

ORIGINAL

12/06/13

CONFIDENTIAL

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

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 #:

8/24/11 9/2/11 9/2/11
Spud Date or Date Reached TD Completion Date or Recompletion Date

API No. 15 - 057-20739-00-00
Spot Description: 75' S & 125' E
NW SW SE Sec. 22 Twp. 28 S. R. 22 East West
915 Feet from North / South Line of Section
2,185 Feet from East / West Line of Section
Footages Calculated from Nearest Outside Section Corner:
 NE NW SE SW
County: Ford
Lease Name: Feikert 22CD Well #: 1
Field Name:
Producing Formation:
Elevation: Ground: 2433 Kelly Bushing: 2444
Total Depth: 5280 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 354 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 cm.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)
Chloride content: 48800 ppm Fluid volume: 800 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: 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 Street, Kansas City, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 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: 12/6/11

KCC Office Use ONLY
 Letter of Confidentiality Received Date: 12-6-11 to 12-6-13
 Confidential Release Date:
 Wireline Log Received
 Geologist Report Received
 UIC Distribution
ALT I II III Approved by: [Signature] Date: 12-08-11

Operator Name: Ritchie Exploration, Inc. Lease Name: Feikert 22CD Well #: 1
 Sec. 22 Twp. 28 S. R. 22 East West County: Ford

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 Yes No
 (Attach Additional Sheets)

Samples Sent to Geological Survey Yes No

Cores Taken Yes No

Electric Log Run Yes No

Electric Log Submitted Electronically Yes No
 (If no, Submit Copy)

Log Formation (Top), Depth and Datum Sample

Name Top Datum

SEE ATTACHED

List All E. Logs Run:
 Dual Induction Log
 Compensated Density/Neutron Log

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	354	class A	225	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 (Amount and Kind of Material Used)	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method:
 Flowing Pumping Gas Lift Other (Explain) _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

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

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RITCHIE

EXPLORATION, INC.
Wichita, Kansas

#1 Feikert 22CD

915' FSL & 2185' FEL

75'S & 125'E of NW SW SE Section 22-28S-22W

Ford County, Kansas

API# 15-057-20739-0000

Elevation: 2433' GL: 2444' KB

<u>Sample Tops</u>			<u>Ref.</u>
			<u>Well</u>
Stotler	3610'	-1166	+6
Heebner	4264'	-1820	+8
Lansing	4418'	-1974	+12
Muncie Shale	4616'	-2172	+8
Stark Shale	4760'	-2316	+8
Hush	4798'	-2354	+8
Pawnee	4968'	-2524	+14
Cherokee Shale	5017'	-2573	+11
Atoka Shale	5106'	-2662	+12
Morrow Sand	Absent		
Mississippian	5122'	-2678	+11
RTD	5280'	-2836	

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ALLIED CEMENTING CO., LLC. 036531

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

SERVICE POINT:
LIBERAL KS

DATE <u>8-25-11</u>	SEC. <u>20</u>	TWP. <u>28S</u>	RANGE <u>22W</u>	CALLED OUT	ON LOCATION	JOB START <u>8:30</u>	JOB FINISH <u>9:38</u>
LEASE <u>FELKEN</u>	WELL # <u>220</u>	LOCATION <u>King Down SE 1/4 128</u>			COUNTY <u>FORD</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one) <u>NEW</u>		<u>3N 1/4W Units</u>					

CONTRACTOR <u>MURFIN #21</u>	OWNER <u>SAME</u>
TYPE OF JOB <u>8" SURFACE</u>	
HOLE SIZE _____ T.D. _____	CEMENT _____
CASING SIZE <u>8 1/2</u> DEPTH <u>3.54'</u>	AMOUNT ORDERED <u>225 SK A</u>
TUBING SIZE _____ DEPTH _____	<u>3" CC 2" GEL</u>
DRILL PIPE _____ DEPTH _____	
TOOL _____ DEPTH _____	
PRES. MAX <u>300</u> MINIMUM <u>0</u>	COMMON <u>225</u> @ <u>16²⁵</u> <u>3656²⁵</u>
MEAS. LINE _____ SHOE JOINT <u>45.55'</u>	POZMIX @ _____
CEMENT LEFT IN CSG. <u>145.55'</u>	GEL <u>5SK</u> @ <u>24²⁵</u> <u>106²⁵</u>
PERFS. _____	CHLORIDE <u>CC 8SK</u> @ <u>58²⁰</u> <u>465⁶⁰</u>
DISPLACEMENT <u>19.5</u>	ASC @ _____
EQUIPMENT _____	@ _____
PUMP TRUCK CEMENTER <u>BOB</u>	@ _____
# <u>352</u> HELPER <u>CEASAR MARK</u>	@ _____
BULK TRUCK _____	@ _____
# <u>457-251</u> DRIVER <u>ALBIN</u>	@ _____
BULK TRUCK _____	@ _____
# _____ DRIVER _____	@ _____
	HANDLING <u>238</u> @ <u>2²⁵</u> <u>535⁵⁰</u>
	MILEAGE <u>SK/mi x 11</u> <u>2094⁴⁰</u>
	TOTAL <u>6858²⁵</u>

REMARKS:

Thank you
Circle cnt to
SURFACE

SERVICE

DEPTH OF JOB <u>3.54</u>	
PUMP TRUCK CHARGE _____	<u>1125⁰⁰</u>
EXTRA FOOTAGE <u>SK</u> @ <u>95</u>	<u>51³⁰</u>
MILEAGE <u>160 mi</u> @ <u>7⁰⁰</u>	<u>1120⁰⁰</u>
MANIFOLD + HEAD _____	<u>200⁰⁰</u>
<u>CT UEL m 160mi</u> @ <u>4⁰⁰</u>	<u>640⁰⁰</u>
	@ _____

TOTAL 3136³⁰

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CHARGE TO: RITCHIE Exp

STREET _____

CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

<u>1 1/8</u> BAFFLE PLATE @ _____	<u>112⁰⁰</u>
TOP PLUG @ _____	<u>112⁰⁰</u>
_____ @ _____	_____
_____ @ _____	_____
TOTAL	<u>\$224⁰⁰</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 Juan Tinoco

SIGNATURE Juan Tinoco

SALES TAX (If Any) _____

TOTAL CHARGES 10218³⁰

DISCOUNT 2043.66 IF PAID IN 30 DAYS

8174.64

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BASIC
ENERGY SERVICES
Liberal, Kansas

Cement Report

Customer	Lease No.	Date
Lease	Well #	Service Receipt
Casing	Depth	County
Job Type	Formation	Legal Description

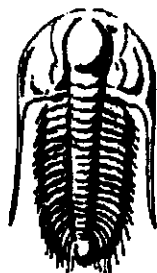
Pipe Data		Perforating Data		Cement Data
Casing size	Tubing Size	Shots/Ft		Lead
Depth	Depth	From	To	Tail in
Volume	Volume	From	To	
Max Press.	Max Press	From	To	
Well Connection	Annulus Vol.	From	To	
Plug Depth	Packer Depth	From	To	

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
11:00					
11:05					
11:10					
11:15					
11:20					
11:25					
11:30					
11:35					
11:40					
11:45					
11:50					
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Service Units	Driver Names	KCC
---------------	--------------	-----

Customer Representative _____ Station Manager _____ Cementer _____ Taylor Printing, Inc.



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

Box 783188
Wichita, KS 67278

ATTN: Mike Engelbrecht

22-28-22 Ford,KS

#1 Feikert 22 CD

Start Date: 2011.08.30 @ 05:00:00

End Date: 2011.08.30 @ 10:59:45

Job Ticket #: 42276 DST #: 1

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KCC

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

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Printed: 2011.09.15 @ 10:36:09

Ritchie Exploration

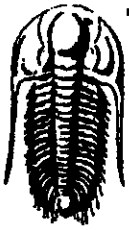
#1 Feikert 22 CD

22-28-22 Ford,KS

DST # 1

Pawnee

2011.08.30



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration

#1 Felkert 22 CD

Box 783188
Wichita, KS 67278

22-28-22 Ford, KS

Job Ticket: 42276

DST#: 1

ATTN: Mike Engelbrecht

Test Start: 2011.08.30 @ 05:00:00

GENERAL INFORMATION:

Formation: **Pawnee**

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

Time Tool Opened: 07:00:30

Time Test Ended: 10:59:45

Test Type: **Conventional Bottom Hole (Initial)**

Tester: **Harley Davidson**

Unit No: **33**

Interval: **4960.00 ft (KB) To 4990.00 ft (KB) (TVD)**

Reference Elevations: **2444.00 ft (KB)**

Total Depth: **4990.00 ft (KB) (TVD)**

2433.00 ft (CF)

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

KB to GRVCF: **11.00 ft**

Serial #: **6772**

Outside

Press@RunDepth: **49.08 psig @ 4962.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2011.08.30**

End Date: **2011.08.30**

Last Calib.: **2011.08.30**

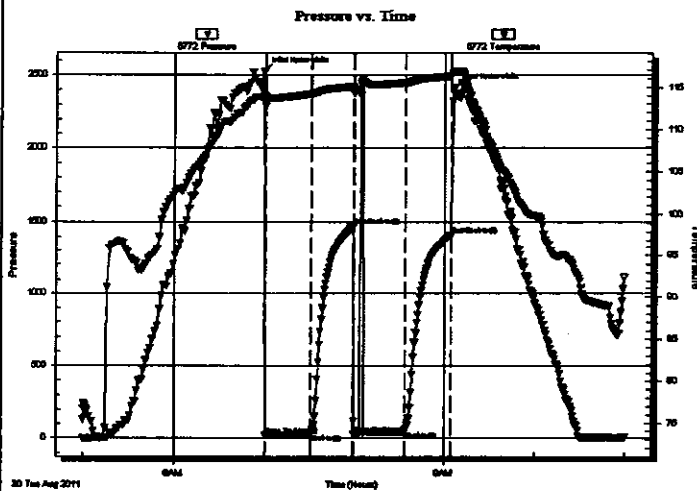
Start Time: **05:00:05**

End Time: **10:59:44**

Time On Btm: **2011.08.30 @ 06:59:30**

Time Off Btm: **2011.08.30 @ 09:06:00**

TEST COMMENT: **F- Weak surface blow.
IS- No blow back.
FF- Flushed tool, No blow.
FS- No blow back.**



PRESSURE SUMMARY

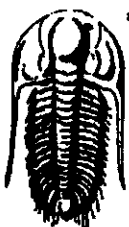
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2528.58	114.06	Initial Hydro-static
1	21.84	112.87	Open To Flow (1)
32	30.96	114.22	Shut-in(1)
61	1472.34	115.10	End Shut-in(1)
61	31.34	114.81	Open To Flow (2)
95	49.08	115.54	Shut-in(2)
125	1414.64	116.31	End Shut-in(2)
127	2413.87	116.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	100% mud	0.10

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#1 Felkert 22 CD

Box 783188
Wichita, KS 67278

22-28-22 Ford, KS

Job Ticket: 42276

DST#: 1

ATTN: Mike Engelbrecht

Test Start: 2011.08.30 @ 05:00:00

Tool Information

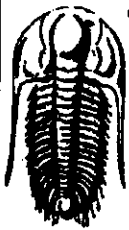
Drill Pipe:	Length: 4715.00 ft	Diameter: 3.80 inches	Volume: 66.14 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 80000.00 lb
		Total Volume: 67.32 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	4960.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	58.00 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			4933.00	
Shut In Tool	5.00			4938.00	
Hydraulic tool	5.00			4943.00	
Jars	5.00			4948.00	
Safety Joint	3.00			4951.00	
Packer	5.00			4956.00	28.00 Bottom Of Top Packer
Packer	4.00			4960.00	
Stubb	1.00			4961.00	
Perforations	1.00			4962.00	
Recorder	0.00	8355	Inside	4962.00	
Recorder	0.00	6772	Outside	4962.00	
Perforations	25.00			4987.00	
Bullnose	3.00			4990.00	30.00 Bottom Packers & Anchor

Total Tool Length: 58.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#1 Felkert 22 CD

Box 783188
Wichita, KS 67278

22-28-22 Ford,KS

Job Ticket: 42276

DST#: 1

ATTN: Mike Engelbrecht

Test Start: 2011.08.30 @ 05:00:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.56 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 10000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
20.00	100% mud	0.098

Total Length: 20.00 ft Total Volume: 0.098 bbl

Num Fluid Samples: 0

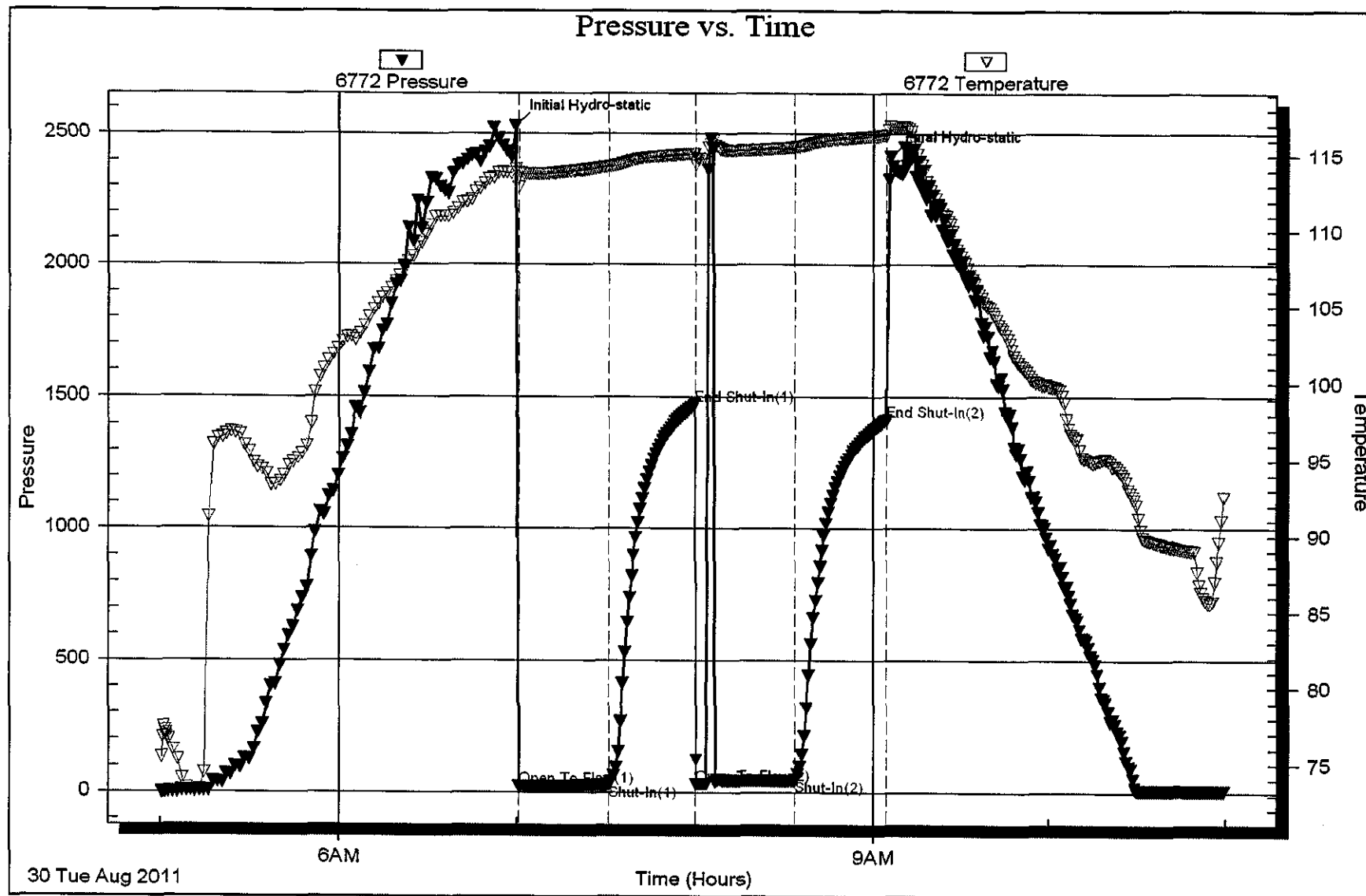
Num Gas Bombs: 0

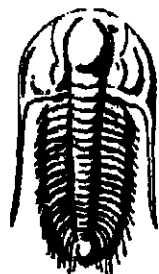
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

Box 783188
Wichita, KS 67278

ATTN: Mike Engelbrecht

22-28-22 Ford,KS

#1 Feikert 22 CD

Start Date: 2011.08.31 @ 04:45:00

End Date: 2011.08.31 @ 11:58:15

Job Ticket #: 42277 DST #: 2

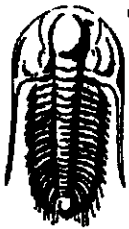
Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2011.09.15 @ 10:36:26

Ritchie Exploration #1 Feikert 22 CD 22-28-22 Ford,KS DST # 2 MTRW, Miss. 2011.08.31



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration
Box 783188
Wichita, KS 67278
ATTN: Mike Engelbrecht

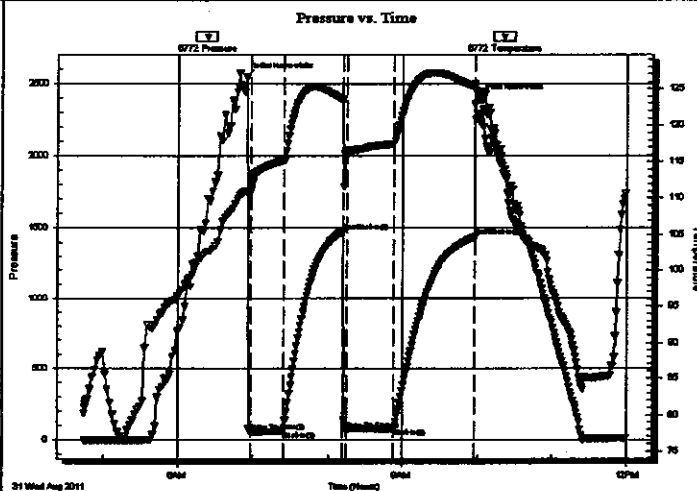
#1 Felkert 22 CD
22-28-22 Ford, KS
Job Ticket: 42277 **DST#: 2**
Test Start: 2011.08.31 @ 04:45:00

GENERAL INFORMATION:

Formation: **Mrw. Miss.**
Deviated: **No Whipstock:** ft (KB)
Time Tool Opened: 06:58:00
Time Test Ended: 11:58:15
Interval: **5057.00 ft (KB) To 5153.00 ft (KB) (TVD)**
Total Depth: **5153.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Fair**
Test Type: **Conventional Bottom Hole (Initial)**
Tester: **Harley Davidson**
Unit No: **33**
Reference Elevations: **2444.00 ft (KB)**
2433.00 ft (CF)
KB to GRVCF: **11.00 ft**

Serial #: 6772 **Outside**
Press@RunDepth: **79.59 psig @ 5060.00 ft (KB)** Capacity: **8000.00 psig**
Start Date: **2011.08.31** End Date: **2011.08.31** Last Calib.: **2011.08.31**
Start Time: **04:45:05** End Time: **11:58:14** Time On Btm: **2011.08.31 @ 06:54:15**
Time Off Btm: **2011.08.31 @ 10:00:15**

TEST COMMENT: IF- Strong blow BOB 1 min. GTS 30 min.
IS- No blow back.
FF- Strong blow BOB, GTS, ASAO.
FS- No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2548.43	111.04	Initial Hydro-static
4	61.60	111.11	Open To Flow (1)
30	62.79	115.21	Shut-in(1)
78	1472.64	123.50	End Shut-in(1)
81	76.72	116.44	Open To Flow (2)
119	79.59	117.42	Shut-in(2)
183	1435.76	125.23	End Shut-in(2)
186	2401.47	121.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
210.00	5%gas 5%oil 90%mud	1.03

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	4.50	29.98
Last Gas Rate	0.25	4.50	29.98
Max. Gas Rate	0.25	4.50	29.98



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#1 Feikert 22 CD

Box 783188
Wichita, KS 67278

22-28-22 Ford,KS

Job Ticket: 42277

DST#: 2

ATTN: Mike Engelbrecht

Test Start: 2011.08.31 @ 04:45:00

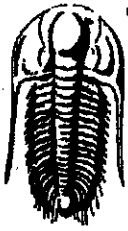
Tool Information

Drill Pipe:	Length: 4802.00 ft	Diameter: 3.80 inches	Volume: 67.36 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: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 68.54 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial	70000.00 lb
Depth to Top Packer:	5057.00 ft			Final	80000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	96.00 ft				
Tool Length:	123.00 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			5031.00	
Shut In Tool	5.00			5036.00	
Hydraulic tool	5.00			5041.00	
Jars	5.00			5046.00	
Safety Joint	2.00			5048.00	
Packer	5.00			5053.00	27.00 Bottom Of Top Packer
Packer	4.00			5057.00	
Stubb	1.00			5058.00	
Perforations	2.00			5060.00	
Recorder	0.00	8355	Inside	5060.00	
Recorder	0.00	6772	Outside	5060.00	
Change Over Sub	1.00			5061.00	
Drill Pipe	63.00			5124.00	
Change Over Sub	1.00			5125.00	
Perforations	25.00			5150.00	
Bullnose	3.00			5153.00	96.00 Bottom Packers & Anchor
Total Tool Length:	123.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#1 Feikert 22 CD

Box 783188
Wichita, KS 67278

22-28-22 Ford,KS

Job Ticket: 42277

DST#: 2

ATTN: Mike Engelbrecht

Test Start: 2011.08.31 @ 04:45:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 64.00 sec/qt	Cushion Volume: bbl		
Water Loss: 10.76 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 10200.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
210.00	5%gas 5%oil 90%mud	1.033

Total Length: 210.00 ft Total Volume: 1.033 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Ritchie Exploration

#1 Felkert 22 CD

Box 783188
Wichita, KS 67278

22-28-22 Ford, KS

Job Ticket: 42277

DST#: 2

ATTN: Mike Engelbrecht

Test Start: 2011.08.31 @ 04:45:00

Gas Rates Information

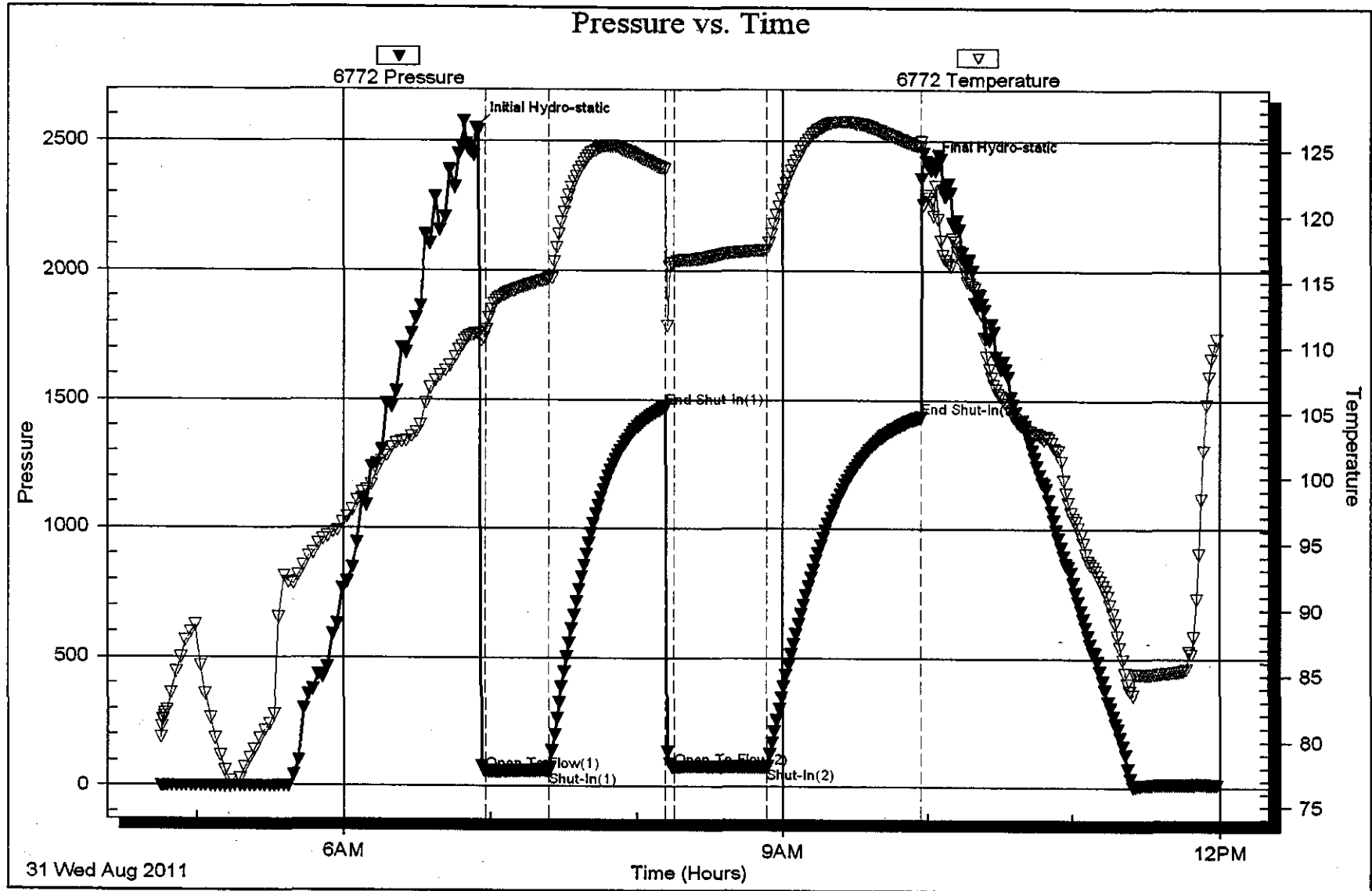
Temperature: 59 (deg F)

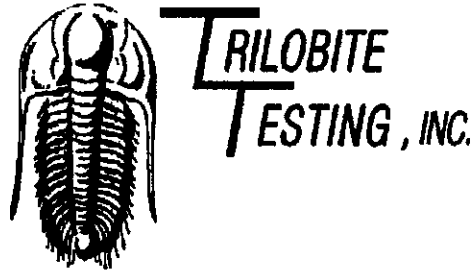
Relative Density: 0.65

Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	5	0.25	4.50	29.98
2	5	0.25	4.50	29.98
2	15	0.25	4.50	29.98
2	25	0.25	4.50	29.98
2	35	0.25	4.50	29.98





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

Box 783188
Wichita, KS 67278

ATTN: Mike Engelbrecht

22-28-22 Ford,KS

#1 Feikert 22 CD

Start Date: 2011.08.31 @ 18:30:00

End Date: 2011.09.01 @ 01:45:30

Job Ticket #: 42278 DST #: 3

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

Printed: 2011.09.15 @ 10:36:45

Ritchie Exploration #1 Feikert 22 CD 22-28-22 Ford,KS DST # 3 Miss 2011.08.31



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration
Box 783188
Wichita, KS 67278
ATTN: Mike Engelbrecht

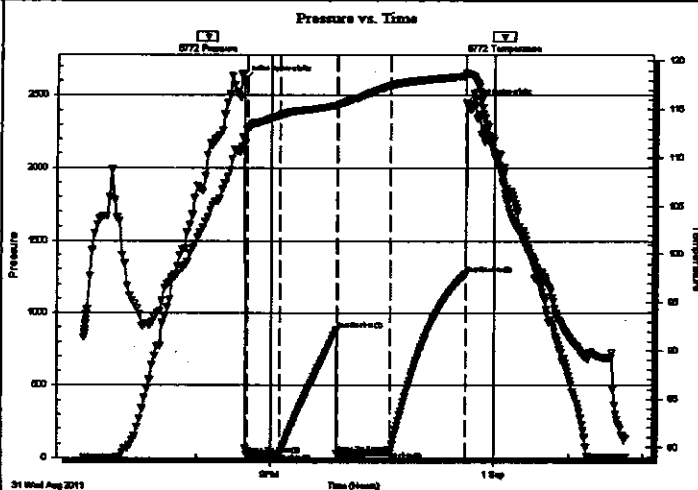
#1 Feikert 22 CD
22-28-22 Ford, KS
Job Ticket: 42278 **DST#: 3**
Test Start: 2011.08.31 @ 18:30:00

GENERAL INFORMATION:

Formation: **Miss**
Deviated: **No** Whipstock: ft (KB)
Time Tool Opened: 20:40:15
Time Test Ended: 01:45:30
Interval: **5150.00 ft (KB) To 5177.00 ft (KB) (TVD)**
Total Depth: **5177.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Fair**
Test Type: **Conventional Bottom Hole (Initial)**
Tester: **Harley Davidson**
Unit No: **33**
Reference Elevations: **2444.00 ft (KB)**
2433.00 ft (CF)
KB to GR/CF: **11.00 ft**

Serial #: 6772 **Outside**
Press@RunDepth: **42.06 psig @ 5152.00 ft (KB)**
Start Date: **2011.08.31** End Date: **2011.09.01**
Start Time: **18:30:05** End Time: **01:45:29**
Capacity: **8000.00 psig**
Last Calib.: **2011.09.01**
Time On Btm: **2011.08.31 @ 20:38:15**
Time Off Btm: **2011.08.31 @ 23:37:15**

TEST COMMENT: IF- Strong blow BOB, ASAO.
IS- No blow back.
FF- Strong blow BOB, ASAO.
FS- No blow back. No GTS.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2605.92	112.05	Initial Hydro-static
2	25.63	112.91	Open To Flow (1)
29	29.90	114.38	Shut-in(1)
75	881.87	115.40	End Shut-in(1)
75	29.92	115.27	Open To Flow (2)
118	42.06	117.48	Shut-in(2)
178	1268.24	118.43	End Shut-in(2)
179	2451.36	118.78	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	1100' GP	0.00
60.00	5%water 15%gas 80% mud	0.30

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#1 Felkert 22 CD

Box 783188
Wichita, KS 67278

22-28-22 Ford, KS

Job Ticket: 42278

DST#: 3

ATTN: Mike Engelbrecht

Test Start: 2011.08.31 @ 18:30:00

Tool Information

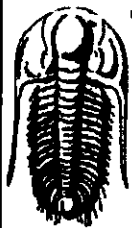
Drill Pipe:	Length: 4892.00 ft	Diameter: 3.80 inches	Volume: 68.62 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 69.80 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	5150.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.00 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			5123.00	
Shut In Tool	5.00			5128.00	
Hydraulic tool	5.00			5133.00	
Jars	5.00			5138.00	
Safety Joint	3.00			5141.00	
Packer	5.00			5146.00	28.00 Bottom Of Top Packer
Packer	4.00			5150.00	
Stubb	1.00			5151.00	
Perforations	1.00			5152.00	
Recorder	0.00	8355	Inside	5152.00	
Recorder	0.00	6772	Outside	5152.00	
Perforations	22.00			5174.00	
Bullnose	3.00			5177.00	27.00 Bottom Packers & Anchor

Total Tool Length: 55.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration
Box 783188
Wichita, KS 67278
ATTN: Mike Engelbrecht

#1 Felkert 22 CD
22-28-22 Ford, KS
Job Ticket: 42278 **DST#: 3**
Test Start: 2011.08.31 @ 18:30:00

Mud and Cushion Information

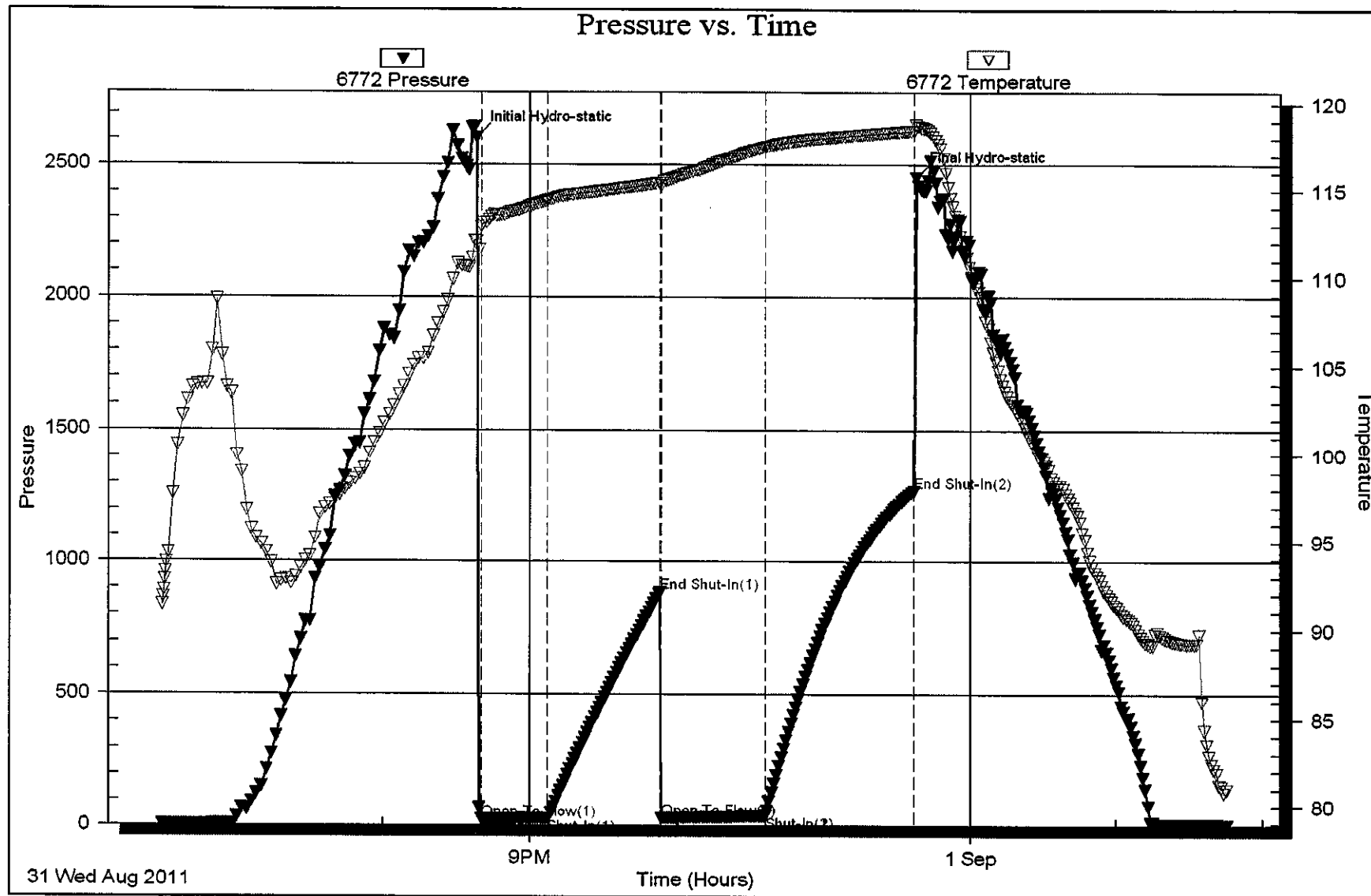
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 56.00 sec/qt	Cushion Volume: bbl		
Water Loss: 12.78 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 10900.00 ppm			
Filter Cake: inches			

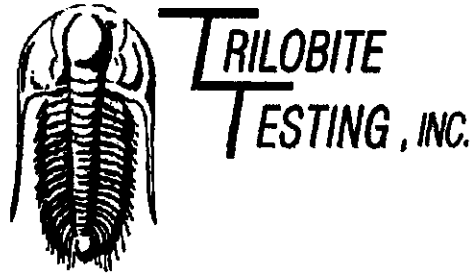
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	1100' GIP	0.000
60.00	5%water 15%gas 80% mud	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:





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

Box 783188
Wichita, KS 67278

ATTN: Mike Engelbrecht

22-28-22 Ford,KS

#1 Feikert 22 CD

Start Date: 2011.09.01 @ 10:00:00

End Date: 2011.09.01 @ 16:57:30

Job Ticket #: 42281 DST #: 4

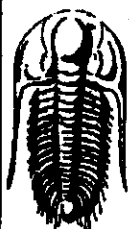
Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2011.09.15 @ 10:37:04

Ritchie Exploration #1 Feikert 22 CD 22-28-22 Ford,KS DST # 4 Miss 2011.09.01



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration
Box 783188
Wichita, KS 67278
ATTN: Mike Engelbrecht

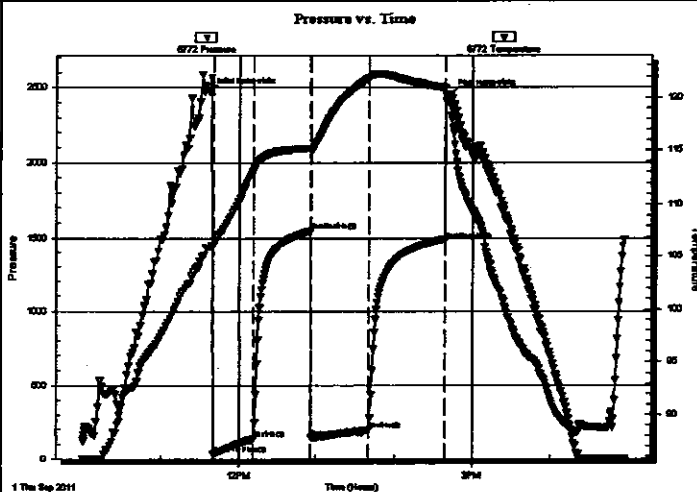
#1 Felkert 22 CD
22-28-22 Ford, KS
Job Ticket: 42281 DST#: 4
Test Start: 2011.09.01 @ 10:00:00

GENERAL INFORMATION:

Formation: **Miss**
Deviated: **No** Whipstock: ft (KB)
Time Tool Opened: 11:40:00
Time Test Ended: 16:57:30
Interval: **5167.00 ft (KB) To 5197.00 ft (KB) (TVD)**
Total Depth: **5197.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Fair**
Test Type: **Conventional Bottom Hole (Initial)**
Tester: **Harley Davidson**
Unit No: **33**
Reference Elevations: **2444.00 ft (KB)**
2433.00 ft (CF)
KB to GR/CF: **11.00 ft**

Serial #: 6772 **Outside**
Press@RunDepth: **197.33 psig @ 5169.00 ft (KB)** Capacity: **8000.00 psig**
Start Date: **2011.09.01** End Date: **2011.09.01** Last Calib.: **2011.09.01**
Start Time: **10:00:05** End Time: **16:57:29** Time On Btm: **2011.09.01 @ 11:37:00**
Time Off Btm: **2011.09.01 @ 14:42:45**

TEST COMMENT: F- Good blow BOB, 10 min.
IS- No blow back.
FF- Good building blow BOB, 27 min.
FS- No blow back.



PRESSURE SUMMARY

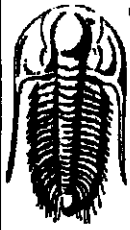
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2473.35	105.94	Initial Hydro-static
3	34.38	106.11	Open To Flow (1)
35	137.66	113.19	Shut-In(1)
79	1546.76	115.19	End Shut-In(1)
80	144.62	114.91	Open To Flow (2)
124	197.33	121.83	Shut-In(2)
182	1488.07	120.93	End Shut-In(2)
186	2458.17	118.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
302.00	100% Water w/ trace of oil	2.05
93.00	5%gas 5%oil 40%water 50%mud	1.30
0.00	370' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration

#1 Feikert 22 CD

Box 783188
Wichita, KS 67278

22-28-22 Ford,KS

Job Ticket: 42281

DST#: 4

ATTN: Mike Engelbrecht

Test Start: 2011.09.01 @ 10:00:00

Tool Information

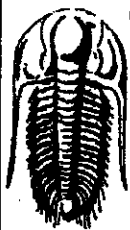
Drill Pipe:	Length: 4924.00 ft	Diameter: 3.80 inches	Volume: 69.07 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 80000.00 lb
		Total Volume:	70.25 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	5167.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	58.00 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			5140.00	
Shut In Tool	5.00			5145.00	
Hydraulic tool	5.00			5150.00	
Jars	5.00			5155.00	
Safety Joint	3.00			5158.00	
Packer	5.00			5163.00	28.00 Bottom Of Top Packer
Packer	4.00			5167.00	
Stubb	1.00			5168.00	
Perforations	1.00			5169.00	
Recorder	0.00	8355	Inside	5169.00	
Recorder	0.00	6772	Outside	5169.00	
Perforations	25.00			5194.00	
Bullnose	3.00			5197.00	30.00 Bottom Packers & Anchor

Total Tool Length: 58.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#1 Feikert 22 CD

Box 783188
Wichita, KS 67278

22-28-22 Ford,KS

Job Ticket: 42281

DST#: 4

ATTN: Mike Engelbrecht

Test Start: 2011.09.01 @ 10:00:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 20.97 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 13800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
302.00	100% Water w / trace of oil	2.050
93.00	5%gas 5%oil 40%water 50%mud	1.305
0.00	370' GP	0.000

Total Length: 395.00 ft Total Volume: 3.355 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .14 @ 108= 30000 CHL.

