

Confidentiality Requested:

Yes No

**KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

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

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

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 EOR Conv. to SWD
 Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

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 <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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GENERAL TERMS AND CONDITIONS

DEFINITIONS: In these terms and conditions, "Quality" shall mean Quality Oilwell Cementing, Inc., and "Customer" shall refer to the party identified by that term on the front of this contract. As applicable, "Job" relates to the services described on the front side of this contract, "merchandise" refers to the material described on the front of this contract and to any other materials, products, or supplies used, sold, or furnished under the requirements of this contract.

– **TERMS:** Unless satisfactory credit has been established, "CUSTOMER" must tender full cash payment to "QUALITY" before the job is undertaken or merchandise is delivered. If satisfactory credit has been established, the terms of payment for the job and/or merchandise, including bulk cement, are net cash, payable in 30 days from the completion of the job and/or delivery of the merchandise. For all past due invoices, "CUSTOMER" agrees to pay interest on amounts invoiced at a rate of 18 percent per annum until paid. Notwithstanding the foregoing in no event shall this Contract provide for interest exceeding the maximum rate of interest that "CUSTOMER" may agree to pay under applicable law. If any such interest should be provided for, it shall be and hereby is deemed to be a mistake, and this contract shall be automatically reformed to lower the rate of interest to the maximum legal contract rate, any amounts previously paid as excess interest shall be deducted from the amounts owing from the "CUSTOMER" or at the option of "QUALITY," refunded directly to "CUSTOMER." For purposes of this paragraph, QUALITY and CUSTOMER agree that KANSAS law shall apply. Any discounts granted with this contract are null and void if the charges are not paid when due.

– **ATTORNEY FEES:** In any legal action or proceeding between the parties to enforce any of the terms of this Service Contract, or in any way pertaining to the term of this Contract, the prevailing party shall be entitled to recover all expenses, including, but not limit to, a reasonable sum as and attorney's fees.

– **PRICES AND TAXES:** All merchandise listed in "QUALITY'S" current price schedule are F.O.B. QUALITY'S local station and are subject to change without notice. All prices are exclusive of any federal, state, local, or special taxes for the sale or use of the merchandise or services listed. The amount of taxes required to be paid by QUALITY shall be added to the quoted prices charged to CUSTOMER.

– **TOWING CHARGES:** QUALITY will make a reasonable attempt to get to and from each job site using its own equipment. Should QUALITY be unable to do so because of poor or inadequate road conditions, and should it become necessary to employ a tractor or other pulling equipment to get to or from the job site, the tractor or pulling equipment will be supplied by CUSTOMER or, if furnished by QUALITY, will be charged to and paid by CUSTOMER.

– **PREPARATION CHARGES:** If a job and/or merchandise is ordered and CUSTOMER cancels the order after preparation of a chemical solution or other material, CUSTOMER will pay QUALITY for the expenses incurred by QUALITY as a result of the cancellation.

– **DEADHAUL, CHARGES:** Unless otherwise specified on the front of this Contract, a deadhaul charges as set forth in QUALITY'S current price book will be charged each way for each service unit which is ordered by CUSTOMER but not used.

– **SERVICE CONDITIONS AND LIABILITIES:** 1. QUALITY carries public liability and property damage insurance, but since there are so many uncertain and unknown conditions beyond QUALITY'S control, QUALITY shall not be liable for injuries to property or persons or for loss or damage arising from the performance of the job or delivery of the merchandise. Customer shall be responsible for and indemnify, defend, and hold harmless QUALITY, its officers, agents and employees, from and against any and all claims or suits for:

(A) Damage to property or for bodily injury, sickness, disease, or death, brought by any person, including CUSTOMER and/or the well owner; and:

(B) Oil spills, pollution, surface or sub-surface damage, injury to the well, reservoir loss, or damage arising from a well blowout arising out of or in connection with QUALITY'S performance of the job or furnishing of merchandise in accordance with this contract, unless such loss or damage is caused by the willful misconduct or gross negligence of QUALITY or its employees.

2. With respect to any of QUALITY'S tools, equipment, or instruments which are lost in the well or damaged when performing or attempting to perform the job or, in the case of marine operations, are lost or damaged at any time after delivery to the landing for CUSTOMER and before return to QUALITY at the landing, CUSTOMER shall either recover the lost item without cost to QUALITY or reimburse QUALITY the current replacement cost of the item unless the loss or damage results from the sole negligence of QUALITY or its employees.

3. QUALITY does not assume any liability or responsibility for damages or conditions resulting from chemical action in cements caused by contamination of water or other fluids.

WARRANTIES: 1. QUALITY warrants all merchandise manufactured or furnished by it to be free from defects in material and workmanship under normal use and service when installed, and used, and/or serviced in the manner provided and intended. QUALITY'S obligation under this warranty is expressly limited to repair replacement, or allowance for credit, at its option, for any merchandise which is determined by QUALITY to be defective. THIS IS THE SOLE WARRANTY OF QUALITY AND NO OTHER WARRANTY IS APPLICABLE, EITHER EXPRESS OR OTHERWISE IMPLIED, IN FACT OR IN LAW, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE, CUSTOMER'S sole and only remedy with regard to any defective merchandise shall be the repair or replacement thereof or allowance for credit as herein provided, and QUALITY shall not be liable for any consequential, special, incidental, or punitive damages resulting from or caused by defective materials, products or supplies.

2. More specifically:

(A) Nothing in this contract shall be construed as a warranty by QUALITY of the success or the effectiveness of the result of any work done or merchandise used, sold, or furnished under this contract.

(B) Nothing in this contract shall be construed as a warranty of the accuracy or correctness of any facts, information, or data furnished by QUALITY or any interpretation of test, meter readings, chart information, analysis or research, or recommendations made by QUALITY, unless the inaccuracy or incorrectness is caused by the willful misconduct or gross negligence of QUALITY or its employees in the preparation or furnishing of such facts, information or data. (C) Work done by QUALITY shall be under the direct supervision and control of the CUSTOMER or his agent and QUALITY will accomplish the job as an independent contractor and not as an employee or agent

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 409

Date	9-16-17	Sec.	21	Twp.	21	Range	14	County	Stafford	State	Ks	On Location		Finish	6:00 PM
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Lease **Titus** Location **Great Bend - 75 to 190 Rd, 7W, 15,**

Well No.	21-1	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	WW#4		
Type Job	Surface		

Hole Size	12 1/4"	T.D.	866'	Charge To	Stratakan Exploration
Csg.	8 5/8"	Depth	860'	Street	

Tbg. Size		Depth		City		State	
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Tool Depth The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg.	51'	Shoe Joint	51'	Cement Amount Ordered	425 80/20 3%CC 2%Gel 1/2#10
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Meas Line		Displace	5 1/2 BUS	125 80/20 4%CC 2%Gel	505 sk used
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EQUIPMENT

Pumptrk	16	No.		Cement Helper	David	#	15	Jordan	Poz. Mix	105
Bulktrk	21	No.		Driver	Tony				Gel.	11
Bulktrk	p.u.	No.		Driver	Rick				Calcium	21

JOB SERVICES & REMARKS

Remarks:	Cement did NOT Circulate	Hulls	
Rat Hole		Salt	
Mouse Hole	Ran 80 of 1" down	Flowseal	225#
Centralizers	backside + mix 100 sx	Kol-Seal	
Baskets	Cement. Cement did Circulate	Mud CLR 48	
D/V or Port Collar		CFL-117 or CD110 CAF 38	
		Sand	
		Handling	608
		Mileage	

~~Used 550 80/20 3%CC 2%Gel~~
Used 425 80/20 3%CC 2%Gel
+ 80 80/20 4%CC 2%Gel

FLOAT EQUIPMENT

Guide Shoe	Baffle plate
Centralizer	Rubber plug
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

Pumptrk Charge	Long Surface
Mileage	15

X Signature *Walter*

Tax	
Discount	
Total Charge	

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(A) Damage to property or for bodily injury, sickness, disease, or death, brought by any person, including CUSTOMER and/or the well owner; and:

(B) Oil spills, pollution, surface or sub-surface damage, injury to the well, reservoir loss, or damage arising from a well blowout arising out of or in connection with QUALITY'S performance of the job or furnishing of merchandise in accordance with this contract, unless such loss or damage is caused by the willful misconduct or gross negligence of QUALITY or its employees.

2. With respect to any of QUALITY'S tools, equipment, or instruments which are lost in the well or damaged when performing or attempting to perform the job or, in the case of marine operations, are lost or damaged at any time after delivery to the landing for CUSTOMER and before return to QUALITY at the landing, CUSTOMER shall either recover the lost item without cost to QUALITY or reimburse QUALITY the current replacement cost of the item unless the loss or damage results from the sole negligence of QUALITY or its employees.

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WARRANTIES: 1. QUALITY warrants all merchandise manufactured or furnished by it to be free from defects in material and workmanship under normal use and service when installed, and used, and/or serviced in the manner provided and intended. QUALITY'S obligation under this warranty is expressly limited to repair replacement, or allowance for credit, at its option, for any merchandise which is determined by QUALITY to be defective. THIS IS THE SOLE WARRANTY OF QUALITY AND NO OTHER WARRANTY IS APPLICABLE, EITHER EXPRESS OR OTHERWISE IMPLIED, IN FACT OR IN LAW, INCLUDING ANY WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE, CUSTOMER'S sole and only remedy with regard to any defective merchandise shall be the repair or replacement thereof or allowance for credit as herein provided, and QUALITY shall not be liable for any consequential, special, incidental, or punitive damages resulting from or caused by defective materials, products or supplies.

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QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 416

Date	9-22-17	Sec.	21	Twp.	21	Range	14	County	Stafford	State	Ks	On Location		Finish	11:30 PM
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Lease **Titus** Location **Great Bend - 95 to 190 Rd, 7W to 70Rd**

Well No.	21-1	Owner	15 114 E 31s
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Contractor **WW #4**
To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Type Job	Longstring	Charge To	Strataskan Exploration
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Hole Size	7 7/8"	T.D.	3820'
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Csg.	5 1/2" New 17,000	Depth	3820'
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Tbg. Size		Depth	
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Tool		Depth	
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Cement Left in Csg.	43.32'	Shoe Joint	43.32'	Cement Amount Ordered	190 O Pro - C 10% Salt 5%
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Meas Line		Displace	90 BLS	Gilsonite - 500 gal. mud Clear 48	110 BLS KCL
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EQUIPMENT			Common	190 O Pro
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Pumptrk	16	No.		Cementor	David
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Bulktrk	9	No.		Driver	Doug
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Bulktrk	p.u.	No.		Driver	Rick
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JOB SERVICES & REMARKS			Hulls	
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Remarks:		Salt	48 15
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Rat Hole		Flowseal	
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Mouse Hole		Kol-Seal	850ff
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Centralizers	1-7	Mud CLR 48	500 gal
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Baskets		CFL-117 or CD110 CAF 68	
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D/V or Port Collar	pipe on bottom break Circ	Sand	
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Pump	500 gal mud Clear 48, 20 BLS	Handling	213
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KCL	spacer plug Rathole w/ box	Mileage	
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Cement	5 1/2" casing w/ 50	FLOAT EQUIPMENT	
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Cement.	shut down wash pump	Guide Shoe	
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lines	Displaced plug w/ 90 BLS	Centralizer	7
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of KCL	water. Released + held.	Baskets	
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W bit	pressure 750 #	AFU Inserts	
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Land	plug to 1500 #	Float Shoe	1
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Latch	Down	Latch Down	1
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Pumptrk	Charge	prod study	
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Mileage	15		
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Signature		Tax	
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		Discount	
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		Total Charge	
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Operator StrataKan Exploration, LLC		Elevation KB 1941	
Lease Titus No. 21-1		DF 1936	
API # 15-185-23995-0000		Casing Record Surface 8 5/8" @ 859'	
Field Bayer		Production 5 1/2" @ 3819'	
Location 1320' FNL & 2280' FEL			
Sec. 21	Twp. 21s	Rge. 14w	Electrical Surveys CNDL, DIL
County Stafford	State Kansas	MEL	
Formation	Sample tops	Log Tops	Datum Struct Comp
Top Anhydrite	860	861	+1080 +1
Base Anhydrite	833	883	+1058 NA
Heebner	3275	3273	-1332 FL
Toronto	3296	3296	-1355 FL
Douglas Sh	3314	3312	-1371 +1
Brown Lime	3391	3390	-1449 FL
LKC	3401	3400	-1459 +1
BKC	3621	3621	-1680 +2
Viola	3662	3662	-1721 +1
Simpson Sh	3706	3706	-1765 +1
Simpson Sand	3727	3726	-1785 +1
Arbuckle	3757	3756	-1815 -2
Total Depth	3820	3821	
Reference Well For Structural Comparison Titus #2 SW NW NE Sec. 21-21s-14w		D. R. Lauck Oil Co., Inc.	

Drilling Contractor **WW Drilling, Rig #4**
 Commenced **9-15-17** Completed **9-22-17**
 Samples Saved From **3250** To **RTD**
 Drilling Time Kept From **3100** To **RTD**
 Samples Examined From **3250** To **RTD**
 Geological Supervision From **3250** To **RTD**

Summary and Recommendations
 Due to Structural Position, DST recovery, and log evaluation, it was decided to set 5 1/2" production casing for completion.

Perforate:
 Simpson Sand: 3726-3733
 Viola: 3666-3670
 3678-3682
 3688-3694
 LKC I: 3539-3541
 3544-3547
 LKC J: 3523-3525

Respectfully Submitted,
 Marc A. Downing

ROCK TYPES
 Limestone
 shale, gry
 Carbon Sh
 Dolomite
 Limestone
 shale, gry
 Cht Vert

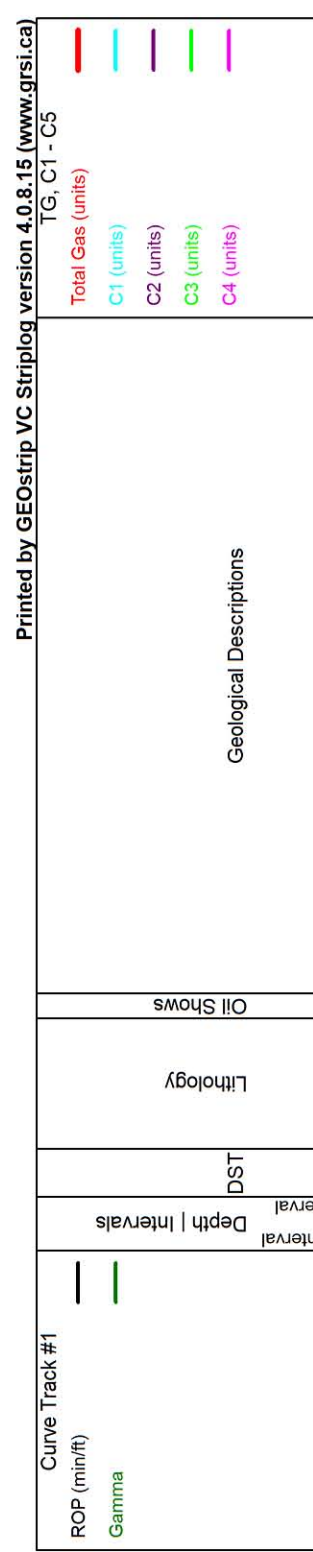
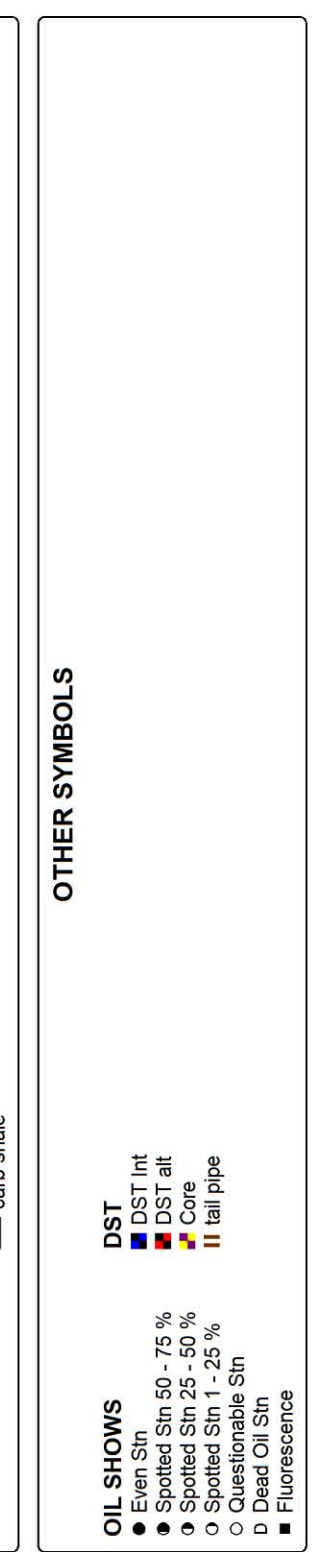
ACCESSORIES
 Sandstone
 green shale
 carb shale

OTHER SYMBOLS
 DST Int
 DST alt
 Core
 Tail pipe

OIL SHOWS
 Even Stn
 Spotted Stn 50 - 75 %
 Spotted Stn 25 - 50 %
 Spotted Stn 1 - 25 %
 Questionable Stn
 Dead Oil Stn
 Fluorescence

STRINGER
 Sandstone
 green shale
 carb shale

FOSSIL
 Oolite



Geological Descriptions

Oil Shows

Lithology

DST

Geological Descriptions (continued):
 LS: Wht, fn-md xin, scat foss, chiky in prt. All NS. Scat gry cht.
Heebner 3275 (-1334)
 Sh: Black Carb
 Sh: gry
Toronto 3296 (-1355)
 LS: Wht-tan, fn xin, chiky. Trng pr por and dns, all NS. Sea gry-brn cht.
Douglas Sh 3314 (-1373)
 Sh: gry w/ lt grn, soft.
 Sh: much ALA w/ scat silty sh.
Brown Lime 3391 (-1450)
 LS: brn, fnmd xin, dns.
 Sh: gry
LKC 3401 (-1460)
 LS: Wht, fn xin, sub xin-chiky. Trng pr por and dns, NS.
 LS: mostly ALA, scat sub xin-chiky rx, w/ fr amt pr por and dns.
 LS: Wht-tan, fn-md xin, scat pr int xin por, mostly chiky. All NS, no od. v dull-fr fluor.
 Sh: gry
 LS: Wht, fn xin, chiky. Trng pr por and dns, all NS.
 Sh: gry
 Sh: gry
 Sh: gry
 LS: Wht, fn xin, few foss. Scat int xin por, mostly sub chiky. All NS. Scat gry cht.
 Sh: gry
 LS: Wht-tan, fn-md xin, dns. Trng ool w/ gd ooc por, totally barren, no od.
 LS: Wht-tan, md xin, scat frag foss. Dns w/ no vis por.
 Sh: drk gry w/ black
 Sh: gry
 LS: Wht ool. Gd ooc por, scat fr-gd sat w/ gd SFO, gssy when broken. go od, dull-fr gm fluor.
 Sh: gry
 LS: Wht, small ool, totally oolitic. 2-3 rx w/ fr int ool por, few smi vugs, silty tite. Fr sat w/ fr-gd SFO, fr-gd od, dull fluor.
 Sh: gry-drk gry
 LS: Wht, ool, lig coillies. Fr ooc por, some silty tite. Fr-gd sat, gd SFO, fr-gd od. Dull-fr fluor, some tite rx w/ gd yel fluor.
 Sh: gry
 LS: Wht-tan, md xin, foss in prt. Fr vug por, silty tite, 1-2 rx w/ poss frac. Fr-gd sat w/ fr-go SFO, fr od. Dull fluor.
 Sh: it gry
 LS: tan, md xin, dns
 Sh: gry w/ brn
 LS: ALA
 Sh: gry
Viola 3662 (-1721)
 Cht: tan-brn, scat org. Mostly shp and fresh, few suc rx, silty weath. Fr-gd stn and sat, fr-gd SFO, gd od, gd gm-yl fluor. Free oil on cup.
 Cht: Some ALA, trng wht, weath, dolomitic. Gd sat, fr-gd pp por, gd SFO, gd od, gd gm-yl fluor, free oil on cup.
 Cht: Trng v dolomitic, gd pp por, totally sat, v gd SFO, gd strong od. Gd gm-yl fluor, much free oil on cup. Scat black cht w/ depth.
Simpson Sh. 3706 (-1765)
 Sh: grn-t grn, touq in prt, silty waxy. Fr amt gry
Simpson Sand 3727 (-1786)
 SS: clr fn-md grain, fr sort, fr md, silty tite, much dead blk stn. Trng fr-md-crs grain, poorly sort, fr-well rnd. Fr-gd int/grn por, gd sat, gd SFO, silty hvy. No fluor, gd strong od, free oil on cup.
 Sh: touq, waxy
Arbuckle 3757 (-1816)
 Dolo: Wht, fn-md suc xin, few smi rhombs. Gd int xin por, scat fr ooc por. Totally barren, it od, fr fluor. Silty sndy in top.
 Dolo: much ALA, fr-gd intxin por, scat smi rhombs, no ooc por. Few more rhombs, sct tan shp cht. Trng pr por and dns, NS, it od, fr fluor.
 Dolo: Wht, md suc xin, scat md rhombs. Fr int xin por, smi vugs, all NS. Fluor ALA.
RTD: 3820 (-1879)



DRILL STEM TEST REPORT

Prepared For: **StrataKan Exploration, LLC**

100 S. Main
Plainville, KS 67663

ATTN: Marc Downing

Titus #21-1

21-21S-14W Stafford, KS

Start Date: 2017.09.19 @ 16:35:43

End Date: 2017.09.20 @ 03:04:18

Job Ticket #: 55385 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.09.22 @ 15:58:44



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

StrataKan Exploration, LLC

21-21S-14W Stafford, KS

100 S. Main
Plainville, KS 67663

Titus #21-1

Job Ticket: 55385

DST#: 1

ATTN: Marc Downing

Test Start: 2017.09.19 @ 16:35:43

GENERAL INFORMATION:

Formation: **LKC "H"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:07:34

Time Test Ended: 03:04:18

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 3510.00 ft (KB) To 3535.00 ft (KB) (TVD)

Reference Elevations: 1943.00 ft (KB)

Total Depth: 3535.00 ft (KB) (TVD)

1936.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8524 Outside

Press@RunDepth: 259.20 psig @ 3511.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.09.19 End Date: 2017.09.20

Last Calib.: 2017.09.20

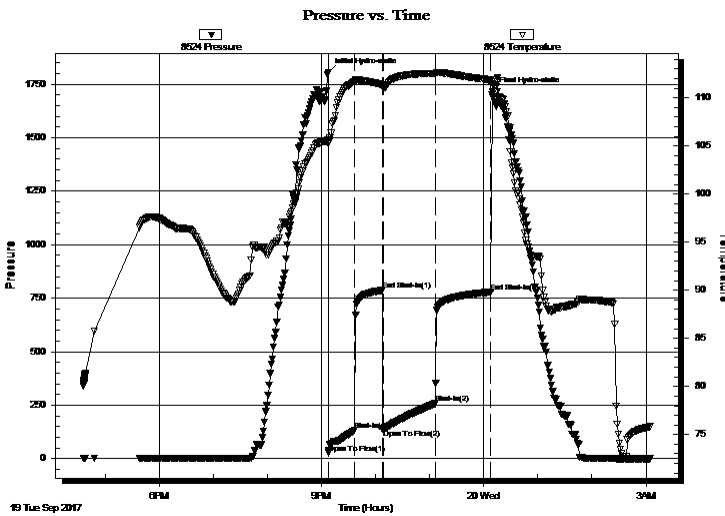
Start Time: 16:35:44 End Time: 03:04:18

Time On Btm: 2017.09.19 @ 21:07:19

Time Off Btm: 2017.09.20 @ 00:09:49

TEST COMMENT: 30- IF- BOB 7 mins
30- IS- Slow ly built to 1 1/4"
60- FF- BOB 10 mins
60- FS- Slow ly built to 1"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1804.59	105.63	Initial Hydro-static
1	27.83	105.26	Open To Flow (1)
30	134.74	111.72	Shut-In(1)
60	787.13	111.36	End Shut-In(1)
61	138.49	111.05	Open To Flow (2)
119	259.20	112.53	Shut-In(2)
181	779.46	111.83	End Shut-In(2)
183	1713.50	111.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
183.00	SMW, 95%W 5%M	1.48
188.00	OCMW, 80%W 10%M 10%W	2.66
125.00	GWMCO, 30%G 50%O 10%M 10%W	1.77
31.00	CGO, 30%G 70%O	0.44
0.00	595' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

StrataKan Exploration, LLC

21-21S-14W Stafford, KS

100 S. Main
Plainville, KS 67663

Titus #21-1

Job Ticket: 55385

DST#: 1

ATTN: Marc Downing

Test Start: 2017.09.19 @ 16:35:43

Tool Information

Drill Pipe:	Length: 3386.00 ft	Diameter: 3.82 inches	Volume: 48.00 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 56000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3510.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	45.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3491.00	
Shut In Tool	5.00			3496.00	
Hydraulic tool	5.00			3501.00	
Packer	5.00			3506.00	20.00 Bottom Of Top Packer
Packer	4.00			3510.00	
Stubb	1.00			3511.00	
Recorder	0.00	6771	Inside	3511.00	
Recorder	0.00	8524	Outside	3511.00	
Perforations	21.00			3532.00	
Bullnose	3.00			3535.00	25.00 Bottom Packers & Anchor
Total Tool Length:	45.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

StrataKan Exploration, LLC

21-21S-14W Stafford, KS

100 S. Main
Plainville, KS 67663

Titus #21-1

Job Ticket: 55385

DST#: 1

ATTN: Marc Downing

Test Start: 2017.09.19 @ 16:35:43

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

100000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
183.00	SMW, 95%W 5%M	1.483
188.00	OCMW, 80%W 10%M 10%W	2.665
125.00	GWMCO, 30%G 50%O 10%M 10%W	1.772
31.00	CGO, 30%G 70%O	0.439
0.00	595' GIP	0.000

Total Length: 527.00 ft Total Volume: 6.359 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

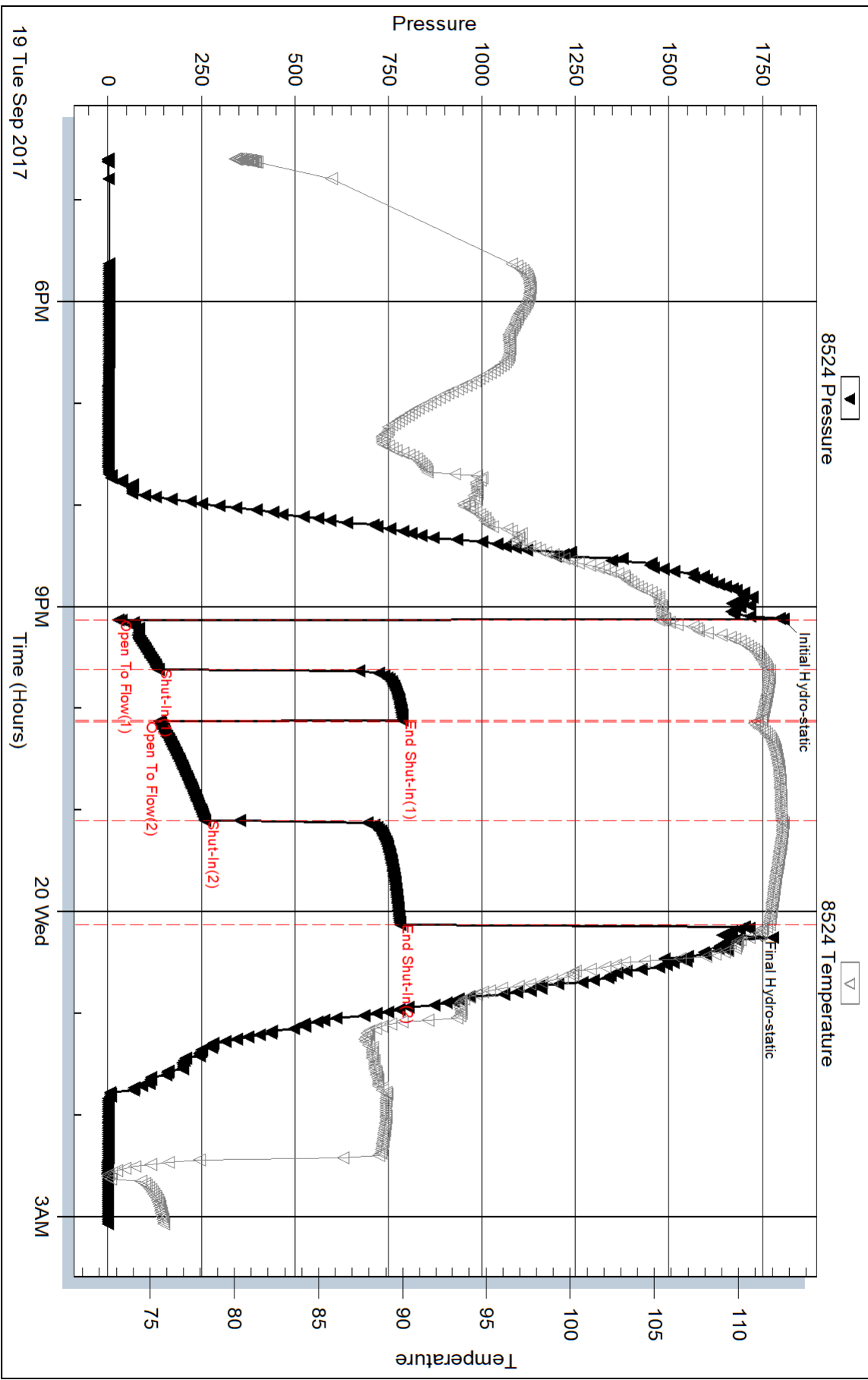
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .06@74deg

Pressure vs. Time



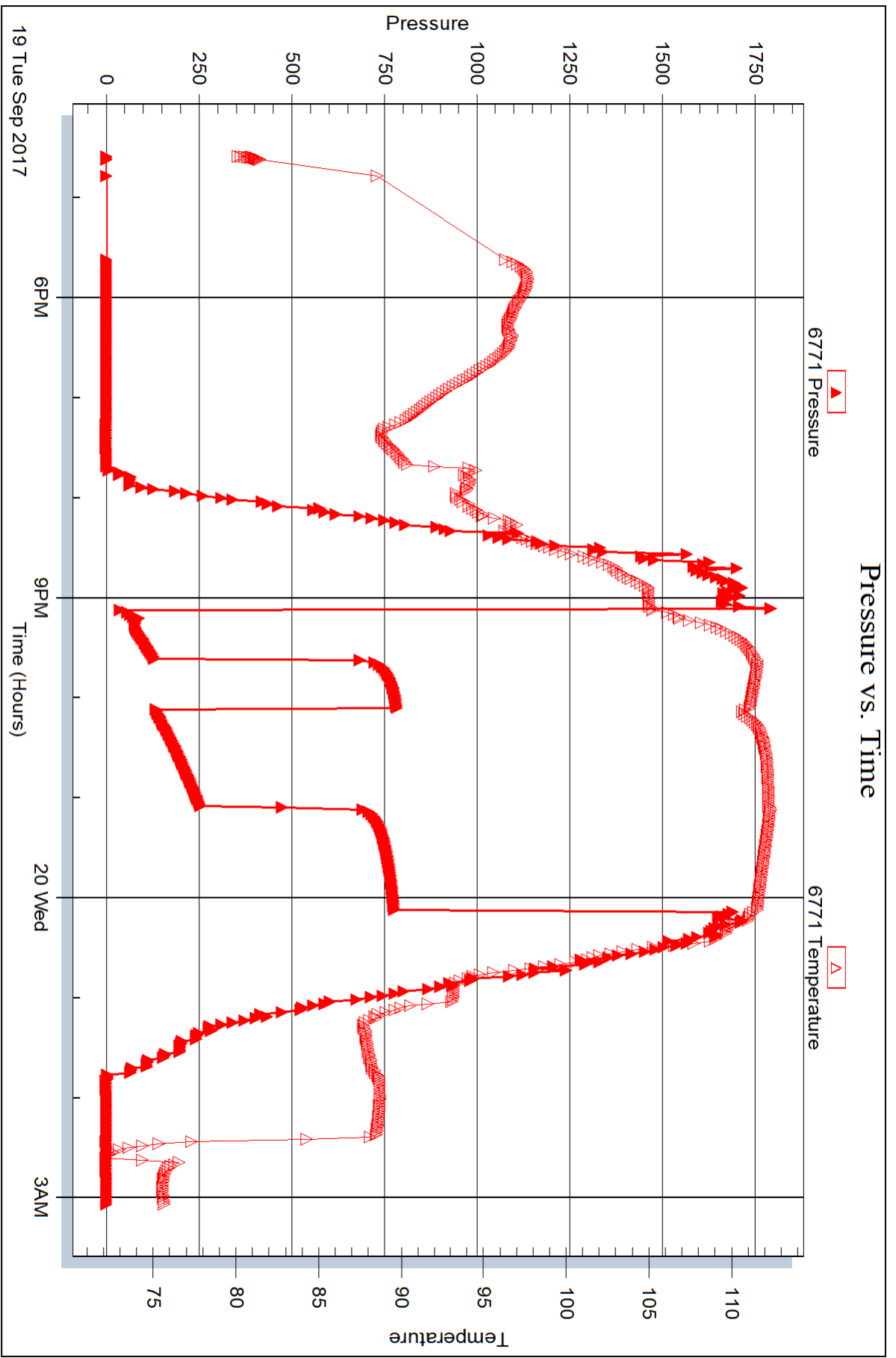
Serial #: 6771

Inside

StrataKan Exploration, LLC

Titus #21-1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 55385

Printed: 2017.09.22 @ 15:58:45



DRILL STEM TEST REPORT

Prepared For: **StrataKan Exploration, LLC**

100 S. Main
Plainville, KS 67663

ATTN: Marc Downing

Titus #21-1

21-21S-14W Stafford, KS

Start Date: 2017.09.20 @ 09:19:11

End Date: 2017.09.20 @ 16:20:47

Job Ticket #: 55386 DST #: 2

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

Printed: 2017.09.22 @ 15:58:14



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

StrataKan Exploration, LLC

21-21S-14W Stafford, KS

100 S. Main
Plainville, KS 67663

Titus #21-1

Job Ticket: 55386

DST#: 2

ATTN: Marc Downing

Test Start: 2017.09.20 @ 09:19:11

GENERAL INFORMATION:

Formation: **LKC "I"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 11:15:17
 Time Test Ended: 16:20:47
 Interval: **3531.00 ft (KB) To 3556.00 ft (KB) (TVD)**
 Total Depth: 3556.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 1943.00 ft (KB)
 1936.00 ft (CF)
 KB to GR/CF: 7.00 ft

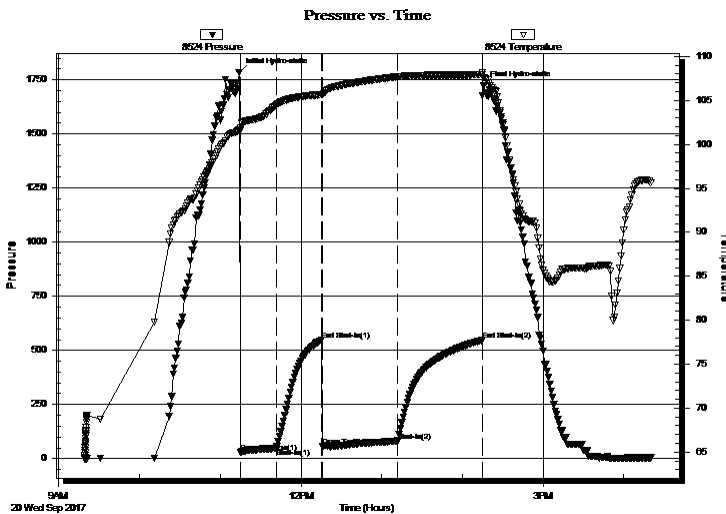
Serial #: 8524

Outside

Press@RunDepth: 82.00 psig @ 3532.00 ft (KB)
 Start Date: 2017.09.20 End Date: 2017.09.20
 Start Time: 09:19:12 End Time: 16:20:47
 Capacity: 8000.00 psig
 Last Calib.: 2017.09.20
 Time On Btm: 2017.09.20 @ 11:14:17
 Time Off Btm: 2017.09.20 @ 14:16:02

TEST COMMENT: 30- IF- BOB 3 mins
 30- IS- Slow ly built to 3 1/2"
 60- FF- BOB 1 min
 60- FS- Slow ly built to 4"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1784.35	101.66	Initial Hydro-static
1	29.99	101.88	Open To Flow (1)
28	48.00	104.44	Shut-In(1)
61	548.06	105.67	End Shut-In(1)
62	56.42	105.69	Open To Flow (2)
118	82.00	107.70	Shut-In(2)
181	547.25	107.92	End Shut-In(2)
182	1723.79	107.59	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GWMCO, 20%G 15%W 10%M 55%O	0.59
94.00	GMCO, 15%G 20%M 65%O	1.33
0.00	1097' GIP	0.00

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

StrataKan Exploration, LLC

21-21S-14W Stafford, KS

100 S. Main
Plainville, KS 67663

Titus #21-1

Job Ticket: 55386

DST#: 2

ATTN: Marc Downing

Test Start: 2017.09.20 @ 09:19:11

Tool Information

Drill Pipe:	Length: 3417.00 ft	Diameter: 3.82 inches	Volume: 48.44 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3531.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	45.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3512.00	
Shut In Tool	5.00			3517.00	
Hydraulic tool	5.00			3522.00	
Packer	5.00			3527.00	20.00 Bottom Of Top Packer
Packer	4.00			3531.00	
Stubb	1.00			3532.00	
Recorder	0.00	6771	Inside	3532.00	
Recorder	0.00	8524	Outside	3532.00	
Perforations	21.00			3553.00	
Bullnose	3.00			3556.00	25.00 Bottom Packers & Anchor
Total Tool Length:	45.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

StrataKan Exploration, LLC

21-21S-14W Stafford, KS

100 S. Main
Plainville, KS 67663

Titus #21-1

Job Ticket: 55386

DST#: 2

ATTN: Marc Downing

Test Start: 2017.09.20 @ 09:19:11

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

75000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.57 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
120.00	GWMCO, 20%G 15%W 10%M 55%O	0.590
94.00	GMCO, 15%G 20%M 65%O	1.332
0.00	1097' GIP	0.000

Total Length: 214.00 ft Total Volume: 1.922 bbl

Num Fluid Samples: 0

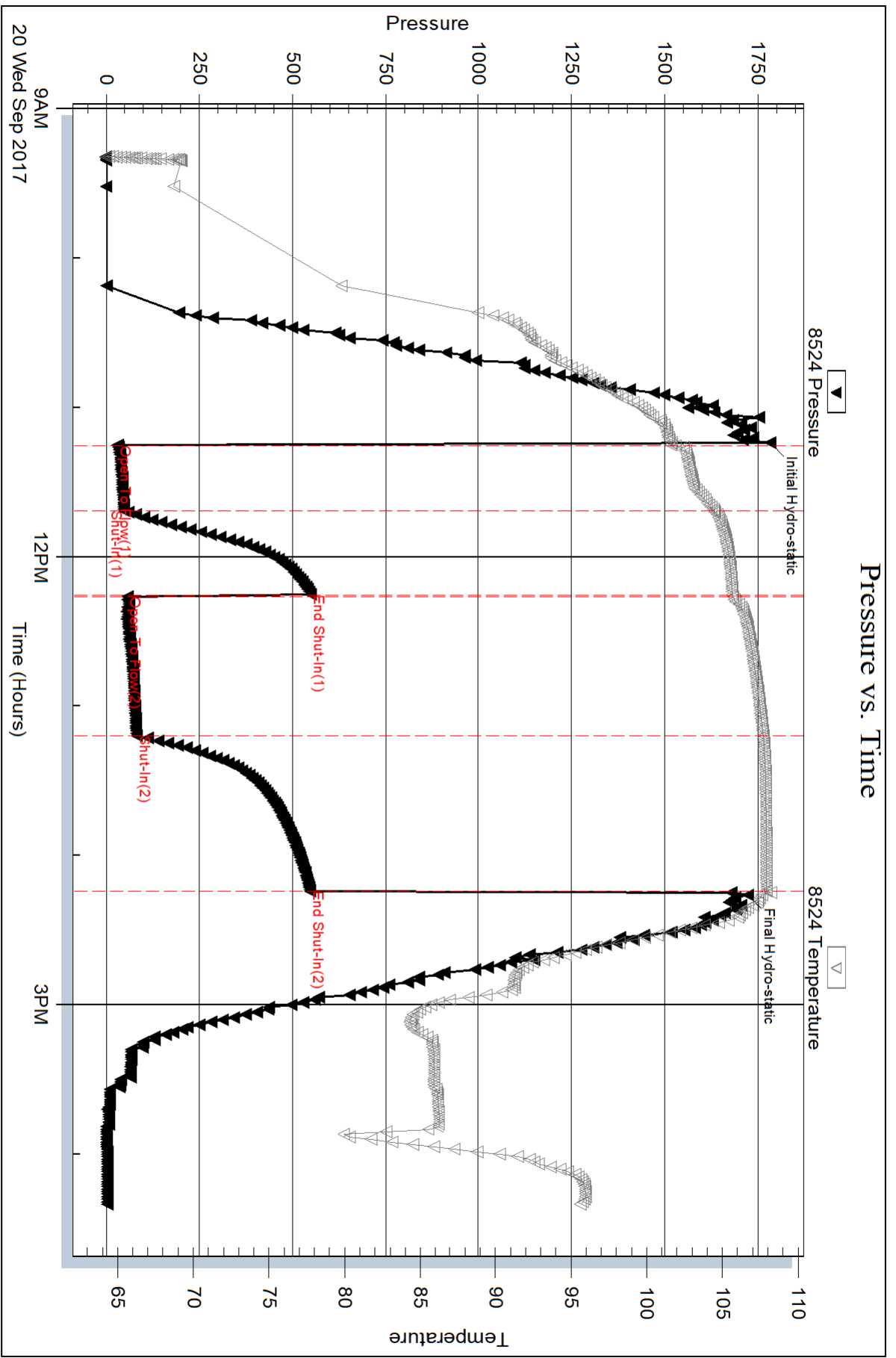
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW: .07@85deg



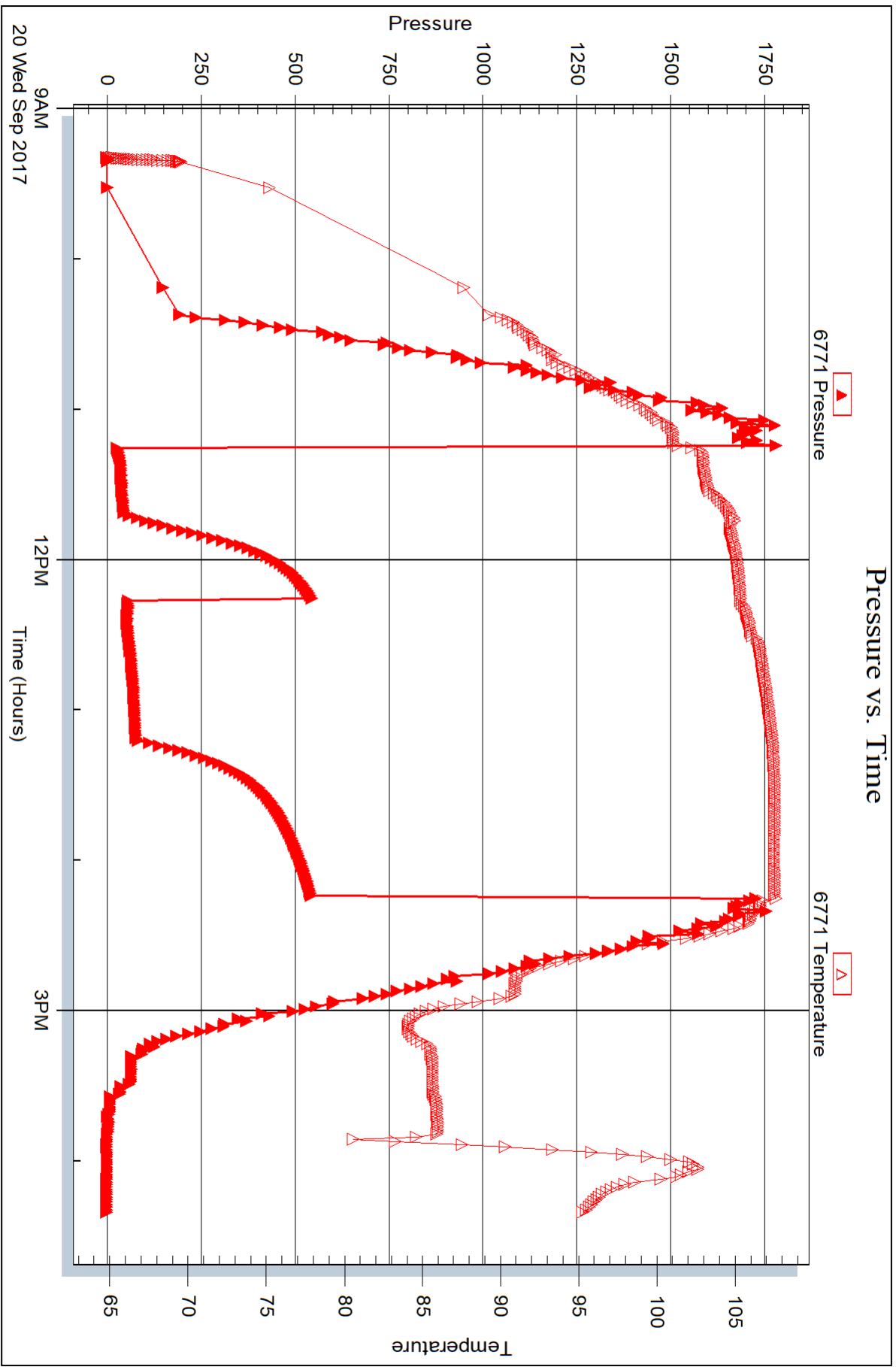
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Inside

StrataKan Exploration, LLC

Titus #21-1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **StrataKan Exploration, LLC**

100 S. Main
Plainville, KS 67663

ATTN: Marc Downing

Titus #21-1

21-21S-14W Stafford, KS

Start Date: 2017.09.20 @ 22:00:54

End Date: 2017.09.21 @ 03:42:00

Job Ticket #: 55387 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2017.09.22 @ 15:57:36



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

StrataKan Exploration, LLC

21-21S-14W Stafford, KS

100 S. Main
Plainville, KS 67663

Titus #21-1

Job Ticket: 55387

DST#: 3

ATTN: Marc Downing

Test Start: 2017.09.20 @ 22:00:54

GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:46:30

Time Test Ended: 03:42:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 3551.00 ft (KB) To 3578.00 ft (KB) (TVD)

Reference Elevations: 1943.00 ft (KB)

Total Depth: 3578.00 ft (KB) (TVD)

1936.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8524 Outside

Press@RunDepth: 25.52 psig @ 3552.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.09.20 End Date: 2017.09.21

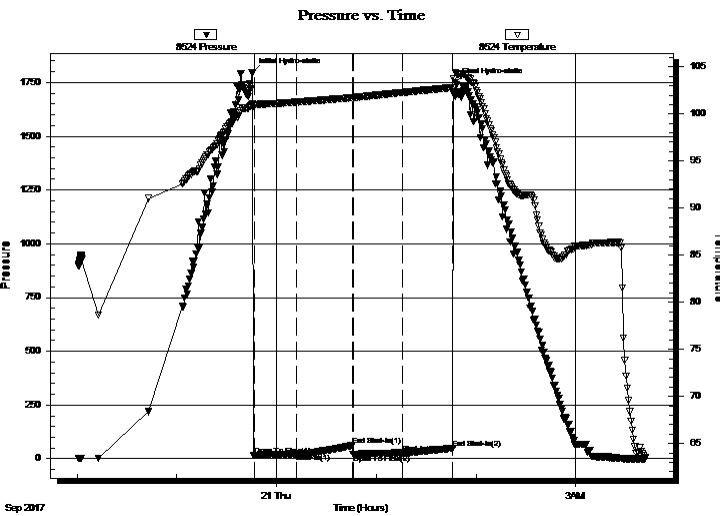
Last Calib.: 2017.09.21

Start Time: 22:00:55 End Time: 03:42:00

Time On Btm: 2017.09.20 @ 23:45:30

Time Off Btm: 2017.09.21 @ 01:47:45

TEST COMMENT: 30- IF- 3/4" blow
30- IS- No blow
30- FF- 1/4" blow
30- FSI- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1796.95	101.08	Initial Hydro-static
1	16.32	100.94	Open To Flow (1)
27	22.86	101.26	Shut-In(1)
60	61.56	101.73	End Shut-In(1)
61	19.91	101.73	Open To Flow (2)
91	25.52	102.28	Shut-In(2)
121	49.10	102.81	End Shut-In(2)
123	1750.92	104.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	OCM, 10%O 90%M	0.15

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

StrataKan Exploration, LLC

21-21S-14W Stafford, KS

100 S. Main
Plainville, KS 67663

Titus #21-1

Job Ticket: 55387

DST#: 3

ATTN: Marc Downing

Test Start: 2017.09.20 @ 22:00:54

Tool Information

Drill Pipe:	Length: 3417.00 ft	Diameter: 3.82 inches	Volume: 48.44 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3551.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.00 ft			
Tool Length:	47.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3532.00	
Shut In Tool	5.00			3537.00	
Hydraulic tool	5.00			3542.00	
Packer	5.00			3547.00	20.00 Bottom Of Top Packer
Packer	4.00			3551.00	
Stubb	1.00			3552.00	
Recorder	0.00	6771	Inside	3552.00	
Recorder	0.00	8524	Outside	3552.00	
Perforations	23.00			3575.00	
Bullnose	3.00			3578.00	27.00 Bottom Packers & Anchor
Total Tool Length:	47.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

StrataKan Exploration, LLC

21-21S-14W Stafford, KS

100 S. Main
Plainville, KS 67663

Titus #21-1

Job Ticket: 55387

DST#: 3

ATTN: Marc Downing

Test Start: 2017.09.20 @ 22:00:54

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

29 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	OCM, 10%O 90%M	0.148

Total Length: 30.00 ft Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

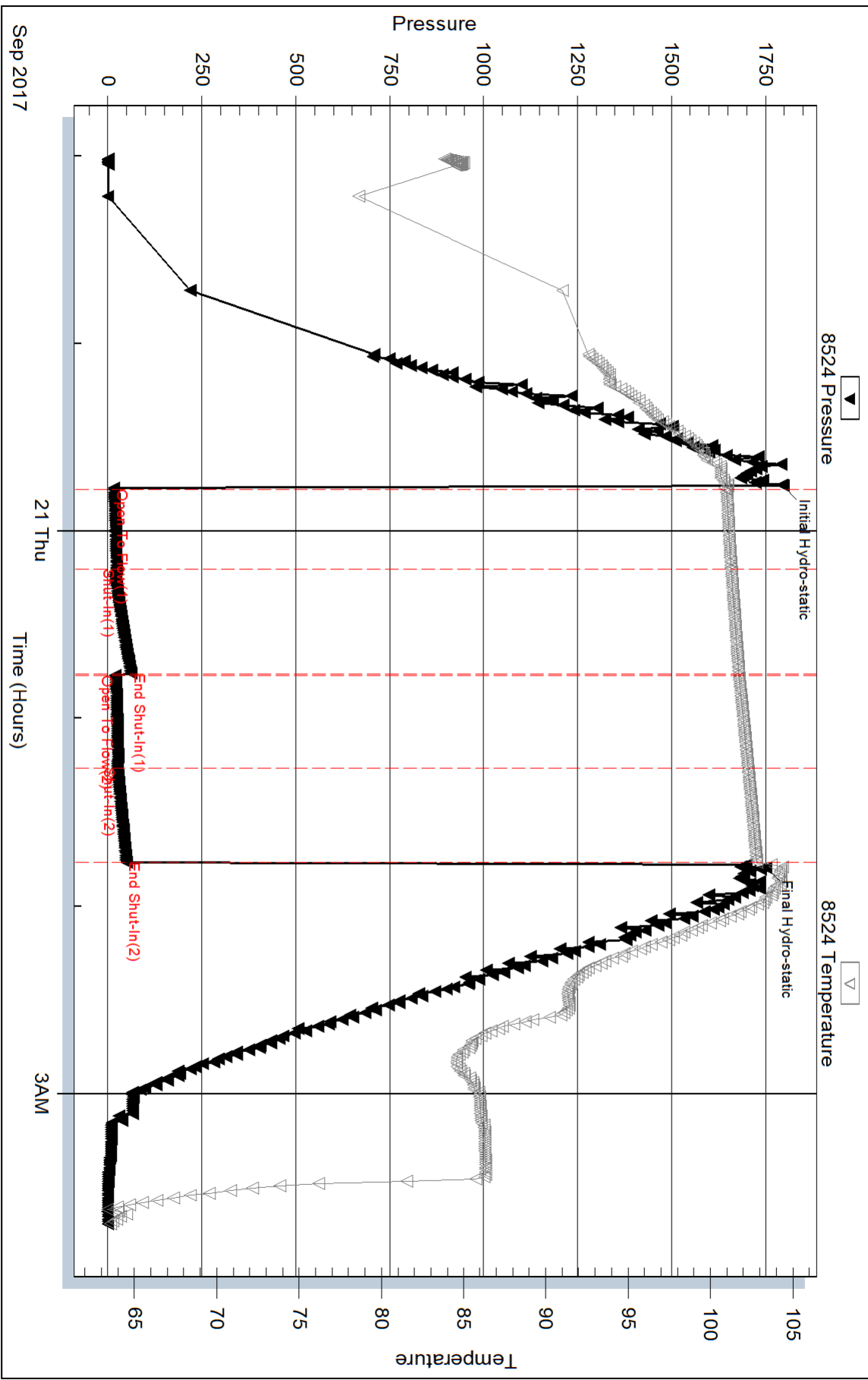
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



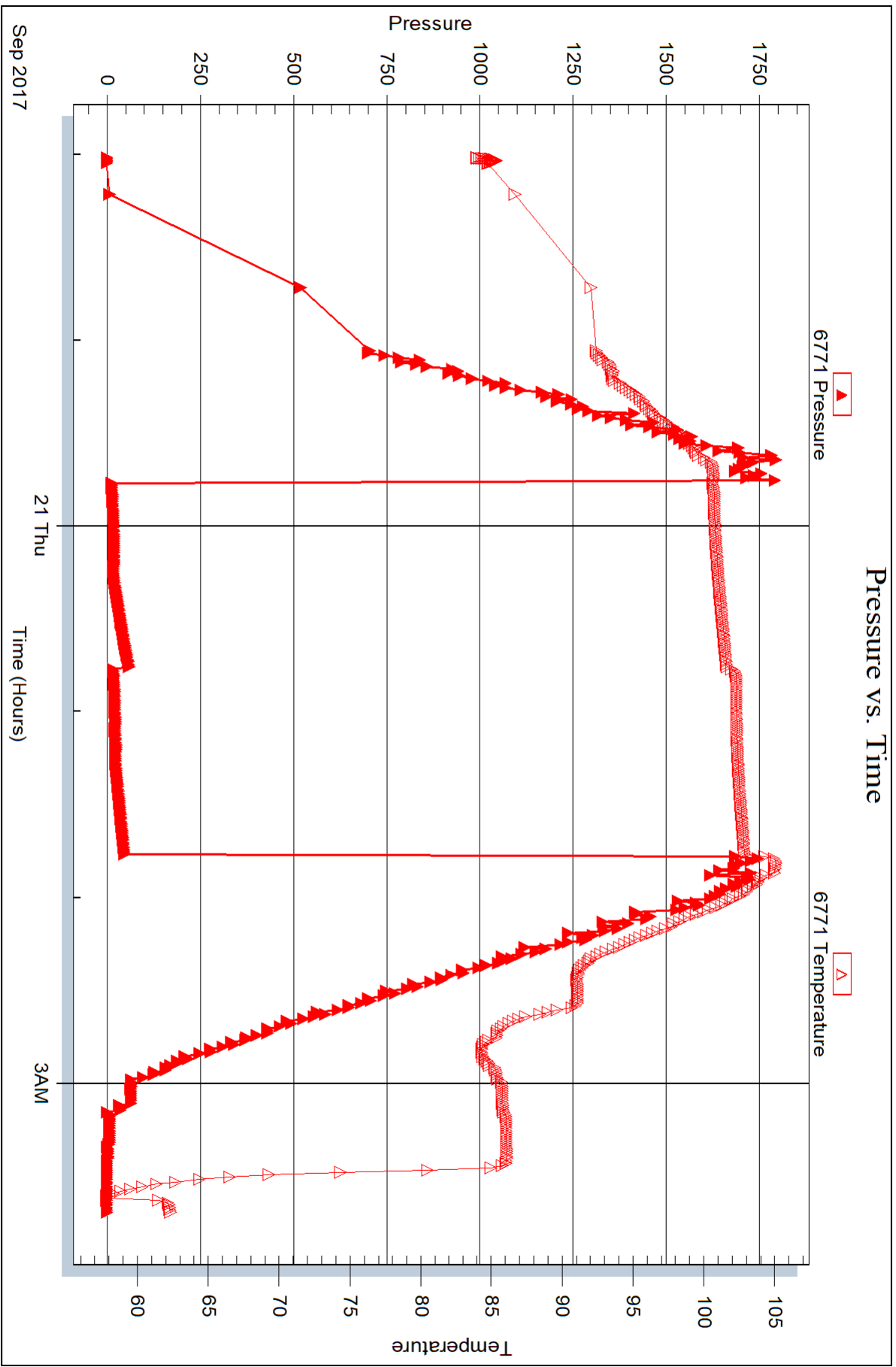
Serial #: 6771

Inside

StrataKan Exploration, LLC

Titus #21-1

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 55387

Printed: 2017.09.22 @ 15:57:38



DRILL STEM TEST REPORT

Prepared For: **StrataKan Exploration, LLC**

100 S. Main
Plainville, KS 67663

ATTN: Marc Downing

Titus #21-1

21-21S-14W Stafford, KS

Start Date: 2017.09.21 @ 12:35:45

End Date: 2017.09.21 @ 18:16:21

Job Ticket #: 55388 DST #: 4

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

Printed: 2017.09.22 @ 15:57:00



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

StrataKan Exploration, LLC

21-21S-14W Stafford, KS

100 S. Main
Plainville, KS 67663

Titus #21-1

Job Ticket: 55388

DST#: 4

ATTN: Marc Downing

Test Start: 2017.09.21 @ 12:35:45

GENERAL INFORMATION:

Formation: **LKC "L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:22:36

Time Test Ended: 18:16:21

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 3603.00 ft (KB) To 3626.00 ft (KB) (TVD)

Reference Elevations: 1943.00 ft (KB)

Total Depth: 3626.00 ft (KB) (TVD)

1936.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8524 Outside

Press@RunDepth: 19.10 psig @ 3604.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2017.09.21 End Date: 2017.09.21

Last Calib.: 2017.09.21

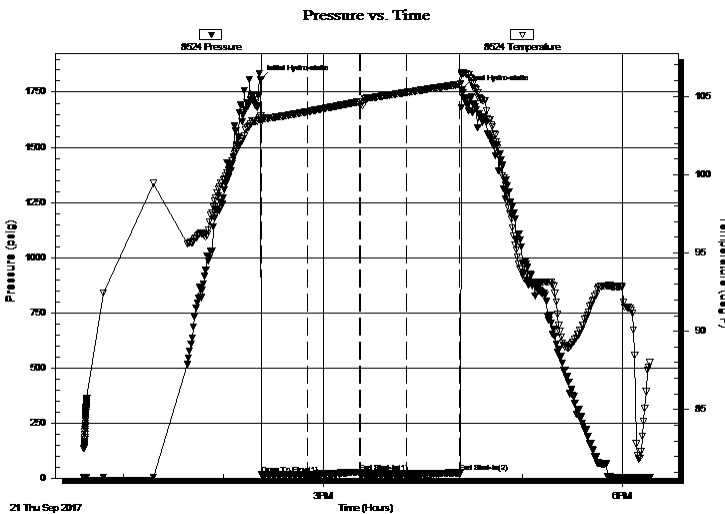
Start Time: 12:35:46 End Time: 18:16:21

Time On Btm: 2017.09.21 @ 14:22:21

Time Off Btm: 2017.09.21 @ 16:23:21

TEST COMMENT: 30- IF- Weak surge w hen tool opened
30- IS- No blow
30- FF- No blow Flushed tool No blow
30- FSI- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1806.02	103.77	Initial Hydro-static
1	16.79	103.33	Open To Flow (1)
29	17.43	104.03	Shut-In(1)
60	26.59	104.66	End Shut-In(1)
60	16.84	104.66	Open To Flow (2)
88	19.10	105.25	Shut-In(2)
120	24.50	105.77	End Shut-In(2)
121	1761.70	106.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
4.00	M	0.02

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

StrataKan Exploration, LLC

21-21S-14W Stafford, KS

100 S. Main
Plainville, KS 67663

Titus #21-1

Job Ticket: 55388

DST#: 4

ATTN: Marc Downing

Test Start: 2017.09.21 @ 12:35:45

GENERAL INFORMATION:

Formation: **LKC "L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:22:36

Time Test Ended: 18:16:21

Interval: 3603.00 ft (KB) To 3626.00 ft (KB) (TVD)

Total Depth: 3626.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 73

Reference Elevations: 1943.00 ft (KB)

1936.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 6771

Inside

Press@RunDepth: psig @ 3604.00 ft (KB)

Start Date: 2017.09.21

End Date: 2017.09.21

Start Time: 12:35:28

End Time: 18:15:48

Capacity: 8000.00 psig

Last Calib.: 2017.09.21

Time On Btm:

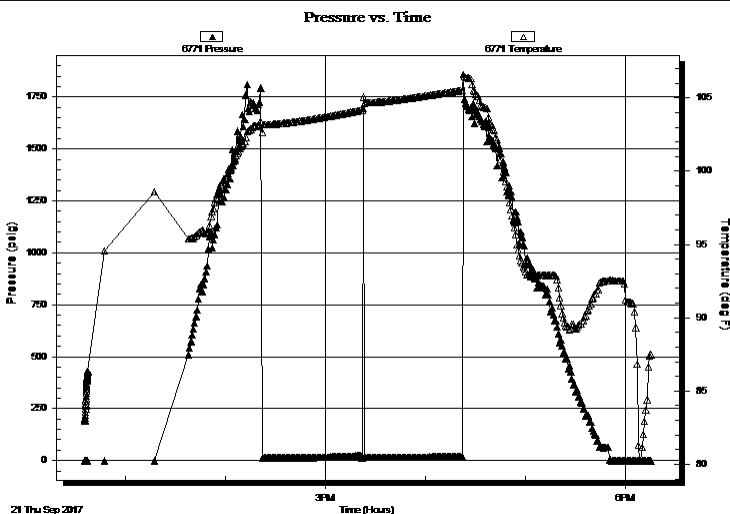
Time Off Btm:

TEST COMMENT: 30- IF- Weak surge w hen tool opened

30- IS- No blow

30- FF- No blow Flushed tool No blow

30- FS- No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
4.00	M	0.02

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

StrataKan Exploration, LLC

21-21S-14W Stafford, KS

100 S. Main
Plainville, KS 67663

Titus #21-1

Job Ticket: 55388

DST#: 4

ATTN: Marc Downing

Test Start: 2017.09.21 @ 12:35:45

Tool Information

Drill Pipe:	Length: 3480.00 ft	Diameter: 3.82 inches	Volume: 49.33 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 56000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3603.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	23.00 ft			
Tool Length:	43.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Change Over Sub	1.00			3584.00	
Shut In Tool	5.00			3589.00	
Hydraulic tool	5.00			3594.00	
Packer	5.00			3599.00	20.00 Bottom Of Top Packer
Packer	4.00			3603.00	
Stubb	1.00			3604.00	
Recorder	0.00	6771	Inside	3604.00	
Recorder	0.00	8524	Outside	3604.00	
Perforations	19.00			3623.00	
Bullnose	3.00			3626.00	23.00 Bottom Packers & Anchor
Total Tool Length:	43.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

StrataKan Exploration, LLC

21-21S-14W Stafford, KS

100 S. Main
Plainville, KS 67663

Titus #21-1

Job Ticket: 55388

DST#: 4

ATTN: Marc Downing

Test Start: 2017.09.21 @ 12:35:45

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: 43.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 9000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
4.00	M	0.020

Total Length: 4.00 ft Total Volume: 0.020 bbl

Num Fluid Samples: 0

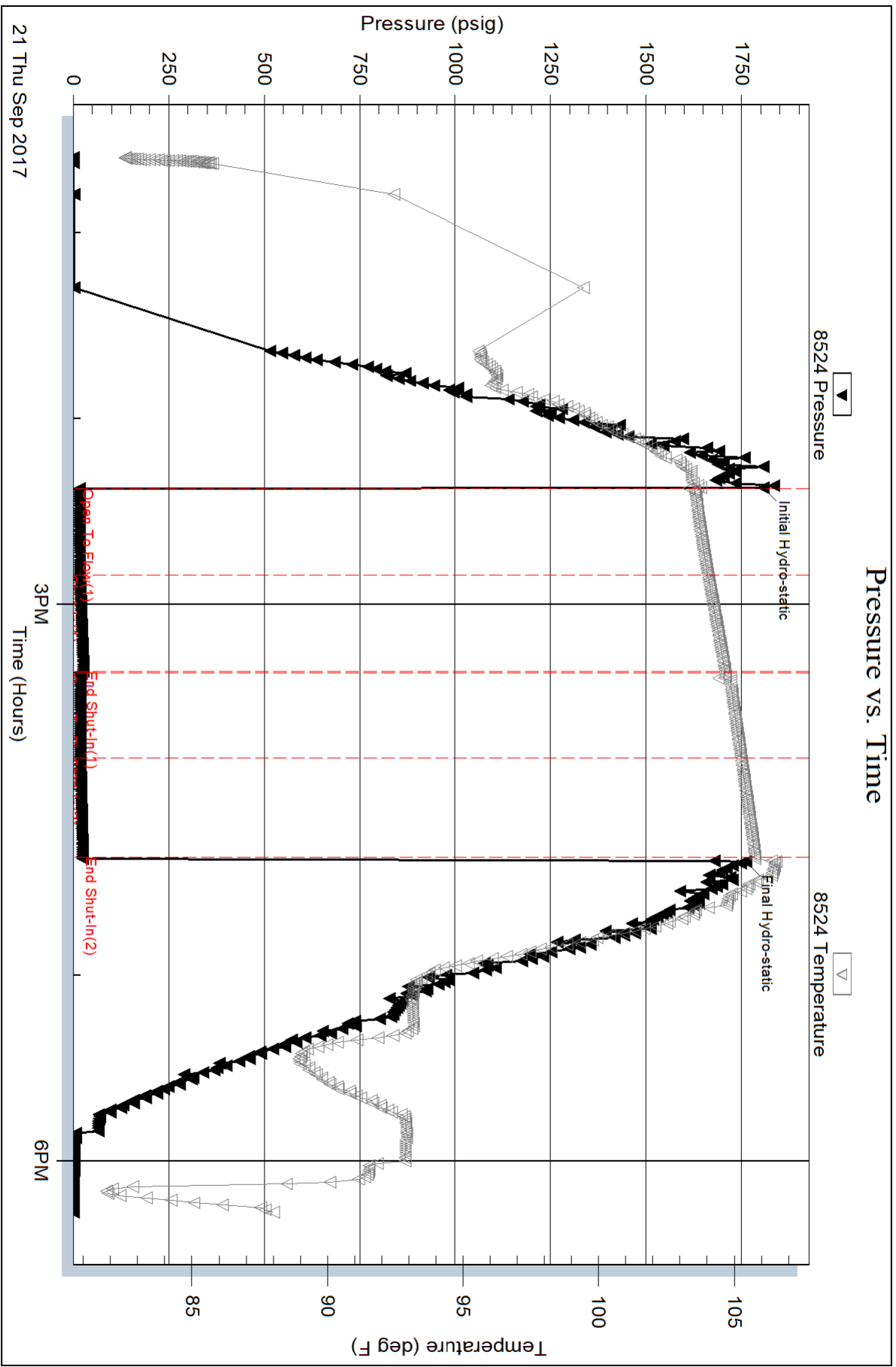
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



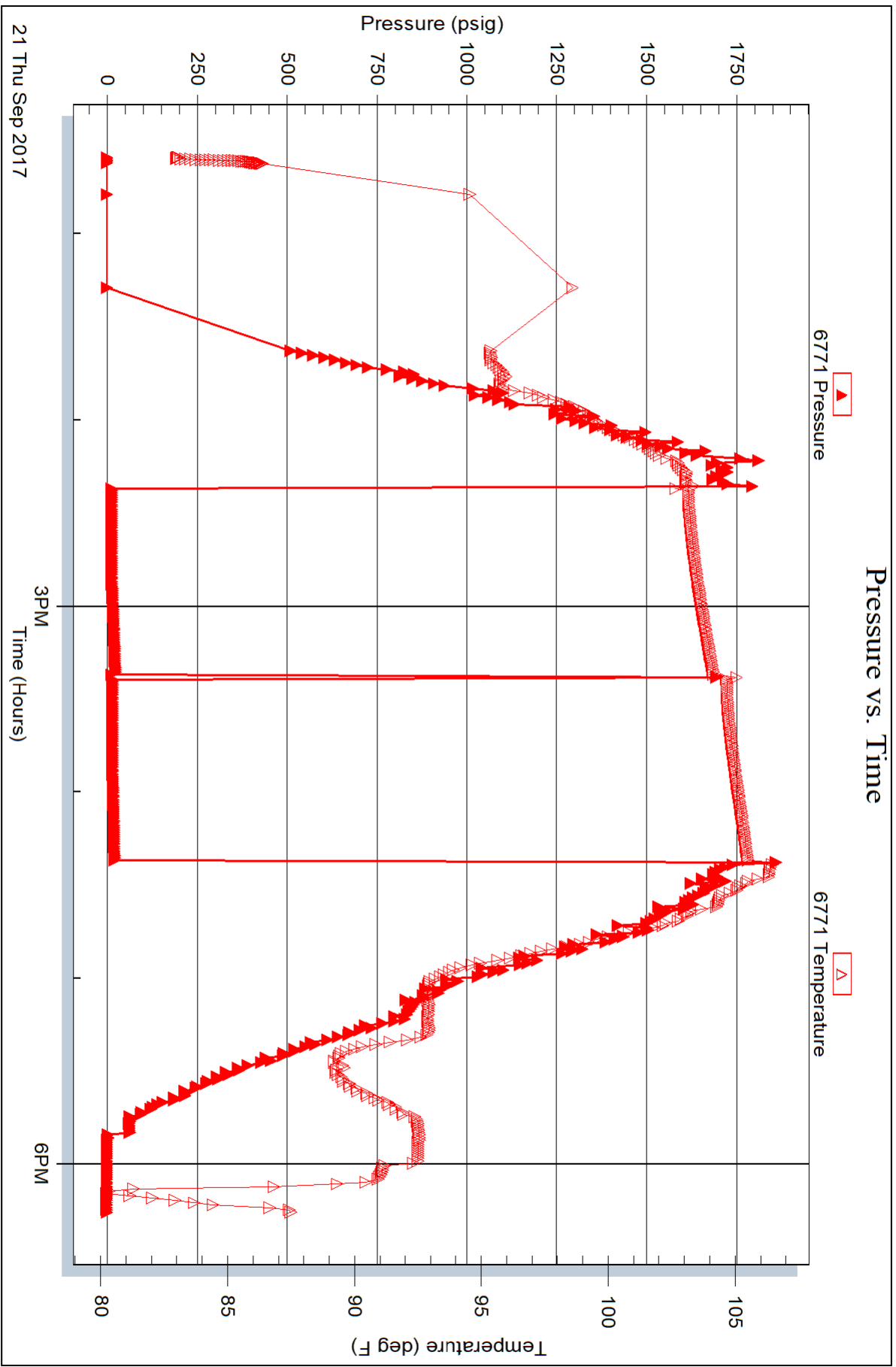
Serial #: 6771

Inside

StrataKan Exploration, LLC

Titus #21-1

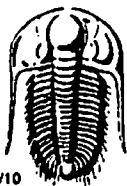
DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 55388

Printed: 2017.09.22 @ 15:57:02



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55385

Well Name & No. Titus #21-1 Test No. 1 Date 9/19/17
 Company Stratacan Exploration, LLC Elevation 1943 KB 1936 GL
 Address 100 S. Main Plainville, KS 67663
 Co. Rep / Geo. Marc Downing Rig WW #4
 Location: Sec. 21 Twp. 21 S Rge. 14 W Co. Stafford State KS

Interval Tested 3510-3535 Zone Tested LKC "H"
 Anchor Length 25' Drill Pipe Run 3386 Mud Wt. 9.3
 Top Packer Depth 3505 Drill Collars Run 120 Vis 50
 Bottom Packer Depth 3510 Wt. Pipe Run --- WL 9.6
 Total Depth 3535 Chlorides 7800 ppm System LCM 1 1/2

Blow Description IF-BOB 7mins
ISI-Built slowly to 1 1/4"
PF-BOB 10mins
FST-Slowly built to 1"

Rec	Feet of	%gas	%oil	%water	%mud
<u>183'</u>	<u>SMW</u>			<u>95%</u>	<u>5%</u>
<u>188'</u>	<u>OCMW</u>		<u>10%</u>	<u>80%</u>	<u>10%</u>
<u>125'</u>	<u>GWMC0</u>	<u>30%</u>	<u>50%</u>	<u>10%</u>	<u>10%</u>
<u>31'</u>	<u>CAO</u>	<u>30%</u>	<u>70%</u>		
<u>---</u>	<u>595' CIP</u>				

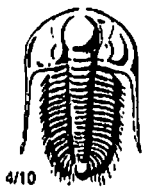
Rec Total 527' BHT 112° Gravity 34 API RW .06 @ 74 °F Chlorides 100000 ppm
 Test 1050 T-On Location 1633
 Jars _____ T-Started 1635
 Safety Joint _____ T-Open 2106
 Circ Sub _____ T-Pulled 9:20 0006
 Hourly Standby _____ T-Out 0303
 Mileage 172 RT 32rt 24
 Sampler _____
 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1074

Initial Open 30
 Initial Shut-In 30
 Final Flow 60
 Final Shut-In 60

Sub Total 1074

Approved By _____ Our Representative Brennan Lonsdale

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55386

Well Name & No. Titus #21-1 Test No. 2 Date 9/20/17
 Company Stratakan Exploration, LLC Elevation 1943 KB 1936 GL
 Address 100 S. Main Plainville, KS 67663
 Co. Rep / Geo. Marc Downing Rig WW #4
 Location: Sec. 21 Twp. 21 S Rge. 14 W Co. Stafford State KS

Interval Tested 3531-3556 Zone Tested LKC "I"
 Anchor Length 25' Drill Pipe Run 3417 Mud Wt. 9.3
 Top Packer Depth 3526 Drill Collars Run 120 Vis 50
 Bottom Packer Depth 3531 Wt. Pipe Run --- WL 9.6
 Total Depth 3556 Chlorides 7,800 ppm System LCM 1 1/2 #

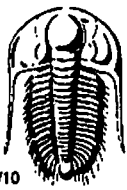
Blow Description IF- BOB 3 mins
ISI- Built slowly to 3 1/2"
FF- BOB 1 min
FST- Slowly built to 4"

Rec	Feet of	%gas	%oil	%water	%mud
<u>120</u>	<u>GWACO</u>	<u>20</u>	<u>55</u>	<u>15</u>	<u>10</u>
<u>94</u>	<u>GWACO</u>	<u>15</u>	<u>65</u>	<u>---</u>	<u>20</u>
<u>---</u>	<u>1097' GTP</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>

Rec Total 214' BHT 108° Gravity 29 API RW 0.07@ 85 °F Chlorides 72,000 ppm
 (A) Initial Hydrostatic 1784 Test 1050 T-On Location 0907
 (B) First Initial Flow 30 Jars --- T-Started 0919
 (C) First Final Flow 48 Safety Joint --- T-Open 1114
 (D) Initial Shut-In 548 Circ Sub --- T-Pulled 1414
 (E) Second Initial Flow 56 Hourly Standby --- T-Out 1620
 (F) Second Final Flow 82 Mileage 172 RT 24 Comments ---
 (G) Final Shut-In 547 Sampler ---
 (H) Final Hydrostatic 1724 Straddle ---
 Shale Packer ---
 Ruined Shale Packer ---
 Ruined Packer ---
 Extra Packer ---
 Extra Copies ---
 Initial Open 30 Extra Recorder --- Sub Total 0
 Initial Shut-In 30 Day Standby --- Total 1074
 Final Flow 60 Accessibility --- MP/DST Disc't ---
 Final Shut-In 60 Sub Total 1074

Approved By _____ Our Representative Brannan Lonsdale

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55387

Well Name & No. Titus #21-1 Test No. 3 Date 9/20/17
 Company StrataKan Exploration, LLC Elevation 1941 KB 1936 GL
 Address 100 S. Main Plainville, KS 67663
 Co. Rep / Geo. Marc Downing Rig WW #4
 Location: Sec. 21 Twp. 21 S Rge. 14 Wco. Stafford State KS

Interval Tested 3551-3578 Zone Tested LKC "J"
 Anchor Length 27' Drill Pipe Run 3417 Mud Wt. 9.8
 Top Packer Depth 3546 Drill Collars Run 120 Vis 49
 Bottom Packer Depth 3551 Wt. Pipe Run — WL 9.6
 Total Depth 3578 Chlorides 6,000 ppm System LCM 1 1/2"

Blow Description IF - 3/4" blow
ISI - No Blow
FF - 1/4" blow
FSI - No Blow

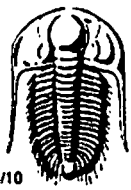
Rec	Feet of	%gas	%oil	%water	%mud
<u>30</u>	<u>OCM</u>	<u>10</u>	<u>—</u>	<u>90</u>	<u>—</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30' BHT 103° Gravity 2.9 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1797</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>0958</u>
(B) First Initial Flow <u>16</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>2201</u>
(C) First Final Flow <u>23</u>	<input type="checkbox"/> Safety Joint <u>—</u>	T-Open <u>2345</u>
(D) Initial Shut-In <u>62</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>9/21 0145</u>
(E) Second Initial Flow <u>30</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>0342</u>
(F) Second Final Flow <u>26</u>	<input checked="" type="checkbox"/> Mileage <u>172 RT 24</u>	Comments <u>—</u>
(G) Final Shut-In <u>49</u>	<input type="checkbox"/> Sampler <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
(H) Final Hydrostatic <u>1751</u>	<input type="checkbox"/> Straddle <u>—</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer <u>—</u>	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Total <u>1074</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby <u>—</u>	MP/DST Disc't <u>—</u>
	<input type="checkbox"/> Accessibility <u>—</u>	
	Sub Total <u>1074</u>	

Approved By _____ Our Representative Brennan Lonsdale

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55388

Well Name & No. Titus #21-1 Test No. 4 Date 9/21/17
 Company Stratakan Explorations, LLC Elevation 1941 KB 1936GL
 Address 100 S Main Plainville, KS 67663
 Co. Rep / Geo. Marc Downing Rig WW #4
 Location: Sec. 21 Twp. 2N S Rge. 14 W Co. Stafford State KS

Interval Tested 3603-3626 Zone Tested LKC "L"
 Anchor Length 23' Drill Pipe Run 3480 Mud Wt. 9.3
 Top Packer Depth 3598 Drill Collars Run 120 Vis 43
 Bottom Packer Depth 3603 Wt. Pipe Run — WL 10.4
 Total Depth 3626 Chlorides 9,000 ppm System LCM 1 1/2 #

Blow Description IF - weak surge when tool opened
ISI - No blow
FF - No blow Flushed tool No blow
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>4</u>	<u>M</u>				

Rec Total 4' BHT 106° Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic <u>1806</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>1230</u>
(B) First Initial Flow <u>17</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>1235</u>
(C) First Final Flow <u>17</u>	<input type="checkbox"/> Safety Joint <u>—</u>	T-Open <u>1422</u>
(D) Initial Shut-In <u>27</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>1622</u>
(E) Second Initial Flow <u>17</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>1816</u>
(F) Second Final Flow <u>19</u>	<input checked="" type="checkbox"/> Mileage <u>172 RT x 2</u>	Comments <u>Tools loaded 9/22</u>
(G) Final Shut-In <u>25</u>	<input type="checkbox"/> Sampler <u>48</u>	<u>@ 12.45 Stayed 3</u>
(H) Final Hydrostatic <u>1762</u>	<input type="checkbox"/> Straddle <u>—</u>	<u>nights in Larned, KS</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby <u>—</u>	Total <u>1098</u>
	<input type="checkbox"/> Accessibility <u>—</u>	MP/DST Disc't <u>—</u>
	Sub Total <u>1098</u>	

Approved By _____ Our Representative Brannan Lousdale

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