

10/28/13

ORIGINAL

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
June 2009

Form Must Be Typed
Form must be Signed
All blanks must be Filled

CONFIDENTIAL

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

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: Mike Engelbrecht
Purchaser:

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 #:

7/9/11	7/20/11	7/20/11
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 063-21928-00-00
Spot Description: 65' N & 150' W
NE SW SE Sec. 29 Twp. 13 S. R. 31 East West
1,055 Feet from North / South Line of Section
1,800 Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:
 NE NW SE SW

County: Gove
Lease Name: Hess 29D Well #: 2
Field Name:

Producing Formation:
Elevation: Ground: 2932 Kelly Bushing: 2942
Total Depth: 4710 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 215 Feet
Multiple Stage Cementing Collar Used? Yes No
If yes, show depth set: Feet
If Alternate II completion, cement circulated from:
feet depth to: w/ sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 15000 ppm Fluid volume: 850 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: KCC Permit #:

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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 I 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: 10/27/11

KCC Office Use ONLY

Letter of Confidentiality Received
Date: 10.28.11 - 10.28.13
 Confidential Release Date:
 Wireline Log Received
 Geologist Report Received
 UIC Distribution
ALT I II III Approved by: [Signature] Date: 11-7-11

Operator Name: Ritchie Exploration, Inc. Lease Name: Hess 29D Well #: 2

Sec. 29 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.

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

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#	215'	common	185	3% cc, 2% gel

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 <i>(Amount and Kind of Material Used)</i>	Depth

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

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: _____ _____
---	---	--

ALLIED CEMENTING CO., LLC. 040914

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

SERVICE POINT
Oakley, ks

DATE <i>7-11-11</i>	SEC. <i>29</i>	TWP. <i>13</i>	RANGE <i>31</i>	CALLED OUT	ON LOCATION	JOB START <i>3:30pm</i>	JOB FINISH <i>4:00pm</i>
LEASE <i>less 290</i>	WELL # <i>2</i>	LOCATION <i>Oakley, 115 3E 5S</i>		COUNTY	STATE		
OLD OR NEW (Circle one)		<i>into</i>					

CONTRACTOR *Marlin #14*

TYPE OF JOB *Surface*

HOLE SIZE *12 1/8* T.D. *220'*

CASING SIZE *8 7/8* DEPTH *218.46*

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. *15 ft*

PERFS.

DISPLACEMENT *13 bbl*

OWNER *same*

CEMENT AMOUNT ORDERED *185 s/ks con 3% OC*

2% gel

COMMON	<i>185 s/ks</i>	@	<i>16.25</i>	<i>3006.25</i>
POZMIX		@		
GEL	<i>4 s/ks</i>	@	<i>21.25</i>	<i>85.00</i>
CHLORIDE	<i>6 s/ks</i>	@	<i>57.20</i>	<i>343.20</i>
ASC		@		
		@		
		@		
		@		
		@		
		@		
		@		
HANDLING	<i>195 s/ks</i>	@	<i>2.25</i>	<i>438.75</i>
MILEAGE	<i>11056 mile</i>			<i>427.00</i>
TOTAL				<i>4308.20</i>

REMARKS:

*Mix 185 s/ks down casing
displaces with water*

Cement did circulate

Thank you

SERVICE

DEPTH OF JOB	<i>218.46</i>		
PUMP TRUCK CHARGE			<i>1125.00</i>
EXTRA FOOTAGE		@	
MILEAGE	<i>2052</i>	@	<i>7.00</i>
MANIFOLD	<i>5 wedge</i>	@	<i>325.00</i>
<i>Light vehicle</i>		@	<i>4.00</i>
		@	
TOTAL <i>1890.00</i>			

CHARGE TO: *Ritchie Exploration*

STREET _____

CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

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TOTAL _____

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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 *Cory Musick*

SIGNATURE *[Signature]*

SALES TAX (If Any) _____

TOTAL CHARGES _____

DISCOUNT _____ IF PAID IN 30 DAYS

[Handwritten mark]



RITCHIE

EXPLORATION, INC.
Wichita, Kansas

#2 Hess 29D

1055' FSL & 1800' FEL

65' N & 150' W of NE SW SE Section 29-13S-31W

Gove County, Kansas

API# 15-063-24928-00-00

Elevation: 2932' GL: 2942' KB

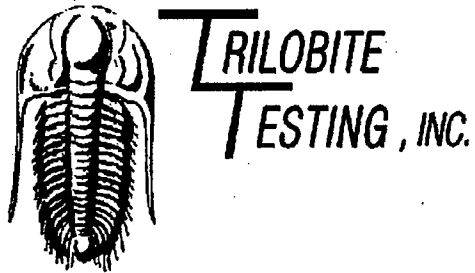
<u>Sample Tops</u>			<u>Ref.</u>	<u>Well</u>
Anhydrite	2417'	+525	flat	
B/Anhydrite	2438'	+504	+3	
Heebner	3931'	-989	flat	
Lansing	3979'	-1037	-1	
Muncie Shale	4127'	-1185	-2	
Stark Shale	4213'	-1271	flat	
Hush. Shale	4250'	-1309	-2	
BKC	4287'	-1345	-2	
Marmaton	4316'	-1374	-1	
Altamont	4333'	-1391	flat	
Pawnee	4410'	-1468	-1	
Myrick	4447'	-1505	-3	
Fort Scott	4464'	-1522	-3	
Cherokee Shale	4492'	-1550	-3	
Johnson	4536'	-1594	-5	
Base Johnson	4557'	-1615	-5	
Morrow Sand	4566'	-1624	-10	
Mississippian	4580'	-1638	+6	
RTD	4710'	-1768		

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DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N#700
Wichita, KS 67278

ATTN: Mike Engelbrecht

29-13-31 Gove,KS

Hess #2-29 D

Start Date: 2011.07.14 @ 19:03:59

End Date: 2011.07.15 @ 00:45:29

Job Ticket #: 43269 DST #: 1

Trilobite Testing, Inc
PO Box 1733 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

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OCT 7 6 2013

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Ritchie Exploration

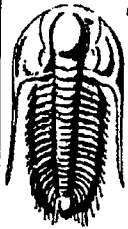
Hess #2-29 D

29-13-31 Gove,KS

DST # 1

C

2011.07.14



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration

Hess #2-29 D

8100 E 22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43269

DST#: 1

ATTN: Mke Engelbrecht

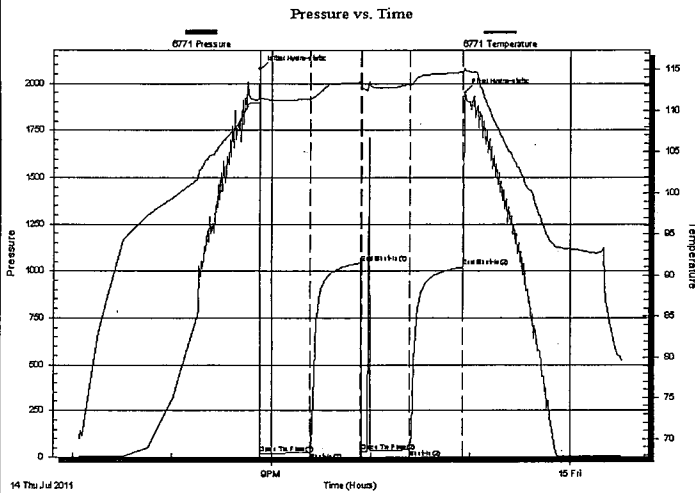
Test Start: 2011.07.14 @ 19:03:59

GENERAL INFORMATION:

Formation: **C**
 Deviated: **No** Whipstock: **ft (KB)**
 Time Tool Opened: 20:53:29
 Time Test Ended: 00:45:29
 Interval: **3996.00 ft (KB) To 4026.00 ft (KB) (TVD)**
 Total Depth: **4026.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**
 Test Type: **Conventional Bottom Hole**
 Tester: **Shane McBride**
 Unit No: **55**
 Reference Elevations: **2942.00 ft (KB)**
2932.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6771 **Outside**
 Press@RunDepth: **38.59 psig @ 3997.00 ft (KB)** Capacity: **8000.00 psig**
 Start Date: **2011.07.14** End Date: **2011.07.15** Last Calib.: **2011.07.15**
 Start Time: **19:03:59** End Time: **00:31:29** Time On Btmr: **2011.07.14 @ 20:52:59**
 Time Off Btmr: **2011.07.14 @ 22:56:29**

TEST COMMENT: Weak blow died in 6 min.
 No return
 No blow, Flush tool after 5 min, good surge, No blow
 No return



PRESSURE SUMMARY

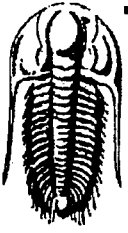
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2077.11	111.00	Initial Hydro-static
1	18.77	111.35	Open To Flow (1)
31	26.39	111.41	Shut-In(1)
61	1041.48	113.41	End Shut-In(1)
61	30.88	112.97	Open To Flow (2)
90	38.59	113.08	Shut-In(2)
123	1019.94	114.60	End Shut-In(2)
124	1950.10	114.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	w c m 40% w 60% m oil spots in tool	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

Hess #2-29 D

8100 E 22nd St N#700
Wichita, KS 67278

29-13-31 Gove,KS

Job Ticket: 43269

DST#: 1

ATTN: Mike Engelbrecht

Test Start: 2011.07.14 @ 19:03:59

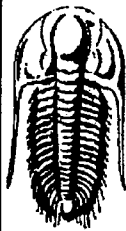
Tool Information

Drill Pipe:	Length: 3486.00 ft	Diameter: 3.80 inches	Volume: 48.90 bbl	Tool Weight: 1500.00 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: 505.00 ft	Diameter: 2.25 inches	Volume: 2.48 bbl	Weight to Pull Loose: 85000.00 lb
			Total Volume: 51.38 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	3996.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3970.00	
Shut In Tool	5.00			3975.00	
Hydraulic tool	5.00			3980.00	
Jars	5.00			3985.00	
Safety Joint	2.00			3987.00	
Packer	5.00			3992.00	27.00 Bottom Of Top Packer
Packer	4.00			3996.00	
Stubb	1.00			3997.00	
Recorder	0.00	6771	Outside	3997.00	
Recorder	0.00	6667	Inside	3997.00	
Perforations	24.00			4021.00	
Bullnose	5.00			4026.00	30.00 Bottom Packers & Anchor

Total Tool Length: 57.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Hess #2-29 D

8100 E22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43269

DST#: 1

ATTN: Mike Engelbrecht

Test Start: 2011.07.14 @ 19:03:59

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: 32000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume: bbl

Water Loss: 6.32 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
10.00	w c m40%w 60%m oil spots in tool	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

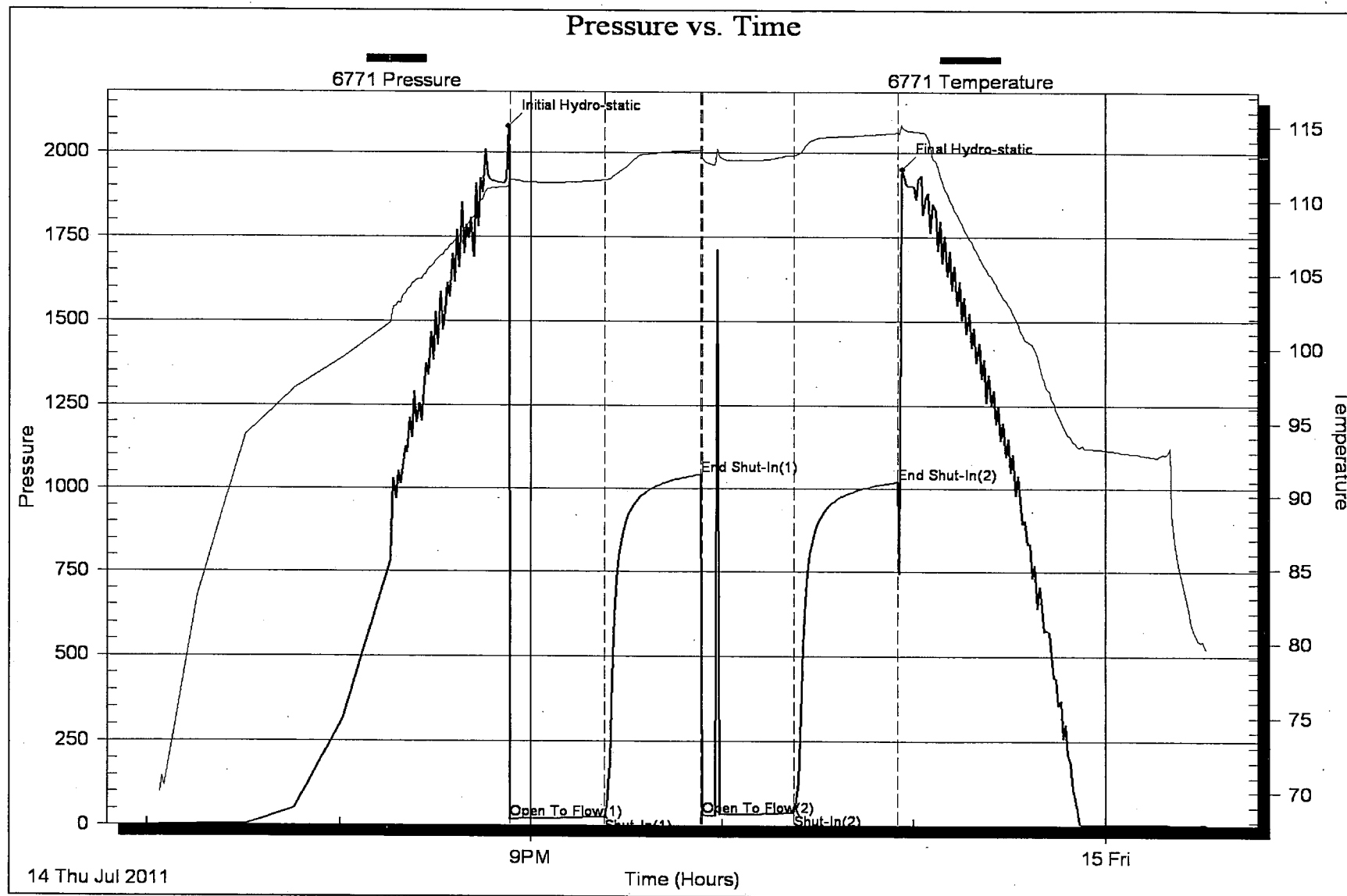
Num Gas Bombs: 0

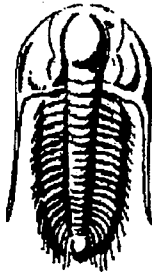
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw .192 @ 77*f





TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N#700
Wichita, KS 67278

ATTN: Mike Engelbrecht

29-13-31 Gove,KS

Hess #2-29 D

Start Date: 2011.07.15 @ 12:05:49

End Date: 2011.07.15 @ 19:40:19

Job Ticket #: 43270 DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration

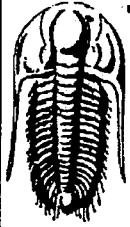
Hess #2-29 D

29-13-31 Gove,KS

DST # 2

E-F

2011.07.15



**TRILOBITE
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DRILL STEM TEST REPORT

Ritchie Exploration

Hess #2-29 D

8100 E 22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43270

DST#: 2

ATTN: Mike Engelbrecht

Test Start: 2011.07.15 @ 12:05:49

GENERAL INFORMATION:

Formation: **E-F**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 14:09:49

Time Test Ended: 19:40:19

Test Type: Conventional Bottom Hole

Tester: Shane McBride

Unit No: 55

Interval: **4046.00 ft (KB) To 4083.00 ft (KB) (TVD)**

Total Depth: **4083.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: Fair

Reference Elevations: **2942.00 ft (KB)**

2932.00 ft (CF)

KB to GR/CF: **10.00 ft**

Serial #: **6667**

Inside

Press@RunDepth: **495.19 psig @ 4047.00 ft (KB)**

Start Date: **2011.07.15**

End Date: **2011.07.15**

Start Time: **12:05:49**

End Time: **19:16:19**

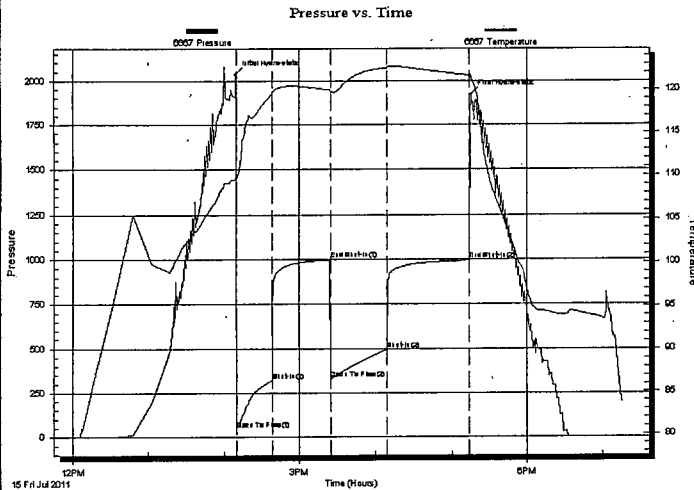
Capacity: **8000.00 psig**

Last Calib.: **2011.07.15**

Time On Btm: **2011.07.15 @ 14:09:04**

Time Off Btm: **2011.07.15 @ 17:15:04**

TEST COMMENT: B.O.B. in 9 min.
No return
B.O.B. in 13 min.
No return



PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	2035.14	109.60	Initial Hydro-static
1	47.24	109.62	Open To Flow (1)
30	322.34	119.44	Shut-In(1)
76	997.89	119.93	End Shut-In(1)
76	329.90	119.62	Open To Flow (2)
120	495.19	122.48	Shut-In(2)
185	994.17	121.63	End Shut-In(2)
186	1923.47	121.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
724.00	s m c w trace of oil throughout 3% m 97%	5.56
307.00	m c w 15% m 85% w	4.31
0.00	show of free oil on top 3" in	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration
8100 E 22nd St N#700
Wchita, KS 67278
ATTN: Mike Engelbrecht

Hess #2-29 D
29-13-31 Gove,KS
Job Ticket: 43270 **DST#: 2**
Test Start: 2011.07.15 @ 12:05:49

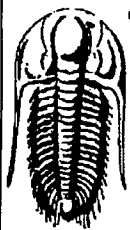
Tool Information

Drill Pipe:	Length: 3525.00 ft	Diameter: 3.80 inches	Volume: 49.45 bbl	Tool Weight: 1500.00 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: 505.00 ft	Diameter: 2.25 inches	Volume: 2.48 bbl	Weight to Pull Loose: 90000.00 lb
			Total Volume: 51.93 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4046.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	37.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Change Over Sub	1.00			4027.00	
Shut In Tool	5.00			4032.00	
Hydraulic tool	5.00			4037.00	
Packer	5.00			4042.00	20.00 Bottom Of Top Packer
Packer	4.00			4046.00	
Stubb	1.00			4047.00	
Recorder	0.00	6771	Outside	4047.00	
Recorder	0.00	6667	Inside	4047.00	
Perforations	31.00			4078.00	
Bullnose	5.00			4083.00	37.00 Bottom Packers & Anchor
Total Tool Length:	57.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Hess #2-29 D

8100 E 22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43270

DST#: 2

ATTN: Mike Engelbrecht

Test Start: 2011.07.15 @ 12:05:49

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:

45000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.12 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
724.00	s m c w trace of oil throughout 3% m 97% w	5.556
307.00	m c w 15% m 85% w	4.306
0.00	show of free oil on top 3" in	0.000

Total Length: 1031.00 ft

Total Volume: 9.862 bbl

Num Fluid Samples: 0

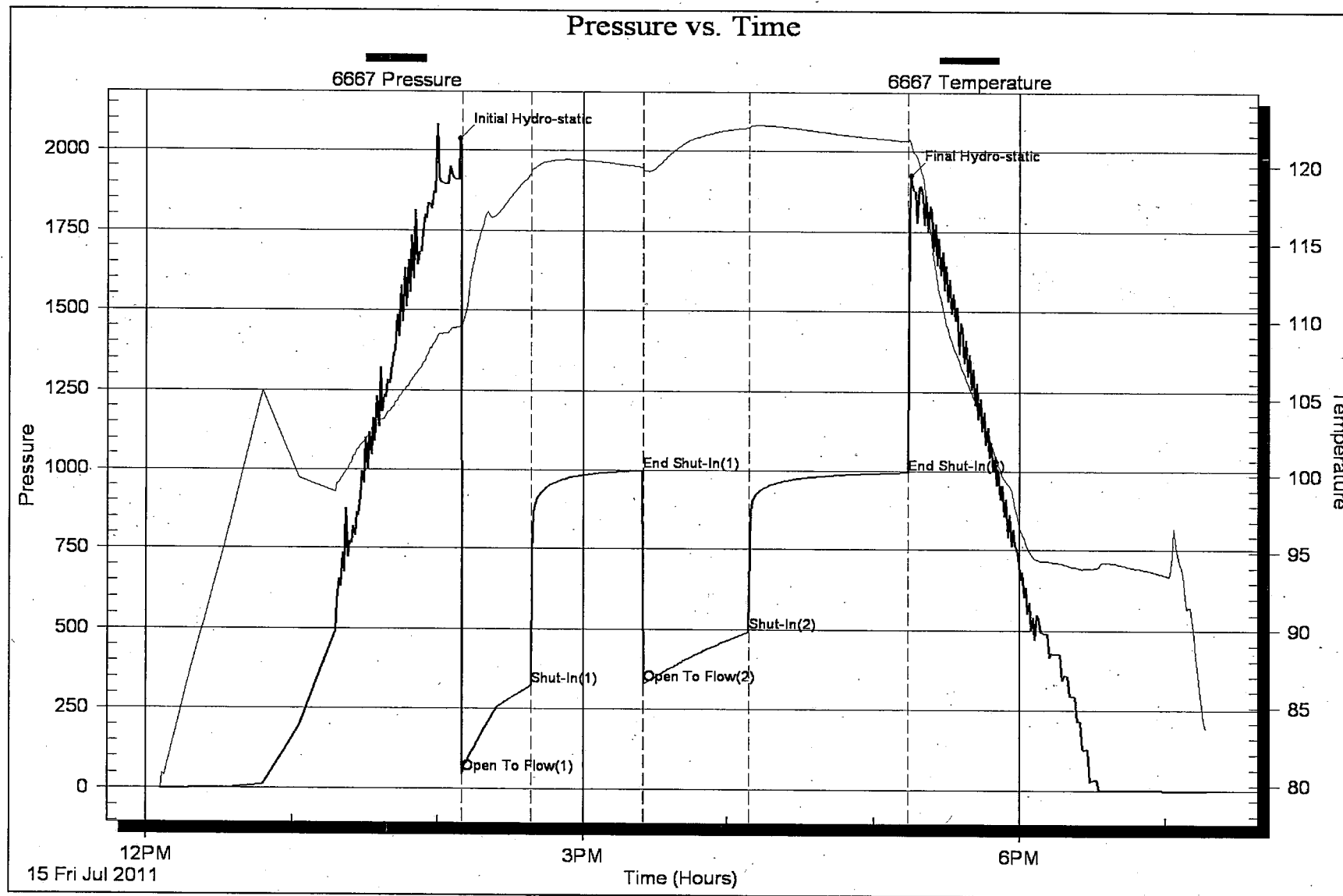
Num Gas Bombs: 0

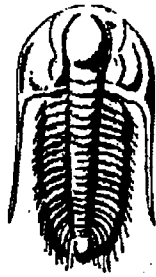
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw .120 @ 94*f





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N#700
Wichita, KS 67278

ATTN: Mike Engelbrecht

29-13-31 Gove,KS

Hess #2-29 D

Start Date: 2011.07.16 @ 09:25:36

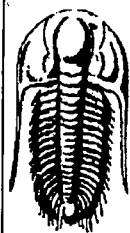
End Date: 2011.07.16 @ 17:00:00

Job Ticket #: 43271 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

TOOL DIAGRAM

Ritchie Exploration

Hess #2-29 D

8100 E 22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43271

DST#: 3

ATTN: Mike Engelbrecht

Test Start: 2011.07.16 @ 09:25:36

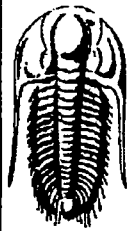
Tool Information

Drill Pipe:	Length: 3621.00 ft	Diameter: 3.80 inches	Volume: 50.79 bbl	Tool Weight: 1500.00 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: 505.00 ft	Diameter: 2.25 inches	Volume: 2.48 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 53.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4126.00 ft			Final 67000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	67.00 ft			
Tool Length:	87.00 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			4107.00	
Shut In Tool	5.00			4112.00	
Hydraulic tool	5.00			4117.00	
Packer	5.00			4122.00	20.00 Bottom Of Top Packer
Packer	4.00			4126.00	
Stubb	1.00			4127.00	
Recorder	0.00	6771	Outside	4127.00	
Recorder	0.00	6667	Inside	4127.00	
Perforations	27.00			4154.00	
Change Over Sub	1.00			4155.00	
Drill Pipe	32.00			4187.00	
Change Over Sub	1.00			4188.00	
Bullnose	5.00			4193.00	67.00 Bottom Packers & Anchor
Total Tool Length:	87.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Hess #2-29 D

8100 E 22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43271

DST#: 3

ATTN: Mike Engelbrecht

Test Start: 2011.07.16 @ 09:25:36

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:

32500 ppm

Viscosity: 67.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.90 in³

Gas Cushion Type:

Resistivity: 0.00 ohm'm

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
110.00	m c w 25% m 75% w	0.541

Total Length: 110.00 ft

Total Volume: 0.541 bbl

Num Fluid Samples: 0

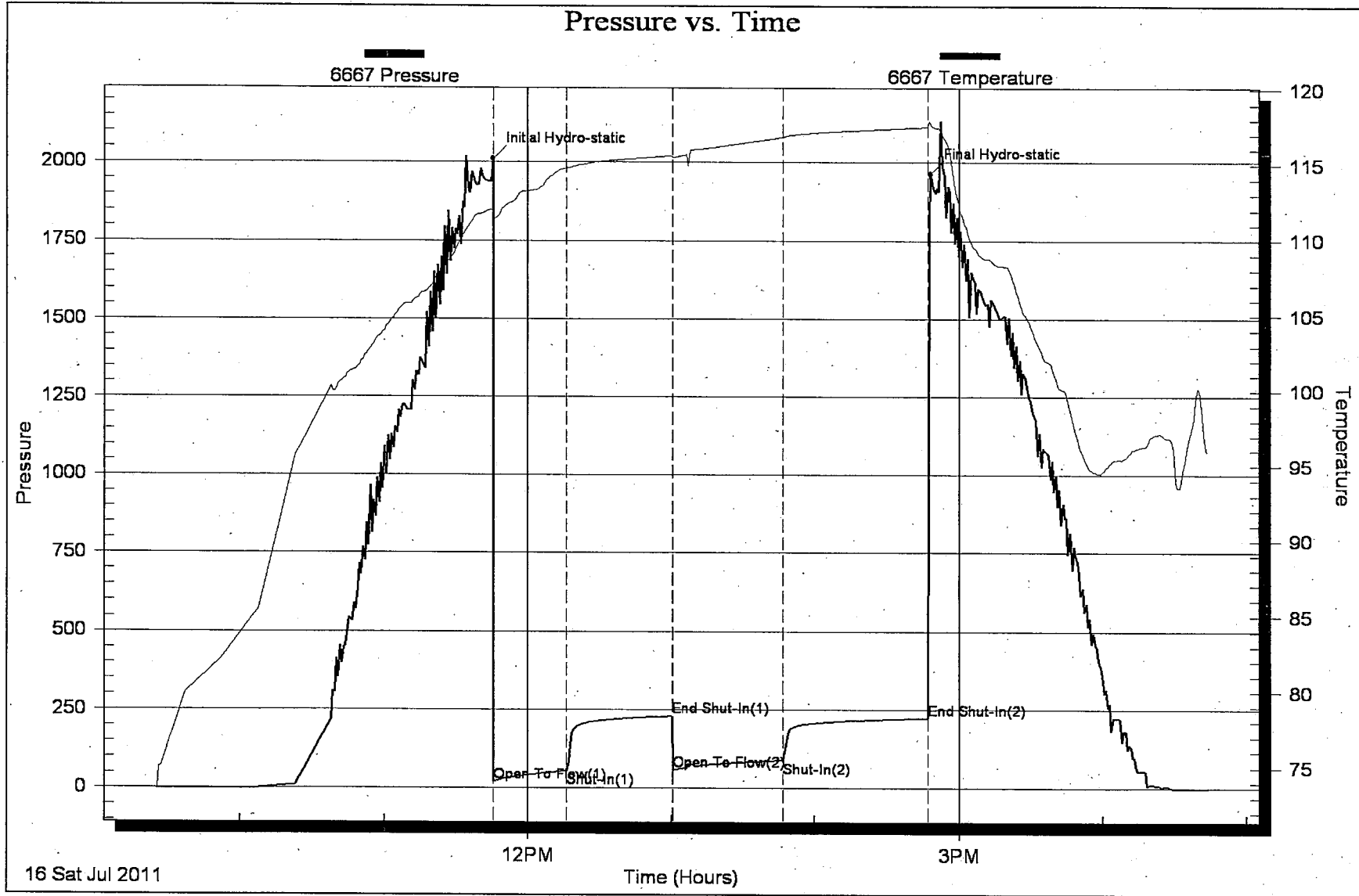
Num Gas Bombs: 0

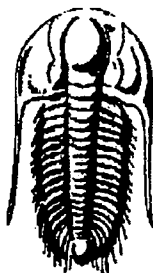
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw .137 @ 105*f





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N#700
Wichita, KS 67278

ATTN: Mike Engelbrecht

29-13-31 Gove,KS

Hess #2-29 D

Start Date: 2011.07.17 @ 04:40:41

End Date: 2011.07.17 @ 11:15:57

Job Ticket #: 43272 DST #: 4

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration

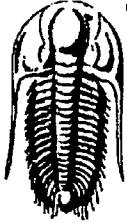
Hess #2-29 D

29-13-31 Gove,KS

DST # 4

J-K-L

2011.07.17



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration

Hess #2-29 D

8100 E 22nd St N#700
Wichita, KS 67278

29-13-31 Gove,KS

Job Ticket: 43272

DST#: 4

ATTN: Mke Engelbrecht

Test Start: 2011.07.17 @ 04:40:41

GENERAL INFORMATION:

Formation: **J-K-L**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 07:24:12

Time Test Ended: 11:15:57

Test Type: **Conventional Bottom Hole**

Tester: **Shane McBride**

Unit No: **55**

Interval: 4182.00 ft (KB) To 4286.00 ft (KB) (TVD)

Reference Elevations: **2942.00 ft (KB)**

Total Depth: **4286.00 ft (KB) (TVD)**

2932.00 ft (CF)

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

KB to GR/CF: 10.00 ft

Serial #: 6771

Outside

Press@RunDepth: **58.06 psig @ 4183.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2011.07.17**

End Date: **2011.07.17**

Last Calib.: **2011.07.17**

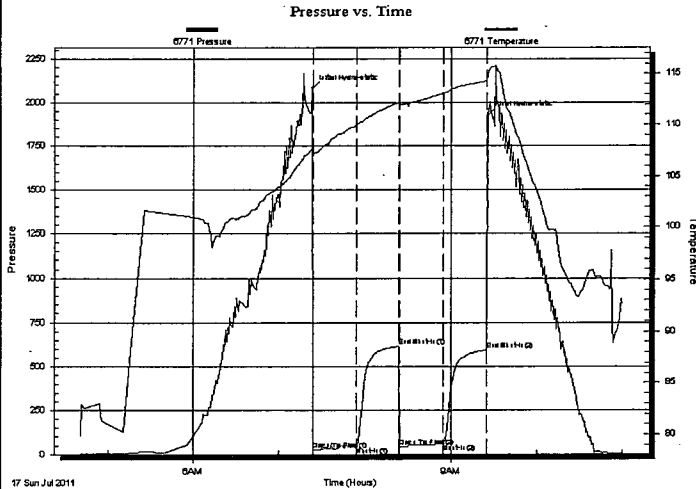
Start Time: **04:40:41**

End Time: **11:00:57**

Time On Btm: **2011.07.17 @ 07:23:42**

Time Off Btm: **2011.07.17 @ 09:25:57**

TEST COMMENT: 1/2" in blow died back to a surface blow
No return
No blow, flush tool, good surge, No blow
No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2081.73	107.62	Initial Hydro-static
1	24.93	107.29	Open To Flow (1)
31	40.63	110.01	Shut-In(1)
61	614.86	112.13	End Shut-In(1)
61	42.29	111.94	Open To Flow (2)
91	58.06	113.07	Shut-In(2)
122	594.88	114.28	End Shut-In(2)
123	1925.47	114.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	heavy mud 100% m	0.20

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

Hess #2-29 D

8100 E 22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43272

DST#: 4

ATTN: Mike Engelbrecht

Test Start: 2011.07.17 @ 04:40:41

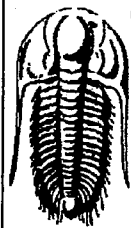
Tool Information

Drill Pipe:	Length: 3681.00 ft	Diameter: 3.80 inches	Volume: 51.63 bbl	Tool Weight: 1500.00 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: 505.00 ft	Diameter: 2.25 inches	Volume: 2.48 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 54.11 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4182.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	104.00 ft			
Tool Length:	124.00 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			4163.00	
Shut In Tool	5.00			4168.00	
Hydraulic tool	5.00			4173.00	
Packer	5.00			4178.00	20.00 Bottom Of Top Packer
Packer	4.00			4182.00	
Stubb	1.00			4183.00	
Recorder	0.00	6771	Outside	4183.00	
Recorder	0.00	6667	Inside	4183.00	
Perforations	32.00			4215.00	
Change Over Sub	1.00			4216.00	
Drill Pipe	64.00			4280.00	
Change Over Sub	1.00			4281.00	
Bullnose	5.00			4286.00	104.00 Bottom Packers & Anchor

Total Tool Length: 124.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Hess #2-29 D

8100 E22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43272

DST#:4

ATTN: Mke Engelbrecht

Test Start: 2011.07.17 @ 04:40:41

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: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.91 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	heavy mud 100% _m	0.197

Total Length: 40.00 ft Total Volume: 0.197 bbl

Num Fluid Samples: 0

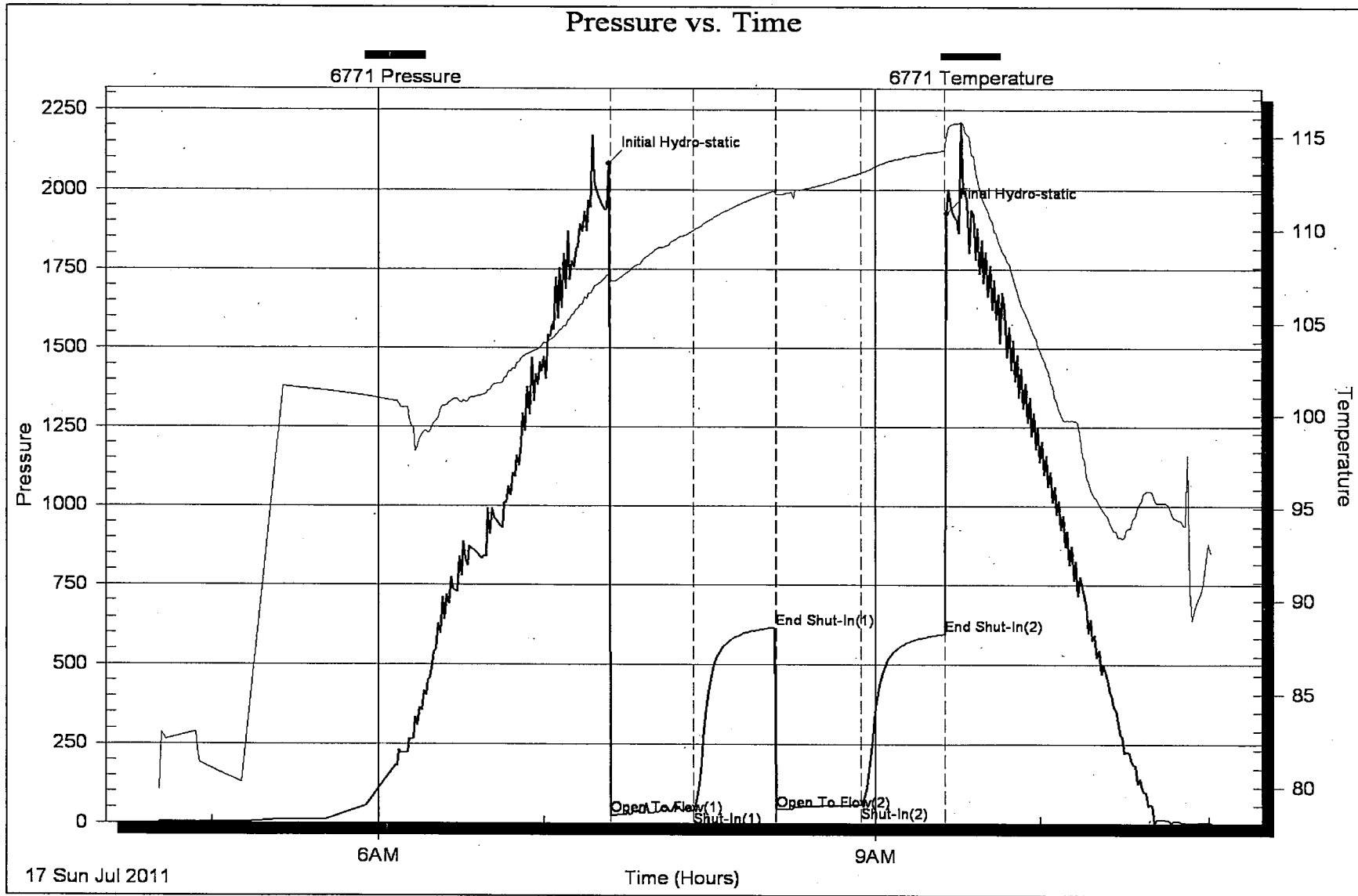
Num Gas Bombs: 0

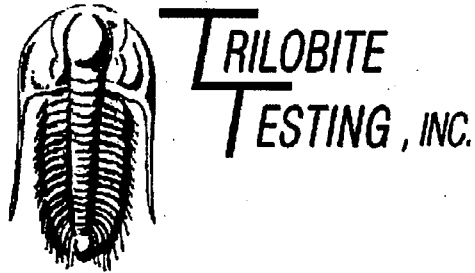
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N#700
Wichita, KS 67278

ATTN: Mike Engelbrecht

29-13-31 Gove,KS

Hess #2-29 D

Start Date: 2011.07.18 @ 07:02:22

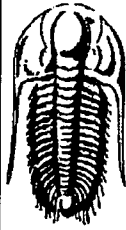
End Date: 2011.07.18 @ 13:05:22

Job Ticket #: 43273 DST #: 5

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

Hess #2-29 D

8100 E22nd St N#700
Wichita, KS 67278

29-13-31 Gove,KS

Job Ticket: 43273

DST#: 5

ATTN: Mike Engelbrecht

Test Start: 2011.07.18 @ 07:02:22

GENERAL INFORMATION:

Formation: **Pawnee, Myrick St, Ft**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:56:07

Time Test Ended: 13:05:22

Interval: **4403.00 ft (KB) To 4495.00 ft (KB) (TVD)**

Total Depth: 4495.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole

Tester: Shane McBride

Unit No: 55

Reference Elevations: 2942.00 ft (KB)

2932.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6667

Inside

Press@RunDepth: 34.07 psig @ 4404.00 ft (KB)

Start Date: 2011.07.18

End Date: 2011.07.18

Capacity: 8000.00 psig

Last Calib.: 2011.07.18

Start Time: 07:02:22

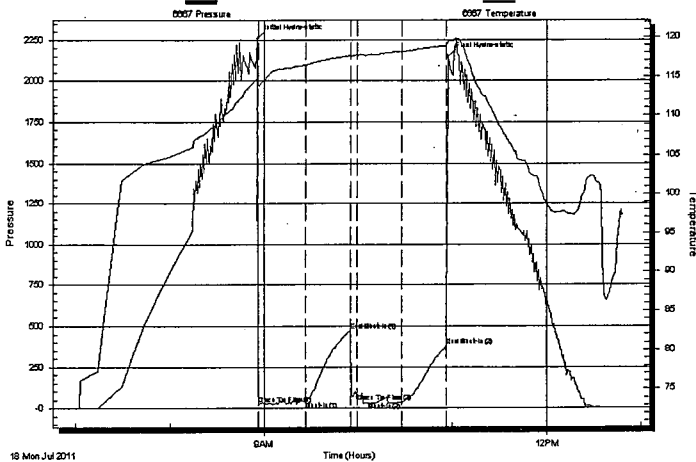
End Time: 12:48:22

Time On Btm: 2011.07.18 @ 08:55:52

Time Off Btm: 2011.07.18 @ 10:57:37

TEST COMMENT: 1/4" in blow died in 15 min
No return
No blow, flush tool, good surge, no blow
No return

Pressure vs. Time



PRESSURE SUMMARY

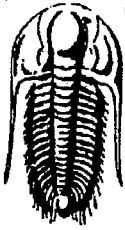
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2257.97	114.65	Initial Hydro-static
1	25.03	113.99	Open To Flow (1)
32	39.94	116.47	Shut-In(1)
60	473.37	117.65	End Shut-In(1)
64	38.71	117.75	Open To Flow (2)
92	34.07	118.20	Shut-In(2)
121	374.08	118.95	End Shut-In(2)
122	2148.73	119.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Heavy mud 100% m	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

Hess #2-29 D

8100 E22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43273

DST#: 5

ATTN: Mike Engelbrecht

Test Start: 2011.07.18 @ 07:02:22

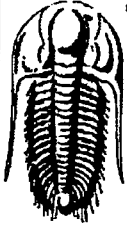
Tool Information

Drill Pipe:	Length: 3903.00 ft	Diameter: 3.80 inches	Volume: 54.75 bbl	Tool Weight: 1500.00 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: 505.00 ft	Diameter: 2.25 inches	Volume: 2.48 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 57.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4403.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	92.00 ft			
Tool Length:	112.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4384.00	
Shut In Tool	5.00			4389.00	
Hydraulic tool	5.00			4394.00	
Packer	5.00			4399.00	20.00 Bottom Of Top Packer
Packer	4.00			4403.00	
Stubb	1.00			4404.00	
Recorder	0.00	6771	Outside	4404.00	
Recorder	0.00	6667	Inside	4404.00	
Perforations	21.00			4425.00	
Change Over Sub	1.00			4426.00	
Drill Pipe	63.00			4489.00	
Change Over Sub	1.00			4490.00	
Bullnose	5.00			4495.00	92.00 Bottom Packers & Anchor

Total Tool Length: 112.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Hess #2-29 D

8100 E 22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43273

DST#: 5

ATTN: Mke Engelbrecht

Test Start: 2011.07.18 @ 07:02:22

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: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.75 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
10.00	Heavy mud 100% _m	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

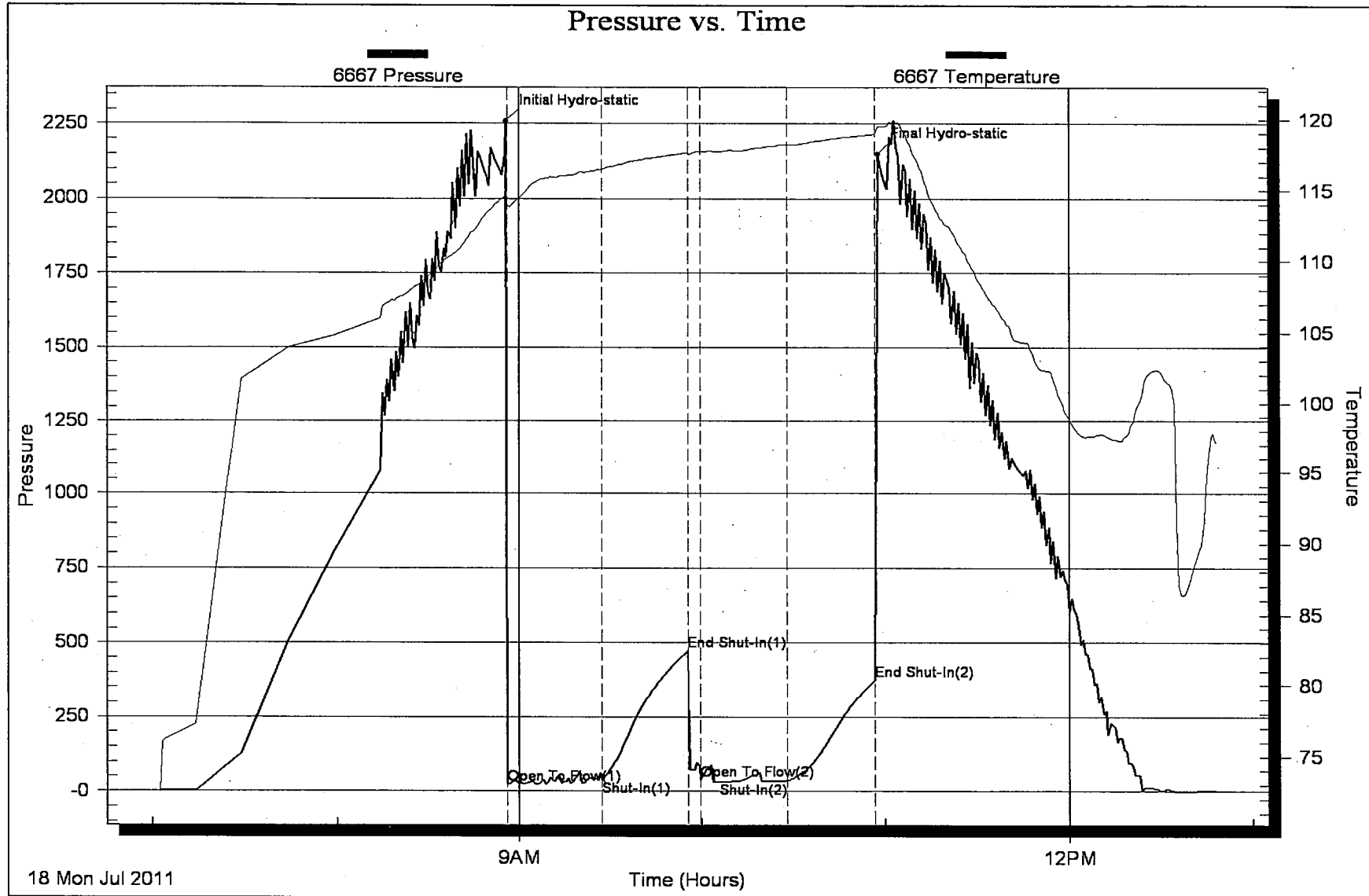
Num Gas Bombs: 0

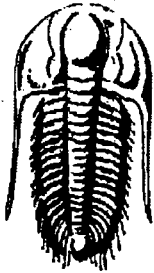
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 E 22nd St N#700
Wichita, KS 67278

ATTN: Mike Engelbrecht

29-13-31 Gove,KS

Hess #2-29 D

Start Date: 2011.07.18 @ 22:02:39

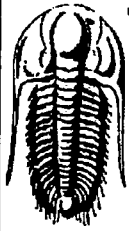
End Date: 2011.07.19 @ 04:45:09

Job Ticket #: 43274 DST #: 6

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

Hess #2-29 D

8100 E22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43274

DST#: 6

ATTN: Mike Engelbrecht

Test Start: 2011.07.18 @ 22:02:39

GENERAL INFORMATION:

Formation: **Johnson**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:07:09

Time Test Ended: 04:45:09

Test Type: Conventional Bottom Hole

Tester: Shane McBride

Unit No: 55

Interval: **4512.00 ft (KB) To 4547.00 ft (KB) (TVD)**

Reference Elevations: 2942.00 ft (KB)

Total Depth: 4547.00 ft (KB) (TVD)

2932.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: **6667** Inside

Press@RunDepth: 40.62 psig @ 4513.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.07.18

End Date:

2011.07.19

2011.07.19

Start Time: 22:02:39

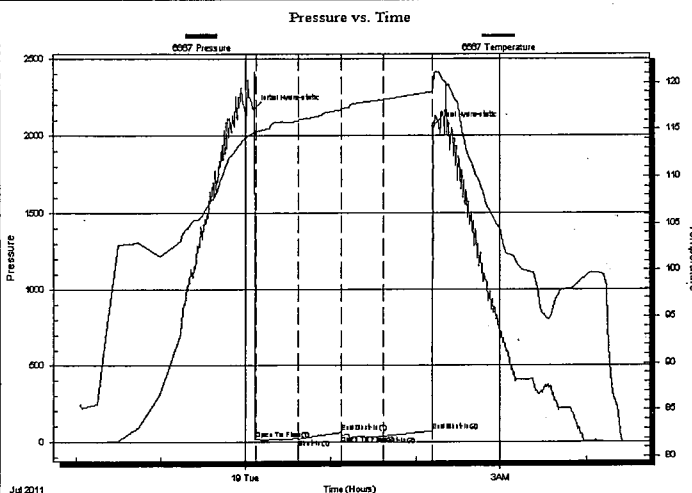
End Time:

04:25:09

Time On Btmr 2011.07.19 @ 00:05:54

Time Off Btmr 2011.07.19 @ 02:12:09

TEST COMMENT: 1/4" in blow died in 11 min.
No return
No blow flush tool, good surge, no blow
No return



PRESSURE SUMMARY

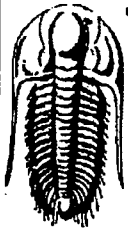
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2175.77	114.65	Initial Hydro-static
2	18.35	114.43	Open To Flow (1)
32	21.77	115.91	Shut-In(1)
62	63.42	117.06	End Shut-In(1)
62	47.09	117.06	Open To Flow (2)
92	40.62	118.16	Shut-In(2)
126	73.50	119.00	End Shut-In(2)
127	2062.41	119.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100% oil spots in tool	0.02

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

Hess #2-29 D

8100 E 22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43274

DST#: 6

ATTN: Mike Engelbrecht

Test Start: 2011.07.18 @ 22:02:39

Tool Information

Drill Pipe:	Length: 4002.00 ft	Diameter: 3.80 inches	Volume: 56.14 bbl	Tool Weight: 1500.00 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: 505.00 ft	Diameter: 2.25 inches	Volume: 2.48 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 58.62 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4512.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	35.00 ft			
Tool Length:	55.00 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			4493.00	
Shut In Tool	5.00			4498.00	
Hydraulic tool	5.00			4503.00	
Packer	5.00			4508.00	20.00 Bottom Of Top Packer
Packer	4.00			4512.00	
Stubb	1.00			4513.00	
Recorder	0.00	6771	Outside	4513.00	
Recorder	0.00	6667	Inside	4513.00	
Perforations	29.00			4542.00	
Bullnose	5.00			4547.00	35.00 Bottom Packers & Anchor
Total Tool Length:	55.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration
8100 E 22nd St N#700
Wichita, KS 67278
ATTN: Mike Engelbrecht

Hess #2-29 D
29-13-31 Gove, KS
Job Ticket: 43274 **DST#: 6**
Test Start: 2011.07.18 @ 22:02:39

Mud and Cushion Information

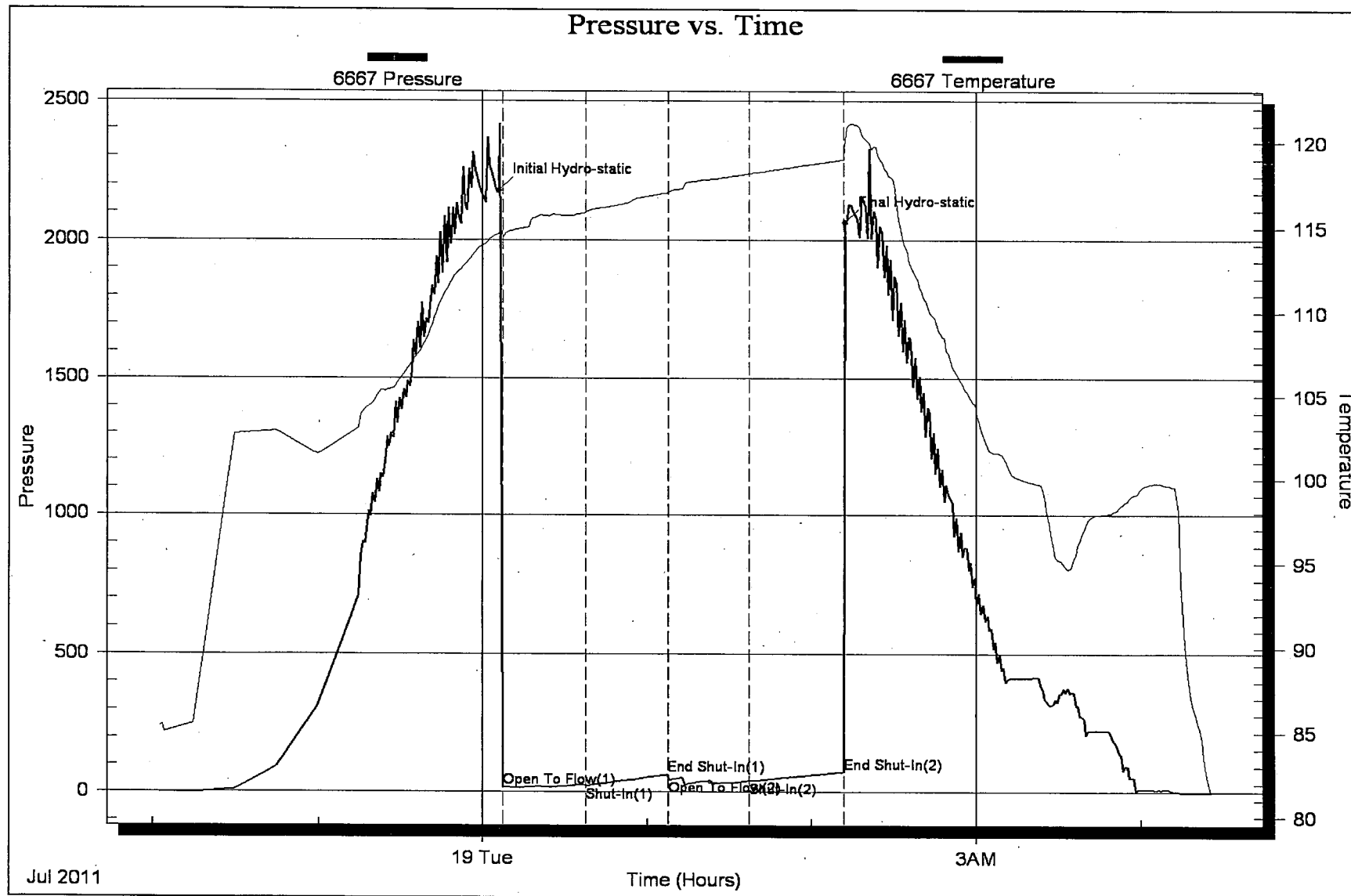
Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.32 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 2000.00 ppm			
Filter Cake: 1.00 inches			

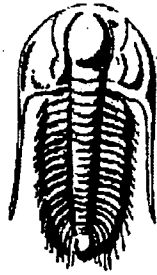
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100% oil spots in tool	0.025

Total Length: 5.00 ft Total Volume: 0.025 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**

8100 E 22nd St N#700
Wichita, KS 67278

ATTN: Mike Engelbrecht

29-13-31 Gove,KS

Hess #2-29 D

Start Date: 2011.07.19 @ 13:31:01

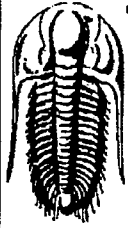
End Date: 2011.07.19 @ 20:05:31

Job Ticket #: 43275 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

Hess #2-29 D

8100 E 22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43275

DST#: 7

ATTN: Mike Engelbrecht

Test Start: 2011.07.19 @ 13:31:01

GENERAL INFORMATION:

Formation: **Johnson-Morrow**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:48:16

Time Test Ended: 20:05:31

Test Type: Conventional Bottom Hole

Tester: Shane McBride

Unit No: 55

Interval: **4544.00 ft (KB) To 4585.00 ft (KB) (TVD)**

Reference Elevations: 2942.00 ft (KB)

Total Depth: 4585.00 ft (KB) (TVD)

2932.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 6667

Inside

Press@RunDepth: 49.28 psig @ 4545.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.07.19

End Date:

2011.07.19

Last Calib.: 2011.07.19

Start Time: 13:31:01

End Time:

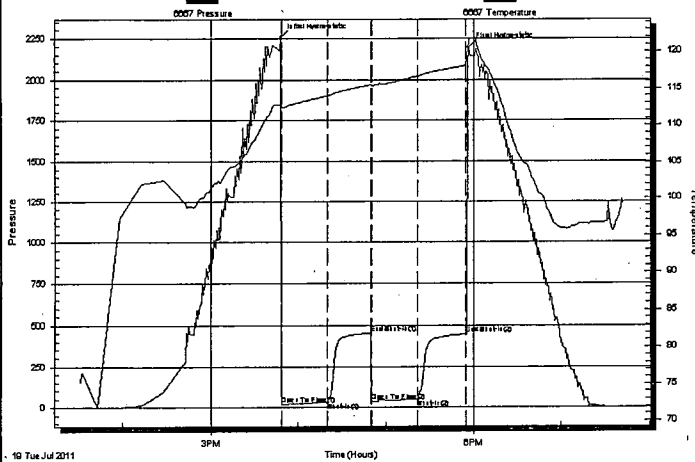
19:42:31

Time On Btmr 2011.07.19 @ 15:48:01

Time Off Btmr 2011.07.19 @ 17:56:46

TEST COMMENT: Weak blow died in 13 min
No return
No blow, flush tool, good surge died in 8 min
No return

Pressure vs. Time



PRESSURE SUMMARY

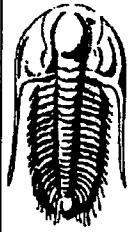
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2256.03	112.82	Initial Hydro-static
1	19.16	112.35	Open To Flow (1)
32	31.56	113.99	Shut-In(1)
62	454.57	115.51	End Shut-In(1)
62	37.68	115.35	Open To Flow (2)
94	49.28	116.62	Shut-In(2)
128	446.65	118.08	End Shut-In(2)
129	2195.84	121.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	w c m 35%w 65%m	0.02
10.00	heavy mud 100%m	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

Hess #2-29 D

8100 E 22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43275

DST#: 7

ATTN: Mike Engelbrecht

Test Start: 2011.07.19 @ 13:31:01

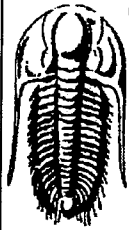
Tool Information

Drill Pipe:	Length: 4034.00 ft	Diameter: 3.80 inches	Volume: 56.59 bbl	Tool Weight: 1500.00 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: 505.00 ft	Diameter: 2.25 inches	Volume: 2.48 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 59.07 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 68000.00 lb
Depth to Top Packer:	4544.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	41.00 ft			
Tool Length:	61.00 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			4525.00	
Shut In Tool	5.00			4530.00	
Hydraulic tool	5.00			4535.00	
Packer	5.00			4540.00	20.00 Bottom Of Top Packer
Packer	4.00			4544.00	
Stubb	1.00			4545.00	
Recorder	0.00	6771	Outside	4545.00	
Recorder	0.00	6667	Inside	4545.00	
Perforations	35.00			4580.00	
Bullnose	5.00			4585.00	41.00 Bottom Packers & Anchor
Total Tool Length:	61.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

Hess #2-29 D

8100 E 22nd St N#700
Wichita, KS 67278

29-13-31 Gove, KS

Job Ticket: 43275

DST#: 7

ATTN: Mike Engelbrecht

Test Start: 2011.07.19 @ 13:31:01

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:

26000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.76 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
5.00	w c m35%w 65%m	0.025
10.00	heavy mud 100%m	0.049

Total Length: 15.00ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

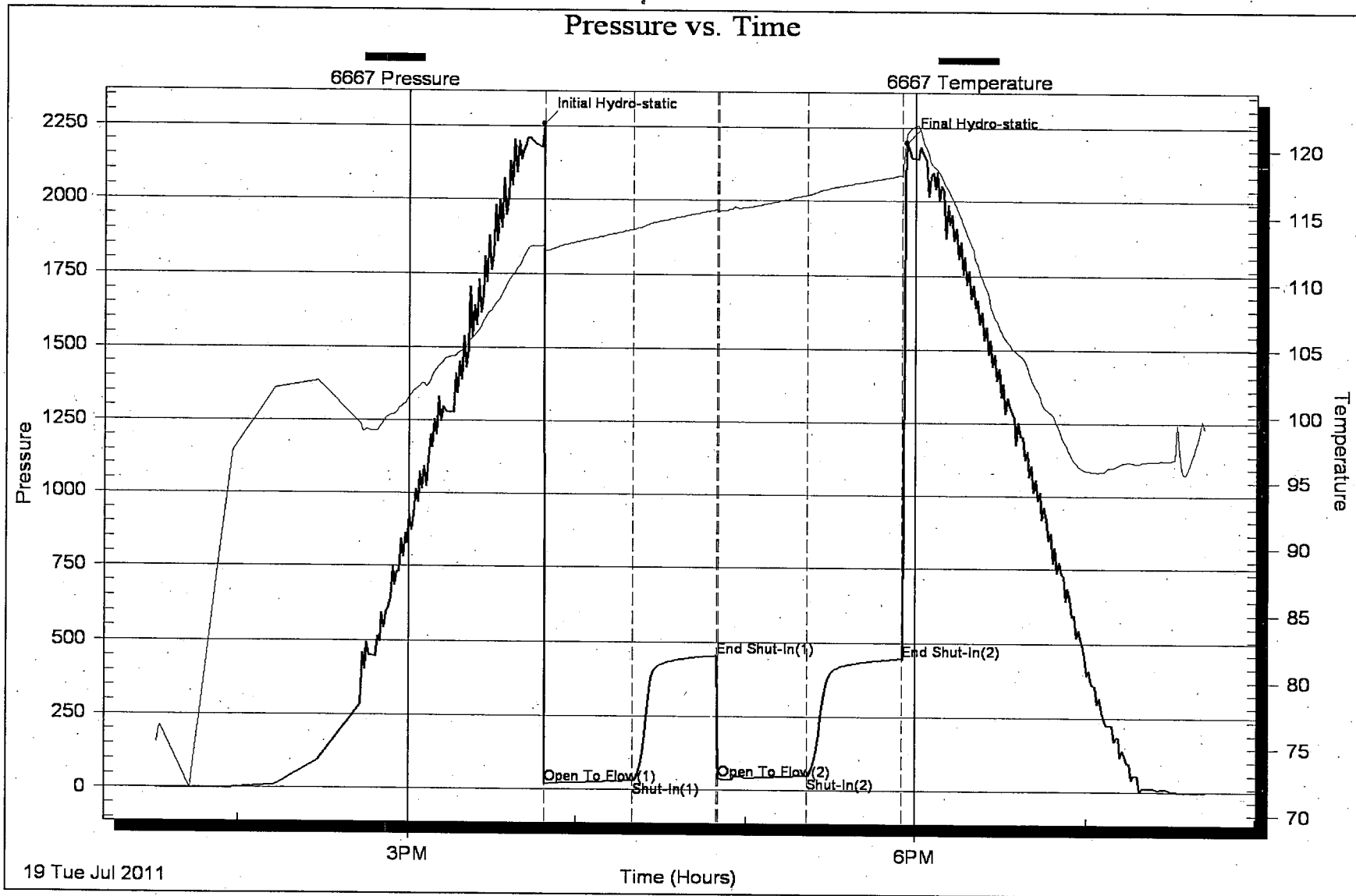
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw .169 @104*f



19 Tue Jul 2011