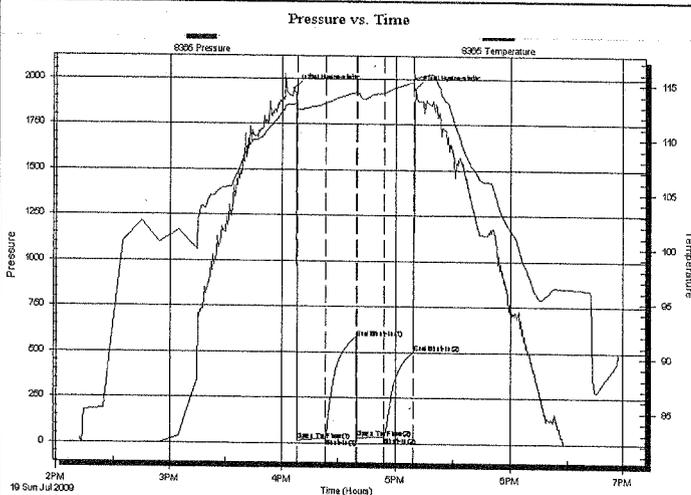
## Serial #: 8365

Inside

Press@RunDepth: 37.25 psig @ 3851.01 ft (KB)  
 Start Date: 2009.07.19 End Date: 2009.07.19  
 Start Time: 14:12:35 End Time: 18:57:29

Capacity: 7000.00 psig  
 Last Calib.: 2009.07.19  
 Time On Btm: 2009.07.19 @ 16:06:30  
 Time Off Btm: 2009.07.19 @ 17:10:00

TEST COMMENT: IFP-wk bl thru-out 1/4"bl  
 FFP-surface bl thru-out  
 Times 15-15-15



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1945.79	113.21	Initial Hydro-static
2	15.39	112.71	Open To Flow (1)
17	28.43	113.27	Shut-In(1)
33	579.00	114.29	End Shut-In(1)
34	30.86	114.19	Open To Flow (2)
48	37.25	114.25	Shut-In(2)
63	500.99	115.24	End Shut-In(2)
64	1945.24	115.61	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	Mud w/show of oil	0.36

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Phillips Exploration Co LC

Herman Trust #3-34

1601 Sagebrush  
Wichita KS 67230-7010

**34-9s-24w Graham KS**

Job Ticket: 35400

**DST#: 1**

ATTN: Jim Phillips

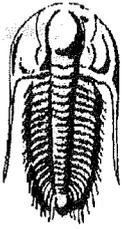
Test Start: 2009.07.19 @ 14:12:35

### Tool Information

Drill Pipe:	Length: 3822.00 ft	Diameter: 3.80 inches	Volume: 53.61 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: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 55000.00 lb
			<b>Total Volume: 53.76 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 44000.00 lb
Depth to Top Packer:	3850.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.02 ft			
Tool Length:	77.02 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			3828.00	
Shut In Tool	5.00			3833.00	
Hydraulic tool	5.00			3838.00	
Safety Joint	2.00			3840.00	
Packer	5.00			3845.00	23.00 Bottom Of Top Packer
Packer	5.00			3850.00	
Stubb	1.00			3851.00	
Recorder	0.01	8365	Inside	3851.01	
Recorder	0.01	6625	Outside	3851.02	
Blank Spacing	33.00			3884.02	
Perforations	17.00			3901.02	
Bullnose	3.00			3904.02	54.02 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>77.02</b>				



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Phillips Exploration Co LC

**Herman Trust #3-34**

1601 Sagebrush  
Wichita KS 67230-7010

**34-9s-24w Graham KS**

Job Ticket: 35400

DST#: 1

ATTN: Jim Phillips

Test Start: 2009.07.19 @ 14:12:35

**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: 55.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.95 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
45.00	Mud w/show of oil	0.358

Total Length:

45.00 ft

Total Volume:

0.358 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

DST Test Number: 1

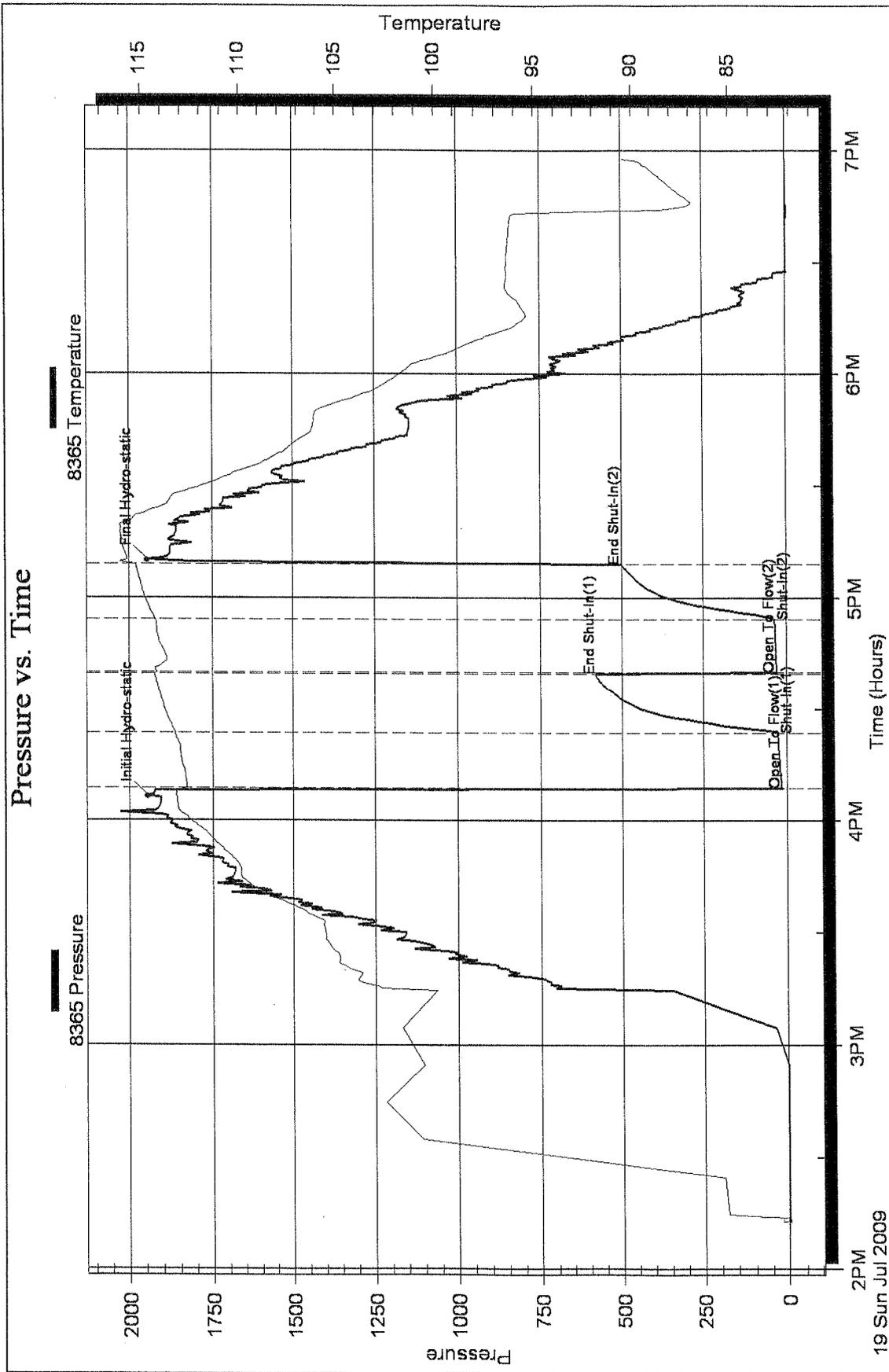
34-9s-24w Graham KS

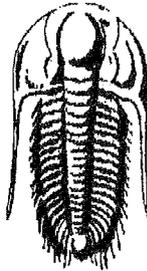
Phillips Exploration Co LC

Inside

Serial #: 8365

### Pressure vs. Time





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Phillips Exploration Co LC**

1601 Sagebrush  
Wichita KS 67230-7010

ATTN: Jim Phillips

### **34-9s-24w Graham KS**

#### **Herman Trust #3-34**

Start Date: 2009.07.20 @ 09:14:10

End Date: 2009.07.20 @ 16:34:34

Job Ticket #: 35401                      DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Phillips Exploration Co LC

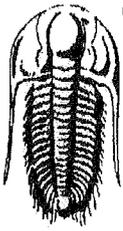
Herman Trust #3-34

34-9s-24w Graham KS

DST # 2

LKC I-J

2009.07.20



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Phillips Exploration Co LC

1601 Sagebrush  
Wichita KS 67230-7010

ATTN: Jim Phillips

**Herman Trust #3-34**

**34-9s-24w Graham KS**

Job Ticket: 35401

**DST#: 2**

Test Start: 2009.07.20 @ 09:14:10

## GENERAL INFORMATION:

Formation: **LKC I-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:17:05

Time Test Ended: 16:34:34

Test Type: Conventional Bottom Hole

Tester: Ray Schwager

Unit No: 42

Interval: **4003.00 ft (KB) To 4042.00 ft (KB) (TVD)**

Total Depth: 4042.00 ft (KB) (TVD)

Hole Diameter: 7.85 inches Hole Condition: Fair

Reference Elevations: 2513.00 ft (KB)

2508.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8365**

**Inside**

Press@RunDepth: 409.35 psig @ 4008.01 ft (KB)

Start Date: 2009.07.20

End Date: 2009.07.20

Start Time: 09:14:10

End Time: 16:34:34

Capacity: 7000.00 psig

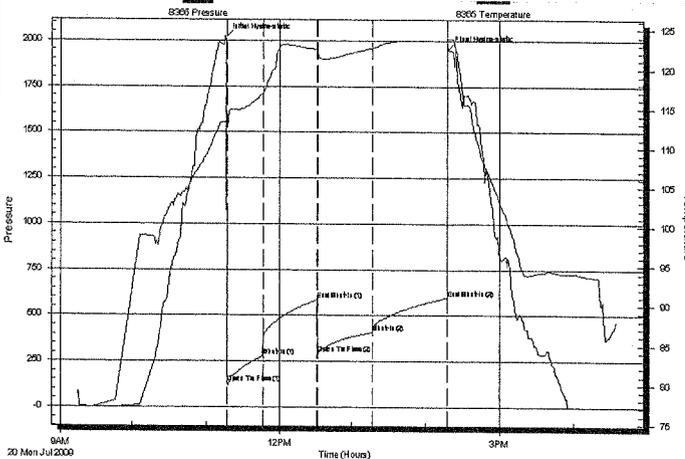
Last Calib.: 2009.07.20

Time On Btm: 2009.07.20 @ 11:15:35

Time Off Btm: 2009.07.20 @ 14:19:05

**TEST COMMENT:** IFP-strg bl in 2 min  
FFP-strg bl in 4 min  
Times 30-45-45-60  
ISIP-surface bl bk , FSIP-1/4"bl bk

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2015.40	113.27	Initial Hydro-static
2	131.48	112.54	Open To Flow (1)
31	278.15	116.83	Shut-In(1)
76	585.70	122.48	End Shut-In(1)
76	295.31	122.34	Open To Flow(2)
121	409.35	122.66	Shut-In(2)
183	597.02	123.53	End Shut-In(2)
184	1953.44	123.82	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
372.00	Water	4.94
248.00	SO&GCMW 5%G2%O10%M83%W	3.48
235.00	SO&GCMW 6%G4%O30%M60%W	3.30
5.00	CO	0.07
0.00	190'GIP	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Phillips Exploration Co LC

**Herman Trust #3-34**

1601 Sagebrush  
Wichita KS 67230-7010

**34-9s-24w Graham KS**

Job Ticket: 35401

**DST#: 2**

ATTN: Jim Phillips

Test Start: 2009.07.20 @ 09:14:10

### Tool Information

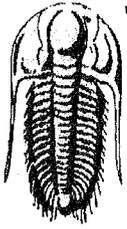
Drill Pipe:	Length: 3980.00 ft	Diameter: 3.80 inches	Volume: 55.83 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 55000.00 lb
			<b>Total Volume: 55.98 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 43000.00 lb
Depth to Top Packer:	4003.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	39.02 ft			
Tool Length:	62.02 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3981.00	
Shut In Tool	5.00			3986.00	
Hydraulic tool	5.00			3991.00	
Safety Joint	2.00			3993.00	
Packer	5.00			3998.00	23.00 Bottom Of Top Packer
Packer	5.00			4003.00	
Stubb	1.00			4004.00	
Perforations	4.00			4008.00	
Recorder	0.01	8365	Inside	4008.01	
Recorder	0.01	6625	Outside	4008.02	
Blank Spacing	31.00			4039.02	
Bullnose	3.00			4042.02	39.02 Bottom Packers & Anchor

**Total Tool Length: 62.02**



**TRILOBITE**  
TESTING, INC

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Phillips Exploration Co LC

**Herman Trust #3-34**

1601 Sagebrush  
Wichita KS 67230-7010

**34-9s-24w Graham KS**

Job Ticket: 35401

DST#: 2

ATTN: Jim Phillips

Test Start: 2009.07.20 @ 09:14:10

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

44 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

42000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.94 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
372.00	Water	4.945
248.00	SO&GCMW 5%G2%O10%M83%W	3.479
235.00	SO&GCMW 6%G4%O30%M60%W	3.296
5.00	CO	0.070
0.00	190'GIP	0.000

Total Length:

860.00 ft

Total Volume:

11.790 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .14 @ 85F

### Pressure vs. Time

