

1-12-14

KCC WICHITA

CONFIDENTIAL

ORIGINAL

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

JAN 13 2012

RECEIVED

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION
WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 4767
Name: Ritchie Exploration, Inc.
Address 1: P.O. Box 783188
Address 2: _____
City: Wichita State: KS Zip: 67278 + 3188
Contact Person: John Niemberger
Phone: (316) 691-9500
CONTRACTOR: License # 5929
Name: Duke Drilling Company, Inc.
Wellsite Geologist: Terry McLeod
Purchaser: _____

Designate Type of Completion:
 New Well Re-Entry Workover
 Oil WSW SWD SIOW
 Gas D&A ENHR SIGW
 OG GSW Temp. Abd.
 CM (Coal Bed Methane)
 Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:
Operator: _____
Well Name: _____
Original Comp. Date: _____ Original Total Depth: _____
 Deepening Re-perf. Conv. to ENHR Conv. to SWD
 Conv. to GSW
 Plug Back: _____ Plug Back Total Depth _____
 Commingled Permit #: _____
 Dual Completion Permit #: _____
 SWD Permit #: _____
 ENHR Permit #: _____
 GSW Permit #: _____

9/30/11	10/10/11	10/10/11
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 057-20753-00-00
Spot Description: 80' S & 160' E
E/2 E/2 Sec. 32 Twp. 28 S. R. 23 East West
2,560 Feet from North / South Line of Section
500 Feet from East / West Line of Section
Footages Calculated from Nearest Outside Section Corner:
 NE NW SE SW
County: Ford
Lease Name: Arch Well #: 2
Field Name: _____
Producing Formation: Pawnee
Elevation: Ground: 2500 Kelly Bushing: 2512
Total Depth: 5300 Plug Back Total Depth: 5239
Amount of Surface Pipe Set and Cemented at: 374 Feet
Multiple Stage Cementing Collar Used? Yes No
If yes, show depth set: 1445 Feet
If Alternate II completion, cement circulated from: 1445
feet depth to: surface w/ 350 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)
Chloride content: 14700 ppm Fluid volume: 700 bbls
Dewatering method used: evaporation
Location of fluid disposal if hauled offsite: _____
Operator Name: _____
Lease Name: _____ License #: _____
Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West
County: _____ Permit #: _____

CONFIDENTIAL

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.

AFFIDAVIT
I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.
Signature: _____
Title: Production Manager Date: 1/12/12

KCC Office Use ONLY
 Letter of Confidentiality Received
Date: 1/12/12 - 1/12/14
 Confidential Release Date: _____
 Wireline Log Received
 Geologist Report Received
 UIC Distribution
ALT I II III Approved by: NJ Date: 1-18-12

Operator Name: Ritchie Exploration, Inc. Lease Name: Arch Well #: 2
 Sec. 32 Twp. 28 S. R. 23 East West County: Ford

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

Drill Stem Tests Taken <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 Electric Log Submitted Electronically <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i> List All E. Logs Run: Dual Induction Log Compensated Density/Neutron Log	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input checked="" type="checkbox"/> Sample Name Top Datum SEE ATTACHED <div style="text-align: center; font-weight: bold; font-size: 1.2em;"> RECEIVED JAN 13 2012 KCC WICHITA </div>
---	--

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	374	Common	250	3%cc, 2% gel
Production	7-7/8	4-1/2	10.5	5289	AA-2	200	10% salt, 5% W-60, 5#/bx qbentonite

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	4996.5' - 5009.5' (11/11/11)	2000 gals 15% NE	
			CONFIDENTIAL JAN 12 2014 KCC

TUBING RECORD: Size: <u>2-3/8"</u> Set At: <u>5207</u> Packer At: _____		Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Date of First, Resumed Production, SWD or ENHR. <u>11/22/11</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>96.56</u>	Gas Mcf <u>3.35</u>	Water Bbls. <u>39.1</u> Gas-Oil Ratio _____ Gravity _____

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 checked="" type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
---	--	--



KCC WICHITA

JAN 13 2014

RECEIVED

#2 Arch

2560' FSL & 500' FEL

80'S & 160'E of E/2 E/2 Section 32-28S-23W

Ford County, Kansas

API# 15-057-20753-0000

Elevation: 2500' GL: 2512' KB

Sample Tops

Anhydrite	N/A	
B/Anhydrite	N/A	
Stotler	3653'	-1141
Heebner	4304'	-1792
Toronto	4320'	-1808
Douglas	4387'	-1875
Brown Lime	4439'	-1927
Lansing	4449'	-1937
Muncie Shale	4647'	-2135
Hush.	4831'	-2319
BKC	4915'	-2403
Marmaton	4931'	-2419
Altamont	4946'	-2434
Pawnee	5014'	-2502
Upper Cherokee	5055'	-2543
Huck	5146'	-2634
Atoka	5157'	-2646
Morrow Section	5161'	-2649
Mississippian	5167'	-2655
RTD	5300'	-2788

CONFIDENTIAL

JAN 12 2014

KCC

RECEIVED
JAN 13 2012
KCC WICHITA

ALLIED CEMENTING CO., LLC. 037742

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

SERVICE POINT: Med. Lodge

DATE <u>1-30-11</u>	SEC. <u>32</u>	TWP. <u>28S</u>	RANGE <u>20W</u>	CALLED OUT	ON LOCATION	JOB START <u>1:30 pm</u>	JOB FINISH <u>2:00 pm</u>
LEASE <u>Arch</u>	WELL # <u>2</u>	LOCATION <u>Ford #1, N to Saddle Rd.</u>		COUNTY <u>Ford</u>	STATE <u>KS</u>		
OLD OR NEW (Circle one) <u>NEW</u>			<u>S. west to 20th, 4 south west into</u>				

CONTRACTOR Arch #1 OWNER Ritchie Exploration

TYPE OF JOB Surface

HOLE SIZE 12 1/4 TD. 376'

CASING SIZE 8 3/4 DEPTH 374'

TUBING SIZE _____ DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX 300 psi MINIMUM _____

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. 20'

PERFS. _____

DISPLACEMENT 22 1/2 bbls H₂O

CEMENT AMOUNT ORDERED 250 sx A + 3 1/2' cc + 2 1/2' gc

COMMON A 250 sx @ 16.25 4062.50

POZMIX @ _____

GEL 5 sx @ 21.25 106.25

CHLORIDE 9 sx @ 58.20 523.80

ASC @ _____

EQUIPMENT

PUMP TRUCK CEMENTER Arch #1

360/265 HELPER Arden Franklin

BULK TRUCK

6.B. DRIVER (G.B.)

BULK TRUCK

_____ DRIVER _____

HANDLING 264 @ 2.25 594.00

MILEAGE 607.11 / 264 @ 2.00 1214.22

TOTAL 7028.95

REMARKS:

Arch. pump 3 bbls H₂O ahead

MIX 250sx cement shut down

Release plug disp 22 1/2 bbls H₂O

Shut in cement did circulate.

SERVICE

DEPTH OF JOB 374'

PUMP TRUCK CHARGE 1125.00

EXTRA FOOTAGE 74 @ .95 70.30

MILEAGE 120 @ 7.00 840.00

MANIFOLD Hand port ac @ 200.00

120 light vehicle @ 4.00 480.00

CHARGE TO: Ritchie Exploration

STREET _____

CITY _____ STATE _____ ZIP _____

TOTAL 2715.30

8 5/8 PLUG & FLOAT EQUIPMENT

1-Rubber plug 112.00

@ _____

@ _____

@ _____

@ _____

@ _____

TOTAL 112.00

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cement 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 9856.25 CONFIDENTIAL

DISCOUNT 2277.49 IF PAID IN 30 DAYS

PRINTED NAME Mike Godfrey

SIGNATURE Mike Godfrey

JAN 12 2014
KCC

KCC WICHITA
 RECEIVED
 JAN 13 2012

ALLIED CEMENTING CO., LLC. 037393

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

SERVICE POINT: Great Bend, KS
70-7-11

DATE <u>9-30-11</u>	SEC <u>32</u>	TWP <u>28N</u>	RANGE <u>23W</u>	CALLED OUT	ON LOCATION	JOB START <u>8:30 AM</u>	JOB FINISH <u>5:30 PM</u>
LEASE <u>Arche</u>	WELL # <u>2</u>	LOCATION <u>Ford 1/4 North 5 West</u>	COUNTY <u>Ford</u>	STATE <u>KS</u>	10/1/11		
OLD OR NEW (Circle one)		<u>S south West (A)</u>					

CONTRACTOR Duke #1 OWNER Richie Exploration

TYPE OF JOB 1 inch surface

HOLE SIZE _____ T.D. _____

CASING SIZE _____ DEPTH _____

TUBING SIZE _____ DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. _____

PERFS. _____

DISPLACEMENT _____

CEMENT

AMOUNT ORDERED 150 SK CLASS A

30% CS 20% gel

used 175 SK

COMMON	<u>75</u>	@	<u>16.25</u>	<u>1,218.⁷⁵</u>
POZMIX		@		
GEL	<u>1</u>	@	<u>21.25</u>	<u>21.25</u>
CHLORIDE	<u>3</u>	@	<u>58.20</u>	<u>174.60</u>
ASC		@		

HANDLING 150 @ 2.25 337.⁵⁰

MILEAGE 150 x 60 x .11 990.⁰⁰

TOTAL 2,742.²⁵

EQUIPMENT

PUMP TRUCK CEMENTER Greg R

506 HELPER Shane K

BULK TRUCK

44-170 DRIVER Jacob K

BULK TRUCK

_____ DRIVER _____

KCC WICHITA

JAN 13 2012

RECEIVED

REMARKS:

rig up and pump 75 sks

class A 30% CS 20% gel

through 1 inch down

out side of surface

cement to circulate

rig down

SERVICE

DEPTH OF JOB			
PUMP TRUCK CHARGE			<u>1125.⁰⁰</u>
EXTRA FOOTAGE	@		
MILEAGE <u>Hvm</u>	<u>120</u>	@	<u>7.00</u> <u>840.⁰⁰</u>
MANIFOLD	@		
<u>Hvm</u>	<u>120</u>	@	<u>7.00</u> <u>840.⁰⁰</u>

TOTAL 2,445.⁰⁰

CHARGE TO: Richie Exploration

STREET _____

CITY _____ STATE _____ ZIP _____

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.

PRINTED NAME Mike Godfrey

SIGNATURE Mike Godfrey

SALES TAX (if Any) _____

TOTAL CHARGES 5,187.¹⁰

DISCOUNT 2,192.⁴²

TOTAL 2,994.⁶⁸

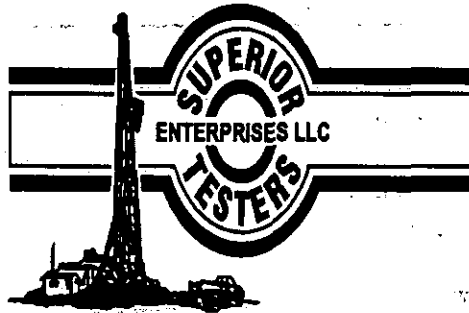
CONFIDENTIAL

IF PAID IN 10 DAYS

JAN 12 2012

KCC

[Handwritten mark]



DRILL STEM TEST REPORT

Prepared For: **Ritchie Exporation Inc**

8100 E 22nd st N # 700 Wichita KS
67276+3188

ATTN: Terry Mcleod

32-28s-23w Ford

Arch #2

Start Date: 2011.10.07 @ 09:35:00

End Date: 2011.10.07 @ 17:08:00

Job Ticket #: 18639 DST #: 1

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

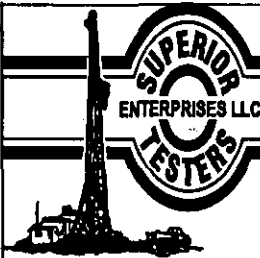
CONFIDENTIAL

JAN 12 2014

KCC

Printed: 2011.10.12 @ 13:52:44

Ritchie Exporation Inc Arch #2 32-28s-23w Ford DST # 1 c zone 2011.10.07



DRILL STEM TEST REPORT

Ritchie Exporation Inc

Arch #2

8100 E 22nd st N# 700 Wichita KS 67276+3188

32-28s-23w Ford

ATTN: Terry Mcleod

Job Ticket: 18639

DST#: 1

Test Start: 2011.10.07 @ 09:35:00

GENERAL INFORMATION:

Formation: c zone

Deviated: No Whipstock ft (KB)

Time Tool Opened: 11:52:30

Time Test Ended: 17:08:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3320-GB190

Interval: 4992.00 ft (KB) To 5014.00 ft (KB) (TVD)

Total Depth: 5014.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2512.00 ft (KB)

2500.00 ft (CF)

KB to GR/CF: 12.00 ft

Serial #: 8419

Inside

Press@RunDepth: 126.18 psia @ 5010.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2011.10.07

End Date: 2011.10.07

Last Calib.: 2011.10.07

Start Time: 09:36:00

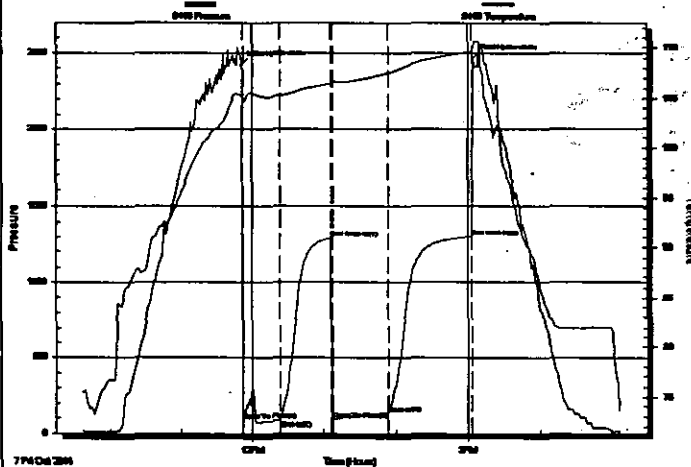
End Time: 17:08:00

Time On Btm: 2011.10.07 @ 11:51:00

Time Off Btm: 2011.10.07 @ 15:03:30

TEST COMMENT: 1st Opening 30 Minutes-Strong blow built bottom of bucket in 9 1/2 minutes
 1st Shut-in 45 Minutes-6 inch blow back
 2nd Opening 45 Minutes-Strong blow built bottom of bucket in 1 minutes
 2nd Shut-in 60 Minutes-3 inch blow back

Pressure vs. Time



PRESSURE SUMMARY

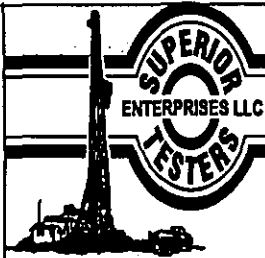
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2419.19	105.29	Initial Hydro-static
2	80.62	104.78	Open To Flow (1)
32	81.15	105.31	Shut-In(1)
76	1289.67	106.52	End Shut-In(1)
77	86.89	106.84	Open To Flow (2)
123	126.18	107.53	Shut-In(2)
192	1297.31	109.61	End Shut-In(2)
193	2462.66	110.26	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	Heavy oil cut muddy w ater	1.68
0.00	5%w ater 10%mud 40%oil 45%gas	0.00
180.00	Mud cut gassy oil 20%gas 40%oil 40%	2.52
0.00	4686 Feet gas in pipe	0.00
0.00	Gravity oil 42	0.00
0.00	Chlorides 10,000	0.00

Gas Rates

	Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)
First Gas Rate	0.13	25.20	9.43
Last Gas Rate	0.25	42.50	67.42
Max. Gas Rate	0.13	51.00	19.09



DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exporation Inc

Arch #2

8100 E 22nd st N# 700 Wchita KS 67276+3188

32-28s-23w Ford

Job Ticket: 18639

DST#: 1

ATTN: Terry Mcleod

Test Start: 2011.10.07 @ 09:35:00

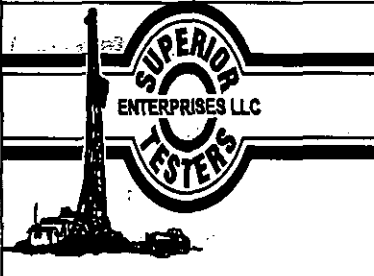
Tool Information

Drill Pipe:	Length: 4986.00 ft	Diameter: 3.80 inches	Volume: 69.94 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 57000.00 lb
			<u>Total Volume: 69.94 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	4992.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	50.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
SHut-InTool	5.00		Inside	4969.00	
Hydrolic Tool	5.00			4974.00	
Jars	6.00			4980.00	
Safety Joint	2.00			4982.00	
Packer	5.00			4987.00	28.00 Bottom Of Top Packer
Packer	5.00			4992.00	
Anchor	17.00			5009.00	
Recorder	1.00	8419	Inside	5010.00	
Recorder	1.00	8524	Outside	5011.00	
Bullnose	3.00			5014.00	22.00 Bottom Packers & Anchor
Total Tool Length:	50.00				



DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exporation Inc
 8100 E 22nd st N# 700 Wichita KS 67276+3188
 ATTN: Terry Mcleod

Arch #2
 32-28s-23w Ford
 Job Ticket: 18639 DST#: 1
 Test Start: 2011.10.07 @ 09:35:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API:
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 11.58 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 9500.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

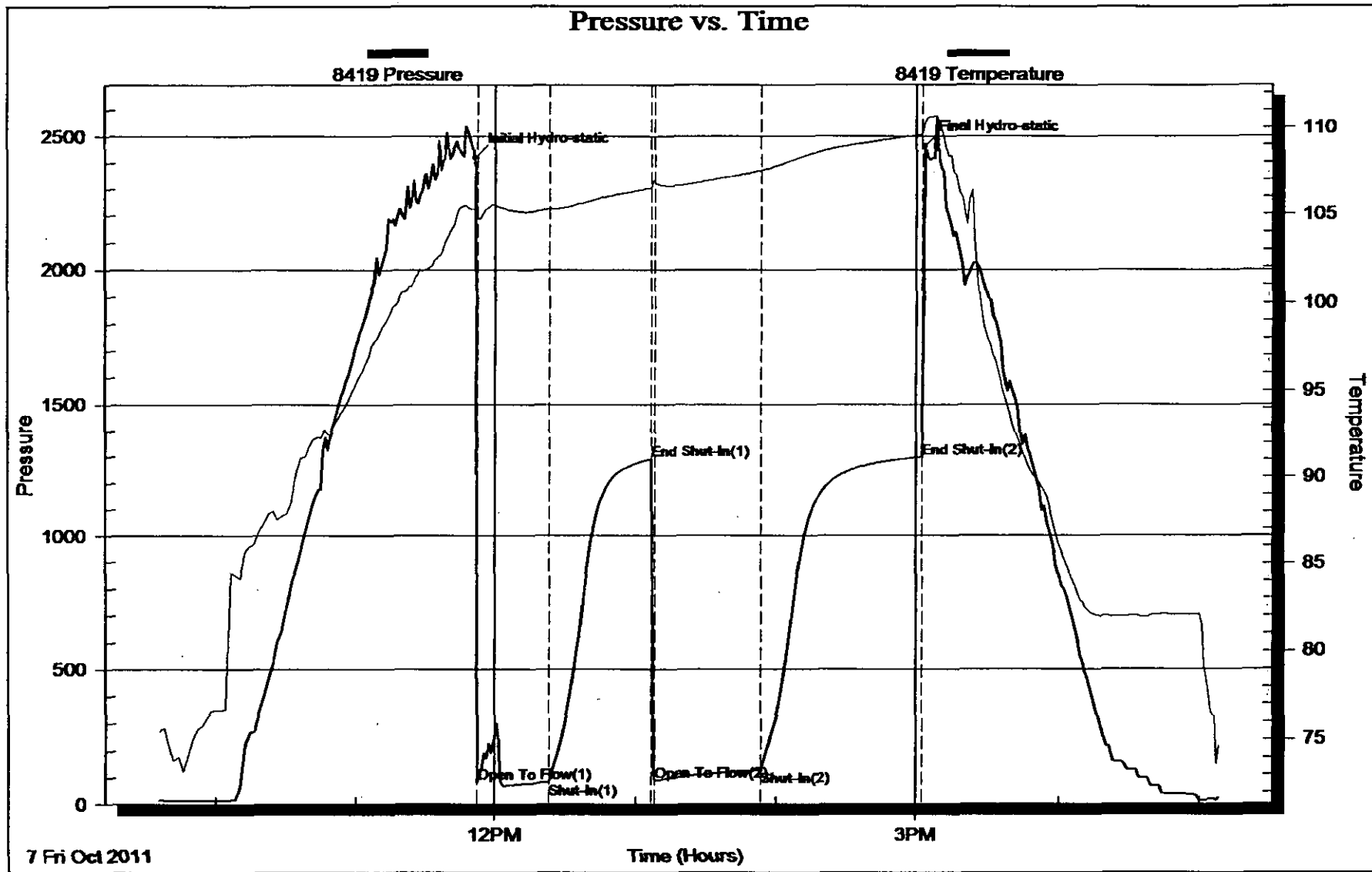
Length ft	Description	Volume bbl
120.00	Heavy oil cut muddy water	1.683
0.00	5%water 10%mud 40%oil 45%gas	0.000
180.00	Mud cut gassy oil 20%gas 40%oil 40%mud	2.525
0.00	4686 Feet gas in pipe	0.000
0.00	Gravity oil 42.92	0.000
0.00	Chlorides 10,000	0.000
0.00	Resistivity .1 @60	0.000

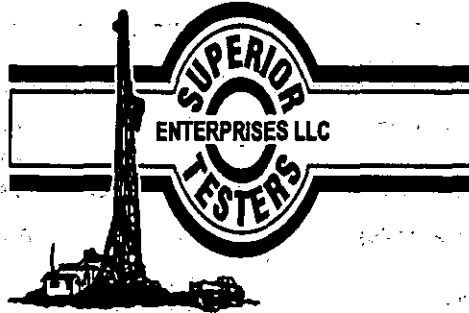
Total Length: 300.00 ft Total Volume: 4.208 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments: Gas to surface 12 Minutes into 2nd opening see gas report





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exporation Inc**

8100 E 22nd st N # 700 Wichita KS
67276+3188

ATTN: Terry Mcleod

32-28s-23w Ford

Arch #2

Start Date: 2011.10.08 @ 01:46:00

End Date: 2011.10.08 @ 08:24:00

Job Ticket #: 18640 DST #: 2

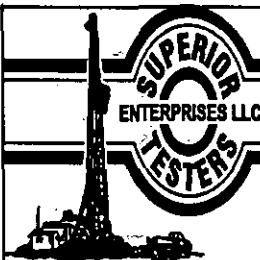
Superior Testers Enterprises LLC

PO Box 138 Great Bend KS 67530

1-800-792-6902

Printed: 2011.10.12 @ 13:53:11

Ritchie Exporation Inc Arch #2 32-28s-23w Ford DST # 2 Pawnee 2011.10.08



DRILL STEM TEST REPORT

Ritchie Exporation Inc
 8100 E.22nd st N# 700 Wichita KS 67276+3188
 ATTN: Terry Mcleod

Arch #2
 32-28s-23w Ford
 Job Ticket: 18640 DST#: 2
 Test Start: 2011.10.08 @ 01:46:00

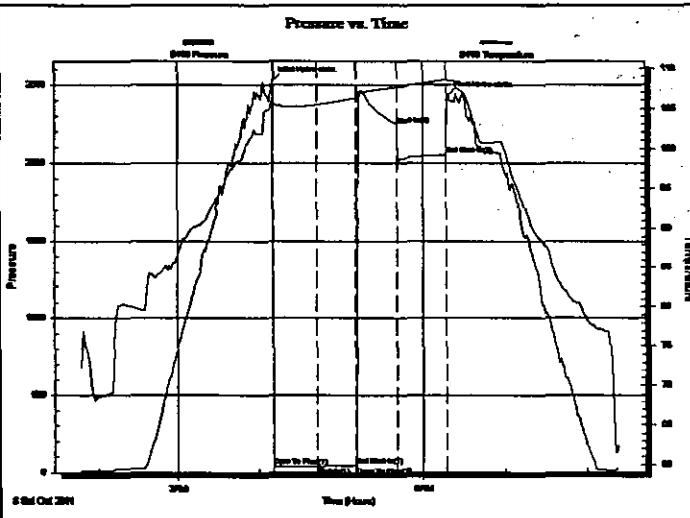
GENERAL INFORMATION:

Formation: **Pawnee**
 Deviated: **No Whipstock** ft (KB)
 Time Tool Opened: **04:10:30**
 Time Test Ended: **08:24:00**
 Interval: **5014.00 ft (KB) To 5028.00 ft (KB) (TVD)**
 Total Depth: **5028.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**
 Test Type: **Conventional Bottom Hole (Initial)**
 Tester: **Jared Scheck**
 Unit No: **3320-GB-190**
 Reference Elevations: **2512.00 ft (KB)**
2500.00 ft (CF)
 KB to GR/CF: **12.00 ft**

Serial #: 8419

Inside
 Press@RunDepth: **2247.96 psia @ 5024.00 ft (KB)** Capacity: **5000.00 psia**
 Start Date: **2011.10.08** End Date: **2011.10.08** Last Calib.: **2011.10.08**
 Start Time: **01:47:00** End Time: **08:24:00** Time On Btm: **2011.10.08 @ 04:10:00**
 Time Off Btm: **2011.10.08 @ 06:18:00**

TEST COMMENT: 1st Opening 30 Minutes-Very weak surface blow died off at the end of 1st open
 1st Shut-in 30 Minutes-No blow back
 2nd Opening 30 Minutes-Very weak surge did not build flushed tool weak surge did not build
 2nd Shut-in 30 Minutes-No blow back



PRESSURE SUMMARY

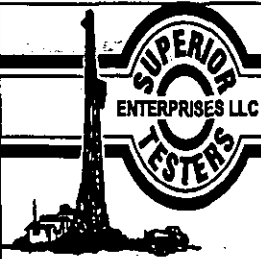
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2528.57	105.86	Initial Hydro-static
1	36.69	105.44	Open To Flow (1)
33	38.65	105.40	Shut-In(1)
61	42.03	106.22	End Shut-In(1)
62	39.50	106.26	Open To Flow (2)
91	2247.96	107.60	Shut-In(2)
127	2054.78	108.50	End Shut-In(2)
128	2430.39	108.37	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	mud	0.01

Gas Rates

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



DRILL STEM TEST REPORT

Ritchie Exporation Inc
 8100 E 22nd st N # 700 Wichita KS 67276+3188
 ATTN: Terry Mcleod

Arch #2
 32-28s-23w Ford
 Job Ticket: 18640 DST#: 2
 Test Start: 2011.10.08 @ 01:46:00

GENERAL INFORMATION:

Formation: Pawnee
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:10:30
 Time Test Ended: 08:24:00

Interval: 5014.00 ft (KB) To 5028.00 ft (KB) (TVD)
 Total Depth: 5028.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

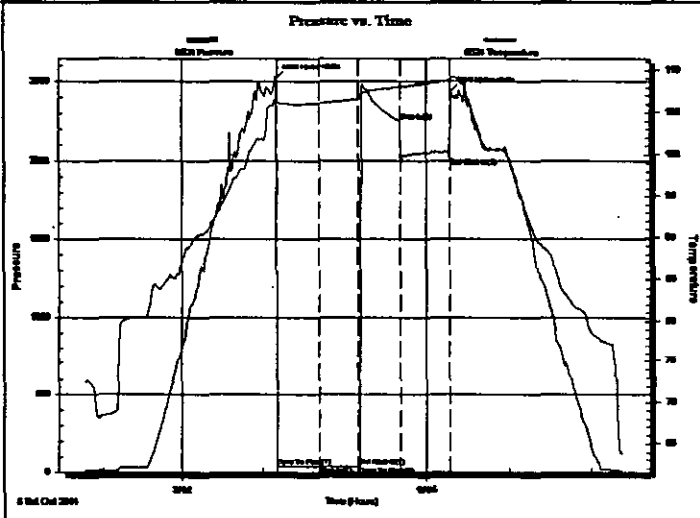
Test Type: Conventional Bottom Hole (Initial)
 Tester: Jared Scheck
 Unit No: 3320-GB-190

Reference Elevations: 2512.00 ft (KB)
 2500.00 ft (CF)
 KB to GR/CF: 12.00 ft

Serial #: 8524 Outside
 Press@RunDepth: 1961.80 psia @ 5025.00 ft (KB)
 Start Date: 2011.10.08 End Date: 2011.10.08
 Start Time: 01:47:00 End Time: 08:24:00

Capacity: 5000.00 psia
 Last Calib.: 2011.10.08
 Time On Btrr: 2011.10.08 @ 04:09:30
 Time Off Btrr: 2011.10.08 @ 06:17:30

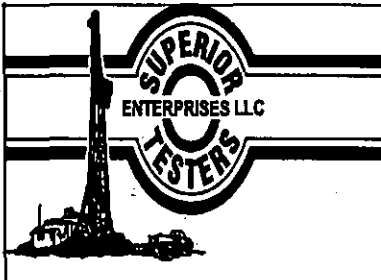
TEST COMMENT: 1st Opening 30 Minutes-Very weak surface blow died off at the end of 1st open
 1st Shut-in 30 Minutes-No blow back
 2nd Opening 30 Minutes-Very weak surge did not build flushed tool w weak surge did not build
 2nd Shut-in 30 Minutes-No blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2518.90	106.62	Initial Hydro-static
1	34.50	106.25	Open To Flow (1)
33	35.31	106.12	Shut-in(1)
61	38.49	106.62	End Shut-in(1)
62	34.96	106.64	Open To Flow (2)
91	2246.36	108.07	Shut-in(2)
127	1961.80	108.75	End Shut-in(2)
128	2436.44	109.11	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
1.00	mud	0.01

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exporation Inc
 8100 E 22nd st N# 700 Wichita KS 67276+3188
 ATTN: Terry Mcleod

Arch #2
 32-28s-23w Ford
 Job Ticket: 18640 DST#:2
 Test Start: 2011.10.08 @ 01:46:00

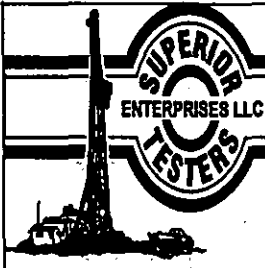
Tool Information

Drill Pipe:	Length: 5016.00 ft	Diameter: 3.80 inches	Volume: 70.36 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 70.36 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	5014.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	14.00 ft			
Tool Length:	42.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00		inside	4991.00	
Hydrolic Tool	5.00			4996.00	
Jars	6.00			5002.00	
Safety Joint	2.00			5004.00	
Packer	5.00			5009.00	28.00 Bottom Of Top Packer
Packer	5.00			5014.00	
Anchor	9.00			5023.00	
Recorder	1.00	8419	inside	5024.00	
Recorder	1.00	8524	Outside	5025.00	
Buttnose	3.00			5028.00	14.00 Bottom Packers & Anchor
Total Tool Length:	42.00				



DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exporation Inc

Arch #2

8100 E22nd st N# 700 Wichita KS 67276+3188

32-28s-23w Ford

Job Ticket: 18640

DST#: 2

ATTN: Terry Mcleod

Test Start: 2011.10.08 @ 01:46:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbl

Water Loss: 11.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psia

Salinity: 13200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	mud	0.014

Total Length: 1.00 ft

Total Volume: 0.014 bbl

Num Fluid Samples: 0

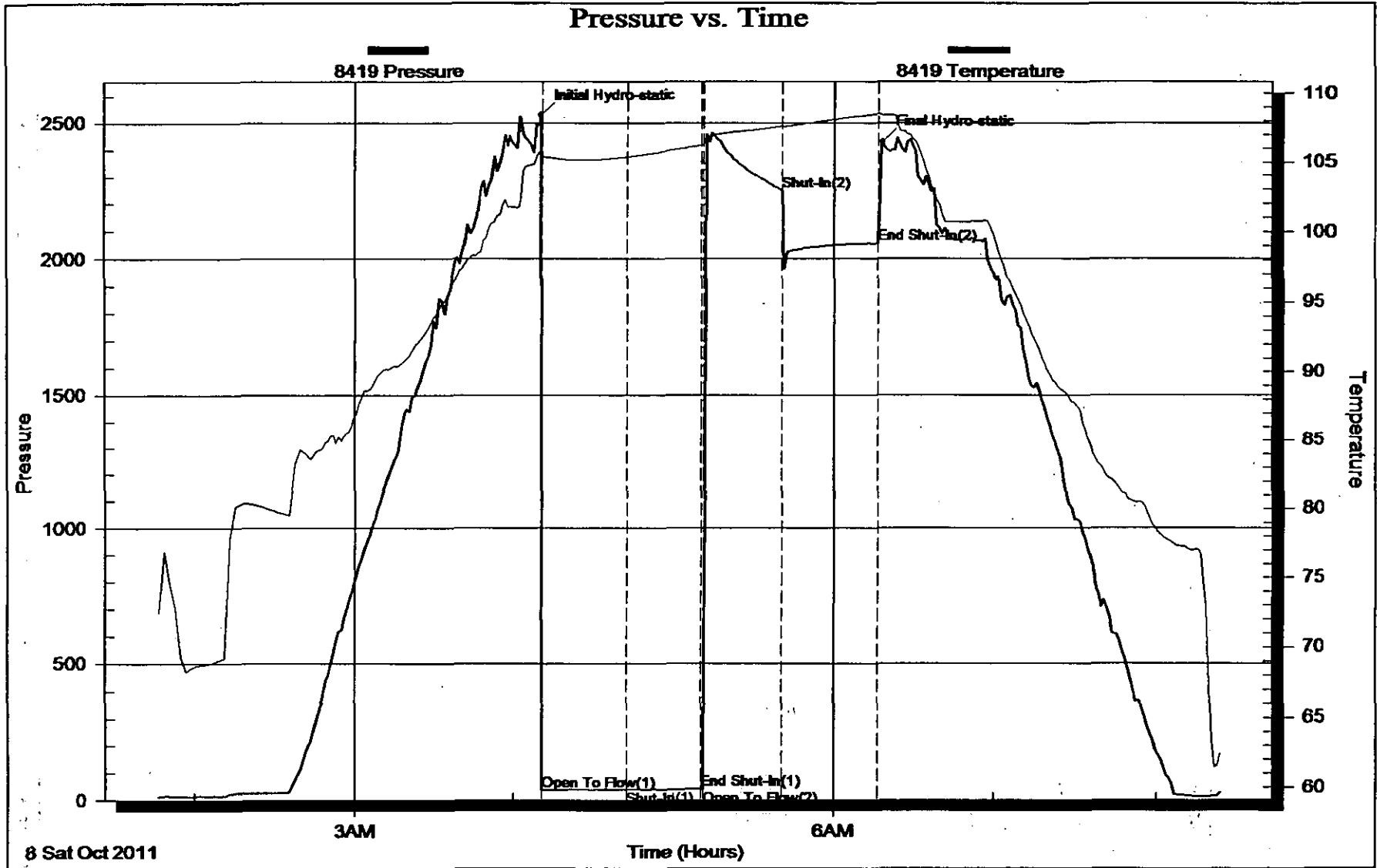
Num Gas Bombs: 0

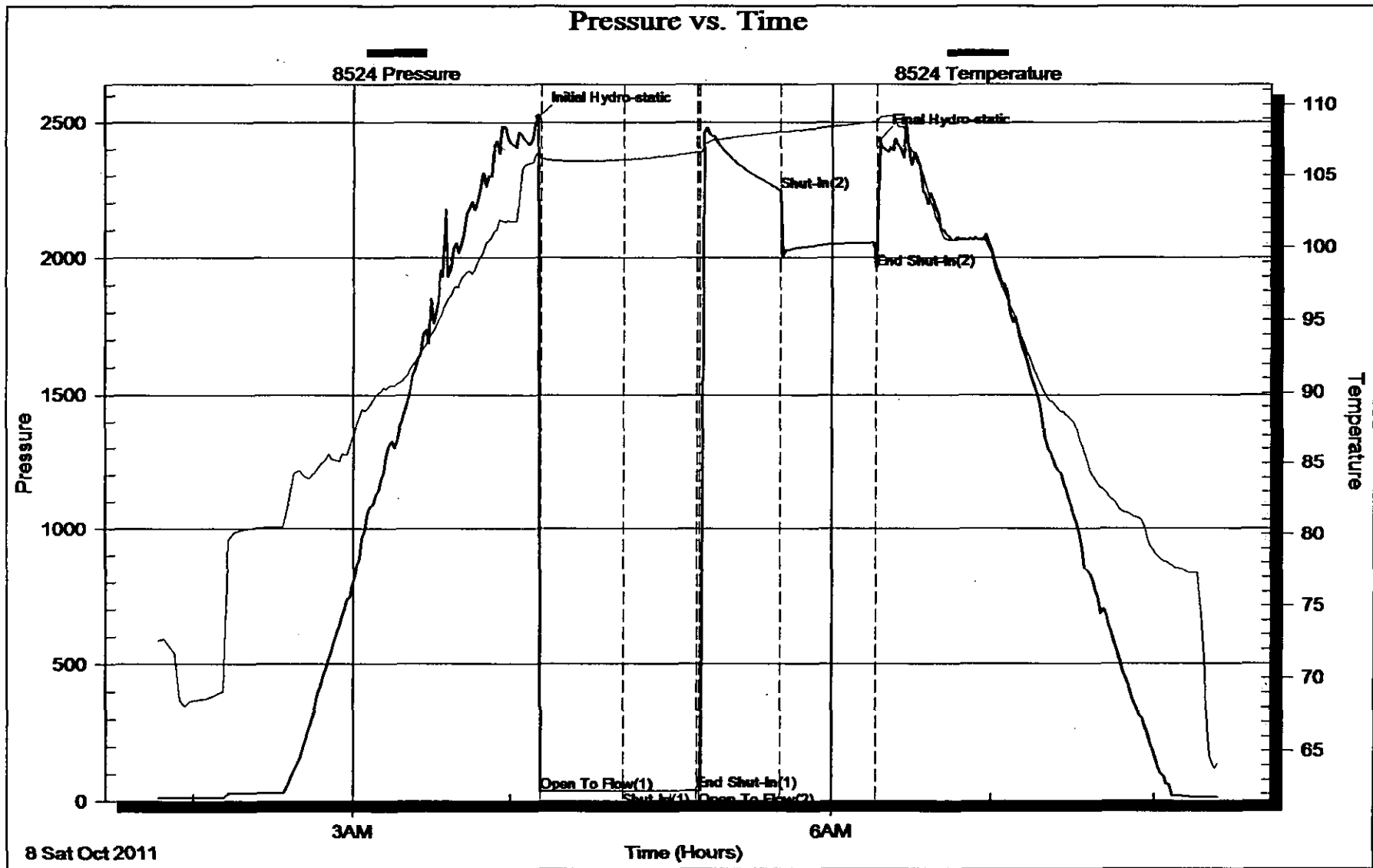
Serial #:

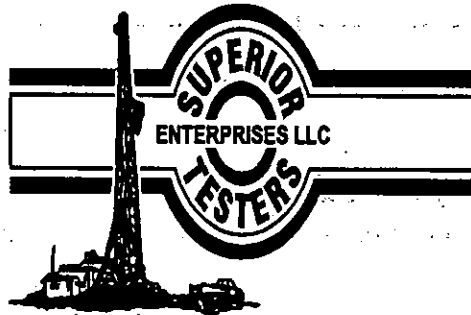
Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Ritchie Exporation Inc**

8100 E 22nd st N # 700 Wichita KS
67276+3188

ATTN: Terry Mcleod

32-28s-23w Ford

Arch #2

Start Date: 2011.10.09 @ 16:17:00

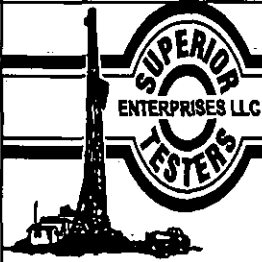
End Date: 2011.10.09 @ 21:21:00

Job Ticket #: 18641 DST #: 3

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

Printed: 2011.10.12 @ 13:53:25

Ritchie Exporation Inc Arch #2 32-28s-23w Ford DST # 3 Mississippi 2011.10.09



DRILL STEM TEST REPORT

Ritchie Exporation Inc

Arch #2

8100 E 22nd st N# 700 Wichita KS 67276+3188

32-28s-23w Ford

Job Ticket: 18641

DST#: 3

ATTN: Terry Mcleod

Test Start: 2011.10.09 @ 16:17:00

GENERAL INFORMATION:

Formation: **Mississippi**

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

Time Tool Opened: 17:59:30

Time Test Ended: 21:21:00

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

Tester: **Jared Scheck**

Unit No: **3320-GB-190**

Interval: **5215.00 ft (KB) To 5235.00 ft (KB) (TVD)**

Total Depth: **5235.00 ft (KB) (TVD)**

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

Reference Elevations: **2512.00 ft (KB)**

2500.00 ft (CF)

KB to GR/CF: **12.00 ft**

Serial #: **8419** Inside

Press@RunDepth: **49.60 psia @ 5231.00 ft (KB)**

Start Date: **2011.10.09**

End Date: **2011.10.09**

Start Time: **16:18:00**

End Time: **21:21:00**

Capacity: **5000.00 psia**

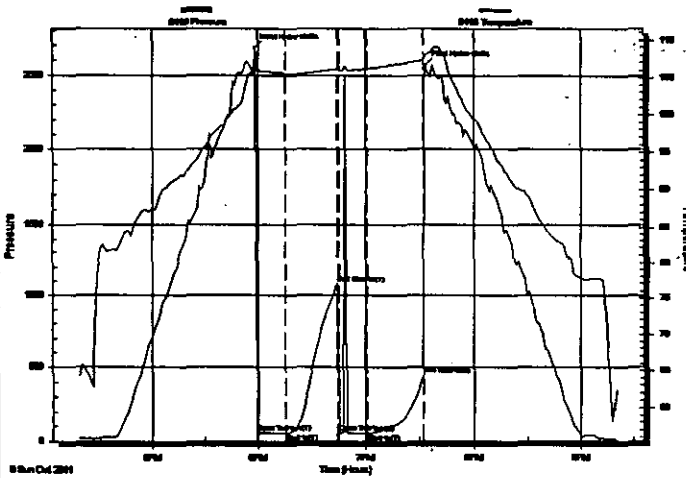
Last Calib.: **2011.10.09**

Time On Btmr: **2011.10.09 @ 17:58:00**

Time Off Btmr: **2011.10.09 @ 19:33:00**

TEST COMMENT: 1st Opening 15 Minutes-Very weak surface blow stayed steady throught out opening
 1st Shut-in 30 Minutes- No blow back
 2nd Opening 15 Minutes-Very weak surge died off flushed tool weak surge did not build
 2nd Shut-in 30 Minutes-No blow back

Pressure vs. Time



PRESSURE SUMMARY

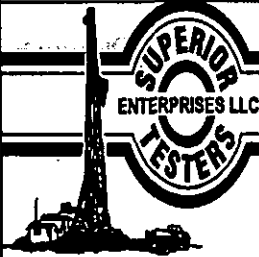
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2681.53	106.05	Initial Hydro-static
2	51.50	105.95	Open To Flow (1)
18	49.92	105.64	Shut-In(1)
47	1081.24	106.17	End Shut-In(1)
48	51.20	105.97	Open To Flow (2)
63	49.60	106.24	Shut-In(2)
94	449.36	107.31	End Shut-In(2)
95	2564.47	108.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud 100%	0.01

Gas Rates

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



DRILL STEM TEST REPORT

Ritchie Exporation Inc

Arch #2

8100 E 22nd st N# 700 Wichita KS 67276+3188

32-28s-23w Ford

ATTN: Terry Mcleod

Job Ticket: 18641

DST#: 3

Test Start: 2011.10.09 @ 16:17:00

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:59:30

Time Test Ended: 21:21:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: 3320-GB-190

Interval: 5215.00 ft (KB) To 5235.00 ft (KB) (TVD)

Total Depth: 5235.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2512.00 ft (KB)

2500.00 ft (CF)

KB to GR/CF: 12.00 ft

Serial #: 8524 Outside

Press@RunDepth: 438.16 psia @ 5232.00 ft (KB)

Start Date: 2011.10.09

End Date: 2011.10.09

Start Time: 16:18:00

End Time: 21:20:00

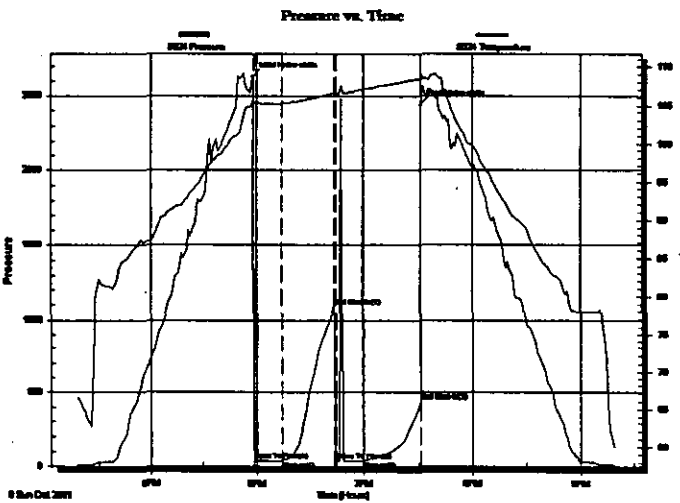
Capacity: 5000.00 psia

Last Calib.: 2011.10.09

Time On Btm: 2011.10.09 @ 17:58:00

Time Off Btm: 2011.10.09 @ 19:31:30

TEST COMMENT: 1st Opening 15 Minutes-Very weak surface blow stayed steady throught out opening
 1st Shut-in 30 Minutes-No blow back
 2nd Opening 15 Minutes-Very weak surge died off flushed tool weak surge did not build
 2nd Shut-in 30 Minutes-No blow back



PRESSURE SUMMARY

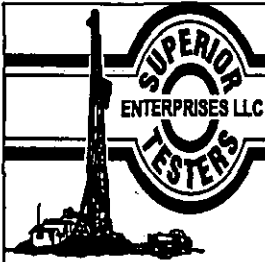
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	2631.63	105.71	Initial Hydro-static
1	36.31	105.38	Open To Flow (1)
17	39.48	105.26	Shut-in(1)
46	1090.98	106.64	End Shut-in(1)
47	38.77	106.47	Open To Flow (2)
62	40.62	107.02	Shut-in(2)
93	438.16	108.48	End Shut-in(2)
94	2440.47	109.32	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud 100%	0.01

Gas Rates

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



DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exporation Inc

Arch #2

8100 E 22nd st N# 700 Wichita KS 67276+3188

32-28s-23w Ford

Job Ticket: 18641

DST#: 3

ATTN: Terry Mcleod

Test Start: 2011.10.09 @ 16:17:00

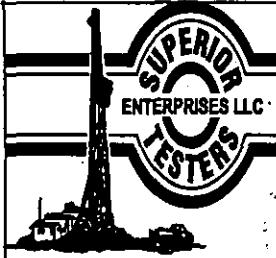
Tool Information

Drill Pipe:	Length: 5205.00 ft	Diameter: 3.80 inches	Volume: 73.01 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: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			Total Volume: 73.01 bbl	Tool Chased 2.00 ft
Drill Pipe Above KB:	18.00 ft			String Weight: Initial 56000.00 lb
Depth to Top Packer:	5215.00 ft			Final 56000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	20.00 ft			
Tool Length:	48.00 ft			
Number of Packers:	2	Diameter:	6.75 inches	

Tool Comments: Flushed tool 2nd opening weak surge did not build

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut-In Tool	5.00		Inside	5192.00	
Hydrolic Tool	5.00			5197.00	
Jars	6.00			5203.00	
Safety Joint	2.00			5205.00	
Packer	5.00			5210.00	28.00 Bottom Of Top Packer
Packer	5.00			5215.00	
Anchor	15.00			5230.00	
Recorder	1.00	8419	Inside	5231.00	
Recorder	1.00	8524	Outside	5232.00	
Bullnose	3.00			5235.00	20.00 Bottom Packers & Anchor
Total Tool Length:	48.00				



DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exporation Inc

Arch #2

8100 E 22nd st N# 700 Wichita KS 67276+3188

32-28s-23w Ford

Job Ticket: 18641

DST#: 3

ATTN: Terry Mcleod

Test Start: 2011.10.09 @ 16:17:00

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: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 12.79 in*	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psia		
Salinity: 13500.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	Mud 100%	0.014

Total Length: 1.00 ft Total Volume: 0.014 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: Flushed tool 2nd open weak surge did not build

