

GW

CONFIDENTIAL

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION **ORIGINAL**
WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

OPERATOR: License # 4767
Name: Ritchie Exploration, Inc.
Address 1: P.O. Box 783188
Address 2: _____
City: Wichita State: KS Zip: 67278 + 3188
Contact Person: John Niemberger
Phone: (316) 691-9500
CONTRACTOR: License # 30606
Name: Murfin Drilling Co., Inc.
Wellsite Geologist: Tom Funk
Purchaser: NCRA

Designate Type of Completion:
 New Well Re-Entry Workover
 Oil WSW SWD SIOW
 Gas D&A ENHR SIGW
 OG GSW Temp. Abd.
 CM (Coal Bed Methane)
 Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:
Operator: _____
Well Name: _____
Original Comp. Date: _____ Original Total Depth: _____
 Deepening Re-perf. Conv. to ENHR Conv. to SWD
 Conv. to GSW
 Plug Back: _____ Plug Back Total Depth _____
 Commingled Permit #: _____
 Dual Completion Permit #: _____
 SWD Permit #: _____
 ENHR Permit #: _____
 GSW Permit #: _____
2/7/11 2/21/11 2/21/11
Spud Date or Date Reached TD Completion Date or
Recompletion Date Recompletion Date

API No. 15 - 063-21887-00-00
Spot Description: 160' N & 110' E of
E/2 W/2 W/2 _____ Sec. 30 Twp. 13 S. R. 31 East West
2,480 Feet from North / South Line of Section
1,100 Feet from East / West Line of Section
Footages Calculated from Nearest Outside Section Corner:
 NE NW SE SW
County: Gove
Lease Name: Stieben 30BC Well #: 2
Field Name: _____
Producing Formation: LKC, Myrick, Fort Scott & Johnson
Elevation: Ground: 2906 Kelly Bushing: 2916
Total Depth: 4655 Plug Back Total Depth: 4623
Amount of Surface Pipe Set and Cemented at: 223 Feet
Multiple Stage Cementing Collar Used? Yes No
If yes, show depth set: 2370 Feet
If Alternate If completion, cement circulated from: surface
feet depth to: 2370 w/ 300 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)
Chloride content: 9800 ppm Fluid volume: 1000 bbls
Dewatering method used: evaporation
Location of fluid disposal if hauled offsite: _____
Operator Name: _____
Lease Name: _____ License #: _____
Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West
County: _____

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INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information of side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

AFFIDAVIT

I am the affiant and hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature: [Signature]
Title: Production Manager Date: 5/24/11

KCC Office Use ONLY RECEIVED
 Letter of Confidentiality Received
Date: 5/24/11 - 5/24/13 MAY 25 2011
 Confidential Release Date: _____
 Wireline Log Received
 Geologist Report Received
 UIC Distribution
ALT I II III Approved by: [Signature] Date: 5/31/11
KCC WICHITA

Operator Name: Ritchie Exploration, Inc. Lease Name: Stieben 30BC Well #: 2

Sec. 30 Twp. 13 S. R. 31 East West County: Gove

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>(if no, Submit Copy)</i> List All E. Logs Run: Dual Induction Log Compensated Density/Neutron Log	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input checked="" type="checkbox"/> Sample Name Top Datum SEE ATTACHED
---	--

CASING RECORD <input checked="" type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12-1/4	8-5/8	23	223	common	175	3% cc, 2% gel
Production	7-7/8	5-1/2	15.5	4652	ASC	200	10% salt, 2% gel & 5#/sz gilsonite

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
4	4516.5' - 4519.5', 4507.5' - 4511.5' (3/7/11)	500 gallons 15% NE (3/10/11)	
4	4436' - 4440', 4420.5' - 4423.5' (3/7/11)	500 gallons 15% NE (3/10/11)	
4	4108.5' - 4113.5', 3996' - 3998.5' (3/7/11)	500 gallons 15% NE (3/10/11)	

TUBING RECORD: Size: <u>2-7/8"</u> Set At: <u>4613'</u> Packer At: _____ Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Date of First, Resumed Production, SWD or ENHR. <u>3/17/11</u>	Producing Method: <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) _____
Estimated Production Per 24 Hours	Oil Bbls. <u>87.27</u> Gas Mcf _____ Water Bbls. <u>87.27</u> Gas-Oil Ratio _____ Gravity <u>36.9</u>

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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RITCHIE

EXPLORATION, INC.
Wichita, Kansas

#2 Stieben 30BC

2480' FNL & 1100' FWL

160' N & 110' E of E/2 W/2 W/2 Section 30-13S-31W

Gove County, Kansas

API# 15-063-21887-0000

Elevation: GL: 2906', KB: 2916'

Sample Tops			Ref. Well
Anhydrite	2400'	+516	-5
B/Anhydrite	2421'	+495	-4
Heebner	3901'	-985	-4
Toronto	3930'	-1014	-5
Lansing	3946'	-1030	-5
LKC-D	3995'	-1079	-4
LKC-E	4016'	-1100	-3
Muncie Shale	4093'	-1177	-7
LKC-H	4108'	-1192	-7
Stark Shale	4179'	-1263	-3
BKC	4263'	-1347	-3
Marmaton	4280'	-1364	-1
Altamont	4330'	-1414	-1
Pawnee	4379'	-1463	flat
Myrick Station	4419'	-1503	-2
Fort Scott	4435'	-1519	flat
Cherokee Shale	4462'	-1546	-1
Johnson	4504'	-1588	-1
B/Johnson	4528'	-1612	-2
Morrow Sand	Absent		
Mississippian	4550'	-1634	-13
RTD	4655'	-1739	

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MAY 25 2011

KCC WICHITA

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MAY 24 2013

KCC

ALLIED CEMENTING CO., LLC. 041001

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT:

Oakley

DATE <u>2-21-11</u>	SEC. <u>30</u>	TWP. <u>13</u>	RANGE <u>31</u>	CALLED OUT	ON LOCATION	JOB START <u>7:00am</u>	JOB FINISH <u>4:30pm</u>
LEASE <u>Stieben#2</u>	WELL# <u>30BL</u>	LOCATION <u>Oakley 16.5 2E 1/2N</u>			COUNTY <u>Gove</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)		<u>E INTO</u>					

CONTRACTOR <u>MucFin Drilling Rig 14</u>	OWNER <u>same</u>
TYPE OF JOB <u>Production</u>	
HOLE SIZE <u>7 7/8</u>	T.D. <u>4655'</u>
CASING SIZE <u>5 1/2</u>	DEPTH <u>4652'</u>
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL <u>Port collar</u>	DEPTH <u>2370'</u>
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT <u>21'</u>
CEMENT LEFT IN CSG. <u>21</u>	
PERFS.	
DISPLACEMENT <u>110.21 DBL</u>	

EQUIPMENT

PUMP TRUCK	CEMENTER <u>Andrew</u>
# <u>223-281</u>	HELPER <u>Lorene</u>
BULK TRUCK	
# <u>396</u>	DRIVER <u>Wil</u>
BULK TRUCK	
#	DRIVER

CEMENT	
AMOUNT ORDERED <u>250 sks AC 10 1/2" x 14</u>	
<u>2 1/2 gal 5" Gilsonite 740F 1800-31</u>	
<u>500 gal WFR-2</u>	
COMMON	@
POZMIX	@
GEL <u>5 sks</u>	@ <u>20.80 104.00</u>
CHLORIDE	@
ASC <u>250 sks</u>	@ <u>18.60 4650.00</u>
	@
<u>Salt 28 sks</u>	@ <u>23.25 620.60</u>
	@
<u>Gilsonite 1250#</u>	@ <u>.89 1112.50</u>
	@
<u>CO-31 176#</u>	@ <u>9.35 1645.60</u>
	@
<u>WFR-2 500 gal</u>	@ <u>1.27 635.00</u>
HANDLING <u>311 sks</u>	@ <u>2.40 746.40</u>
MILEAGE <u>10.5 mile</u>	@ <u>622.00</u>
TOTAL <u>10186.10</u>	

REMARKS:

Pump 500 gal water 500 gal WFR-2
500 gal water plug in H 20 sks RH
30 sks mix 200 sks AC down
5 1/2 casing, wash ramp and lines
Clean Displace plug 1000' lift
Land plug @ 1400' float hec.

Thankyou

CHARGE TO: Ritchie Exploration
 STREET _____
 CITY _____ STATE _____ ZIP _____

SERVICE

DEPTH OF JOB <u>4652'</u>	
PUMP TRUCK CHARGE	<u>2185.00</u>
EXTRA FOOTAGE	@
MILEAGE <u>20 miles</u>	@ <u>7.00 140.00</u>
MANIFOLD	@
	@
	@
TOTAL <u>2325.00</u>	

PLUG & FLOAT EQUIPMENT

<u>5/2</u>	
<u>1 Guide shoe</u>	<u>10.00</u>
<u>1 AFU INSERT</u>	@ <u>112.00</u>
<u>4 Baskets</u>	@ <u>186.00 744.00</u>
<u>1 Port collar</u>	@ <u>175.00</u>
<u>1 Turbo Lizers</u>	@ <u>42.00 378.00</u>
<u>1 Rubber plug</u>	@ <u>67.00</u>
TOTAL <u>1577.00</u>	

To Allied Cementing Co., LLC.
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Thomas R. A. S.
 SIGNATURE _____

SALES TAX (If Any) _____
 TOTAL CHARGES _____
 DISCOUNT _____ IF PAID IN 30 DAYS

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MAY 24 2013

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 MAY 25 2011
 KCC WICHITA

ALLIED CEMENTING CO., LLC. 035569

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

STEUBEN 306C 2

SERVICE POINT:

Dakota

DATE <u>8/24/11</u>	SEC <u>30</u>	TWP. <u>13</u>	RANGE <u>31</u>	CALLED OUT	ON LOCATION	JOB START <u>12:30</u>	JOB FINISH <u>1:00</u>
STEUBEN #2 LEASE	WELL# <u>306C</u>	LOCATION <u>Dakota 16 S 2E 1/2 NW</u>			COUNTY <u>Cove</u>	STATE <u>KY</u>	
OLD OR NEW (Circle one) <u>NEW</u>				E 2700			

CONTRACTOR _____
 TYPE OF JOB Port collar
 HOLE SIZE _____ T.D. _____
 CASING SIZE 5 1/2 DEPTH 4652'
 TUBING SIZE _____ DEPTH _____
 DRILL PIPE _____ DEPTH _____
 TOOL Port collar 1370 DEPTH _____
 PRES. MAX _____ MINIMUM _____
 MEAS. LINE _____ SHOE JOINT _____
 CEMENT LEFT IN CSG. _____
 PERFS. _____
 DISPLACEMENT _____

OWNER Same
 CEMENT AMOUNT ORDERED 450 SK, 60/40
670 gal 14 FLO
500 lb Halls used 300 SK
 COMMON 180 @ 5.45 2791.00
 POZMIX 120 @ 8.00 960.00
 GEL 15 @ 20.80 312.00
 CHLORIDE @ _____
 ASC @ _____
Flo Seal 75 lb @ 2.50 187.50
Halls 300lb-SKs-6 @ 31.85 191.10
 @ _____
 @ _____
 @ _____
 @ _____
 HANDLING 488 SKs @ 2.40 1171.20
 MILEAGE 10.5 SK/mile 976.00
 TOTAL 6578.80

EQUIPMENT
 PUMP TRUCK CEMENTER Alan
 # 431 HELPER Wayne
 BULK TRUCK
 # 356 DRIVER Jerry
 BULK TRUCK
 # _____ DRIVER _____

REMARKS:
Test tool to 1200 Hells Open Tool Est later
max 300 SK, use 300 lb Halls, displace 60'
13, 101 Hells, Clean Tool, Depth 1200 Hells,
Rn 5 575 Reverse Clean
Cement did Circulate

Thank You
Alan Wayne, Jerry

CHARGE TO Ritchie Exploration
 STREET _____
 CITY _____ STATE _____ ZIP _____

SERVICE
 DEPTH OF JOB _____
 PUMP TRUCK CHARGE 1185.00
 EXTRA FOOTAGE @ _____
 MILEAGE 20 miles @ 2.00 140.00
 MANIFOLD @ _____
 @ _____
 @ _____
 TOTAL 1325.00

PLUG & FLOAT EQUIPMENT
 @ _____
 @ _____
 @ _____
 @ _____
 @ _____
 TOTAL _____

To Allied Cementing Co., LLC.
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Gary W Rowie
 SIGNATURE Gary W Rowie

SALES TAX (If Any) _____
 TOTAL CHARGES _____
 DISCOUNT _____ IF PAID IN 30 DAYS

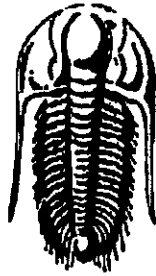
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MAY 24 2013

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 MAY 25 2011
 KCC WICHITA

TR



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

PO Box 783188
Wichita, KS 67278

ATTN: Tom Funk

30-13-31 Gove, KS

#2 Stieben 30 BC

Start Date: 2011.02.13 @ 06:37:00

End Date: 2011.02.13 @ 13:43:39

Job Ticket #: 040647

DST #:

CONFIDENTIAL
MAY 24 2013
KCC

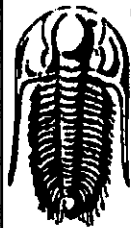
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Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

ATTN: Tom Funk

Job Ticket: 040647

DST#: 1

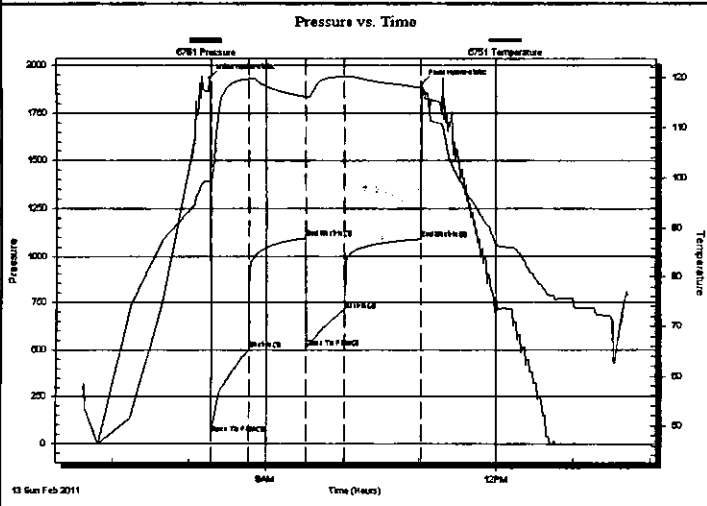
Test Start: 2011.02.13 @ 06:37:00

GENERAL INFORMATION:

Formation: **Toronto-LKC 'A'**
 Deviated: **No** Whipstock: **ft (KB)**
 Time Tool Opened: **08:17:00**
 Time Test Ended: **13:43:39**
 Interval: **3906.00 ft (KB) To 3960.00 ft (KB) (TVD)**
 Total Depth: **3960.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: **Good**
 Test Type: **Conventional Bottom Hole**
 Tester: **Chuck Smith**
 Unit No: **37**
 Reference Elevations: **2916.00 ft (KB)**
2906.00 ft (CF)
 KB to GR/CF: **10.00 ft**

Serial #: 6751 Outside
 Press@RunDepth: **711.52 psig @ 3917.00 ft (KB)** Capacity: **8000.00 psig**
 Start Date: **2011.02.13** End Date: **2011.02.13** Last Calib.: **2011.02.13**
 Start Time: **06:37:05** End Time: **13:43:40** Time On Btm: **2011.02.13 @ 08:15:50**
 Time Off Btm: **2011.02.13 @ 11:02:09**

TEST COMMENT: IF: B.O.B> @ 2 1/2 min.
 IS: No return.
 FF: B.O.B. @ 4 1/2 min.
 FS: No return.



PRESSURE SUMMARY

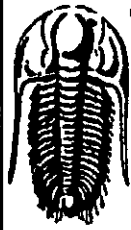
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1934.13	99.51	Initial Hydro-static
2	56.04	98.37	Open To Flow (1)
31	502.43	119.68	Shut-In(1)
76	1097.75	116.09	End Shut-In(1)
76	512.61	115.80	Open To Flow (2)
105	711.52	120.11	Shut-In(2)
166	1092.74	117.98	End Shut-In(2)
167	1904.28	118.19	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW: 150 @ 60 Degrees F = 55000 PPM	0.00
90.00	MW 50m 50w	0.44
1178.00	MW 10m 90w	12.45
252.00	OSMW 35m 65w	3.53

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 040647

DST#: 1

ATTN: Tom Funk

Test Start: 2011.02.13 @ 06:37:00

Tool Information

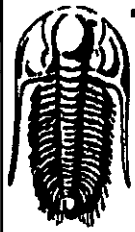
Drill Pipe:	Length: 3360.00 ft	Diameter: 3.80 inches	Volume: 47.13 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 537.00 ft	Diameter: 2.25 inches	Volume: 2.64 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 49.77 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3906.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	74.00 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			3887.00	
Shut In Tool	5.00			3892.00	
Hydraulic tool	5.00			3897.00	
Packer	5.00			3902.00	20.00 Bottom Of Top Packer
Packer	4.00			3906.00	
Stubb	1.00			3907.00	
Perforations	10.00			3917.00	
Recorder	0.00	8018	Inside	3917.00	
Recorder	0.00	6751	Outside	3917.00	
Perforations	7.00			3924.00	
Change Over Sub	1.00			3925.00	
Drill Pipe	31.00			3956.00	
Change Over Sub	1.00			3957.00	
Bullnose	3.00			3960.00	54.00 Bottom Packers & Anchor

Total Tool Length: 74.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 040647

DST#: 1

ATTN: Tom Funk

Test Start: 2011.02.13 @ 06:37:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

55000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.35 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
0.00	RW: 150 @ 60 Degrees F = 55000 PPM	0.000
90.00	MW 50m 50w	0.443
1178.00	MW 10m 90w	12.452
252.00	OSMW 35m 65w	3.535

Total Length: 1520.00 ft

Total Volume: 16.430 bbf

Num Fluid Samples: 0

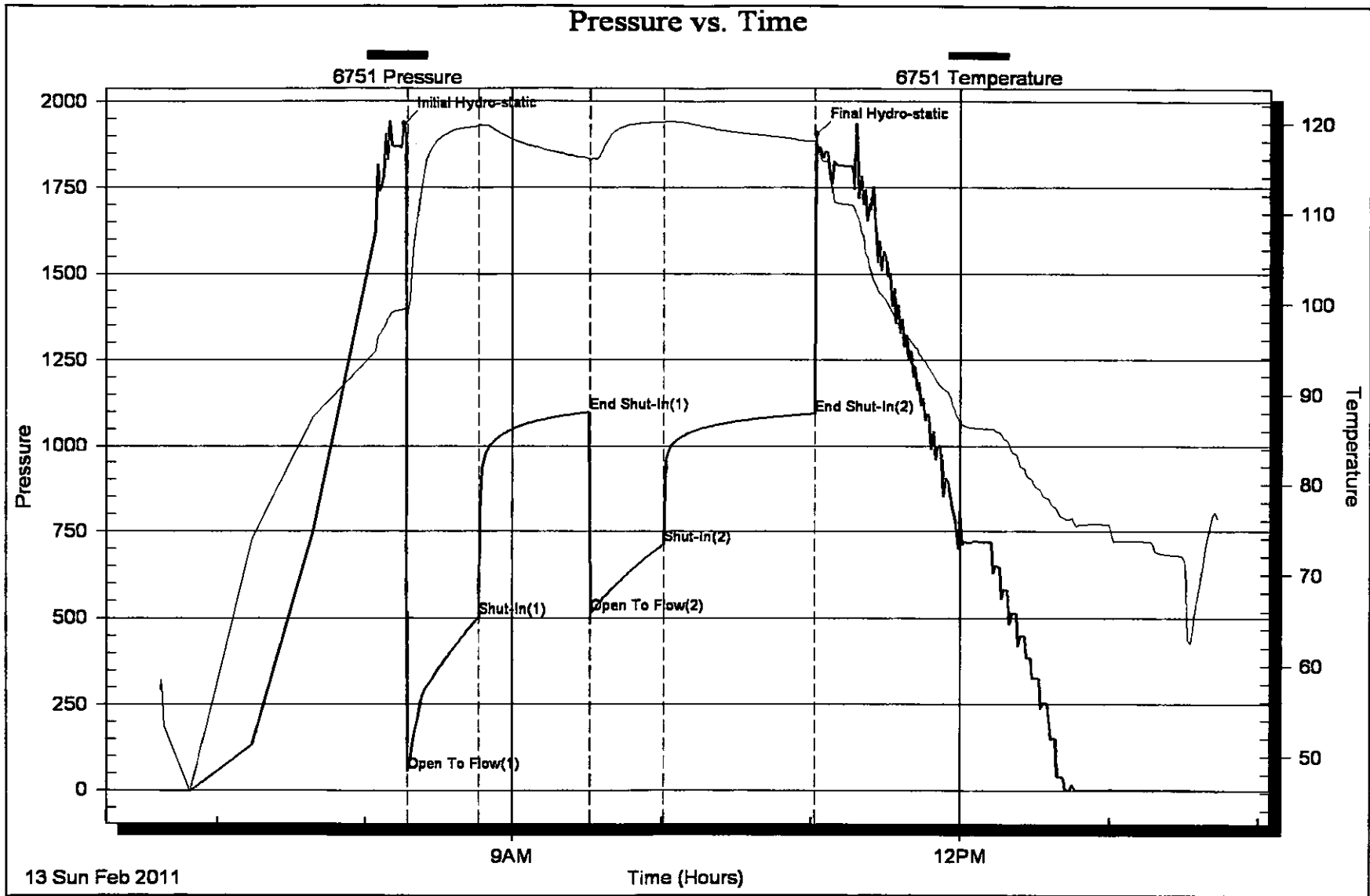
Num Gas Bombs: 0

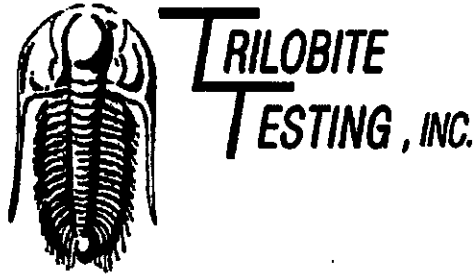
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

PO Box 783188
Wichita, KS 67278

ATTN: Tom Funk

30-13-31 Gove, KS

#2 Stieben 30 BC

Start Date: 2011.02.13 @ 19:28:00

End Date: 2011.02.14 @ 01:54:50

Job Ticket #: 040648 DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration

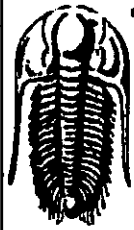
#2 Stieben 30 BC

30-13-31 Gove, KS

DST # 2

LKC:C

2011.02.13



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration

#2 Stleben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 040648

DST#: 2

ATTN: Tom Funk

Test Start: 2011.02.13 @ 19:28:00

GENERAL INFORMATION:

Formation: **LKC 'C'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:12:30

Time Test Ended: 01:54:50

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Interval: **3963.00 ft (KB) To 3988.00 ft (KB) (TVD)**

Total Depth: 3988.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2916.00 ft (KB)

2906.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: **8018**

Inside

Press@RunDepth: 229.82 psig @ 3968.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.02.13

End Date: 2011.02.14

Last Calib.: 2011.02.14

Start Time: 19:28:05

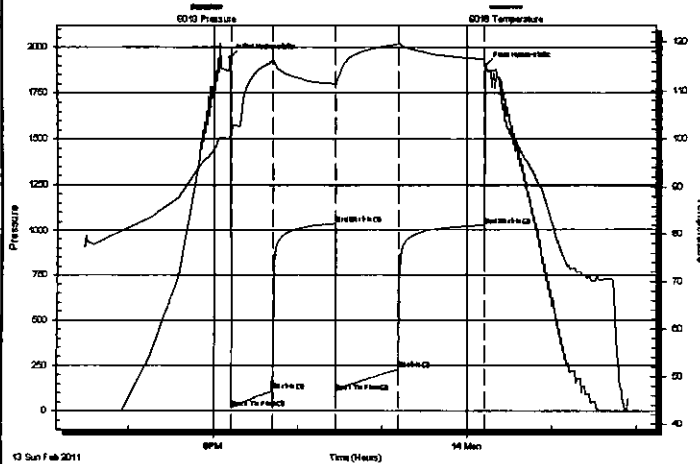
End Time: 01:54:50

Time On Btm: 2011.02.13 @ 21:11:20

Time Off Btm: 2011.02.14 @ 00:13:09

TEST COMMENT: IF: 9" Blow.
IS: No return.
FF: B.O.B. @ 41 min.
FS: Surface return died @ 7 min.

Pressure vs. Time



PRESSURE SUMMARY

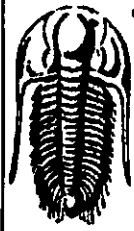
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1941.86	100.06	Initial Hydro-static
2	16.16	100.78	Open To Flow (1)
31	110.89	116.10	Shut-In(1)
75	1037.39	111.36	End Shut-In(1)
76	103.33	110.70	Open To Flow (2)
121	229.82	119.53	Shut-In(2)
181	1028.28	116.49	End Shut-In(2)
182	1899.36	114.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW: .150 @ 57 Degrees F = 60000 PPM	0.00
270.00	MW 10m 90w	1.33
90.00	OSMW 20m 80w	0.44
90.00	SOCM 2o 98m	0.44
50.00	GO 5g 95o	0.25

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 040648

DST#: 2

ATTN: Tom Funk

Test Start: 2011.02.13 @ 19:28:00

Tool Information

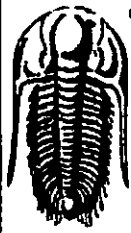
Drill Pipe:	Length: 3424.00 ft	Diameter: 3.80 inches	Volume: 48.03 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 537.00 ft	Diameter: 2.25 inches	Volume: 2.64 bbl	Weight to Pull Loose: 80000.00 lb
		Total Volume:	50.67 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3963.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	45.00 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			3944.00	
Shut In Tool	5.00			3949.00	
Hydraulic tool	5.00			3954.00	
Packer	5.00			3959.00	20.00 Bottom Of Top Packer
Packer	4.00			3963.00	
Stubb	1.00			3964.00	
Perforations	4.00			3968.00	
Recorder	0.00	8018	Inside	3968.00	
Recorder	0.00	6751	Outside	3968.00	
Perforations	17.00			3985.00	
Bullnose	3.00			3988.00	25.00 Bottom Packers & Anchor

Total Tool Length: 45.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 040648

DST#: 2

ATTN: Tom Funk

Test Start: 2011.02.13 @ 19:28:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

60000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.35 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
0.00	RW: .150 @ 57 Degrees F = 60000 PPM	0.000
270.00	MW 10m 90w	1.328
90.00	OSMV 20m 80w	0.443
90.00	SOCM 2o 98m	0.443
50.00	GO 5g 95o	0.246

Total Length: 500.00 ft Total Volume: 2.460 bbf

Num Fluid Samples: 0

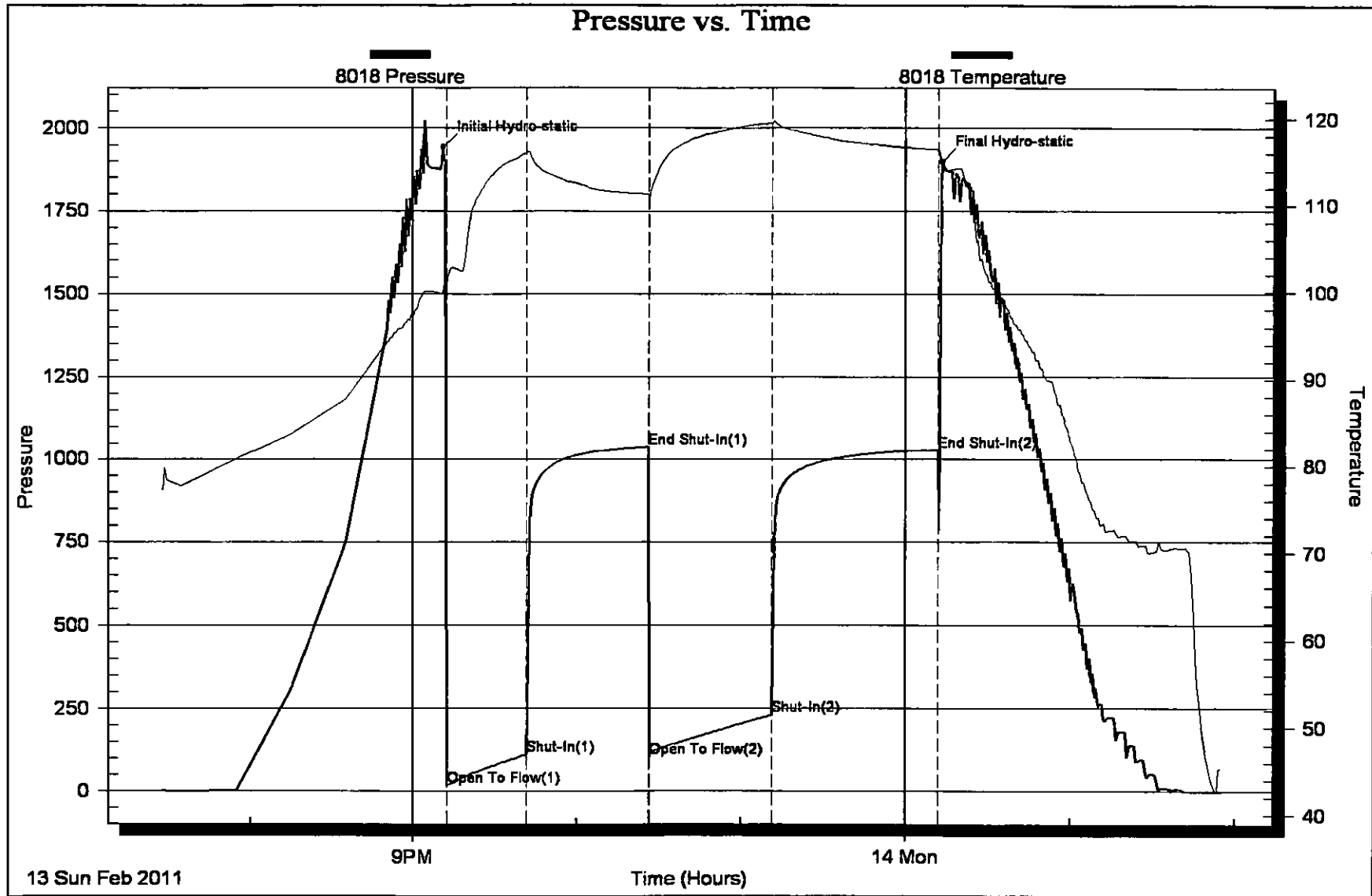
Num Gas Bombs: 0

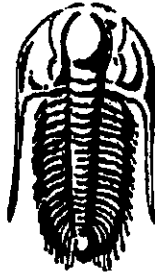
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API 33 @ 40 Degrees F = 35.





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

PO Box 783188
Wichita, KS 67278

ATTN: Tom Funk

30-13-31 Gove, KS

#2 Stieben 30 BC

Start Date: 2011.02.14 @ 08:33:00

End Date: 2011.02.14 @ 15:28:30

Job Ticket #: 040649 DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 040649

DST#: 3

ATTN: Tom Funk

Test Start: 2011.02.14 @ 08:33:00

GENERAL INFORMATION:

Formation: LKC 'D'

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:06:00

Time Test Ended: 15:28:30

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Interval: 3990.00 ft (KB) To 4008.00 ft (KB) (TVD)

Total Depth: 4008.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2916.00 ft (KB)

2906.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8018

Inside

Press@RunDepth: 331.29 psig @ 3995.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.02.14

End Date:

2011.02.14

Last Calib.: 2011.02.14

Start Time: 08:33:05

End Time:

15:28:29

Time On Btm: 2011.02.14 @ 10:04:40

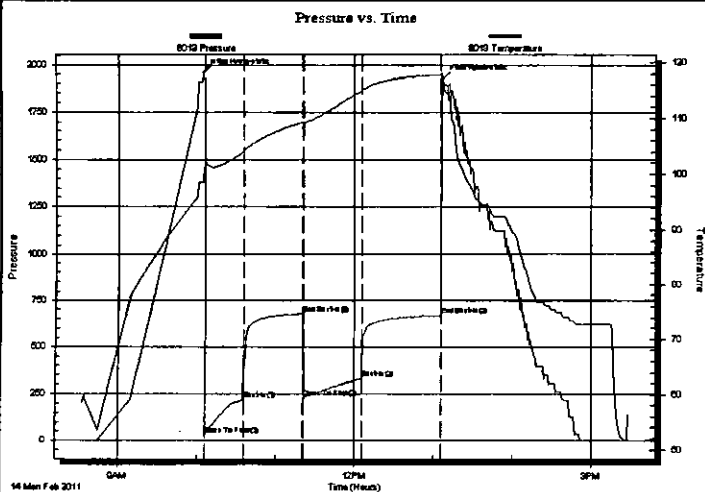
Time Off Btm: 2011.02.14 @ 13:07:00

TEST COMMENT: IF: B.O.B. @ 4 1/2 min.

IS: 8" Return.

FF: B.O.B. @ 8 1/2 min.

FS: 5" Return.



PRESSURE SUMMARY

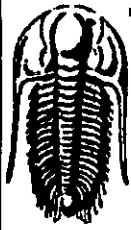
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1958.14	98.42	Initial Hydro-static
2	30.87	101.20	Open To Flow (1)
31	219.40	104.10	Shut-In(1)
76	676.92	109.37	End Shut-In(1)
77	231.65	109.22	Open To Flow (2)
121	331.29	114.95	Shut-In(2)
182	669.19	117.83	End Shut-In(2)
183	1928.39	118.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	650 Feet GIP	0.00
90.00	OCM 15o 85m	0.44
810.00	GO 40g 60o	7.29

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration
PO Box 783188
Wichita, KS 67278
ATTN: Tom Funk

#2 Stieben 30 BC
30-13-31 Gove, KS
Job Ticket: 040649 **DST#: 3**
Test Start: 2011.02.14 @ 08:33:00

Tool Information

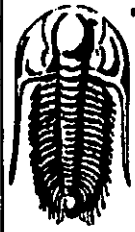
Drill Pipe:	Length: 3456.00 ft	Diameter: 3.80 inches	Volume: 48.48 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 537.00 ft	Diameter: 2.25 inches	Volume: 2.64 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 51.12 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3990.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	38.00 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			3971.00	
Shut In Tool	5.00			3976.00	
Hydraulic tool	5.00			3981.00	
Packer	5.00			3986.00	20.00 Bottom Of Top Packer
Packer	4.00			3990.00	
Stubb	1.00			3991.00	
Perforations	4.00			3995.00	
Recorder	0.00	8018	Inside	3995.00	
Recorder	0.00	6751	Outside	3995.00	
Perforations	10.00			4005.00	
Bullnose	3.00			4008.00	18.00 Bottom Packers & Anchor

Total Tool Length: 38.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration
PO Box 783188
Wichita, KS 67278
ATTN: Tom Funk

#2 Stieben 30 BC
30-13-31 Gove, KS
Job Ticket: 040649 DST#: 3
Test Start: 2011.02.14 @ 08:33:00

Mud and Cushion Information

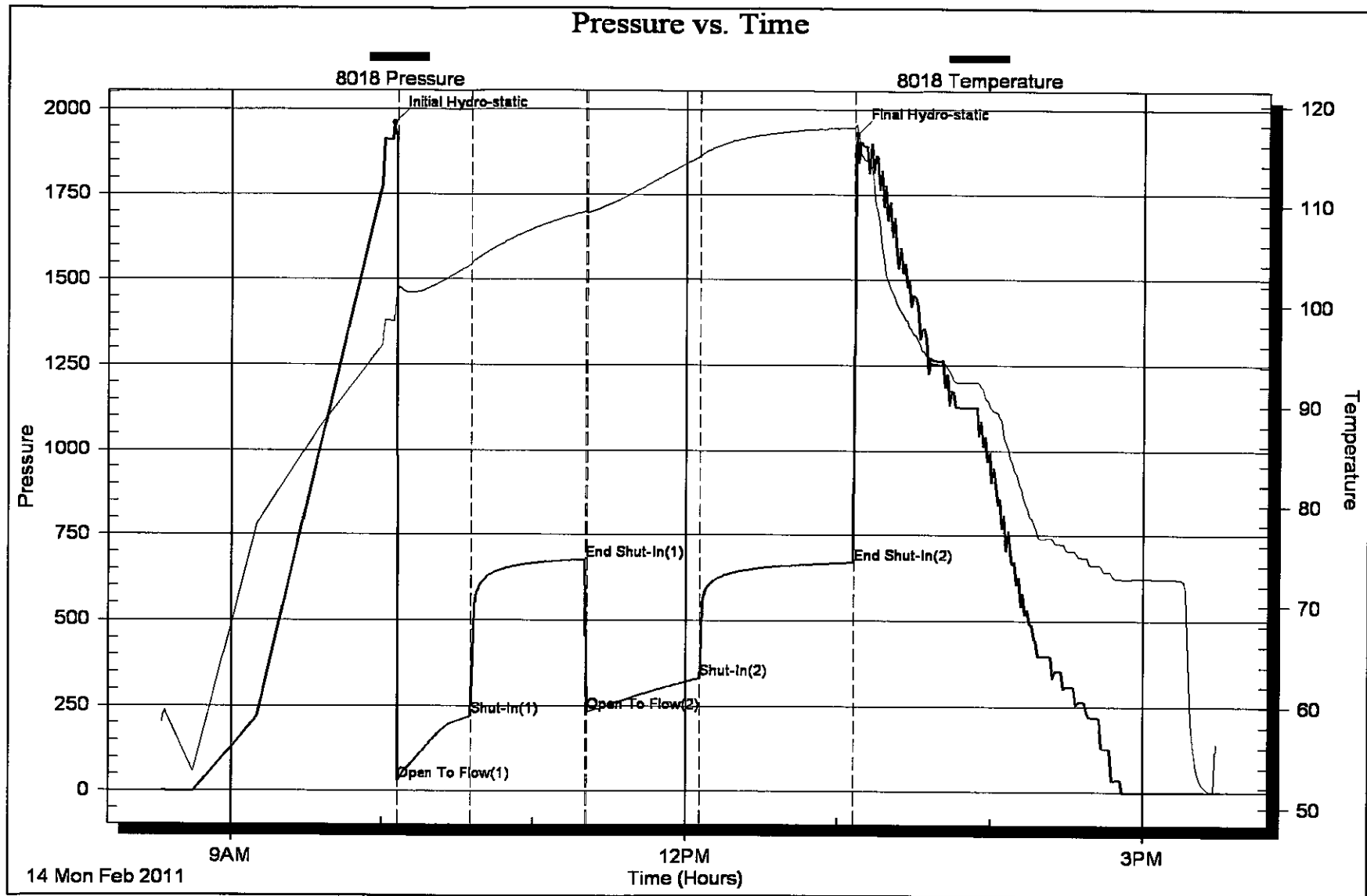
Mud Type: Gel Chem	Cushion Type:	Oil API:	39 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 65.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.76 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 1700.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	650 Feet GIP	0.000
90.00	OCM 15o 85m	0.443
810.00	GO 40g 60o	7.290

Total Length: 900.00 ft Total Volume: 7.733 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments: API: 39 @ 60 Degrees F =39





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

PO Box 783188
Wichita, KS 67278

ATTN: Tom Funk

30-13-31 Gove, KS

#2 Stieben 30 BC

Start Date: 2011.02.14 @ 21:47:00

End Date: 2011.02.15 @ 04:33:50

Job Ticket #: 040650 DST #: 4

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration

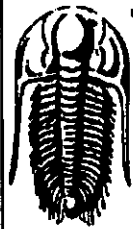
#2 Stieben 30 BC

30-13-31 Gove, KS

DST # 4

LKC:E

2011.02.14



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration

PO Box 783188
Wichita, KS 67278

ATTN: Tom Funk

#2 Stieben 30 BC

30-13-31 Gove, KS

Job Ticket: 040650

DST#: 4

Test Start: 2011.02.14 @ 21:47:00

GENERAL INFORMATION:

Formation: LKC 'E

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:42:10

Time Test Ended: 04:33:50

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Interval: 4012.00 ft (KB) To 4030.00 ft (KB) (TVD)

Total Depth: 4030.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2916.00 ft (KB)

2906.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8018

Inside

Press@RunDepth: 161.83 psig @ 4017.00 ft (KB)

Start Date: 2011.02.14

End Date:

2011.02.15

Start Time: 21:47:05

End Time:

04:33:50

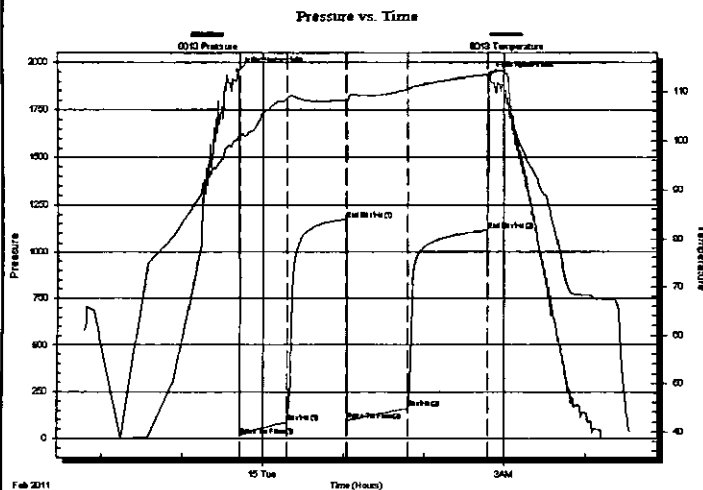
Capacity: 8000.00 psig

Last Calib.: 2011.02.15

Time On Btm: 2011.02.14 @ 23:40:50

Time Off Btm: 2011.02.15 @ 02:49:09

TEST COMMENT: IF: B.O.B. @ 25 min
IS: Surface return, died @ 10 min.
FF: B.O.B @ 38 min.
FS: 1" Return.



PRESSURE SUMMARY

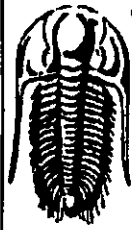
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1954.65	100.05	Initial Hydro-static
2	16.17	100.14	Open To Flow (1)
37	87.16	108.70	Shut-In(1)
82	1174.94	108.34	End Shut-In(1)
83	95.04	107.89	Open To Flow (2)
127	161.83	110.45	Shut-In(2)
187	1118.15	113.34	End Shut-In(2)
189	1927.32	113.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW: 265 @ 58 Degrees F = 30000 PPM	0.00
90.00	SOCMW 2o 13m 85w	0.44
360.00	GMCO 20g 30m 50o	1.77
60.00	GO 10g 90o	0.30
0.00	30 Feet GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 040650

DST#: 4

ATTN: Tom Funk

Test Start: 2011.02.14 @ 21:47:00

Tool Information

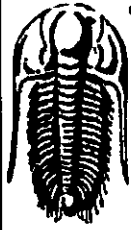
Drill Pipe:	Length: 3487.00 ft	Diameter: 3.80 inches	Volume: 48.91 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 537.00 ft	Diameter: 2.25 inches	Volume: 2.64 bbl	Weight to Pull Loose:	80000.00 lb
			Total Volume: 51.55 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	71000.00 lb
Depth to Top Packer:	4012.00 ft			Final	72000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	18.00 ft				
Tool Length:	38.00 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			3993.00	
Shut In Tool	5.00			3998.00	
Hydraulic tool	5.00			4003.00	
Packer	5.00			4008.00	20.00 Bottom Of Top Packer
Packer	4.00			4012.00	
Stubb	1.00			4013.00	
Perforations	4.00			4017.00	
Recorder	0.00	8018	Inside	4017.00	
Recorder	0.00	6751	Outside	4017.00	
Perforations	10.00			4027.00	
Bullnose	3.00			4030.00	18.00 Bottom Packers & Anchor

Total Tool Length: 38.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 040650

DST#: 4

ATTN: Tom Funk

Test Start: 2011.02.14 @ 21:47:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

30000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.76 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	RW.265 @ 58 Degrees F = 30000 PPM	0.000
90.00	SOCMW 2o 13m 85w	0.443
360.00	GMCO 20g 30m 50o	1.770
60.00	GO 10g 90o	0.295
0.00	30 Feet GIP	0.000

Total Length: 510.00 ft Total Volume: 2.508 bbl

Num Fluid Samples: 0

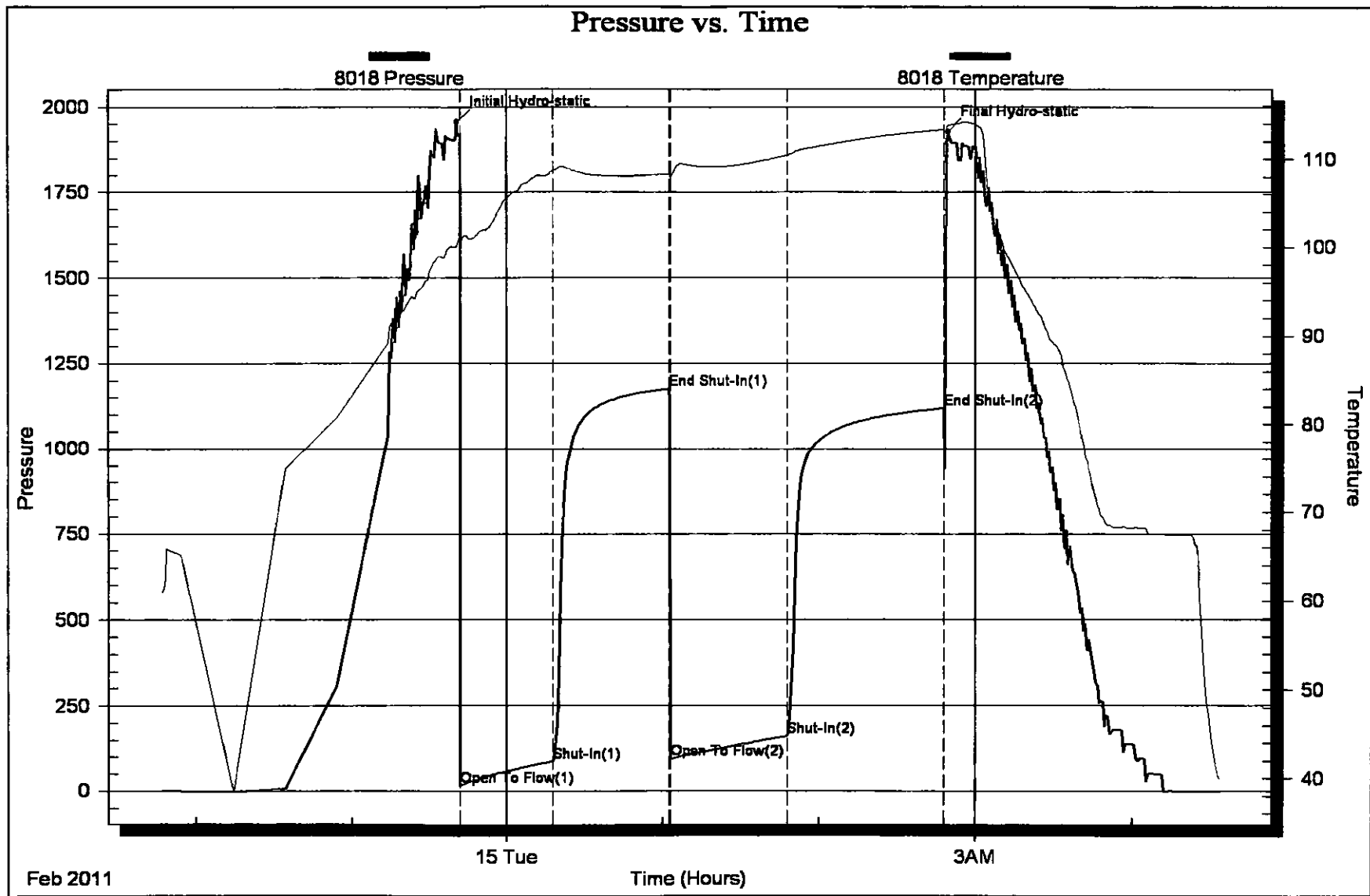
Num Gas Bombs: 0

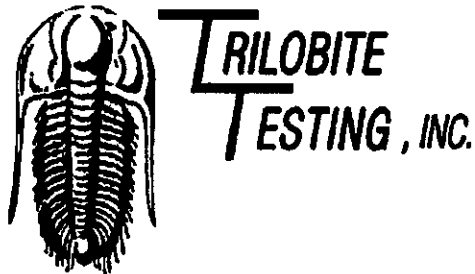
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 38 @ 50 Degrees F = 39





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

PO Box 783188
Wichita, KS 67278

ATTN: Tom Funk

30-13-31 Gove, KS

#2 Stieben 30 BC

Start Date: 2011.02.15 @ 15:05:00

End Date: 2011.02.15 @ 21:28:30

Job Ticket #: 041151 DST #: 5

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration

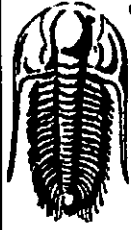
#2 Stieben 30 BC

30-13-31 Gove, KS

DST # 5

LKC:HF

2011.02.15



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041151

DST#: 5

ATTN: Tom Funk

Test Start: 2011.02.15 @ 15:05:00

GENERAL INFORMATION:

Formation: **LKC 'H'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:41:00

Time Test Ended: 21:28:30

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Interval: **4092.00 ft (KB) To 4120.00 ft (KB) (TVD)**

Reference Elevations: 2916.00 ft (KB)

Total Depth: 4120.00 ft (KB) (TVD)

2906.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6751

Outside

Press@RunDepth: 134.30 psig @ 4097.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.02.15

End Date:

2011.02.15

Last Calib.: 2011.02.15

Start Time: 15:05:05

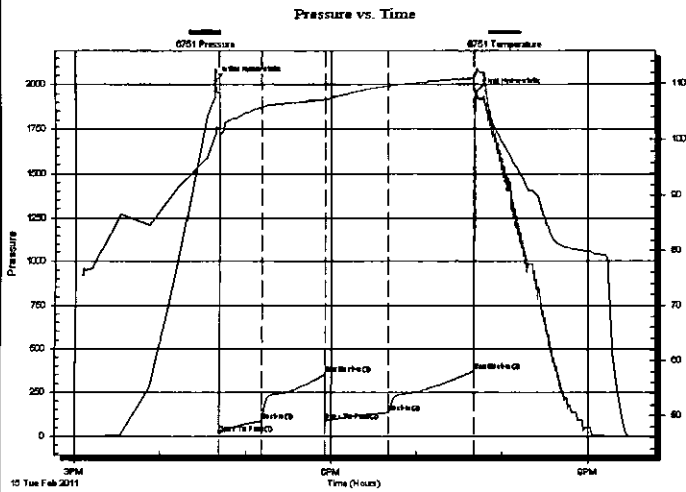
End Time:

21:28:29

Time On Btm: 2011.02.15 @ 16:38:30

Time Off Btm: 2011.02.15 @ 19:41:39

TEST COMMENT: IF: B.O.B. @ 23 min.
IS: Surface return died @ 7 min.
FF: B.O.B. @ 36 min.
FS: 1/2" Return.



PRESSURE SUMMARY

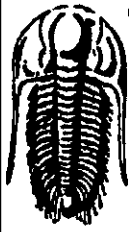
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2022.16	101.98	Initial Hydro-static
3	15.48	100.82	Open To Flow (1)
33	85.27	105.71	Shut-In(1)
77	356.68	107.26	End Shut-In(1)
78	89.27	107.18	Open To Flow (2)
122	134.30	109.59	Shut-In(2)
182	376.56	111.07	End Shut-In(2)
184	1959.11	112.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	GMCO 25g 20m 55o	0.89
135.00	GMCO 10g 15m 75o	0.66
0.00	405 Feet GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041151

DST#: 5

ATTN: Tom Funk

Test Start: 2011.02.15 @ 15:05:00

Tool Information

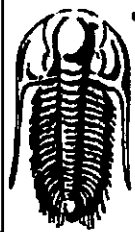
Drill Pipe:	Length: 3550.00 ft	Diameter: 3.80 inches	Volume: 49.80 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 537.00 ft	Diameter: 2.25 inches	Volume: 2.64 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 52.44 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4092.00 ft			Final 71000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	48.00 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			4073.00	
Shut In Tool	5.00			4078.00	
Hydraulic tool	5.00			4083.00	
Packer	5.00			4088.00	20.00 Bottom Of Top Packer
Packer	4.00			4092.00	
Stubb	1.00			4093.00	
Perforations	4.00			4097.00	
Recorder	0.00	8018	Inside	4097.00	
Recorder	0.00	6751	Outside	4097.00	
Perforations	20.00			4117.00	
Bullnose	3.00			4120.00	28.00 Bottom Packers & Anchor

Total Tool Length: 48.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

ATTN: Tom Funk

Job Ticket: 041151

DST#: 5

Test Start: 2011.02.15 @ 15:05:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

41 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
180.00	GMCO 25g 20m 55o	0.885
135.00	GMCO 10g 15m 75o	0.664
0.00	405 Feet GIP	0.000

Total Length: 315.00 ft Total Volume: 1.549 bbl

Num Fluid Samples: 0

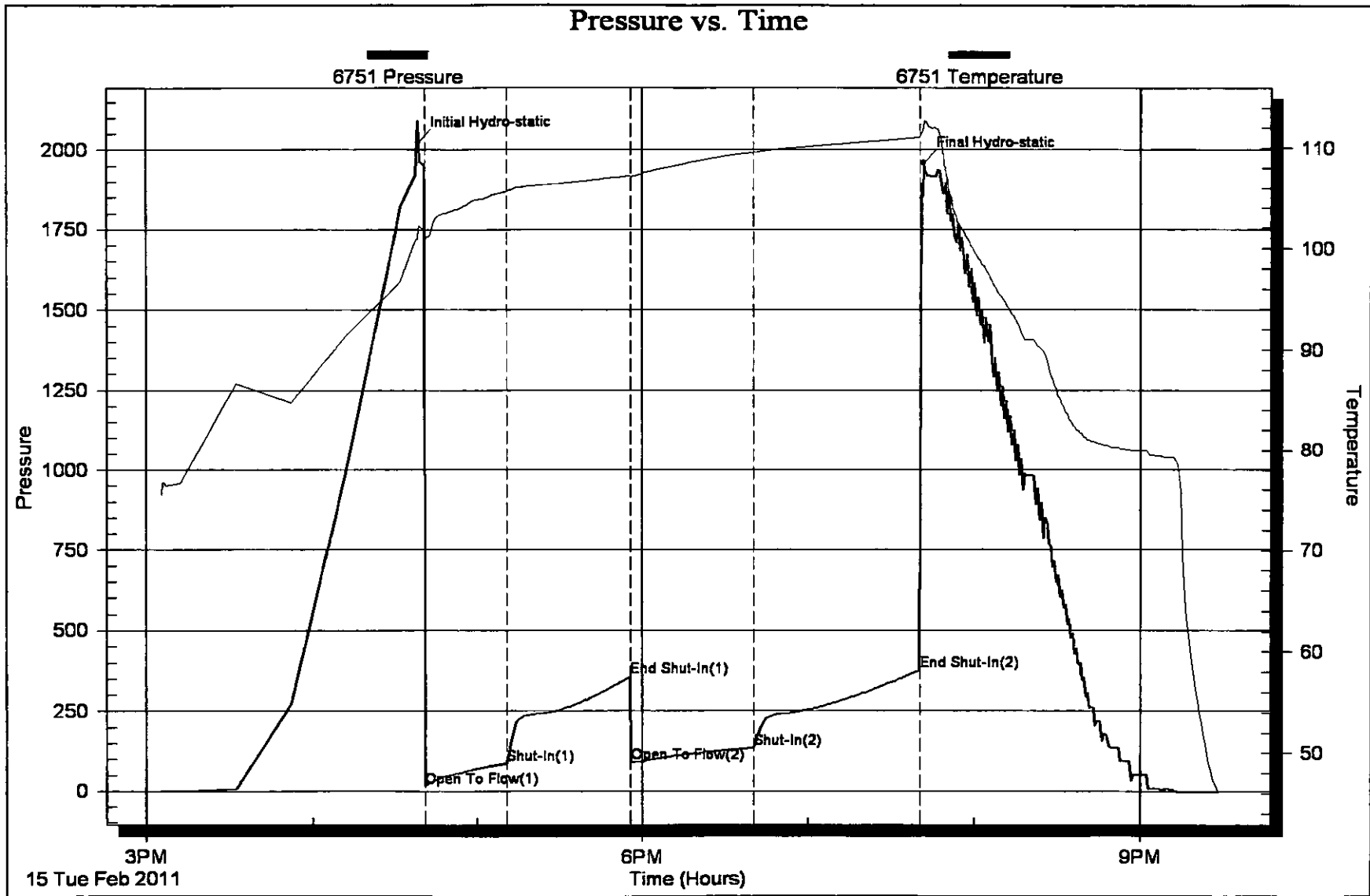
Num Gas Bombs: 0

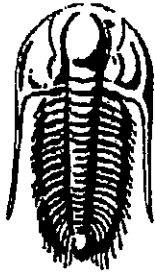
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API:40 @ 50 Degrees F = 41.





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

PO Box 783188
Wichita, KS 67278

ATTN: Tom Funk

30-13-31 Gove, KS

#2 Stieben 30 BC

Start Date: 2011.02.16 @ 04:19:00

End Date: 2011.02.16 @ 11:06:00

Job Ticket #: 041152 DST #: 6

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration

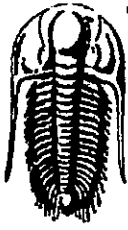
#2 Stieben 30 BC

30-13-31 Gove, KS

DST # 6

LKC "P"

2011.02.16



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041152

DST#: 6

ATTN: Tom Funk

Test Start: 2011.02.16 @ 04:19:00

GENERAL INFORMATION:

Formation: LKC "I"

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:50:00

Time Test Ended: 11:06:00

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Interval: 4122.00 ft (KB) To 4152.00 ft (KB) (TVD)

Total Depth: 4152.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2916.00 ft (KB)

2906.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8018

Inside

Press@RunDepth: 521.22 psig @ 4127.00 ft (KB)

Start Date: 2011.02.16

End Date:

2011.02.16

Capacity: 8000.00 psig

Last Calib.: 2011.02.16

Start Time: 04:19:05

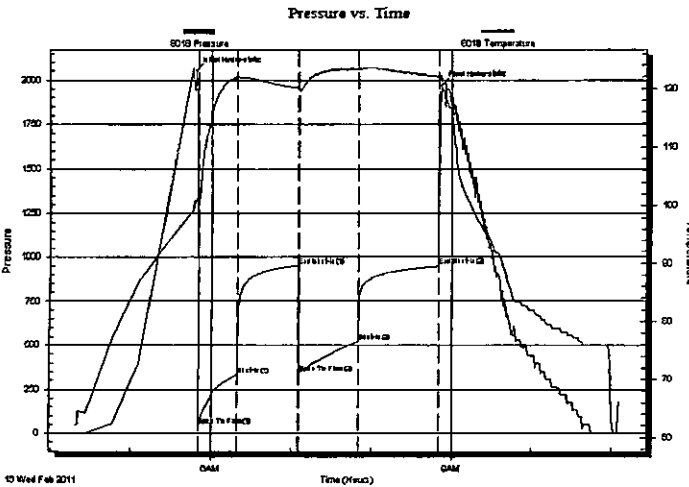
End Time:

11:05:59

Time On Btm: 2011.02.16 @ 05:48:20

Time Off Btm: 2011.02.16 @ 08:51:50

TEST COMMENT: IF: B.O.B. @ 5 min.
IS: 4" Return.
FF: B.O.B. @ 8 min.
FS: 9" Return.



PRESSURE SUMMARY

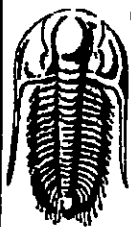
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2050.35	100.81	Initial Hydro-static
2	41.88	100.77	Open To Flow (1)
32	335.85	122.03	Shut-In(1)
77	953.53	120.10	End Shut-In(1)
78	344.30	119.74	Open To Flow (2)
122	521.22	123.39	Shut-In(2)
182	949.44	122.09	End Shut-In(2)
184	1971.03	121.63	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW:180 @ 63 Degrees F = 45000 PPM	0.00
837.00	OSMW 15m 85w Popping gas	6.85
270.00	GVMCO 20g 20m 20w 40o	3.79
45.00	CGO 10g 90o	0.63
0.00	333 Feet GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041152

DST#: 6

ATTN: Tom Funk

Test Start: 2011.02.16 @ 04:19:00

Tool Information

Drill Pipe:	Length: 3582.00 ft	Diameter: 3.80 inches	Volume: 50.25 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: 537.00 ft	Diameter: 2.25 inches	Volume: 2.64 bbl	Weight to Pull Loose: 88000.00 lb
			<u>Total Volume: 52.89 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 71000.00 lb
Depth to Top Packer:	4122.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	50.00 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			4103.00	
Shut In Tool	5.00			4108.00	
Hydraulic tool	5.00			4113.00	
Packer	5.00			4118.00	20.00 Bottom Of Top Packer
Packer	4.00			4122.00	
Stubb	1.00			4123.00	
Perforations	4.00			4127.00	
Recorder	0.00	8018	Inside	4127.00	
Recorder	0.00	6751	Outside	4127.00	
Perforations	22.00			4149.00	
Bullnose	3.00			4152.00	30.00 Bottom Packers & Anchor

Total Tool Length: 50.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041152

DST#: 6

ATTN: Tom Funk

Test Start: 2011.02.16 @ 04:19:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

41 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

45000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	RW: 180 @ 63 Degrees F = 45000 PPM	0.000
837.00	OSMW 15m 85w Popping gas	6.849
270.00	GWMCO 20g 20m 20w 40o	3.787
45.00	CGO 10g 90o	0.631
0.00	333 Feet GIP	0.000

Total Length: 1152.00 ft Total Volume: 11.267 bbl

Num Fluid Samples: 0

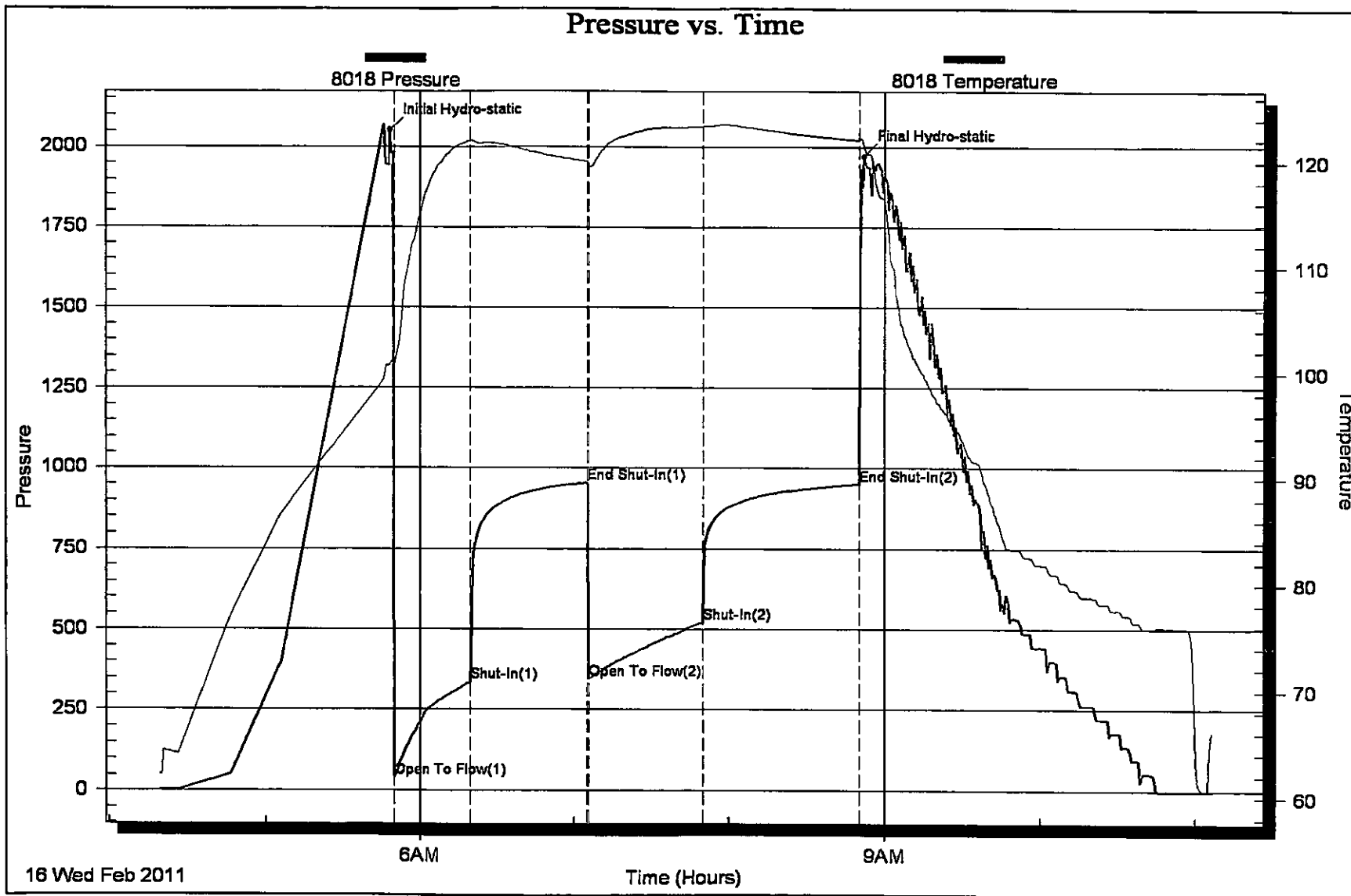
Num Gas Bombs: 0

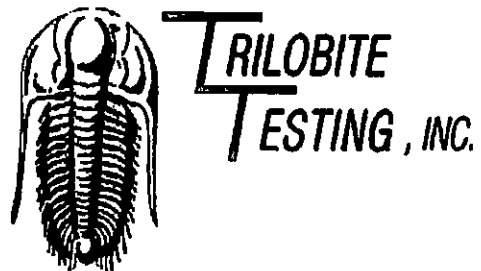
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API 41 @ 60 Degrees F = 41





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

PO Box 783188
Wichita, KS 67278

ATTN: Tom Funk

30-13-31 Gove, KS

#2 Stieben 30 BC

Start Date: 2011.02.16 @ 16:49:00

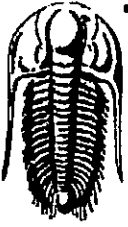
End Date: 2011.02.16 @ 23:40:50

Job Ticket #: 041153 DST #: 7

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041153

DST#: 7

ATTN: Tom Funk

Test Start: 2011.02.16 @ 16:49:00

GENERAL INFORMATION:

Formation: LKC 'J'

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:29:40

Time Test Ended: 23:40:50

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Interval: 4152.00 ft (KB) To 4175.00 ft (KB) (TVD)

Total Depth: 4175.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2916.00 ft (KB)

2906.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8018

Inside

Press@RunDepth: 216.62 psig @ 4157.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.02.16

End Date:

2011.02.16

Last Calib.: 2011.02.16

Start Time: 16:49:05

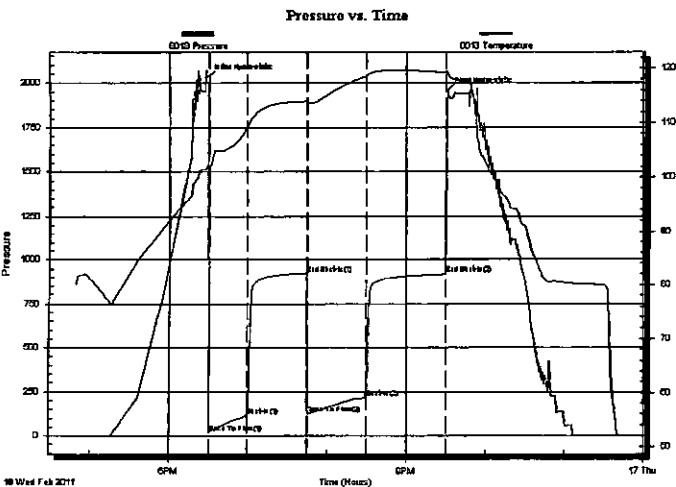
End Time:

23:40:50

Time On Btm: 2011.02.16 @ 18:28:10

Time Off Btm: 2011.02.16 @ 21:31:00

TEST COMMENT: IF: B.O.B. @ 13 min.
IST: 1 1/2" Return.
FF: B.O.B. @ 21 min.
FSt: 2" Return.



PRESSURE SUMMARY

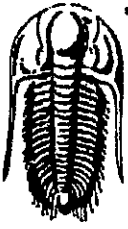
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2030.94	101.53	Initial Hydro-static
2	16.50	101.37	Open To Flow (1)
32	112.83	109.21	Shut-In(1)
76	923.38	113.97	End Shut-In(1)
77	122.68	113.53	Open To Flow (2)
122	216.62	118.59	Shut-In(2)
182	918.48	119.30	End Shut-In(2)
183	1956.29	119.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW: 185 @ 60 Degrees F = 45000 PPM	0.00
90.00	GMCW 5g 40m 55w	0.44
90.00	GOCM 5g 40o 55m	0.44
390.00	GO 20g 80o	2.22
0.00	330 Feet GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041153

DST#: 7

ATTN: Tom Funk

Test Start: 2011.02.16 @ 16:49:00

Tool Information

Drill Pipe:	Length: 3614.00 ft	Diameter: 3.80 inches	Volume: 50.69 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: 537.00 ft	Diameter: 2.25 inches	Volume: 2.64 bbl	Weight to Pull Loose: 80000.00 lb
		Total Volume:	53.33 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 71000.00 lb
Depth to Top Packer:	4152.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	23.00 ft			
Tool Length:	43.00 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			4133.00	
Shut In Tool	5.00			4138.00	
Hydraulic tool	5.00			4143.00	
Packer	5.00			4148.00	20.00 Bottom Of Top Packer
Packer	4.00			4152.00	
Stubb	1.00			4153.00	
Perforations	4.00			4157.00	
Recorder	0.00	8018	Inside	4157.00	
Recorder	0.00	6751	Outside	4157.00	
Perforations	15.00			4172.00	
Bullnose	3.00			4175.00	23.00 Bottom Packers & Anchor

Total Tool Length: 43.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041153

DST#: 7

ATTN: Tom Funk

Test Start: 2011.02.16 @ 16:49:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

45000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.17 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	RW.185 @ 60 Degrees F = 45000 PPM	0.000
90.00	GMCW 5g 40m 55w	0.443
90.00	GOCM 5g 40o 55m	0.443
390.00	GO 20g 80o	2.219
0.00	330 Feet GIP	0.000

Total Length: 570.00 ft Total Volume: 3.105 bbl

Num Fluid Samples: 0

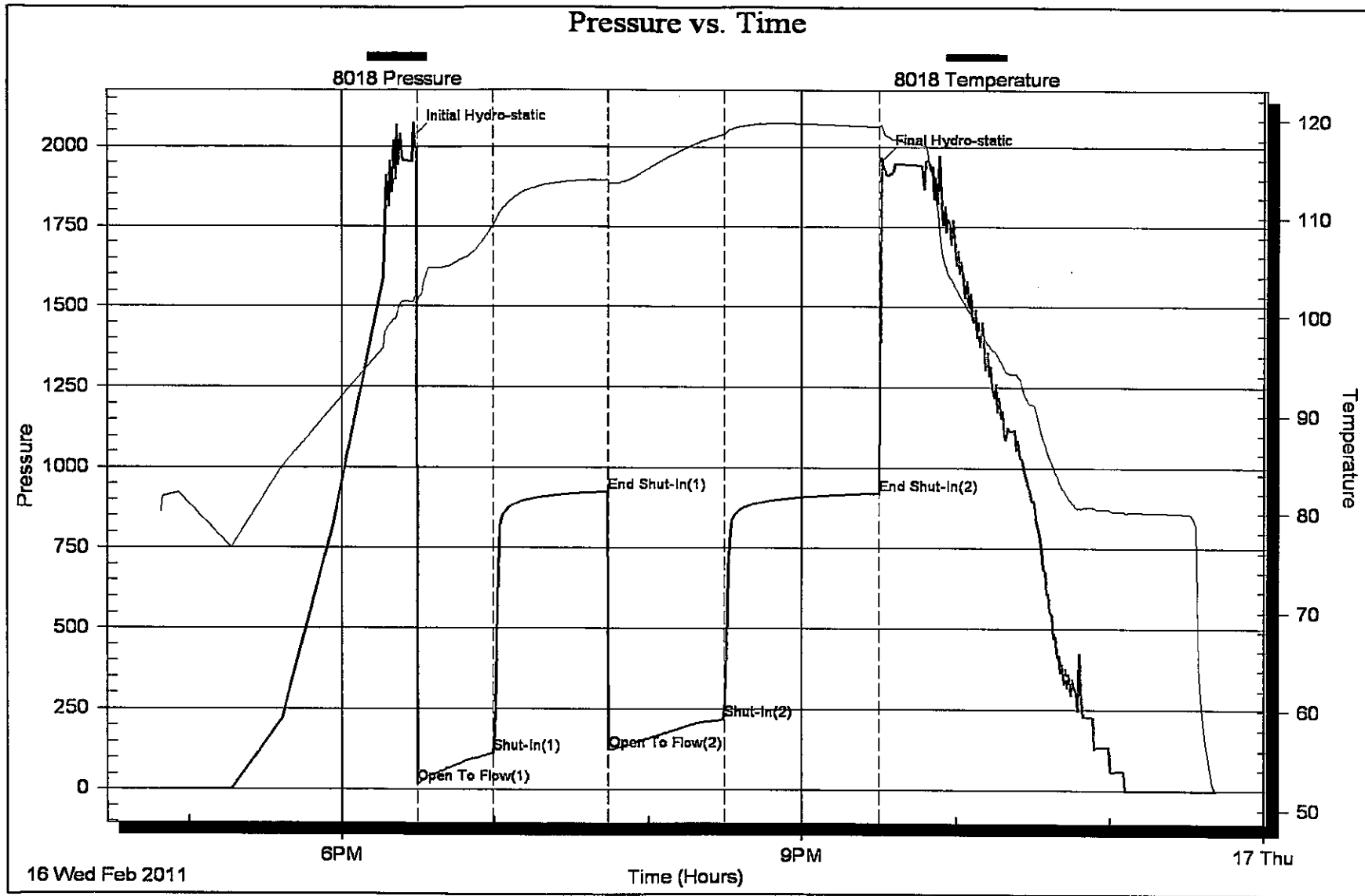
Num Gas Bombs: 0

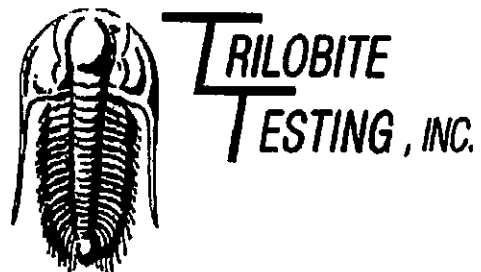
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 38 @ 50 Degrees F = 39.





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

PO Box 783188
Wichita, KS 67278

ATTN: Tom Funk

30-13-31 Gove, KS

#2 Stieben 30 BC

Start Date: 2011.02.17 @ 07:02:00

End Date: 2011.02.17 @ 13:51:39

Job Ticket #: 041154 DST #: 8

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration

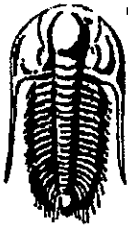
#2 Stieben 30 BC

30-13-31 Gove, KS

DST # 8

LKC 'K'

2011.02.17



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041154

DST#: 8

ATTN: Tom Funk

Test Start: 2011.02.17 @ 07:02:00

GENERAL INFORMATION:

Formation: LKC 'K

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:53:10

Time Test Ended: 13:51:39

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Interval: 4178.00 ft (KB) To 4200.00 ft (KB) (TVD)

Total Depth: 4200.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2916.00 ft (KB)

2906.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8018

Inside

Press@RunDepth: 316.82 psig @ 4182.00 ft (KB)

Start Date: 2011.02.17

End Date:

2011.02.17

Start Time: 07:02:05

End Time:

13:51:40

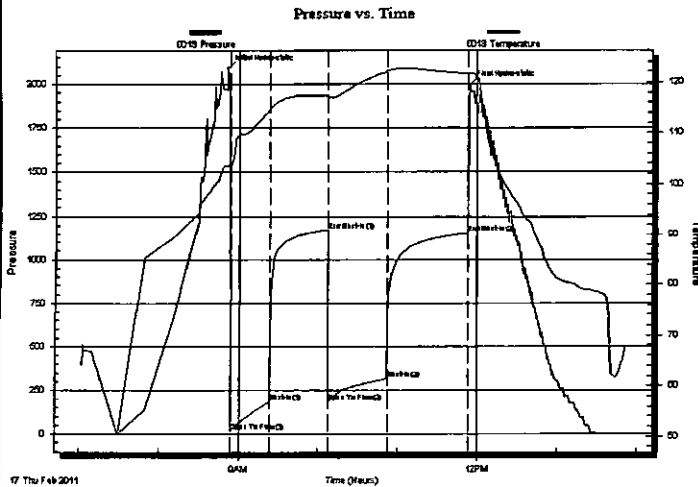
Capacity: 8000.00 psig

Last Calib.: 2011.02.17

Time On Btm: 2011.02.17 @ 08:51:20

Time Off Btm: 2011.02.17 @ 11:54:00

TEST COMMENT: IF: B.O.B. @ 19 min.
IS: No return.
FF: B.O.B. @ 28 min.
FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2087.92	103.45	Initial Hydro-static
2	18.91	103.01	Open To Flow (1)
32	184.47	114.47	Shut-In (1)
77	1173.67	117.36	End Shut-In (1)
77	185.54	116.75	Open To Flow (2)
122	316.82	121.97	Shut-In (2)
182	1153.12	121.63	End Shut-In (2)
183	1994.89	121.74	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW: .174 @ 61 Degrees F = 48000 PPM	0.00
447.00	MW 10m 90w	2.20
120.00	OSMW 50m 50w	0.86

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#2 Stleben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041154

DST#: 8

ATTN: Tom Funk

Test Start: 2011.02.17 @ 07:02:00

Tool Information

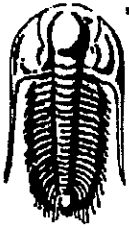
Drill Pipe:	Length: 3646.00 ft	Diameter: 3.80 inches	Volume: 51.14 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 537.00 ft	Diameter: 2.25 inches	Volume: 2.64 bbl	Weight to Pull Loose: 82000.00 lb
			Total Volume: 53.78 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4178.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	42.00 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			4159.00	
Shut In Tool	5.00			4164.00	
Hydraulic tool	5.00			4169.00	
Packer	5.00			4174.00	20.00 Bottom Of Top Packer
Packer	4.00			4178.00	
Stubb	1.00			4179.00	
Perforations	3.00			4182.00	
Recorder	0.00	8018	Inside	4182.00	
Recorder	0.00	6751	Outside	4182.00	
Perforations	15.00			4197.00	
Bullnose	3.00			4200.00	22.00 Bottom Packers & Anchor

Total Tool Length: 42.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041154

DST#: 8

ATTN: Tom Funk

Test Start: 2011.02.17 @ 07:02:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

48000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	RW: .174 @ 61 Degrees F = 48000 PPM	0.000
447.00	MW 10m 90w	2.198
120.00	OSMW 50m 50w	0.863

Total Length: 567.00 ft

Total Volume: 3.061 bbl

Num Fluid Samples: 0

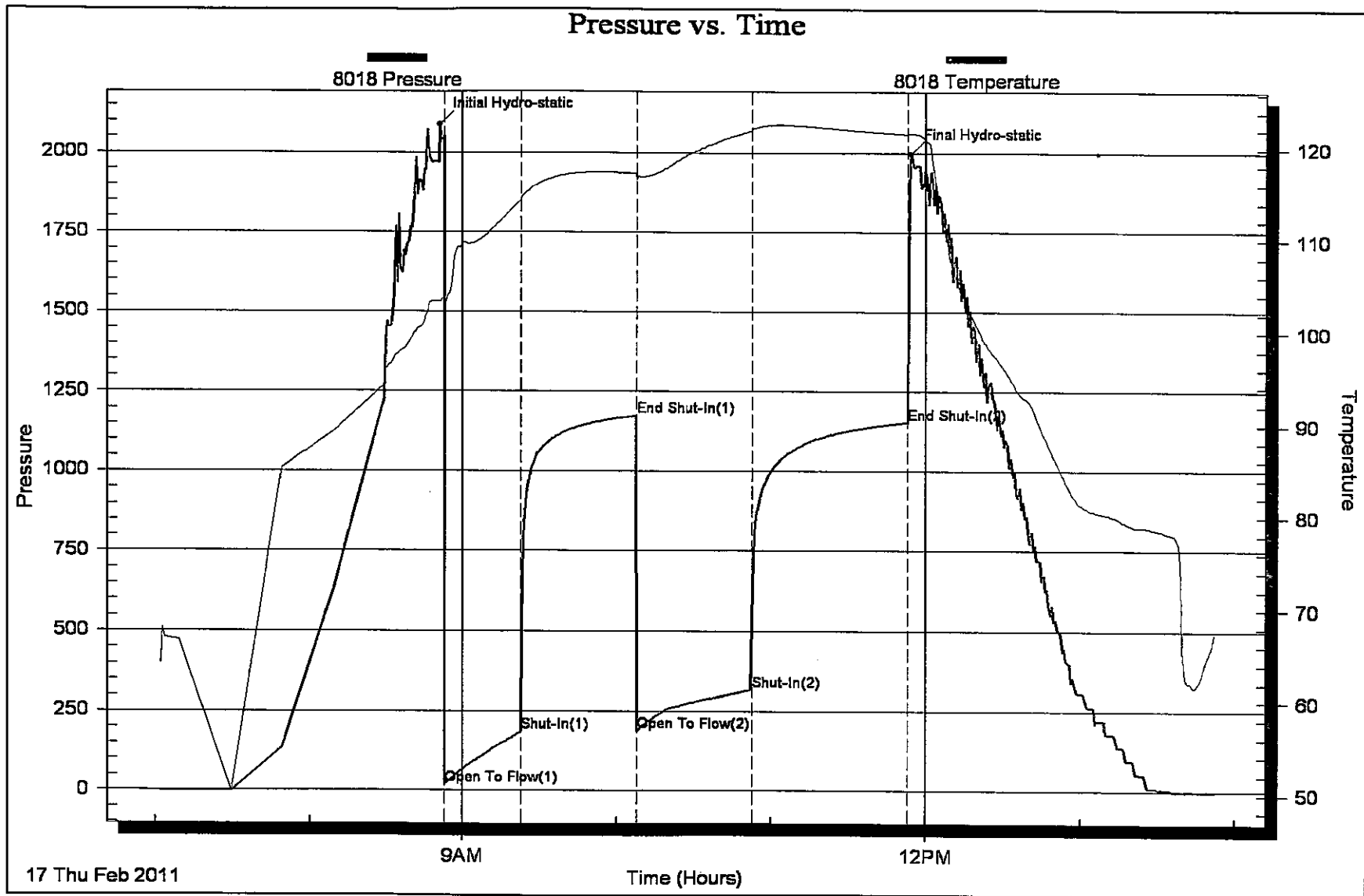
Num Gas Bombs: 0

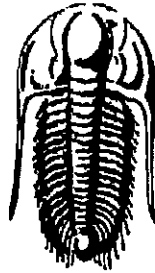
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

PO Box 783188
Wichita, KS 67278

ATTN: Tom Funk

30-13-31 Gove, KS

#2 Stieben 30 BC

Start Date: 2011.02.17 @ 23:37:00

End Date: 2011.02.18 @ 06:09:09

Job Ticket #: 041155 DST #: 9

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration

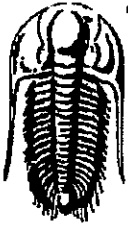
#2 Stieben 30 BC

30-13-31 Gove, KS

DST # 9

LKC 'L'

2011.02.17



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041155

DST#: 9

ATTN: Tom Funk

Test Start: 2011.02.17 @ 23:37:00

GENERAL INFORMATION:

Formation: LKC 'L'

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:32:00

Time Test Ended: 06:09:09

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Interval: 4212.00 ft (KB) To 4265.00 ft (KB) (TVD)

Total Depth: 4265.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2916.00 ft (KB)

2906.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8018

Inside

Press@RunDepth: 43.16 psig @ 4215.00 ft (KB)

Start Date: 2011.02.17

End Date:

2011.02.18

Capacity: 8000.00 psig

Last Calib.: 2011.02.18

Start Time: 23:37:05

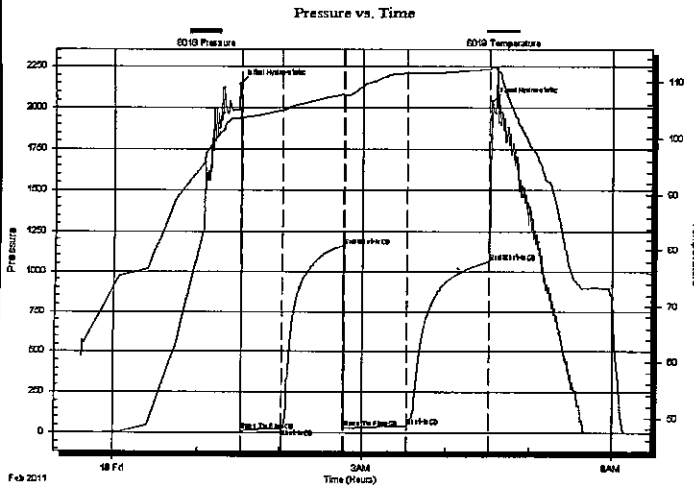
End Time:

06:09:10

Time On Btm: 2011.02.18 @ 01:30:40

Time Off Btm: 2011.02.18 @ 04:32:50

TEST COMMENT: IF: 1" Steady blow.
IS: No return.
FF: 1/2" Blow
FS: No return.



PRESSURE SUMMARY

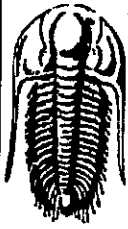
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2144.79	103.69	Initial Hydro-static
2	14.53	103.33	Open To Flow (1)
32	27.03	105.06	Shut-In(1)
77	1155.32	107.85	End Shut-In(1)
77	31.53	107.53	Open To Flow (2)
122	43.16	111.60	Shut-In(2)
181	1059.06	112.30	End Shut-In(2)
183	2040.09	112.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	OSM 100m	0.30

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041155

DST#: 9

ATTN: Tom Funk

Test Start: 2011.02.17 @ 23:37:00

Tool Information

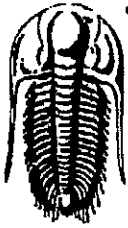
Drill Pipe:	Length: 3678.00 ft	Diameter: 3.80 inches	Volume: 51.59 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 537.00 ft	Diameter: 2.25 inches	Volume: 2.64 bbl	Weight to Pull Loose: 80000.00 lb
		Total Volume:	54.23 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4212.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	53.00 ft			
Tool Length:	73.00 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			4193.00	
Shut In Tool	5.00			4198.00	
Hydraulic tool	5.00			4203.00	
Packer	5.00			4208.00	20.00 Bottom Of Top Packer
Packer	4.00			4212.00	
Stubb	1.00			4213.00	
Perforations	2.00			4215.00	
Recorder	0.00	8018	Inside	4215.00	
Recorder	0.00	6751	Outside	4215.00	
Perforations	14.00			4229.00	
Change Over Sub	1.00			4230.00	
Drill Pipe	31.00			4261.00	
Change Over Sub	1.00			4262.00	
Bullnose	3.00			4265.00	53.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041155

DST#: 9

ATTN: Tom Funk

Test Start: 2011.02.17 @ 23:37:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.78 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	OSM 100m	0.295

Total Length: 60.00 ft

Total Volume: 0.295 bbl

Num Fluid Samples: 0

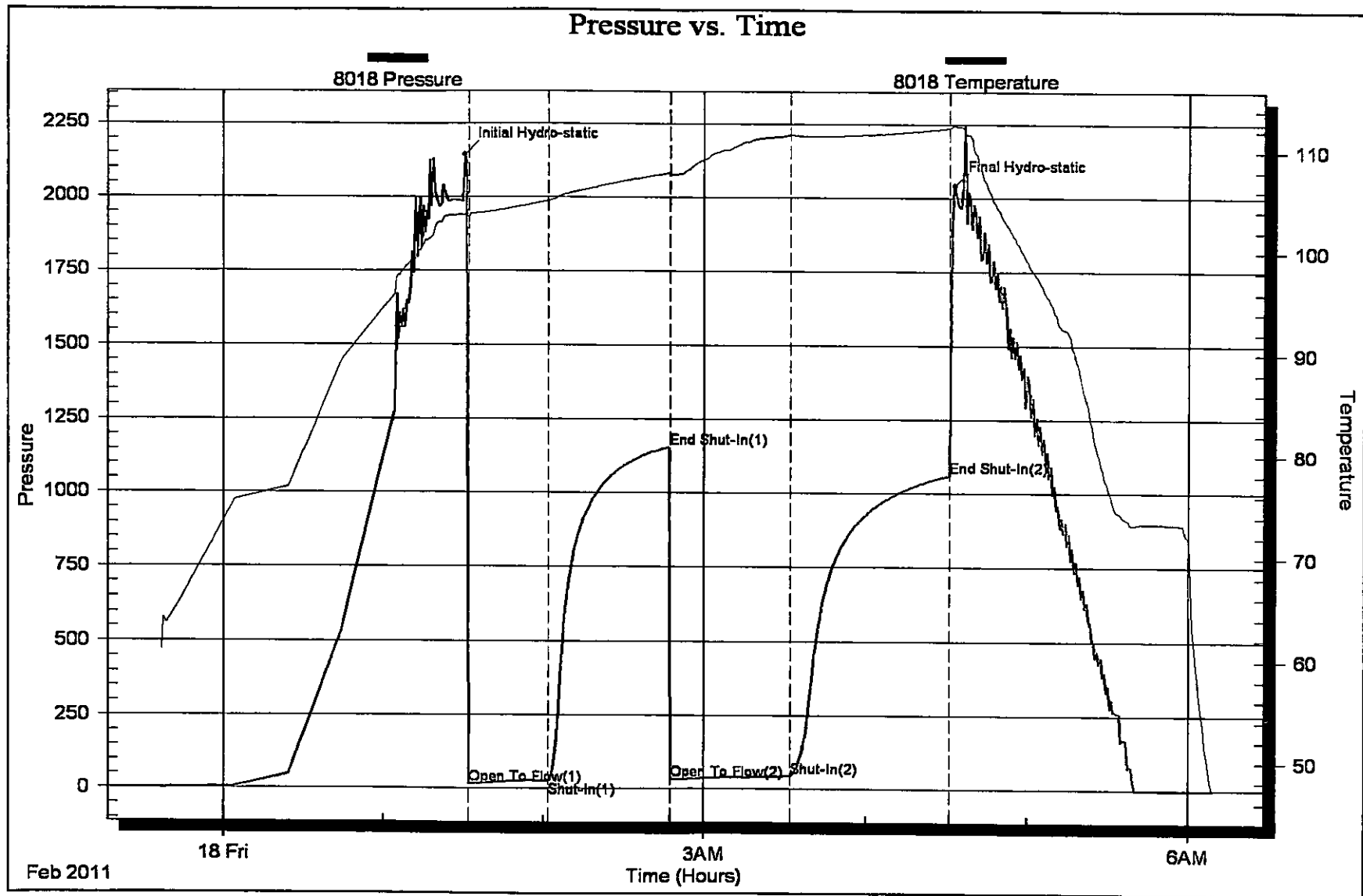
Num Gas Bombs: 0

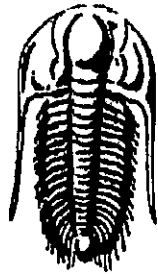
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

PO Box 783188
Wichita, KS 67278

ATTN: Tom Funk

30-13-31 Gove, KS

#2 Stieben 30 BC

Start Date: 2011.02.18 @ 22:10:00

End Date: 2011.02.19 @ 05:21:50

Job Ticket #: 041156 DST #: 10

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration

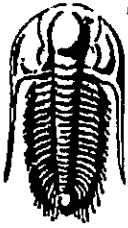
#2 Stieben 30 BC

30-13-31 Gove, KS

DST # 10

Myric St. - Fl Scot

2011.02.18



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041156

DST#: 10

ATTN: Tom Funk

Test Start: 2011.02.18 @ 22:10:00

GENERAL INFORMATION:

Formation: Myric St. - Ft. Scot
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:08:40
Time Test Ended: 05:21:50

Test Type: Conventional Bottom Hole
Tester: Chuck Smith
Unit No: 37

Interval: 4393.00 ft (KB) To 4466.00 ft (KB) (TVD)
Total Depth: 4466.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2916.00 ft (KB)
2906.00 ft (CF)
KB to GR/CF: 10.00 ft

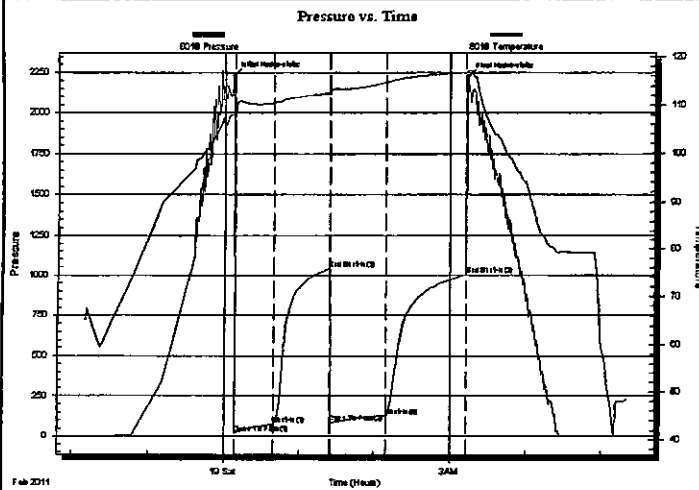
Serial #: 8018

Inside

Press@RunDepth: 126.66 psig @ 4394.00 ft (KB)
Start Date: 2011.02.18 End Date: 2011.02.19
Start Time: 22:10:05 End Time: 05:21:50

Capacity: 8000.00 psig
Last Calib.: 2011.02.19
Time On Btm: 2011.02.19 @ 00:07:20
Time Off Btm: 2011.02.19 @ 03:14:10

TEST COMMENT: IF: 8 1/2" Blow.
IS: No return.
FF: 9" Blow.
FS: 1" Return



PRESSURE SUMMARY

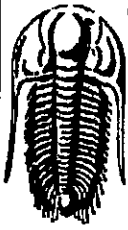
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2227.99	107.94	Initial Hydro-static
2	19.70	107.55	Open To Flow (1)
32	73.53	110.32	Shut-In(1)
77	1041.55	112.42	End Shut-In(1)
78	82.98	112.59	Open To Flow (2)
123	126.66	114.69	Shut-In(2)
186	1002.09	116.64	End Shut-In(2)
187	2226.10	117.06	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	RW: Not enough clean w ater to measure	0.00
180.00	GWOCM 15g 3w 12o 70m	0.89
45.00	GOCM 10g 40o 50m	0.22
0.00	315 Feet GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041156

DST#: 10

ATTN: Tom Funk

Test Start: 2011.02.18 @ 22:10:00

Tool Information

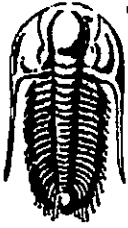
Drill Pipe:	Length: 3867.00 ft	Diameter: 3.80 inches	Volume: 54.24 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 537.00 ft	Diameter: 2.25 inches	Volume: 2.64 bbl	Weight to Pull Loose: 80000.00 lb
			Total Volume: 56.88 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 73000.00 lb
Depth to Top Packer:	4393.00 ft			Final 74000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	73.00 ft			
Tool Length:	93.00 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			4374.00	
Shut In Tool	5.00			4379.00	
Hydraulic tool	5.00			4384.00	
Packer	5.00			4389.00	20.00 Bottom Of Top Packer
Packer	4.00			4393.00	
Stubb	1.00			4394.00	
Recorder	0.00	8018	Inside	4394.00	
Recorder	0.00	6751	Outside	4394.00	
Perforations	4.00			4398.00	
Change Over Sub	1.00			4399.00	
Drill Pipe	63.00			4462.00	
Change Over Sub	1.00			4463.00	
Bullnose	3.00			4466.00	73.00 Bottom Packers & Anchor

Total Tool Length: 93.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041156

DST#: 10

ATTN: Tom Funk

Test Start: 2011.02.18 @ 22:10:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 57.00 sec/qt
Water Loss: 6.39 in³
Resistivity: 0.00 ohm.m
Salinity: 3500.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 24 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

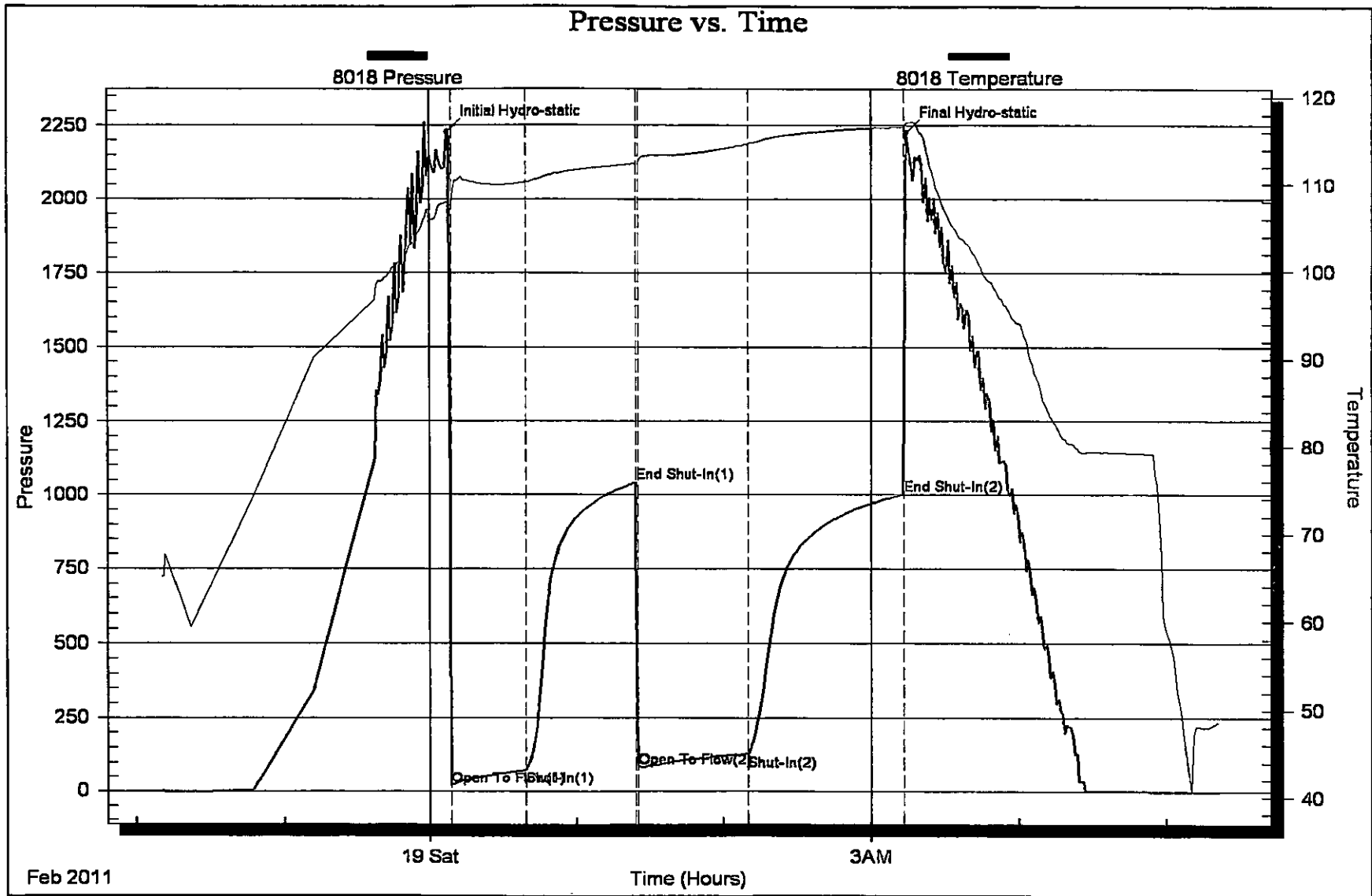
Length ft	Description	Volume bbl
0.00	RW: Not enough clean water to measure.	0.000
180.00	GWOCM 15g 3w 12o 70m	0.885
45.00	GOCM 10g 4o 50m	0.221
0.00	315 Feet GIP	0.000

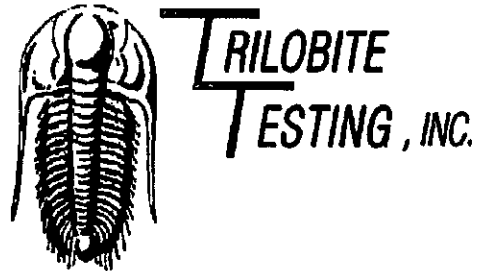
Total Length: 225.00ft Total Volume: 1.106 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: APt 22 @ 40 Degrees F = 24





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

PO Box 783188
Wichita, KS 67278

ATTN: Tom Funk

30-13-31 Gove, KS

#2 Stieben 30 BC

Start Date: 2011.02.19 @ 13:03:00

End Date: 2011.02.19 @ 19:47:39

Job Ticket #: 041157 DST #: 11

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration

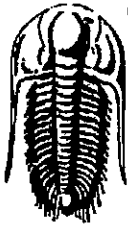
#2 Stieben 30 BC

30-13-31 Gove, KS

DST # 11

Johnson

2011.02.19



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041157

DST#: 11

ATTN: Tom Funk

Test Start: 2011.02.19 @ 13:03:00

GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:44:30

Time Test Ended: 19:47:39

Test Type: Conventional Bottom Hole

Tester: Chuck Smith

Unit No: 37

Interval: **4480.00 ft (KB) To 4512.00 ft (KB) (TVD)**

Total Depth: 4512.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2916.00 ft (KB)

2906.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: **6751**

Outside

Press@RunDepth: 163.75 psig @ 4484.00 ft (KB)

Start Date: 2011.02.19

End Date:

2011.02.19

Start Time: 13:03:05

End Time:

19:47:40

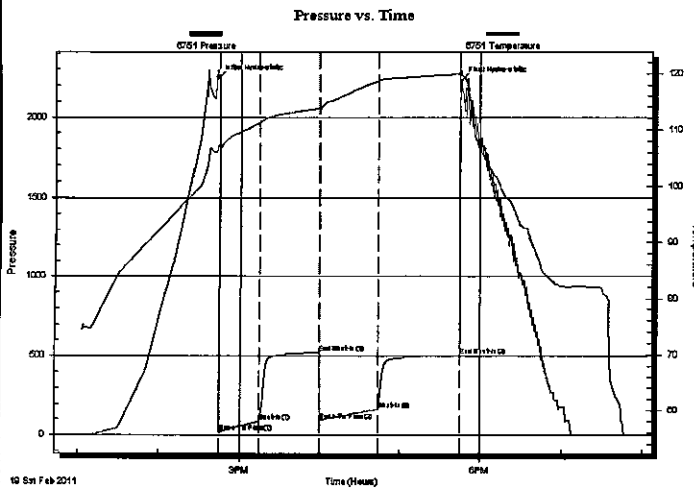
Capacity: 8000.00 psig

Last Calib.: 2011.02.19

Time On Btm: 2011.02.19 @ 14:43:00

Time Off Btm: 2011.02.19 @ 17:46:00

TEST COMMENT: IF: B.O.B. @ 22 min.
IS: 1" Return.
FF: B.O.B. @ 21 min.
FS: 3" Return.



PRESSURE SUMMARY

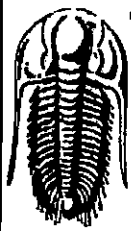
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2243.85	107.09	Initial Hydro-static
2	16.47	106.49	Open To Flow (1)
32	85.83	111.33	Shut-In(1)
77	518.49	113.74	End Shut-In(1)
77	90.89	113.62	Open To Flow (2)
122	163.75	118.75	Shut-In(2)
182	503.62	119.93	End Shut-In(2)
183	2228.90	120.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbbl)
90.00	GOCM 30g 10o 60m	0.44
180.00	GOCM 30g 20o 50m	0.89
225.00	GO 25g 75o	1.11
0.00	235 Feet GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041157

DST#: 11

ATTN: Tom Funk

Test Start: 2011.02.19 @ 13:03:00

Tool Information

Drill Pipe:	Length: 3931.00 ft	Diameter: 3.80 inches	Volume: 55.14 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: 537.00 ft	Diameter: 2.25 inches	Volume: 2.64 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 57.78 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4480.00 ft			Final 73000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	52.00 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			4461.00	
Shut In Tool	5.00			4466.00	
Hydraulic tool	5.00			4471.00	
Packer	5.00			4476.00	20.00 Bottom Of Top Packer
Packer	4.00			4480.00	
Stubb	1.00			4481.00	
Perforations	3.00			4484.00	
Recorder	0.00	8018	Inside	4484.00	
Recorder	0.00	6751	Outside	4484.00	
Perforations	25.00			4509.00	
Bullnose	3.00			4512.00	32.00 Bottom Packers & Anchor

Total Tool Length: 52.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041157

DST#: 11

ATTN: Tom Funk

Test Start: 2011.02.19 @ 13:03:00

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 63.00 sec/qt
Water Loss: 7.19 in³
Resistivity: 0.00 ohm.m
Salinity: 3000.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 32 deg API
Water Salinity: 0 ppm

Recovery Information

Recovery Table

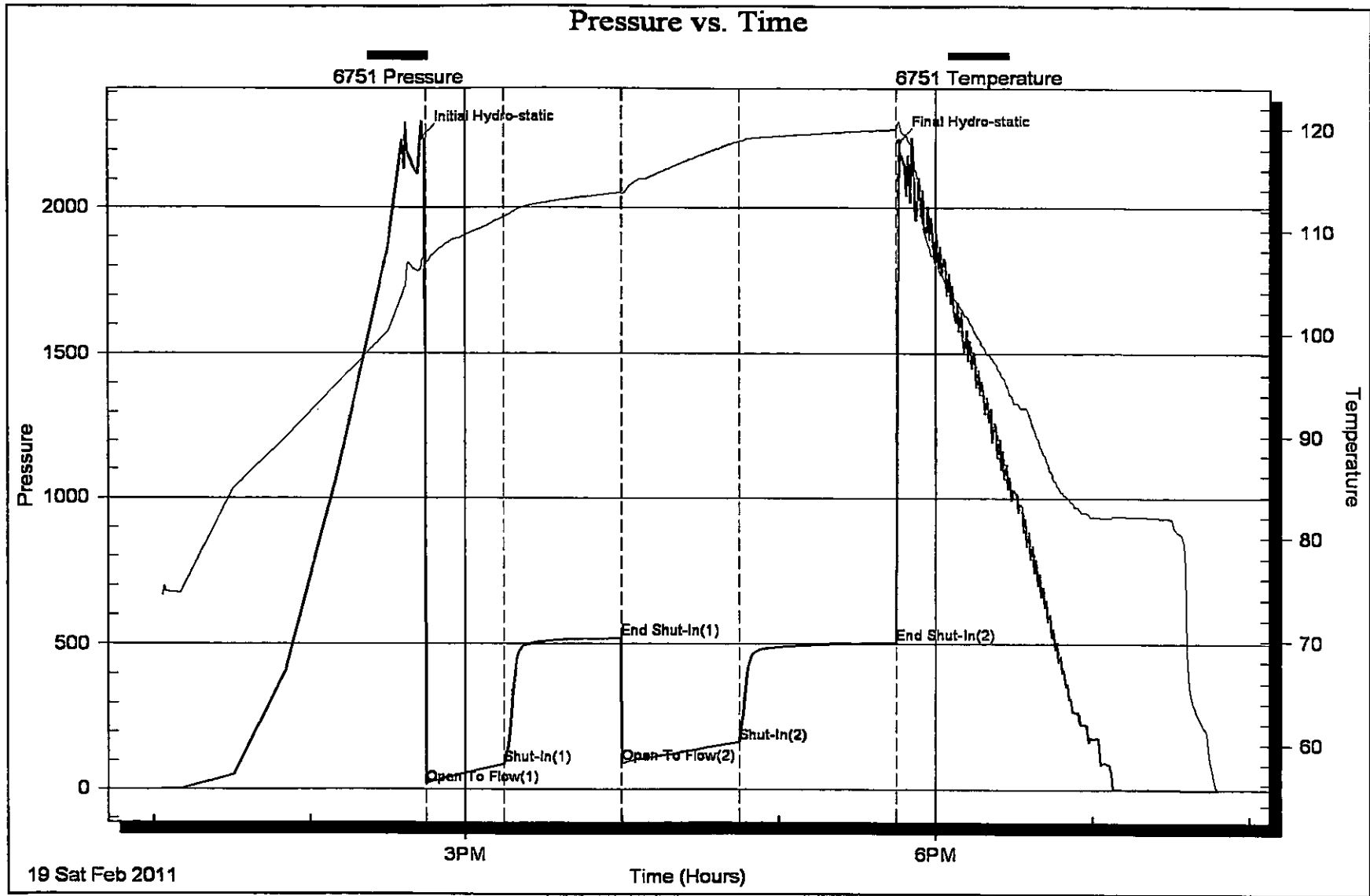
Length ft	Description	Volume bbl
90.00	GOCM 30g 10o 60m	0.443
180.00	GOCM 30g 20o 50m	0.885
225.00	GO 25g 75o	1.107
0.00	235 Feet GIP	0.000

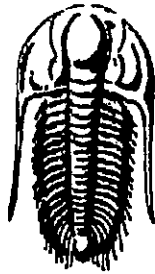
Total Length: 495.00 ft Total Volume: 2.435 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: API: 32 @ 60 Degrees F = 32.





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

PO Box 783188
Wichita, KS 67278

ATTN: Tom Funk

30-13-31 Gove, KS

#2 Stieben 30 BC

Start Date: 2011.02.20 @ 02:40:00

End Date: 2011.02.20 @ 10:01:00

Job Ticket #: 041158 DST #: 12

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration

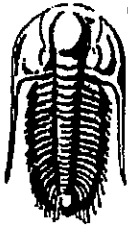
#2 Stieben 30 BC

30-13-31 Gove, KS

DST # 12

Johnson

2011.02.20



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration
PO Box 783188
Wichita, KS 67278
ATTN: Tom Funk

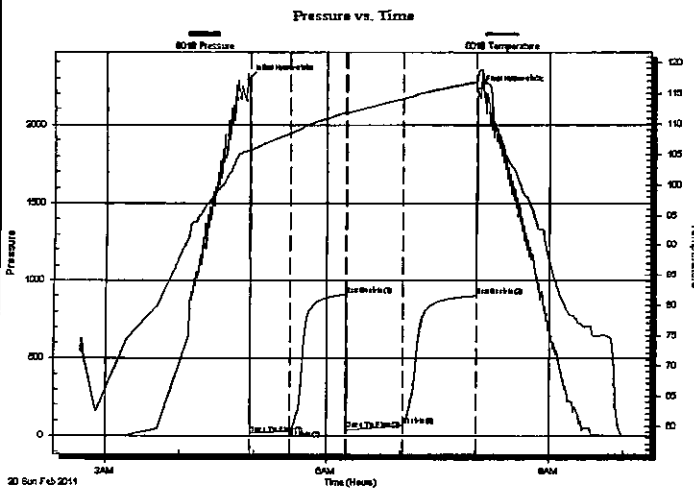
#2 Stieben 30 BC
30-13-31 Gove, KS
Job Ticket: 041158 DST#: 12
Test Start: 2011.02.20 @ 02:40:00

GENERAL INFORMATION:

Formation: **Johnson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:56:30
Time Test Ended: 10:01:00
Interval: **4515.00 ft (KB) To 4532.00 ft (KB) (TVD)**
Total Depth: **4532.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: Good
Reference Elevations: **2916.00 ft (KB)**
2906.00 ft (CF)
KB to GR/CF: **10.00 ft**

Serial #: 8018 Inside
Press@RunDepth: **65.73 psig @ 4519.00 ft (KB)**
Start Date: **2011.02.20** End Date: **2011.02.20**
Start Time: **02:40:05** End Time: **10:00:59**
Capacity: **8000.00 psig**
Last Calib.: **2011.02.20**
Time On Btm: **2011.02.20 @ 04:55:00**
Time Off Btm: **2011.02.20 @ 08:02:50**

TEST COMMENT: IF: 4" Blow.
IST: No return.
FF: 4" Blow.
FS: Surface return, died @ 25 min.



PRESSURE SUMMARY

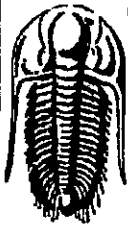
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2289.84	105.59	Initial Hydro-static
2	14.23	105.09	Open To Flow (1)
35	35.97	108.48	Shut-In(1)
81	910.12	111.90	End Shut-In(1)
82	41.44	111.76	Open To Flow (2)
126	65.73	114.03	Shut-In(2)
186	901.04	116.89	End Shut-In(2)
188	2226.90	118.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	GOCM 30g 25o 45m	0.44
90.00	GO 20g 80o	0.44
0.00	180 Feet GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041158

DST#: 12

ATTN: Tom Funk

Test Start: 2011.02.20 @ 02:40:00

Tool Information

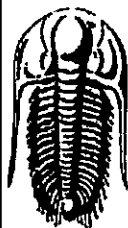
Drill Pipe:	Length: 3963.00 ft	Diameter: 3.80 inches	Volume: 55.59 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 537.00 ft	Diameter: 2.25 inches	Volume: 2.64 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 58.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	4515.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	17.00 ft			
Tool Length:	37.00 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			4496.00	
Shut In Tool	5.00			4501.00	
Hydraulic tool	5.00			4506.00	
Packer	5.00			4511.00	20.00 Bottom Of Top Packer
Packer	4.00			4515.00	
Stubb	1.00			4516.00	
Perforations	3.00			4519.00	
Recorder	0.00	8018	Inside	4519.00	
Recorder	0.00	6751	Outside	4519.00	
Perforations	10.00			4529.00	
Bullnose	3.00			4532.00	17.00 Bottom Packers & Anchor

Total Tool Length: 37.00



TRILOBITE
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DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#2 Stieben 30 BC

PO Box 783188
Wichita, KS 67278

30-13-31 Gove, KS

Job Ticket: 041158

DST#: 12

ATTN: Tom Funk

Test Start: 2011.02.20 @ 02:40:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
90.00	GOCM 30g 25o 45m	0.443
90.00	GO 20g 80o	0.443
0.00	180 Feet GIP	0.000

Total Length: 180.00 ft Total Volume: 0.886 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: API: 28 @ 60 Degrees F=28

