

**CONFIDENTIAL**

**WELL COMPLETION FORM**  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

12/6/12

OPERATOR: License # 4767  
Name: Ritchie Exploration, Inc.  
Address 1: P.O. Box 783188  
Address 2: \_\_\_\_\_  
City: Wichita State: KS Zip: 67278 + 3118  
Contact Person: John Niernberger  
Phone: (316) 691-9500 **KCC**  
CONTRACTOR: License # 30606 **DEC 06 2010**  
Name: Murfin Drilling, Co., Inc.  
Wellsite Geologist: Mike Engelbrecht **CONFIDENTIAL**  
Purchaser: NCRA

Designate Type of Completion:  
 New Well  Re-Entry  Workover  
 Oil  SWD  SLOW  
 Gas  ENHR  SIGW  
 CM (Coal Bed Methane)  Temp. Abd.  
 Dry  Other \_\_\_\_\_  
*(Core, WSW, Expl., Cathodic, etc.)*

If Workover/Re-entry: Old Well Info as follows:  
Operator: \_\_\_\_\_  
Well Name: \_\_\_\_\_  
Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_  
 Deepening  Re-perf.  Conv. to Enhr.  Conv. to SWD  
 Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_  
 Commingled Docket No.: \_\_\_\_\_  
 Dual Completion Docket No.: \_\_\_\_\_  
 Other (SWD or Enhr.?) Docket No.: \_\_\_\_\_  
8/18/10 8/31/10 8/31/10 9/3/10  
Spud Date or Recompletion Date Date Reached TD Completion Date or Recompletion Date

API No. 15 - 063-21857-0000  
Spot Description: 30' N & 70' E of  
W/2 NW SW Sec. 30 Twp. 13 S. R. 31  East  West  
2010 Feet from  North /  South Line of Section  
400 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE  NW  SE  SW  
County: Gove  
Lease Name: Stieben 30BC Well #: 1  
Field Name: \_\_\_\_\_  
Producing Formation: LKC & Johnson  
Elevation: Ground: 2909 Kelly Bushing: 2919  
Total Depth: 4605 Plug Back Total Depth: 4576  
Amount of Surface Pipe Set and Cemented at: 217 Feet  
Multiple Stage Cementing Collar Used?  Yes  No  
If yes, show depth set: 2370 Feet  
If Alternate II completion, cement circulated from: surface  
feet depth to: 2370 w/ 255 sx cmt.

**Drilling Fluid Management Plan**  
*(Data must be collected from the Reserve Pit)*  
Chloride content: 8700 ppm Fluid volume: 1000 bbls  
Dewatering method used: evaporation  
Location of fluid disposal if hauled offsite: \_\_\_\_\_  
Operator Name: \_\_\_\_\_  
Lease Name: \_\_\_\_\_ License No.: \_\_\_\_\_  
Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West  
County: \_\_\_\_\_ Docket No.: \_\_\_\_\_

**INSTRUCTIONS:** An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information of side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.


All requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature: \_\_\_\_\_  
Title: Production Manager Date: 12/6/10  
Subscribed and sworn to before me this 6<sup>th</sup> day of December,  
20 10.  
Notary Public: Debra K Phillips  
Date Commission Expires: 5-4-11

**KCC Office Use ONLY**

Letter of Confidentiality Received 12/6/10 - 12/6/12  
If Denied, Yes  Date: \_\_\_\_\_  
 Wireline Log Received  
 Geologist Report Received  
 UIC Distribution

**RECEIVED**  
**DEC 08 2010**

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

**KCC WICHITA**

Operator Name: Ritchie Exploration, Inc. Lease Name: Stieben 30BC Well #: 1  
 Sec. 30 Twp. 13 S. R. 31  East  West County: Gove

**INSTRUCTIONS:** Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed. Attach copy of all Electric Wireline Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Submit Copy)</i>  List All E. Logs Run: <b>Dual Induction Log</b> <b>Compensated Density/Neutron Log</b>	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input checked="" type="checkbox"/> Sample Name Top Datum  SEE ATTACHED  <div style="text-align: right; font-weight: bold; font-size: 1.2em;">                     DEC 06 2010                      CONFIDENTIAL                 </div>
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CASING RECORD <input checked="" type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12-1/4	8-5/8	23	217	common	175	3%cc, 2%gel
Production	7-7/8	5-1/2	15.5	4603	ASC	200	10% salt, 2% gel & 3/4% CD-31

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
4	4506.5' - 4512' (9/27/10)	500 gallons 15% NE	
4	4104' - 4108' (9/27/10)	500 gallons 15% NE	

TUBING RECORD: Size: <u>2-7/8</u> Set At: <u>4542</u> Packer At:		Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Date of First, Resumed Production, SWD or Enhr. <u>10/4/10</u>	Producing Method: <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain)	
Estimated Production Per 24 Hours	Oil Bbls. <u>52</u>	Gas Mcf <u>7</u> Water Bbls. <u>7</u> Gas-Oil Ratio <u>38</u> Gravity <u>38</u>

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(if vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: <div style="text-align: right; font-weight: bold; font-size: 1.2em;">                     RECEIVED                      DEC 08 2010                 </div>
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# RITCHIE

EXPLORATION, INC.  
Wichita, Kansas

## #1 Stieben 30BC

2010' FSL & 400' FWL

30' N & 70' E of W/2 NW SW Section 30-13S-31W

Gove County, Kansas

API# 15-063-21857-0000

Elevation: GL: 2909', KB: 2919'

Sample Tops			Ref. Well
Anhydrite	2397'	+522	-2
B/Anhydrite	2419'	+500	-1
Heebner	3896'	-977	+2
Lansing	3940'	-1021	+3
Lansing "C"	3976'	-1057	+4
Lansing "D"	3994'	-1075	+2
Lansing "E"	4016'	-1097	+2
Muncie Shale	4088'	-1169	+8
Lansing "H"	4106'	-1187	+6
Lansing "I"	4138'	-1219	+5
Lansing "J"	4156'	-1237	+9
Lansing "K"	4184'	-1265	+11
Lansing "L"	4224'	-1305	+10
BKC	4255'	-1336	+13
Marmaton	4276'	-1357	+10
Altamont	4324'	-1405	+12
Pawnee	4371'	-1452	+14
Myric Station	4410'	-1491	+13
Fort Scott	4428'	-1509	+13
Cherokee Shale	4461'	-1542	+9
Johnson	4503'	-1584	+9
B/Johnson	4528'	-1609	+8
Morrow Sand	Absent		
Mississippian	4537'	-1618	+44
RTD	4605'	-1686	

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KCC WICHITA

# ALLIED CEMENTING CO., LLC. 038979

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

SERVICE POINT:  
Oakley  
8-19-10

DATE <u>8-18-10</u>	SEC <u>8</u>	TWP. <u>13</u>	RANGE <u>31W</u>	CALLED OUT	ON LOCATION <u>3:30pm</u>	JOB START <u>2:00am</u>	JOB FINISH <u>2:30am</u>
LEASE # <u>41060030</u>	WELL # <u>30-BC</u>	LOCATION <u>Oakley 205.2E - 4112 W</u>			COUNTY <u>Goose</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one) <u>NEW</u>							

CONTRACTOR MURPHY #14  
 TYPE OF JOB SURFACE  
 HOLE SIZE 12 1/4 I.D. 220'  
 CASING SIZE 8 5/8 DEPTH 217'  
 TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_  
 PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_  
 MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_  
 CEMENT LEFT IN CSG. 15'  
 PERFS. \_\_\_\_\_  
 DISPLACEMENT 12.8

OWNER \_\_\_\_\_  
 CEMENT AMOUNT ORDERED 175 row 390cc  
290 gal

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EQUIPMENT  
 PUMP TRUCK CEMENTER Fuzzie  
 # 431 HELPER Kelly  
 BULK TRUCK  
 # 347 DRIVER Darrin  
 BULK TRUCK  
 # \_\_\_\_\_ DRIVER \_\_\_\_\_

COMMON 175 @ 15.45 2703.75  
 POZMIX \_\_\_\_\_ @ \_\_\_\_\_  
 GEL 3 @ 20.00 60.00  
 CHLORIDE 6 @ 58.20 349.20  
 ASC \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 HANDLING 184 @ 2.40 441.60  
 MILEAGE 107.5 km @ 3.30 354.75  
 TOTAL 3924.95

REMARKS:  
cement did circulate  
Approx 5 BHs  
Job complete @ 2:30am  
Trucks Fuzzie + crew

SERVICE  
 DEPTH OF JOB 217'  
 PUMP TRUCK CHARGE 1018.00  
 EXTRA FOOTAGE \_\_\_\_\_ @ \_\_\_\_\_  
 MILEAGE 20 @ 7.00 140.00  
 MANIFOLD \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_

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

TOTAL 1158.00

PLUG & FLOAT EQUIPMENT  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 TOTAL \_\_\_\_\_

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.

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

PRINTED NAME Craig Church  
 SIGNATURE Craig Church

*[Handwritten initials]*

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 KCC WICHITA

# ALLIED CEMENTING CO., LLC. 038997

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

SERVICE POINT:  
OAKLEY

DATE <u>9-3-10</u>	SEC. <u>30</u>	TWP. <u>13</u>	RANGE <u>31</u>	CALLED OUT	ON LOCATION <u>9:30am</u>	JOB START <u>1:00pm</u>	JOB FINISH <u>1:30pm</u>
LEASE <u>30 B.C.</u>	WELL# <u>21</u>	LOCATION <u>Oakley 205-26-4 1/2 W</u>			COUNTY <u>Grant</u>	STATE <u>Ks</u>	<b>KCC</b>
OLD OR NEW (circle one)							

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CONTRACTOR Express Well Service OWNER

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TYPE OF JOB Port Collar

HOLE SIZE \_\_\_\_\_ T.D. \_\_\_\_\_

CASING SIZE 5 1/2 DEPTH \_\_\_\_\_

TUBING SIZE 2 7/8 DEPTH 2370'

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

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

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

MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_

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

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

DISPLACEMENT 13.7

**EQUIPMENT**

PUMP TRUCK CEMENTER Fuzzy

# 423 HELPER La Bone

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

# 294 DRIVER Jerry

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

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

**CEMENT**

AMOUNT ORDERED 400 Lbs = 114 lbs local

(used 255)

500+ hulls (used 150)

COMMON \_\_\_\_\_ @ \_\_\_\_\_

POZMIX \_\_\_\_\_ @ \_\_\_\_\_

GEL \_\_\_\_\_ @ \_\_\_\_\_

CHLORIDE \_\_\_\_\_ @ \_\_\_\_\_

ASC \_\_\_\_\_ @ \_\_\_\_\_

Lite 255 @ 14.00 3582.50

Closeal 56 @ 2.20 140.00

hulls 3 @ 31.25 95.25

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

HANDLING 432 @ 2.40 1036.80

MILEAGE 110.45 km @ 8.64 964.00

TOTAL 5719.10

**REMARKS:**

Test closeal tool @ 1200'. Open tool  
got etc. mix 255 lbs cement w/ 150 hulls  
Displace 13 1/4 BBL. Close tool  
repressure to 1200' Rows Jts  
reverse lbs clean. Job  
complete @ 1:30pm

THANKS Fuzzy & crew

**SERVICE**

DEPTH OF JOB 2370'

PUMP TRUCK CHARGE 1185.00

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

MILEAGE 20 @ 7.00 140.00

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

\_\_\_\_\_ @ \_\_\_\_\_

\_\_\_\_\_ @ \_\_\_\_\_

TOTAL 1325.00

CHARGE TO: Recher Exploration

STREET \_\_\_\_\_

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

**PLUG & FLOAT EQUIPMENT**

To Allied Cementing Co., LLC.

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PRINTED NAME \_\_\_\_\_

SIGNATURE Thomas A. Ad...

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES \_\_\_\_\_

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

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# ALLIED CEMENTING CO., LLC. 035447

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

SERVICE POINT:  
Packley, KS  
9/1/10

DATE <u>8/11/10</u>	SEC. <u>30</u>	TWP. <u>13</u>	RANGE <u>31</u>	CALLED OUT	ON LOCATION	JOB START <u>10:00am</u>	JOB FINISH <u>11:00am</u>
STEIBEN LEASE <u>30BC</u>	WELL# <u>1</u>	LOCATION <u>Packley 20 S 2 E 5 1/4 N</u>	COUNTY <u>Cove</u>	STATE <u>KS</u>			
OLD OR NEW (Circle one) <u>NEW</u>			<u>Kinto</u>				

CONTRACTOR Muffin 14

TYPE OF JOB Production

HOLE SIZE 7 1/8 T.D.

CASING SIZE 5 1/2 DEPTH 4603

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL Port Collar DEPTH 2370

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT 2.0

CEMENT LEFT IN CSG.

PERFS.

DISPLACEMENT 109 BBL 4/20

EQUIPMENT

PUMP TRUCK CEMENTER Alan

# 422 HELPER Wayne

BULK TRUCK

# 247 DRIVER Wil

BULK TRUCK

# DRIVER

OWNER Same

CEMENT

AMOUNT ORDERED 250 SK, ASC 10706.27

270 gal 5# Gilsomite

500 gal WFR II

COMMON @

POZMIX @

GEL 5 @ 20.00 104.00

CHLORIDE @

ASC 250 SKS @ 18.60 4650.00

314-190 CDH 176lb @ 9.35 1645.60

Salt 28 Salt @ 23.25 670.60

Gilsomite 120lb @ .89 112.20

500 Gal WFR II @ 1.22 635.00

HANDLING 311 @ 2.42 746.40

MILEAGE 104 SK/mile @ 6.22 622.00

TOTAL 10986.10

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REMARKS:

Run 5 1/2" Cas, Circulate, Mix 500 gal WFR II,  
Mix 30SK, 20SK, Mauge 40c, Mix 200 SK,  
ASC down 5 1/2 Cas, Right Plug w/ 109 BBL @  
w/ 700lb GFT, Land Plug @ 1600 PSI  
Insert 1' held.

Thrust 400 Along Wayne, Wil

SERVICE

DEPTH OF JOB

PUMP TRUCK CHARGE 2511.00

EXTRA FOOTAGE @

MILEAGE 20 Miles @ 7.00 1400.00

MANIFOLD @

TOTAL 2151.00

CHARGE TO: Ritchie Exp

STREET

CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

AFU Insert	-1		112.00
Guide Shoe	-1	@	101.00
Basket	-1	@	186.00
Basket	3	@	161.00
Port Collar	-1	@	1750.00
Turbo Lizers	-8	@	336.00
Plug	-1		87.00
TOTAL			3055.00

To Allied Cementing Co., LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Thomas A Atkins

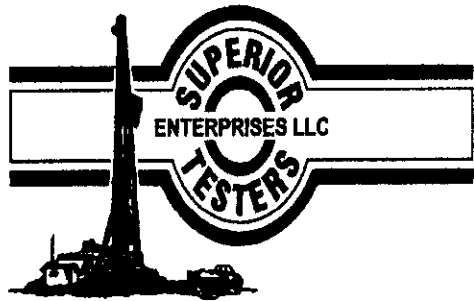
SIGNATURE Thomas A Atkins

SALES TAX (If Any)

TOTAL CHARGES

DISCOUNT IF PAID IN 30 DAYS

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## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION**

8100 E 22ND ST N #700 WICHITA KS  
67278+3188

ATTN: MIKE ENGELBRECHT

**30-13-31W GOVE**

**STIEBEN #1 30BC**

Start Date: 2010.08.22 @ 11:09:00

End Date: 2010.08.22 @ 18:00:30

Job Ticket #: 15917                      DST #: 1

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

Printed 2010.08.22 @ 19:57:38

RITCHIE EXPLORATION    STIEBEN #1 30BC    30-13-31W GOVE    DST # 1    LANSING    2010.08.22



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15917

DST#: 1

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.22 @ 11:09:00

## GENERAL INFORMATION:

Formation: **LANSING**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:16:30

Time Test Ended: 18:00:30

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-SCOTT CITY -95

Interval: 3932.00 ft (KB) To 3957.00 ft (KB) (TVD)

Total Depth: 3957.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2919.00 ft (KB)

2912.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8405

Inside

Press@RunDepth: 103.46 psia @ 3953.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.22

End Date:

2010.08.22

Last Calib.:

2010.08.22

Start Time: 11:11:00

End Time:

18:00:30

Time On Btm:

2010.08.22 @ 13:15:30

Time Off Btm:

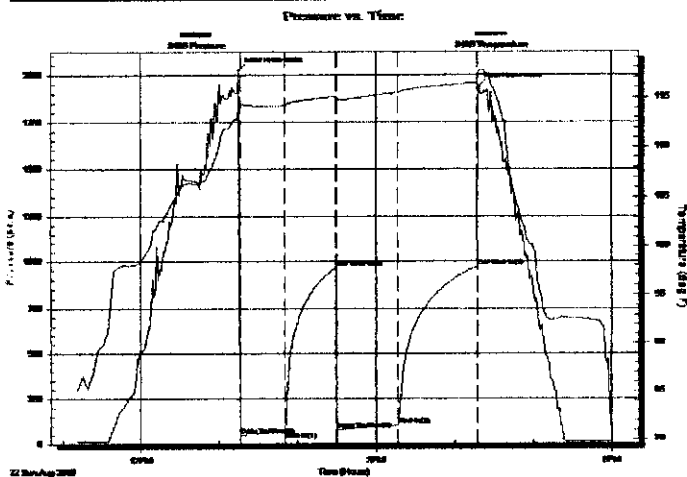
2010.08.22 @ 16:18:30

TEST COMMENT: 30/INITIAL OPEN:WEAK BUILDING BLOW BUILT 3 INCHES INTO WATER IN 30 MINUTES

45/INITIAL SHUT IN:NO BLOW BACK

45/FINAL OPEN:WEAK SURGE DID NOT BUILD

60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2021.81	114.23	Initial Hydro-static
1	48.49	114.30	Open To Flow (1)
35	68.89	114.22	Shut-In(1)
75	965.09	115.14	End Shut-In(1)
75	77.23	114.58	Open To Flow (2)
122	103.46	115.49	Shut-In(2)
182	971.55	116.47	End Shut-In(2)
183	1934.34	117.53	Final Hydro-static

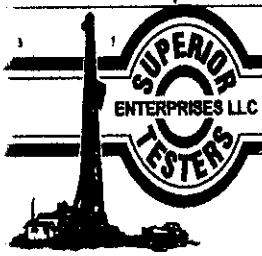
## Recovery

Length (ft)	Description	Volume (bbl)
30.00	SLIGHTLEY OIL CUT WATERY MUD	0.15
0.00	10%OIL 40%WATER 50%MUD	0.00
95.00	WATERY MUD	0.47
0.00	20%WATER 80%MUD	0.00
0.00	CHLORIDES 40,000	0.00

## Gas Rates

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





# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHEE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15917

DST#: 1

ATTN: MIKE ENGELBRECHT

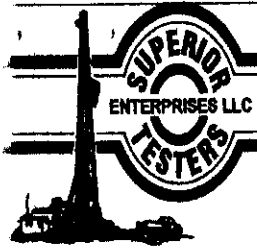
Test Start: 2010.08.22 @ 11:09:00

## Tool Information

Drill Pipe:	Length: 3347.00 ft	Diameter: 3.80 inches	Volume: 46.95 bbl	Tool Weight:	1000.00 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: 580.00 ft	Diameter: 2.25 inches	Volume: 2.85 bbl	Weight to Pull Loose:	87000.00 lb
			<u>Total Volume: 49.80 bbl</u>	Tool Chased	3.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	79000.00 lb
Depth to Top Packer:	3932.00 ft			Final	79000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	25.00 ft				
Tool Length:	54.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments: JARS SAFTEY JOINT FIRST TEST ONLY/TOOL CHASED 3 FEET TO BOTTOM

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3904.00	
Shut-In Tool	5.00			3909.00	
Hydraulic Tool	5.00			3914.00	
Jars	6.00			3920.00	
Safety Joint	2.00			3922.00	
Packer	5.00			3927.00	29.00 Bottom Of Top Packer
Packer	5.00			3932.00	
Perforations	20.00			3952.00	
Recorder	1.00	8405	Inside	3953.00	
Recorder	1.00	8525	Outside	3954.00	
Bullnose	3.00			3957.00	25.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>54.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15917

DST#: 1

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.22 @ 11:09:00

### Mud and Cushion Information

Mud Type: Gel Chem  
 Mud Weight: 9.00 lb/gal  
 Viscosity: 54.00 sec/qt  
 Water Loss: 7.20 in<sup>3</sup>  
 Resistivity: 0.10 ohm.m  
 Salinity: 3000.00 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
30.00	SLIGHTLEY OIL CUT WATERY MUD	0.148
0.00	10%OIL 40%WATER 50%MUD	0.000
95.00	WATERY MUD	0.467
0.00	20%WATER 80%MUD	0.000
0.00	CHLORIDES 40,000	0.000

Total Length: 125.00 ft      Total Volume: 0.615 bbl

Num Fluid Samples: 0

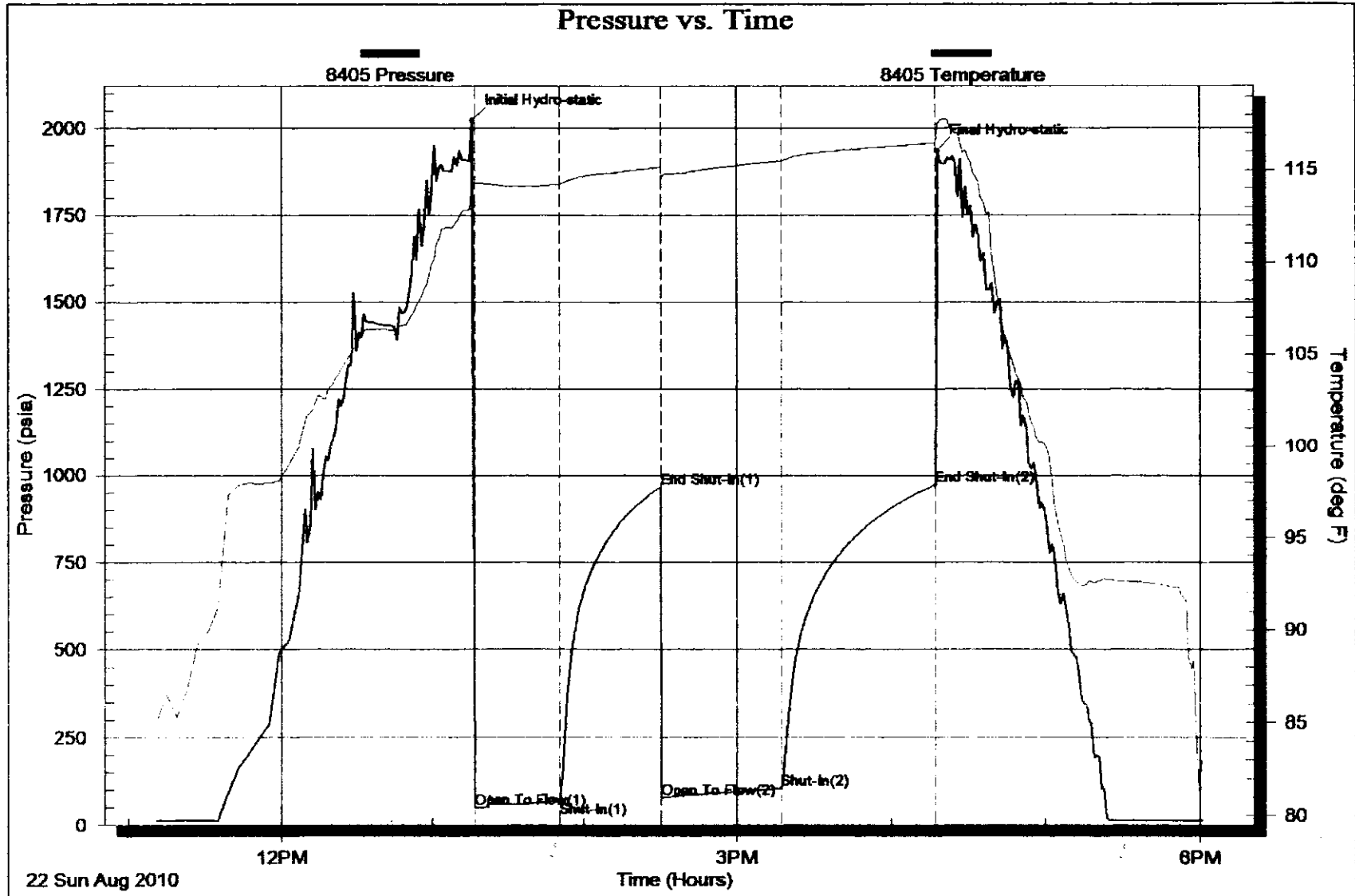
Num Gas Bombs: 0

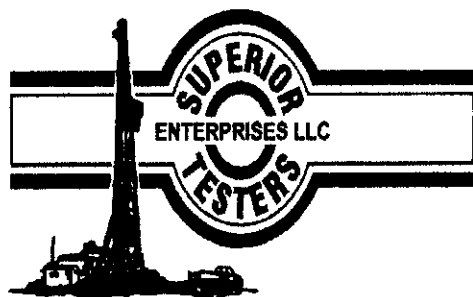
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: TOOL CHASED 3 FEET TO BOTTOM / JARS+ SAFTEY JOINT ON FIRST TEST ONLY CHLORIDES 40,000





## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION**

8100 E 22ND ST N #700 WICHITA KS  
67278+3188

ATTN: MIKE ENGELBRECHT

**30-13-31W GOVE**

**STIEBEN #1 30BC**

Start Date: 2010.08.23 @ 00:50:00

End Date: 2010.08.23 @ 08:31:30

Job Ticket #: 15918                      DST #: 2

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

Printed: 2010.08.23 @ 09:20:06

RITCHIE EXPLORATION

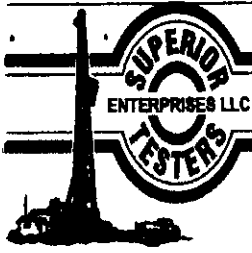
STIEBEN #1 30BC

30-13-31W GOVE

DST # 2

LANSING C

2010.08.23



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15918

DST#: 2

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.23 @ 00:50:00

## GENERAL INFORMATION:

Formation: **LANSING C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:01:30

Time Test Ended: 08:31:30

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-SCOTT CITY-95

Interval: 3965.00 ft (KB) To 3990.00 ft (KB) (TVD)

Total Depth: 3990.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2919.00 ft (KB)

2912.00 ft (CF)

KB to GR/CF: 7.00 ft

## Serial #: 8405

## Inside

Press@RunDepth: 365.21 psia @ 3986.00 ft (KB)

Start Date: 2010.08.23

Start Time: 00:50:00

End Date: 2010.08.23

End Time: 08:31:30

Capacity: 5000.00 psia

Last Calib.: 2010.08.23

Time On Btm: 2010.08.23 @ 03:00:30

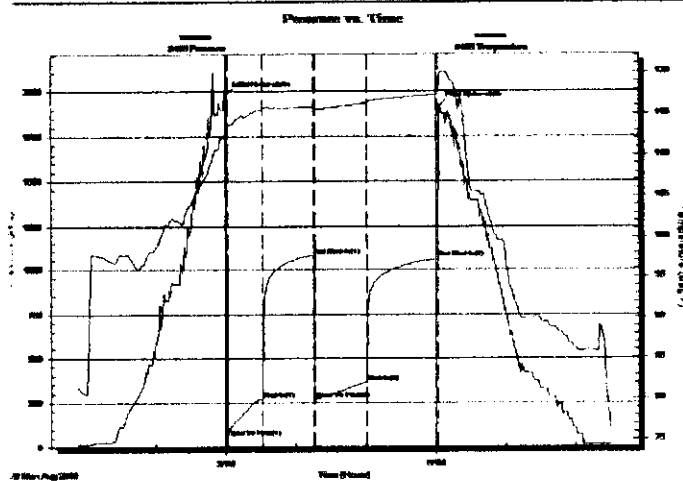
Time Off Btm: 2010.08.23 @ 06:03:00

TEST COMMENT: 30/INITIAL OPEN:STRONG BLOW BUILT BOTTOM OF BUCKET IN 8 MINUTES

45/INITIAL SHUT IN:NO BLOW BACK

45/FINAL OPEN:FAIR BLOW BUILT BOTTOM OF BUCKET IN 11 MINUTES

60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

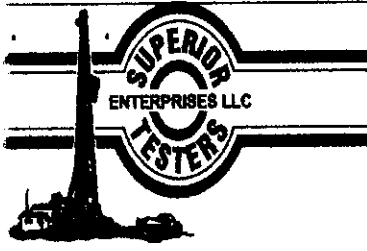
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1982.00	113.46	Initial Hydro-static
1	57.79	113.24	Open To Flow (1)
31	269.71	115.49	Shut-In(1)
75	1078.63	115.86	End Shut-In(1)
77	269.83	115.57	Open To Flow (2)
120	365.21	116.27	Shut-In(2)
181	1057.96	117.30	End Shut-In(2)
183	1919.09	120.00	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
305.00	CLEAN GASSY OIL 20%GAS 80%OIL	1.50
186.00	GASSY MUDDY OIL	0.91
0.00	13%GAS 35%MUD 45%OIL 7%WATER	0.00
186.00	slightly muddy & water cut oil	1.80
0.00	10%gas 60%oil 20%mud 10%water	0.00
186.00	Slightly oil cut muddy water	2.61

## Gas Rates

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



# DRILL STEM TEST REPORT

RITCHIE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15918

DST#: 2

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.23 @ 00:50:00

## GENERAL INFORMATION:

Formation: **LANSING C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:01:30

Time Test Ended: 08:31:30

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-SCOTT CITY-95

Interval: **3965.00 ft (KB) To 3990.00 ft (KB) (TVD)**

Total Depth: 3990.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2919.00 ft (KB)

2912.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **8525**

Outside

Press@RunDepth: 1057.46 psia @ 3987.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.23

End Date:

2010.08.23

Last Calib.:

2010.08.23

Start Time: 00:50:00

End Time:

08:31:30

Time On Btm:

2010.08.23 @ 03:00:00

Time Off Btm:

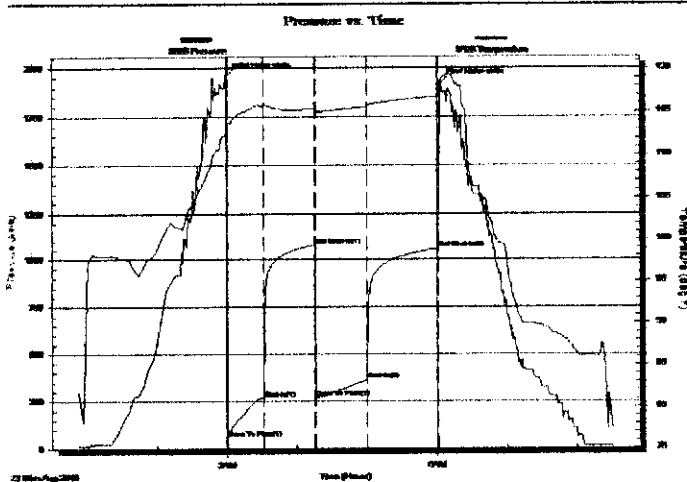
2010.08.23 @ 06:03:00

TEST COMMENT: 30/INITIAL OPEN:STRONG BLOW BUILT BOTTOM OF BUCKET IN 8 MINUTES

45/INITIAL SHUT IN:NO BLOW BACK

45/FINAL OPEN:FAIR BLOW BUILT BOTTOM OF BUCKET IN 11 MINUTES

60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

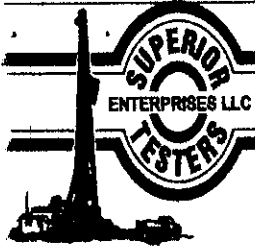
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1963.82	113.57	Initial Hydro-static
1	55.52	113.62	Open To Flow (1)
32	268.38	115.73	Shut-In(1)
75	1078.03	115.40	End Shut-In(1)
76	270.76	115.11	Open To Flow (2)
120	364.08	115.62	Shut-In(2)
181	1057.46	116.78	End Shut-In(2)
183	1921.94	118.89	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
305.00	CLEAN GASSY OIL 20%GAS 80%OIL	1.50
186.00	GASSY MUDDY OIL	0.91
0.00	13%GAS 35%MUD 45%OIL 7%WATER	0.00
186.00	slightly muddy & water cut oil	1.80
0.00	10%gas 60%oil 20%mud 10%water	0.00
186.00	Slightly oil cut muddy water	2.61

## Gas Rates

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



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHEE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15918

DST#: 2

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.23 @ 00:50:00

## Tool Information

Drill Pipe:	Length: 3379.00 ft	Diameter: 3.80 inches	Volume: 47.40 bbl	Tool Weight: 1000.00 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: 580.00 ft	Diameter: 2.25 inches	Volume: 2.85 bbl	Weight to Pull Loose: 88000.00 lb
			<u>Total Volume: 50.25 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3965.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	46.00 ft			
Number of Packers:	2	Diameter: 6.88 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3945.00	
Shut-in Tool	5.00			3950.00	
Hydraulic Tool	5.00			3955.00	
Packer	5.00			3960.00	21.00 Bottom Of Top Packer
Packer	5.00			3965.00	
Perforations	20.00			3985.00	
Recorder	1.00	8405	Inside	3986.00	
Recorder	1.00	8525	Outside	3987.00	
Bullnose	3.00			3990.00	25.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>46.00</b>				



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15918

DST#: 2

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.23 @ 00:50:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API:
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.80 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 3400.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
305.00	CLEAN GASSY OIL 20%GAS 80%OIL	1.500
186.00	GASSY MUDDY OIL	0.915
0.00	13%GAS 35%MUD 45%OIL 7%WATER	0.000
186.00	slightley muddy & water cut oil	1.798
0.00	10%gas 60%oil 20%mud 10%water	0.000
186.00	Slightley oil cut muddy water	2.609
0.00	10%gas 10%oil 30%mud 50%water	0.000
0.00	370 Gas in Pipe	0.000
0.00	gravity oil 43	0.000
0.00	resistivity .1 @ 72 degrees	0.000
0.00	chlorides 45,000	0.000

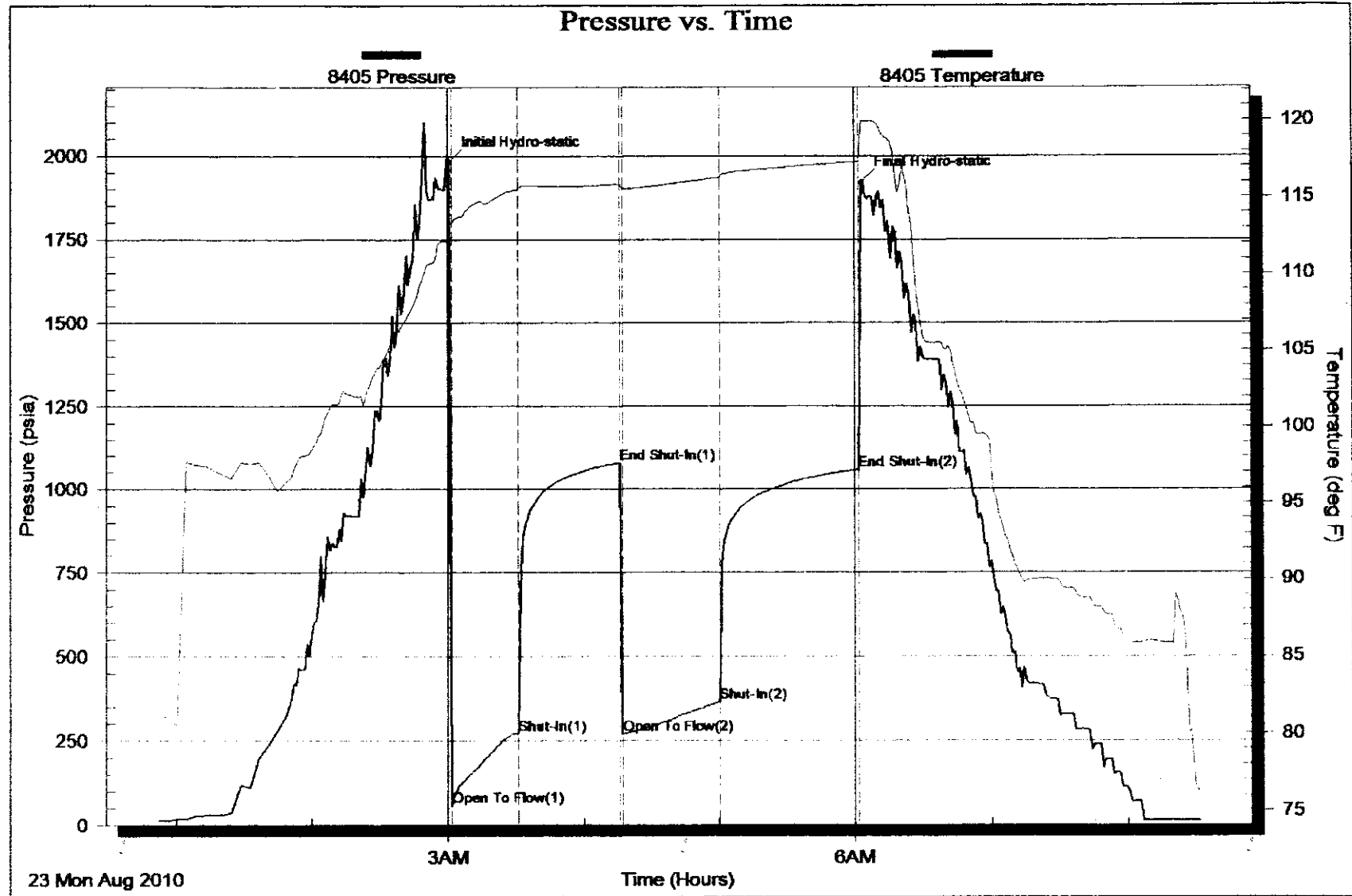
Total Length: 863.00 ft      Total Volume: 6.822 bbl

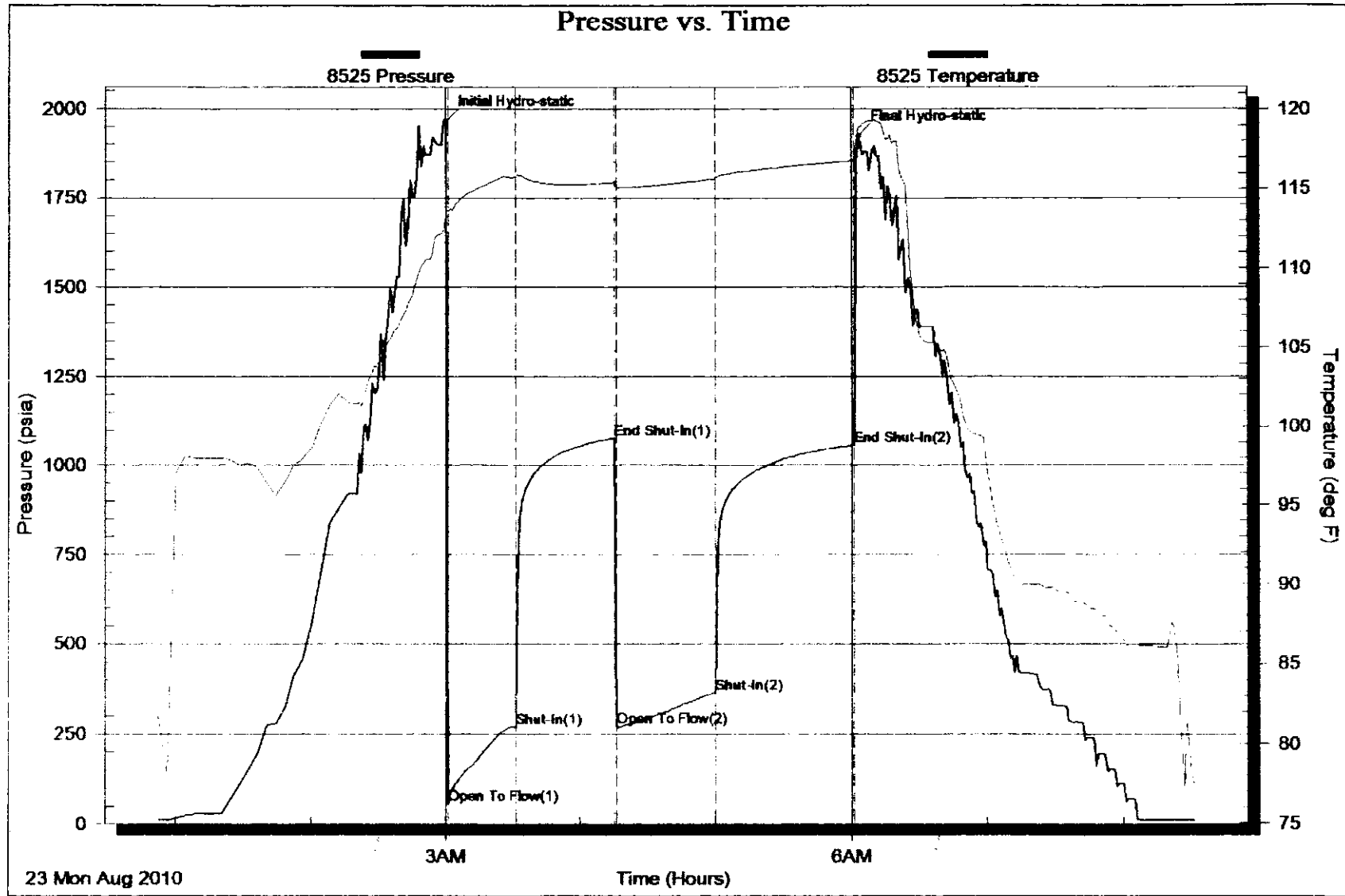
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #

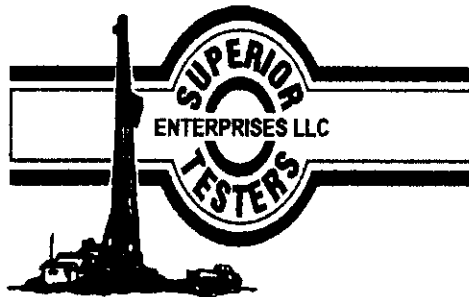
Laboratory Name:      Laboratory Location:

Recovery Comments: chlorides 45,000









## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION**

8100 E 22ND ST N #700 WICHITA KS  
67278+3188

ATTN: MIKE ENGELBRECHT

**30-13-31W GOVE**

**STIEBEN #1 30BC**

Start Date: 2010.08.23 @ 15:17:00

End Date: 2010.08.23 @ 21:33:30

Job Ticket #: 15919                      DST #: 3

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

Printed 2010.08.23 @ 22:03:10

RITCHIE EXPLORATION

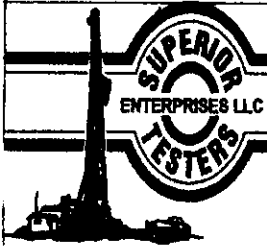
STIEBEN #1 30BC

30-13-31W GOVE

DST # 3

LANSING D

2010.08.23



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket 15919

DST#: 3

ATTN: MIKE ENGELBRECHT

Test Start 2010.08.23 @ 15:17:00

## GENERAL INFORMATION:

Formation: **LANSING D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:01:30

Time Test Ended: 21:33:30

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No. 3320-SCOTT CITY -95

Interval: **3988.00 ft (KB) To 4003.00 ft (KB) (TVD)**

Total Depth: 4003.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2919.00 ft (KB)

2912.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8405

Inside

Press@RunDepth: 73.67 psia @ 3999.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.23

End Date:

2010.08.23

Last Calib.: 2010.08.23

Start Time: 15:17:00

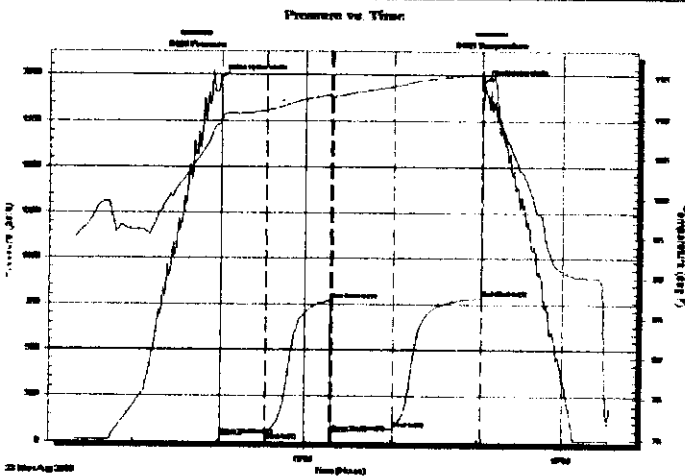
End Time:

21:33:30

Time On Btm: 2010.08.23 @ 17:01:00

Time Off Btm: 2010.08.23 @ 20:04:30

TEST COMMENT: 30/INITIAL OPEN:WEAK BLOW BUILT 3 1/4 INCHES INTO WATER IN 30 MINUTES  
 45/INITIAL SHUT IN:NO BLOW BACK  
 45/FINAL OPEN:WEAK BLOW BUILT 5 INCHES INTO BUCKET IN 45 MINUTES  
 60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

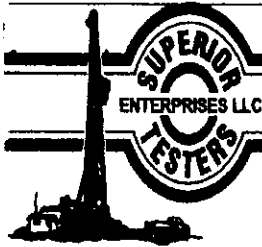
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1975.98	110.27	Initial Hydro-static
1	36.02	109.85	Open To Flow (1)
32	51.79	111.07	Shut-In(1)
77	769.48	113.01	End Shut-In(1)
78	54.66	112.74	Open To Flow (2)
121	73.67	113.98	Shut-In(2)
182	782.59	115.52	End Shut-In(2)
184	1953.38	114.82	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
95.00	MUDDY OIL	0.47
0.00	40% OIL 60% MUD	0.00
20.00	CLEAN GASSY OIL	0.10
0.00	15% GAS 85% OIL	0.00
0.00	175 GAS IN PIPE	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15919

DST#: 3

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.23 @ 15:17:00

## GENERAL INFORMATION:

Formation: **LANSING D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:01:30

Time Test Ended: 21:33:30

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-SCOTT CITY -95

Interval: **3988.00 ft (KB) To 4003.00 ft (KB) (TVD)**

Total Depth: 4003.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2919.00 ft (KB)

2912.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8525

Outside

Press@RunDepth: 782.22 psia @ 4000.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.23

End Date: 2010.08.23

Last Calib.: 2010.08.23

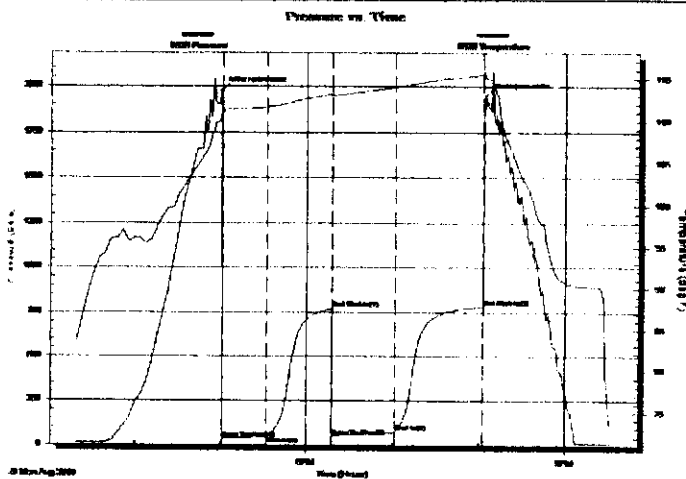
Start Time: 15:17:00

End Time: 21:33:00

Time On Btm: 2010.08.23 @ 17:00:30

Time Off Btm: 2010.08.23 @ 20:04:00

TEST COMMENT: 30/INITIAL OPEN:WEAK BLOW BUILT 3 1/4 INCHES INTO WATER IN 30 MINUTES  
 45/INITIAL SHUT IN:NO BLOW BACK  
 45/FINAL OPEN:WEAK BLOW BUILT 5 INCHES INTO BUCKET IN 45 MINUTES  
 60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

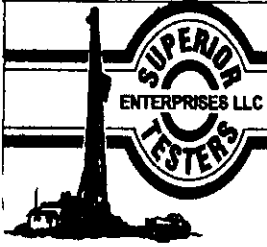
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1975.29	110.99	Initial Hydro-static
1	35.90	110.83	Open To Flow (1)
32	50.28	111.73	Shut-In(1)
77	769.27	113.19	End Shut-In(1)
78	52.75	113.03	Open To Flow (2)
121	73.83	114.03	Shut-In(2)
182	782.22	115.48	End Shut-In(2)
184	1946.34	115.20	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
95.00	MUDDY OIL	0.47
0.00	40%OIL 60%MUD	0.00
20.00	CLEAN GASSY OIL	0.10
0.00	15% GAS 85% OIL	0.00
0.00	175 GAS IN PIPE	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15919

DST#: 3

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.23 @ 15:17:00

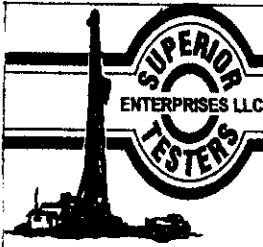
## Tool Information

Drill Pipe:	Length: 3413.00 ft	Diameter: 3.80 inches	Volume: 47.88 bbl	Tool Weight: 1000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 580.00 ft	Diameter: 2.25 inches	Volume: 2.85 bbl	Weight to Pull Loose: 85000.00 lb
			<b>Total Volume: 50.73 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 79000.00 lb
Depth to Top Packer:	3988.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	15.00 ft			
Tool Length:	36.00 ft			
Number of Packers:	2	Diameter: 6.88 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3968.00	
Shut-In Tool	5.00			3973.00	
Hydraulic Tool	5.00			3978.00	
Packer	5.00			3983.00	21.00 Bottom Of Top Packer
Packer	5.00			3988.00	
Perforations	10.00			3998.00	
Recorder	1.00	8405	Inside	3999.00	
Recorder	1.00	8525	Outside	4000.00	
Bullnose	3.00			4003.00	15.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>36.00</b>				



# DRILL STEM TEST REPORT

## FLUID SUMMARY

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15919

DST#: 3

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.23 @ 15:17:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.80 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psia

Salinity: 3400.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbf
95.00	MUDDY OIL	0.467
0.00	40%OIL 60%MUD	0.000
20.00	CLEAN GASSY OIL	0.098
0.00	15% GAS 85% OIL	0.000
0.00	175 GAS IN PIPE	0.000

Total Length: 115.00 ft

Total Volume: 0.565 bbf

Num Fluid Samples: 0

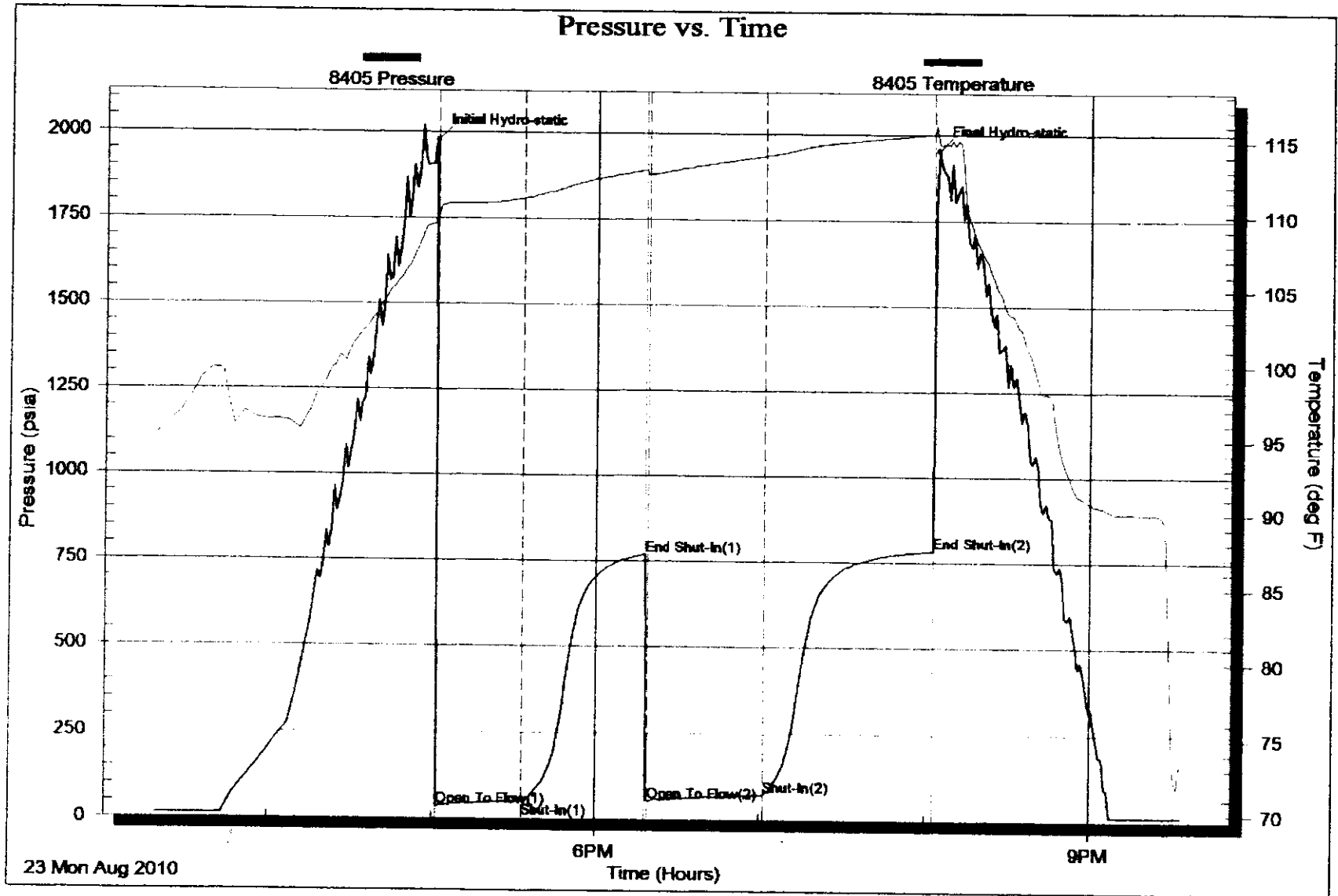
Num Gas Bombs: 0

Serial #:

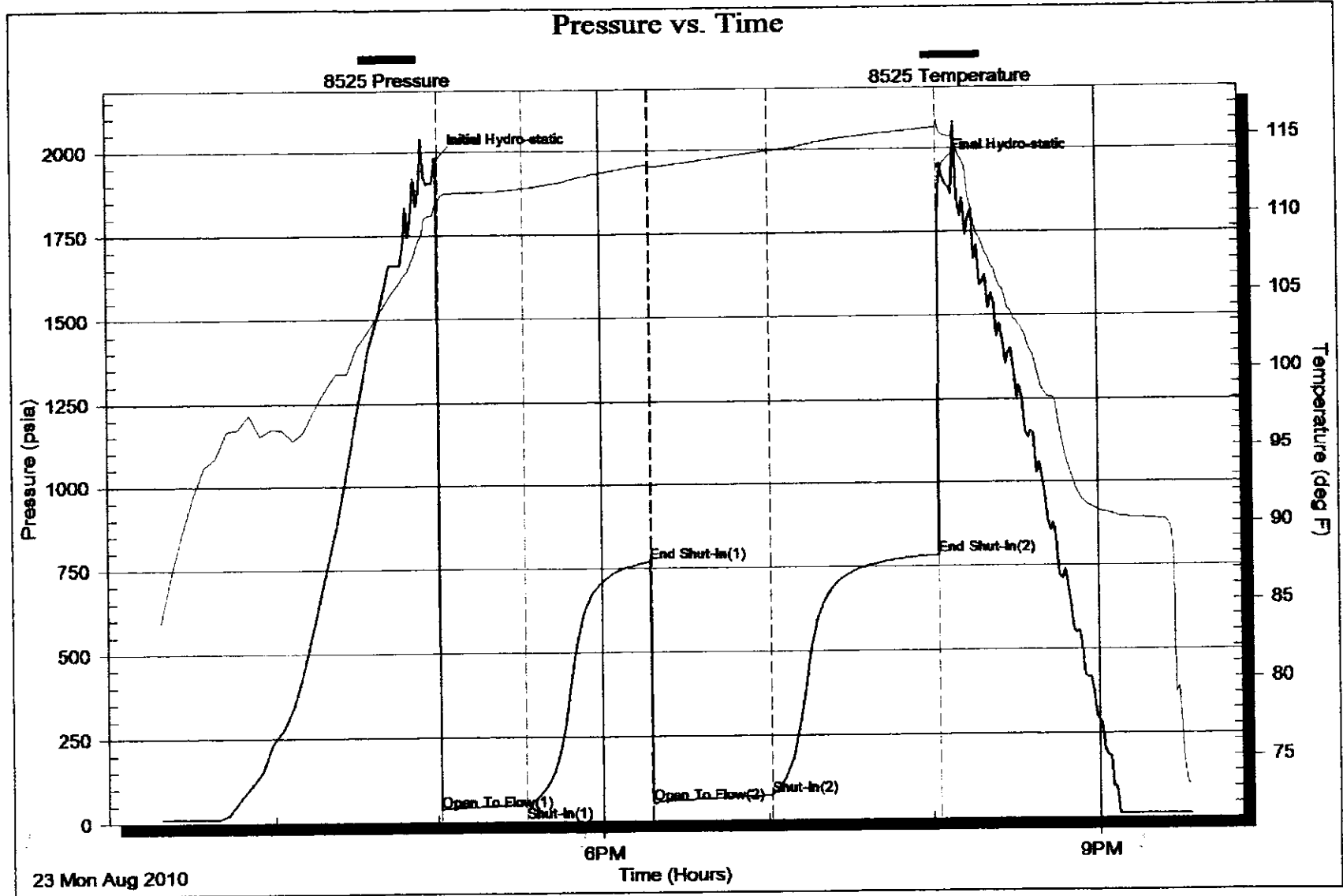
Laboratory Name:

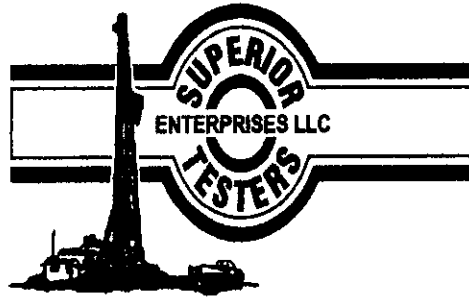
Laboratory Location:

Recovery Comments:









## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION**

8100 E 22ND ST N #700 WICHITA KS  
67278+3188

ATTN: MIKE ENGELBRECHT

**30-13-31W GOVE**

**STIEBEN #1 30BC**

Start Date: 2010.08.24 @ 04:10:00

End Date: 2010.08.24 @ 10:58:00

Job Ticket #: 15920                      DST #: 4

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

Printed: 2010.08.24 @ 11:27:46

RITCHIE EXPLORATION

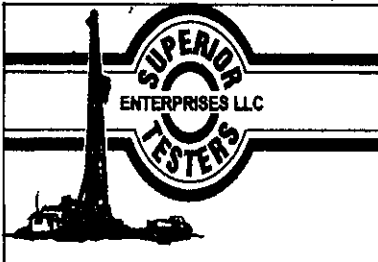
STIEBEN #1 30BC

30-13-31W GOVE

DST # 4

LANSING E

2010.08.24



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15920

DST#: 4

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.24 @ 04:10:00

## GENERAL INFORMATION:

Formation: **LANSING E**

Deviated: No Whipstock: ft (KB)

Time Toof Opened: 06:07:30

Time Test Ended: 10:58:00

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320- SCOTT CITY - 9

Interval: **4012.00 ft (KB) To 4030.00 ft (KB) (TVD)**

Reference Elevations: 2919.00 ft (KB)

Total Depth: 4030.00 ft (KB) (TVD)

2912.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: **8405**

Inside

Press@RunDepth: 331.07 psia @ 4026.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.24

End Date:

2010.08.24

Last Calib.:

2010.08.24

Start Time:

04:10:00

End Time:

10:58:00

Time On Btm:

2010.08.24 @ 06:07:00

Time Off Btm:

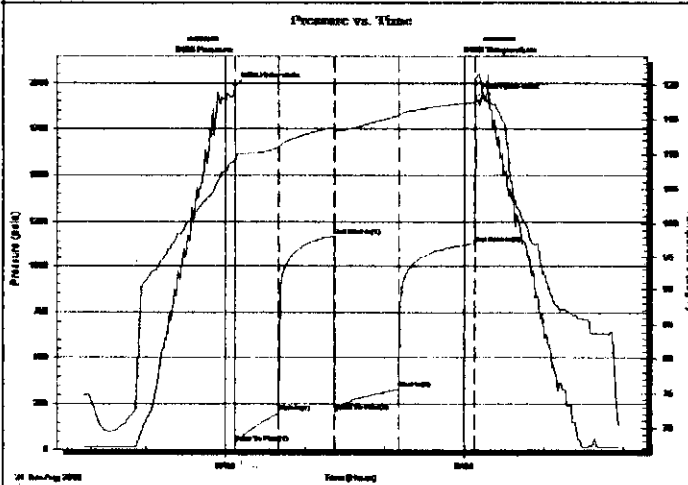
2010.08.24 @ 09:08:30

TEST COMMENT: 30/INITIAL OPEN:FAIR BLOW BUILT 6 1/2 INCHES INTO WATER IN 30 MINUTES

45/INITIAL SHUT IN:NO BLOW BACK

45/FINAL OPEN:FAIR BLOW BUILT BOTTOM OF BUCKET IN 21 MINUTES

60/FINAL SHUT IN :1/2 INCH BLOW BACK



## PRESSURE SUMMARY

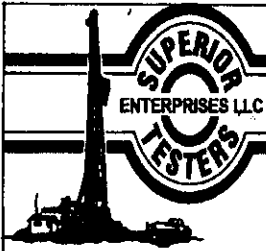
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1984.21	109.46	Initial Hydro-static
1	38.63	109.06	Open To Flow (1)
33	204.87	111.00	Shut-in(1)
75	1175.36	113.92	End Shut-in(1)
76	209.32	113.38	Open To Flow (2)
124	331.07	115.56	Shut-in(2)
181	1133.33	117.50	End Shut-in(2)
182	1923.28	120.97	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
28.00	OIL CUT MUDDY WATER	0.14
0.00	40%OIL 20%MUD 40%WATER	0.00
420.00	WATER 85%WATER 15%MUD	2.07
0.00	RESISTIVITY .1 @70 DEGREES	0.00
0.00	CHLORIDES 50,000	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15920

DST#: 4

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.24 @ 04:10:00

## GENERAL INFORMATION:

Formation: **LANSING E**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:07:30

Time Test Ended: 10:58:00

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320- SCOTT CITY - 9

Interval: **4012.00 ft (KB) To 4030.00 ft (KB) (TVD)**

Total Depth: 4030.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2919.00 ft (KB)

2912.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **8525**

Outside

Press@RunDepth: 1133.04 psia @ 4027.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.24

End Date: 2010.08.24

Last Calib.: 2010.08.24

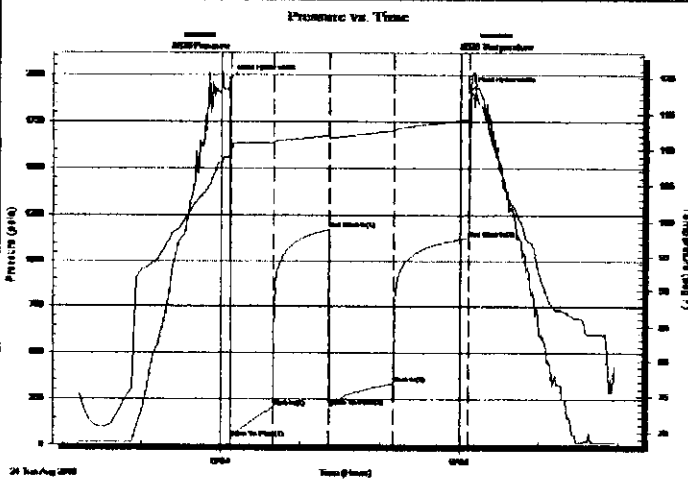
Start Time: 04:10:00

End Time: 10:58:00

Time On Btm: 2010.08.24 @ 06:06:30

Time Off Btm: 2010.08.24 @ 09:08:00

TEST COMMENT: 30/INITIAL OPEN: FAIR BLOW BUILT 6 1/2 INCHES INTO WATER IN 30 MINUTES  
 45/INITIAL SHUT IN: NO BLOW BACK  
 45/FINAL OPEN: FAIR BLOW BUILT BOTTOM OF BUCKET IN 21 MINUTES  
 60/FINAL SHUT IN: 1/2 INCH BLOW BACK



## PRESSURE SUMMARY

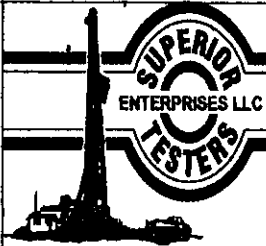
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1981.83	110.02	Initial Hydro-static
1	37.80	109.67	Open To Flow (1)
33	204.66	110.95	Shut-In(1)
75	1175.13	112.00	End Shut-In(1)
76	208.49	111.55	Open To Flow (2)
124	330.40	112.68	Shut-In(2)
181	1133.04	114.22	End Shut-In(2)
182	1919.70	118.40	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
28.00	OIL CUT MUDDY WATER	0.14
0.00	40% OIL 20% MUD 40% WATER	0.00
420.00	WATER 85% WATER 15% MUD	2.07
0.00	RESISTIVITY .1 @ 70 DEGREES	0.00
0.00	CHLORIDES 50,000	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15920

DST#: 4

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.24 @ 04:10:00

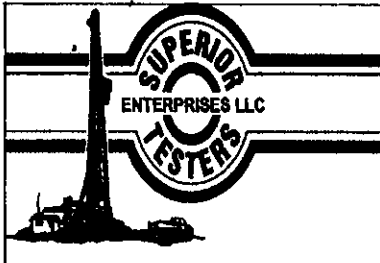
## Tool Information

Drill Pipe:	Length: 3441.00 ft	Diameter: 3.80 inches	Volume: 48.27 bbl	Tool Weight: 1000.00 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: 580.00 ft	Diameter: 2.25 inches	Volume: 2.85 bbl	Weight to Pull Loose: 86000.00 lb
			<u>Total Volume: 51.12 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 79000.00 lb
Depth to Top Packer:	4012.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	39.00 ft			
Number of Packers:	2	Diameter: 6.88 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3992.00	
Shut-In Tool	5.00			3997.00	
Hydraulic Tool	5.00			4002.00	
Packer	5.00			4007.00	21.00 Bottom Of Top Packer
Packer	5.00			4012.00	
Perforations	13.00			4025.00	
Recorder	1.00	8405	Inside	4026.00	
Recorder	1.00	8525	Outside	4027.00	
Bullnose	3.00			4030.00	18.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>39.00</b>				



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15920

DST#: 4

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.24 @ 04:10:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.80 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 4000.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

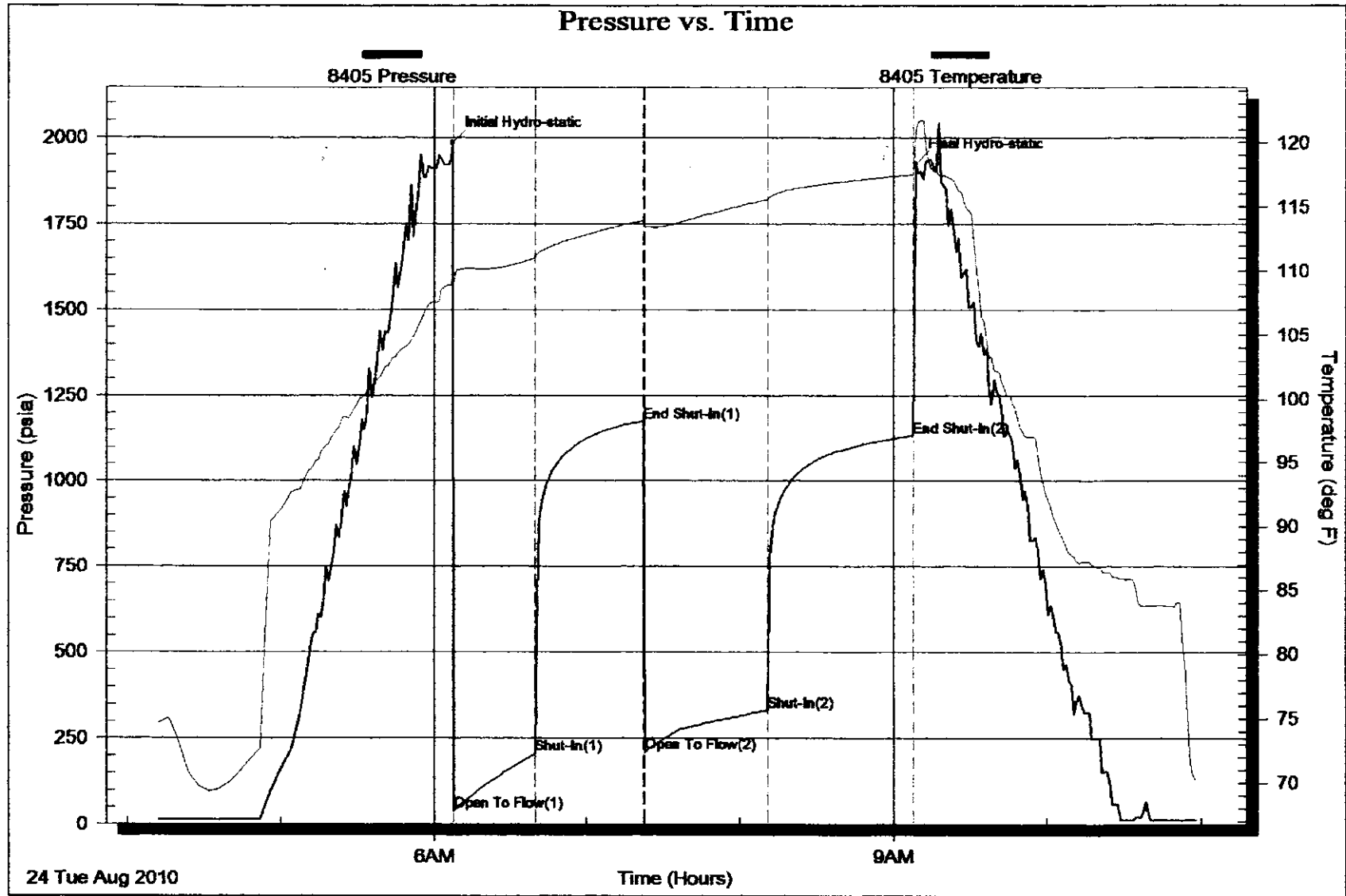
Length ft	Description	Volume bbl
28.00	OIL CUT MUDDY WATER	0.138
0.00	40%OIL 20%MUD 40%WATER	0.000
420.00	WATER 85%WATER 15%MUD	2.065
0.00	RESISTIVITY .1 @70 DEGREES	0.000
0.00	CHLORIDES 50,000	0.000

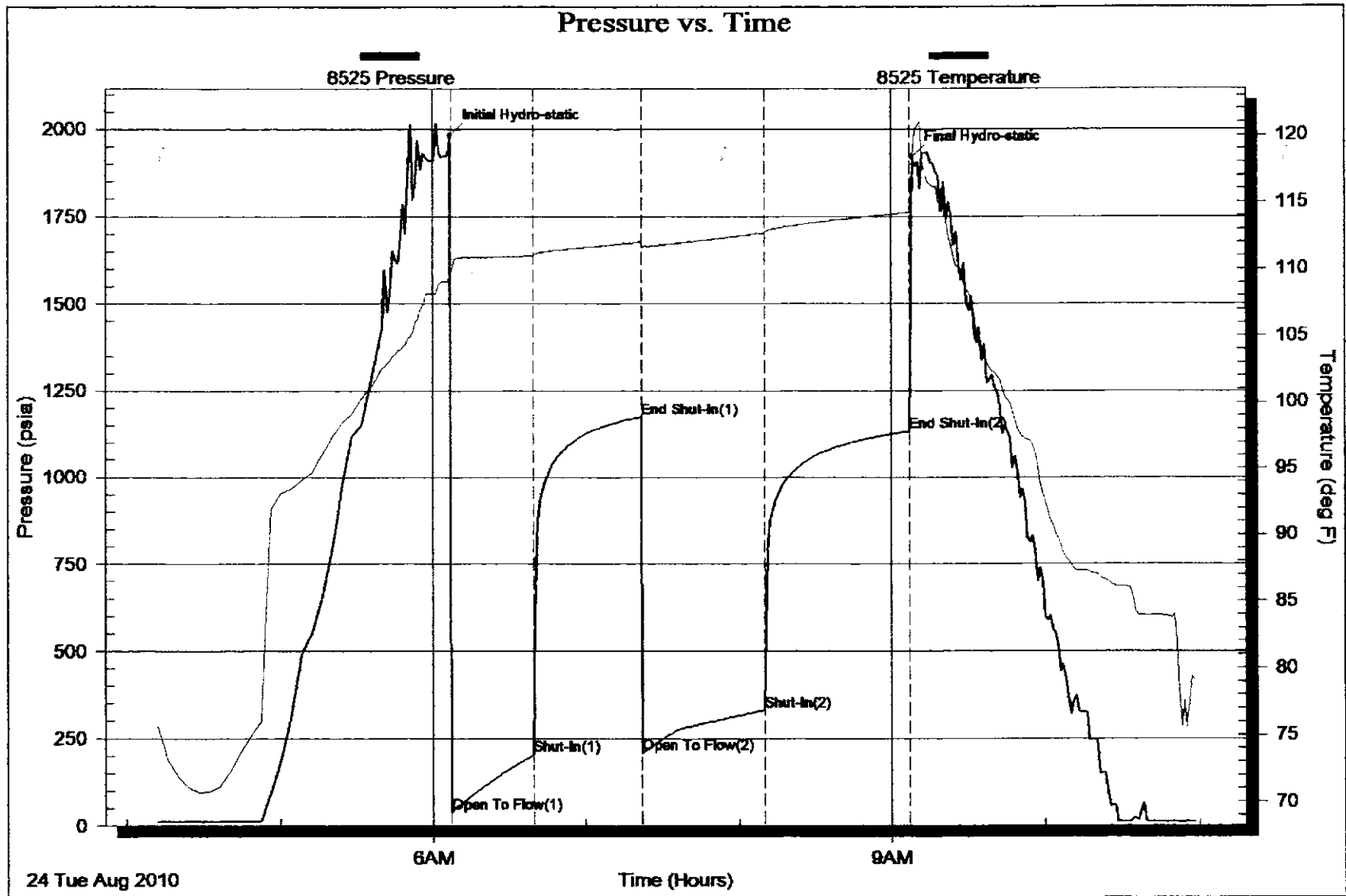
Total Length: 448.00 ft      Total Volume: 2.203 bbl

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

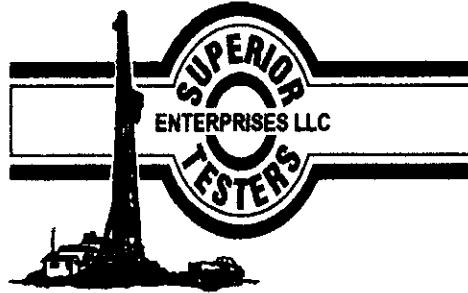
Laboratory Name:      Laboratory Location:

Recovery Comments: CHLORIDES 50,000









## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION**

8100 E 22ND ST N #700 WICHITA KS  
67278+3188

ATTN: MIKE ENGELBRECHT

**30-13-31W GOVE**

**STIEBEN #1 30BC**

Start Date: 2010.08.24 @ 22:15:00

End Date: 2010.08.25 @ 05:00:30

Job Ticket #: 15921                      DST #: 5

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

Printed: 2010.08.25 @ 05:45:27

RITCHIE EXPLORATION

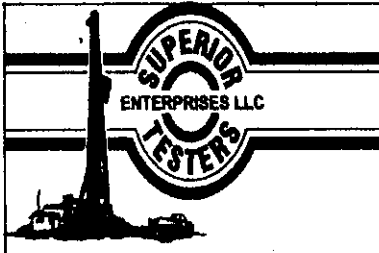
STIEBEN #1 30BC

30-13-31W GOVE

DST # 5

LANSING H

2010.08.24



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15921

DST#: 5

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.24 @ 22:15:00

## GENERAL INFORMATION:

Formation: **LANSING H**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:58:30

Time Test Ended: 05:00:30

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-SCOTT CITY -95

Interval: **4085.00 ft (KB) To 4116.00 ft (KB) (TVD)**

Reference Elevations: 2919.00 ft (KB)

Total Depth: 4116.00 ft (KB) (TVD)

2912.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: **8405**

Inside

Press@RunDepth: 227.58 psia @ 4112.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.24

End Date:

2010.08.25

Last Calib.: 2010.08.25

Start Time: 22:15:00

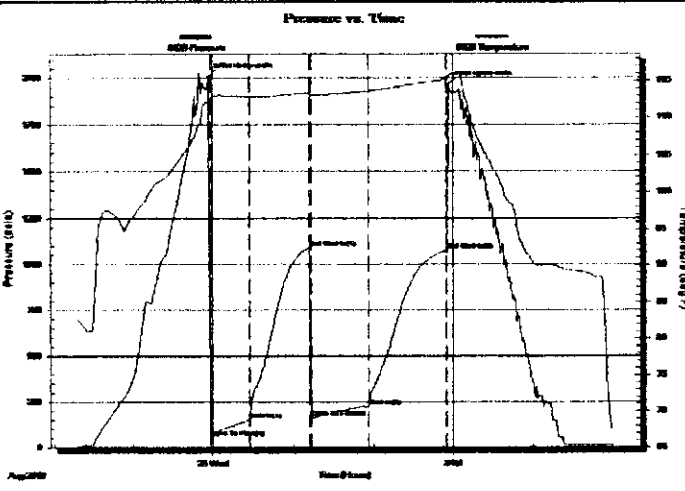
End Time:

05:00:30

Time On Btm: 2010.08.24 @ 23:57:30

Time Off Btm: 2010.08.25 @ 02:57:30

TEST COMMENT: 30/INITIAL OPEN: FAIR BLOW BUILT BOTTOM OF BUCKET IN 11 MINUTES  
 45/INITIAL SHUT IN: 2 INCH BLOW BACK  
 45/FINAL OPEN: FAIR BLOW BUILT BOTTOM OF BUCKET IN 18 MINUTES  
 60/FINAL SHUT IN: 2 INCH BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation

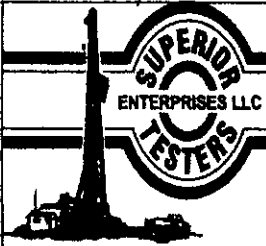
## Recovery

Length (ft)	Description	Volume (bbl)
285.00	CLEAN GASSY OIL	1.40
0.00	30%GAS 70%OIL	0.00
95.00	MUDDY GASSY OIL	0.47
0.00	20%MUD 40%OIL 40%GAS	0.00
190.00	MUDDY GASSY OIL	0.93
0.00	30%MUD 30%GAS 40%OIL	0.00

## Gas Rates

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





# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15921

DST#: 5

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.24 @ 22:15:00

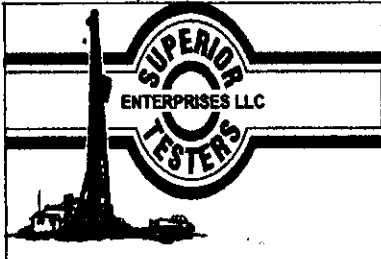
## Tool Information

Drill Pipe:	Length: 3506.00 ft	Diameter: 3.80 inches	Volume: 49.18 bbl	Tool Weight: 1000.00 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: 580.00 ft	Diameter: 2.25 inches	Volume: 2.85 bbl	Weight to Full Loose: 85000.00 lb
			<u>Total Volume: 52.03 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 79000.00 lb
Depth to Top Packer:	4085.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 ft			
Tool Length:	52.00 ft			
Number of Packers:	2	Diameter: 6.88 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4065.00	-999999.00
Shut-in Tool	5.00			4070.00	-999999.00
Hydraulic Tool	5.00			4075.00	-999999.00
Packer	5.00			4080.00	21.00 Bottom Of Top Packer
Packer	5.00			4085.00	-999999.00
Perforations	26.00			4111.00	-999999.00
Recorder	1.00	8405	Inside	4112.00	-999999.00
Recorder	1.00	8525	Outside	4113.00	-999999.00
Bullnose	3.00			4116.00	31.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>52.00</b>				



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WCHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15921

DST#: 5

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.24 @ 22:15:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

47 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.80 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psia

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
285.00	CLEAN GASSY OIL	1.402
0.00	30%GAS 70%OIL	0.000
95.00	MUDDY GASSY OIL	0.467
0.00	20%MUD 40%OIL 40%GAS	0.000
190.00	MUDDY GASSY OIL	0.934
0.00	30%MUD 30%GAS 40%OIL	0.000
0.00	570 FEET GAS IN PIPE	0.000

Total Length: 570.00 ft

Total Volume: 2.803 bbl

Num Fluid Samples: 0

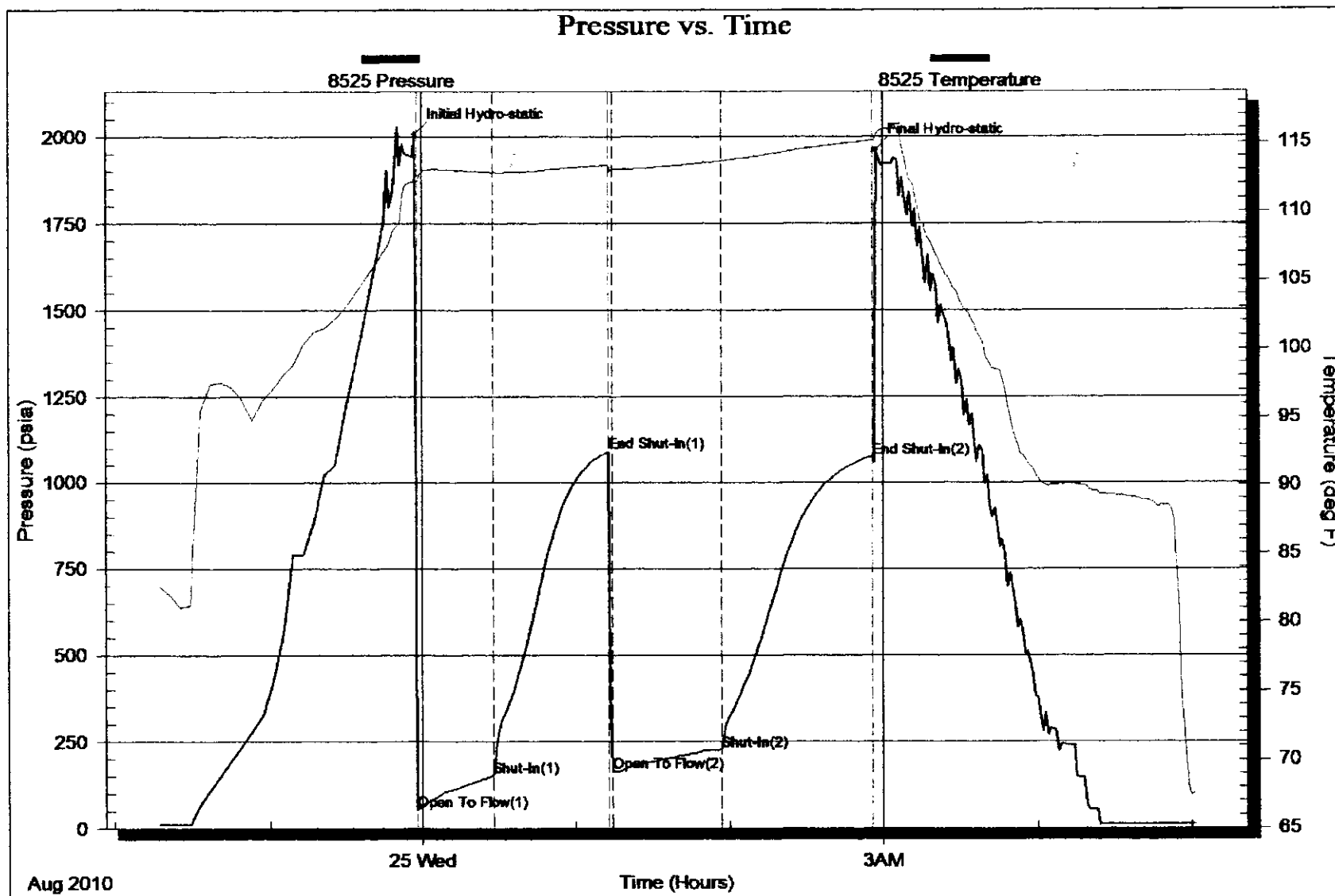
Num Gas Bombs: 0

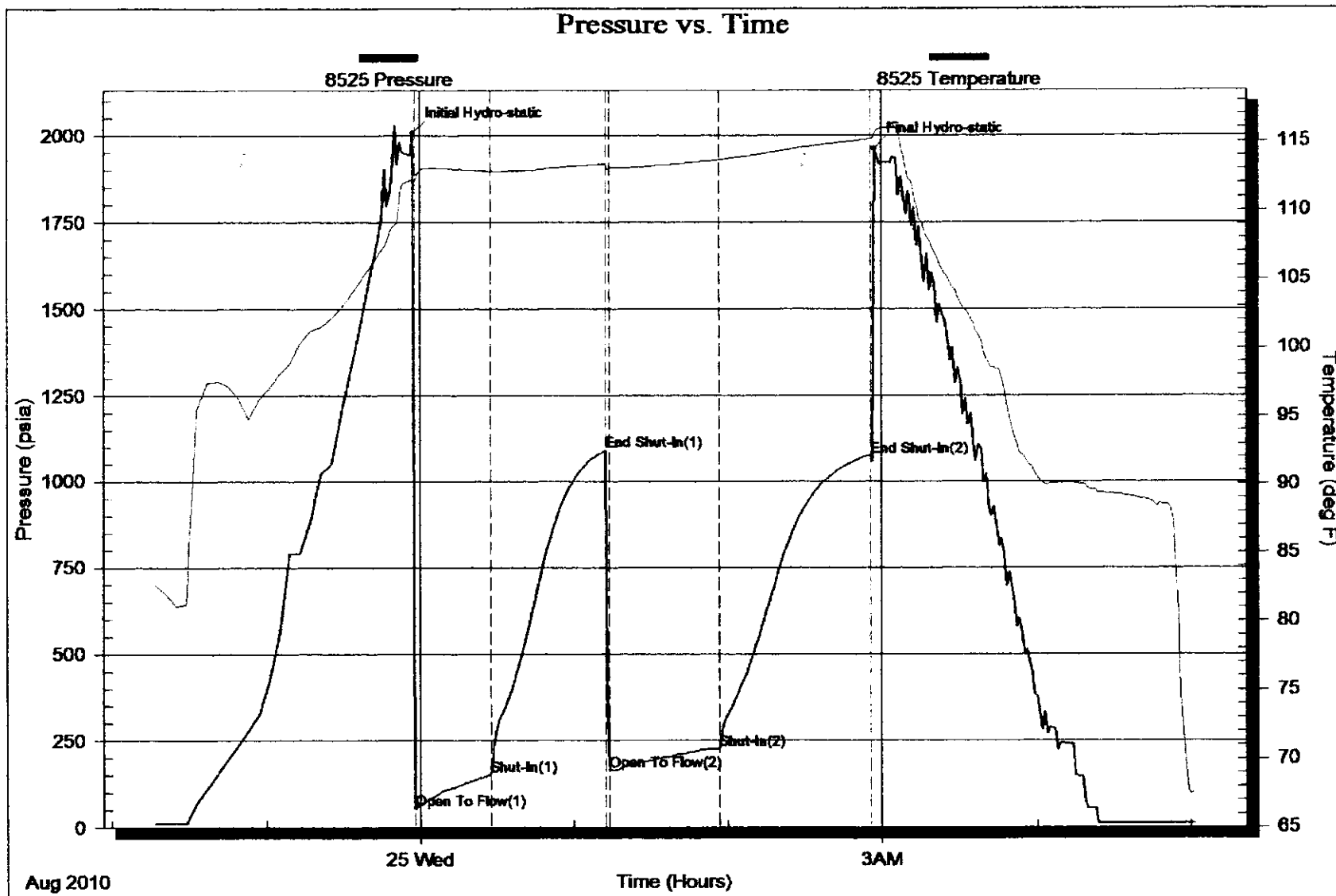
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: GRAVITY OIL 47







## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION**

8100 E 22ND ST N #700 WICHITA KS  
67278+3188

ATTN: MIKE ENGELBRECHT

**30-13-31W GOVE**

**STIEBEN #1 30BC**

Start Date: 2010.08.25 @ 13:03:00

End Date: 2010.08.25 @ 20:07:30

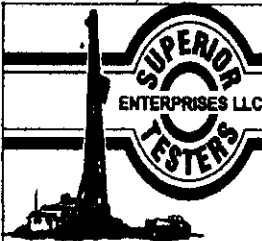
Job Ticket #: 15922                      DST #: 6

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

Printed: 2010.08.25 @ 20:51:30

RITCHIE EXPLORATION    STIEBEN #1 30BC    30-13-31W GOVE    DST # 6    LANSING I    2010.08.25





# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15922

DST#: 6

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.25 @ 13:03:00

## GENERAL INFORMATION:

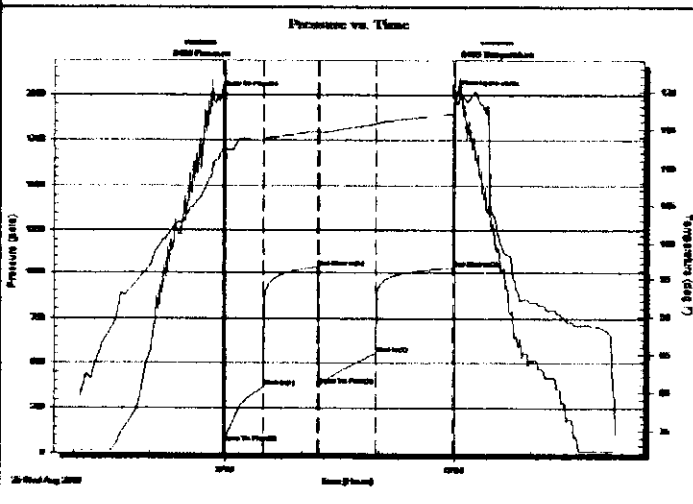
Formation: **LANSING I**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:58:00  
 Time Test Ended: 20:07:30  
 Interval: **4124.00 ft (KB) To 4152.00 ft (KB) (TVD)**  
 Total Depth: 4152.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: JARED SCHECK  
 Unit No: 3320-SCOTT CITY -95  
 Reference Elevations: 2919.00 ft (KB)  
 2912.00 ft (CF)  
 KB to GRVCF: 7.00 ft

## Serial #: 8405

Inside

Press@RunDepth: 366.70 psia @ 4148.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2010.08.25 End Date: 2010.08.25 Last Calib.: 2010.08.25  
 Start Time: 13:03:00 End Time: 20:07:30 Time On Btm:  
 Time Off Btm: 2010.08.25 @ 17:59:30

TEST COMMENT: 30/INITIAL OPEN:STRONG BLOW BUILT BOTTOM OF BUCKET IN 8 MINUTES  
 45/INITIAL SHUT IN:1/2 INCH BLOW BACK  
 45/FINAL OPEN:STRONG BLOW BUILT BTM OF BUCKET IN 9 MINUTES  
 60/FINAL SHUT IN:5 INCH BLOW BACK



## PRESSURE SUMMARY

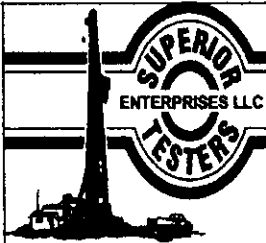
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2039.04	113.03	Open To Flow (1)
1	58.78	112.53	Open To Flow (2)
32	366.70	113.67	Shut-In(1)
74	1034.11	114.84	End Shut-In(1)
76	376.17	114.62	Open To Flow (3)
120	554.10	115.73	Shut-In(2)
180	1031.06	117.06	End Shut-In(2)
182	2003.86	118.85	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
570.00	SALT WATER 5%GAS 95%WATER	2.80
95.00	SALT WATER	1.24
0.00	1%OIL 4%GAS 5%MUD 90%WATER	0.00
190.00	SLIGHTLEY OIL CUT MUDDY WATER	2.67
0.00	5%GAS 5%OIL 10%MUD 80%WATER	0.00
95.00	SLIGHTLEY OIL CUT MUDDY WATER	1.33

## Gas Rates

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



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15922

DST#: 6

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.25 @ 13:03:00

## GENERAL INFORMATION:

Formation: **LANSING I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:58:00

Time Test Ended: 20:07:30

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-SCOTT CITY -95

Interval: **4124.00 ft (KB) To 4152.00 ft (KB) (TVD)**

Reference Elevations: 2919.00 ft (KB)

Total Depth: 4152.00 ft (KB) (TVD)

2912.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8525

Outside

Press@RunDepth: 1030.88 psia @ 4149.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.25

End Date:

2010.08.25

Last Calib.:

2010.08.25

Start Time:

13:03:00

End Time:

20:07:30

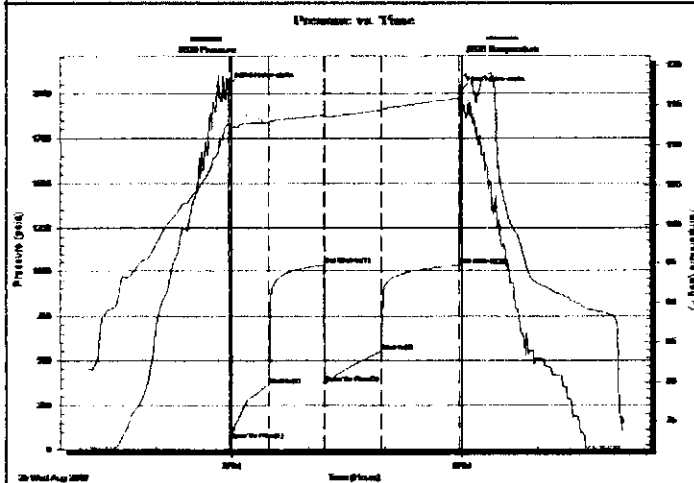
Time On Btm:

2010.08.25 @ 14:57:30

Time Off Btm:

2010.08.25 @ 17:59:00

TEST COMMENT: 30/INITIAL OPEN:STRONG BLOW BUILT BOTTOM OF BUCKET IN 8 MINUTES  
 45/INITIAL SHUT IN:1/2 INCH BLOW BACK  
 45/FINAL OPEN:STRONG BLOW BUILT BTM OF BUCKET IN 9 MINUTES  
 60/FINAL SHUT IN:5 INCH BLOW BACK



## PRESSURE SUMMARY

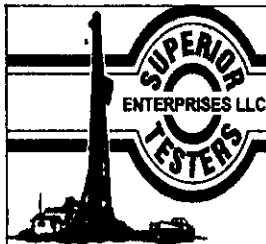
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2039.90	112.83	Initial Hydro-static
1	55.38	112.22	Open To Flow (1)
32	365.53	112.91	Shut-In(1)
75	1034.14	113.80	End Shut-In(1)
76	374.65	113.56	Open To Flow(2)
120	552.74	114.44	Shut-In(2)
180	1030.88	115.85	End Shut-In(2)
182	2014.51	116.88	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
570.00	SALT WATER 5%GAS 95%WATER	2.80
95.00	SALT WATER	1.24
0.00	1%OIL 4%GAS 5%MUD 90%WATER	0.00
190.00	SLIGHTLEY OIL CUT MUDDY WATER	2.67
0.00	5%GAS 5%OIL 10%MUD 80%WATER	0.00
95.00	SLIGHTLEY OIL CUT MUDDY WATER	1.33

## Gas Rates

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



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15922

DST#: 6

ATTN: MIKE ENGELBRECHT

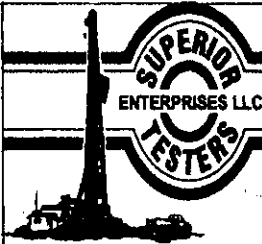
Test Start: 2010.08.25 @ 13:03:00

## Tool Information

Drill Pipe:	Length: 3529.00 ft	Diameter: 3.80 inches	Volume: 49.50 bbl	Tool Weight: 1000.00 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: 580.00 ft	Diameter: 2.25 inches	Volume: 2.85 bbl	Weight to Pull Loose: 84000.00 lb
			<u>Total Volume: 52.35 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 79000.00 lb
Depth to Top Packer:	4124.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	28.00 ft			
Tool Length:	49.00 ft			
Number of Packers:	2	Diameter: 6.88 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4104.00	
Shut-In Tool	5.00			4109.00	
Hydrolic Tool	5.00			4114.00	
Packer	5.00			4119.00	21.00 Bottom Of Top Packer
Packer	5.00			4124.00	
Perforations	23.00			4147.00	
Recorder	1.00	8405	Inside	4148.00	
Recorder	1.00	8525	Outside	4149.00	
Bullnose	3.00			4152.00	28.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>49.00</b>				



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15922

DST#: 6

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.25 @ 13:03:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

47 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.00 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.15 ohm.m

Gas Cushion Pressure:

psia

Salinity: 4400.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
570.00	SALT WATER 5%GAS 95%WATER	2.803
95.00	SALT WATER	1.242
0.00	1%OIL 4%GAS 5%MUD 90%WATER	0.000
190.00	SLIGHTLEY OIL CUT MUDDY WATER	2.665
0.00	5%GAS 5%OIL 10%MUD 80%WATER	0.000
95.00	SLIGHTLEY OIL CUT MUDDY WATER	1.333
0.00	5%GAS 15%OIL 10%MUD 70%WATER	0.000
95.00	MUDDY GASSY OIL	1.333
0.00	10%GAS 65%OIL 15%MUD 10%WATER	0.000
40.00	CLEAN GASSY OIL 10%GAS 90%OIL	0.561
0.00	150 GAS IN PIPE	0.000
0.00	RESISTIVITY .15 @ DEGREES 70	0.000
0.00	CHLORIDES 55,000	0.000

Total Length: 1085.00 ft Total Volume: 9.937 bbl

Num Fluid Samples: 0

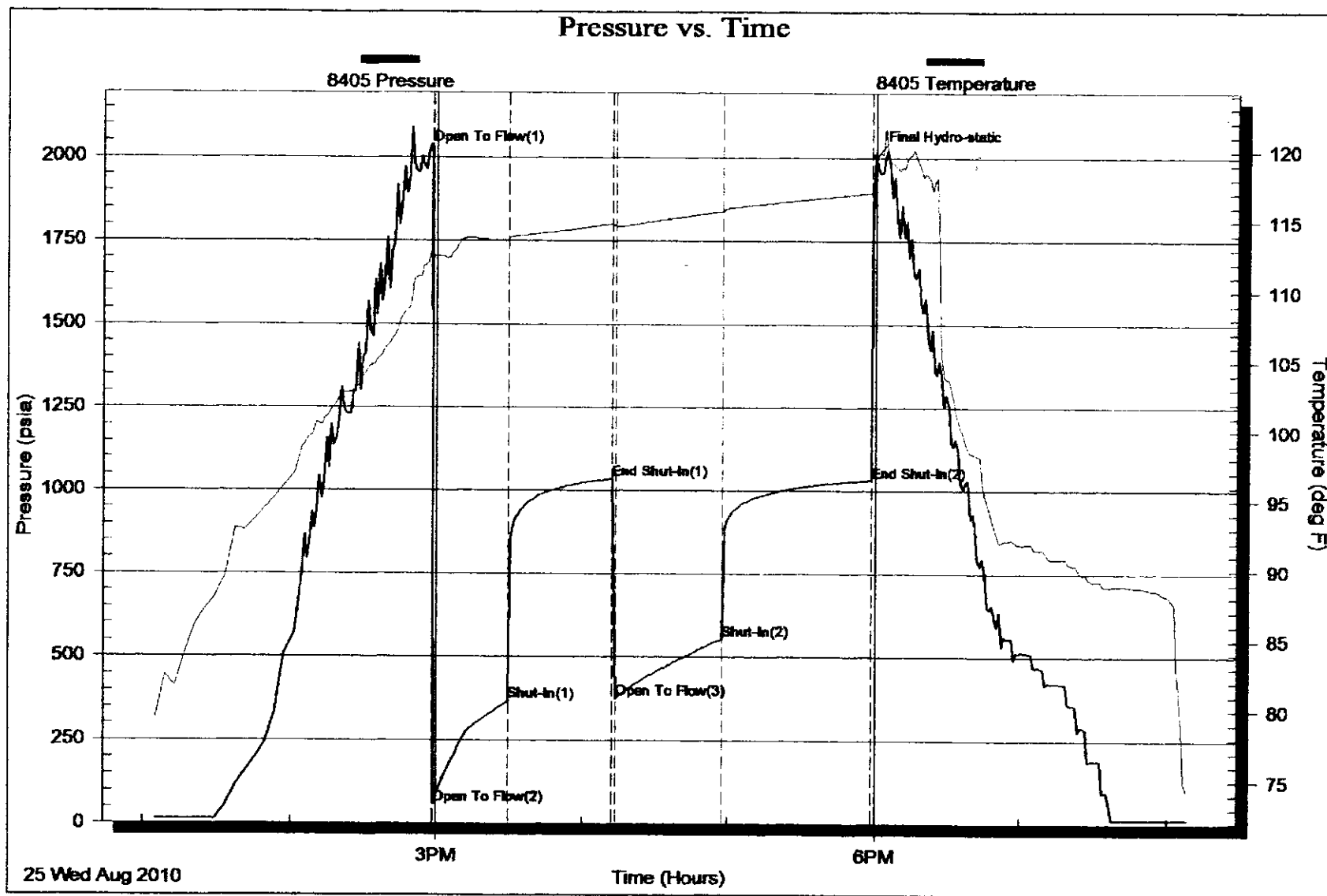
Num Gas Bombs: 0

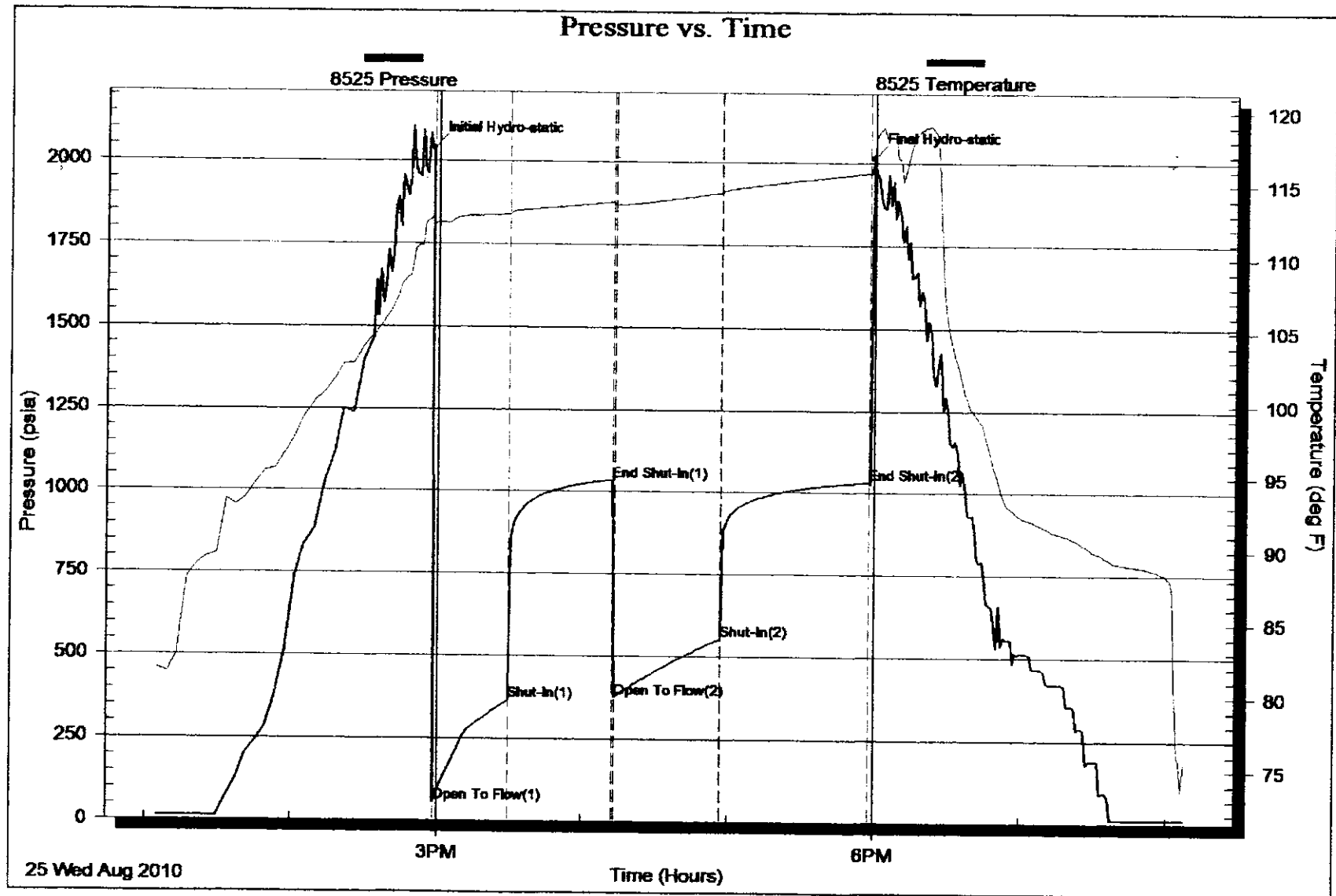
Serial #:

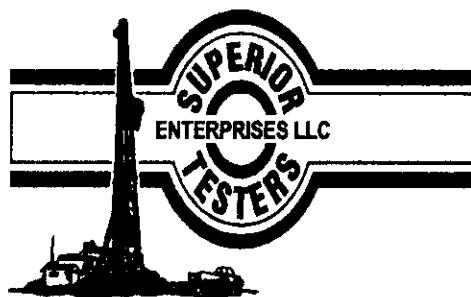
Laboratory Name:

Laboratory Location:

Recovery Comments: GRAVITY OIL 47







## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION**

8100 E 22ND ST N #700 WICHITA KS  
67278+3188

ATTN: MIKE ENGELBRECHT

**30-13-31W GOVE**

**STIEBEN #1 30BC**

Start Date: 2010.08.27 @ 11:15:00

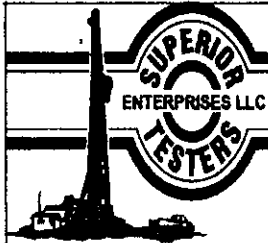
End Date: 2010.08.27 @ 17:59:30

Job Ticket #: 15923                      DST #: 7

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

Printed: 2010.08.27 @ 18:51:32

RITCHIE EXPLORATION    STIEBEN #1 30BC    30-13-31W GOVE    DST # 7    LANSING J    2010.08.27



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15923

DST#: 7

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.27 @ 11:15:00

## GENERAL INFORMATION:

Formation: **LANSING J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:26:30

Time Test Ended: 17:59:30

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-SCOTT CITY -95

Interval: **4149.00 ft (KB) To 4180.00 ft (KB) (TVD)**

Total Depth: 4180.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2919.00 ft (KB)

2912.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8405

Inside

Press@RunDepth: 122.13 psia @ 4176.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.27

End Date: 2010.08.27

Last Calib.: 2010.08.27

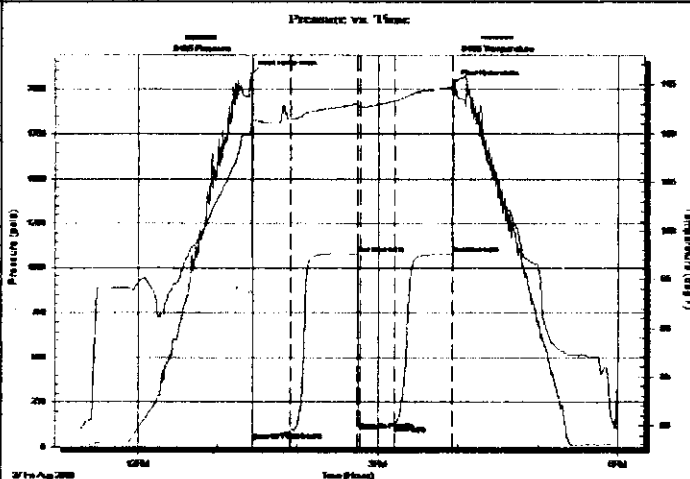
Start Time: 11:15:00

End Time: 17:59:30

Time On Btm: 2010.08.27 @ 13:25:30

Time Off Btm: 2010.08.27 @ 15:57:00

TEST COMMENT: 30/INITIAL OPEN:WEAK BUT BUILDING BLOW BUILT 4 INCHES INTO WATER IN 30 MINUTES  
 45/INITIAL SHUT IN:NO BLOW BACK  
 30/FINAL OPEN:WEAK BUT BUILDING BLOW BUILT 4 INCHES INTO WATER IN 30 MINUTES  
 45/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2082.33	111.69	Initial Hydro-static
1	42.05	111.34	Open To Flow (1)
29	88.09	111.49	Shut-in(1)
79	1083.19	113.05	End Shut-in(1)
81	98.90	112.68	Open To Flow (2)
107	122.13	113.34	Shut-in(2)
150	1078.95	114.75	End Shut-in(2)
152	2027.85	115.51	Final Hydro-static

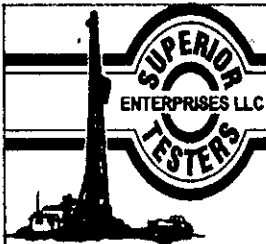
## Recovery

Length (ft)	Description	Volume (bbl)
5.00	OIL CUT MUD 40%MUD 60%OIL	0.02
95.00	MUD CUT OIL 40%OIL 60%MUD	0.47
95.00	GASSY OIL CUT MUD 20%GAS 30%OIL 0.47%MUD	
0.00	90 FEET GAS IN PIPE	0.00

## Gas Rates

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





# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15923

DST#: 7

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.27 @ 11:15:00

## GENERAL INFORMATION:

Formation: **LANSING J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:26:30

Time Test Ended: 17:59:30

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-SCOTT CITY -95

Interval: **4149.00 ft (KB) To 4180.00 ft (KB) (TVD)**

Reference Elevations: 2919.00 ft (KB)

Total Depth: 4180.00 ft (KB) (TVD)

2912.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8525

Outside

Press@RunDepth: 1078.81 psia @ 4177.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.27

End Date: 2010.08.27

Last Calib.: 2010.08.27

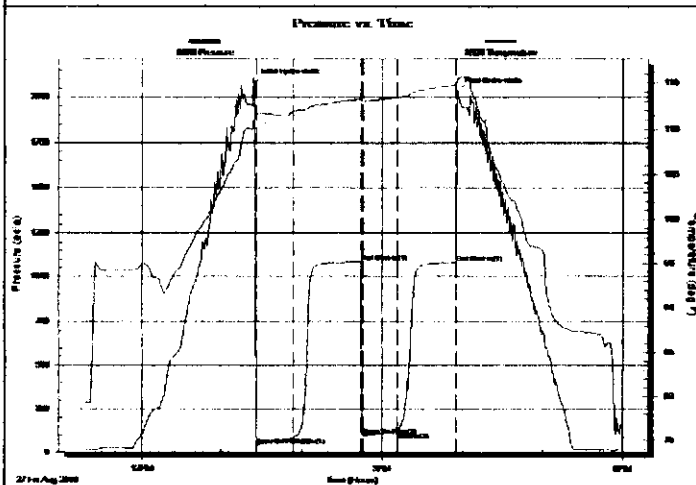
Start Time: 11:15:00

End Time: 17:59:00

Time On Btm: 2010.08.27 @ 13:25:00

Time Off Btm: 2010.08.27 @ 15:56:30

TEST COMMENT: 30/INITIAL OPEN:WEAK BUT BUILDING BLOW BUILT 4 INCHES INTO WATER IN 30 MINUTES  
 45/INITIAL SHUT IN:NO BLOW BACK  
 30/FINAL OPEN:WEAK BUT BUILDING BLOW BUILT 4 INCHES INTO WATER IN 30 MINUTES  
 45/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

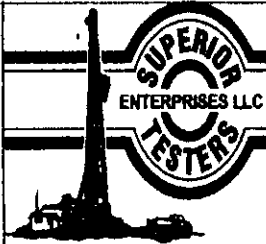
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2081.44	111.71	Initial Hydro-static
1	41.25	111.63	Open To Flow (1)
29	87.68	111.91	Shut-in(1)
79	1083.11	113.22	End Shut-in(1)
81	97.89	112.95	Open To Flow (2)
107	120.78	113.44	Shut-in(2)
150	1078.81	114.80	End Shut-in(2)
152	2032.27	115.45	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	OIL CUT MUD 40%MUD 60%OIL	0.02
95.00	MUD CUT OIL 40%OIL 60%MUD	0.47
95.00	GASSY OIL CUT MUD 20%GAS 30%OIL 0.47%MUD	
0.00	90 FEET GAS IN PIPE	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15923

DST#: 7

ATTN: MIKE ENGELBRECHT

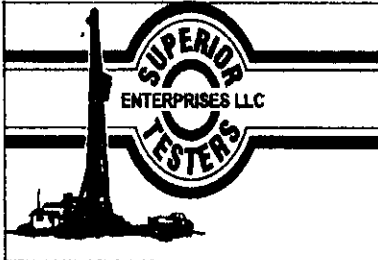
Test Start: 2010.08.27 @ 11:15:00

## Tool Information

Drill Pipe:	Length: 3569.00 ft	Diameter: 3.80 inches	Volume: 50.06 bbl	Tool Weight: 1000.00 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: 580.00 ft	Diameter: 2.25 inches	Volume: 2.85 bbl	Weight to Pull Loose: 85000.00 lb
			<b>Total Volume: 52.91 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4149.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 ft			
Tool Length:	52.00 ft			
Number of Packers:	2	Diameter: 6.88 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4129.00	
Shut-in Tool	5.00			4134.00	
Hydraulic Tool	5.00			4139.00	
Packer	5.00			4144.00	21.00 Bottom Of Top Packer
Packer	5.00			4149.00	
Perforations	26.00			4175.00	
Recorder	1.00	8405	Inside	4176.00	
Recorder	1.00	8525	Outside	4177.00	
Bullnose	3.00			4180.00	31.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>52.00</b>				



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15923

DST#: 7

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.27 @ 11:15:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 51.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.80 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 4500.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OIL CUT MUD 40%MUD 60%OIL	0.025
95.00	MUD CUT OIL 40%OIL 60%MUD	0.467
95.00	GASSY OIL CUT MUD 20%GAS 30%OIL 50'	0.467
0.00	90 FEET GAS IN PIPE	0.000

Total Length: 195.00 ft      Total Volume: 0.959 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments:

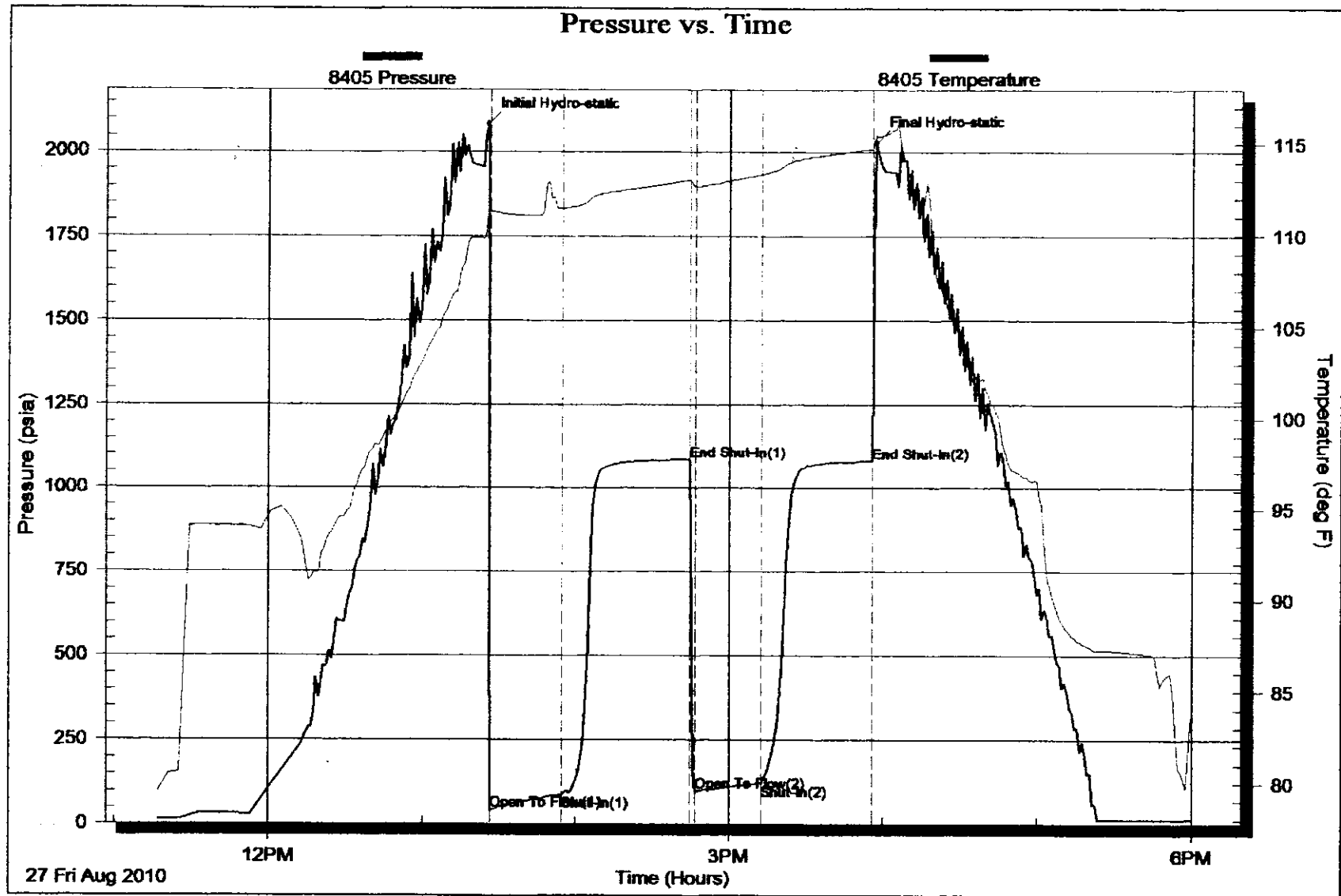
Serial #: 8405

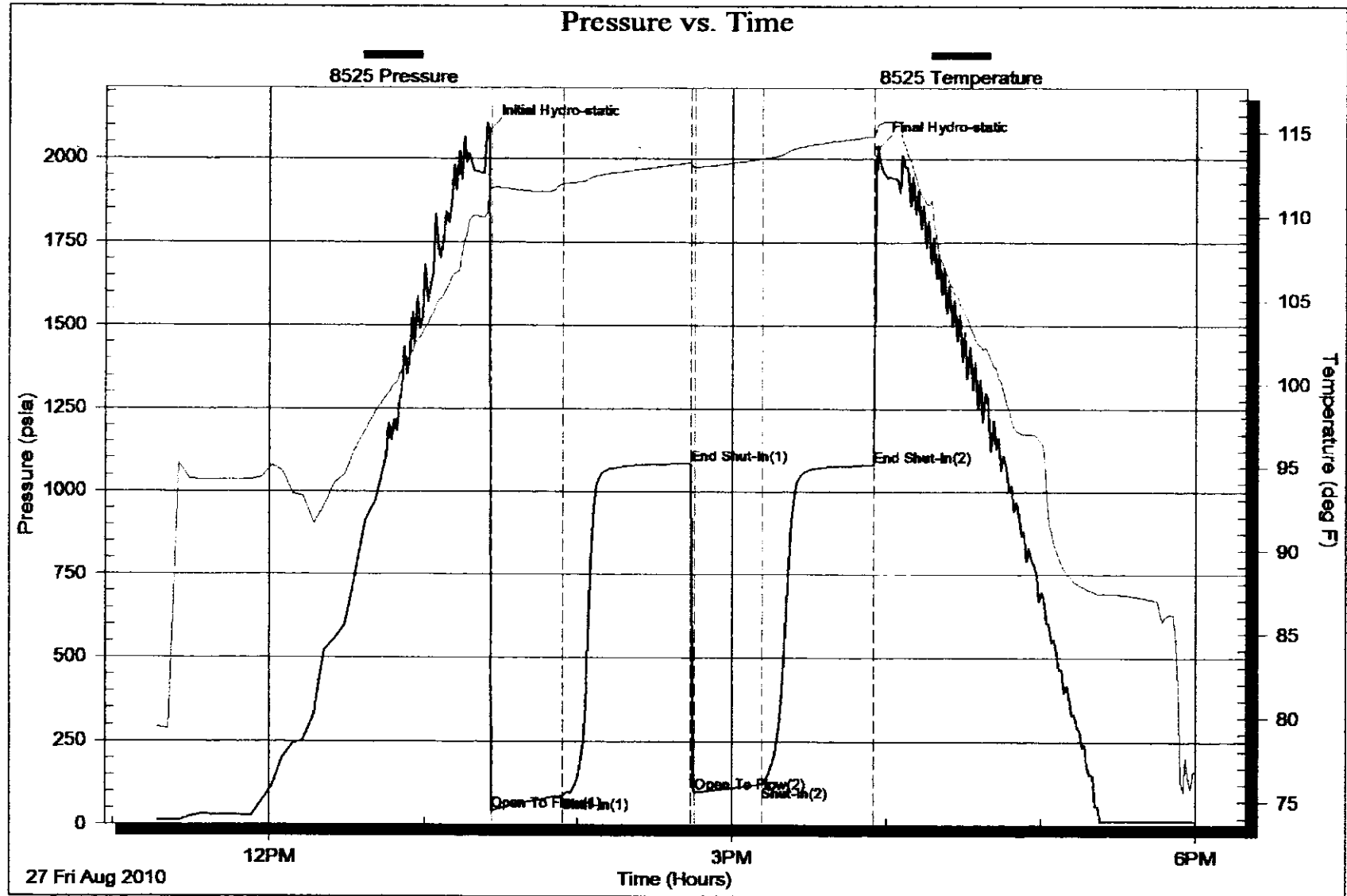
Inside

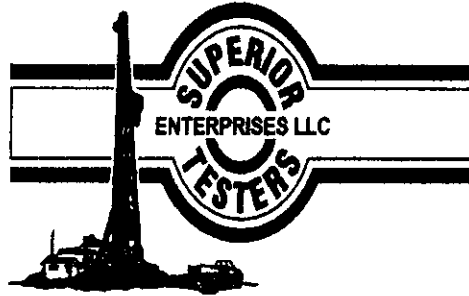
RITCHE EXPLORATION

30-13-31W GOVE

DST Test Number: 7







## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION**

8100 E 22ND ST N #700 WICHITA KS  
67278+3188

ATTN: MIKE ENGELBRECHT

**30-13-31W GOVE**

**STIEBEN #1 30BC**

Start Date: 2010.08.28 @ 05:18:00

End Date: 2010.08.28 @ 13:08:00

Job Ticket #: 15924                      DST #: 8

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

Printed: 2010.08.28 @ 14:00:33

RITCHIE EXPLORATION

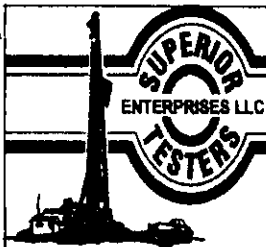
STIEBEN #1 30BC

30-13-31W GOVE

DST # 8

LANSING K-L

2010.08.28



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15924

DST#: 8

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.28 @ 05:18:00

## GENERAL INFORMATION:

Formation: **LANSING K-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:37:30

Time Test Ended: 13:08:00

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-SCOTT CITY -95

Interval: **4175.00 ft (KB) To 4255.00 ft (KB) (TVD)**

Reference Elevations: 2919.00 ft (KB)

Total Depth: 4255.00 ft (KB) (TVD)

2912.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: **8405**

Inside

Press@RunDepth: 535.84 psia @ 4251.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.28

End Date:

2010.08.28

Last Calib.:

2010.08.28

Start Time: 05:18:00

End Time:

13:08:00

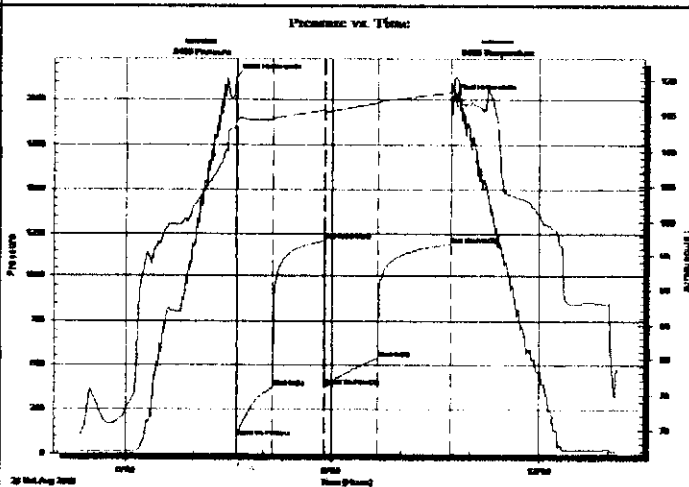
Time On Btm:

2010.08.28 @ 07:36:30

Time Off Btm:

2010.08.28 @ 10:43:30

TEST COMMENT: 30/INITIAL OPEN:STRONG BLOW BUILT BOTTOM OF BUCKET IN 8 MINUTES  
 45/INITIAL SHUT IN: NO BLOW BACK  
 45/FINAL OPEN:STRONG BLOW BUILT BOTTOM OF BUCKET IN 11 MINUTES  
 60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

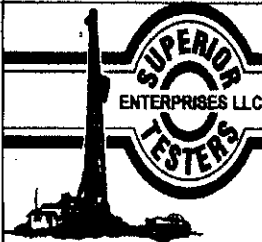
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2121.85	114.11	Initial Hydro-static
1	93.82	114.36	Open To Flow (1)
32	371.94	114.38	Shut-In(1)
77	1212.25	115.80	End Shut-In(1)
78	378.21	115.54	Open To Flow(2)
123	535.84	116.75	Shut-In(2)
187	1194.30	118.30	End Shut-In(2)
187	2013.86	118.53	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
570.00	MUD WATER 15%MUD 85%WATER	2.80
190.00	MUD WATER 15%MUD 85%WATER	2.57
190.00	VERY SLIGHTLEY OIL CUT MUD WATER	2.67
0.00	35%MUD 2%OIL 3%GAS 60%WATER	0.00
115.00	SLIGHTLEY OIL CUT MUDDY WATER	1.61
0.00	5%GAS 5%OIL 30%MUD 60%WATER	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15924

DST#: 8

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.28 @ 05:18:00

## GENERAL INFORMATION:

Formation: **LANSING K-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:37:30

Time Test Ended: 13:08:00

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-SCOTT CITY -95

Interval: **4175.00 ft (KB) To 4255.00 ft (KB) (TVD)**

Reference Elevations: 2919.00 ft (KB)

Total Depth: 4255.00 ft (KB) (TVD)

2912.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8525

Outside

Press@RunDepth: 1192.86 psia @ 4252.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.28

End Date:

2010.08.28

Last Calib.: 2010.08.28

Start Time: 05:18:00

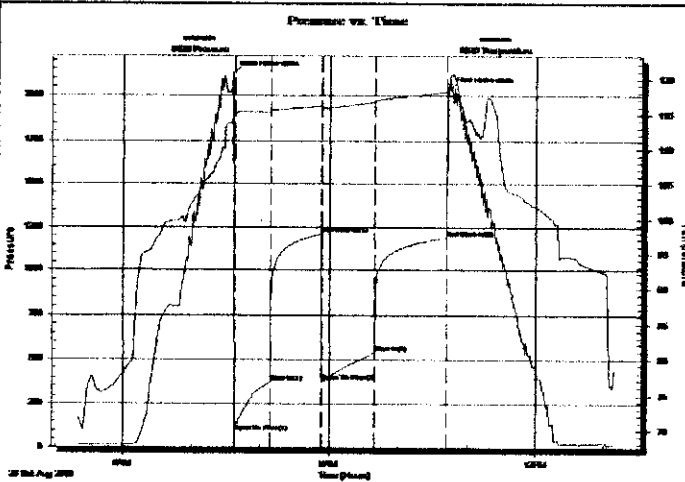
End Time:

13:09:30

Time On Btm: 2010.08.28 @ 07:36:00

Time Off Btm: 2010.08.28 @ 10:43:30

TEST COMMENT: 30/INITIAL OPEN:STRONG BLOW BUILT BOTTOM OF BUCKET IN 8 MINUTES  
 45/INITIAL SHUT IN: NO BLOW BACK  
 45/FINAL OPEN:STRONG BLOW BUILT BOTTOM OF BUCKET IN 11 MINUTES  
 60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2122.69	114.74	Initial Hydro-static
1	90.78	114.74	Open To Flow (1)
33	372.22	115.34	Shut-In(1)
77	1211.54	116.20	End Shut-In(1)
78	376.76	115.90	Open To Flow (2)
123	535.60	116.69	Shut-In(2)
187	1192.86	118.16	End Shut-In(2)
188	2032.92	118.42	Final Hydro-static

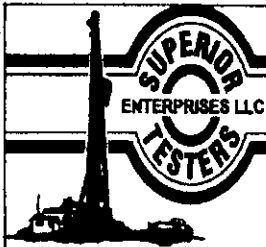
## Recovery

Length (ft)	Description	Volume (bbl)
570.00	MUD WATER 15%MUD 85%WATER	2.80
190.00	MUD WATER 15%MUD 85%WATER	2.57
190.00	VERY SLIGHTLEY OIL CUT MUD WATER	2.67
0.00	35%MUD 2%OIL 3%GAS 60%WATER	0.00
115.00	SLIGHTLEY OIL CUT MUDDY WATER	1.61
0.00	5%GAS 5%OIL 30%MUD 60%WATER	0.00

## Gas Rates

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





# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15924

DST#: 8

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.28 @ 05:18:00

## Tool Information

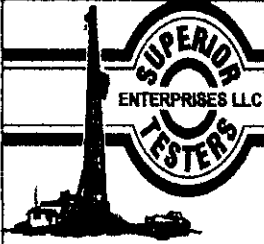
Drill Pipe:	Length: 3593.00 ft	Diameter: 3.80 inches	Volume: 50.40 bbl	Tool Weight: 1000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 580.00 ft	Diameter: 2.25 inches	Volume: 2.85 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: 53.25 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4175.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	101.00 ft			
Number of Packers:	2	Diameter: 6.88 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4155.00	
Shut-In Tool	5.00			4160.00	
Hydraulic Tool	5.00			4165.00	
Recorder	5.00			4170.00	
Packer	5.00			4175.00	21.00 Bottom Of Top Packer
Change Over Sub	0.75			4175.75	
Drill Pipe	63.50			4239.25	
Change Over Sub	0.75			4240.00	
Perforations	10.00			4250.00	
Recorder	1.00	8405	Inside	4251.00	
Recorder	1.00	8525	Outside	4252.00	
Bullnose	3.00			4255.00	80.00 Anchor Tool

**Total Tool Length: 101.00**



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15924

DST#: 8

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.28 @ 05:18:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.00 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psia

Salinity: 4900.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
570.00	MUD WATER 15%MUD 85%WATER	2.803
190.00	MUD WATER 15%MUD 85%WATER	2.574
190.00	VERY SLIGHTLEY OIL CUT MUD WATER	2.665
0.00	35%MUD 2%OIL 3%GAS 60%WATER	0.000
115.00	SLIGHTLEY OIL CUT MUDDY WATER	1.613
0.00	5%GAS 5%OIL 30%MUD 60%WATER	0.000
20.00	OIL CUT MUD & WATER	0.281
0.00	5%GAS 5%OIL 30%MUD 60%WATER	0.000
0.00	CHLORIDES 50,000	0.000
0.00	RESISTIVITY .1 @ 70 DEGREES	0.000

Total Length: 1085.00 ft      Total Volume: 9.936 bbl

Num Fluid Samples: 0

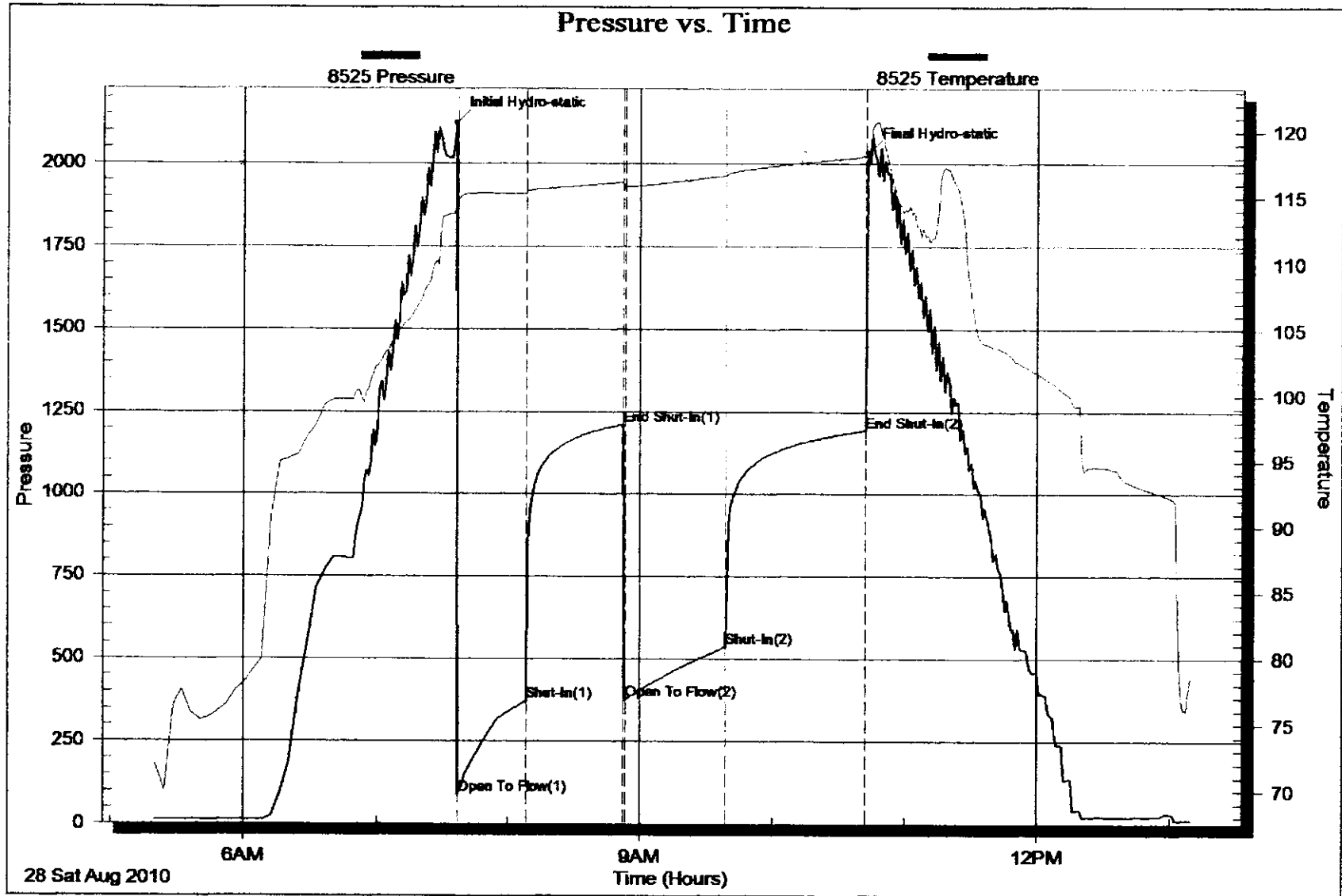
Num Gas Bombs: 0

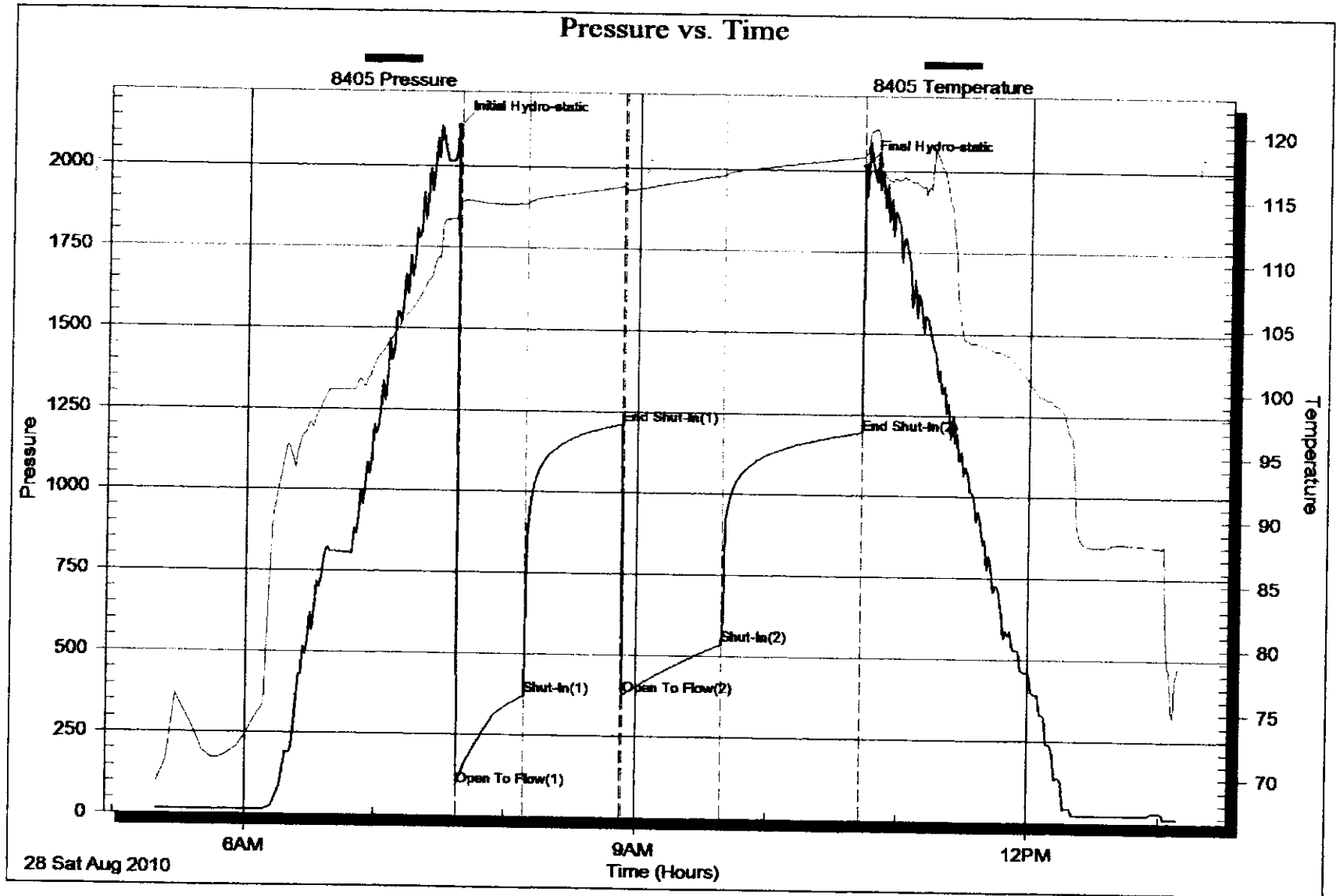
Serial #:

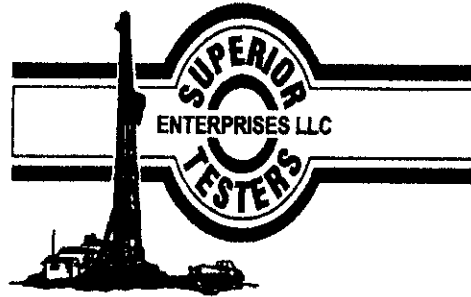
Laboratory Name:

Laboratory Location:

Recovery Comments: CHLORIDES 50,000







## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION**

8100 E 22ND ST N #700 WICHITA KS  
67278+3188

ATTN: MIKE ENGELBRECHT

**30-13-31W GOVE**

**STIEBEN #1 30BC**

Start Date: 2010.08.29 @ 09:18:00

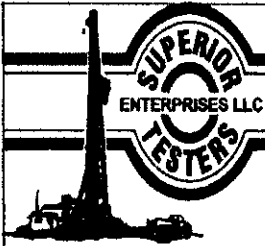
End Date: 2010.08.29 @ 16:51:00

Job Ticket #: 15925                      DST #: 9

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

Printed: 2010.08.29 @ 17:40:07

RITCHIE EXPLORATION      STIEBEN #1 30BC      30-13-31W GOVE      DST # 9      MYRIC      2010.08.29



# DRILL STEM TEST REPORT

RITCHEE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15925

DST#: 9

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.29 @ 09:18:00

## GENERAL INFORMATION:

Formation: **MYRIC**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:45:30

Time Test Ended: 16:51:00

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-SCOTT CITY-95

Interval: 4391.00 ft (KB) To 4423.00 ft (KB) (TVD)

Total Depth: 4423.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2919.00 ft (KB)

2912.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8405

Inside

Press@RunDepth: 449.04 psia @ 4419.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.29

End Date:

2010.08.29

Last Calib.: 2010.08.29

Start Time: 09:18:00

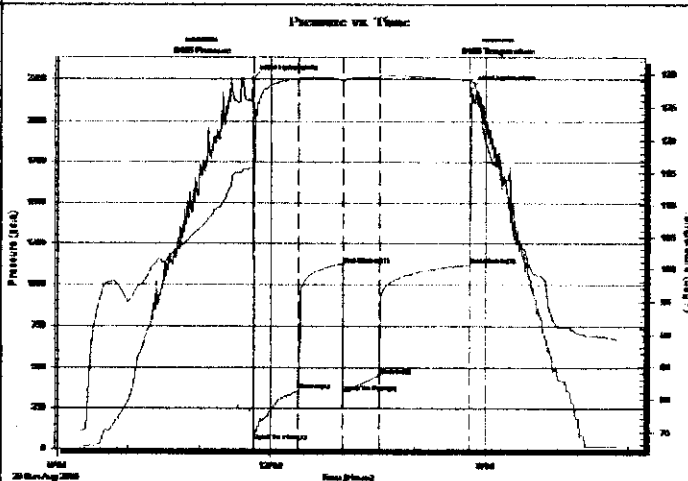
End Time:

16:51:00

Time On Btm: 2010.08.29 @ 11:45:00

Time Off Btm: 2010.08.29 @ 14:47:30

TEST COMMENT: 30/INITIAL OPEN:FAIR BLOW BUILT BOTTOM OF BUCKET IN 12 MINUTES  
 45/INITIAL SHUT IN:NO BLOW BACK  
 45/FINAL OPEN:FAIR BLOW BUILT BOTTOM OF BUCKET IN 16 MINUTES  
 60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

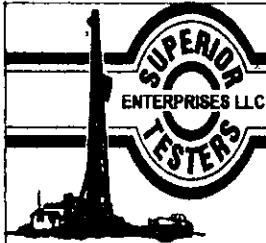
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2252.37	116.07	Initial Hydro-static
1	47.34	115.41	Open To Flow (1)
38	358.88	129.35	Shut-In(1)
75	1114.84	129.19	End Shut-In(1)
76	349.54	128.80	Open To Flow(2)
106	449.04	129.63	Shut-In(2)
182	1117.49	129.15	End Shut-In(2)
183	2196.44	128.94	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
675.00	MUDDY WATER 15%MUD 85%WATER	4.18
240.00	MUDDY WATER 40%MUD 60%WATER	3.37
0.00	RESISTIVITY .15 72 DEGREES	0.00
0.00	CHLORIDES 60,000	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15925

DST#: 9

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.29 @ 09:18:00

## GENERAL INFORMATION:

Formation: **MYRIC**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:45:30

Time Test Ended: 16:51:00

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320-SCOTT CITY-95

Interval: **4391.00 ft (KB) To 4423.00 ft (KB) (TVD)**

Total Depth: 4423.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2919.00 ft (KB)

2912.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8525

Outside

Press@RunDepth: 1116.63 psia @ 4420.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.29

End Date:

2010.08.29

Last Calib.:

2010.08.29

Start Time:

09:18:00

End Time:

17:12:00

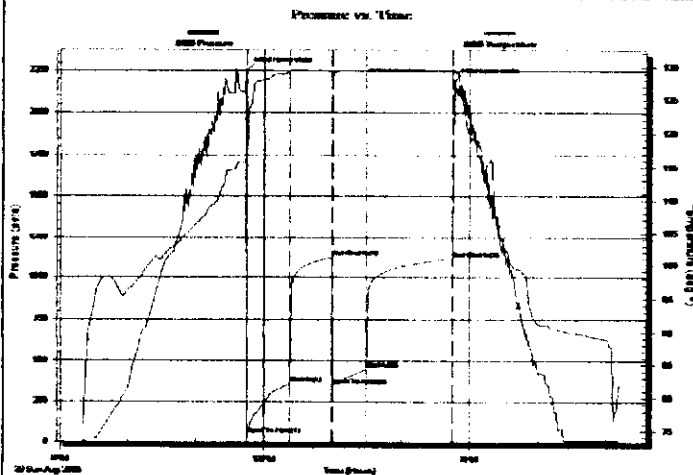
Time On Btm:

2010.08.29 @ 11:44:30

Time Off Btm:

2010.08.29 @ 14:47:00

TEST COMMENT: 30/INITIAL OPEN FAIR BLOW BUILT BOTTOM OF BUCKET IN 12 MINUTES  
 45/INITIAL SHUT IN NO BLOW BACK  
 45/FINAL OPEN AIR BLOW BUILT BOTTOM OF BUCKET IN 16 MINUTES  
 60/FINAL SHUT IN NO BLOW BACK



## PRESSURE SUMMARY

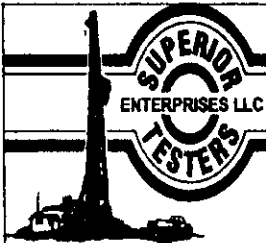
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2252.62	117.20	Initial Hydro-static
1	47.83	116.85	Open To Flow (1)
38	358.04	129.20	Shut-In (1)
75	1123.42	129.33	End Shut-In (1)
76	349.03	128.81	Open To Flow (2)
105	446.82	129.43	Shut-In (2)
181	1116.63	129.48	End Shut-In (2)
183	2189.78	129.19	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
675.00	MUDDY WATER 15%MUD 85%WATER	4.18
240.00	MUDDY WATER 40%MUD 60%WATER	3.37
0.00	RESISTIVITY .15 72 DEGREES	0.00
0.00	CHLORIDES 60,000	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15925

DST#: 9

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.29 @ 09:18:00

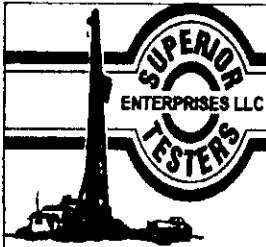
## Tool Information

Drill Pipe:	Length: 3821.00 ft	Diameter: 3.80 inches	Volume: 53.60 bbl	Tool Weight: 1000.00 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: 580.00 ft	Diameter: 2.25 inches	Volume: 2.85 bbl	Weight to Pull Loose: 89000.00 lb
			<b>Total Volume: 56.45 bbl</b>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4391.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: 6.88 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4371.00	
Shut-In Tool	5.00			4376.00	
Hydraulic Tool	5.00			4381.00	
Packer	5.00			4386.00	21.00 Bottom Of Top Packer
Packer	5.00			4391.00	
Perforations	27.00			4418.00	
Recorder	1.00	8405	Inside	4419.00	
Recorder	1.00	8525	Outside	4420.00	
Bullnose	3.00			4423.00	32.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>53.00</b>				





# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 15925

DST#: 9

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.29 @ 09:18:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.80 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psia

Salinity: 4800.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
675.00	MUDDY WATER 15%MUD 85%WATER	4.185
240.00	MUDDY WATER 40%MUD 60%WATER	3.367
0.00	RESISTIVITY .15 72 DEGREES	0.000
0.00	CHLORIDES 60.000	0.000

Total Length: 915.00 ft

Total Volume: 7.552 bbl

Num Fluid Samples: 0

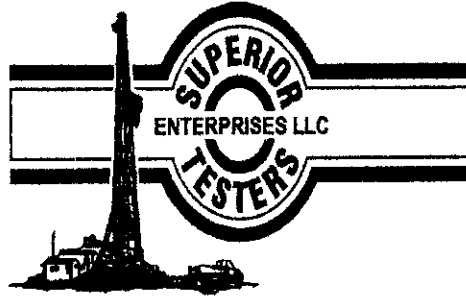
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION**

8100 E 22ND ST N #700 WICHITA KS  
67278+3188

ATTN: MIKE ENGELBRECHT

**30-13-31W GOVE**

**STIEBEN #1 30BC**

Start Date: 2010.08.30 @ 01:05:00

End Date: 2010.08.30 @ 08:44:30

Job Ticket #: 16051                      DST #: 10

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

Printed: 2010.08.30 @ 11:01:57

RITCHIE EXPLORATION

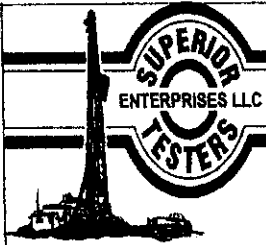
STIEBEN #1 30BC

30-13-31W GOVE

DST # 10

FT SCOTT

2010.08.30



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

ATTN: MIKE ENGELBRECHT

Job Ticket: 16051

DST#: 10

Test Start: 2010.08.30 @ 01:05:00

## GENERAL INFORMATION:

Formation: FT SCOTT

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:09:30

Time Test Ended: 08:44:30

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320- SCOTT CITY -95

Interval: 4420.00 ft (KB) To 4457.00 ft (KB) (TVD)

Total Depth: 4457.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2919.00 ft (KB)

2912.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8405

Inside

Press@RunDepth: 447.35 psia @ 4453.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.30

End Date:

2010.08.30

Last Calib.:

2010.08.30

Start Time: 01:07:00

End Time:

08:44:30

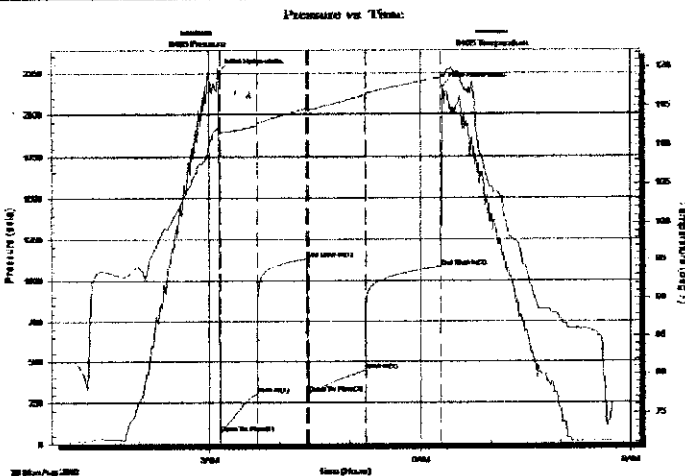
Time On Btm:

2010.08.30 @ 03:08:30

Time Off Btm:

2010.08.30 @ 06:19:00

TEST COMMENT: 30/INITIAL OPEN:FAIR BLOW BUILT BOTTOM OF BUCKET IN 14 MINUTES  
 45/INITIAL SHUT IN:NO BLOW BLOW  
 45/FINAL OPEN:WEAK BLOW BUILT BOTTOM OF BUCKET IN 27 MINUTES  
 60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

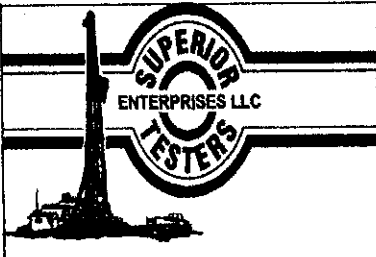
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2256.38	112.37	Initial Hydro-static
1	67.32	111.76	Open To Flow (1)
33	305.23	112.55	Shut-in(1)
75	1127.25	114.75	End Shut-in(1)
76	309.08	114.49	Open To Flow (2)
125	447.35	116.42	Shut-in(2)
189	1077.83	118.71	End Shut-in(2)
191	2169.24	118.85	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
915.00	MUDDY WATER 10% MUD 90% WATER	7.55
0.00	CHLORIDES 55,000	0.00
0.00	RESISTIVITY .15 @70 DEGREES	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

**STIEBEN #1 30BC**

8100 E 22ND ST N #700 WICHITA KS 67278+3188

**30-13-31W GOVE**

Job Ticket: 16051

DST#: 10

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.30 @ 01:05:00

## GENERAL INFORMATION:

Formation: **FT SCOTT**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:09:30

Time Test Ended: 08:44:30

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320- SCOTT CITY -95

Interval: **4420.00 ft (KB) To 4457.00 ft (KB) (TVD)**

Total Depth: 4457.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2919.00 ft (KB)

2912.00 ft (CF)

KB to GR/CF: 7.00 ft

**Serial #: 8525**

**Outside**

Press@RunDepth: 1077.71 psia @ 4454.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.30

End Date:

2010.08.30

Last Calib.: 2010.08.30

Start Time: 01:07:00

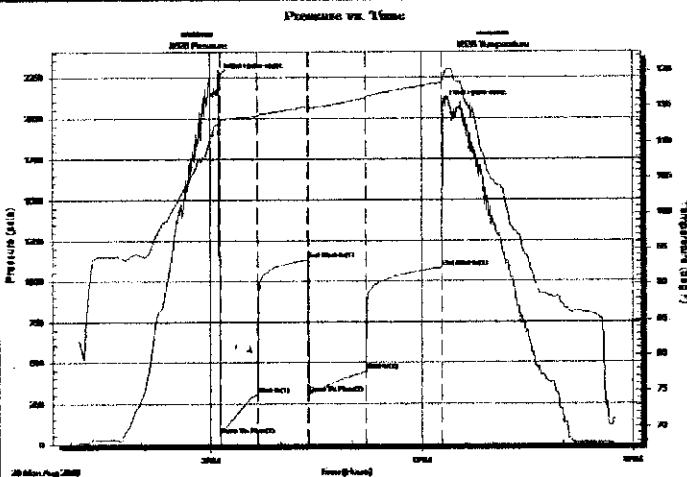
End Time:

08:44:30

Time On Btm: 2010.08.30 @ 03:07:30

Time Off Btm: 2010.08.30 @ 06:18:00

TEST COMMENT: 30/INITIAL OPEN:FAIR BLOW BUILT BOTTOM OF BUCKET IN 14 MINUTES  
 45/INITIAL SHUT IN:NO BLOW BLOW  
 45/FINAL OPEN:WEAK BLOW BUILT BOTTOM OF BUCKET IN 27 MINUTES  
 60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

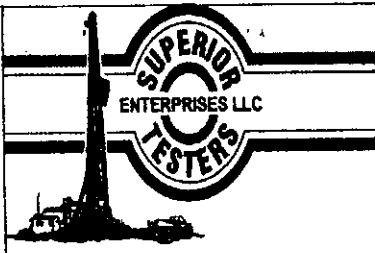
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2256.05	113.47	Initial Hydro-static
1	56.59	112.99	Open To Flow (1)
33	304.47	113.61	Shut-In(1)
76	1127.23	114.99	End Shut-in(1)
77	309.11	114.72	Open To Flow (2)
125	446.85	116.15	Shut-In(2)
190	1077.71	118.31	End Shut-in(2)
191	2084.70	118.70	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
915.00	MUDDY WATER 10%MUD 90%WATER	7.55
0.00	CHLORIDES 55,000	0.00
0.00	RESISTIVITY .15 @70 DEGREES	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION  
 8100 E 22ND ST N #700 WICHITA KS 67278+3188  
 ATTN: MIKE ENGELBRECHT

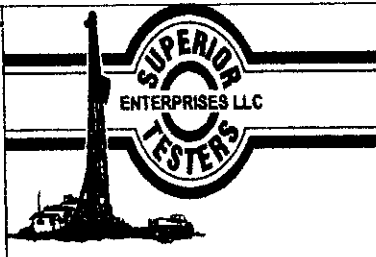
STIEBEN #1 30BC  
 30-13-31W GOVE  
 Job Ticket: 16051      DST#: 10  
 Test Start: 2010.08.30 @ 01:05:00

## Tool Information

Drill Pipe:	Length: 3824.00 ft	Diameter: 3.80 inches	Volume: 53.64 bbl	Tool Weight:	1000.00 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: 580.00 ft	Diameter: 2.25 inches	Volume: 2.85 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 56.49 bbl</u>	Tool Chased:	0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial	75000.00 lb
Depth to Top Packer:	4420.00 ft			Final	75000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	37.00 ft				
Tool Length:	58.00 ft				
Number of Packers:	2	Diameter: 6.88 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4400.00	
Shut-In Tool	5.00			4405.00	
Hydraulic Tool	5.00			4410.00	
Packer	5.00			4415.00	21.00      Bottom Of Top Packer
Packer	5.00			4420.00	
Perforations	32.00			4452.00	
Recorder	1.00	8405	Inside	4453.00	
Recorder	1.00	8525	Outside	4454.00	
Bullnose	3.00			4457.00	37.00      Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>58.00</b>				



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 16051

DST#: 10

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.30 @ 01:05:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.79 in <sup>2</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 4800.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
915.00	MUDDY WATER 10%MUD 90%WATER	7.552
0.00	CHLORIDES 55,000	0.000
0.00	RESISTIVITY .15 @70 DEGREES	0.000

Total Length: 915.00 ft      Total Volume: 7.552 bbl

Num Fluid Samples: 0

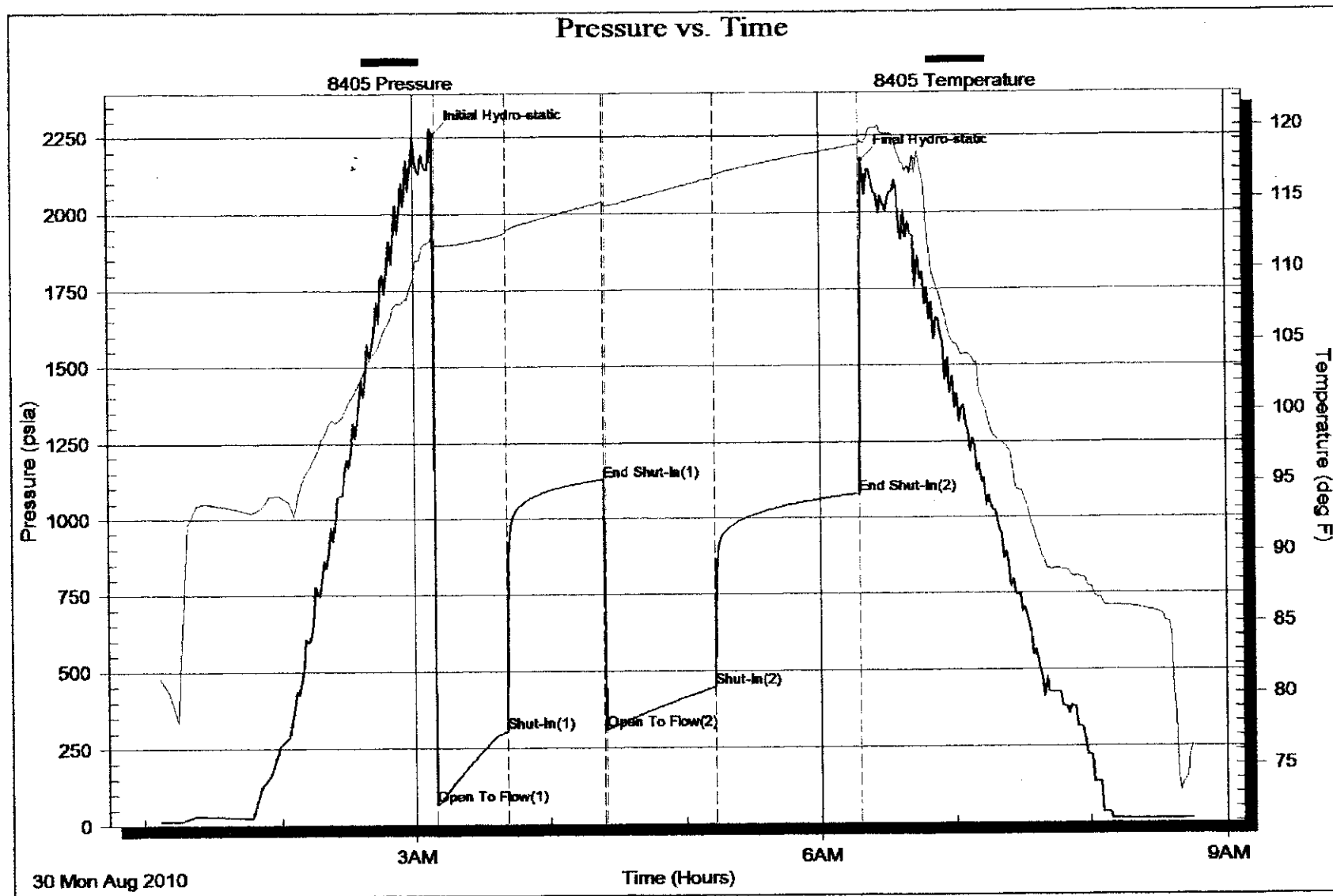
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

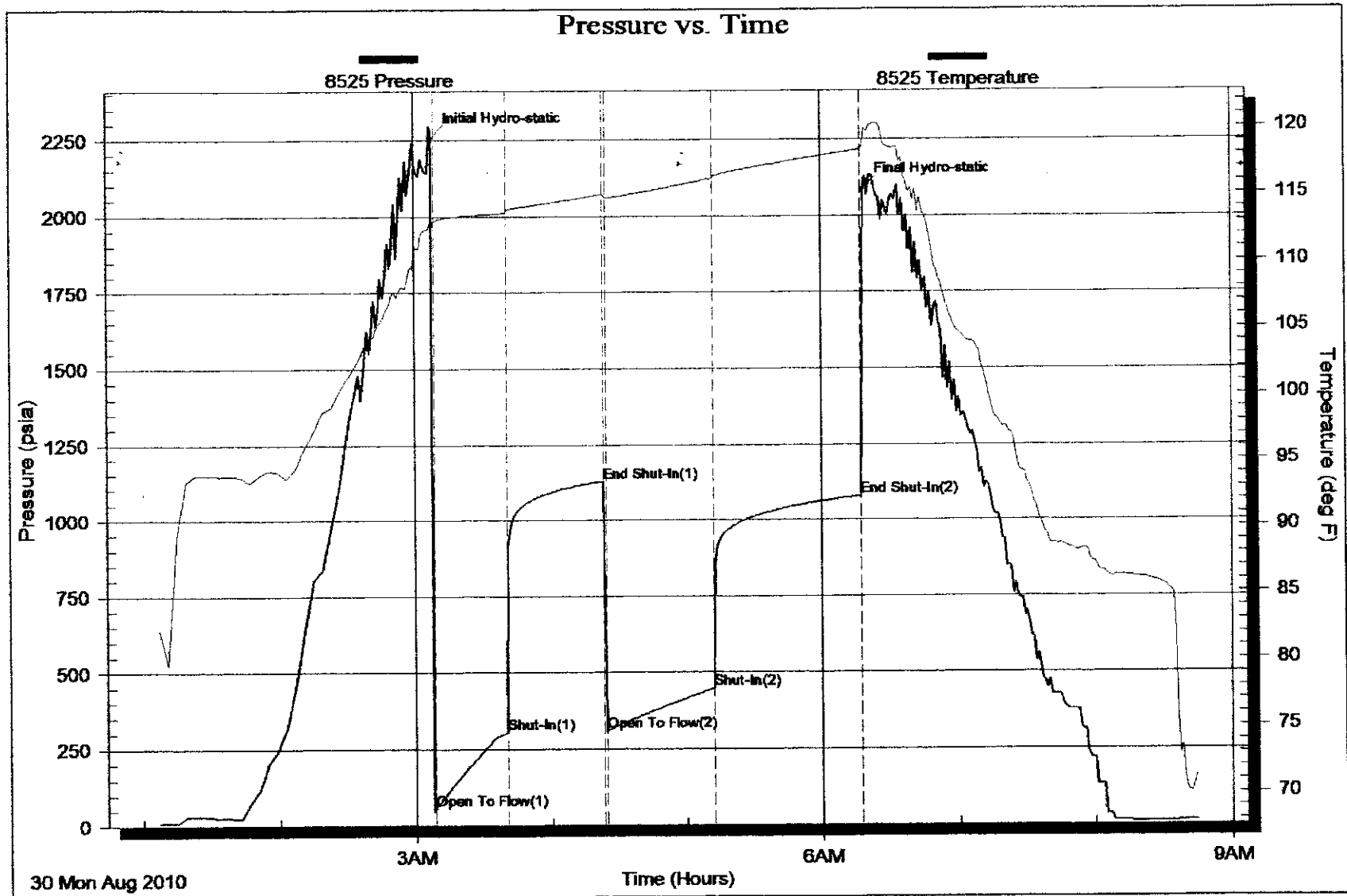


Serial #: 8525

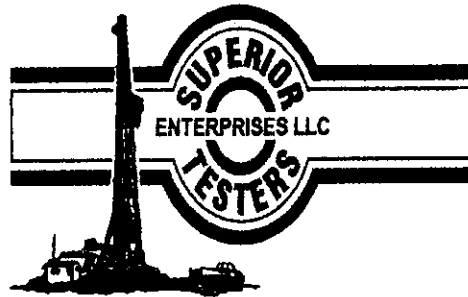
Outside RITCHIE EXPLORATION

30-13-31W GOVE

DST Test Number: 10







## DRILL STEM TEST REPORT

Prepared For: **RITCHIE EXPLORATION**

8100 E 22ND ST N #700 WICHITA KS  
67278+3188

ATTN: MIKE ENGELBRECHT

**30-13-31W GOVE**

**STIEBEN #1 30BC**

Start Date: 2010.08.30 @ 18:06:00

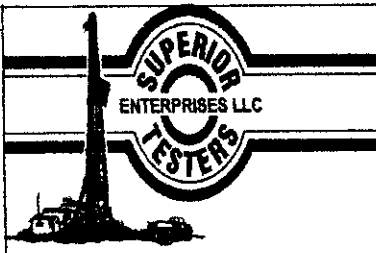
End Date: 2010.08.31 @ 01:37:00

Job Ticket #: 16052                      DST #: 11

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

Printed: 2010.08.31 @ 02:11:51

RITCHIE EXPLORATION      STIEBEN #1 30BC      30-13-31W GOVE      DST # 11      JOHNSON      2010.08.30



# DRILL STEM TEST REPORT

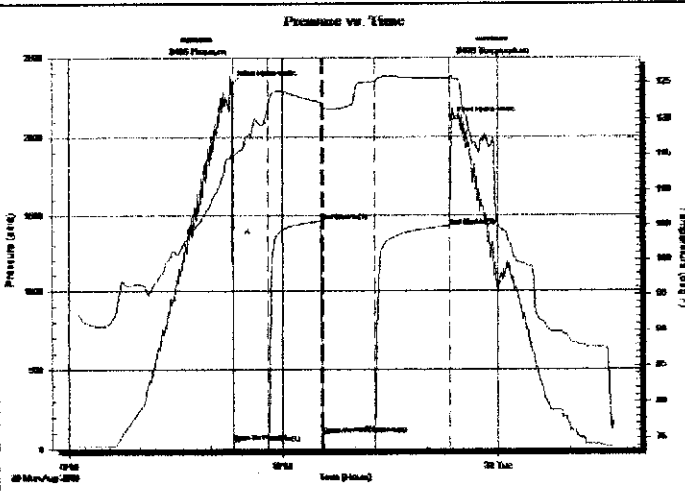
RITCHE EXPLORATION STIEBEN #1 30BC  
 8100 E 22ND ST N #700 WICHITA KS 67278+3188 30-13-31W GOVE  
 ATTN: MIKE ENGELBRECHT Job Ticket: 16052 DST#: 11  
Test Start: 2010.08.30 @ 18:06:00

## GENERAL INFORMATION:

Formation: **JOHNSON**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 20:18:30  
 Time Test Ended: 01:37:00  
 Interval: **4480.00 ft (KB) To 4513.00 ft (KB) (TVD)**  
 Total Depth: **4513.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: JARED SCHECK  
 Unit No: 3320- SCOTT CITY -95  
 Reference Elevations: 2919.00 ft (KB)  
 2912.00 ft (CF)  
 KB to GR/CF: 7.00 ft

**Serial #: 8405** Inside  
 Press@RunDepth: 147.61 psia @ 4509.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2010.08.30 End Date: 2010.08.31 Last Calib.: 2010.08.31  
 Start Time: 18:06:00 End Time: 01:37:00 Time On Btm: 2010.08.30 @ 20:17:30  
 Time Off Btm: 2010.08.30 @ 23:20:30

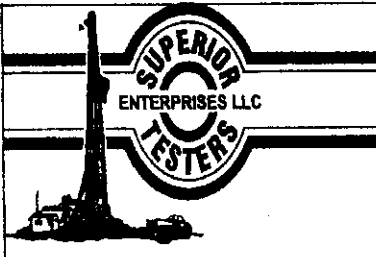
TEST COMMENT: 30/INITIAL OPEN:WEAK BUT BUILDING BLOW BUILT 6 INCHES INTO WATER IN 30 MINUTES  
 45/INITIAL SHUT IN:NO BLOW BACK  
 45/FINAL OPEN:WEAK BUT BUILDING BLOW BUILT 6 1/2 INCHES INTO WATER IN 45 MINUTES  
 60/FINAL SHUT IN:NO BLOW BACK



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2338.05	115.62	Initial Hydro-static
1	44.71	115.14	Open To Flow (1)
31	90.63	122.12	Shut-In(1)
75	1462.90	122.42	End Shut-In(1)
76	95.34	121.74	Open To Flow (2)
119	147.61	125.26	Shut-In(2)
182	1428.71	125.75	End Shut-In(2)
183	2108.72	126.09	Final Hydro-static

Recovery			
Length (ft)	Description	Volume (bbl)	
95.00	MUDDY OIL 15%MUD 85%OIL	0.47	
190.00	MUDDY OIL 30%MUD 70%OIL	0.93	

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



# DRILL STEM TEST REPORT

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 16052

DST#: 11

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.30 @ 18:06:00

## GENERAL INFORMATION:

Formation: **JOHNSON**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:18:30

Time Test Ended: 01:37:00

Test Type: Conventional Bottom Hole (Initial)

Tester: JARED SCHECK

Unit No: 3320- SCOTT CITY -95

Interval: **4480.00 ft (KB) To 4513.00 ft (KB) (TVD)**

Total Depth: 4513.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2919.00 ft (KB)

2912.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: **8525**

Outside

Press@RunDepth: 1428.50 psia @ 4510.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2010.08.30

End Date:

2010.08.31

Last Calib.:

2010.08.31

Start Time: 18:06:00

End Time:

01:37:00

Time On Btm:

2010.08.30 @ 20:17:00

Time Off Btm:

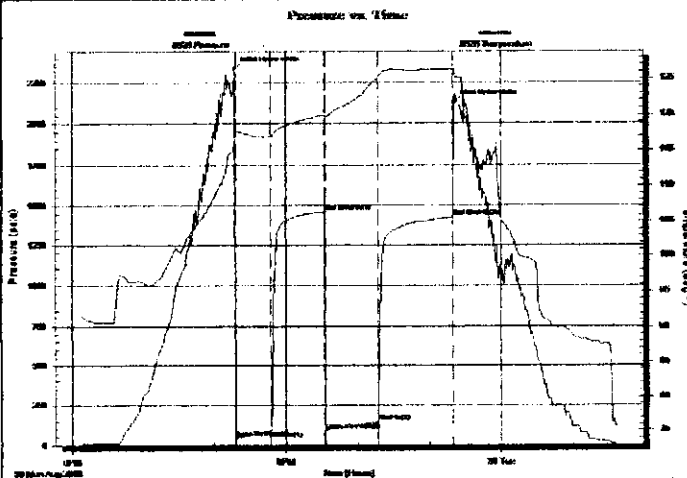
2010.08.30 @ 23:20:00

TEST COMMENT: 30/INITIAL OPEN:WEAK BUT BUILDING BLOW BUILT 6 INCHES INTO WATER IN 30 MINUTES

45/INITIAL SHUT IN:NO BLOW BACK

45/FINAL OPEN:WEAK BUT BUILDING BLOW BUILT 6 1/2 INCHES INTO WATER IN 45 MINUTES

60/FINAL SHUT IN:NO BLOW BACK



## PRESSURE SUMMARY

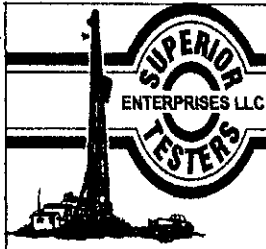
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2333.55	116.58	Initial Hydro-static
1	43.07	117.31	Open To Flow (1)
31	89.75	116.96	Shut-In(1)
76	1463.31	119.97	End Shut-In(1)
77	93.81	119.57	Open To Flow (2)
120	147.71	125.03	Shut-In(2)
183	1428.50	126.29	End Shut-In(2)
183	2125.17	126.43	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
95.00	MUDDY OIL 15%MUD 85%OIL	0.47
190.00	MUDDY OIL 30%MUD 70%OIL	0.93

## Gas Rates

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



# DRILL STEM TEST REPORT

TOOL DIAGRAM

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 16052

DST#: 11

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.30 @ 18:06:00

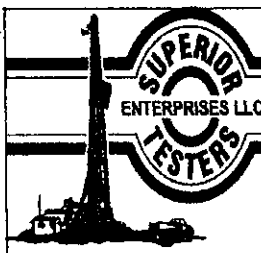
## Tool Information

Drill Pipe:	Length: 3887.00 ft	Diameter: 3.80 inches	Volume: 54.52 bbl	Tool Weight: 1000.00 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: 580.00 ft	Diameter: 2.25 inches	Volume: 2.85 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 57.37 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	4480.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	33.00 ft			
Tool Length:	54.00 ft			
Number of Packers:	2	Diameter: 6.88 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4460.00	
Shut-In Tool	5.00			4465.00	
Hydraulic Tool	5.00			4470.00	
Packer	5.00			4475.00	21.00 Bottom Of Top Packer
Packer	5.00			4480.00	
Perforations	28.00			4508.00	
Recorder	1.00	8405	Inside	4509.00	
Recorder	1.00	8525	Outside	4510.00	
Bullnose	3.00			4513.00	33.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>54.00</b>				



# DRILL STEM TEST REPORT

FLUID SUMMARY

RITCHE EXPLORATION

STIEBEN #1 30BC

8100 E 22ND ST N #700 WICHITA KS 67278+3188

30-13-31W GOVE

Job Ticket: 16052

DST#: 11

ATTN: MIKE ENGELBRECHT

Test Start: 2010.08.30 @ 18:06:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.00 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psia

Salinity: 4500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
95.00	MUDDY OIL 15%MUD 85%OIL	0.467
190.00	MUDDY OIL 30%MUD 70%OIL	0.934

Total Length: 285.00 ft      Total Volume: 1.401 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

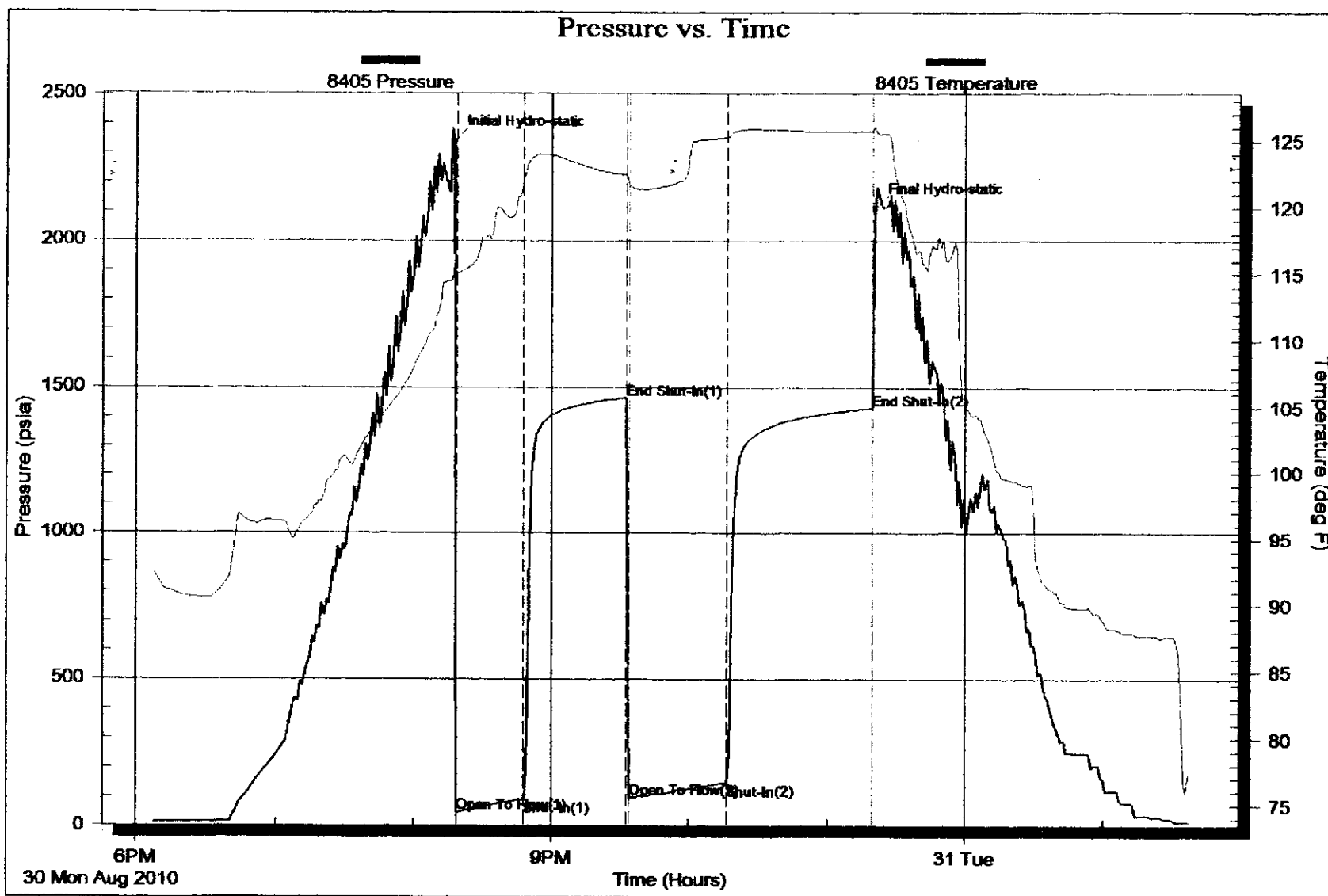
Recovery Comments:

Serial #: 8405

Inside RITCHE EXPLORATION

30-13-31W GOVE

DST Test Number: 11



Serial #: 8525

Outside RITCHIE EXPLORATION

30-13-31W GOVE

DST Test Number: 11

