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KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

ORIGINAL

Form ACO-1
September 1999
Form Must Be Typed

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

6/22/12

Operator: License # 4767
Name: Ritchie Exploration, Inc.
Address: P.O. Box 783188
City/State/Zip: Wichita, KS 67278-3188
Purchaser: NCRA
Operator Contact Person: John Niemberger
Phone: (316) 691-9500
Contractor: Name: Duke Drilling Co., Inc.
License: 5929
Wellsite Geologist: Jeff Christian

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Designate Type of Completion:
 New Well Re-Entry Workover
 Oil SWD SLOW Temp. Abd.
 Gas ENHR SIGW
 Dry Other (Core, WSW, Expl., Cathodic, 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./SWD
 Plug Back _____ Plug Back Total Depth _____
 Commingled _____ Docket No. _____
 Dual Completion _____ Docket No. _____
 Other (SWD or Enhr.?) _____ Docket No. _____

3/2/10	3/13/10	3/14/10
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 057-20667-00-00
County: Ford
_____ N/2 _____ NW _____ SW Sec. 4 Twp. 26 S. R. 22 East West
2190 feet from S / N (circle one) Line of Section
640 feet from E / W (circle one) Line of Section

Footages Calculated from Nearest Outside Section Corner:
(circle one) NE SE NW SW
Lease Name: Nau 4BC Well #: 1

Field Name: _____
Producing Formation: Altamont & Cherokee
Elevation: Ground: 2404 Kelly Bushing: 2416
Total Depth: 4965 Plug Back Total Depth: 4942
Amount of Surface Pipe Set and Cemented at 377 Feet
Multiple Stage Cementing Collar Used? Yes No
If yes, show depth set 1454 Feet
If Alternate II completion, cement circulated from 1454
feet depth to surface w/ 175 sx crmt.

Drilling Fluid Management Plan PH INJ 6-2870
(Data must be collected from the Reserve Pit)
Chloride content 28000 ppm Fluid volume 1200 bbls
Dewatering method used evaporation
Location of fluid disposal if hauled offsite: _____
Operator Name: _____
Lease Name: _____ License No.: _____
Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West
County: _____ Docket No.: _____

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.

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: _____
Title: Production Manager Date: 6/22/10
Subscribed and sworn to before me this 22nd day of June
2010
Notary Public: Debra K Phillips
Date Commission Expires: 5-4-11

DEBRA K. PHILLIPS
Notary Public - State of Kansas
My Appt Expires 5-4-11

KCC Office Use ONLY
 Letter of Confidentiality Received 6/22/10
If Denied, Yes Date: _____
 Wireline Log Received
 Geologist Report Received
 UIC Distribution

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Operator Name: Ritchie Exploration, Inc. Lease Name: Nau 4BC Well #: 1
 Sec. 4 Twp. 26 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 copy of all Electric Wireline 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 <i>(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 <p style="text-align: center;">SEE ATTACHED</p> <div style="text-align: right; font-size: 1.2em; font-weight: bold;"> KCC JUN 22 2010 CONFIDENTIAL </div>
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CASING RECORD <input type="checkbox"/> New <input checked="" 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	24	377	Common	200	3%cc, 2% gel
Production	7-7/8	5-1/2	15.5	4962	ASC	210	10% salt, 2% gel & 5¢ per sack to-seal

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	4838.5' - 4841.5' (Lower Cherokee Lime 3/31/10)	500 gallons 15% NE	
4	4671' - 4678' (Altamont B 3/31/10)	500 gallons 15% NE	

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TUBING RECORD		Size <u>2-7/8</u>	Set At <u>4924'</u>	Packer At	Liner Run <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Date of First, Resumerd Production, SWD or Enhr. <u>4/23/10</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>174.24</u>	Gas Mcf	Water Bbls. <u>0</u>	Gas-Oil Ratio	Gravity <u>30.6</u>

Disposition of Gas Vented Sold Used on Lease *(If vented, Submit ACO-18.)*

METHOD OF COMPLETION Open Hole Perf. Dually Comp. Commingled

Production Interval Other (Specify) _____



#1 Nau 4BC

2190' FSL & 640' FWL

120' S & 20' W of N/2 NW SW Section 4-26S-22W

Ford County, Kansas

API# 15-057-20667-0000

Elevation: 2404' GL: 2416' KB

<u>Sample Tops</u>			<u>Ref. Well</u>
Heebner	4101'	-1685	+1
Lansing	4209'	-1793	+6
Lansing "C"	4244'	-1828	+4
Muncie Shale	4385'	-1969	flat
Lansing "H"	4399'	-1983	+4
Lansing "I"	4426'	-2010	-2
Lansing "J"	4443'	-2027	-3
Stark Shale	4492'	-2076	+1
Lansing "K"	4496'	-2080	+1
Hush.	4548'	-2132	+5
Lansing "L"	4558'	-2142	+7
BKC	4585'	-2169	+6
Altamont	4640'	-2224	+3
Pawnee	4717'	-2301	+3
Fort Scott	4748'	-2332	+3
Cherokee Shale	4767'	-2351	+3
Lower Cherokee	4802'	-2386	+3
Atoka	4847'	-2432	+1
Mississippian	4868'	-2452	+3
RTD	4965'	-2549	

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TREATMENT REPORT

Customer *Ritchie Exploration* Lease No. _____ Date *6-19-10*
 Lease *NAU 48C* Well # *1*
 Field Order # *17190579* Station *Liberal* Casing *5 1/2"* Depth *1455* County *Ford* State *KS*
 Type Job *242 5 1/2 Port Bellar* Formation _____ Legal Description *1/4-1-22*

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size <i>5 1/2"</i>	Tubing Size <i>2 3/8"</i>	Shots/Ft	<i>125 sk</i>	Acid	<i>Acid Blend - 3% CC</i>	RATE	PRESS	ISIP
Depth	Depth <i>1455</i>	From	<i>3.17</i>	Pre Pad	<i>19.76 gal/sk</i>	Max	<i>11.2 #/gal</i>	5 Min.
Volume	Volume <i>8.4</i>	From	<i>50 to 100</i>	Pad	<i>Acid Blend - 3% CC</i>	Min	<i>11.2 #/gal</i>	10 Min: <i>2% WCA-1</i>
Max Press	Max Press	From	<i>1.95</i>	Frac	<i>10.62 gal/sk</i>	Avg	<i>1.5 #/gal</i>	15 Min.
Well Connection	Annulus Vol.	From	To		HHP Used			Annulus Pressure
Plug Depth	Packer Depth	From	To	Flush	Gas Volume			Total Load

Customer Representative *G. Rowe* Station Manager *J. Bennett* Treater *M. Cochran*
 Service Units *21755 12978 19847 19628 19883*
 Driver Names *Cochran C. HINE S. Chavez*

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>13:00</i>					<i>on loc. / Hold Safety / Injecting</i>
<i>13:30</i>					<i>Rig Running Tubing</i>
<i>15:07</i>	<i>1200</i>				<i>Hook up to well 14-2d + test Csg.</i>
<i>15:17</i>	<i>300</i>		<i>10</i>	<i>3</i>	<i>Start Fresh H₂O Ahead</i>
<i>15:20</i>	<i>300</i>		<i>70</i>	<i>4</i>	<i>Start Lead Cmt 125 sk @ 11.2 #</i>
<i>15:37</i>	<i>400</i>		<i>17</i>	<i>4</i>	<i>Start Tail Cmt 50 sk @ 13 #</i>
<i>15:41</i>	<i>300</i>		<i>0</i>	<i>4</i>	<i>Start Disp.</i>
<i>15:42</i>	<i>350</i>		<i>7.7</i>	<i>0</i>	<i>Shut down & Close Tool</i>
<i>15:47</i>	<i>1200</i>				<i>Test Csg.</i>
<i>15:50</i>					<i>Run in Sigs of Tubing</i>
<i>16:15</i>	<i>250</i>		<i>0</i>	<i>3</i>	<i>Reverse Well</i>
<i>16:24</i>	<i>0</i>		<i>25</i>	<i>0</i>	<i>Shut down</i>
<i>16:30</i>					<i>End Job</i>

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ALLIED CEMENTING CO., LLC. 041433

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

SERVICE POINT:

DATE <u>3-15-10</u>	SEC. <u>4</u>	TWP. <u>20S</u>	RANGE <u>22W</u>	3-14 CALLED OUT <u>3:30pm</u>	3-14 ON LOCATION <u>10:00pm</u>	Meas. Line <u>Loose ft</u> 3-15 JOB START <u>3:30pm</u>	3-15 JOB FINISH <u>4:30pm</u>
EASE <u>NAU4BC</u> WELL # <u>1</u>		LOCATION <u>Spagrville Ks 2 South</u>			COUNTY <u>For</u>	STATE <u>Ks</u>	
OLD OR NEW (Circle one)		<u>East into</u>					

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CONTRACTOR Duke #1 OWNER Ritchie Exploration

TYPE OF JOB Production

HOLE SIZE 7 7/8 T.D. 4962'

CASING SIZE 5 1/2 DEPTH 4962'

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT 19

CEMENT LEFT IN CSG.

PERFS.

DISPLACEMENT 117 1/2 bbl's of Fresh water

CEMENT

AMOUNT ORDERED 50 sy 60:40:14%

210 sy Class A BSC + 5B Kol-seal + 390

FL160 2 1/2 9915 DSF

COMMON <u>Class A</u>	<u>30</u>	@ <u>15.45</u>	<u>463.50</u>
POZMIX	<u>20</u>	@ <u>8.00</u>	<u>160.00</u>
GEL	<u>2</u>	@ <u>20.80</u>	<u>41.60</u>
CHLORIDE		@	
ASC <u>Class A</u>	<u>210</u>	@ <u>18.60</u>	<u>3906.00</u>
<u>Kol-seal</u>	<u>1030</u>	@ <u>1.89</u>	<u>1945.70</u>
<u>FL-160</u>	<u>99</u>	@ <u>13.30</u>	<u>1316.70</u>
		@	
		@	
		@	
		@	
HANDLING	<u>210</u>	@ <u>2.40</u>	<u>504.00</u>
MILEAGE	<u>240</u>	@ <u>4.10</u>	<u>984.00</u>
TOTAL			<u>8486.30</u>

EQUIPMENT

PUMP TRUCK CEMENTER Darin F

352 HELPER Dave F

BULK TRUCK

421-251 DRIVER mg+t

BULK TRUCK

DRIVER

REMARKS:

Pipe on bottom & break circulation
mix 50 sy @ cement for 2 1/2 mouse
hole, mix 210 sy of cement, shut down
wash pump & lines, Release plug, Start
displacement, lift pressure to 85
bbl's, slow rate to 3 bpm @ 110 bbl's
plug plus @ 117 1/2 bbl's 1000-1500 psi
Log & did hold

SERVICE

DEPTH OF JOB 4962'

PUMP TRUCK CHARGE 2185.00

EXTRA FOOTAGE @

MILEAGE 40 @ 7.00 280.00

MANIFOLD @

Hesdrental @

TOTAL 2465.00

CHARGE TO: Ritchie Exploration

STREET _____

CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

5 1/2

1- Rubber Plug	@	<u>74.00</u>	<u>74.00</u>
1- AFU Insert	@	<u>112.00</u>	<u>112.00</u>
1- Port Collar	@	<u>1750.00</u>	<u>1750.00</u>
3- Baskets	@	<u>161.00</u>	<u>483.00</u>
2- Turbolizers	@	<u>40.60</u>	<u>284.20</u>
1- Guide shoe		<u>100.80</u>	<u>100.80</u>
TOTAL			<u>2804.00</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 x Guy Rowe

SIGNATURE x Guy Rowe

Thank You!!!

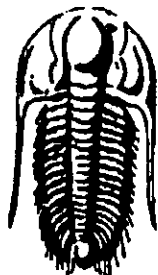
SALES TAX (If Any) _____

TOTAL CHARGES _____

DISCOUNT _____ IF PAID IN 30 DAYS

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FR



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc**

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

ATTN: Jeff Christian

4-26s-22w Ford KS

#1 NAU 4 BC

Start Date: 2010.03.10 @ 16:06:59

End Date: 2010.03.10 @ 18:00:58

Job Ticket #: 35686 DST #: 1

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Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

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Ritchie Exploration, Inc

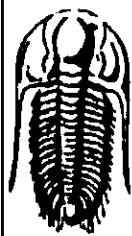
#1 NAU 4 BC

4-26s-22w Ford KS

DST # 1

Altamont

2010.03.10



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration, Inc
8100 E 22nd St. N. # 700
Wichita, KS 67278
ATTN: Jeff Christian

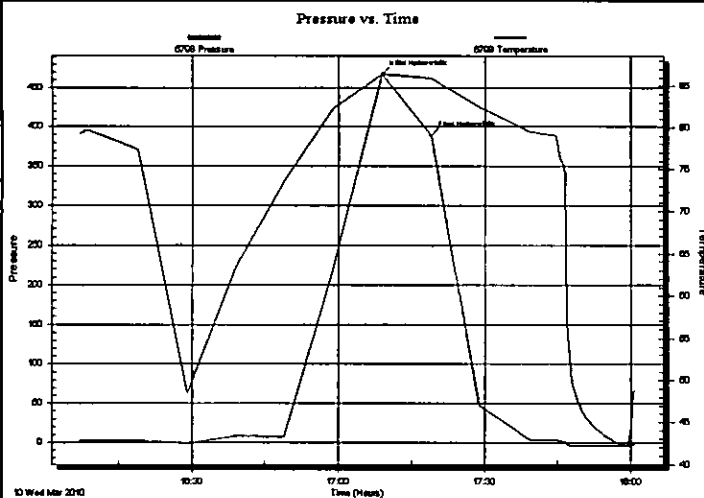
#1 NAU 4 BC
4-26s-22w Ford KS
Job Ticket: 35686 DST#: 1
Test Start: 2010.03.10 @ 16:06:59

GENERAL INFORMATION:

Formation: **Altamont**
Deviated: **No** Whipstock: ft (KB)
Time Tool Opened: 00:00:00
Time Test Ended: 18:00:58
Interval: **4618.00 ft (KB) To 4710.00 ft (KB) (TVD)**
Total Depth: **4710.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Fair**
Test Type: **Conventional Bottom Hole**
Tester: **Jerry Adams**
Unit No: **45**
Reference Elevations: **2416.00 ft (KB)**
2404.00 ft (CF)
KB to GR/CF: **12.00 ft**

Serial #: **6798** Inside
Press@RunDepth: psig @ **4625.00 ft (KB)** Capacity: **8000.00 psig**
Start Date: **2010.03.10** End Date: **2010.03.10** Last Calib.: **2010.03.10**
Start Time: **16:06:59** End Time: **18:00:58** Time On Btm: **2010.03.10 @ 17:08:58**
Time Off Btm: **2010.03.10 @ 17:18:58**

TEST COMMENT: IF: Hit bridge going in the hole. Came back out to condition the hole.
IS:NA
FF:NA
FS:NA



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	467.81	85.43	Initial Hydro-static
10	388.76	85.98	Final Hydro-static

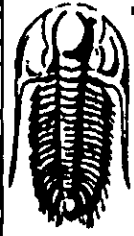
Recovery

Length (ft)	Description	Volume (bbl)
0.00		0.00

Gas Rates

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

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**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration, Inc
8100 E 22nd St. N. # 700
Wichita, KS 67278

ATTN: Jeff Christian

#1 NAU 4 BC
4-26s-22w Ford KS
Job Ticket: 35686 DST#: 1
Test Start: 2010.03.10 @ 16:06:59

Tool Information

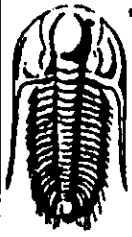
Drill Pipe:	Length: 4604.00 ft	Diameter: 3.80 inches	Volume: 64.58 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 0.00 lb
			<u>Total Volume: 64.58 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 20000.00 lb
Depth to Top Packer:	4618.00 ft			Final 20000.00 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:

Hit bridge going in hole. Came back out to condition the hole.

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4603.00	
Hydraulic tool	5.00			4608.00	
Packer	5.00			4613.00	20.00 Bottom Of Top Packer
Packer	5.00			4618.00	
Stubb	1.00			4619.00	
Perforations	5.00			4624.00	
Change Over Sub	1.00			4625.00	
Recorder	0.00	6798	Inside	4625.00	
Recorder	0.00	8367	Inside	4625.00	
Blank Spacing	62.00			4687.00	
Change Over Sub	1.00			4688.00	
Perforations	19.00			4707.00	
Bullnose	3.00			4710.00	92.00 Bottom Packers & Anchor

Total Tool Length: 112.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration, Inc
8100 E 22nd St. N. # 700
Wichita, KS 67278

ATTN: Jeff Christian

#1 NAU 4 BC
4-26s-22w Ford KS
Job Ticket: 35686 **DST#: 1**
Test Start: 2010.03.10 @ 16:06:59

Mud and Cushion Information

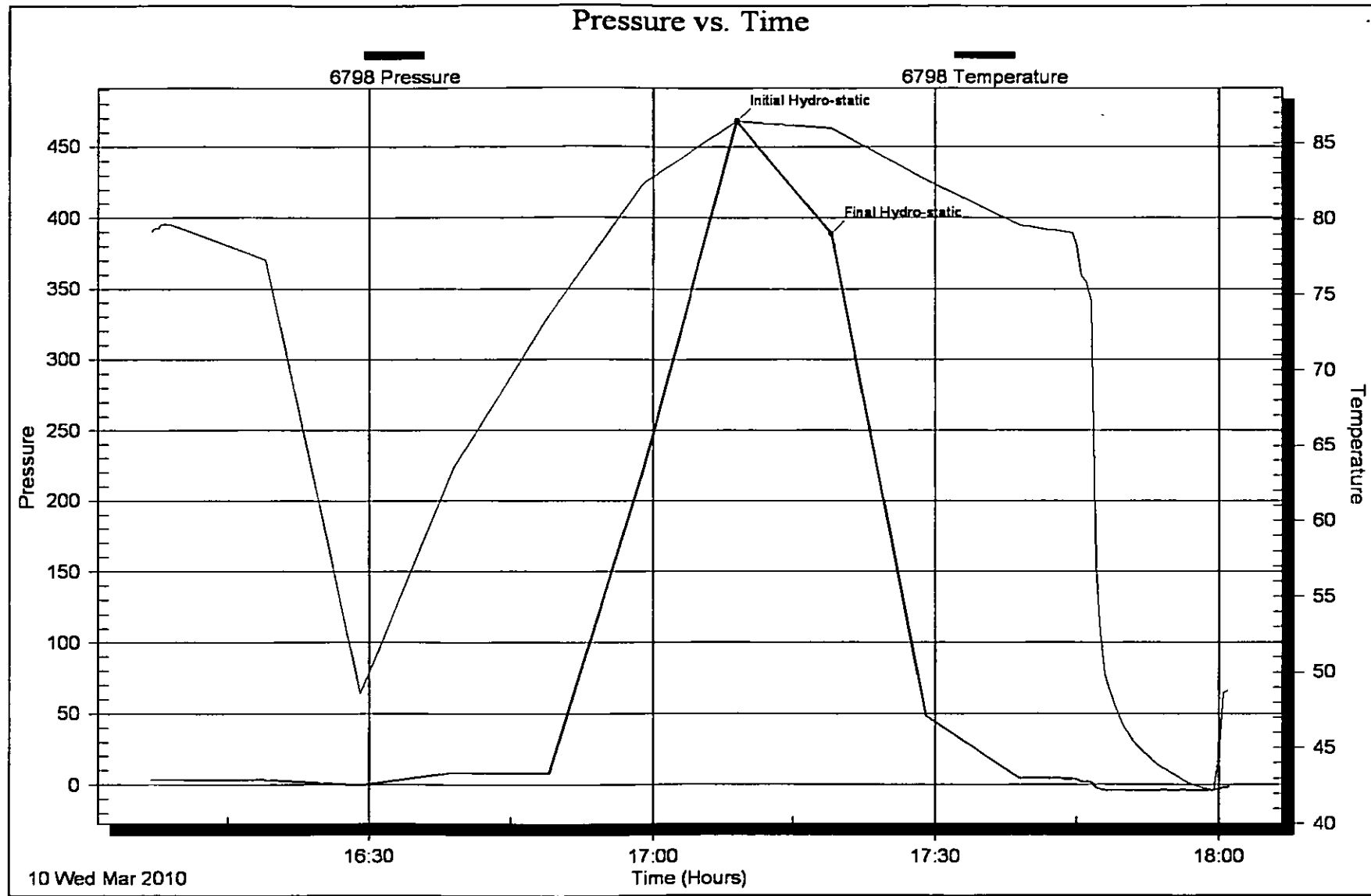
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.57 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 3800.00 ppm			
Filter Cake: 0.21 inches			

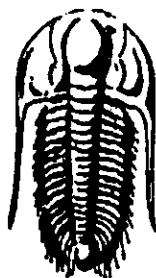
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00		0.000

Total Length: ft Total Volume: bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #: none
Laboratory Name: Laboratory Location:
Recovery Comments:





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc**

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

ATTN: Jeff Christian

4-26s-22w Ford KS

#1 NAU 4 BC

Start Date: 2010.03.11 @ 00:44:25

End Date: 2010.03.11 @ 10:27:25

Job Ticket #: 35687 DST #: 2

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration, Inc

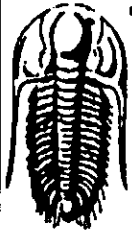
#1 NAU 4 BC

4-26s-22w Ford KS

DST # 2

Altamont

2010.03.11



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration, Inc
8100 E 22nd St. N. # 700
Wichita, KS 67278
ATTN: Jeff Christian

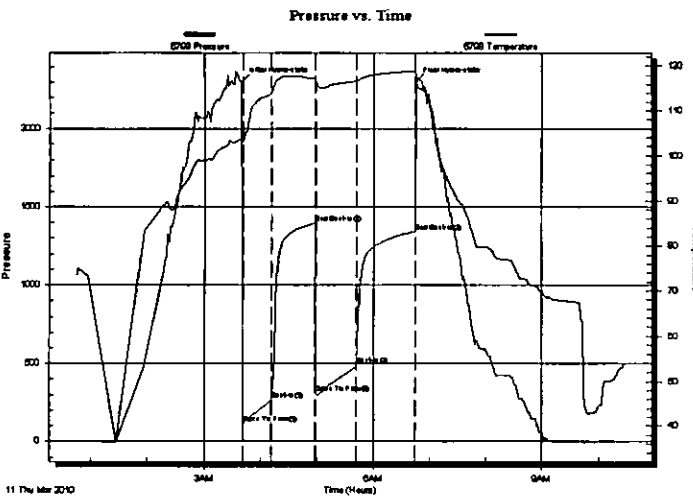
#1 NAU 4 BC
4-26s-22w Ford KS
Job Ticket: 35687 DST#: 2
Test Start: 2010.03.11 @ 00:44:25

GENERAL INFORMATION:

Formation: **Altamont**
Deviated: **No Whipstock** ft (KB)
Time Tool Opened: 03:41:25
Time Test Ended: 10:27:25
Interval: **4618.00 ft (KB) To 4710.00 ft (KB) (TVD)**
Total Depth: **4710.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Fair**
Test Type: **Conventional Bottom Hole**
Tester: **Jerry Adams**
Unit No: **45**
Reference Elevations: **2416.00 ft (KB)**
2404.00 ft (CF)
KB to GR/CF: **12.00 ft**

Serial #: 6798 **Inside**
Press@RunDepth: **489.55 psig @ 4625.00 ft (KB)** Capacity: **8000.00 psig**
Start Date: **2010.03.11** End Date: **2010.03.11** Last Calib.: **2010.03.11**
Start Time: **00:44:26** End Time: **10:27:25** Time On Btm: **2010.03.11 @ 03:39:55**
Time Off Btm: **2010.03.11 @ 06:45:55**

TEST COMMENT: IF: Strong blow . B.O.B. in 1 1/2 mins.
IS: Fair blow . B.O.B. in 15 mins.
FF: Strong blow . B.O.B. in 2 mins. GTS in 27 mins. T.S.T.M
FS: Fair blow . B.O.B. in 12 mins.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2305.30	103.51	Initial Hydro-static
2	113.95	103.13	Open To Flow (1)
32	268.29	113.95	Shut-In(1)
78	1394.20	117.27	End Shut-In(1)
79	309.23	116.75	Open To Flow (2)
123	489.55	116.66	Shut-In(2)
185	1341.90	118.81	End Shut-In(2)
186	2304.81	117.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
112.00	SMCGsyO 40%g 45%o 15%m	1.57
994.00	GsyO 40%g 60%o	13.94
124.00	SMCGsyO 40%g 50%o 10%m	1.74
0.00	3374' GIP	0.00
0.00	Grav.= 19 API @ 70 deg.	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration, Inc
8100 E 22nd St. N. # 700
Wichita, KS 67278
ATTN: Jeff Christian

#1 NAU 4 BC
4-26s-22w Ford KS
Job Ticket: 35687 DST#: 2
Test Start: 2010.03.11 @ 00:44:25

Tool Information

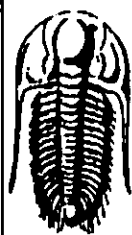
Drill Pipe:	Length: 4604.00 ft	Diameter: 3.80 inches	Volume: 64.58 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 64.58 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4618.00 ft			Final 65000.00 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

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4603.00	
Hydraulic tool	5.00			4608.00	
Packer	5.00			4613.00	20.00 Bottom Of Top Packer
Packer	5.00			4618.00	
Stubb	1.00			4619.00	
Perforations	5.00			4624.00	
Change Over Sub	1.00			4625.00	
Recorder	0.00	6798	Inside	4625.00	
Recorder	0.00	8367	Inside	4625.00	
Blank Spacing	62.00			4687.00	
Change Over Sub	1.00			4688.00	
Perforations	19.00			4707.00	
Bullnose	3.00			4710.00	92.00 Bottom Packers & Anchor

Total Tool Length: 112.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration, Inc
8100 E 22nd St. N. # 700
Wichita, KS 67278
ATTN: Jeff Christian

#1 NAU 4 BC
4-26s-22w Ford KS
Job Ticket: 35687 **DST#: 2**
Test Start: 2010.03.11 @ 00:44:25

Mud and Cushion Information

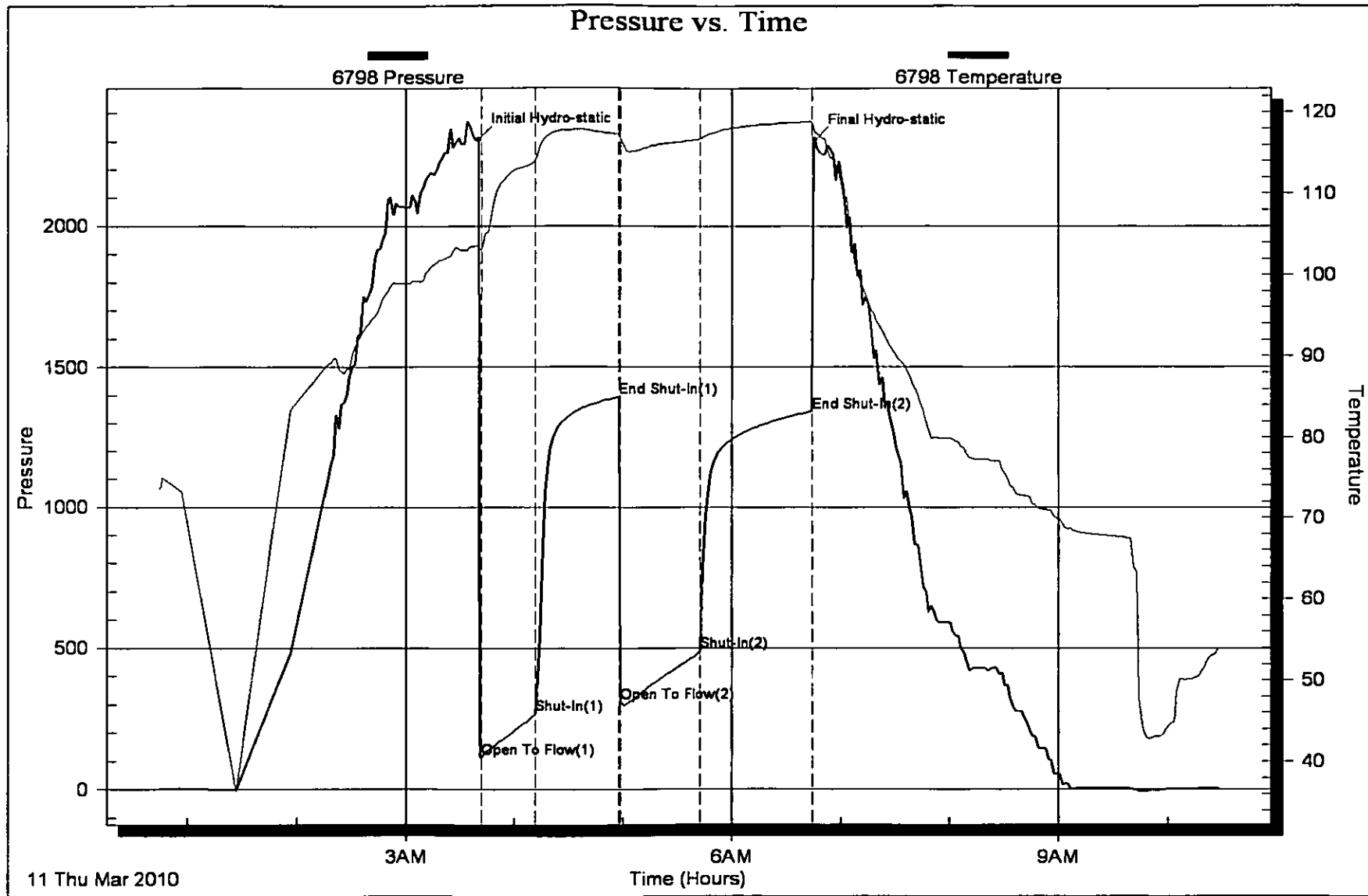
Mud Type: Gel Chem	Cushion Type:	Oil API:	18 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.57 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 3800.00 ppm			
Filter Cake: 0.21 inches			

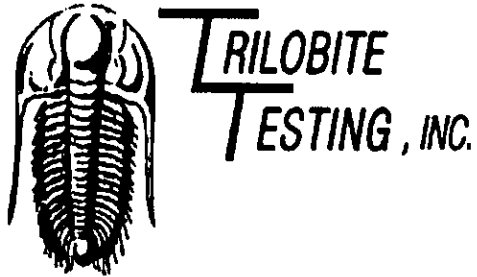
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
112.00	SMCGsyO 40%g 45%o 15%m	1.571
994.00	GsyO 40%g 60%o	13.943
124.00	SMCGsyO 40%g 50%o 10%m	1.739
0.00	3374' GIP	0.000
0.00	Grav. = 19 API @ 70 deg.	0.000

Total Length: 1230.00 ft Total Volume: 17.253 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 2 Serial #: GA-1 GA-2
 Laboratory Name: Caraway Laboratory Location: Liberal, KS
 Recovery Comments:





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration, Inc**

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

ATTN: Jeff Christian

4-26s-22w Ford KS

#1 NAU 4 BC

Start Date: 2010.03.12 @ 04:36:44

End Date: 2010.03.12 @ 14:28:44

Job Ticket #: 35688 DST #: 3

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Ritchie Exploration, Inc

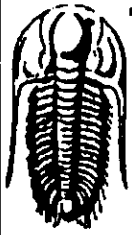
#1 NAU 4 BC

4-26s-22w Ford KS

DST # 3

Cherokee

2010.03.12



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Ritchie Exploration, Inc
8100 E 22nd St. N. # 700
Wichita, KS 67278
ATTN: Jeff Christian

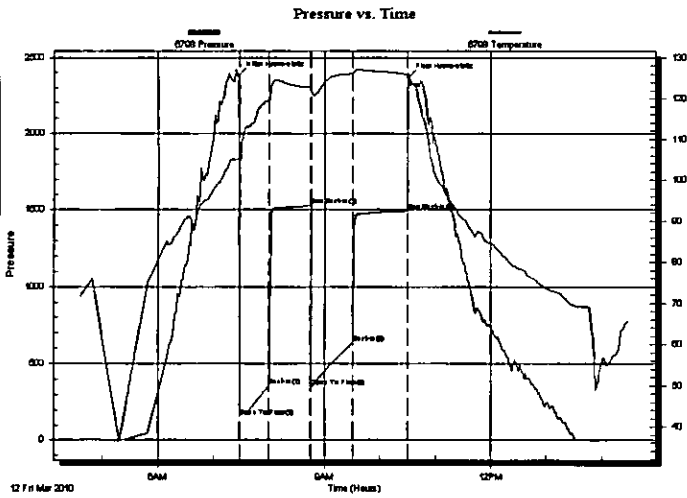
#1 NAU 4 BC
4-26s-22w Ford KS
Job Ticket: 35688 DST#: 3
Test Start: 2010.03.12 @ 04:36:44

GENERAL INFORMATION:

Formation: **Cherokee**
Deviated: **No** Whipstock: ft (KB)
Time Tool Opened: 07:28:14
Time Test Ended: 14:28:44
Interval: **4782.00 ft (KB) To 4850.00 ft (KB) (TVD)**
Total Depth: **4850.00 ft (KB) (TVD)**
Hole Diameter: **7.88 inches** Hole Condition: **Fair**
Test Type: **Conventional Bottom Hole**
Tester: **Jerry Adams**
Unit No: **45**
Reference Elevations: **2416.00 ft (KB)**
2404.00 ft (CF)
KB to GR/CF: **12.00 ft**

Serial #: 6798 Inside
Press@RunDepth: **634.11 psig @ 4789.00 ft (KB)** Capacity: **8000.00 psig**
Start Date: **2010.03.12** End Date: **2010.03.12** Last Calib.: **2010.03.12**
Start Time: **04:36:45** End Time: **14:28:44** Time On Btm: **2010.03.12 @ 07:26:44**
Time Off Btm: **2010.03.12 @ 10:30:44**

TEST COMMENT: IF: Strong blow . B.O.B. in 2 1/2 mins.
IS: Strong blow . B.O.B. in 6 mins.
FF: Strong blow . B.O.B. in 1 min. GTS in 12 mins. T.S.T.M.
FS: Strong blow . B.O.B. in 3 mins.



PRESSURE SUMMARY

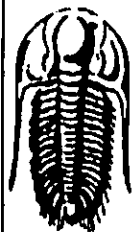
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2382.75	104.97	Initial Hydro-static
2	155.34	104.51	Open To Flow (1)
33	354.78	119.58	Shut-In(1)
78	1525.66	122.72	End Shut-In(1)
79	351.83	121.98	Open To Flow (2)
124	634.11	126.06	Shut-In(2)
183	1492.84	125.89	End Shut-In(2)
184	2373.09	126.02	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
93.00	OCM 10%o 90%m	1.30
124.00	MCGsyO 45%g 35%o 20%m	1.74
806.00	SG&MCO 10%g 80%o 10%m	11.31
620.00	SMCGsyO 45%g 45%o 10%m	8.70
0.00	3146' GIP	0.00
0.00	Grav. = 28 API @ 60 deg.	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration, Inc
8100 E 22nd St. N. # 700
Wichita, KS 67278

ATTN: Jeff Christian

#1 NAU 4 BC
4-26s-22w Ford KS
Job Ticket: 35688 DST#: 3
Test Start: 2010.03.12 @ 04:36:44

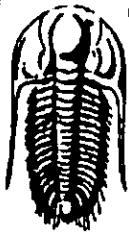
Tool Information

Drill Pipe:	Length: 4789.00 ft	Diameter: 3.80 inches	Volume: 67.18 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 90000.00 lb
			Total Volume: 67.18 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4782.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	68.00 ft			
Tool Length:	88.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4767.00	
Hydraulic tool	5.00			4772.00	
Packer	5.00			4777.00	20.00 Bottom Of Top Packer
Packer	5.00			4782.00	
Stubb	1.00			4783.00	
Perforations	5.00			4788.00	
Change Over Sub	1.00			4789.00	
Recorder	0.00	6798	Inside	4789.00	
Recorder	0.00	8367	Inside	4789.00	
Blank Spacing	30.00			4819.00	
Change Over Sub	1.00			4820.00	
Perforations	27.00			4847.00	
Bullnose	3.00			4850.00	68.00 Bottom Packers & Anchor

Total Tool Length: 88.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration, Inc
8100 E 22nd St. N. # 700
Wichita, KS 67278
ATTN: Jeff Christian

#1 NAU 4 BC
4-26s-22w Ford KS
Job Ticket: 35688 DST#: 3
Test Start: 2010.03.12 @ 04:36:44

Mud and Cushion Information

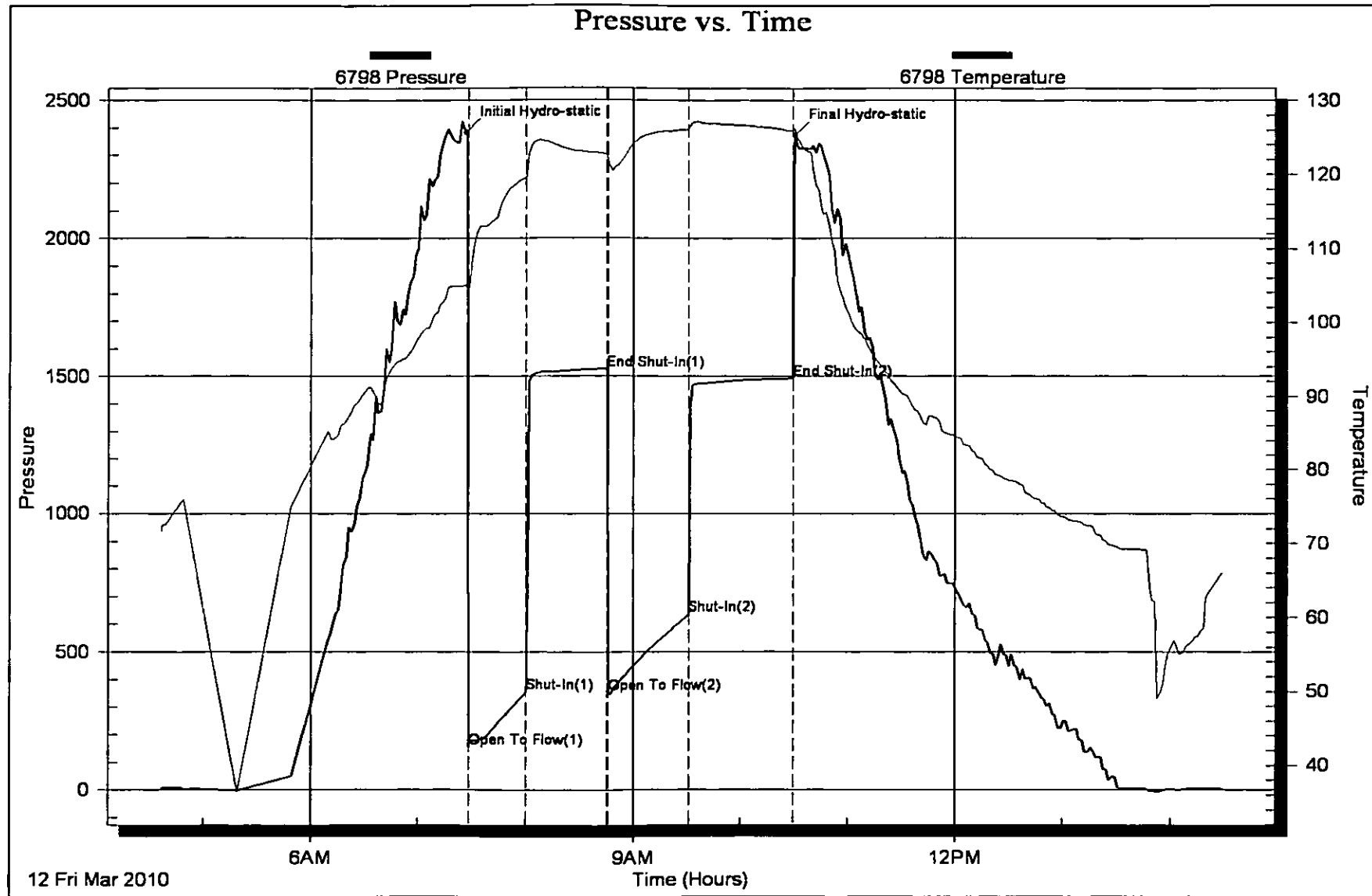
Mud Type: Gel Chem	Cushion Type:	Oil API:	28 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.58 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 5899.00 ppm			
Filter Cake: 0.21 inches			

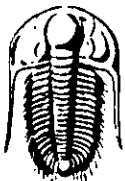
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
93.00	OCM 10%o 90%m	1.305
124.00	MCGsyO 45%g 35%o 20%m	1.739
806.00	SG&MCO 10%g 80%o 10%m	11.306
620.00	SMCGsyO 45%g 45%o 10%m	8.697
0.00	3146' GIP	0.000
0.00	Grav. = 28 API @ 60 deg.	0.000

Total Length: 1643.00 ft Total Volume: 23.047 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 2 Serial #: GA-3 GA-4
 Laboratory Name: Caraway Laboratory Location: Liberal, KS
 Recovery Comments:





TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
MAR 15 2010

Test Ticket

NO. 35686

BY: _____

Well Name & No. #1 NAU4BC Test No. 1 Date 3-10-10
 Company Ritchie Exploration, Inc. Elevation 2416 KB 2404 GL
 Address 8100 E. 22nd St. N. #700 Wichita, Kansas 67278
 Co. Rep / Geo. Jeff Christian Rig Duke Drlg. #1
 Location: Sec. 4 Twp. 26S Rge. 22W Co. Ford State K5

Interval Tested 4618-4710 Zone Tested Altamont
 Anchor Length 92 Drill Pipe Run 4604 Mud Wt. 9.2
 Top Packer Depth 4613 Drill Collars Run 0 Vis 52
 Bottom Packer Depth 4618 Wt. Pipe Run 0 WL 7.6
 Total Depth 4710 Chlorides 3,800 ppm System LCM 1#

Blow Description IF: ~~N/A~~ Hit bridge going in the hole. Came back out to condition the hole.
ESI: N/A
FF: N/A
FSI: N/A

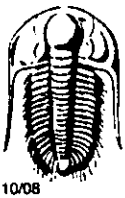
Rec	Feet of	%gas	%oil	%water	%mud
<u>0</u>					

Rec Total 0 BHT N/A Gravity N/A API RW N/A @ —° F Chlorides — ppm

(A) Initial Hydrostatic N/A Test 950- T-On Location 1530
 (B) First Initial Flow N/A Jars _____ T-Started 1606
 (C) First Final Flow N/A Safety Joint _____ T-Open N/A
 (D) Initial Shut-In N/A Circ Sub _____ T-Pulled 1715
 (E) Second Initial Flow N/A Hourly Standby _____ T-Out 1800
 (F) Second Final Flow N/A Mileage R.T. 150 Comments Hit bridge going in hole. Came back out to condition the hole.
 (G) Final Shut-In N/A Sampler _____
 (H) Final Hydrostatic N/A Straddle _____

Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1100-
 Sub Total 1100-

Approved By Jeff Christian Our Representative Jerry Adams Thank You.
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED
MAR 15 2010

Test Ticket

NO. 35687

Well Name & No. *NAU 4BC Test No. 2 Date 3-11-10
 Company Ritchie Exploration, Inc. Elevation 2416 KB 2404 GL
 Address 8100E. 22nd St. N. # 700 Wichita, Kansas 67278
 Co. Rep / Geo. Jeff Christian Rig Duke Drilg. #1
 Location: Sec. 4 Twp. 26S Rge. 22W Co. Ford State Ks.

Interval Tested 4618-4710 Zone Tested Altamont
 Anchor Length 92 Drill Pipe Run 4604' Mud Wt. 9.3
 Top Packer Depth 4613 Drill Collars Run 0 Vis 51
 Bottom Packer Depth 4618 Wt. Pipe Run 0 WL 7.6
 Total Depth 4710 Chlorides 3,800 ppm System LCM 15

Blow Description IF: Strong blow. B.O.B. in 1 1/2 mins.
IST: Fair blow. B.O.B. in 15 mins.
FF: Strong blow. B.O.B. in 2 mins. GTS. in 27 mins. T.S.T.M.
FST: Fair blow. B.O.B. in 12 mins.

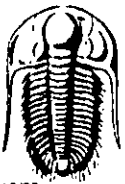
Rec	Feet of	%gas	%oil	%water	%mud
<u>112</u>	<u>5mccgsy0</u>	<u>40%</u>	<u>45%</u>	<u>15%</u>	<u></u>
<u>994</u>	<u>Gsy0</u>	<u>40%</u>	<u>60%</u>	<u></u>	<u></u>
<u>124</u>	<u>5mccgsy0</u>	<u>40%</u>	<u>50%</u>	<u>10%</u>	<u></u>
<u>0</u>	<u>3374' GIP</u>	<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>	<u></u>	<u></u>

Rec Total 1230 BHT 118 Gravity 18 API RW N/A @ F Chlorides ppm

(A) Initial Hydrostatic 2305 Test 1150' T-On Location 2415
 (B) First Initial Flow 114 Jars T-Started 2444
 (C) First Final Flow 268 Safety Joint T-Open 0341
 (D) Initial Shut-In 1394 Circ Sub T-Pulled 0645
 (E) Second Initial Flow 309 Hourly Standby T-Out 1027
 (F) Second Final Flow 490 Mileage 150 R.T. Comments
 (G) Final Shut-In 1342 Sampler
 (H) Final Hydrostatic 2286 Straddle

Shale Packer Ruined Shale Packer
 Extra Packer Ruined Packer
 Extra Recorder Extra Copies
 Day Standby Sub Total 0
 Accessibility Total 1300
 Sub Total 130'

Approved By Jeff Christian Our Representative Gerry Adams Thank You.
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements of opinion concerning the results of any test. tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601 BY: _____

RECEIVED
MAR 15 2010

Test Ticket

NO. 35688

Well Name & No. # NAW 4BC Test No. 3 Date 3-12-10
 Company Ritchie Exploration, Inc Elevation 2416 KB 2404 GL
 Address 8100 E. 22nd St. N. #700 Wichita, Kansas 67278
 Co. Rep / Geo. Jeff Christian Rig Duke Drilg. #1
 Location: Sec. 4 Twp. 26S Rge. 22W Co. Ford State Ks.

Interval Tested 4782-4850 Zone Tested Cherokee
 Anchor Length 68 Drill Pipe Run 4789 Mud Wt. 9.3
 Top Packer Depth 4777 Drill Collars Run 0 Vis 50
 Bottom Packer Depth 4782 Wt. Pipe Run 0 WL 7.6
 Total Depth 4850 Chlorides 5,800 ppm System LCM 1#

Blow Description IF: Strong blow. B.O.B. in 2 1/2 mins.
ISI: Strong blow. B.O.B. in 6 mins.
FF: Strong blow. B.O.B. in 1 min. GTS in 12 mins. T.S.T.M.
FST: Strong blow. B.O.B. in 3 mins.

Rec	Feet of	%gas	%oil	%water	%mud
<u>93</u>	<u>OCM</u>	<u>10</u>	<u>90</u>	<u>90</u>	<u>90</u>
<u>124</u>	<u>MCGsyO</u>	<u>45</u>	<u>35</u>	<u>20</u>	<u>20</u>
<u>806</u>	<u>SG+MCO</u>	<u>10</u>	<u>80</u>	<u>10</u>	<u>10</u>
<u>620</u>	<u>SMCGsyO</u>	<u>45</u>	<u>45</u>	<u>10</u>	<u>10</u>
<u>0</u>	<u>3146' GIP</u>				

Rec Total 1643 BHT 125 Gravity 28 API RW N/A @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2383 Test 1150- T-On Location 0400
 (B) First Initial Flow 155 Jars — T-Started 0436
 (C) First Final Flow 355 Safety Joint — T-Open 0728
 (D) Initial Shut-In 1526 Circ Sub — T-Pulled 1030
 (E) Second Initial Flow 352 Hourly Standby — T-Out 1428
 (F) Second Final Flow 634 Mileage 150 R.T. Comments —
 (G) Final Shut-In 1493 Sampler —
 (H) Final Hydrostatic 2323 Straddle —

Initial Open 30 Shale Packer — Ruined Shale Packer —
 Initial Shut-In 45 Extra Packer — Ruined Packer —
 Final Flow 45 Extra Recorder — Extra Copies —
 Final Shut-In 60 Day Standby — Sub Total 0
 Accessibility — Total 1300-
 Sub Total 1300-

Approved By [Signature] Our Representative Jerry Adams Thank You.

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test. tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.