



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1092354  
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: \_\_\_\_\_

1092354

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 <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  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: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
---	--

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> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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**#1 Derstein 17A**

1925' FNL & 1730' FEL

55°N & 80°W of E/2 SW NE Section 17-28S-22W

Ford County, Kansas

API# 15-057-20781-0000

Sample Tops			Ref. Well
Anhydrite	1440'	+1003	-23
B/Anhydrite	1471'	+972	-12
Stotler	3568'	-1125	+9
Heebner	4232'	-1789	+15
Lansing	4374'	-1931	+17
Muncie Shale	4572'	-2129	+14
Stark	4710'	-2267	+13
Hush	4752'	-2309	+15
BKC	4795'	-2352	+16
Marmaton	4846'	-2403	+11
Pawnee	4921'	-2478	+14
Cherokee Shale	4970'	-2527	+13
Huck	5054'	-2611	+11
Atoka	5061'	-2618	+12
Mississippian	5084'	-2641	+5
RTD	5275'	-2832	

# ALLIED CEMENTING CO., LLC. 037971

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:  
*Medicine Lodge, KS*

DATE <i>5-11-2012</i>	SEC. <i>17</i>	TWP. <i>28S</i>	RANGE <i>22W</i>	CALLED OUT <i>1:30 pm</i>	ON LOCATION <i>4:30 pm</i>	JOB START <i>8:00 am</i>	JOB FINISH <i>9:00 am</i>
LEASE <i>Derrick</i> WELL <i>17A-1</i>			LOCATION <i>Ford, KS 1 1/2 south on</i>		COUNTY <i>Ford</i>	STATE <i>KS</i>	
OLD OR NEW (Circle one)			<i>old BlkTP, egg into</i>				

CONTRACTOR *Duke #10*

TYPE OF JOB *Surface*

HOLE SIZE *12 1/4* T.D. *347'*

CASING SIZE *8 5/8 24#* DEPTH *342*

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_

TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT *42'*

CEMENT LEFT IN CSG. \_\_\_\_\_

PERFS. \_\_\_\_\_

DISPLACEMENT *20 bbls of fresh water*

OWNER *Ritchie Exploration*

CEMENT

AMOUNT ORDERED *225sx C1988A + 3% bci*  
*2% Gel*

COMMON <i>C1988A 225s</i>	@ <i>16.25</i>	<i>3656.25</i>
POZMIX	@	
GEL <i>4sx</i>	@ <i>21.25</i>	<i>85.00</i>
CHLORIDE <i>8sx</i>	@ <i>58.20</i>	<i>465.60</i>
ASC	@	
	@	
	@	
	@	
	@	
	@	
	@	
	@	
HANDLING <i>237</i>	@ <i>2.25</i>	<i>533.25</i>
MILEAGE <i>237/11/40</i>		<i>1,042.80</i>
TOTAL		<i>5782.90</i>

EQUIPMENT

PUMP TRUCK CEMENTER *Darin E.*

# *548-545* HELPER *Derrick G.*

BULK TRUCK

# *470-528* DRIVER *Angel*

BULK TRUCK

# \_\_\_\_\_ DRIVER \_\_\_\_\_

REMARKS:

*Pipe on bottom & break Circulation*  
*Pump 3 bbls water ahead, mix 225sx*  
*of cement, shut down, Release plug*  
*start displacement, Pump bbls of*  
*fresh water, bump plug, shut in,*  
*Cement did circulate, Plus did not*  
*bump*

SERVICE

DEPTH OF JOB <i>342'</i>		
PUMP TRUCK CHARGE		<i>1125.00</i>
EXTRA FOOTAGE <i>42</i>	@ <i>0.95</i>	<i>39.90</i>
MILEAGE <i>40</i>	@ <i>7.00</i>	<i>280.00</i>
MANIFOLD <i>Head rental</i>	@	<i>200.00</i>
<i>Lt's + vehicle</i> <i>40</i>	@ <i>4.00</i>	<i>160.00</i>
	@	

CHARGE TO: *Ritchie Exploration*

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

TOTAL *1804.90*

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.

PLUG & FLOAT EQUIPMENT

<i>8 5/8</i>		
1- Rubber plug	@	<i>112.00</i>
1- Baffle plate	@	<i>112.00</i>
1- Basket	@	<i>478.00</i>
	@	
	@	
TOTAL		<i>702</i>

PRINTED NAME X *SCOTT EDWARDS*

SALES TAX (if Any) \_\_\_\_\_

TOTAL CHARGES *8,289.80*

DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

SIGNATURE X *Darin Edwards*

*Thank you!!!*

*Net # 616 31.84*

*A*

# ALLIED OIL & GAS SERVICES, LLC 053419

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:  
Liberal Ks.

DENSTON 17A1

DATE <u>05-23-12</u>	SEC. <u>17</u>	TWP. <u>18S</u>	RANGE <u>22W</u>	CALLED OUT	ON LOCATION	JOB START <u>11:30</u>	JOB FINISH <u>1:30 PM</u>
LEASE <u>Danstain</u>	WELL# <u>#1</u>	LOCATION <u>S. Ford Ks.</u>			COUNTY <u>Ford</u>	STATE <u>Ks.</u>	
OLD OR <u>(NEW)</u> (Circle one)							

CONTRACTOR Duke Rig 10 OWNER \_\_\_\_\_

TYPE OF JOB PTA

HOLE SIZE 7 7/8 TD. 1470 feet CEMENT \_\_\_\_\_

CASING SIZE 8 5/8 24# DEPTH 347 feet AMOUNT ORDERED 220sk 60/40 47.

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_ 62 1/4 Flo Seal.

DRILL PIPE 4 1/2 16.6# DEPTH 1470 feet

TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_ COMMON \_\_\_\_\_ @ \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_ POZMIX \_\_\_\_\_ @ \_\_\_\_\_

CEMENT LEFT IN CSG. 72.5 feet GEL \_\_\_\_\_ @ \_\_\_\_\_

PERFS. \_\_\_\_\_ CHLORIDE \_\_\_\_\_ @ \_\_\_\_\_

DISPLACEMENT 22.3 BB ASC \_\_\_\_\_ @ \_\_\_\_\_

EQUIPMENT

PUMP TRUCK CEMENTER Ruben Chavez, B. Ryan. Flo Seal 55# @ 2.70 148.50

# 549/550 HELPER Lenny Barry,

BULK TRUCK \_\_\_\_\_ @ \_\_\_\_\_

# 470/528 DRIVER Jose Gonzales.

BULK TRUCK \_\_\_\_\_ @ \_\_\_\_\_

# \_\_\_\_\_ DRIVER \_\_\_\_\_ @ \_\_\_\_\_

HANDLING 230 @ 2.25 517.50

MILEAGE 230x Mi .11 12.65.00

TOTAL 5121.00

**REMARKS:**

Mix + pump cement for 4 plugs  
1470' 5sk, 600' 5sk, 360' 5sk  
60' 20sk, Rat 30 sk, mouse 20sk  
1st plug displace with mud 14 BB with  
rig, next 3 with water.

Thank you.

**SERVICE**

DEPTH OF JOB \_\_\_\_\_ 1470 feet

PUMP TRUCK CHARGE \_\_\_\_\_ 12.50.00

EXTRA FOOTAGE \_\_\_\_\_ @ \_\_\_\_\_

MILEAGE Heavy Veh 80 @ 7.00 560.00

MANIFOLD \_\_\_\_\_ @ \_\_\_\_\_

Light Veh 80 @ 4.00 320.00

TOTAL 2130.00

CHARGE TO: Pritchie Exploration

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

**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 7251.00

PRINTED NAME SCOTT EDWARDS

DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

SIGNATURE Scott Edwards

*Handwritten mark*

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 15-057-20781-00-00  
Derstein 17A 1  
NE/4 Sec.17-28S-22W  
Ford 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



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Incorporated**

8400 East 22ND Street North #700  
PO Box 783188  
Wichita, Kansas 67278+3188

ATTN: Terry Mcleod

**Derstein 17A #1**

**17/28S/22W/Ford**

Start Date: 2012.05.20 @ 04:19:00

End Date: 2012.05.20 @ 12:05:00

Job Ticket #: 17639                      DST #: 1

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2012.05.20 @ 12:23:29



# DRILL STEM TEST REPORT

Ritchie Exploration Incorporated

17/28S/22W/Ford

8400 East 22ND Street North #700  
 PO Box 783188  
 Wichita, Kansas 67278+3188  
 ATTN: Terry Mcleod

Derstein 17A #1

Job Ticket: 17639

DST#: 1

Test Start: 2012.05.20 @ 04:19:00

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:27:30

Time Test Ended: 12:05:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 3325 Great Bend/172

Interval: **5058.00 ft (KB) To 5120.00 ft (KB) (TVD)**

Reference Elevations: 2443.00 ft (KB)

Total Depth: 5120.00 ft (KB) (TVD)

2432.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 6749

Inside

Press @ RunDepth: 64.14 psia @ 5115.86 ft (KB)

Capacity: 5000.00 psia

Start Date: 2012.05.20

End Date: 2012.05.20

Last Calib.: 2012.05.20

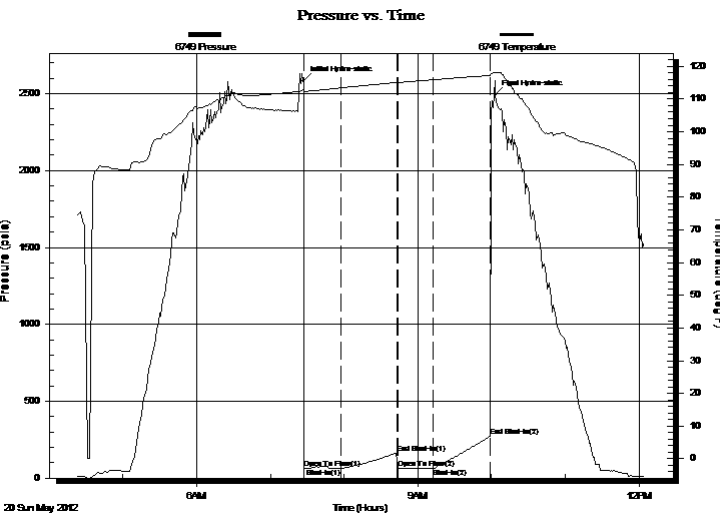
Start Time: 04:19:00

End Time: 12:05:00

Time On Btm: 2012.05.20 @ 07:27:00

Time Off Btm: 2012.05.20 @ 10:03:00

TEST COMMENT: 1ST Open 30 Minutes/Weak blow/Blow built to 3 inches in bucket of water  
 1ST Shut In 45 Minutes/No blow back  
 2ND Open 30 Minutes/Fair blow/Blow built to 9 inches in bucket of water  
 2ND Shut In 45 Minutes/No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2583.22	112.94	Initial Hydro-static
1	65.09	112.11	Open To Flow (1)
30	64.27	113.37	Shut-In(1)
76	164.64	115.03	End Shut-In(1)
77	62.88	115.03	Open To Flow (2)
105	64.14	115.88	Shut-In(2)
152	271.21	117.15	End Shut-In(2)
156	2494.28	118.07	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
25.00	Mud 100%	0.37

## Gas Rates

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





# DRILL STEM TEST REPORT

Ritchie Exploration Incorporated

17/28S/22W/Ford

8400 East 22ND Street North #700  
 PO Box 783188  
 Wichita, Kansas 67278+3188  
 ATTN: Terry Mcleod

Derstein 17A #1

Job Ticket: 17639

DST#: 1

Test Start: 2012.05.20 @ 04:19:00

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:27:30

Time Test Ended: 12:05:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 3325 Great Bend/172

Interval: **5058.00 ft (KB) To 5120.00 ft (KB) (TVD)**

Reference Elevations: 2443.00 ft (KB)

Total Depth: 5120.00 ft (KB) (TVD)

2432.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: **6999** Outside

Press @ RunDepth: 271.04 psia @ 5116.86 ft (KB)

Capacity: 5000.00 psia

Start Date: 2012.05.20

End Date: 2012.05.20

Last Calib.: 2012.05.20

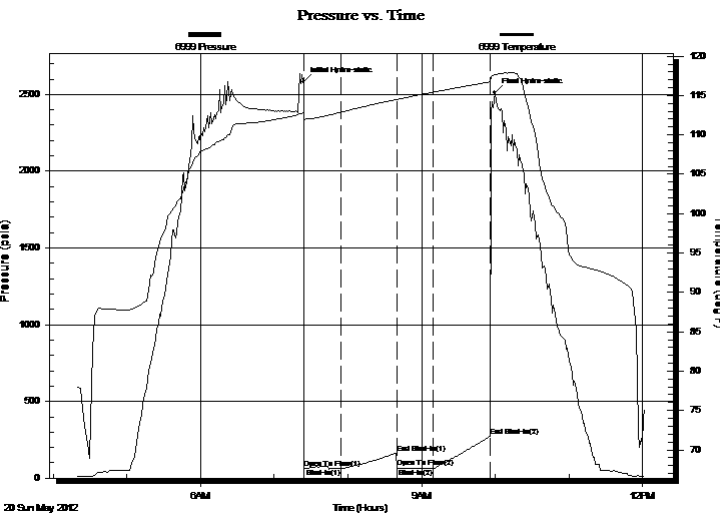
Start Time: 04:19:00

End Time: 12:02:00

Time On Btm: 2012.05.20 @ 07:24:00

Time Off Btm: 2012.05.20 @ 09:59:30

TEST COMMENT: 1ST Open 30 Minutes/Weak blow/Blow built to 3 inches in bucket of water  
 1ST Shut In 45 Minutes/No blow back  
 2ND Open 30 Minutes/Fair blow/Blow built to 9 inches in bucket of water  
 2ND Shut In 45 Minutes/No blow back



## PRESSURE SUMMARY

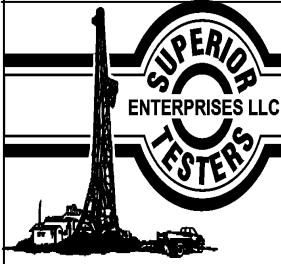
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2583.55	112.79	Initial Hydro-static
1	65.03	111.84	Open To Flow (1)
30	64.14	112.88	Shut-In(1)
76	164.77	114.53	End Shut-In(1)
76	67.59	114.50	Open To Flow (2)
105	64.07	115.41	Shut-In(2)
152	271.04	116.72	End Shut-In(2)
156	2512.22	117.71	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
25.00	Mud 100%	0.37

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration Incorporated

**17/28S/22W/Ford**

8400 East 22ND Street North #700  
 PO Box 783188  
 Wichita, Kansas 67278+3188  
 ATTN: Terry Mcleod

**Derstein 17A #1**

Job Ticket: 17639

**DST#: 1**

Test Start: 2012.05.20 @ 04:19:00

**Tool Information**

Drill Pipe:	Length: 5043.00 ft	Diameter: 3.88 inches	Volume: 73.75 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 84000.00 lb
			<u>Total Volume: 73.75 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 72000.00 lb
Depth to Top Packer:	5058.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	61.86 ft			
Tool Length:	83.86 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			5041.00	
Hydraulic Tool	5.00			5046.00	
Safety Joint	2.00			5048.00	
Packer	5.00			5053.00	22.00 Bottom Of Top Packer
Packer	5.00			5058.00	
Change Over Sub	0.75			5058.75	
Drill Pipe	31.36			5090.11	
Change Over Sub	0.75			5090.86	
Anchor	24.00			5114.86	
Recorder	1.00	6749	Inside	5115.86	
Recorder	1.00	6999	Outside	5116.86	
Bullnose	3.00			5119.86	61.86 Bottom Packers & Anchor

**Total Tool Length: 83.86**



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration Incorporated

**17/28S/22W/Ford**

8400 East 22ND Street North #700  
PO Box 783188  
Wichita, Kansas 67278+3188  
ATTN: Terry Mcleod

**Derstein 17A #1**

Job Ticket: 17639

**DST#: 1**

Test Start: 2012.05.20 @ 04:19:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 52.00 sec/qt  
Water Loss: 11.59 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 8700.00 ppm  
Filter Cake: 1.00 inches

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

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
25.00	Mud 100%	0.366

Total Length: 25.00 ft      Total Volume: 0.366 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 6749

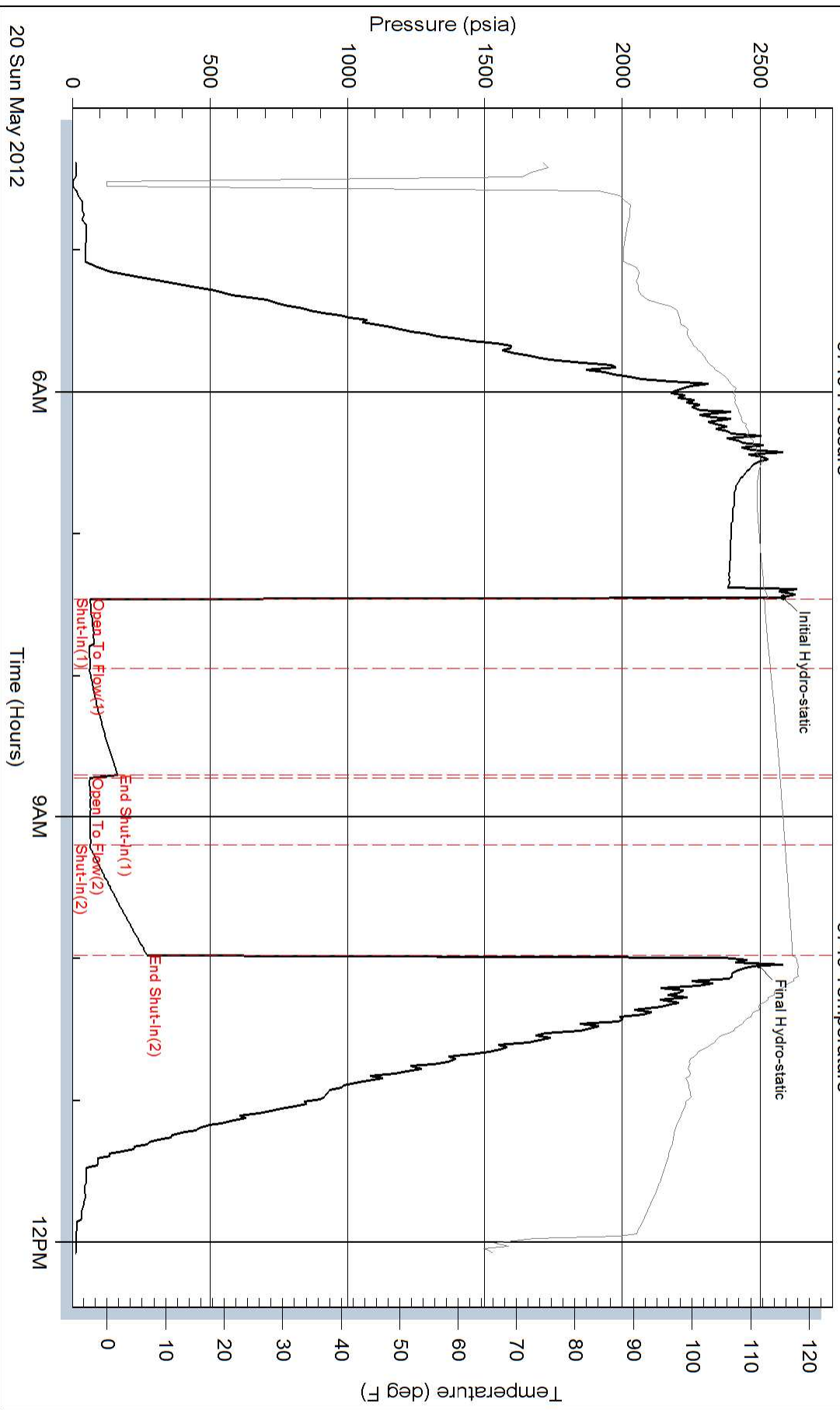
Inside

Ritchie Exploration Incorporated

Dersten 17A #1

DST Test Number: 1

### Pressure vs. Time



Superior Testers Enterprises LLC

Ref. No: 17639

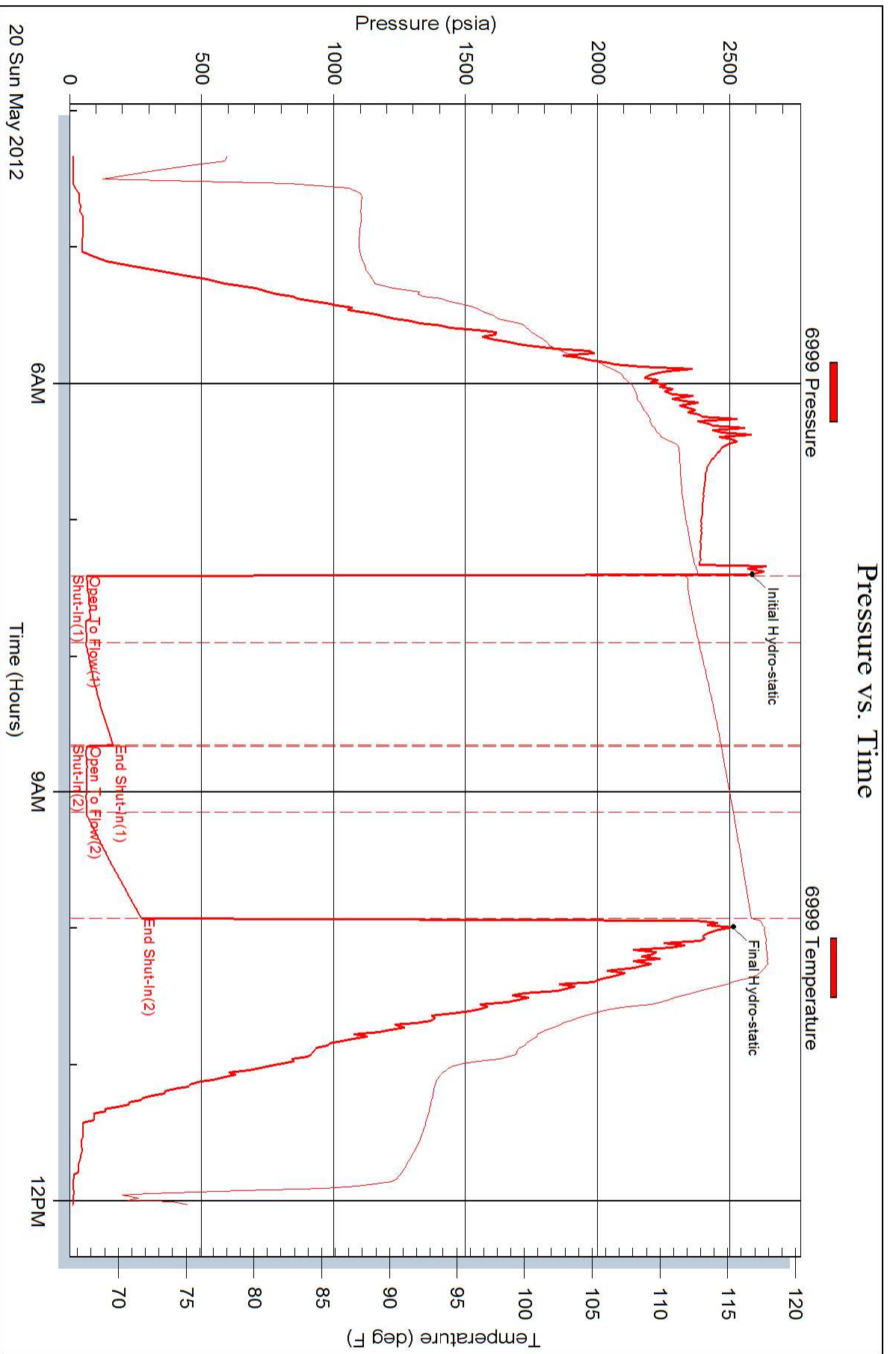
Printed: 2012.05.20 @ 12:23:30

Serial #: 6999

Outside Ritchie Exploration Incorporated

Dersten 17A #1

DST Test Number: 1



Superior Testers Enterprises LLC

Ref. No: 17639

Printed: 2012.05.20 @ 12:23:30



## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Incorporated**

8400 East 22ND Street North #700  
PO Box 783188  
Wichita, Kansas 67278+3188

ATTN: Terry Mcleod

**Derstein 17A #1**

**17/28S/22W/Ford**

Start Date: 2012.05.20 @ 22:29:00

End Date: 2012.05.21 @ 05:59:00

Job Ticket #: 17640                      DST #: 2

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2012.05.21 @ 06:19:11



# DRILL STEM TEST REPORT

Ritchie Exploration Incorporated

**17/28S/22W/Ford**

8400 East 22ND Street North #700  
 PO Box 783188  
 Wichita, Kansas 67278+3188  
 ATTN: Terry Mcleod

**Derstein 17A #1**

Job Ticket: 17640

**DST#: 2**

Test Start: 2012.05.20 @ 22:29:00

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:42:30

Time Test Ended: 05:59:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 3325 Great Bend/172

**Interval: 5118.00 ft (KB) To 5138.00 ft (KB) (TVD)**

Reference Elevations: 2443.00 ft (KB)

Total Depth: 5138.00 ft (KB) (TVD)

2432.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6749**

**Inside**

Press @ RunDepth: 61.36 psia @ 5134.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2012.05.20

End Date:

2012.05.21

Last Calib.:

2012.05.21

Start Time: 22:29:00

End Time:

05:59:00

Time On Btm:

2012.05.21 @ 00:40:30

Time Off Btm:

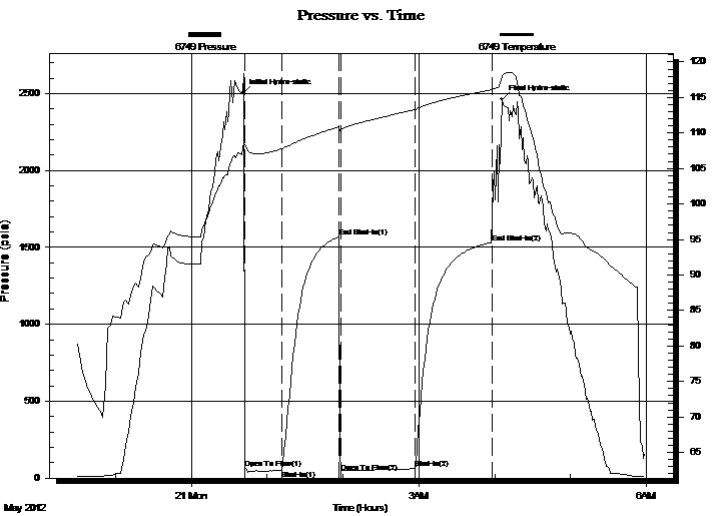
2012.05.21 @ 04:05:30

**TEST COMMENT:** 1ST Open 30 Minutes/Good blow/Blow to bottom of bucket in 10 minutes

1ST Shut In 45 Minutes/No blow back

2ND Open 60 Minutes/Strong blow/Blow to bottom of bucket in 30 seconds/Gas to surface in 7 minutes

2ND Shut In 60 Minutes/No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2500.74	107.88	Initial Hydro-static
2	60.79	108.36	Open To Flow (1)
31	48.72	107.76	Shut-In(1)
77	1568.98	110.86	End Shut-In(1)
78	39.17	110.54	Open To Flow (2)
137	61.36	113.31	Shut-In(2)
198	1531.89	116.09	End Shut-In(2)
205	2461.46	117.92	Final Hydro-static

## Recovery

## Gas Rates

Length (ft)	Description	Volume (bbl)
75.00	Slightly Gassy Watery Mud	1.10
0.00	Gas 5% Water 45% Mud 50%	0.00
0.00	Recovery Chlorides 55,000 ppm	0.00

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.25	8.64	13.71
Last Gas Rate	0.38	5.33	19.51
Max. Gas Rate	0.25	9.65	15.31



# DRILL STEM TEST REPORT

Ritchie Exploration Incorporated

17/28S/22W/Ford

8400 East 22ND Street North #700  
 PO Box 783188  
 Wichita, Kansas 67278+3188  
 ATTN: Terry Mcleod

Derstein 17A #1

Job Ticket: 17640

DST#: 2

Test Start: 2012.05.20 @ 22:29:00

## GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:42:30

Time Test Ended: 05:59:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 3325 Great Bend/172

Interval: **5118.00 ft (KB) To 5138.00 ft (KB) (TVD)**

Reference Elevations: 2443.00 ft (KB)

Total Depth: 5138.00 ft (KB) (TVD)

2432.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: **6999** Outside

Press @ RunDepth: 1532.28 psia @ 5135.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2012.05.20

End Date: 2012.05.21

Last Calib.: 2012.05.21

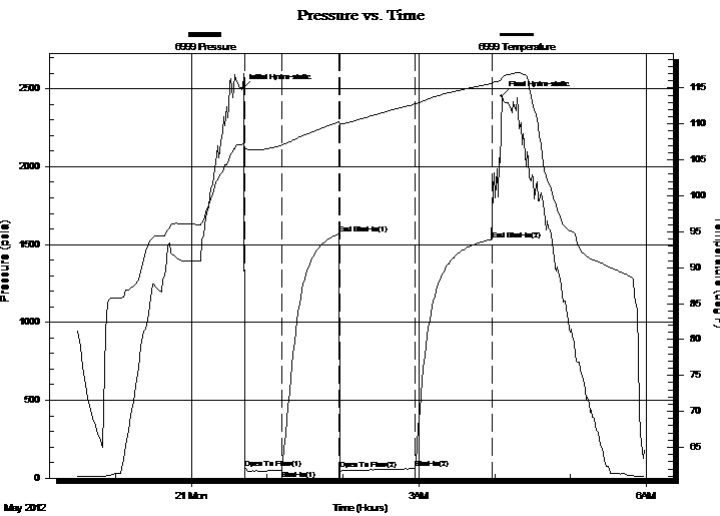
Start Time: 22:29:00

End Time: 05:59:00

Time On Btm: 2012.05.21 @ 00:40:30

Time Off Btm: 2012.05.21 @ 04:05:30

TEST COMMENT: 1ST Open 30 Minutes/Good blow/Blow to bottom of bucket in 10 minutes  
 1ST Shut In 45 Minutes/No blow back  
 2ND Open 60 Minutes/Strong blow/Blow to bottom of bucket in 30 seconds/Gas to surface in 7 minutes  
 2ND Shut In 60 Minutes/No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2498.13	107.25	Initial Hydro-static
2	60.01	106.56	Open To Flow (1)
31	48.77	107.05	Shut-In(1)
77	1569.44	110.29	End Shut-In(1)
77	55.65	109.85	Open To Flow (2)
137	61.50	112.78	Shut-In(2)
198	1532.28	115.63	End Shut-In(2)
205	2454.00	116.50	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
75.00	Slightly Gassy Watery Mud	1.10
0.00	Gas 5% Water 45% Mud 50%	0.00
0.00	Recovery Chlorides 55,000 ppm	0.00

## Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.25	8.64	13.71
Last Gas Rate	0.38	5.33	19.51
Max. Gas Rate	0.25	9.65	15.31





# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration Incorporated

**17/28S/22W/Ford**

8400 East 22ND Street North #700  
 PO Box 783188  
 Wichita, Kansas 67278+3188  
 ATTN: Terry Mcleod

**Derstein 17A #1**

Job Ticket: 17640

**DST#: 2**

Test Start: 2012.05.20 @ 22:29:00

## Tool Information

Drill Pipe:	Length: 5106.00 ft	Diameter: 3.88 inches	Volume: 74.67 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 120000.0 lb
			<u>Total Volume: 74.67 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 69500.00 lb
Depth to Top Packer:	5118.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	47.00 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			5096.00	
Hydraulic Tool	5.00			5101.00	
Jars	5.00			5106.00	
Safety Joint	2.00			5108.00	
Packer	5.00			5113.00	27.00 Bottom Of Top Packer
Packer	5.00			5118.00	
Anchor	15.00			5133.00	
Recorder	1.00	6749	Inside	5134.00	
Recorder	1.00	6999	Outside	5135.00	
Bullnose	3.00			5138.00	20.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>47.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration Incorporated

**17/28S/22W/Ford**

8400 East 22ND Street North #700  
PO Box 783188  
Wichita, Kansas 67278+3188  
ATTN: Terry Mcleod

**Derstein 17A #1**

Job Ticket: 17640

**DST#: 2**

Test Start: 2012.05.20 @ 22:29:00

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 60.00 sec/qt  
Water Loss: 14.39 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 10200.00 ppm  
Filter Cake: 1.00 inches

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

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
75.00	Sightly Gassy Watery Mud	1.097
0.00	Gas 5% Water 45% Mud 50%	0.000
0.00	Recovery Chlorides 55,000 ppm	0.000

Total Length: 75.00 ft      Total Volume: 1.097 bbl

Num Fluid Samples: 0

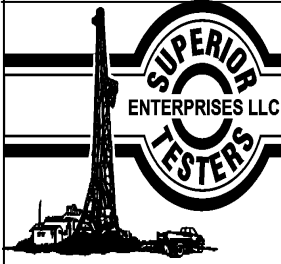
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



# DRILL STEM TEST REPORT

**GAS RATES**

Ritchie Exploration Incorporated

**17/28S/22W/Ford**

8400 East 22ND Street North #700  
PO Box 783188  
Wichita, Kansas 67278+3188  
ATTN: Terry Mcleod

**Derstein 17A #1**

Job Ticket: 17640

**DST#: 2**

Test Start: 2012.05.20 @ 22:29:00

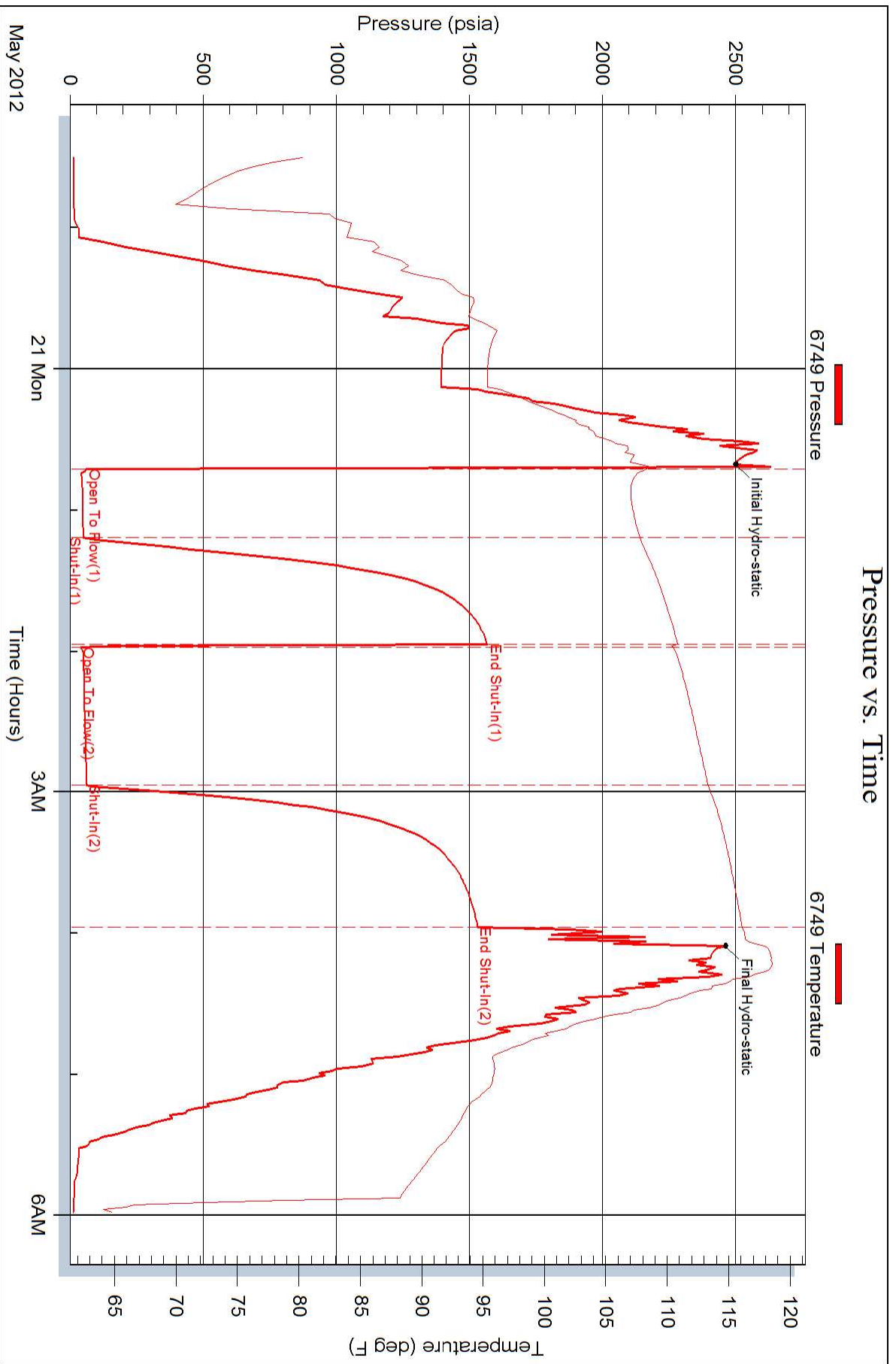
## Gas Rates Information

Temperature: 59 (deg F)  
Relative Density: 0.65  
Z Factor: 0.8

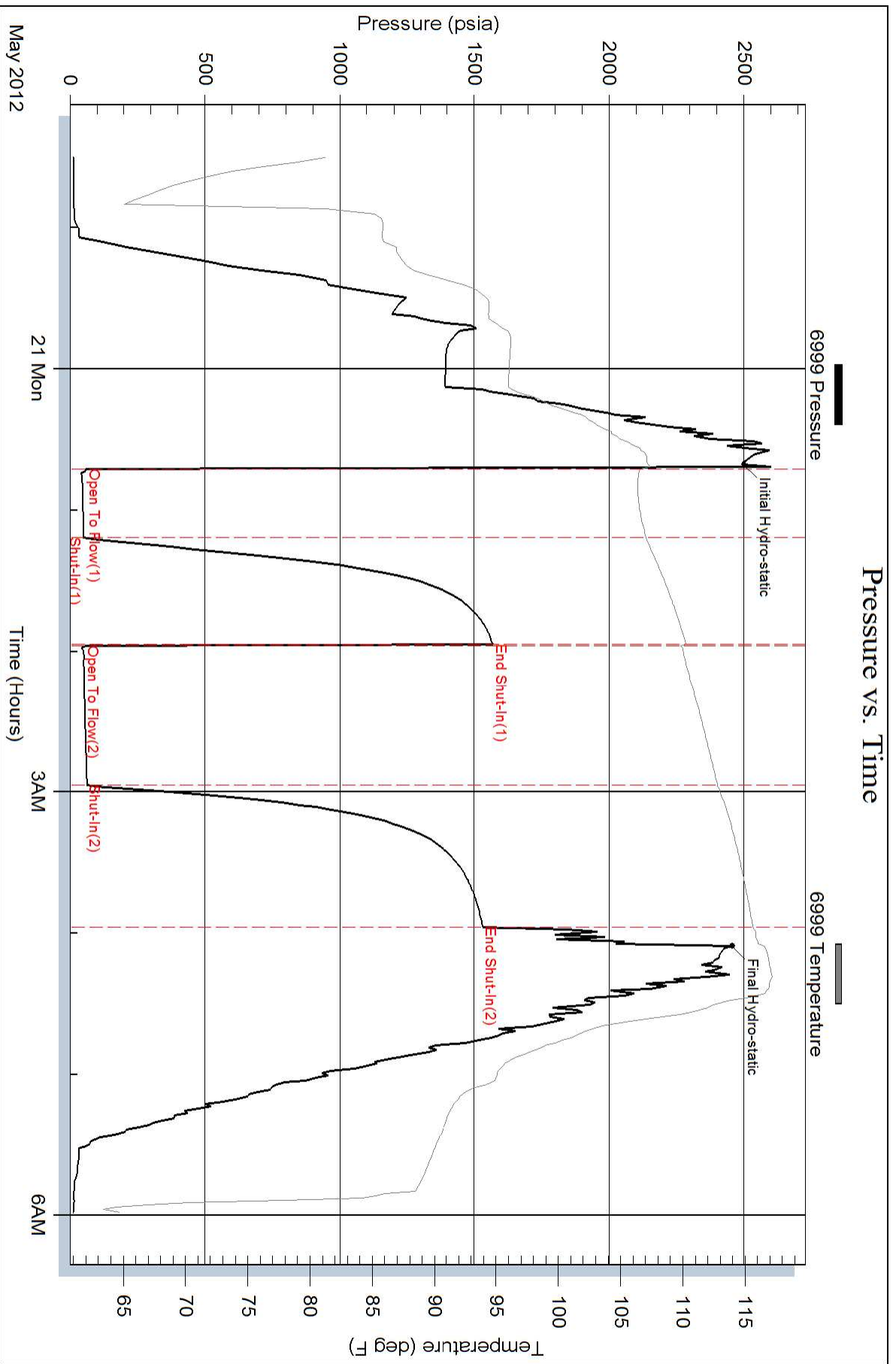
Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
2	7	0.25	8.64	13.71
2	7	0.25	8.64	13.71
2	10	0.25	9.65	15.31
2	20	0.38	6.36	23.31
2	30	0.38	5.57	20.40
2	40	0.38	5.49	20.10
2	50	0.38	5.33	19.51

### Pressure vs. Time



### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Incorporated**

8400 East 22ND Street North #700  
PO Box 783188  
Wichita, Kansas 67278+3188

ATTN: Terry Mcleod

**Derstein 17A #1**

**17/28S/22W/Ford**

Start Date: 2012.05.21 @ 23:10:27

End Date: 2012.05.22 @ 08:22:57

Job Ticket #: 17641                      DST #: 3

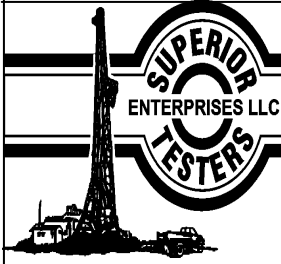
Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2012.05.21 @ 23:29:40









# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Ritchie Exploration Incorporated

**17/28S/22W/Ford**

8400 East 22ND Street North #700  
 PO Box 783188  
 Wichita, Kansas 67278+3188  
 ATTN: Terry Mcleod

**Derstein 17A #1**

Job Ticket: 17641

**DST#: 3**

Test Start: 2012.05.21 @ 23:10:27

## Tool Information

Drill Pipe:	Length: 5112.00 ft	Diameter: 3.88 inches	Volume: 74.76 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 110000.0 lb
			<u>Total Volume: 74.76 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	1.00 ft			String Weight: Initial 77000.00 lb
Depth to Top Packer:	5138.00 ft			Final 79000.00 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: SLID TOOL TO BOTTOM 10 FEET

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			5116.00	
Hydraulic Tool	5.00			5121.00	
Jars	5.00			5126.00	
Safety Joint	2.00			5128.00	
Packer	5.00			5133.00	27.00 Bottom Of Top Packer
Packer	5.00			5138.00	
Anchor	14.00			5152.00	
Recorder	1.00	6999	Inside	5153.00	
Recorder	1.00	6749	Outside	5154.00	
Bullnose	3.00			5157.00	19.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>46.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

Ritchie Exploration Incorporated

17/28S/22W/Ford

8400 East 22ND Street North #700  
PO Box 783188  
Wichita, Kansas 67278+3188  
ATTN: Terry Mcleod

Derstein 17A #1

Job Ticket: 17641

DST#: 3

Test Start: 2012.05.21 @ 23:10:27

### Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 68.00 sec/qt  
Water Loss: 19.60 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 11400.00 ppm  
Filter Cake: inches

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

Oil API: deg API  
Water Salinity: ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	MUD WITH A TRACE OF WATER A GOOD SH	0.585
0.00	90%MUD 10% WATER	0.000
90.00	MUDDY WATER 40%MUD 60%WATER	1.316
90.00	WATER TRACE OF MUD 95%WATER 5%MUD	1.316

Total Length: 220.00 ft      Total Volume: 3.217 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

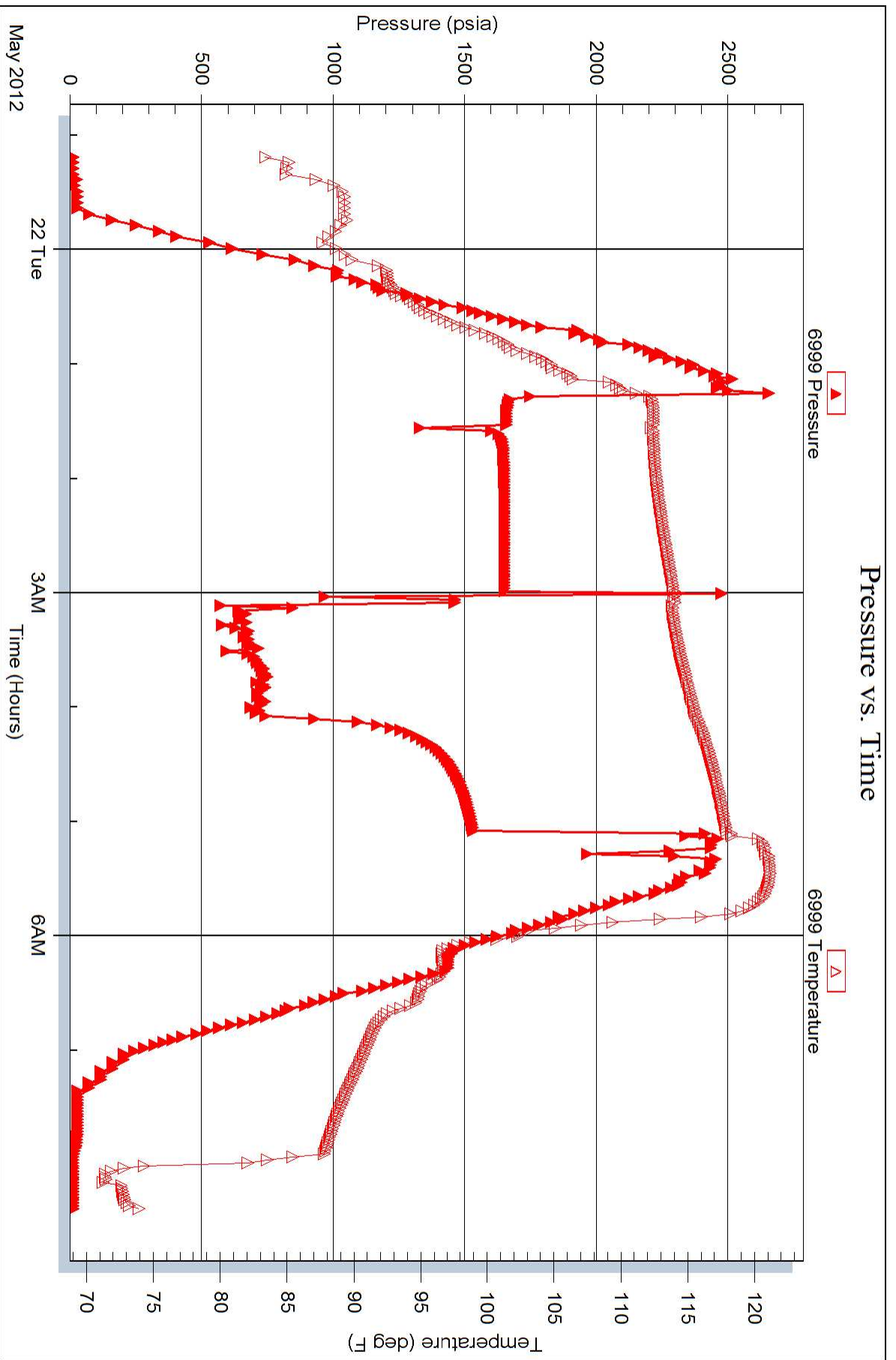
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Inside

Ritchie Exploration Incorporated

Dersten 17A #1

DST Test Number: 3



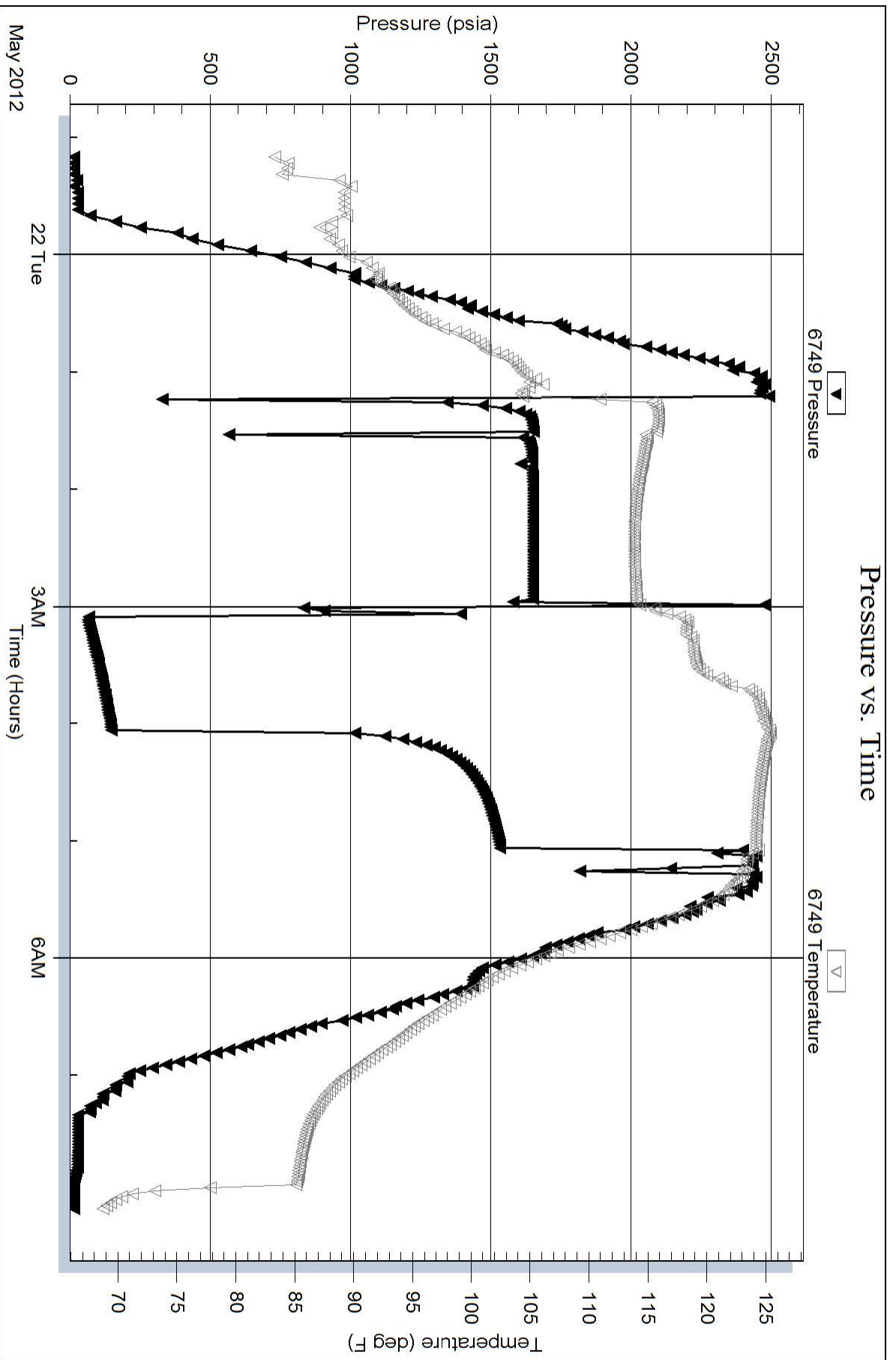
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Outside

Ritchie Exploration Incorporated

Dersten 17A #1

DST Test Number: 3



Superior Testers Enterprises LLC

Ref. No: 17641

Printed: 2012.05.21 @ 23:29:41

