



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1092346  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

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

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

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
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ 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: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

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.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1092346

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops 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.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input 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

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				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

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

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

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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**#1 Ottley Brothers 17C**  
335' FSL & 2298' FWL  
5' N & 12' W of SE SE SW Section 17-13S-31W  
Gove County, Kansas  
API# 15-063-21988-0000  
Elevation: 2928' GL, 2938' KB

Sample Tops			Ref. Well
Anhydrite	2420'	+518	-1
B/Anhydrite	2444'	+494	-2
Heebner	3930'	-992	-1
Toronto	3959'	-1021	-1
Lansing	3976'	-1038	-2
Muncie Shale	4126'	-1188	-6
LKC "H"	4137'	-1199	-4
Stark Shale	4210'	-1272	-8
Hush	4246'	-1308	-8
BKC	4282'	-1344	-6
Marmaton	4311'	-1373	-5
Altamont	4340'	-1402	-8
Pawnee	4415'	-1477	-9
Myrick	4456'	-1518	-15
Fort Scott	4476'	-1538	-16
Cherokee Shale	4502'	-1564	-15
Johnson	4544'	-1606	-14
Morrow	4577'	-1639	-18
Mississippian	4606'	-1668	-31
RTD	4700'	-1762	

# ALLIED OIL & GAS SERVICES, LLC 056264

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:  
Oakley

DATE <u>5-30-12</u>	SEC. <u>17</u>	TWP. <u>L3s</u>	RANGE <u>3/W</u>	CALLED OUT	ON LOCATION	JOB START <u>2:00 pm</u>	JOB FINISH <u>2:30 pm</u>
LEASE <u>Brothers</u>	WELL # <u>174</u>	LOCATION <u>Oakley 11s 3 E 3s</u>			COUNTY <u>Cove</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one) <u>NEW</u>				<u>EAN INTO</u>			

CONTRACTOR Martin 14  
 TYPE OF JOB Production  
 HOLE SIZE 2 7/8 T.D. 4200  
 CASING SIZE 4 1/2 DEPTH 4691  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL Port collar DEPTH 2393'  
 PRES. MAX MINIMUM  
 MEAS. LINE SHOE JOINT 21'  
 CEMENT LEFT IN CSG. 31  
 PERFS.  
 DISPLACEMENT 74,253 BBL

OWNER same  
 CEMENT  
 AMOUNT ORDERED 225 sks ASC 10% off  
200 gal 5# Gilsomite 40# CD 31  
500 gal WFR-2

EQUIPMENT  
 PUMP TRUCK CEMENTER Andrew  
 # 423-281 HELPER Jerry  
 BULK TRUCK  
 # 347 DRIVER Ethan  
 BULK TRUCK  
 # DRIVER

COMMON @  
 POZMIX @  
 GEL 5 sks @ 21.25 106.25  
 CHLORIDE @ 525.00  
 ASC 225 sks @ 19.00 4275.00  
 @  
Gilsomite 1325# @ 0.89 1180.25  
 @  
CD 31 193 # @ 91.75 17804.55  
 @  
WFR-2 500 gal @ 1.27 635.00  
 @  
 HANDLING 336.39 @ 210.00 706.41  
 MILEAGE 2.35 @ 153.06 359.69  
 TOTAL 10348.40

REMARKS:

Pump 500 gal WFR-2, Plug mouse  
hole 20 sks Port hole 30, mix  
225 sks down 4 1/2 casing, wash  
Pump and line clean, Displace plug  
250# Lift, Launch plug 1300#.  
Insert did not hold, shut in  
1000#

Thank you

CHARGE TO: Ritchie Exploration  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE  
 DEPTH OF JOB 4691'  
 PUMP TRUCK CHARGE 2405.00  
 EXTRA FOOTAGE @  
 MILEAGE 18 miles @ 7.00 126.00  
 MANIFOLD head @ 200.00  
light vehicle @ 4.00 72.00  
 @

TOTAL 2803.00

To: Allied Oil & Gas Services, 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.

(PR)

PLUG & FLOAT EQUIPMENT  
4 1/2  
 1 Guide shoe @ 192.00  
 1 Air Insert @ 249.00  
 1 Port collar @ 2485.00  
 4 Baskets @ 272.00 1088.00  
 7 Turbo Lizers @ 77.00 539.00  
 1 Rubber plug 71.00  
 TOTAL 4616.00

PRINTED NAME Dalton Breinig  
 SIGNATURE Dalton Breinig

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

R

# ALLIED OIL & GAS SERVICES, LLC 056202

Federal Tax I.D.# 20-5975804

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

SERVICE POINT  
Oakley

DATE <u>5-24-12</u>	SEC. <u>17</u>	TWP. <u>13</u>	RANGE <u>31</u>	CALLED OUT	ON LOCATION <u>11:00 Am</u>	JOB START <u>12:30 Pm</u>	JOB FINISH <u>1:30 Pm</u>
OFFER # <u>Brothers</u>	WELL # <u>1</u>	LOCATION <u>Oakley 115-3E-35-E+H into</u>			COUNTY <u>Gove</u>	STATE <u>Ks.</u>	
OLD OR NEW (Circle one)							

CONTRACTOR Express Well Service  
 TYPE OF JOB Production Port Collar  
 LOG SIZE \_\_\_\_\_ T.D. \_\_\_\_\_  
 CASING SIZE 4 1/2 DEPTH \_\_\_\_\_  
 TUBING SIZE 2 3/8 DEPTH 2393 ft  
 DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TOOL Port Collar DEPTH 2393 ft  
 RES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_  
 CAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_  
 CEMENT LEFT IN CSG. \_\_\_\_\_  
 TRFS. \_\_\_\_\_  
 DISPLACEMENT 8.5

OWNER Same  
 CEMENT  
 AMOUNT ORDERED 450 SKS 60/40 6% Gel  
1/4" Flo seal 500# Halls

COMMON	<u>270</u>	SKS	@ <u>\$16.25</u>	<u>\$4387.50</u>
POZMIX	<u>180</u>	SKS	@ <u>\$8.50</u>	<u>\$1530.00</u>
GEL	<u>23</u>	SKS	@ <u>\$21.35</u>	<u>\$491.05</u>
CHLORIDE			@	
ASC			@	
Flo seal	<u>113</u>	#	@ <u>\$2.70</u>	<u>\$305.10</u>
Halls	<u>10</u>	SKS	@ <u>\$31.85</u>	<u>\$318.50</u>

HANDLING	<u>506.23</u>	ft <sup>2</sup>	X	@ <u>\$2.10</u>	<u>\$1063.08</u>	
MILBAGE	<u>20.82</u>	X	18	X	@ <u>\$2.35</u>	<u>880.68</u>
					TOTAL <u>\$8773.61</u>	

EQUIPMENT  
 PUMP TRUCK CEMENTER Darren R. LaRene  
422 HELPER Tyler  
 BULK TRUCK  
394-287 DRIVER Adam  
 BULK TRUCK DRIVER

REMARKS:  
Pressure System to 1000 lbs  
open Port Collar  
mix 450 SKS Cement  
Displace with water 8.5 bbl Per Tommy  
lose Port Collar  
Pressure System To 1000 lbs  
wash out  
Cement Did Circulate /  
Thank You

CHARGE TO: Ritchie Exploration  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE

DEPTH OF JOB	<u>2393'</u>		
PUMP TRUCK CHARGE			<u>\$2125.00</u>
EXTRA FOOTAGE		@	
MILEAGE	<u>18</u>	@ <u>\$7.00</u>	<u>\$126.00</u>
MANIFOLD		@	
LUMILEAGE		@ <u>\$4.00</u>	<u>\$72.00</u>
TOTAL <u>\$2323.00</u>			

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
TOTAL _____		

To: Allied Oil & Gas Services, 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 one to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

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

PRINTED NAME \_\_\_\_\_  
 SIGNATURE Thomas Adams

*(Handwritten mark)*

# ALLIED OIL & GAS SERVICES, LLC 056258

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:  
Dakley

DATE <u>5-9-12</u>	SEC <u>17</u>	TWP <u>13s</u>	RANGE <u>31w</u>	CALLED OUT	ON LOCATION	JOB START <u>1:30 AM</u>	JOB FINISH <u>2:00 AM</u>
OFFICE <u>Brothers</u>	WELL# <u>1</u>	LOCATION <u>Dakley 16s 30 35</u>			COUNTY <u>Gove</u>	STATE <u>KS</u>	
OLD OR <input checked="" type="radio"/> NEW (Circle one)		LOCATION <u>1/2 E N10</u>					

CONTRACTOR Murfin 14 OWNER same

TYPE OF JOB sur face  
 HOLE SIZE 12 1/4 T.D. 216'  
 CEMENT AMOUNT ORDERED 125 sks com  
396 cu 2 1/2 gal

DRILL PIPE	DEPTH	COMMON	<u>125 sks</u>	@	<u>16.25</u>	<u>2840.25</u>
TOOL	DEPTH	POZMIX		@		
PRES. MAX	MINIMUM	GEL	<u>3 sks</u>	@	<u>21.25</u>	<u>63.75</u>
MEAS. LINE	SHOE JOINT	CHLORIDE	<u>6 sks</u>	@	<u>58.20</u>	<u>349.20</u>
CEMENT LEFT IN CSG. <u>15</u>		ASC		@		
PERFS.				@		
DISPLACEMENT <u>12.8 BDL</u>				@		

EQUIPMENT

PUMP TRUCK	CEMENTER <u>Andrew</u>	HANDLING	<u>189.23</u>	@	<u>2.10</u>	<u>397.38</u>
# <u>423-281</u>	HELPER <u>Jerry</u>	MILEAGE	<u>816.36</u>	@	<u>2.25</u>	<u>365.20</u>
BULK TRUCK		TOTAL				<u>4019.38</u>
# <u>404</u>	DRIVER <u>Chris</u>					
BULK TRUCK						
#	DRIVER					

REMARKS:

Cement did circulate

Thank you

CHARGE TO: Ritchie Exploration Inc  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE

DEPTH OF JOB	<u>216'</u>		
PUMP TRUCK CHARGE			<u>1125.00</u>
EXTRA FOOTAGE		@	
MILEAGE	<u>18 miles</u>	@	<u>2.00</u> <u>126.00</u>
MANIFOLD	<u>head</u>	@	<u>200.00</u>
	<u>light vehicle</u>	@	<u>4.00</u> <u>22.00</u>

TOTAL 1527.00

PLUG & FLOAT EQUIPMENT

_____	@	_____
_____	@	_____
_____	@	_____
_____	@	_____
_____	@	_____

TOTAL \_\_\_\_\_

To: Allied Oil & Gas Services, 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.

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

PRINTED NAME CORECO Urub  
 SIGNATURE Greg Urub



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration inc.**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

ATTN: Kim Shoemaker

### **Ottley Bros 17C #1**

### **17 13s 31w Gove, KS**

Start Date: 2012.05.13 @ 03:18:05

End Date: 2012.05.13 @ 10:13:29

Job Ticket #: 46588                      DST #: 1

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

Printed: 2012.05.25 @ 14:39:40



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration inc.  
8100 E 22nd St N #700  
Wichita KS 67278 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46588      **DST#: 1**  
Test Start: 2012.05.13 @ 03:18:05

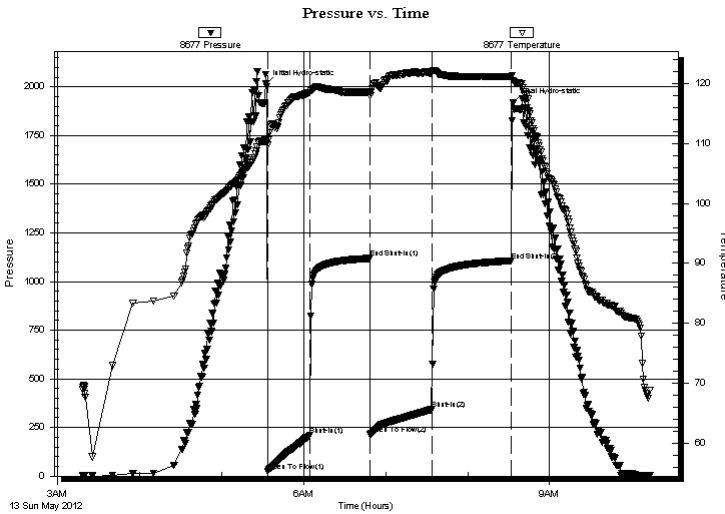
## GENERAL INFORMATION:

Formation: **LKC "C"**  
Deviated: No Whipstock: 0.00 ft (KB)  
Time Tool Opened: 05:33:30  
Time Test Ended: 10:13:29  
Interval: **3993.00 ft (KB) To 4022.00 ft (KB) (TVD)**  
Total Depth: 4022.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Cole Archibald  
Unit No: 53  
Reference Elevations: 2938.00 ft (KB)  
2928.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 8677      Outside**  
Press @ Run Depth: 341.74 psig @ 3994.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.05.13      End Date: 2012.05.13      Last Calib.: 2012.05.13  
Start Time: 03:18:05      End Time: 10:13:29      Time On Btm: 2012.05.13 @ 05:32:15  
Time Off Btm: 2012.05.13 @ 08:33:29

**TEST COMMENT:** IF: Built to 8 1/2 inches  
IS: no return  
FF: B.O.B 35 minutes  
FS: No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2014.00	110.63	Initial Hydro-static
2	24.21	109.71	Open To Flow (1)
33	210.84	118.55	Shut-In(1)
77	1119.41	118.60	End Shut-In(1)
77	214.73	118.00	Open To Flow (2)
122	341.74	121.78	Shut-In(2)
180	1106.25	121.15	End Shut-In(2)
182	1916.37	120.53	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
705.00	MW 20%M 80%W	5.07

## 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 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46588      **DST#: 1**  
Test Start: 2012.05.13 @ 03:18:05

**Tool Information**

Drill Pipe:	Length: 3457.00 ft	Diameter: 3.80 inches	Volume: 48.49 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 529.00 ft	Diameter: 2.25 inches	Volume: 2.60 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 51.09 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	3993.00 ft			Final 82000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	29.00 ft			
Tool Length:	56.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			3967.00	
Shut In Tool	5.00			3972.00	
Hydraulic tool	5.00			3977.00	
Jars	5.00			3982.00	
Safety Joint	2.00			3984.00	
Packer	5.00			3989.00	27.00      Bottom Of Top Packer
Packer	4.00			3993.00	
Stubb	1.00			3994.00	
Recorder	0.00	8677	Outside	3994.00	
Recorder	0.00	8522	Inside	3994.00	
Perforations	25.00			4019.00	
Bullnose	3.00			4022.00	29.00      Bottom Packers & Anchor

**Total Tool Length: 56.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration inc.

**17 13s 31w Gove, KS**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

**Ottley Bros 17C #1**

Job Ticket: 46588

**DST#: 1**

ATTN: Kim Shoemaker

Test Start: 2012.05.13 @ 03:18:05

## 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:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.76 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
705.00	MW 20%M 80%W	5.070

Total Length: 705.00 ft      Total Volume: 6.355 bbl

Num Fluid Samples: 0

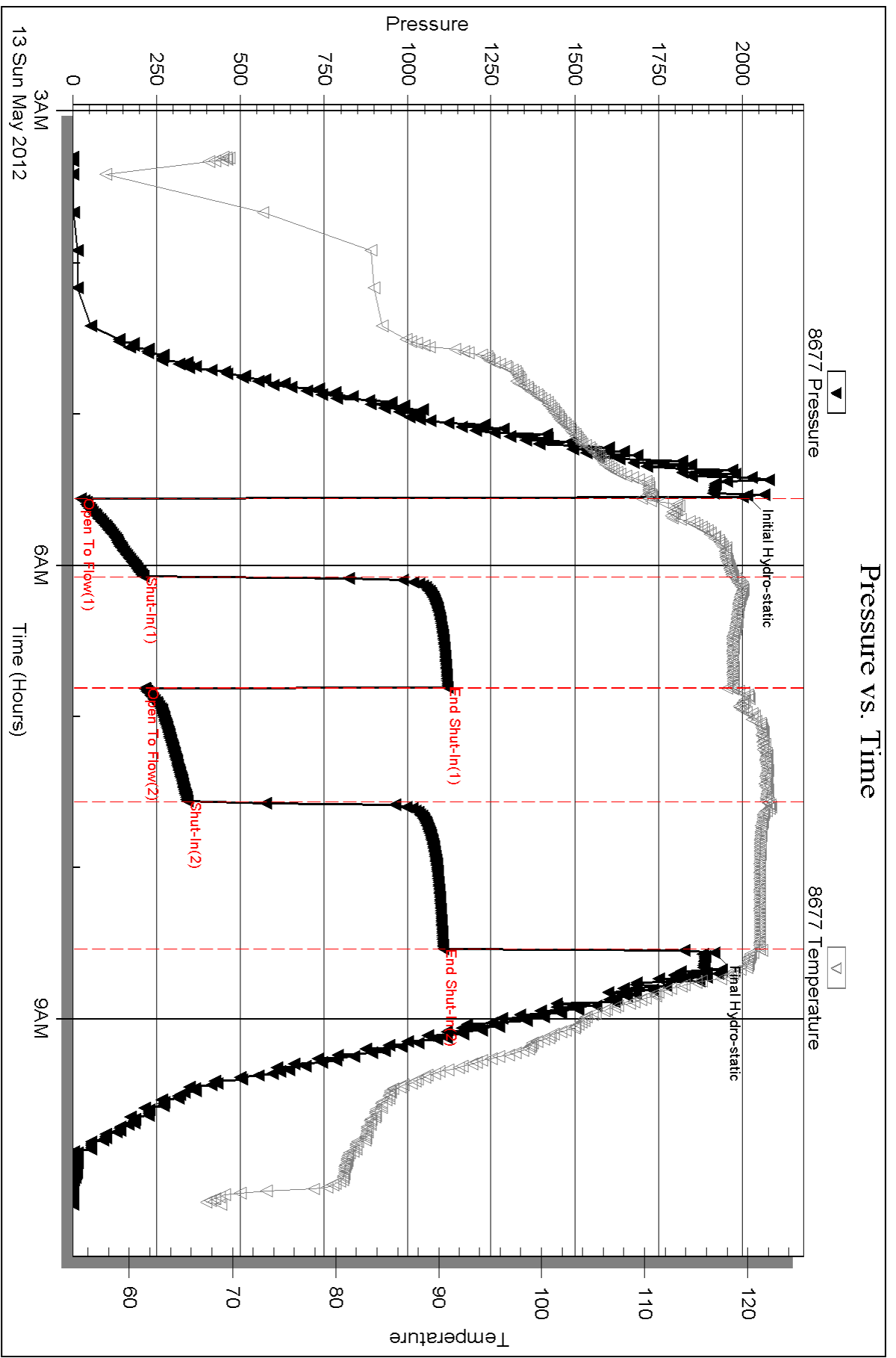
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is 110 @ 57F = 85,000ppm



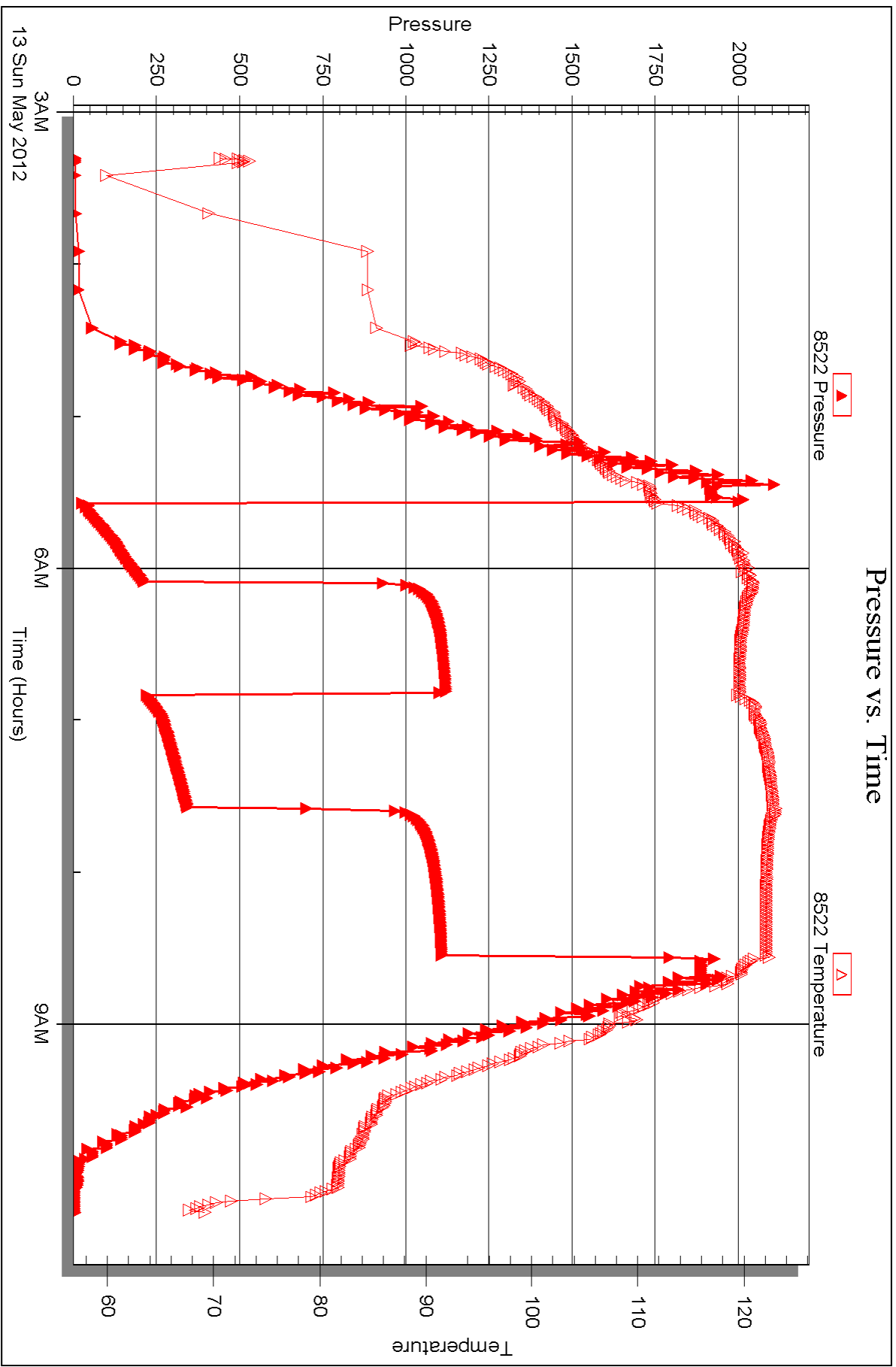
Serial #: 8522

Inside

Ritchie Exploration Inc.

Ottley Bros 17C#1

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration inc.**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

ATTN: Kim Shoemaker

### **Ottley Bros 17C #1**

### **17 13s 31w Gove, KS**

Start Date: 2012.05.13 @ 19:54:00

End Date: 2012.05.14 @ 02:55:15

Job Ticket #: 46602                      DST #: 2

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

Printed: 2012.05.25 @ 14:38:29



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration inc.  
8100 E 22nd St N #700  
Wichita KS 67278 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46602      **DST#: 2**  
Test Start: 2012.05.13 @ 19:54:00

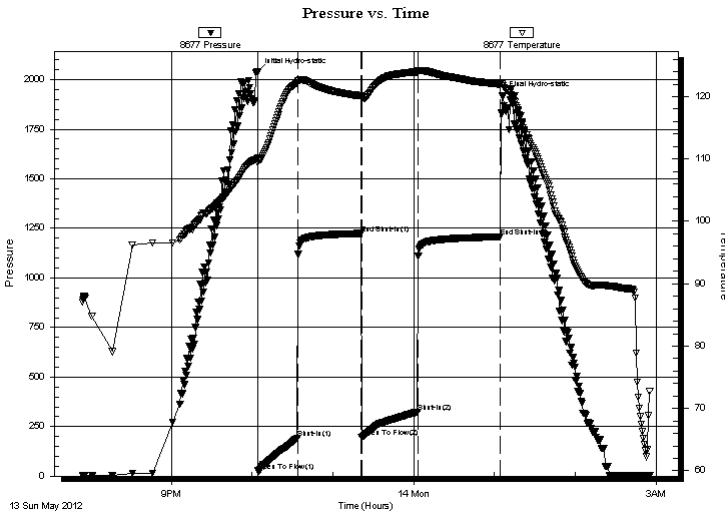
## GENERAL INFORMATION:

Formation: **LKC "E-F"**  
Deviated: No Whipstock: 0.00 ft (KB)  
Time Tool Opened: 22:04:15  
Time Test Ended: 02:55:15  
Interval: **4040.00 ft (KB) To 4068.00 ft (KB) (TVD)**  
Total Depth: 4068.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Bradley Walter  
Unit No: 53  
Reference Elevations: 2938.00 ft (KB)  
2928.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 8677      Outside**  
Press @ Run Depth: 324.34 psig @ 4041.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.05.13      End Date: 2012.05.14      Last Calib.: 2012.05.14  
Start Time: 19:54:05      End Time: 02:55:14      Time On Btm: 2012.05.13 @ 22:04:00  
Time Off Btm: 2012.05.14 @ 01:06:00

TEST COMMENT: IF: BOB @ 25 min.  
IS: No return.  
FF: BOB @ 25 min.  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2038.15	110.10	Initial Hydro-static
1	26.35	109.39	Open To Flow (1)
30	192.43	122.17	Shut-In(1)
77	1224.22	120.13	End Shut-In(1)
78	194.38	119.82	Open To Flow (2)
119	324.34	123.94	Shut-In(2)
181	1208.03	121.95	End Shut-In(2)
182	1919.63	121.99	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
703.00	smcw 5m 95w (oil spots in tool)	5.04

\* Recovery from multiple tests

## 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 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46602      **DST#: 2**  
Test Start: 2012.05.13 @ 19:54:00

**Tool Information**

Drill Pipe:	Length: 3492.00 ft	Diameter: 3.80 inches	Volume: 48.98 bbl	Tool Weight: 2500.00 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: 529.00 ft	Diameter: 2.25 inches	Volume: 2.60 bbl	Weight to Pull Loose: 92000.00 lb
			<u>Total Volume: 51.58 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4040.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	55.00 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			4014.00	
Shut In Tool	5.00			4019.00	
Hydraulic tool	5.00			4024.00	
Jars	5.00			4029.00	
Safety Joint	2.00			4031.00	
Packer	5.00			4036.00	27.00 Bottom Of Top Packer
Packer	4.00			4040.00	
Stubb	1.00			4041.00	
Recorder	0.00	8677	Outside	4041.00	
Recorder	0.00	8522	Inside	4041.00	
Perforations	24.00			4065.00	
Bullnose	3.00			4068.00	28.00 Bottom Packers & Anchor

**Total Tool Length: 55.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration inc.

**17 13s 31w Gove, KS**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

**Ottley Bros 17C #1**

Job Ticket: 46602

**DST#: 2**

ATTN: Kim Shoemaker

Test Start: 2012.05.13 @ 19:54:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

70000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.15 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
703.00	smcw 5m 95w (oil spots in tool)	5.042

Total Length: 703.00 ft      Total Volume: 6.327 bbl

Num Fluid Samples: 0

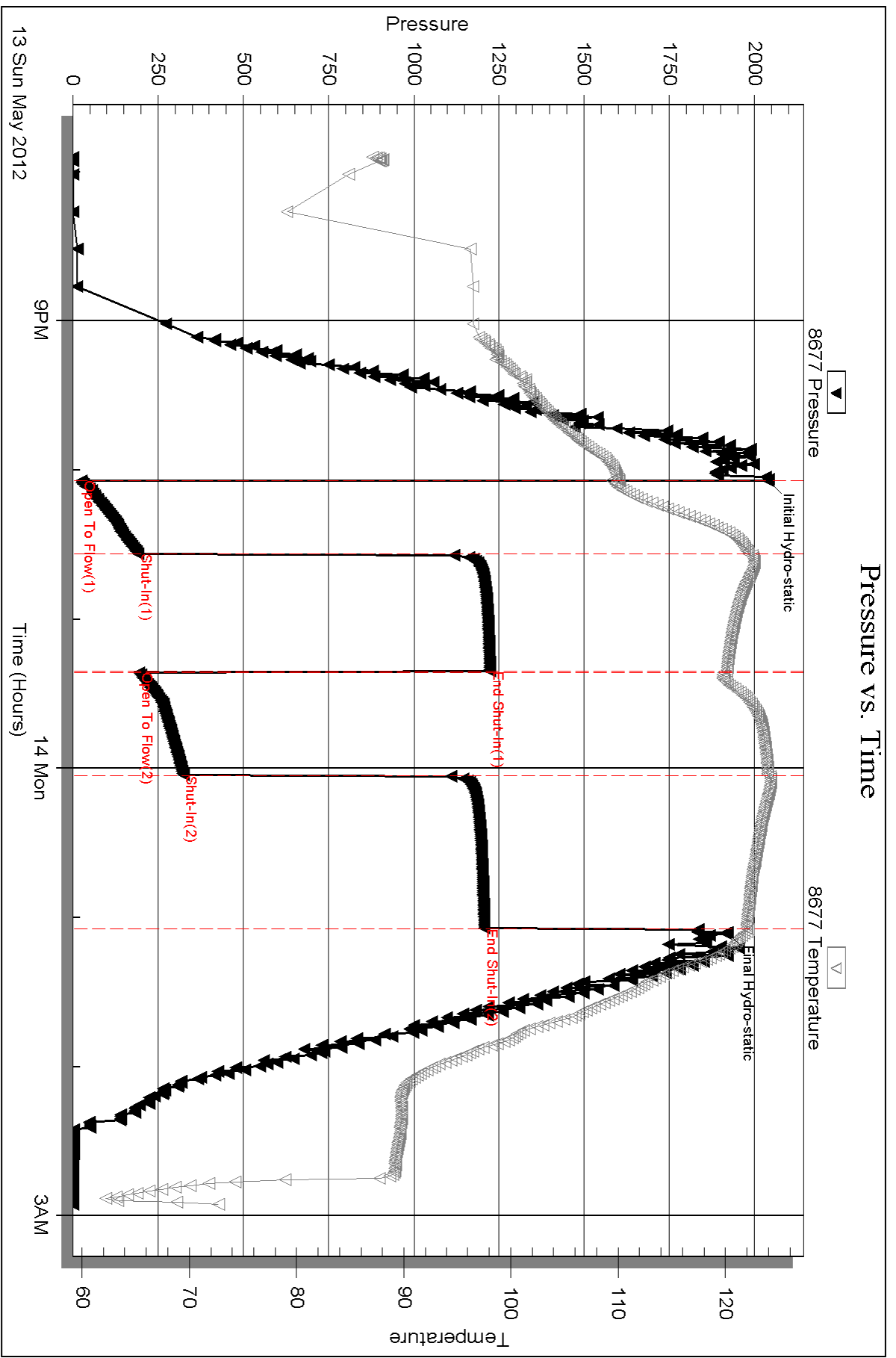
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is 0.175 @ 60F = 70,000ppm



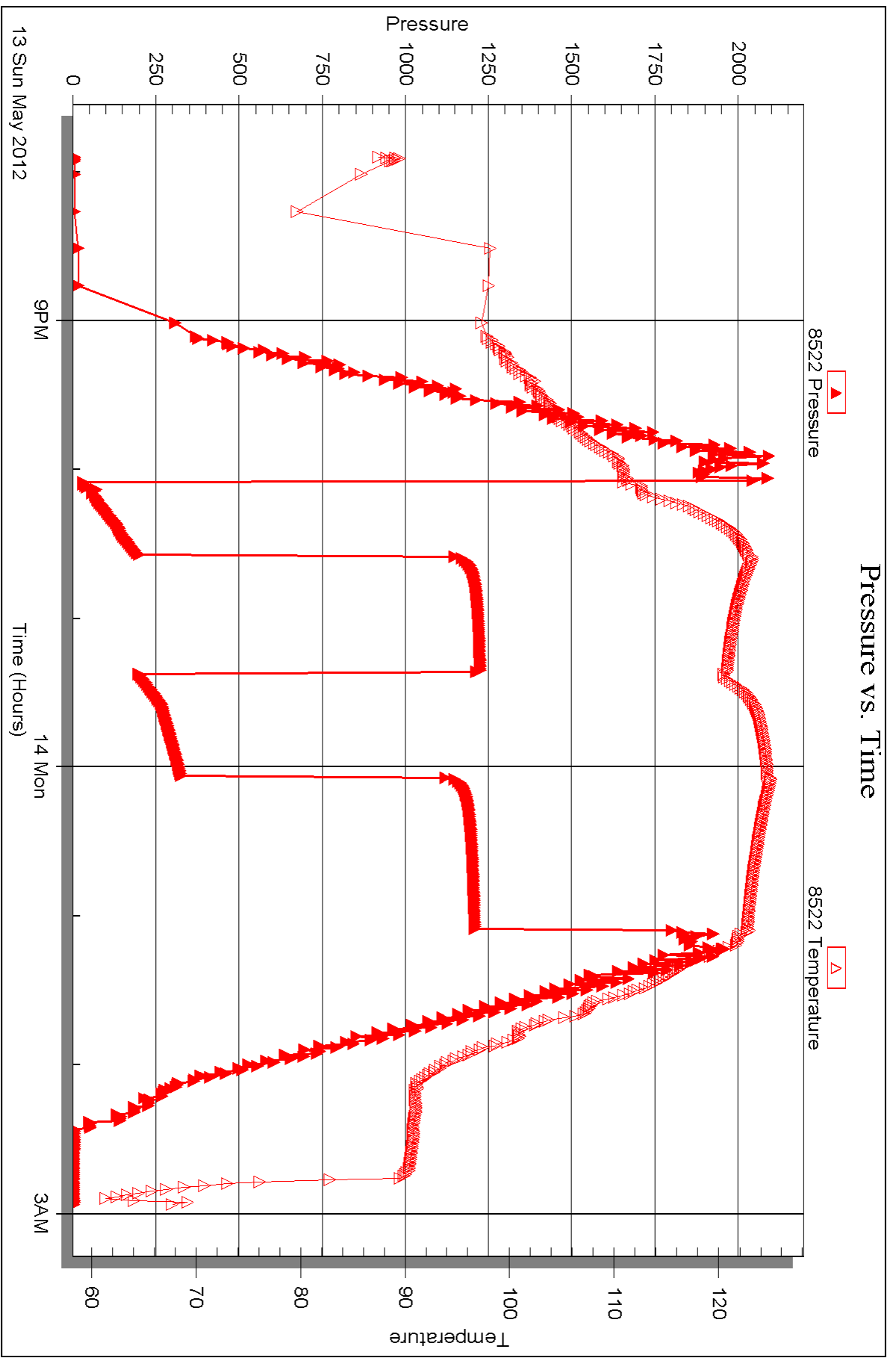
Serial #: 8522

Inside

Ritchie Exploration Inc.

Ottley Bros 17C#1

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 46602

Printed: 2012.05.25 @ 14:38:32



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration inc.**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

ATTN: Kim Shoemaker

### **Ottley Bros 17C #1**

### **17 13s 31w Gove, KS**

Start Date: 2012.05.14 @ 12:30:00

End Date: 2012.05.14 @ 19:29:45

Job Ticket #: 46603                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.25 @ 14:37:41



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration inc.  
8100 E 22nd St N #700  
Wichita KS 67278 + 3188  
ATTN: Kim Shoemaker

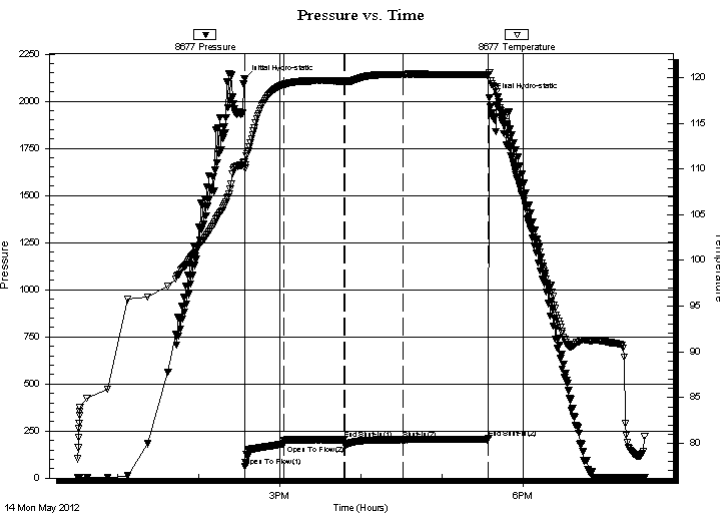
**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46603      **DST#: 3**  
Test Start: 2012.05.14 @ 12:30:00

## GENERAL INFORMATION:

Formation: **LKC "H"**  
Deviated: No Whipstock: 0.00 ft (KB)  
Time Tool Opened: 14:34:00  
Time Test Ended: 19:29:45  
Interval: **4124.00 ft (KB) To 4150.00 ft (KB) (TVD)**  
Total Depth: 4150.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Bradley Walter  
Unit No: 53  
Reference Elevations: 2938.00 ft (KB)  
2928.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 8677      Outside**  
Press @ RunDepth: 204.24 psig @ 4125.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.05.14      End Date: 2012.05.14      Last Calib.: 2012.05.14  
Start Time: 12:30:05      End Time: 19:29:44      Time On Btm: 2012.05.14 @ 14:33:45  
Time Off Btm: 2012.05.14 @ 17:35:00

**TEST COMMENT:** IF: BOB @ 19 min.  
IS: No return.  
FF: 2" blow.  
FF: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2117.39	110.77	Initial Hydro-static
1	61.68	110.07	Open To Flow (1)
29	182.52	119.21	Shut-In(1)
74	204.38	119.61	End Shut-In(1)
74	174.11	119.60	Open To Flow (2)
118	204.24	120.36	Shut-In(2)
181	212.13	120.34	End Shut-In(2)
182	2017.93	120.56	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
410.00	mcw 15m 85w (oil spots in tool)	2.02

\* Recovery from multiple tests

## 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 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46603      **DST#: 3**  
Test Start: 2012.05.14 @ 12:30:00

**Tool Information**

Drill Pipe:	Length: 3586.00 ft	Diameter: 3.80 inches	Volume: 50.30 bbl	Tool Weight: 2500.00 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: 529.00 ft	Diameter: 2.25 inches	Volume: 2.60 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 52.90 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4124.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			4098.00	
Shut In Tool	5.00			4103.00	
Hydraulic tool	5.00			4108.00	
Jars	5.00			4113.00	
Safety Joint	2.00			4115.00	
Packer	5.00			4120.00	27.00      Bottom Of Top Packer
Packer	4.00			4124.00	
Stubb	1.00			4125.00	
Recorder	0.00	8677	Outside	4125.00	
Recorder	0.00	8522	Inside	4125.00	
Perforations	22.00			4147.00	
Bullnose	3.00			4150.00	26.00      Bottom Packers & Anchor

**Total Tool Length: 53.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration inc.

**17 13s 31w Gove, KS**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

**Ottley Bros 17C #1**

Job Ticket: 46603

**DST#: 3**

ATTN: Kim Shoemaker

Test Start: 2012.05.14 @ 12:30:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

61000 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
410.00	mcw 15m 85w (oil spots in tool)	2.016

Total Length: 410.00 ft      Total Volume: 3.012 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

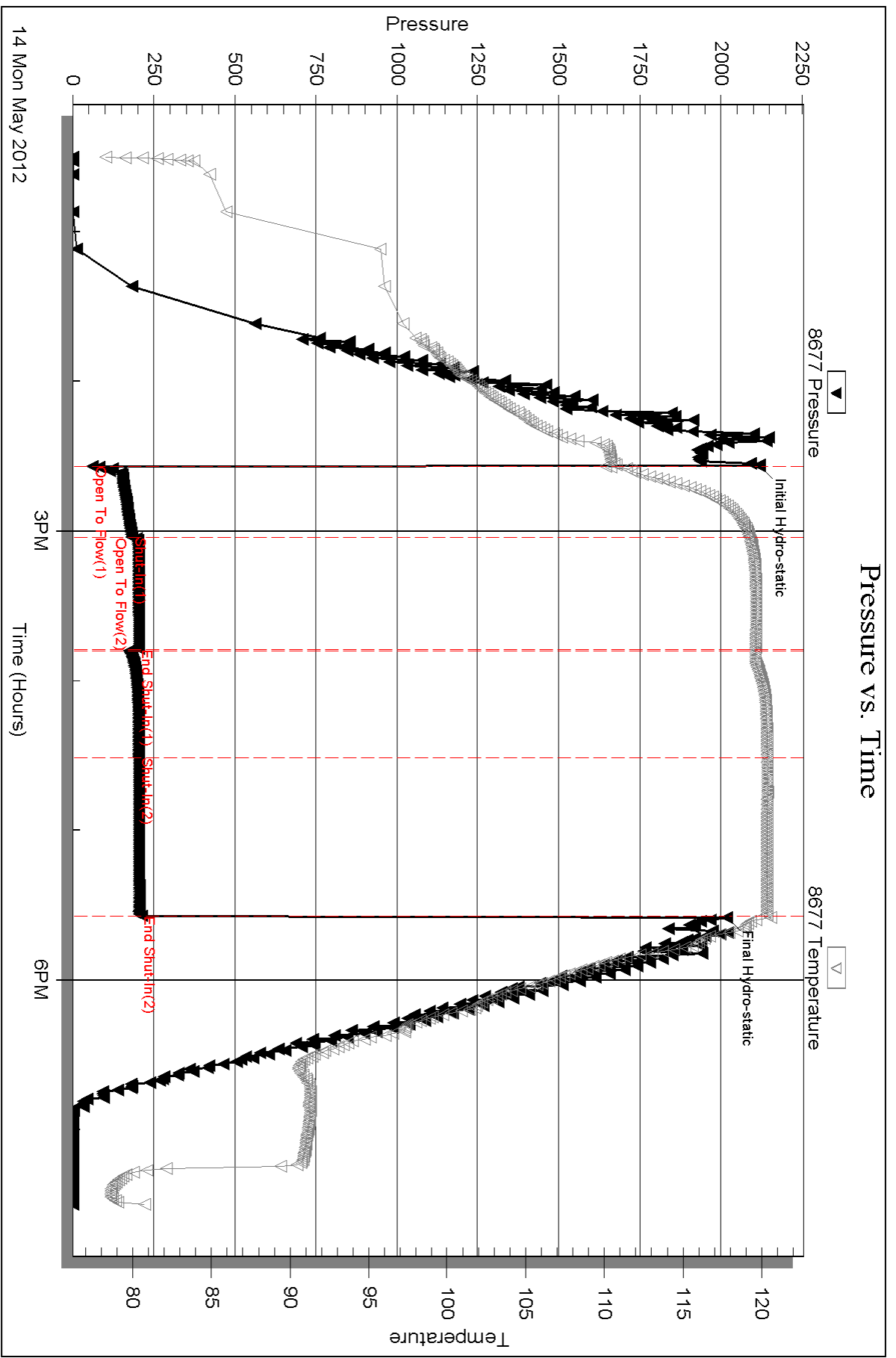
Recovery Comments: rw is .180 @ 71F = 61,000ppm

Serial #: 8677

Outside Ritchie Exploration Inc.

Ottley Bros 17C#1

DST Test Number: 3



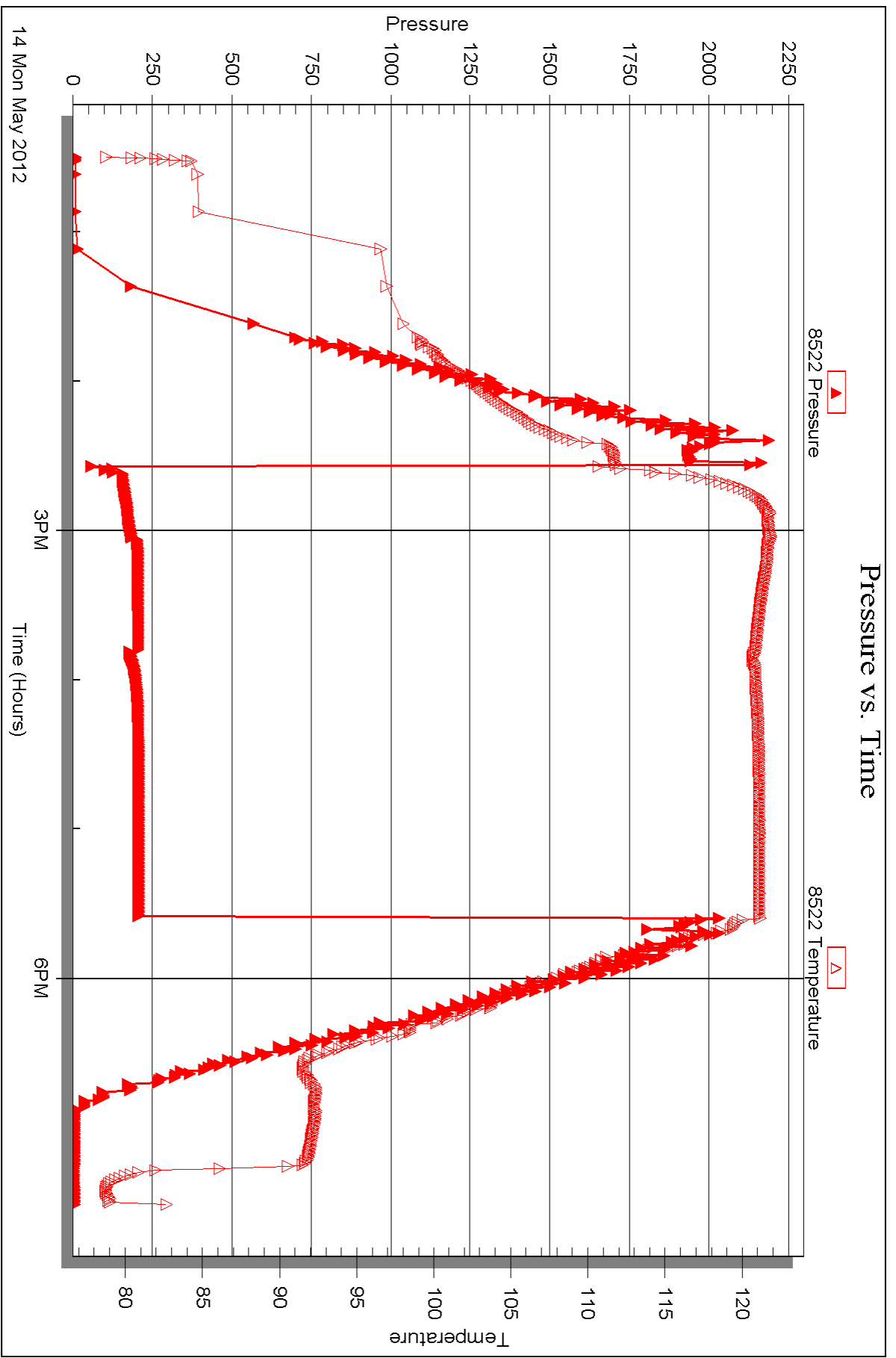
Serial #: 8522

Inside

Ritchie Exploration Inc.

Ottley Bos 17C#1

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 46603

Printed: 2012.05.25 @ 14:37:44



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration inc.**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

ATTN: Kim Shoemaker

### **Ottley Bros 17C #1**

### **17 13s 31w Gove, KS**

Start Date: 2012.05.15 @ 02:34:00

End Date: 2012.05.15 @ 09:32:15

Job Ticket #: 46604                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.25 @ 14:36:41

Ritchie Exploration inc.  
17 13s 31w Gove, KS  
Ottley Bros 17C #1  
DST # 4  
LKC- 1  
2012.05.15



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration inc.  
 8100 E 22nd St N #700  
 Wichita KS 67278 + 3188  
 ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
 Job Ticket: 46604 **DST#: 4**  
 Test Start: 2012.05.15 @ 02:34:00

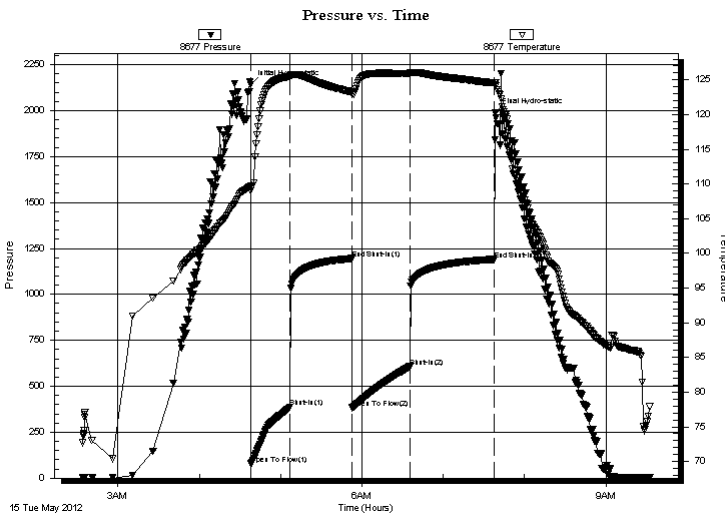
## GENERAL INFORMATION:

Formation: **LKC- I**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 04:38:15  
 Time Test Ended: 09:32:15  
 Interval: **4156.00 ft (KB) To 4183.00 ft (KB) (TVD)**  
 Total Depth: 4183.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Bradley Walter  
 Unit No: 53  
 Reference Elevations: 2938.00 ft (KB)  
 2928.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8677 Outside**  
 Press @ RunDepth: 606.54 psig @ 4157.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.05.15 End Date: 2012.05.15 Last Calib.: 2012.05.15  
 Start Time: 02:34:05 End Time: 09:32:14 Time On Btm: 2012.05.15 @ 04:38:00  
 Time Off Btm: 2012.05.15 @ 07:38:30

TEST COMMENT: IF: BOB @ 7 min.  
 IS: No return.  
 FF: BOB @ 11 min.  
 FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2142.80	109.64	Initial Hydro-static
1	77.65	109.04	Open To Flow (1)
29	384.78	125.50	Shut-In(1)
75	1195.52	123.25	End Shut-In(1)
75	382.67	122.95	Open To Flow (2)
118	606.54	125.94	Shut-In(2)
180	1190.00	124.53	End Shut-In(2)
181	1987.15	124.53	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1105.00	smcw 3m 97w	10.68

\* Recovery from multiple tests

## 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 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46604      **DST#: 4**  
Test Start: 2012.05.15 @ 02:34:00

**Tool Information**

Drill Pipe:	Length: 3617.00 ft	Diameter: 3.80 inches	Volume: 50.74 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 2500.00 lb
Drill Collar:	Length: 529.00 ft	Diameter: 2.25 inches	Volume: 2.60 bbl	Weight to Pull Loose: 100000.0 lb
		Total Volume: 53.34 bbl		Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4156.00 ft			Final 84000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.00 ft			
Tool Length:	54.00 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			4130.00	
Shut In Tool	5.00			4135.00	
Hydraulic tool	5.00			4140.00	
Jars	5.00			4145.00	
Safety Joint	2.00			4147.00	
Packer	5.00			4152.00	27.00      Bottom Of Top Packer
Packer	4.00			4156.00	
Stubb	1.00			4157.00	
Recorder	0.00	8677	Outside	4157.00	
Recorder	0.00	8522	Inside	4157.00	
Perforations	23.00			4180.00	
Bullnose	3.00			4183.00	27.00      Bottom Packers & Anchor

**Total Tool Length: 54.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration inc.

**17 13s 31w Gove, KS**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

**Ottley Bros 17C #1**

Job Ticket: 46604

**DST#: 4**

ATTN: Kim Shoemaker

Test Start: 2012.05.15 @ 02:34:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

92000 ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6400.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1105.00	smcw 3m 97w	10.681

Total Length: 1105.00 ft      Total Volume: 11.966 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

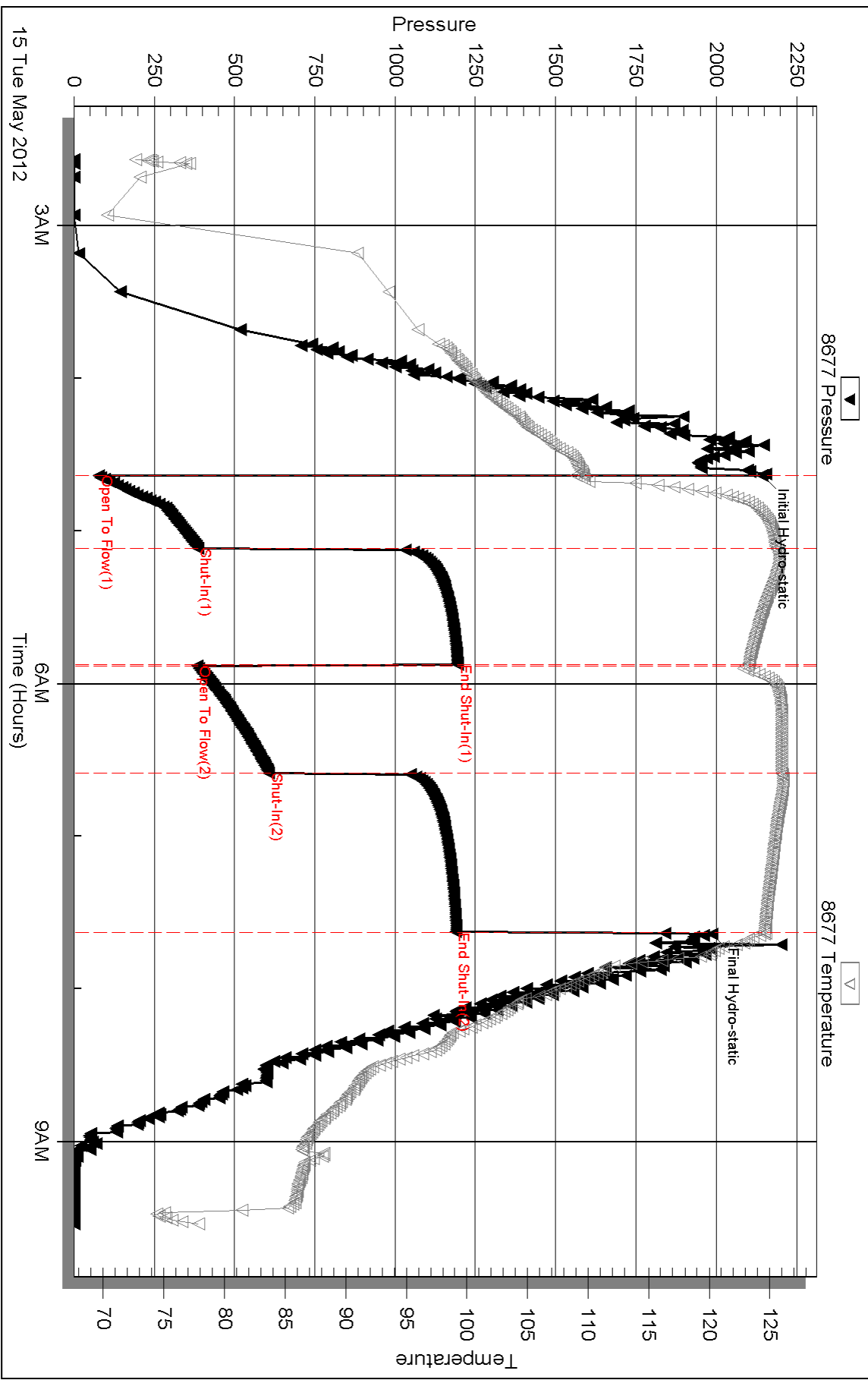
Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .910 @ 66F = 92,000ppm



### Pressure vs. Time



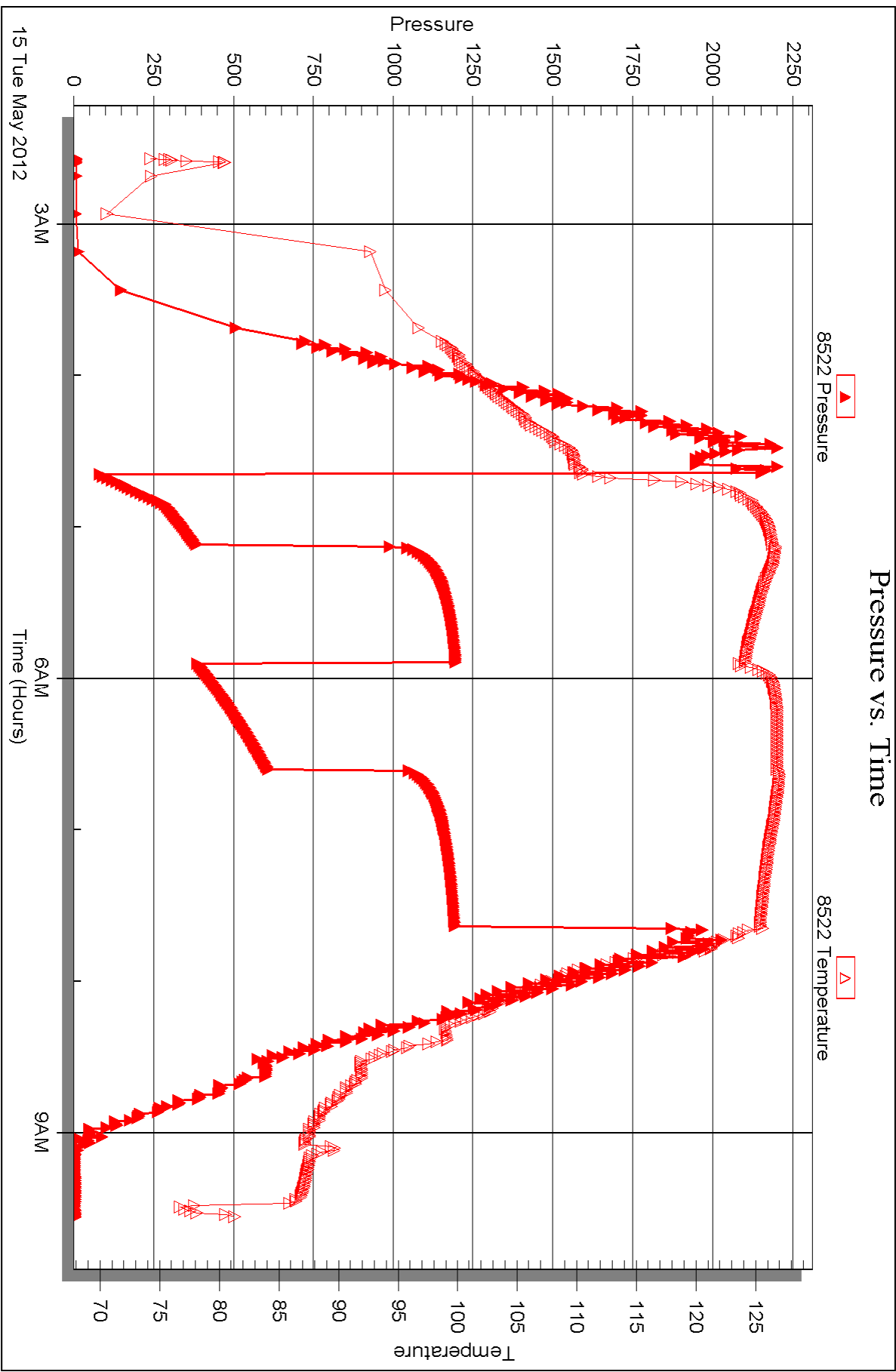
Serial #: 8522

Inside

Ritchie Exploration Inc.

Ottley Bos 17C#1

DST Test Number: 4





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration inc.**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

ATTN: Kim Shoemaker

### **Ottley Bros 17C #1**

### **17 13s 31w Gove, KS**

Start Date: 2012.05.15 @ 16:02:00

End Date: 2012.05.15 @ 22:57:45

Job Ticket #: 46605                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.25 @ 14:35:29



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration inc.  
8100 E 22nd St N #700  
Wichita KS 67278 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46605      **DST#: 5**  
Test Start: 2012.05.15 @ 16:02:00

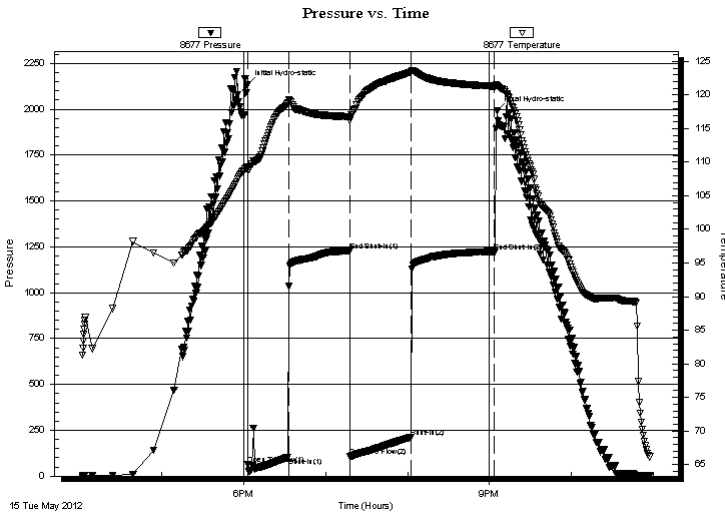
## GENERAL INFORMATION:

Formation: **LKC "J"**  
Deviated: No Whipstock: 0.00 ft (KB)  
Time Tool Opened: 18:03:15  
Time Test Ended: 22:57:45  
Interval: **4181.00 ft (KB) To 4200.00 ft (KB) (TVD)**  
Total Depth: 4200.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Bradley Walter  
Unit No: 53  
Reference Elevations: 2938.00 ft (KB)  
2928.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 8677      Outside**  
Press @ Run Depth: 213.09 psig @ 4182.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.05.15      End Date: 2012.05.15      Last Calib.: 2012.05.15  
Start Time: 16:02:05      End Time: 22:57:44      Time On Btm: 2012.05.15 @ 18:03:00  
Time Off Btm: 2012.05.15 @ 21:05:30

TEST COMMENT: IF: 6" blow.  
IS: No return.  
FF: 7" blow.  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2133.54	109.34	Initial Hydro-static
1	63.94	108.80	Open To Flow (1)
30	103.95	118.90	Shut-In(1)
75	1227.38	116.79	End Shut-In(1)
75	106.37	116.22	Open To Flow (2)
120	213.09	123.42	Shut-In(2)
181	1224.62	121.31	End Shut-In(2)
183	1990.45	121.39	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
430.00	mcw 20m 80w (oil specs)	2.11

\* Recovery from multiple tests

## 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 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46605      **DST#: 5**  
Test Start: 2012.05.15 @ 16:02:00

### Tool Information

Drill Pipe:	Length: 3649.00 ft	Diameter: 3.80 inches	Volume: 51.19 bbl	Tool Weight: 2500.00 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: 529.00 ft	Diameter: 2.25 inches	Volume: 2.60 bbl	Weight to Pull Loose: 98000.00 lb
			<u>Total Volume: 53.79 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 82000.00 lb
Depth to Top Packer:	4181.00 ft			Final 82000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	19.00 ft			
Tool Length:	46.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4155.00	
Shut In Tool	5.00			4160.00	
Hydraulic tool	5.00			4165.00	
Jars	5.00			4170.00	
Safety Joint	2.00			4172.00	
Packer	5.00			4177.00	27.00 Bottom Of Top Packer
Packer	4.00			4181.00	
Stubb	1.00			4182.00	
Recorder	0.00	8677	Outside	4182.00	
Recorder	0.00	8522	Inside	4182.00	
Perforations	15.00			4197.00	
Bullnose	3.00			4200.00	19.00 Bottom Packers & Anchor

**Total Tool Length: 46.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration inc.

**17 13s 31w Gove, KS**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

**Ottley Bros 17C #1**

Job Ticket: 46605

**DST#: 5**

ATTN: Kim Shoemaker

Test Start: 2012.05.15 @ 16:02:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

77000 ppm

Viscosity: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.96 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
430.00	mcw 20m 80w (oil specs)	2.115

Total Length: 430.00 ft      Total Volume: 3.159 bbl

Num Fluid Samples: 0

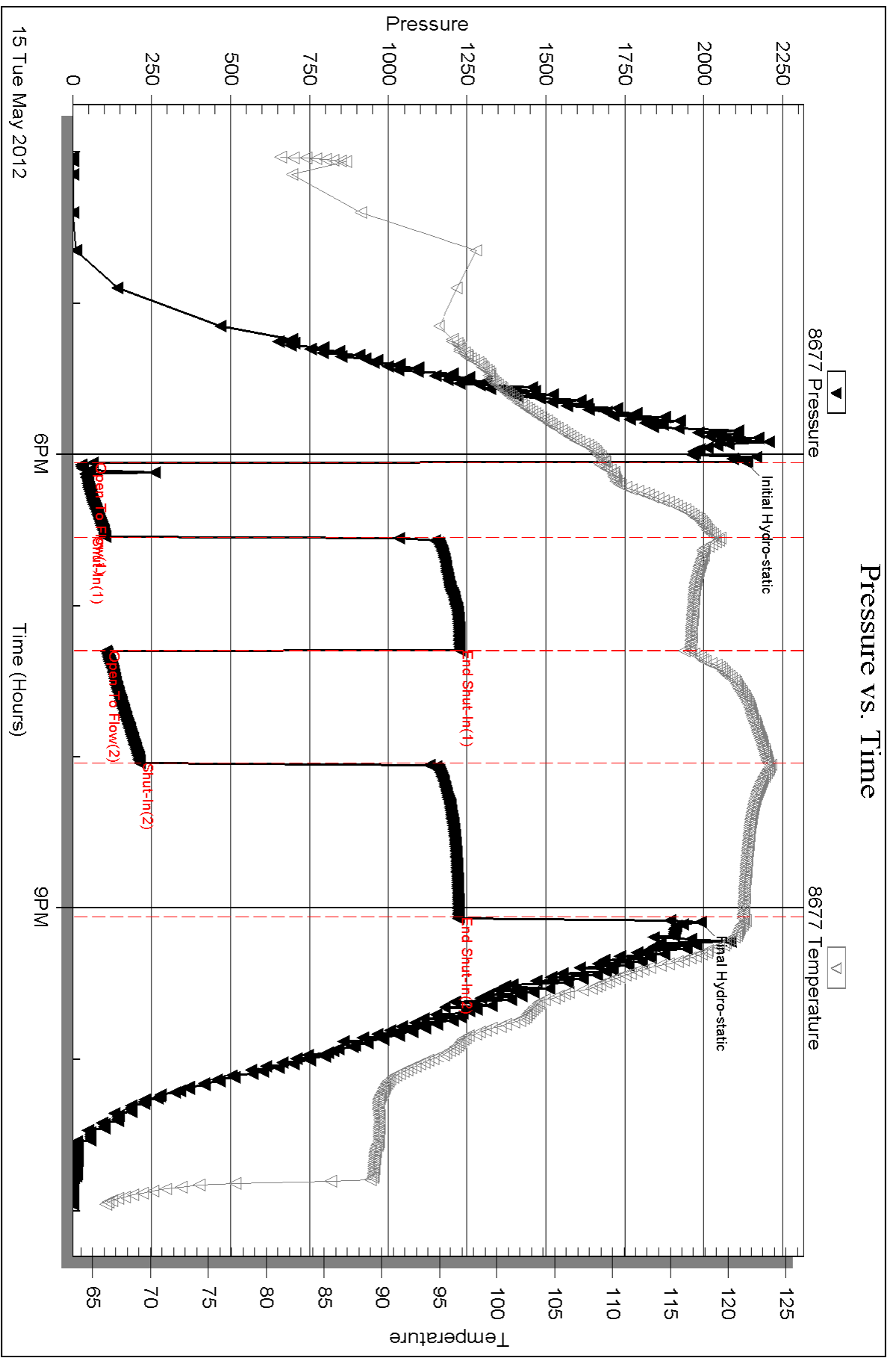
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: rw is .105 @ 66F = 77,000ppm





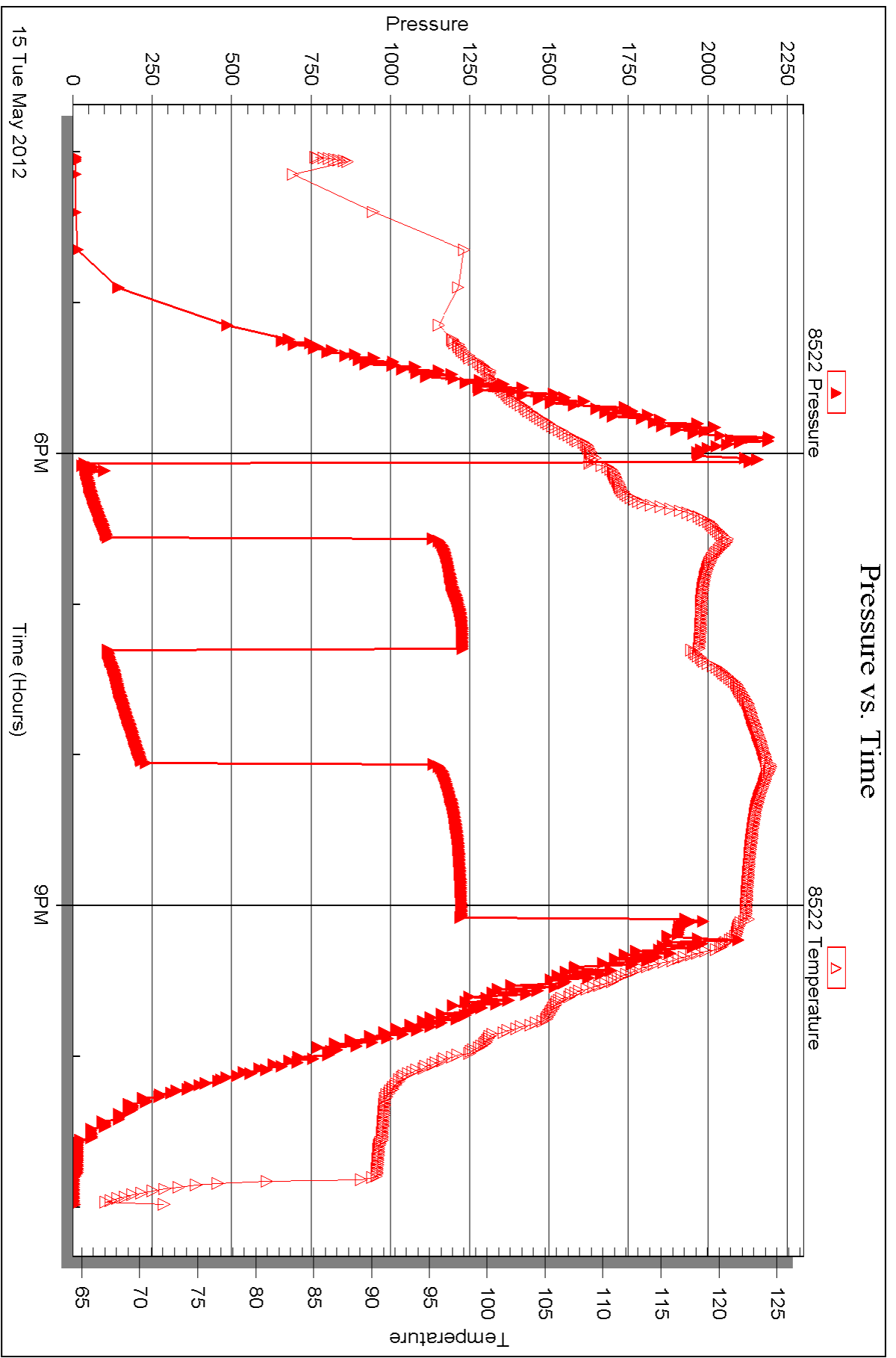
Serial #: 8522

Inside

Ritchie Exploration Inc.

Ottley Bos 17C#1

DST Test Number: 5



Triobite Testing, Inc

Ref. No: 46605

Printed: 2012.05.25 @ 14:35:32



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration inc.**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

ATTN: Kim Shoemaker

### **Ottley Bros 17C #1**

### **17 13s 31w Gove, KS**

Start Date: 2012.05.16 @ 07:08:00

End Date: 2012.05.16 @ 14:23:00

Job Ticket #: 46606                      DST #: 6

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

Printed: 2012.05.25 @ 14:34:41



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration inc.  
8100 E 22nd St N #700  
Wichita KS 67278 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46606 **DST#: 6**  
Test Start: 2012.05.16 @ 07:08:00

## GENERAL INFORMATION:

Formation: **LKC "K"**  
Deviated: No Whipstock: 0.00 ft (KB)  
Time Tool Opened: 09:19:00  
Time Test Ended: 14:23:00  
Interval: **4208.00 ft (KB) To 4234.00 ft (KB) (TVD)**  
Total Depth: 4234.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Bradley Walter  
Unit No: 53  
Reference Elevations: 2938.00 ft (KB)  
2928.00 ft (CF)  
KB to GR/CF: 10.00 ft

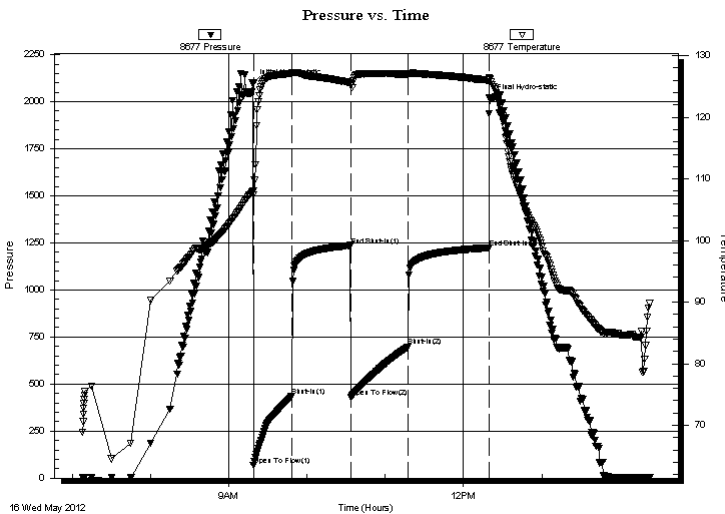
## Serial #: 8677

Outside

Press @ Run Depth: 698.89 psig @ 4209.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2012.05.16 End Date: 2012.05.16 Last Calib.: 2012.05.16  
Start Time: 07:08:05 End Time: 14:22:59 Time On Btm: 2012.05.16 @ 09:18:45  
Time Off Btm: 2012.05.16 @ 12:20:00

TEST COMMENT: IF: BOB @ 4 1/2 min.  
IS: No return.  
FF: BOB @ 5 min.  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2096.79	108.06	Initial Hydro-static
1	66.79	107.37	Open To Flow (1)
30	436.47	127.06	Shut-In(1)
75	1236.12	125.67	End Shut-In(1)
75	431.43	125.26	Open To Flow (2)
119	698.89	127.00	Shut-In(2)
181	1224.02	126.04	End Shut-In(2)
182	2018.54	126.24	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1500.00	smcw 3m 97w	16.22

\* Recovery from multiple tests

## 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 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46606 **DST#: 6**  
Test Start: 2012.05.16 @ 07:08:00

**Tool Information**

Drill Pipe:	Length: 3681.00 ft	Diameter: 3.80 inches	Volume: 51.63 bbl	Tool Weight: 2500.00 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: 529.00 ft	Diameter: 2.25 inches	Volume: 2.60 bbl	Weight to Pull Loose: 115000.0 lb
			<u>Total Volume: 54.23 bbl</u>	Tool Chased 3.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 81000.00 lb
Depth to Top Packer:	4208.00 ft			Final 84000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			4182.00	
Shut In Tool	5.00			4187.00	
Hydraulic tool	5.00			4192.00	
Jars	5.00			4197.00	
Safety Joint	2.00			4199.00	
Packer	5.00			4204.00	27.00 Bottom Of Top Packer
Packer	4.00			4208.00	
Stubb	1.00			4209.00	
Recorder	0.00	8677	Outside	4209.00	
Recorder	0.00	8522	Inside	4209.00	
Perforations	22.00			4231.00	
Bullnose	3.00			4234.00	26.00 Bottom Packers & Anchor

**Total Tool Length: 53.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration inc.  
8100 E 22nd St N #700  
Wichita KS 67278 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46606      **DST#: 6**  
Test Start: 2012.05.16 @ 07:08:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 76000 ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl	
Water Loss: 9.17 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 5000.00 ppm		
Filter Cake: 1.00 inches		

## Recovery Information

Recovery Table

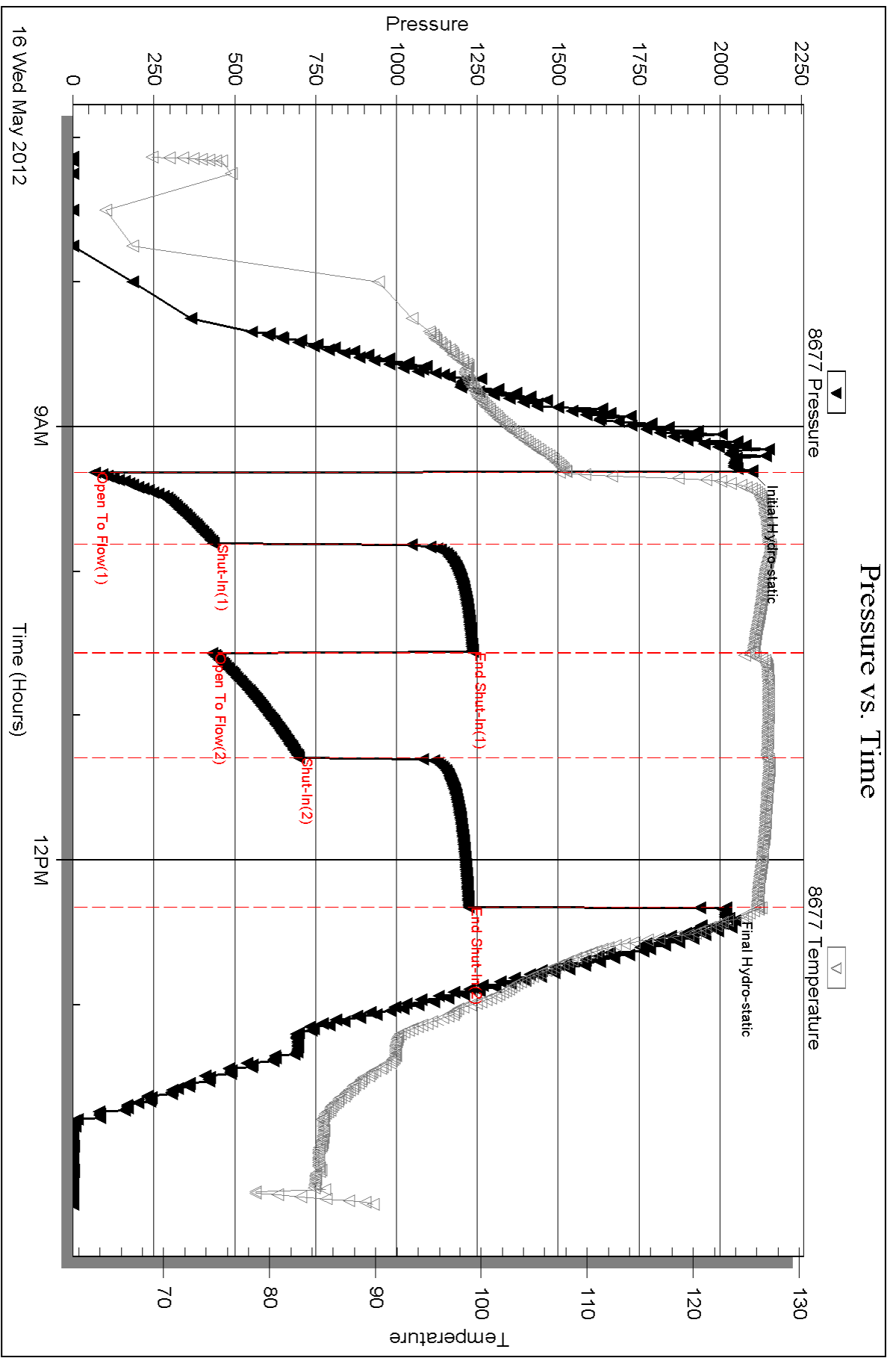
Length ft	Description	Volume bbl
1500.00	smcw 3m 97w	16.222

Total Length: 1500.00 ft      Total Volume: 16.222 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: rw is .085n@ 82F = 76,000ppm



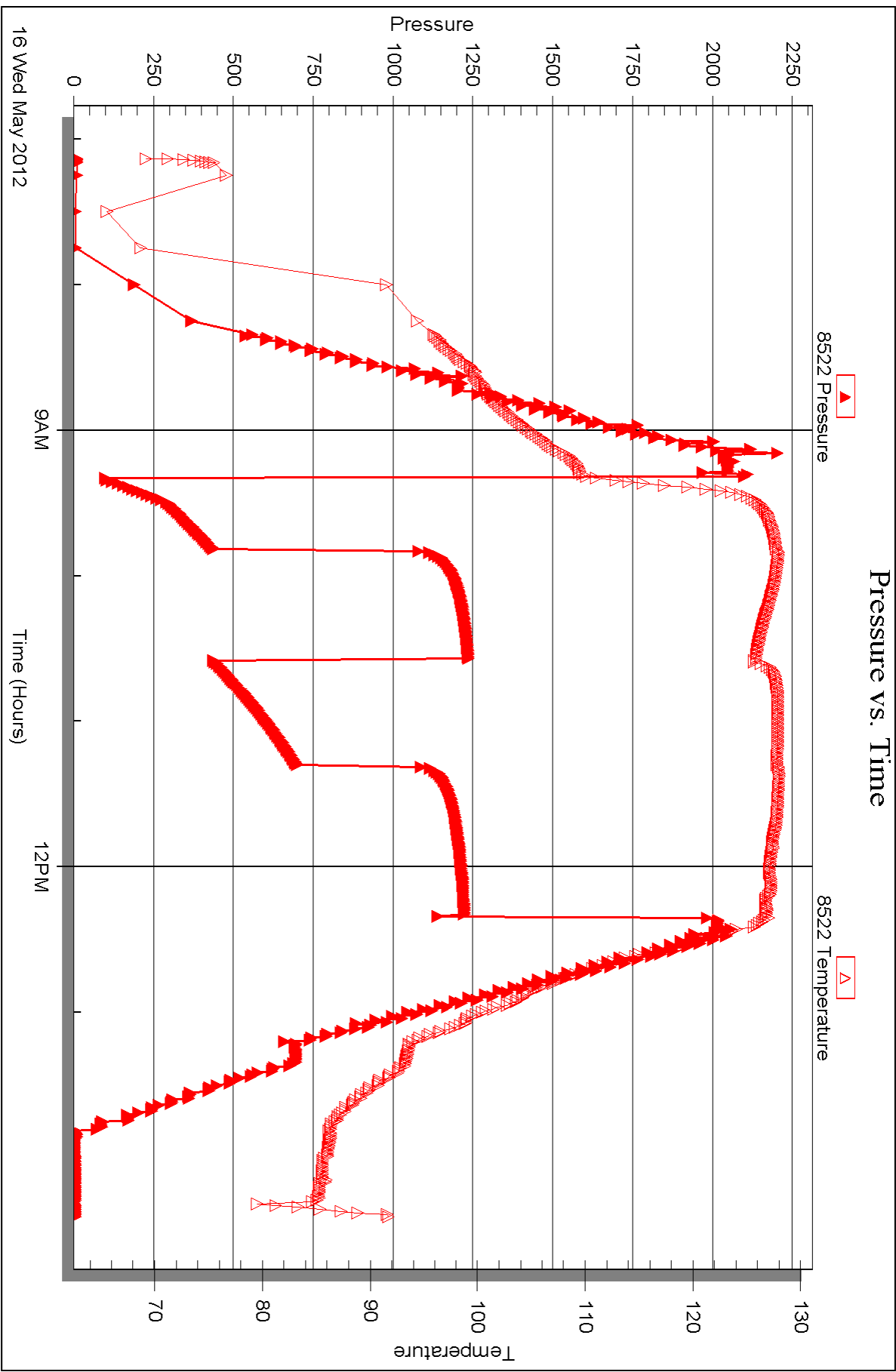
Serial #: 8522

Inside

Ritchie Exploration Inc.

Ottley Bos 17C#1

DST Test Number: 6







## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration inc.**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

ATTN: Kim Shoemaker

### **Ottley Bros 17C #1**

### **17 13s 31w Gove, KS**

Start Date: 2012.05.17 @ 23:04:00

End Date: 2012.05.18 @ 06:18:00

Job Ticket #: 46607                      DST #: 7

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.25 @ 14:33:54



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration inc.  
8100 E 22nd St N #700  
Wichita KS 67278 + 3188  
ATTN: Kim Shoemaker

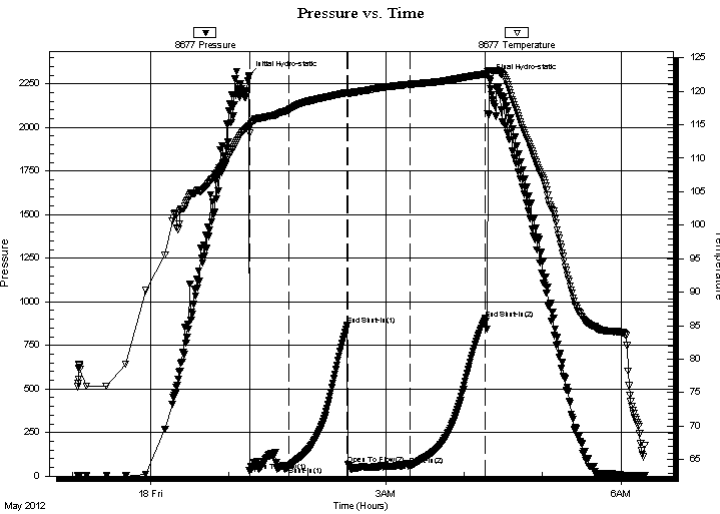
**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46607      **DST#: 7**  
Test Start: 2012.05.17 @ 23:04:00

## GENERAL INFORMATION:

Formation: **Cherokee/Johnson**  
Deviated: No Whipstock: 0.00 ft (KB)  
Time Tool Opened: 01:15:30  
Time Test Ended: 06:18:00  
Interval: **4505.00 ft (KB) To 4557.00 ft (KB) (TVD)**  
Total Depth: 4557.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Bradley Walter  
Unit No: 53  
Reference Elevations: 2938.00 ft (KB)  
2928.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 8677      Outside**  
Press @ Run Depth: 60.47 psig @ 4506.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2012.05.17      End Date: 2012.05.18      Last Calib.: 2012.05.18  
Start Time: 23:04:05      End Time: 06:17:59      Time On Btm: 2012.05.18 @ 01:15:15  
Time Off Btm: 2012.05.18 @ 04:19:15

**TEST COMMENT:** IF: 3" blow .  
IS: No return.  
FF: 8" blow .  
FS: Surface blow .



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2295.50	114.89	Initial Hydro-static
1	30.26	113.75	Open To Flow (1)
31	57.99	117.23	Shut-In(1)
75	864.96	119.80	End Shut-In(1)
76	69.45	119.58	Open To Flow (2)
123	60.47	121.02	Shut-In(2)
181	902.89	122.55	End Shut-In(2)
184	2278.12	123.04	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
110.00	gmco 20g 20m 60o	0.54
0.00	370 GIP	0.00

\* Recovery from multiple tests

## 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 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46607      **DST#: 7**  
Test Start: 2012.05.17 @ 23:04:00

**Tool Information**

Drill Pipe:	Length: 3966.00 ft	Diameter: 3.80 inches	Volume: 55.63 bbl	Tool Weight: 2500.00 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: 529.00 ft	Diameter: 2.25 inches	Volume: 2.60 bbl	Weight to Pull Loose: 105000.0 lb
			<u>Total Volume: 58.23 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 82000.00 lb
Depth to Top Packer:	4505.00 ft			Final 82000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	52.00 ft			
Tool Length:	79.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			4479.00	
Shut In Tool	5.00			4484.00	
Hydraulic tool	5.00			4489.00	
Jars	5.00			4494.00	
Safety Joint	2.00			4496.00	
Packer	5.00			4501.00	27.00      Bottom Of Top Packer
Packer	4.00			4505.00	
Stubb	1.00			4506.00	
Recorder	0.00	8677	Outside	4506.00	
Recorder	0.00	8522	Inside	4506.00	
Perforations	14.00			4520.00	
Change Over Sub	1.00			4521.00	
Drill Pipe	32.00			4553.00	
Change Over Sub	1.00			4554.00	
Bullnose	3.00			4557.00	52.00      Bottom Packers & Anchor

**Total Tool Length: 79.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration inc.

**17 13s 31w Gove, KS**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

**Ottley Bros 17C #1**

Job Ticket: 46607

**DST#: 7**

ATTN: Kim Shoemaker

Test Start: 2012.05.17 @ 23:04:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5200.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
110.00	gmco 20g 20m 60o	0.541
0.00	370 GIP	0.000

Total Length: 110.00 ft      Total Volume: 0.541 bbl

Num Fluid Samples: 0

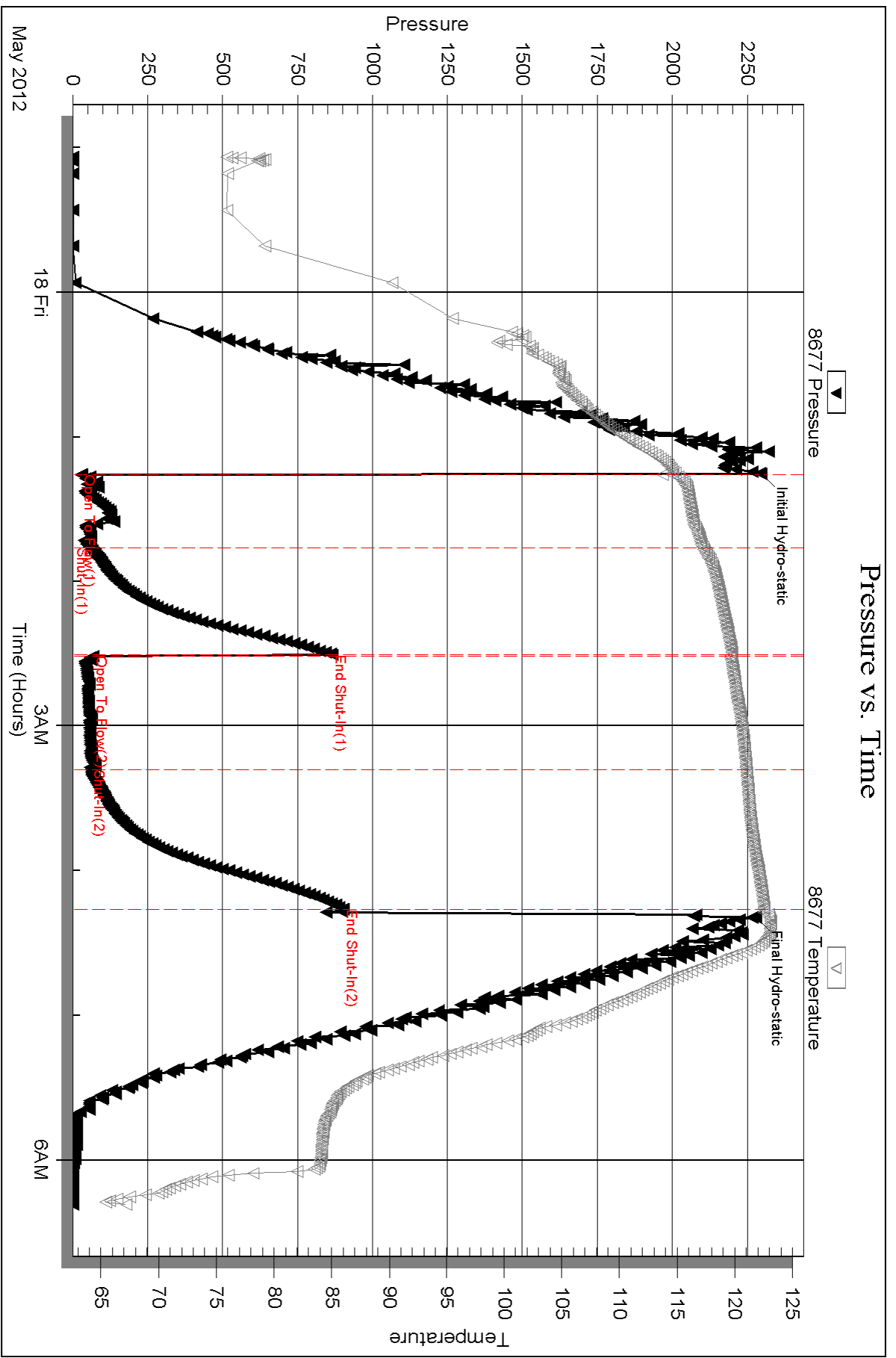
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



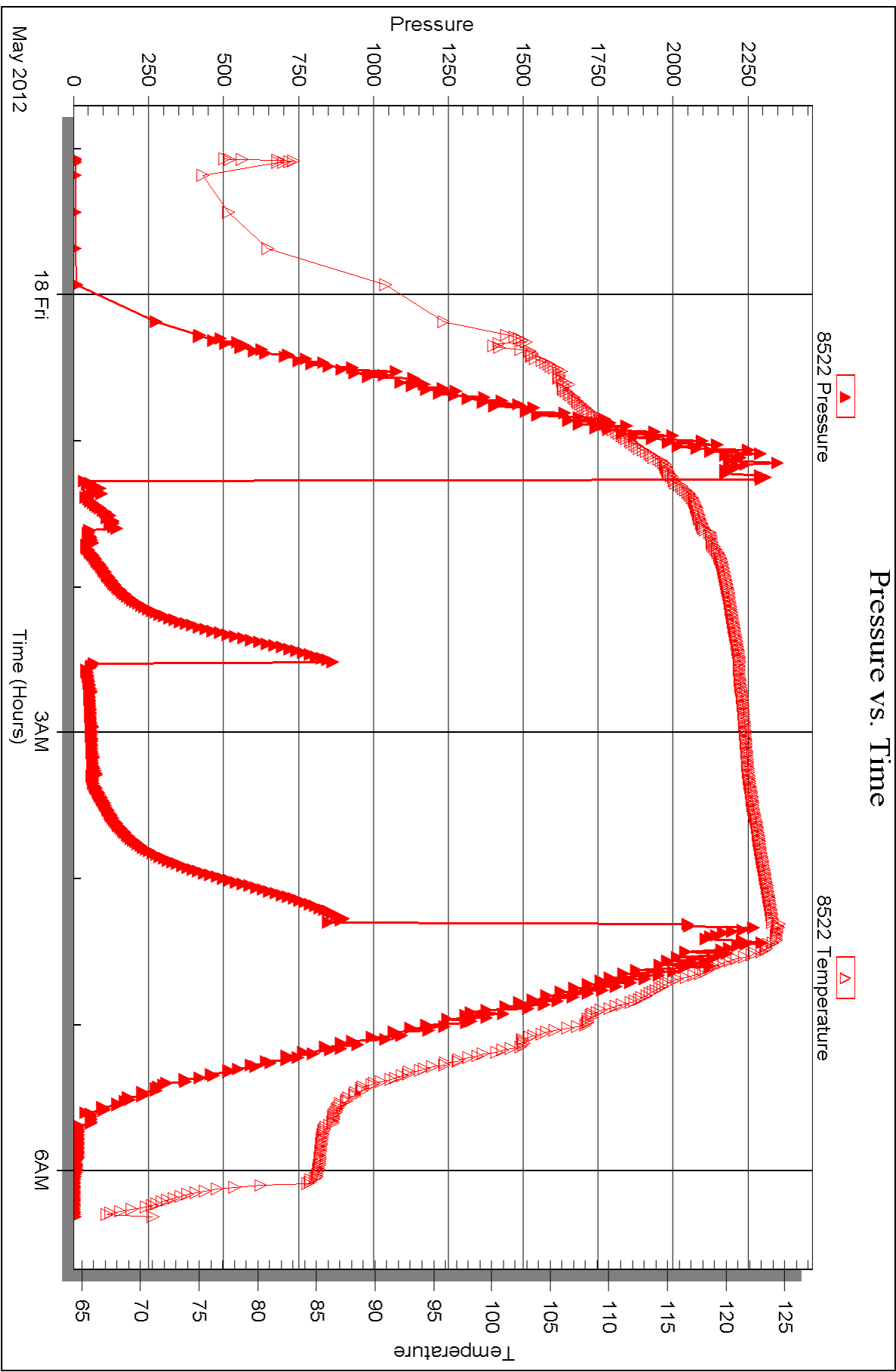
Serial #: 8522

Inside

Ritchie Exploration Inc.

Ottley Bos 17C#1

DST Test Number: 7





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration inc.**

8100 E 22nd St N #700  
Wichita KS 67278 + 3188

ATTN: Kim Shoemaker

### **Ottley Bros 17C #1**

### **17 13s 31w Gove, KS**

Start Date: 2012.05.18 @ 21:28:00

End Date: 2012.05.19 @ 05:32:15

Job Ticket #: 46608                      DST #: 8

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.05.25 @ 14:32:22

Ritchie Exploration inc.  
17 13s 31w Gove, KS  
Ottley Bros 17C #1  
DST # 8  
Morrow  
2012.05.18





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Ritchie Exploration inc.  
 8100 E 22nd St N #700  
 Wichita KS 67278 + 3188  
 ATTN: Kim Shoemaker

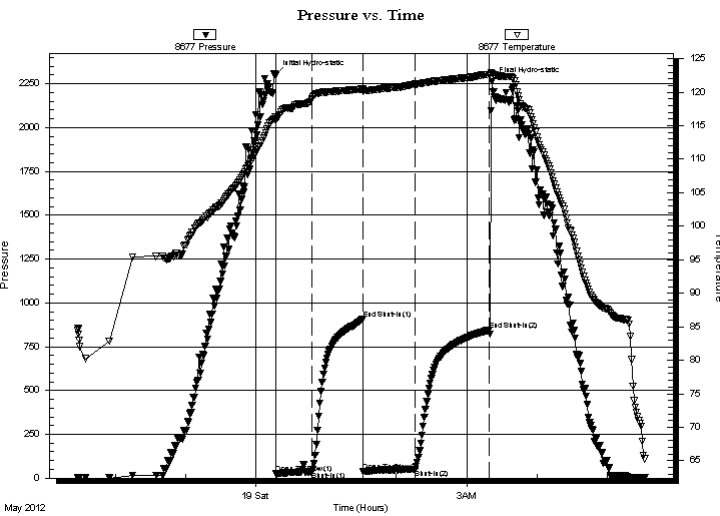
**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
 Job Ticket: 46608 **DST#: 8**  
 Test Start: 2012.05.18 @ 21:28:00

## GENERAL INFORMATION:

Formation: **Morrow**  
 Deviated: No Whipstock: 0.00 ft (KB)  
 Time Tool Opened: 00:17:15  
 Time Test Ended: 05:32:15  
 Interval: **4561.00 ft (KB) To 4617.00 ft (KB) (TVD)**  
 Total Depth: 4617.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Bradley Walter  
 Unit No: 53  
 Reference Elevations: 2938.00 ft (KB)  
 2928.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8677 Outside**  
 Press @ Run Depth: 50.87 psig @ 4562.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.05.18 End Date: 2012.05.19 Last Calib.: 2012.05.19  
 Start Time: 21:28:05 End Time: 05:32:14 Time On Btm: 2012.05.19 @ 00:17:00  
 Time Off Btm: 2012.05.19 @ 03:21:30

**TEST COMMENT:** IF: 1" blow.  
 IS: No return.  
 FF: Surface blow, Died @ 15 min.  
 FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2300.51	116.42	Initial Hydro-static
1	24.69	115.79	Open To Flow (1)
31	36.75	118.99	Shut-In(1)
75	907.97	120.47	End Shut-In(1)
75	39.42	120.22	Open To Flow (2)
119	50.87	121.20	Shut-In(2)
183	845.28	122.65	End Shut-In(2)
185	2263.45	122.81	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	mud 100m (oil spots)	0.22

\* Recovery from multiple tests

## 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 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46608      **DST#: 8**  
Test Start: 2012.05.18 @ 21:28:00

**Tool Information**

Drill Pipe:	Length: 4030.00 ft	Diameter: 3.80 inches	Volume: 56.53 bbl	Tool Weight:	2500.00 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: 529.00 ft	Diameter: 2.25 inches	Volume: 2.60 bbl	Weight to Pull Loose:	105000.0 lb
			<u>Total Volume: 59.13 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	82000.00 lb
Depth to Top Packer:	4561.00 ft			Final	82000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	56.00 ft				
Tool Length:	83.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			4535.00	
Shut In Tool	5.00			4540.00	
Hydraulic tool	5.00			4545.00	
Jars	5.00			4550.00	
Safety Joint	2.00			4552.00	
Packer	5.00			4557.00	27.00      Bottom Of Top Packer
Packer	4.00			4561.00	
Stubb	1.00			4562.00	
Recorder	0.00	8677	Outside	4562.00	
Recorder	0.00	8522	Inside	4562.00	
Perforations	18.00			4580.00	
Change Over Sub	1.00			4581.00	
Drill Pipe	32.00			4613.00	
Change Over Sub	1.00			4614.00	
Bullnose	3.00			4617.00	56.00      Bottom Packers & Anchor

**Total Tool Length: 83.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration inc.  
8100 E 22nd St N #700  
Wichita KS 67278 + 3188  
ATTN: Kim Shoemaker

**17 13s 31w Gove, KS**  
**Ottley Bros 17C #1**  
Job Ticket: 46608      **DST#: 8**  
Test Start: 2012.05.18 @ 21:28:00

## Mud and Cushion Information

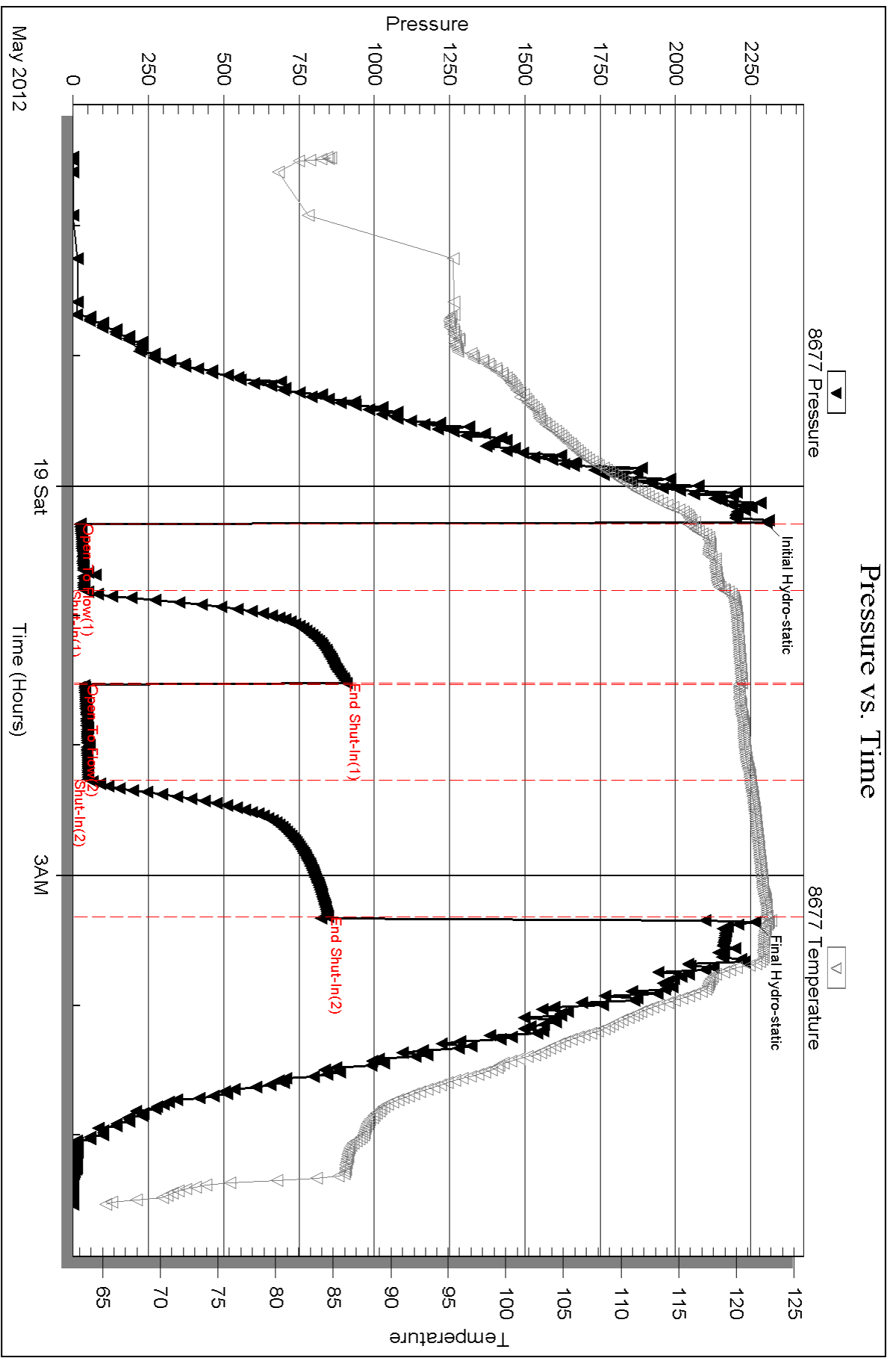
Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.58 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 5000.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	mud 100m (oil spots)	0.221

Total Length: 45.00 ft      Total Volume: 0.221 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:



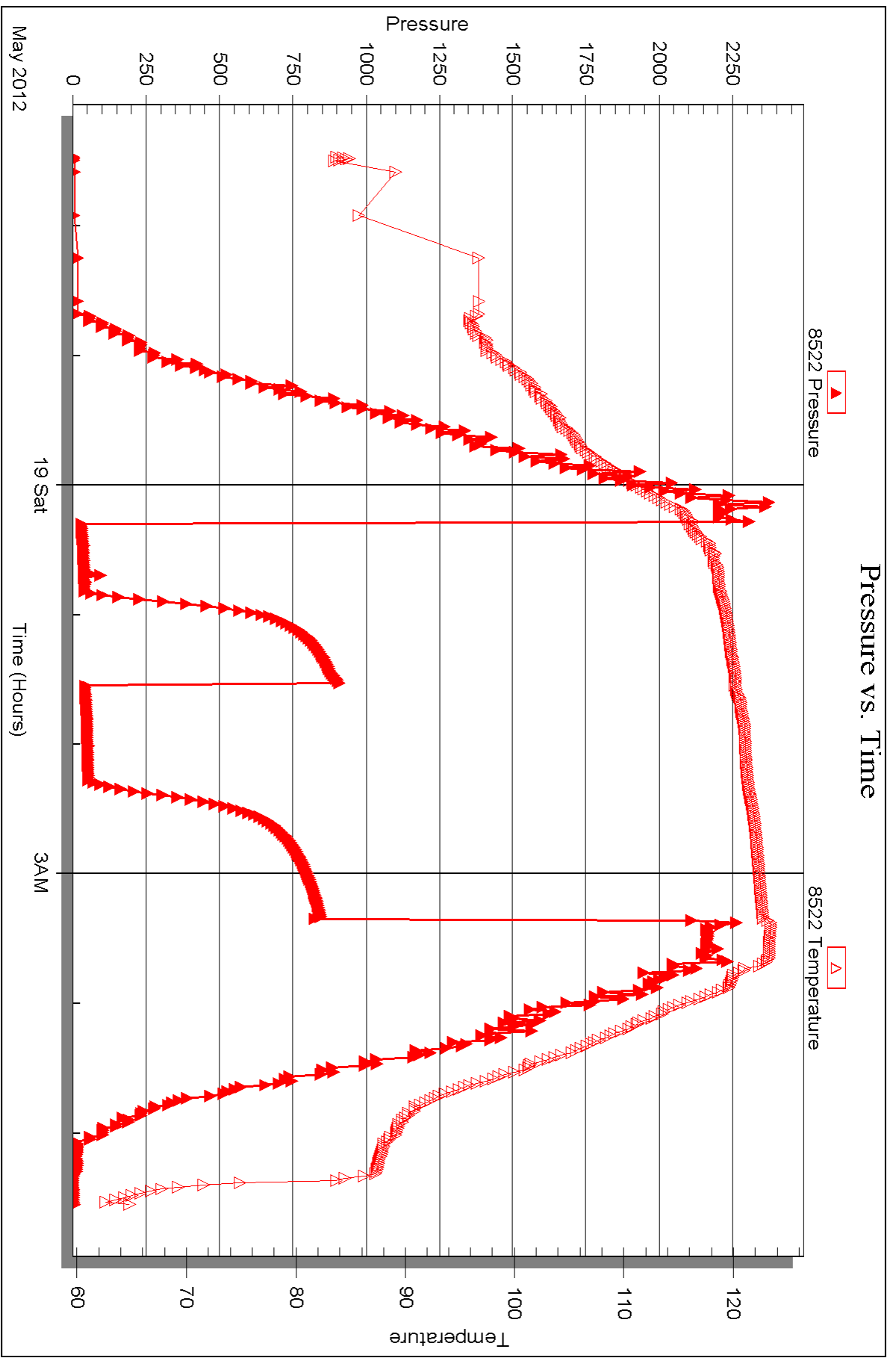
Serial #: 8522

Inside

Ritchie Exploration Inc.

Ottley Bros 17C#1

DST Test Number: 8





Well Name & No. Ottley Bros. #1 176 Test No. 1 Date 5-13-12  
 Company Ritche Exploration Inc Elevation 2938 KB 2928 GL  
 Address 8100 E 22nd ST N # 700 Wichita KS 67278 + 3188  
 Co. Rep / Geo. Kim Shoemaker Rig Murphy 14  
 Location: Sec. 17 Twp. 13 Rge. 31 w Co. Gove State KS

Interval Tested 3993-4022 Zone Tested Lans 'C'  
 Anchor Length 29 Drill Pipe Run 3457 Mud Wt. 9.0  
 Top Packer Depth 3988 Drill Collars Run 529 Vis 56  
 Bottom Packer Depth 3993 Wt. Pipe Run          WL 6.8  
 Total Depth 4022 Chlorides 4,000 ppm System LCM 1

Blow Description Built to 8 1/2 inch  
NO Return  
BOB 35 minutes  
NO Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>705</u>	<u>MW</u>			<u>80</u>	<u>20</u>

Rec Total 705 BHT 121° Gravity          API RW 110 @ 57 °F Chlorides 85,000 ppm

- (A) Initial Hydrostatic 2014
- (B) First Initial Flow 24
- (C) First Final Flow 211
- (D) Initial Shut-In 1119
- (E) Second Initial Flow 215
- (F) Second Final Flow 342
- (G) Final Shut-In 1,106
- (H) Final Hydrostatic 1916.

- Test 1250
- Jars 250
- Safety Joint 75
- Circ Sub NK
- Hourly Standby
- Mileage 86 <sup>75</sup> R/T 116.25
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility

T-On Location 3:00  
 T-Started 3:18  
 T-Open 5:35  
 T-Pulled 8:35  
 T-Out 10:13  
 Comments           
          
 Ruined Shale Packer           
 Ruined Packer           
 Extra Copies           
 Sub Total 0  
 Total 1691.25  
 MP/DST Disc't         

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 66

Approved By [Signature] Our Representative Col Archibald

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

## Test Ticket

NO. 46602

4/10

Well Name & No. Ottley Bros 17c #1 Test No. 2 Date 5/14/12  
 Company Ritchie, Exploration, Inc Elevation 2938 KB 2928 GL  
 Address 8100 E 22<sup>nd</sup> St N #700 Wichita, ks 67278  
 Co. Rep / Geo. Kim Shoemaker Rig Martin #14  
 Location: Sec. 17 Twp. 13 S Rge. 31 W Co. Gove State Ks

Interval Tested 2938 4040 - 4068 Zone Tested LKC E/F  
 Anchor Length 28 Drill Pipe Run 3492 Mud Wt. 9.2  
 Top Packer Depth 4035 Drill Collars Run 529 Vis 52  
 Bottom Packer Depth 4040 Wt. Pipe Run 0 WL 9.2  
 Total Depth 4068 Chlorides 5800 ppm System LCM 4#

Blow Description IF: BOB @ 25 min.  
ISI: No return.  
FF: BOB @ 25 min.  
FSI: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>703</u>	<u>SMCW (oil spots IN TOOL)</u>			<u>95%</u>	<u>5%</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 703 BHT 122 Gravity — API RW .175 @ 60 °F Chlorides 70,000 ppm

(A) Initial Hydrostatic 2038  Test 1250 T-On Location 1925 5/13  
 (B) First Initial Flow 26  Jars 250 T-Started 1954 5/13  
 (C) First Final Flow 192  Safety Joint 75 T-Open 2204 ''  
 (D) Initial Shut-In 1224  Circ Sub N/C T-Pulled 0104 5/14  
 (E) Second Initial Flow 194  Hourly Standby \_\_\_\_\_ T-Out 0257 ''  
 (F) Second Final Flow 324  Mileage 75 50 R/T 116.25  
 (G) Final Shut-In 1208  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1920  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_

Initial Open 30  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 45  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 45  Day Standby \_\_\_\_\_ Total 1691.25  
 Final Shut-In 60  Accessibility \_\_\_\_\_ MP/DST Disc \_\_\_\_\_  
 Sub Total 1691.25

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46603

Well Name & No. Otley Bros 17c #1 Test No. 3 Date 5/14/12  
 Company Ritchie Exploration, Inc Elevation 2936 KB 2928 GL  
 Address 8100 E 22<sup>nd</sup> St N. #900 Wichita, Ks 67278  
 Co. Rep / Geo. Kim Shoemaker Rig MudAn #14  
 Location: Sec. 17 Twp. 13s Rge. 31w Co. Gove State Ks

Interval Tested 4124 4150 Zone Tested LKC 'H'  
 Anchor Length 26' Drill Pipe Run 3586 Mud Wt. 9.5  
 Top Packer Depth 4119 Drill Collars Run 529 Vis LS  
 Bottom Packer Depth 4124 Wt. Pipe Run 0 WL 6.8  
 Total Depth 4150 Chlorides 6800 ppm System LCM 58

Blow Description IF: BOB @ 19 min.  
ISI: No return.  
FF: BOB @ ~~23 min~~ 2" blow.  
FST: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>410</u>	<u>MCW</u>			<u>85</u>	<u>15</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 410 BHT 120 Gravity - API RW .140 @ 71 °F Chlorides 61,000 ppm

(A) Initial Hydrostatic <u>2117</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>1145</u>
(B) First Initial Flow <u>62</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>1230</u>
(C) First Final Flow <u>183</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>1454</u>
(D) Initial Shut-In <u>204</u>	<input checked="" type="checkbox"/> Circ Sub <u>M/C</u>	T-Pulled <u>1734</u>
(E) Second Initial Flow <u>174</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1936</u>
(F) Second Final Flow <u>204</u>	<input checked="" type="checkbox"/> Mileage <u>25 R/T</u> 116.25	Comments _____
(G) Final Shut-In <u>212</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>2017</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1691.25</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1691.25</u>	

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46604

4/10

Well Name & No. Ottley Bros 17c #1 Test No. 4 Date 5/15/12  
 Company Ritchie Exploration, Inc Elevation 2938 KB 2928 GL  
 Address 8100 E 22<sup>nd</sup> St. N #700 Wichita, ks 67278  
 Co. Rep / Geo. Kim Shoemaker Rig Mutin #14  
 Location: Sec. 17 Twp. 13s Rge. 31w Co. Gore State Ks

Interval Tested 4156 - 4183 Zone Tested LKC "I"  
 Anchor Length 26' Drill Pipe Run 3618 Mud Wt. 9.3  
 Top Packer Depth 4151 Drill Collars Run 529 Vis 63  
 Bottom Packer Depth 4156 Wt. Pipe Run 0 WL 6.8  
 Total Depth 4183 Chlorides 6400 ppm System LCM 5#  
 Blow Description IF: BOB @ 7 min  
IS: No return.  
FF: BOB @ 11 min.  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1105</u>	<u>SNCW</u>		<u>97</u>	<u>3</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1105 BHT 125 Gravity — API RW .910 @ 66 °F Chlorides 92,000 ppm

(A) Initial Hydrostatic <u>2143</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>0215</u>
(B) First Initial Flow <u>78</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0234</u>
(C) First Final Flow <u>385</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0438</u>
(D) Initial Shut-In <u>1196</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>0738</u>
(E) Second Initial Flow <u>383</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0934</u>
(F) Second Final Flow <u>607</u>	<input checked="" type="checkbox"/> Mileage <u>75.47</u> <u>116.25</u>	Comments
(G) Final Shut-In <u>1190</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1987</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1691.25</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1691.25</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]  
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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46605

4/10

Well Name & No. Ottley Bros 17c #1 Test No. 5 Date 5/15/12  
 Company Ritchie Exploration, Inc Elevation 2938 KB 2928 GL  
 Address 8100 E 22<sup>nd</sup> St. N. #700 Wichita, Ks 67278  
 Co. Rep / Geo. Kim Shoemaker Rig Martin #14  
 Location: Sec. 17 Twp. 13S Rge. 31W Co. Gove State Ks

Interval Tested 4181 - 4200 Zone Tested LKC '5'  
 Anchor Length 19' Drill Pipe Run 3649 Mud Wt. 9.2  
 Top Packer Depth 4176 Drill Collars Run 529 Vis 61  
 Bottom Packer Depth 4181 Wt. Pipe Run 0 WL 8.0  
 Total Depth 4200 Chlorides 6,000 ppm System LCM 4#  
 Blow Description IF: 6" blow.  
ISI: No return.  
FF: 7" blow  
FSI: No return.

Rec	Feet of	(Oil Specs)	%gas	%oil	%water	%mud
<u>430</u>	<u>mcw</u>			<u>80</u>	<u>20</u>	
Rec	Feet of		%gas	%oil	%water	%mud
Rec	Feet of		%gas	%oil	%water	%mud
Rec	Feet of		%gas	%oil	%water	%mud
Rec	Feet of		%gas	%oil	%water	%mud

Rec Total 430 BHT 123 Gravity — API RW .105 @ 66 °F Chlorides 77,000 ppm

(A) Initial Hydrostatic <u>2134</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>1530</u>
(B) First Initial Flow <u>64</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1602</u>
(C) First Final Flow <u>104</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1803</u>
(D) Initial Shut-In <u>1227</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/L</u>	T-Pulled <u>2103</u>
(E) Second Initial Flow <u>106</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>2259</u>
(F) Second Final Flow <u>213</u>	<input checked="" type="checkbox"/> Mileage <u>75 R/T</u> <u>116.25</u>	Comments
(G) Final Shut-In <u>1225</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1990</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1691.25</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1691.25</u>	

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46606

4/10

Well Name & No. Ottley Bros 17c #1 Test No. 6 Date 5/16/12  
 Company Ritchie Exploration, Inc Elevation 2938 KB 2928 GL  
 Address 8100 E. 22<sup>nd</sup> St N. #700 Wichita, Kc 67278  
 Co. Rep / Geo. Kim Shoemaker Rig MurAn #14  
 Location: Sec. 17 Twp. 13s Rge. 31w Co. Gove State Ks

Interval Tested 4208 - 4234 Zone Tested LKc K  
 Anchor Length 26' Drill Pipe Run 3681 Mud Wt. 9.2  
 Top Packer Depth 4203 Drill Collars Run 529 Vis 52  
 Bottom Packer Depth 4208 Wt. Pipe Run 0 WL 9.2  
 Total Depth 4234 Chlorides 5000 ppm System LCM 3<sup>#</sup>  
 Blow Description IF: BOB @ 4<sup>min</sup>.  
ISI: No return  
FF: BOB @ 5<sup>min</sup>.  
FSI: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>1500</u>	<u>5MCW</u>			<u>97%</u>	<u>3</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1500 BHT 127 Gravity - API RW .085 @ 62 °F Chlorides 76,000 ppm

(A) Initial Hydrostatic <u>2097</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>0630</u>
(B) First Initial Flow <u>67</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0708</u>
(C) First Final Flow <u>436</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0919</u>
(D) Initial Shut-In <u>1236</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>1219</u>
(E) Second Initial Flow <u>431</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1423</u>
(F) Second Final Flow <u>699</u>	<input checked="" type="checkbox"/> Mileage <u>75 RT</u> <u>116.25</u>	Comments
(G) Final Shut-In <u>1224</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2019</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1691.25</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1691.25</u>	

Approved By \_\_\_\_\_ Our Representative

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46607

4/10

Well Name & No. Ottley Bros 17c #1 Test No. 7 Date 5/18/12  
 Company Ritchie Exploration, Inc Elevation 2938 KB 2928 GL  
 Address 8100 E. 22<sup>nd</sup> st N. #700 Wichita, Ks 67278  
 Co. Rep / Geo. Kim Shoemaker Rig Murphy #14  
 Location: Sec. 17 Twp. 135 Rge. 31w Co. Gove State Ks

Interval Tested 4505 - 4557 Zone Tested Cherokee / Johnson  
 Anchor Length 52' Drill Pipe Run 3964 Mud Wt. 9.2  
 Top Packer Depth 4500 Drill Collars Run 529 Vis 52  
 Bottom Packer Depth 4505 Wt. Pipe Run 0 WL 9.6  
 Total Depth 4557 Chlorides 5200 ppm System LCM 3 #  
 Blow Description IF: 3" blow  
BI: No return  
FF: 8" blow  
FST: Surface blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>110</u>	<u>6MCO</u>	<u>20</u>	<u>60</u>	<u>20</u>	<u>20</u>
	<u>370 GIP</u>				

Rec Total 110 BHT 123 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>2296</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>2245 5/17</u>
(B) First Initial Flow <u>30</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>2304 5/17</u>
(C) First Final Flow <u>58</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0116 5/18</u>
(D) Initial Shut-In <u>865</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>0416 "</u>
(E) Second Initial Flow <u>69</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0619 5/18</u>
(F) Second Final Flow <u>60</u>	<input checked="" type="checkbox"/> Mileage <u>75 N/7</u> <u>116.25</u>	Comments
(G) Final Shut-In <u>902</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2278</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1691.25</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1691.25</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]

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# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 46608

4/10

Well Name & No. Ottley Bros 17c #1 Test No. 8 Date 5/19/12  
 Company Ritchie Exploration, Inc Elevation 2938 KB 2928 GL  
 Address 8100 E. 22<sup>nd</sup> st N. #700 Wichita, Ks 67278  
 Co. Rep / Geo. Kim Shoemaker Rig Martin #14  
 Location: Sec. 17 Twp. 13s Rge. 31w Co. Gove State Ks

Interval Tested 4561 - 4617 Zone Tested Morrow  
 Anchor Length 56 Drill Pipe Run 3040 Mud Wt. 9.2  
 Top Packer Depth 4556 Drill Collars Run 529 Vis 57  
 Bottom Packer Depth 4561 Wt. Pipe Run Ø WL 7.2  
 Total Depth 4617 Chlorides 5,000 ppm System LCM 3<sup>#</sup>  
 Blow Description IF: 1" blow.  
ISI: No return.  
FF: Surface blow, Died @ 15 min.  
FST: No returns

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>MUD (OIL SPOTS)</u>				<u>100%</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 45 BHT 123 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2301</u>	<input checked="" type="checkbox"/> Test 1250	T-On Location <u>2115 5/18</u>
(B) First Initial Flow <u>25</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>2128 "</u>
(C) First Final Flow <u>37</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>0017 5/19</u>
(D) Initial Shut-In <u>908</u>	<input checked="" type="checkbox"/> Circ Sub <u>1/2</u>	T-Pulled <u>0317 "</u>
(E) Second Initial Flow <u>39</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0552 :1</u>
(F) Second Final Flow <u>51</u>	<input checked="" type="checkbox"/> Mileage <u>75 R/T</u> 116.25	Comments
(G) Final Shut-In <u>845</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2263</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input checked="" type="checkbox"/> Ruined Packer <u>320</u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>2011.25</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1691.25</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]

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.

Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Thomas E. Wright, Commissioner

Sam Brownback, Governor

August 30, 2012

John Niernberger  
Ritchie Exploration, Inc.  
8100 E 22ND ST N # 700  
BOX 783188  
WICHITA, KS 67278-3188

Re: ACO1  
API 15-063-21988-00-00  
Ottley Brothers 17C 1  
SW/4 Sec.17-13S-31W  
Gove County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
John Niernberger

**KIM B. SHOEMAKER**  
CONSULTING GEOLOGIST

316-698-9709 # WICHITA KS  
DILLING TIME AND SAMPLE LOG

**GEOLOGIST'S REPORT**

DRILLING TIME AND SAMPLE LOG

COMPANY: Ritchey Explorations, Inc.  
LEASE: #1 Ortley Brothers 17C  
FIELD: Antelope Kinase  
ELEVATION: 2938

LOCATION: 335 131 & 2289' EWL  
SEC: 17 TWP: 13S RGE: 31W  
COUNTY: Gove STATE: Kansas

CONTRACTOR: MURKIN DRILLING - R16-14  
SPUD: 5-9-12 0000 5-20-12  
RTD: 4700 LIT: 4708  
MUD UPT: 3933 TYPE MUD: CHEMICAL

SHAFTS SAVED FROM: 3600 TO 4700  
DRILLING TIME (NET) FROM: 3520 TO 4700  
SHAFTS EXAMINED FROM: 3600 TO 4700  
GEOLOGICAL SUPERVISION FROM: 3000 TO 4700

OPERATED BY: Kim B. Shoemaker / Adam Eldami  
GEOLOGICAL SUPERVISION FROM: 3000 TO 4700

FORMATION TOPS LOG SAMPLES

ANNOWITTE 2474 ± 514 2411 ± 519  
B/ANN. 2447 ± 491 2463 ± 495  
STOTLER 3082 ± 644 3571 ± 639  
HEEBNER 3135 ± 1047 3391 ± 776  
TORONTO 4065 ± 1267 4311 ± 1272  
LANSING 4182 ± 1384 4476 ± 1358  
MUNCIE 4210 ± 1411 4401 ± 1373  
STARK 4302 ± 1544 4476 ± 1358  
MORROW 4414 ± 1676 4401 ± 1373

CHEROKEE 4507 ± 1571 4401 ± 1373  
MISSISSIPPI 4614 ± 1676 4401 ± 1373

REMARKS

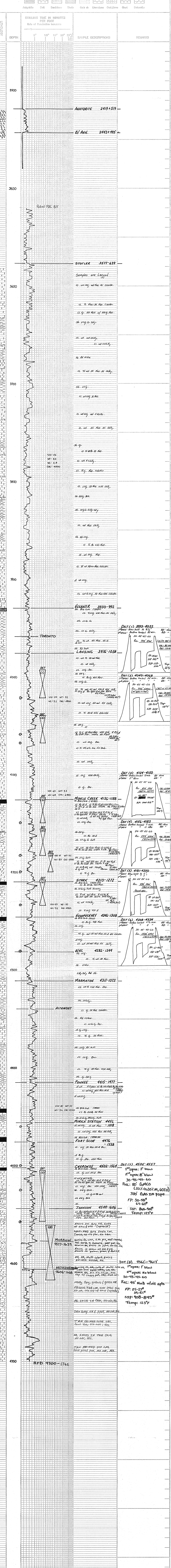
5-9-12 SPUD  
5-10 @ WOC 216  
5-11 @ 1715'  
5-12 @ 3630'  
5-13 @ 4022'  
5-14 @ 4068'  
5-15 @ 4160'  
5-16 @ 4200'  
5-17 @ 4315'  
5-18 @ 4557'  
5-19 @ 4617'

API: 15-063-21988  
4 1/2" production casing run further test The Johnson Zone.  
Samples deposited at the Kansas Geological Survey.  
Respectfully Submitted,  
Adam M.A. Eldami

LEGEND

ANHYDRITE  
SANDSTONE  
SHALE  
CHALK  
LIMESTONE  
CHERT  
DOLERITE

DRILLING TIME IN MINUTES PER FOOT  
Rate of Penetration Increases



DEPTH 5" 10" 15" 20" 25"  
DRILLING TIME MINUTES/FOOT  
Rate of Penetration Increases

SAMPLE DESCRIPTIONS

REMARKS

COMPANY \_\_\_\_\_ ELEVATION: \_\_\_\_\_  
LEASE \_\_\_\_\_  
LOCATION \_\_\_\_\_ SEC. \_\_\_\_\_ TWP. \_\_\_\_\_ RGE. \_\_\_\_\_  
COUNTY \_\_\_\_\_ STATE \_\_\_\_\_