

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
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------

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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Form	ACO1 - Well Completion
Operator	Carmen Schmitt, Inc.
Well Name	WERTH 4
Doc ID	1425293

Tops

Name	Top	Datum
Anhydrite	1870	541
Heebner Sh.	3642	-1231
Toronto	3662	-1251
Lansing	3681	-1270
Stark Shale	3910	-1499
B/ KC	3964	-1553
Marmaton	4004	-1593
Altamont	4028	-1617
Pawnee	4108	-1697
Fort Scott	4169	-1758
Cherokee Sh	4194	-1783
Mississippi	4265	-1854



P. O. Box 466
Ness City, KS 67560
Off: 785-798-2300



Invoice

DATE	INVOICE #
9/6/2018	31646

BILL TO
Carmen Schmitt, Inc. P. O. Box 47 915 Harrison Great Bend, KS 67530-0047

- Acidizing
- Cement
- Tool Rental

TERMS	Well No.	Lease	County	Contractor	Well Type	Well Category	Job Purpose	Operator
Net 30	#4	Werth	Trego	Murfin	Oil	Development	Cement longstrin...	Blaine
PRICE REF.	DESCRIPTION				QTY	UM	UNIT PRICE	AMOUNT
575D	Mileage - 1 Way				50	Miles	5.00	250.00
579D	Pump Charge - Two-Stage & Top To Bottom LongString				1	Job	1,800.00	1,800.00
402-5	5 1/2" Centralizer				12	Each	70.00	840.00T
403-5	5 1/2" Cement Basket				3	Each	275.00	825.00T
406-5	5 1/2" Latch Down Plug & Baffle				1	Each	250.00	250.00T
407-5	5 1/2" Insert Float Shoe With Auto Fill				1	Each	325.00	325.00T
419-5	5 1/2" Rotating Head Rental				1	Each	200.00	200.00T
330	Swift Multi-Density Standard (MIDCON II)				450	Sacks	16.25	7,312.50T
325	Standard Cement				150	Sacks	13.00	1,950.00T
276	Flocele				125	Lb(s)	2.50	312.50T
281	Mud Flush				500	Gallon(s)	1.50	750.00T
221	Liquid KCL (Clayfix)				2	Gallon(s)	25.00	50.00T
290	D-Air				5	Gallon(s)	42.00	210.00T
284	Calseal				7	Sack(s)	35.00	245.00T
283	Salt				750	Lb(s)	0.20	150.00T
285	CFR-1				75	Lb(s)	4.50	337.50T
581W	Service Charge Cement				600	Sacks	1.75	1,050.00T
583W	Drayage				1,511.36	Ton Miles	0.85	1,284.66T
	Subtotal							18,142.16
	Sales Tax Trego County						8.00%	1,287.37

7/10/43
19380.0004
Well file
Cement Long String

We Appreciate Your Business!

Total

\$19,429.53



CHARGE TO: Carmen Schmitt

ADDRESS

CITY, STATE, ZIP CODE

1. SERVICE LOCATIONS <u>Ness City KS</u>	WELL/PROJECT NO. <u>#4</u>	LEASE <u>WestH</u>	COUNTY/PARISH <u>Trego</u>	STATE <u>KS</u>	CITY <u>Utica</u>
2.	TICKET TYPE <input type="checkbox"/> SERVICE <input type="checkbox"/> SALES	CONTRACTOR <u>MURKIN</u>	RIG NAME/NO. <u>U</u>	SHIPPED VIA <u>OT</u>	DELIVERED TO <u>location</u>
3.	WELL TYPE <u>oil</u>	WELL CATEGORY <u>Development</u>	JOB PURPOSE <u>cement bursting top to bottom</u>	WELL PERMIT NO.	
4.	REFERRAL LOCATION	INVOICE INSTRUCTIONS			

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	U/M	QTY.	U/M
		LOG	ACCT	DF					
575		1			MILEAGE <u>TRX U4</u>	50	mi		
579		1			Pump Charge (TOP TO BOTTOM)	1	ea		
402		1			Controlizer	5 1/2	in	12	
403		1			Cement Basket	5 1/2	in	3	
406		1			Latch down plug & baffle	5 1/2	in	1	
407		1			Insert float shoe w/ AUTO FILL	5 1/2	in	1	
419		1			Rotating head rental	5 1/2	in	1	

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS.

X Curtis Hebebrand
 DATE SIGNED _____ TIME SIGNED _____
 A.M.
 P.M.

REMIT PAYMENT TO:
SWIFT SERVICES, INC.
 P.O. BOX 466
 NESS CITY, KS 67560
 785-798-2300

SURVEY	AGREE	UNDECIDED
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?		
WE UNDERSTOOD AND MET YOUR NEEDS?		
OUR SERVICE WAS PERFORMED WITHOUT DELAY?		
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?		
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND		

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services.

SWIFT OPERATOR [Signature] APPROVAL



PO Box 466
Ness City, KS 67560
Off: 785-798-2300

TICKET CONTINUATION

CUSTOMER Carmen Schmitt WELL Weeth #4

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	QTY		U/M		
		LOC	ACCT	DF			QTY	U/M	QTY	U/M	
330		1				SMD cement	450	sk			
325		1				2A-2 cement (standard)	150	sk			
276		1				Fluocel	125	lb			
281		1				mod flush	500	gal			
221		1				KOL liquid	2	gal			
290		1				D-AIR	5	gal			
284		1				calseal	700	lb	7	sk	
283		1				salt	750	lb			
285		1				CFR-1	75	lb			
581		1				SERVICE CHARGE	600			CUBIC FEET	
583		1				MILEAGE CHARGE					
							TOTAL WEIGHT	6054		LOADED MILES	50
										TON MILES	1511.36

CON

JOB LOG

SWIFT Services, Inc.

DATE 6 SEP 18 PAGE NO. 1
TICKET NO. 31646

CUSTOMER Carmen Schmitt WELL NO. #4 LEASE Worth JOB TYPE annulment string

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								450 sk SMD cement w/ 1/4" Floccle 150 sk SA-2 cement w/ 1/4" Floccle 5 1/2" x 1 1/4" casing 98 jts 4131' TD - 8340' Control valves 4, 6, 8, 10, 11, 13, 15, 17, 19, 53, 54 Basket 3, 32, 52 shoe jts 42.33
	0130							on loc TRK 114
	0145							start 5 1/2" x 1 1/4" casing in well
	0330							Drop ball - circulate - ROTATE
	0510	4	12			200		Pump 500 gal mud flush
		4	20			200		Pump 20 bbl KCL flush
			7					Plug RH - MH 305sk - 205sk
	0522	6	242			200		mix SMD cement 400sk @ 11.2 ppg
		4 1/2	30			200		mix SA-2 cement 150sk @ 15.3 ppg
								Deep batch down plug Reduct. Pump Line
	0640	6				200		Displace plug
		6	89			1000		→ Cement to surface ← {25 sk TOPH}
	0700	6	100			1000		Land plug
								Release pressure to truck - diked up
	0705							wash truck
								Rack up
	0745							job complete Thanks Blaine, Flint & WAG

COPELAND

POST OFFICE BOX 438
 HAYSVILLE, KS 67060
 (316) 524-1225
 (316) 524-1027 FAX

Invoice

Acid & Cement

BURRTON, KS ▲ GREAT BEND, KS
 (620) 463-5161 (620) 793-3366
 FAX (620) 463-2104 FAX (620) 793-3536

INVOICE NUMBER:
C45470-IN

BILL TO:
CARMEN SCHMITT, INC.
PO BOX 47
GREAT BEND, KS 67530

LEASE: WERTH # *4*

DATE	ORDER	SALESMAN	ORDER DATE	PURCHASE ORDER	SPECIAL INSTRUCTIONS	
08/31/2018	C45470		08/28/2018		NET 30	
QUANTITY	U/M	ITEM NO./DESCRIPTION		D/C	PRICE	EXTENSION
		NEW WELL				
40.00	MI	MILEAGE CEMENT PUMP TRUCK		28.25	4.00	114.80
40.00	MI	MILEAGE PICKUP		28.25	2.00	57.40
1.00	EA	PUMP CHARGE-SURFACE		28.22	1,100.00	789.58
180.00	SK	60/40 POZ MIX 2% GEL		28.12	10.75	1,390.88
10.00	SK	CALCIUM CHLORIDE		28.12	30.00	215.64
190.00	EA	BULK CHARGE		28.12	1.25	170.72
328.80	MI	BULK TRUCK - TON MILES		28.12	1.10	259.98
REMIT TO: P.O. BOX 438 HAYSVILLE, KS 67060		COP		Net Invoice:		2,999.00
RECEIVED BY _____		FUEL SURCHARGE IS NOT TAXABLE AND IS ADDED TO MILEAGE, PUMP AND OR DELIVERY CHARGES ONLY.		TRECO Sales Tax:		128.52
		NET 30 DAYS		Invoice Total:		3,127.52

710/43
19380.0004

There will be a charge of 1.5% "per month" (18% annual rate) on all accounts over 30 days past due.



New Well

FIELD ORDER N° C 45470

BOX 438 • HAYSVILLE, KANSAS 67060
316-524-1225

DATE 8/28/14 2014

IS AUTHORIZED BY: Carma Schmitt (NAME OF CUSTOMER)

Address _____ City _____ State _____

To Treat Well As Follows: Lease Worth Well No. 6 Customer Order No. _____

Sec. Twp. Range _____ County Trego State KS

CONDITIONS: As a part of the consideration hereof It is agreed that Copeland Acid Service is to service or treat at owners risk, the hereinbefore mentioned well and is not to be held liable for any damage that may accrue in connection with said service or treatment. Copeland Acid Service has made no representation, expressed or implied, and no representations have been relied on, as to what may be the results or effect of the servicing or treating said well. The consideration of said service or treatment is payable. There will be no discount allowed subsequent to such date. 6% interest will be charged after 60 days. Total charges are subject to correction by our invoicing department in accordance with latest published price schedules.

The undersigned represents himself to be duly authorized to sign this order for well owner or operator.

THIS ORDER MUST BE SIGNED BEFORE WORK IS COMMENCED

Well Owner or Operator

By

Agent

CODE	QUANTITY	DESCRIPTION	UNIT COST	AMOUNT
2	40	milesse pump truck	4. ⁰⁰ / ₁	160.00
2	40	milesse pickup	2. ⁰⁰ / ₁	80.00
2	1	Pump Charge - surface		1,100.00
2	180	64 lbs per 2% sol.	10. ⁷⁵ / ₁	1,935.00
2	10	Calcium Chloride	30. ⁰⁰ / ₁	300.00
2	190	Bulk Charge	1. ²⁵ / ₁	237. ⁵⁰ / ₁
2		Bulk Truck Miles $R. 17T \times 40m = 326.8T \times 1.10/1$	1. ¹⁰ / ₁	359.48
		Process License Fee on _____ Gallons		4,171.98
TOTAL BILLING				28.12% Discount

I certify that the above material has been accepted and used; that the above service was performed in a good and workmanlike manner under the direction, supervision and control of the owner, operator or his agent, whose signature appears below.

Copeland Representative North W.

Price as Agreed 2999.00

Station G.B

Mudpie Drilling
Well Owner, Operator of Agent

Remarks _____

NET 30 DAYS



DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt Inc**

PO Box 47
Great Bend KS 67530-0047

ATTN: Carmen Schmitt

Werth #4

7-14s-25w Trego,KS

Start Date: 2018.09.01 @ 16:20:56

End Date: 2018.09.01 @ 22:16:49

Job Ticket #: 63779 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.09.05 @ 14:39:51



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt Inc
 PO Box 47
 Great Bend KS 67530-0047
 ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
 Job Ticket: 63779 **DST#: 1**
 Test Start: 2018.09.01 @ 16:20:56

GENERAL INFORMATION:

Formation: **LKC "H"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:10:51
 Time Test Ended: 22:16:49
 Interval: **3825.00 ft (KB) To 3865.00 ft (KB) (TVD)**
 Total Depth: 3865.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 2411.00 ft (KB)
 2406.00 ft (CF)
 KB to GR/CF: 5.00 ft

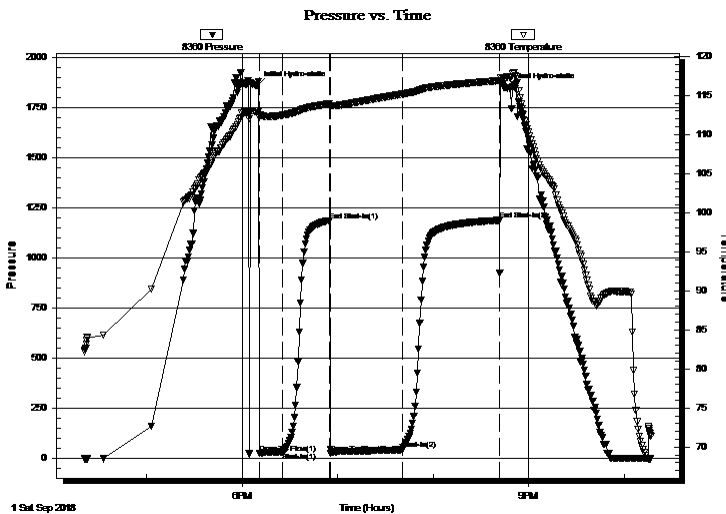
Serial #: 8360

Inside

Press@RunDepth: 48.29 psig @ 3831.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.09.01 End Date: 2018.09.01 Last Calib.: 2018.09.01
 Start Time: 16:20:56 End Time: 22:16:49 Time On Btm: 2018.09.01 @ 18:09:21
 Time Off Btm: 2018.09.01 @ 20:46:50

TEST COMMENT: 15-IFP-weak blow thru-out surface to 1/2" blow
 30-ISIP-no blow back
 45-FFP-weak blow 1/2" to 2 1/4" blow
 60-FSIP-no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1862.22	112.97	Initial Hydro-static
2	27.23	112.10	Open To Flow (1)
16	34.11	112.46	Shut-In(1)
46	1187.86	113.92	End Shut-In(1)
47	28.50	113.64	Open To Flow (2)
91	48.29	115.14	Shut-In(2)
153	1189.30	116.88	End Shut-In(2)
158	1848.92	117.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	MGO 15%G30%M55%O	0.71
0.00	110' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt Inc
 PO Box 47
 Great Bend KS 67530-0047
 ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
 Job Ticket: 63779 **DST#: 1**
 Test Start: 2018.09.01 @ 16:20:56

Tool Information

Drill Pipe:	Length: 3798.00 ft	Diameter: 3.80 inches	Volume: 53.28 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 53.43 bbl</u>	Tool Chased	4.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3825.00 ft			Final	50000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	40.00 ft				
Tool Length:	69.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3797.00	
Shut In Tool	5.00			3802.00	
Hydraulic tool	5.00			3807.00	
Jars	5.00			3812.00	
Safety Joint	3.00			3815.00	
Packer	5.00			3820.00	29.00 Bottom Of Top Packer
Packer	5.00			3825.00	
Stubb	1.00			3826.00	
Perforations	5.00			3831.00	
Recorder	0.00	8360	Inside	3831.00	
Recorder	0.00	8673	Outside	3831.00	
Perforations	31.00			3862.00	
Bullnose	3.00			3865.00	40.00 Bottom Packers & Anchor

Total Tool Length: 69.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt Inc
PO Box 47
Great Bend KS 67530-0047
ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
Job Ticket: 63779 **DST#: 1**
Test Start: 2018.09.01 @ 16:20:56

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: 62.00 sec/qt	Cushion Volume: bbl		
Water Loss: 6.33 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2300.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	MGO 15%G30%M55%O	0.709
0.00	110' GIP	0.000

Total Length: 70.00 ft Total Volume: 0.709 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

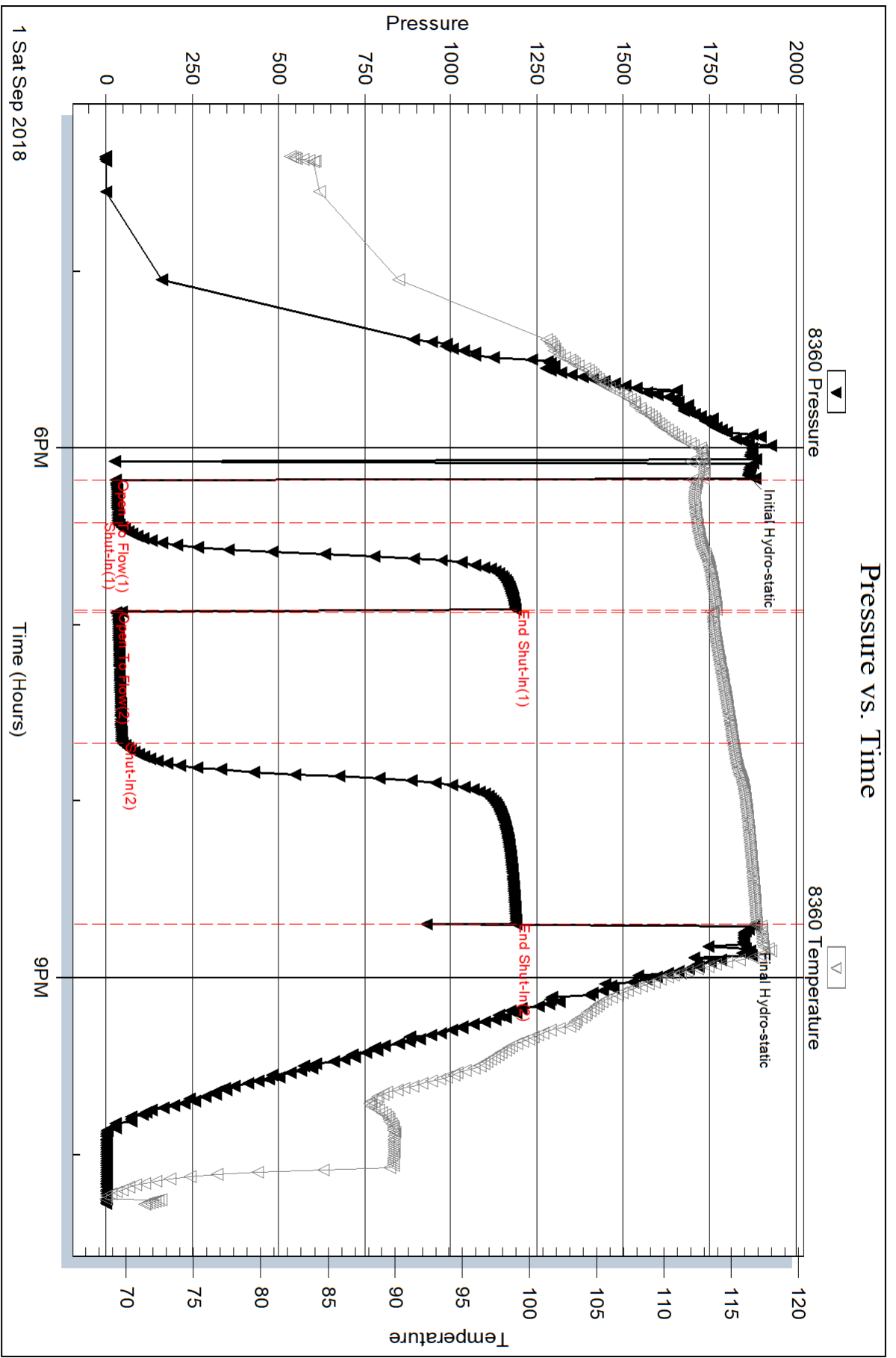
Serial #: 8360

Inside

Carmen Schmitt Inc

Worth #4

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 63779

Printed: 2018.09.05 @ 14:39:52

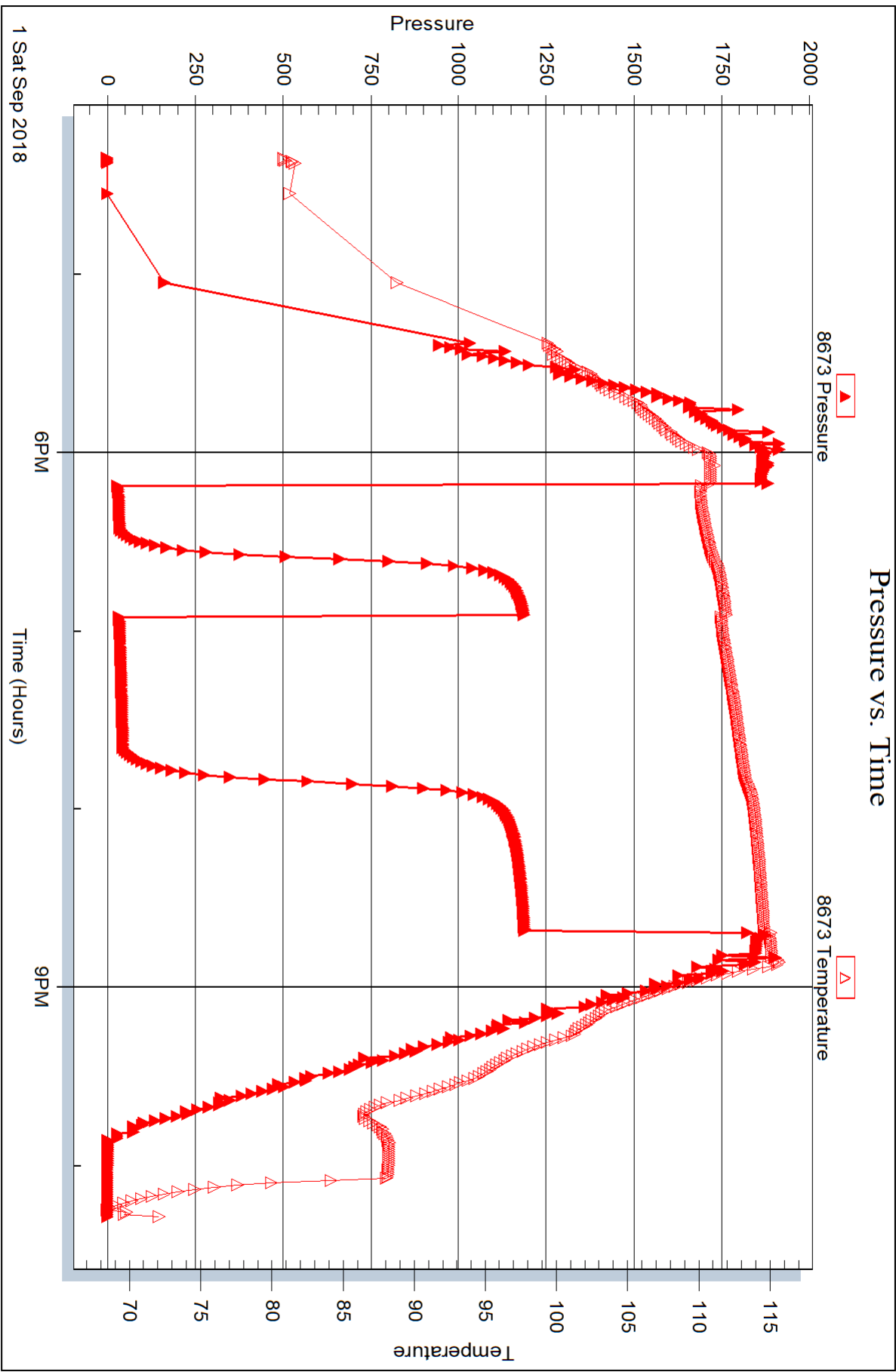
Serial #: 8673

Outside

Carmen Schmitt Inc

Werth #4

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt Inc**

PO Box 47
Great Bend KS 67530-0047

ATTN: Carmen Schmitt

Werth #4

7-14s-25w Trego,KS

Start Date: 2018.09.02 @ 05:55:14

End Date: 2018.09.02 @ 12:07:38

Job Ticket #: 63780 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.09.05 @ 14:39:04



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt Inc
 PO Box 47
 Great Bend KS 67530-0047
 ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
 Job Ticket: 63780 **DST#: 2**
 Test Start: 2018.09.02 @ 05:55:14

GENERAL INFORMATION:

Formation: **LKC "H"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 07:38:54
 Time Test Ended: 12:07:38
 Interval: **3882.00 ft (KB) To 3912.00 ft (KB) (TVD)**
 Total Depth: 3912.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 2411.00 ft (KB)
 2406.00 ft (CF)
 KB to GR/CF: 5.00 ft

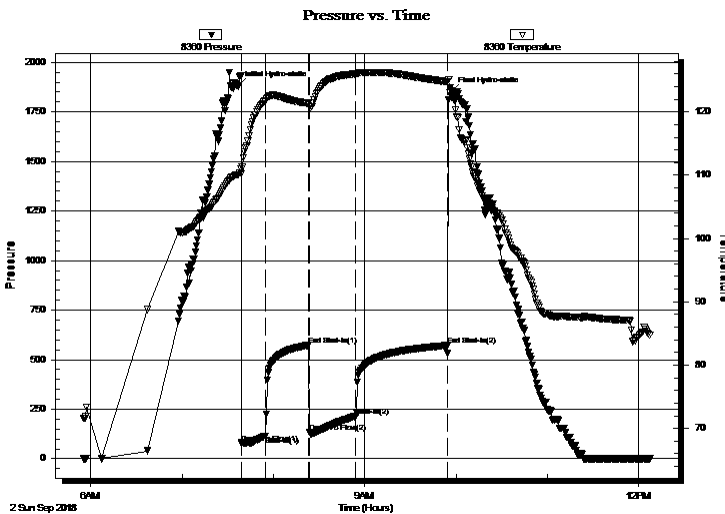
Serial #: 8360

Inside

Press@RunDepth: 215.42 psig @ 3884.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.09.02 End Date: 2018.09.02 Last Calib.: 2018.09.02
 Start Time: 05:55:14 End Time: 12:07:38 Time On Btm: 2018.09.02 @ 07:36:54
 Time Off Btm: 2018.09.02 @ 09:57:09

TEST COMMENT: 15-IFP-BOB in 2 min Dataport 68.77"
 30-ISIP-7" Blow back
 30-FFP-BOB in 1 min DataPort 54.80"
 60-FSIP-BOB in 23 min

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1880.93	110.06	Initial Hydro-static
2	77.08	110.29	Open To Flow (1)
18	115.64	121.76	Shut-In(1)
46	572.43	121.35	End Shut-In(1)
47	134.15	120.88	Open To Flow (2)
78	215.42	125.99	Shut-In(2)
138	571.39	124.76	End Shut-In(2)
141	1852.36	122.35	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	MGO 40%G45%O15%M	1.41
415.00	CO	5.82
0.00	2110' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt Inc
 PO Box 47
 Great Bend KS 67530-0047
 ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
 Job Ticket: 63780 **DST#: 2**
 Test Start: 2018.09.02 @ 05:55:14

Tool Information

Drill Pipe:	Length: 3832.00 ft	Diameter: 3.80 inches	Volume: 53.75 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 53.90 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	9.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3882.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	59.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3854.00	
Shut In Tool	5.00			3859.00	
Hydraulic tool	5.00			3864.00	
Jars	5.00			3869.00	
Safety Joint	3.00			3872.00	
Packer	5.00			3877.00	29.00 Bottom Of Top Packer
Packer	5.00			3882.00	
Stubb	1.00			3883.00	
Perforations	1.00			3884.00	
Recorder	0.00	8360	Inside	3884.00	
Recorder	0.00	8673	Outside	3884.00	
Perforations	25.00			3909.00	
Bullnose	3.00			3912.00	30.00 Bottom Packers & Anchor

Total Tool Length: 59.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt Inc
PO Box 47
Great Bend KS 67530-0047
ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
Job Ticket: 63780 **DST#: 2**
Test Start: 2018.09.02 @ 05:55:14

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 38 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 54.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.33 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2300.00 ppm		
Filter Cake: 1.00 inches		

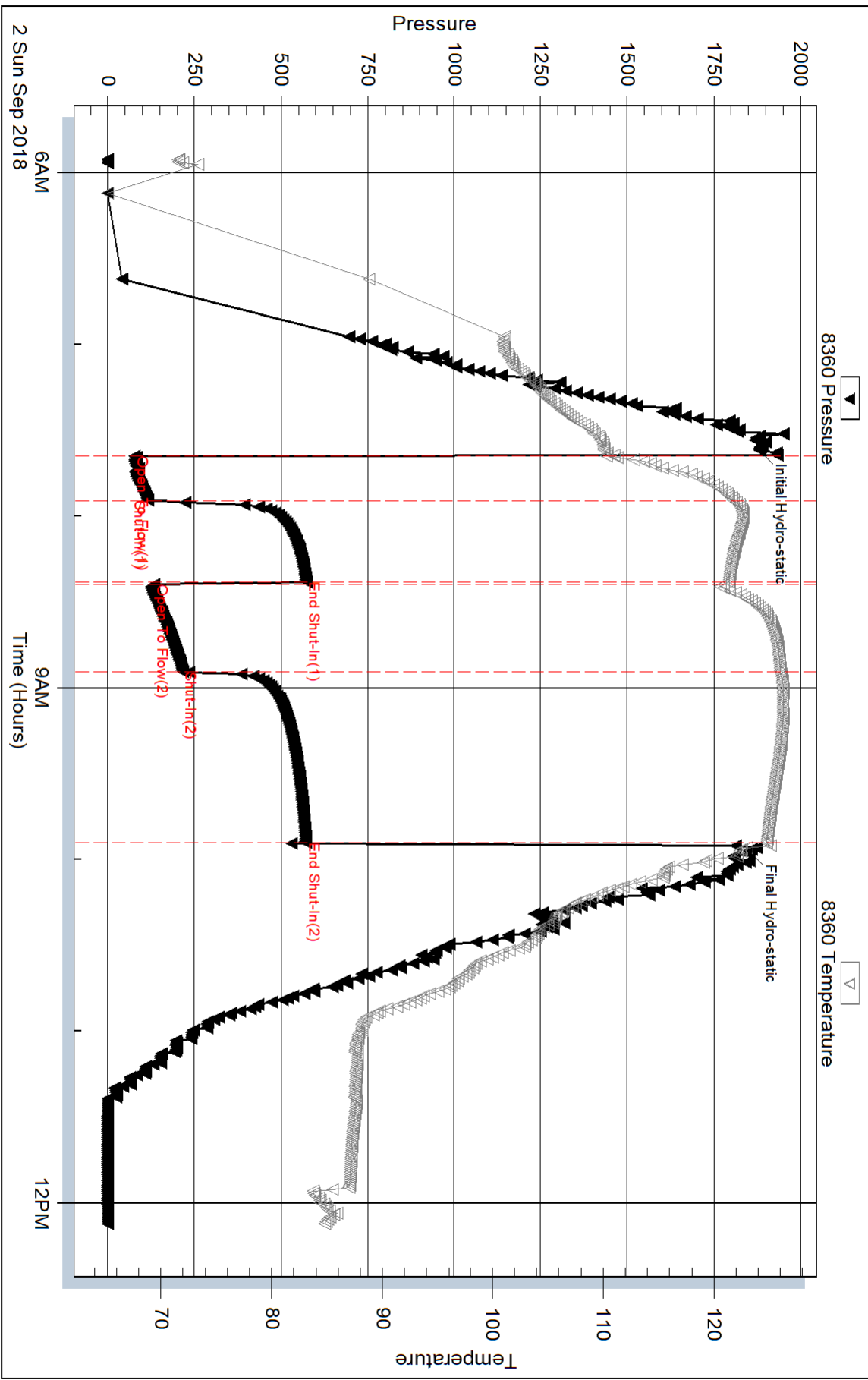
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	MGO 40%G45%O15%M	1.410
415.00	CO	5.821
0.00	2110' GIP	0.000

Total Length: 535.00 ft Total Volume: 7.231 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Pressure vs. Time

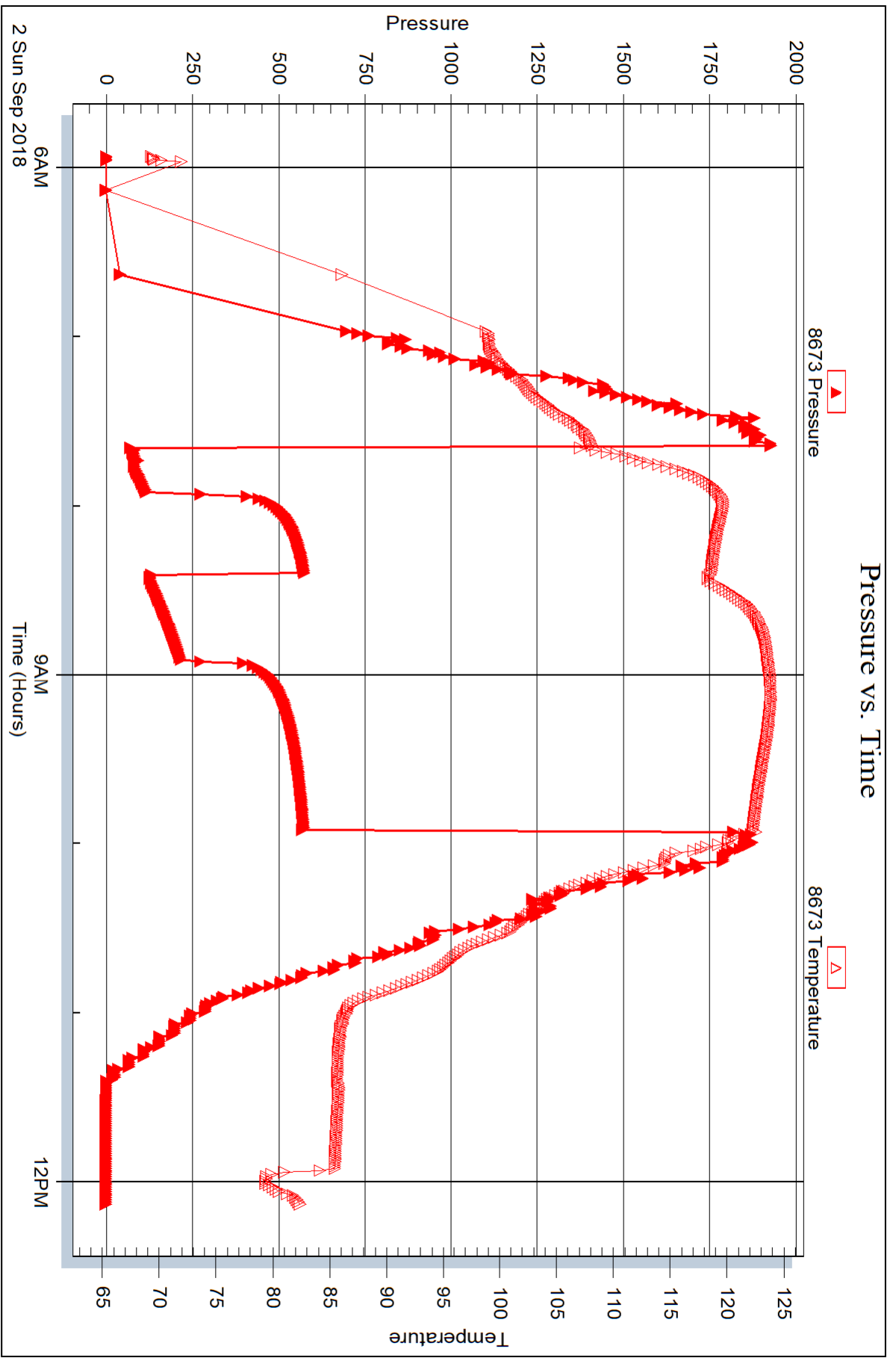


Serial #: 8673

Outside Carmen Schmitt Inc

Werth #4

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 63780

Printed: 2018.09.05 @ 14:39:05



DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt Inc**

PO Box 47
Great Bend KS 67530-0047

ATTN: Carmen Schmitt

Werth #4

7-14s-25w Trego,KS

Start Date: 2018.09.02 @ 18:25:31

End Date: 2018.09.03 @ 01:06:10

Job Ticket #: 63781 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.09.05 @ 14:38:39



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt Inc
 PO Box 47
 Great Bend KS 67530-0047
 ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
 Job Ticket: 63781 **DST#: 3**
 Test Start: 2018.09.02 @ 18:25:31

GENERAL INFORMATION:

Formation: **LKC "K"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:57:41
 Time Test Ended: 01:06:10
 Interval: **3921.00 ft (KB) To 3937.00 ft (KB) (TVD)**
 Total Depth: 3937.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 2411.00 ft (KB)
 2406.00 ft (CF)
 KB to GR/CF: 5.00 ft

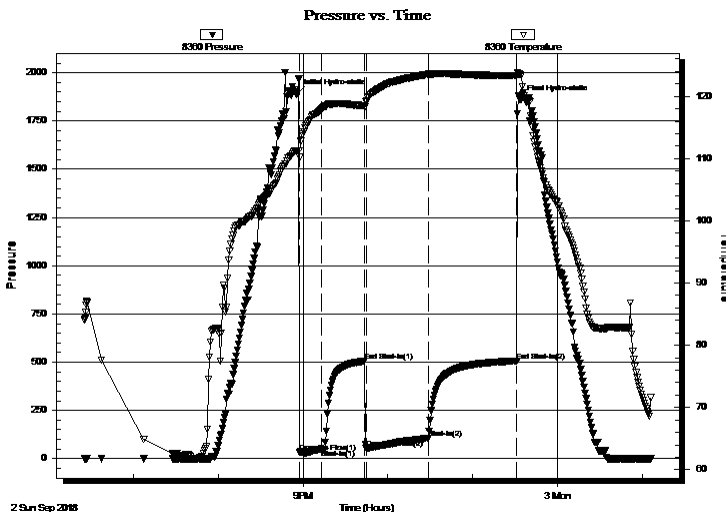
Serial #: 8360

Inside

Press@RunDepth: 106.52 psig @ 3922.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.09.02 End Date: 2018.09.03 Last Calib.: 2018.09.03
 Start Time: 18:25:31 End Time: 01:06:10 Time On Btm: 2018.09.02 @ 20:56:11
 Time Off Btm: 2018.09.02 @ 23:33:55

TEST COMMENT: 15-IFP-BOB in 4 min DataPort 32.65"
 30-ISIP-no blow back
 45-FFP-BOB in 4 min DataPort 39.14"
 60-FSIP-1" blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1890.44	111.24	Initial Hydro-static
2	33.07	110.22	Open To Flow (1)
17	48.17	117.97	Shut-In(1)
48	505.18	118.49	End Shut-In(1)
49	53.48	119.06	Open To Flow (2)
93	106.52	123.54	Shut-In(2)
155	506.78	123.31	End Shut-In(2)
158	1861.84	123.43	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	HO&GCM 20%G30%O50%M	0.57
180.00	CO	2.52
0.00	1310' 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

Carmen Schmitt Inc
 PO Box 47
 Great Bend KS 67530-0047
 ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
 Job Ticket: 63781 **DST#: 3**
 Test Start: 2018.09.02 @ 18:25:31

Tool Information

Drill Pipe:	Length: 3893.00 ft	Diameter: 3.80 inches	Volume: 54.61 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 54.76 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3921.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	45.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3893.00	
Shut In Tool	5.00			3898.00	
Hydraulic tool	5.00			3903.00	
Jars	5.00			3908.00	
Safety Joint	3.00			3911.00	
Packer	5.00			3916.00	29.00 Bottom Of Top Packer
Packer	5.00			3921.00	
Stubb	1.00			3922.00	
Recorder	0.00	8360	Inside	3922.00	
Recorder	0.00	8673	Outside	3922.00	
Perforations	12.00			3934.00	
Bullnose	3.00			3937.00	16.00 Bottom Packers & Anchor

Total Tool Length: 45.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt Inc
PO Box 47
Great Bend KS 67530-0047
ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
Job Ticket: 63781 **DST#: 3**
Test Start: 2018.09.02 @ 18:25:31

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 39 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl	
Water Loss: 6.34 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2300.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	HO&GCM 20%G30%O50%M	0.568
180.00	CO	2.525
0.00	1310' GIP	0.000

Total Length: 240.00 ft Total Volume: 3.093 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 8360

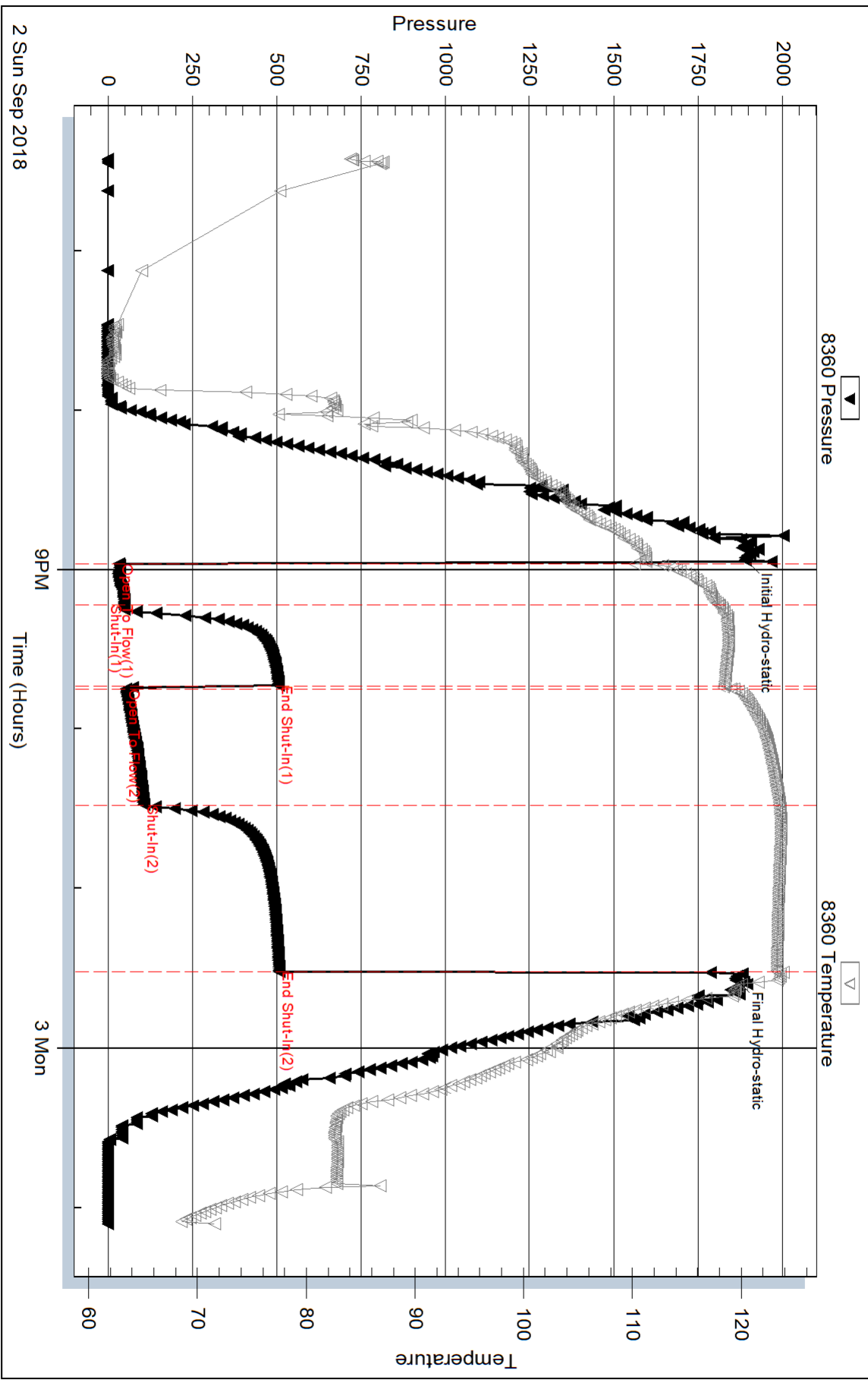
Inside

Carmen Schmitt Inc

Well #4

DST Test Number: 3

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 63781

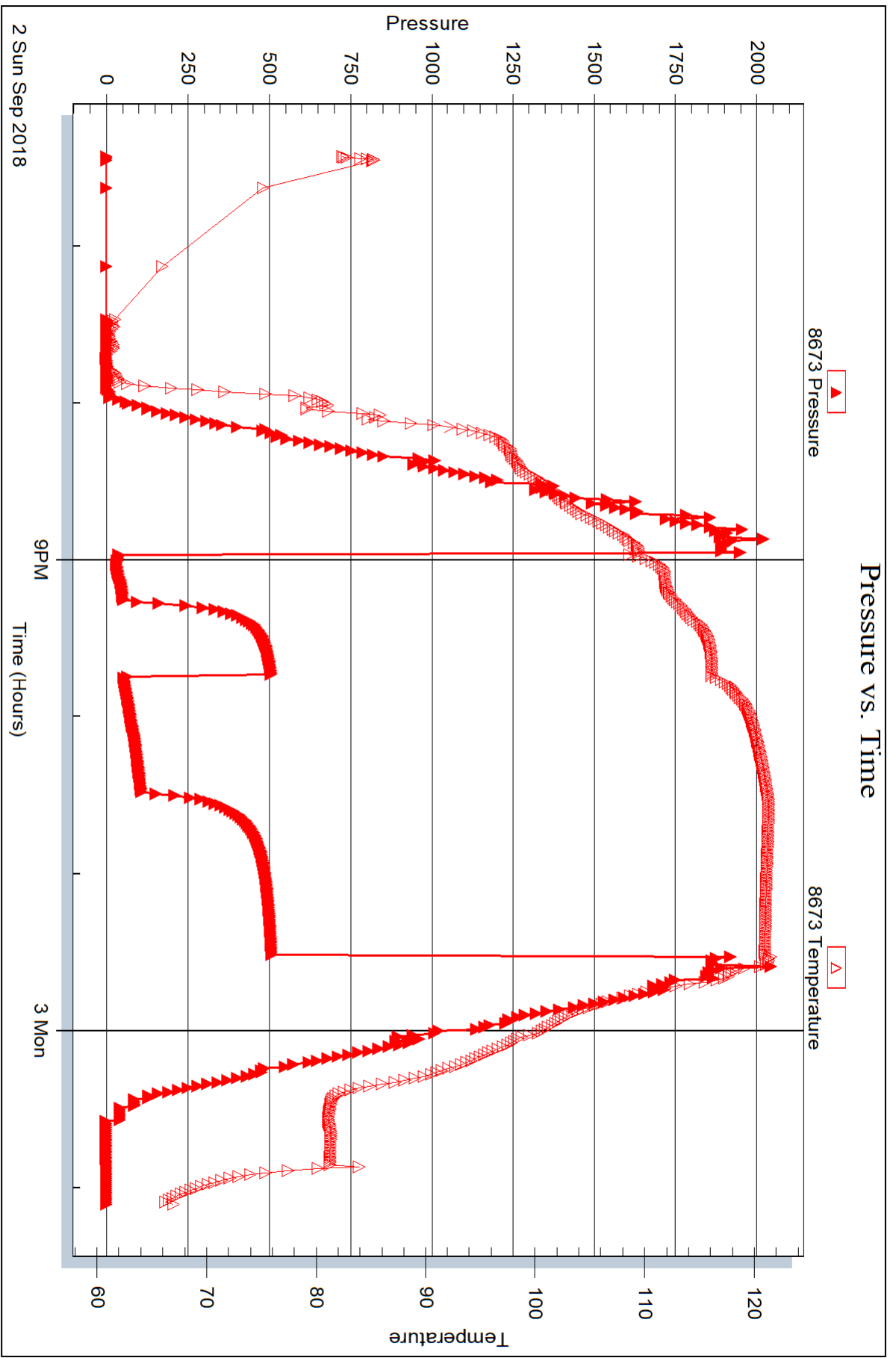
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Serial #: 8673

Outside Carmen Schmitt Inc

Werth #4

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 63781

Printed: 2018.09.05 @ 14:38:40



DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt Inc**

PO Box 47
Great Bend KS 67530-0047

ATTN: Carmen Schmitt

Werth #4

7-14s-25w Trego,KS

Start Date: 2018.09.03 @ 08:35:10

End Date: 2018.09.03 @ 14:28:40

Job Ticket #: 63782 DST #: 4

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.09.05 @ 14:38:16



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt Inc
 PO Box 47
 Great Bend KS 67530-0047
 ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
 Job Ticket: 63782 **DST#: 4**
 Test Start: 2018.09.03 @ 08:35:10

GENERAL INFORMATION:

Formation: **LKC "L"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 10:26:25
 Time Test Ended: 14:28:40
 Interval: **3943.00 ft (KB) To 3970.00 ft (KB) (TVD)**
 Total Depth: 3970.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 77
 Reference Elevations: 2411.00 ft (KB)
 2406.00 ft (CF)
 KB to GR/CF: 5.00 ft

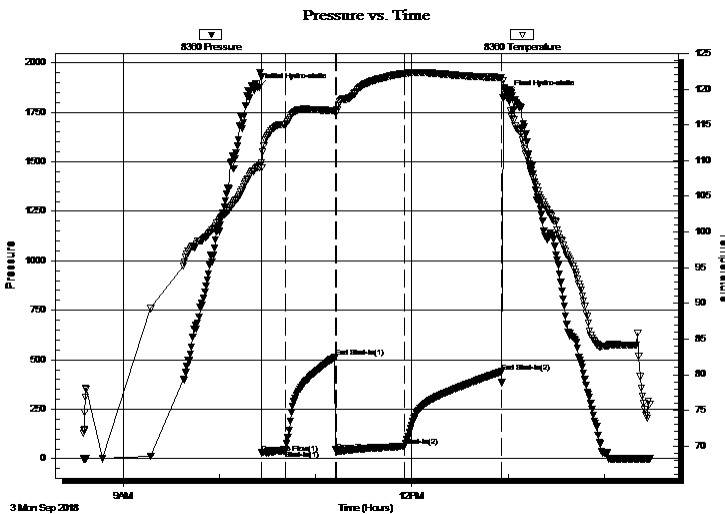
Serial #: 8360

Inside

Press@RunDepth: 62.87 psig @ 3944.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.09.03 End Date: 2018.09.03 Last Calib.: 2018.09.03
 Start Time: 08:35:15 End Time: 14:28:39 Time On Btm: 2018.09.03 @ 10:24:10
 Time Off Btm: 2018.09.03 @ 12:59:40

TEST COMMENT: 15-IFP-BOB in 3 min DataPort 21.79"
 30-ISIP-no blow back
 45-FFP-BOB in 3 min DataPort 36.88"
 60-FSIP-no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1874.91	109.06	Initial Hydro-static
3	29.91	108.96	Open To Flow (1)
17	40.48	115.00	Shut-In(1)
48	514.02	117.00	End Shut-In(1)
49	39.58	116.81	Open To Flow (2)
92	62.87	122.20	Shut-In(2)
152	439.64	121.66	End Shut-In(2)
156	1839.71	118.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	MGO 30%G30%M40%O	0.57
90.00	CO	1.26
0.00	1020' GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt Inc
 PO Box 47
 Great Bend KS 67530-0047
 ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
 Job Ticket: 63782 **DST#: 4**
 Test Start: 2018.09.03 @ 08:35:10

Tool Information

Drill Pipe:	Length: 3894.00 ft	Diameter: 3.80 inches	Volume: 54.62 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 54.77 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3943.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	27.00 ft			
Tool Length:	56.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3915.00	
Shut In Tool	5.00			3920.00	
Hydraulic tool	5.00			3925.00	
Jars	5.00			3930.00	
Safety Joint	3.00			3933.00	
Packer	5.00			3938.00	29.00 Bottom Of Top Packer
Packer	5.00			3943.00	
Stubb	1.00			3944.00	
Recorder	0.00	8360	Inside	3944.00	
Recorder	0.00	8673	Outside	3944.00	
Perforations	23.00			3967.00	
Bullnose	3.00			3970.00	27.00 Bottom Packers & Anchor

Total Tool Length: 56.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt Inc
PO Box 47
Great Bend KS 67530-0047
ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
Job Ticket: 63782 **DST#: 4**
Test Start: 2018.09.03 @ 08:35:10

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 38 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl	
Water Loss: 5.98 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 2300.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	MGO 30%G30%M40%O	0.568
90.00	CO	1.262
0.00	1020' GIP	0.000

Total Length: 150.00 ft Total Volume: 1.830 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

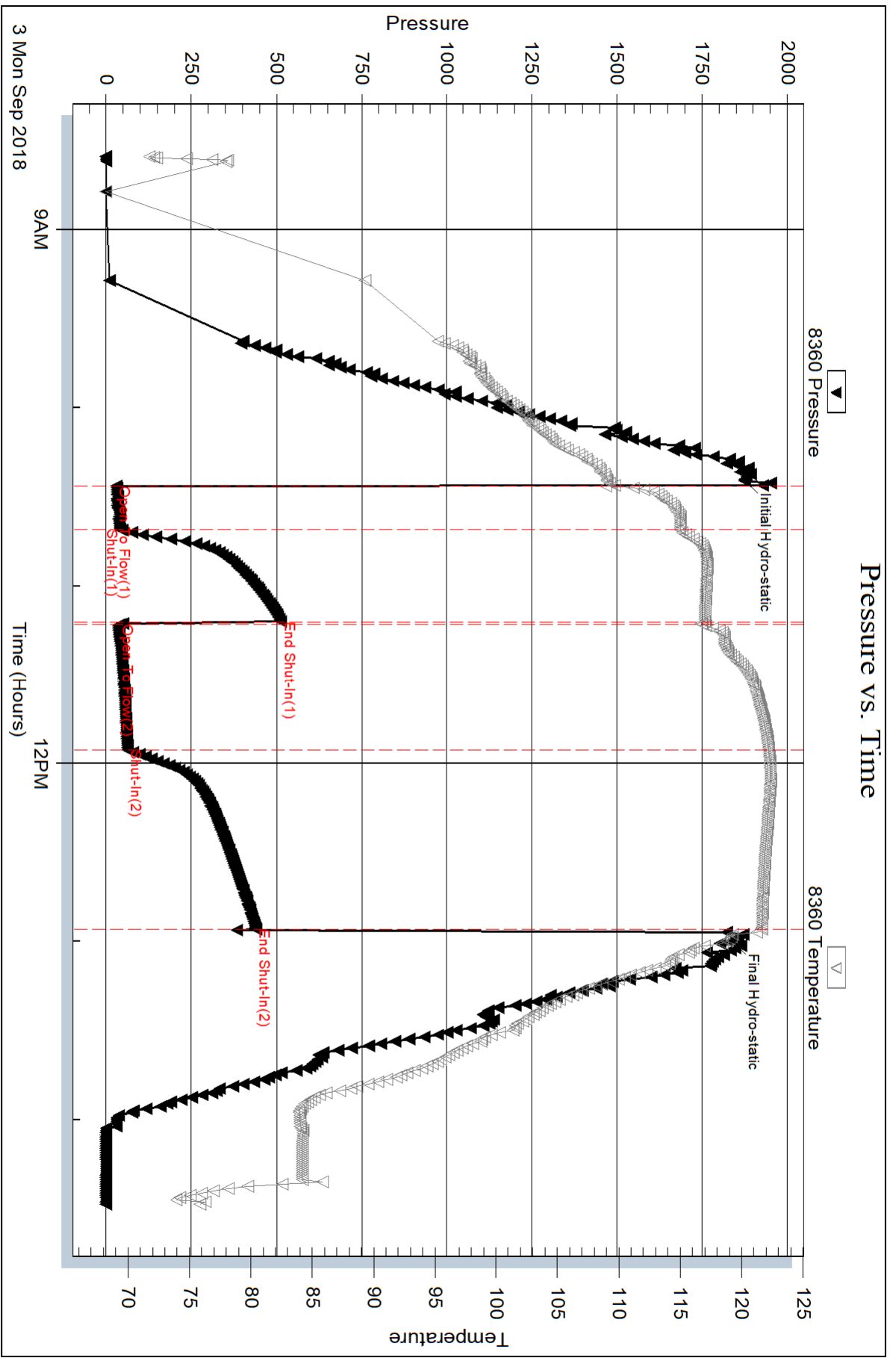
Serial #: 8360

Inside

Carmen Schmitt Inc

Werth #4

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 63782

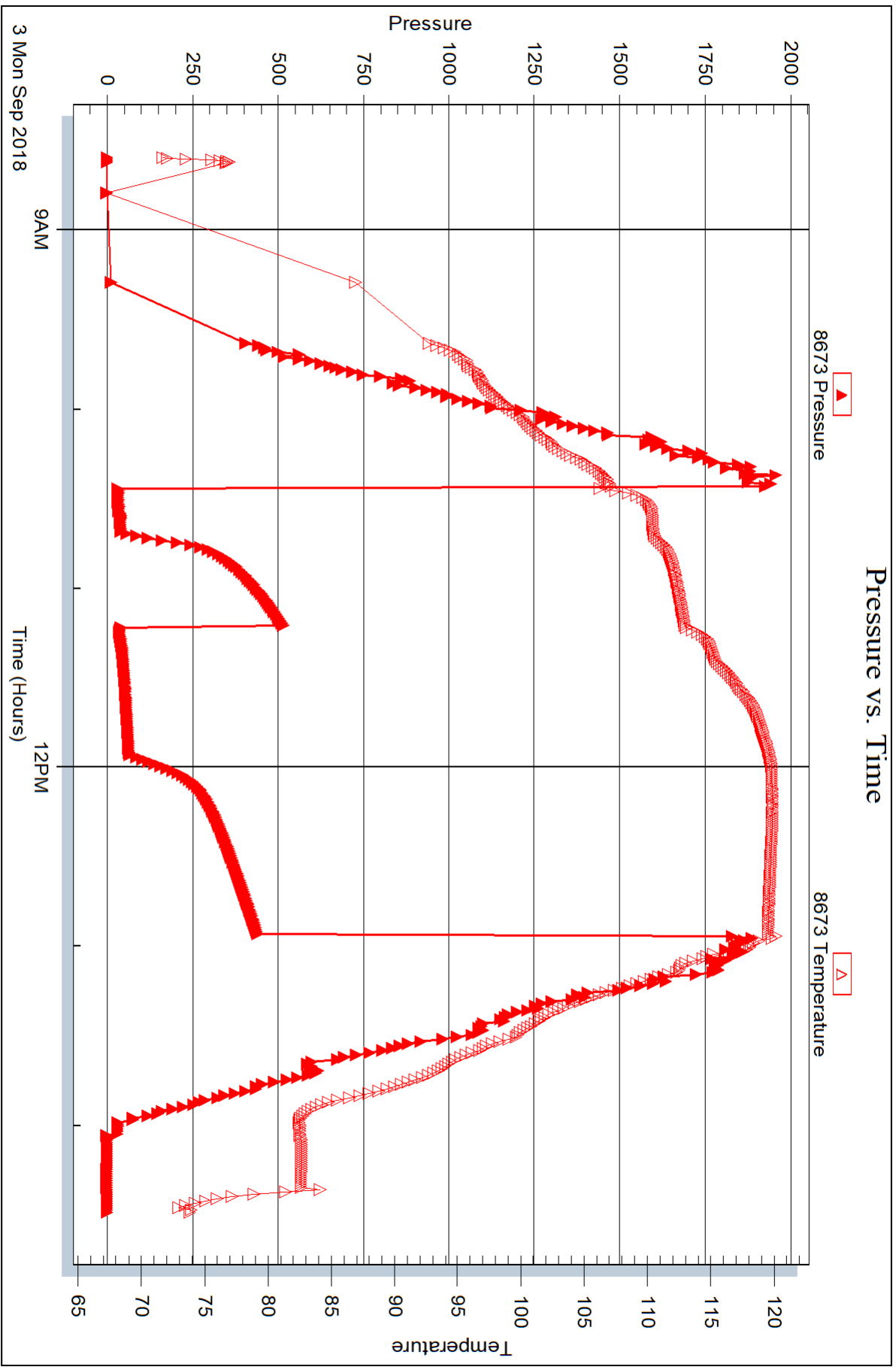
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Serial #: 8673

Outside Carmen Schmitt Inc

Werth #4

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt Inc**

PO Box 47
Great Bend KS 67530-0047

ATTN: Carmen Schmitt

Werth #4

7-14s-25w Trego,KS

Start Date: 2018.09.04 @ 01:05:11

End Date: 2018.09.04 @ 04:41:36

Job Ticket #: 63783 DST #: 5

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.09.05 @ 14:37:11



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Carmen Schmitt Inc
 PO Box 47
 Great Bend KS 67530-0047
 ATTN: Carmen Schmitt

7-14s-25w Trego, KS
Werth #4
 Job Ticket: 63783 **DST#: 5**
 Test Start: 2018.09.04 @ 01:05:11

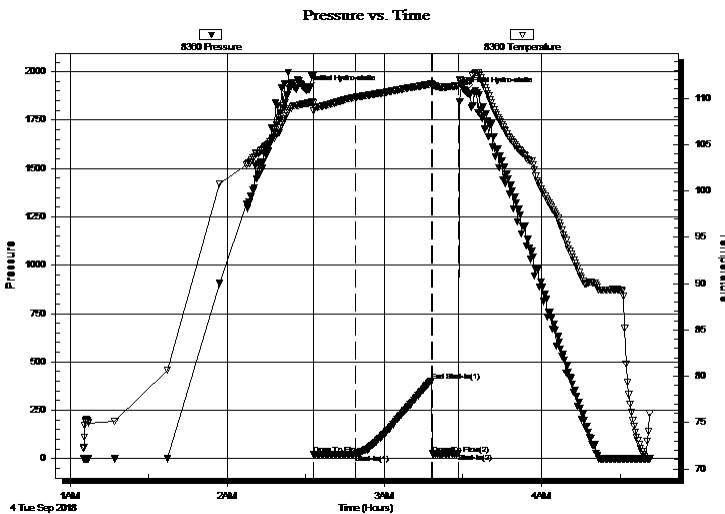
GENERAL INFORMATION:

Formation: **Marmaton- Altamont**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 02:33:06 Tester: Ray Schwager
 Time Test Ended: 04:41:36 Unit No: 77
 Interval: **3964.00 ft (KB) To 4070.00 ft (KB) (TVD)** Reference Elevations: 2411.00 ft (KB)
 Total Depth: 4070.00 ft (KB) (TVD) 2406.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8360 Inside
 Press@RunDepth: 24.07 psig @ 3970.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.09.04 End Date: 2018.09.04 Last Calib.: 2018.09.04
 Start Time: 01:05:11 End Time: 04:41:36 Time On Btm: 2018.09.04 @ 02:30:36
 Time Off Btm: 2018.09.04 @ 03:31:06

TEST COMMENT: 15-IFP-weak surface blow thru-out
 30-ISIP-no blow
 10-FFP-no blow
 pulled tool

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1906.94	109.47	Initial Hydro-static
3	22.14	108.67	Open To Flow (1)
19	24.07	110.11	Shut-In(1)
48	402.14	111.53	End Shut-In(1)
48	25.02	111.42	Open To Flow (2)
58	26.12	111.37	Shut-In(2)
61	1896.24	111.87	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt Inc
 PO Box 47
 Great Bend KS 67530-0047
 ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
 Job Ticket: 63783 **DST#: 5**
 Test Start: 2018.09.04 @ 01:05:11

Tool Information

Drill Pipe:	Length: 3926.00 ft	Diameter: 3.80 inches	Volume: 55.07 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 55.22 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	3964.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	106.00 ft				
Tool Length:	135.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3936.00	
Shut In Tool	5.00			3941.00	
Hydraulic tool	5.00			3946.00	
Jars	5.00			3951.00	
Safety Joint	3.00			3954.00	
Packer	5.00			3959.00	29.00 Bottom Of Top Packer
Packer	5.00			3964.00	
Stubb	1.00			3965.00	
Perforations	5.00			3970.00	
Recorder	0.00	8360	Inside	3970.00	
Recorder	0.00	8673	Outside	3970.00	
Blank Spacing	65.00			4035.00	
Perforations	32.00			4067.00	
Bullnose	3.00			4070.00	106.00 Bottom Packers & Anchor

Total Tool Length: 135.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt Inc
PO Box 47
Great Bend KS 67530-0047

ATTN: Carmen Schmitt

7-14s-25w Trego,KS

Werth #4
Job Ticket: 63783 **DST#: 5**
Test Start: 2018.09.04 @ 01:05:11

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: 5.99 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2300.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

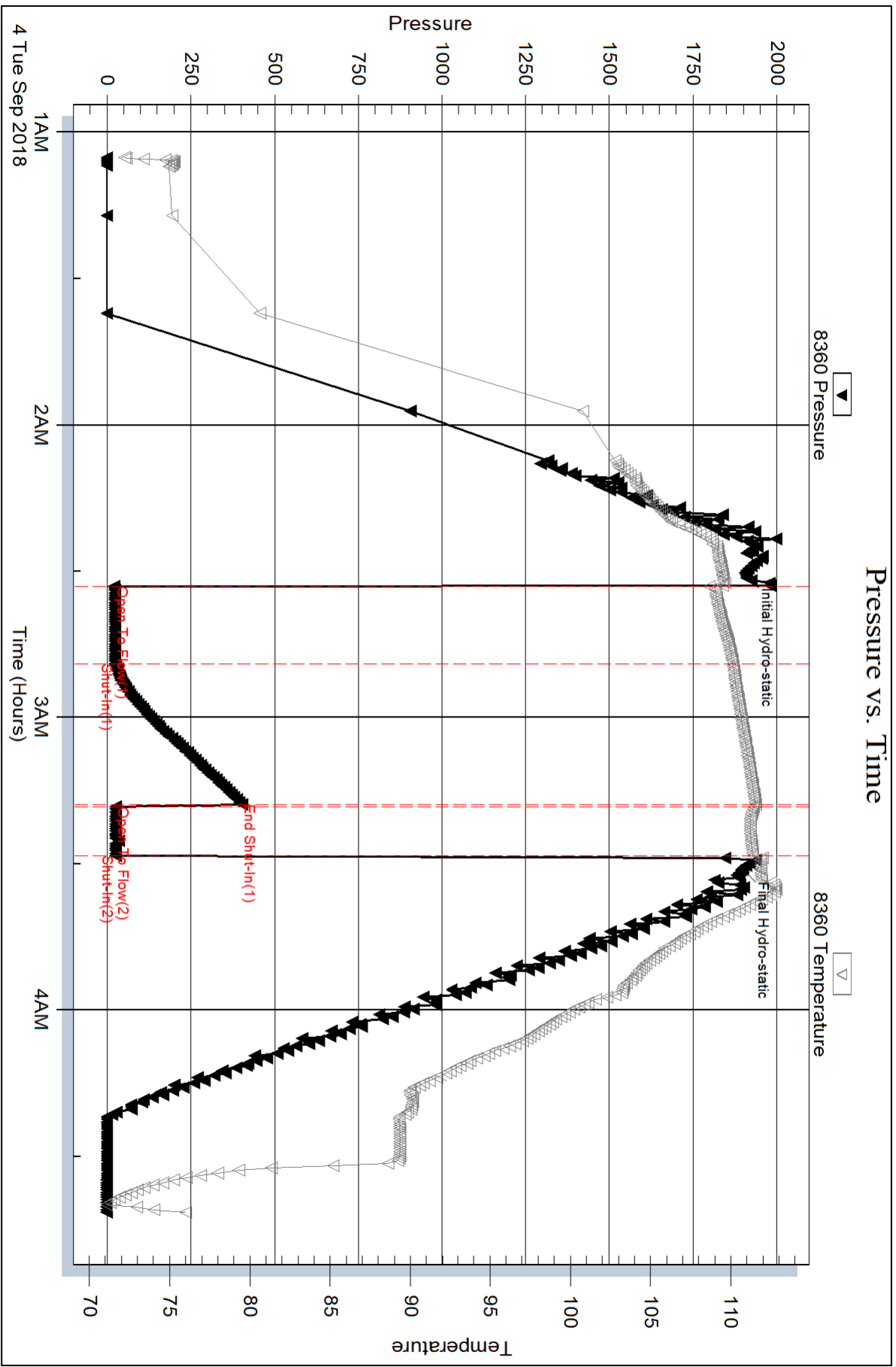
Length ft	Description	Volume bbl
2.00	Mud	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

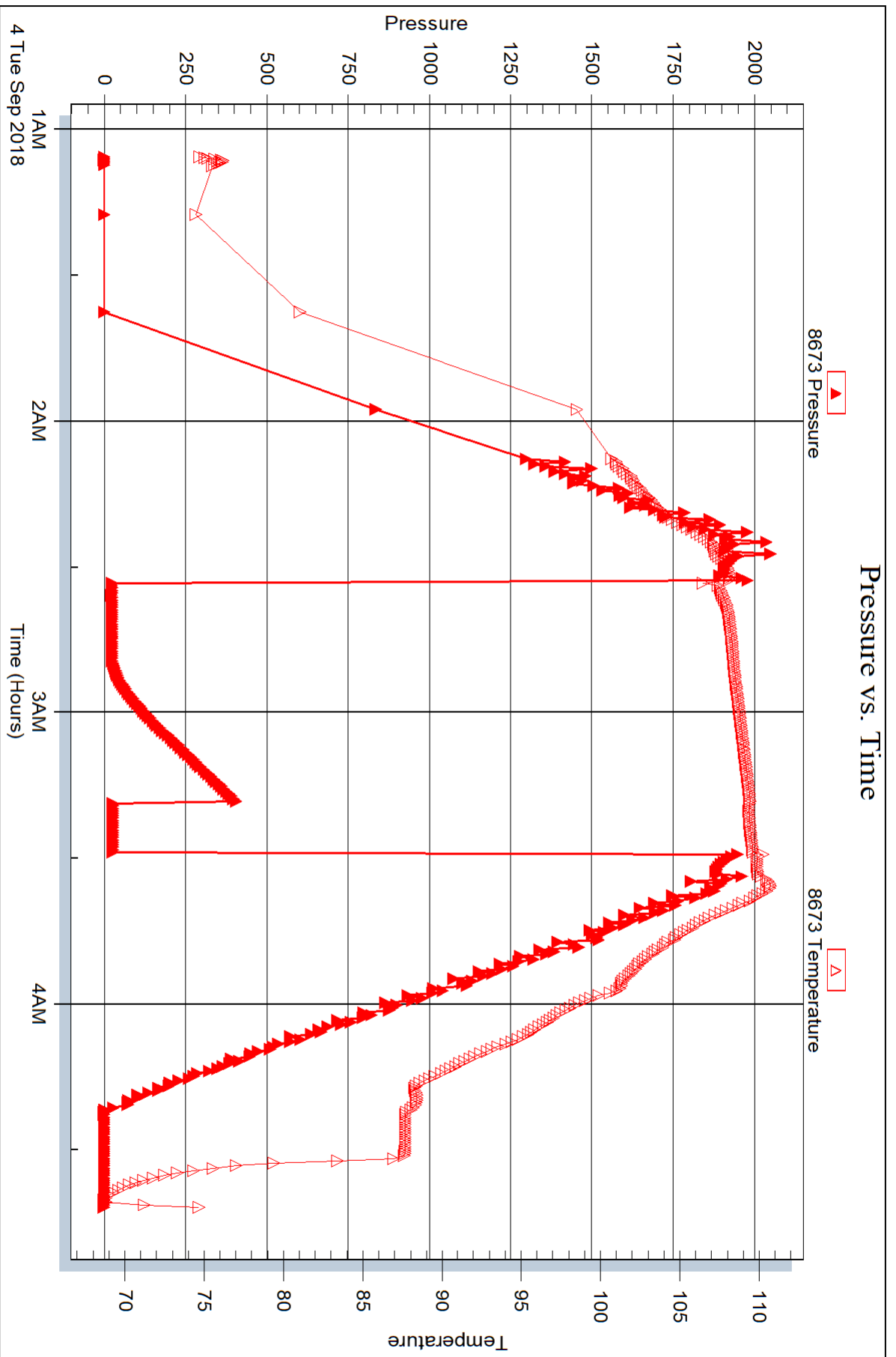


Serial #: 8673

Outside Carmen Schmitt Inc

Werth #4

DST Test Number: 5





DRILL STEM TEST REPORT

Prepared For: **Carmen Schmitt Inc**

PO Box 47
Great Bend KS 67530-0047

ATTN: Carmen Schmitt

Werth #4

7-14s-25w Trego,KS

Start Date: 2018.09.04 @ 17:35:47

End Date: 2018.09.04 @ 21:49:57

Job Ticket #: 63784 DST #: 6

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.09.05 @ 14:36:45



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Carmen Schmitt Inc
 PO Box 47
 Great Bend KS 67530-0047
 ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
 Job Ticket: 63784 **DST#: 6**
 Test Start: 2018.09.04 @ 17:35:47

Tool Information

Drill Pipe:	Length: 4086.00 ft	Diameter: 3.80 inches	Volume: 57.32 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 57.47 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	4135.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	65.00 ft				
Tool Length:	94.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4107.00	
Shut In Tool	5.00			4112.00	
Hydraulic tool	5.00			4117.00	
Jars	5.00			4122.00	
Safety Joint	3.00			4125.00	
Packer	5.00			4130.00	29.00 Bottom Of Top Packer
Packer	5.00			4135.00	
Stubb	1.00			4136.00	
Perforations	3.00			4139.00	
Recorder	0.00	8360	Inside	4139.00	
Recorder	0.00	8673	Outside	4139.00	
Blank Spacing	33.00			4172.00	
Perforations	25.00			4197.00	
Bullnose	3.00			4200.00	65.00 Bottom Packers & Anchor

Total Tool Length: 94.00



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Carmen Schmitt Inc
PO Box 47
Great Bend KS 67530-0047
ATTN: Carmen Schmitt

7-14s-25w Trego,KS
Werth #4
Job Ticket: 63784 **DST#: 6**
Test Start: 2018.09.04 @ 17:35:47

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: 6.39 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 2900.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	Mud	0.005

Total Length: 1.00 ft Total Volume: 0.005 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

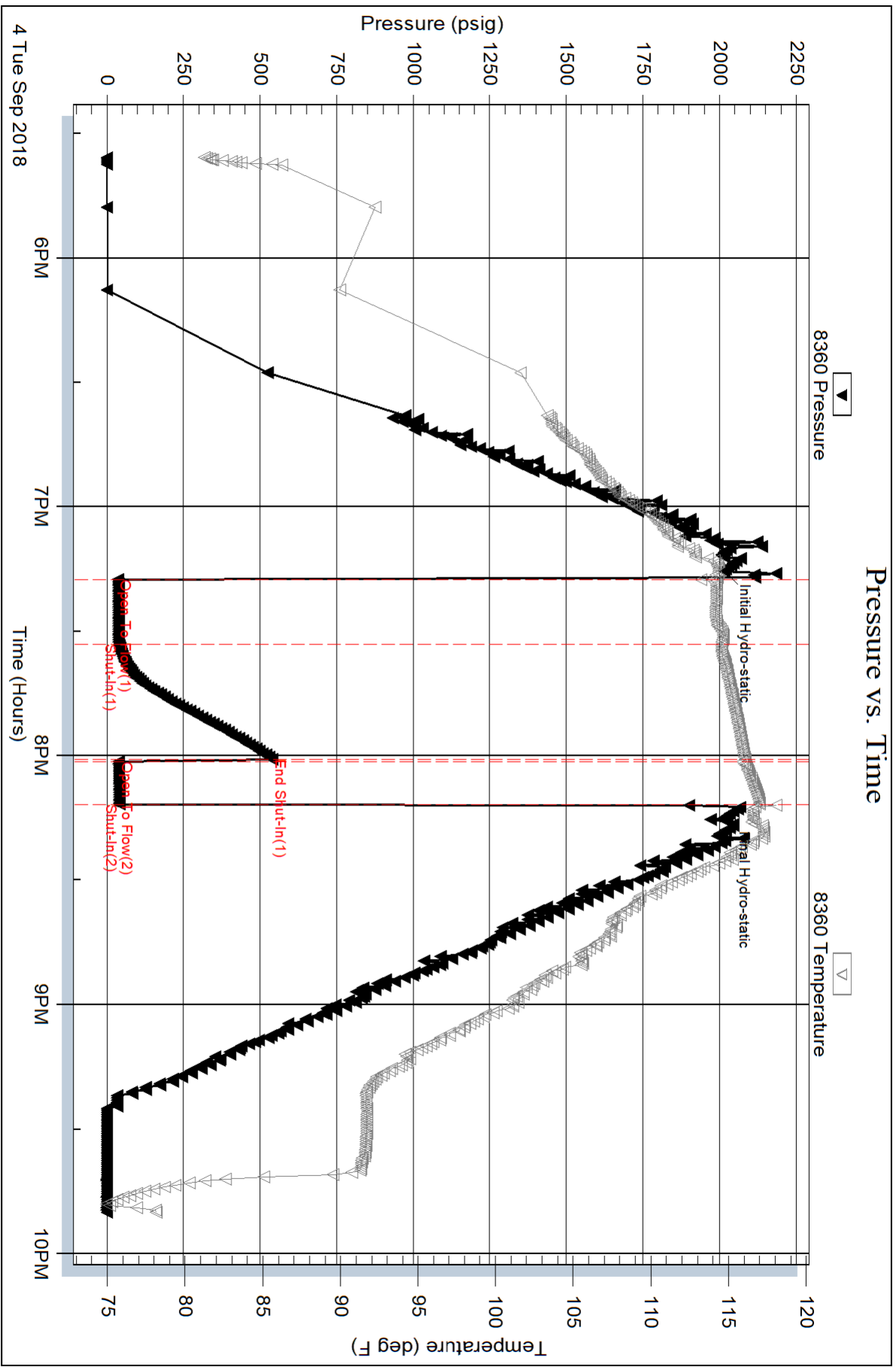
Serial #: 8360

Inside

Carmen Schmitt Inc

Worth #4

DST Test Number: 6



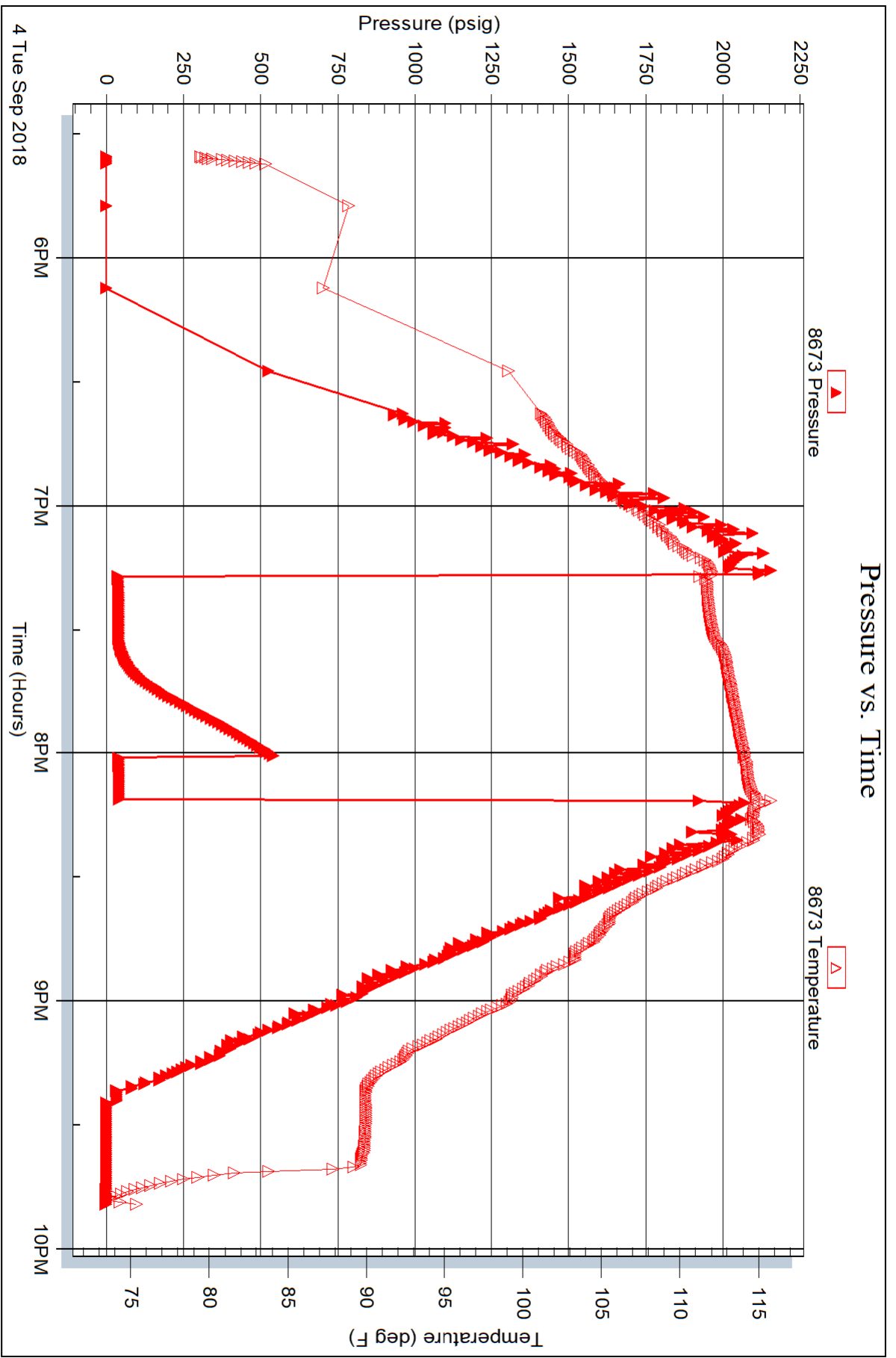
Serial #: 8673

Outside

Carmen Schmitt Inc

Werth #4

DST Test Number: 6





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63779

Well Name & No. WERTH #4 Test No. 1 Date 9-1-18
 Company CARMEN SCHMI INC Elevation 2411 KB 2406 GL
 Address PO Box 47 GREAT BEND, Ks 67530-0047
 Co. Rep / Geo. BRAD RINE Rig MURFIN rig 16
 Location: Sec. 7 Twp 14^s Rge. 25^w Co. Grego State Ks

Interval Tested 3825-3865 Zone Tested LKC "H"
 Anchor Length 40 Drill Pipe Run 3798 Mud Wt. 8.9
 Top Packer Depth 3820 Drill Collars Run 30 Vis 62
 Bottom Packer Depth 3825 Wt. Pipe Run - WL 6.4
 Total Depth 3865 Chlorides 2300 ppm System LCM 2#

Blow Description IFP - WEAK BLOW THRU-OUT SURFACE TO 1/2" BLOW
ISTP - NO BLOW BACK
FFP - WEAK BLOW 1/2" TO 2 1/4" BLOW
FSTP - NO BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>110</u>	<u>GTP</u>				
<u>70</u>	<u>MGO</u>	<u>15</u>	<u>55</u>		<u>30</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 70 BHT 1 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>1862</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>1410</u>
(B) First Initial Flow <u>22</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1620</u>
(C) First Final Flow <u>34</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>1810</u>
(D) Initial Shut-In <u>1187</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>2040</u>
(E) Second Initial Flow <u>28</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>2216</u>
(F) Second Final Flow <u>48</u>	<input checked="" type="checkbox"/> Mileage <u>120 RT</u> 120	Comments
(G) Final Shut-In <u>1189</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1848</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>15</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1745</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1745</u>	

Approved By _____ Our Representative RAY SCHWAGER THANK YOU

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63780

Well Name & No. WERTH #4 Test No. 2 Date 9-2-18
 Company CARMEN SCHMITT INC Elevation 2411 KB 2406 GL
 Address PO Box 47 GREAT BEND, Ks 67530-0047
 Co. Rep / Geo. BRAD RINE Rig MURFIN 16
 Location: Sec. 7 Twp 14ⁿ Rge. 25^w Co. Trego State Ks

Interval Tested 3882-3912 Zone Tested LKC "J"
 Anchor Length 30 Drill Pipe Run 3832 Mud Wt. 9.1
 Top Packer Depth 3877 Drill Collars Run 30 Vis 54
 Bottom Packer Depth 3882 Wt. Pipe Run - WL 6.4
 Total Depth 3912 Chlorides 2300 ppm System LCM 2#

Blow Description IFP - BOB IN 2min DATA PORT 68.77"
ISIP - 7" Blow BACK
FFP - BOB IN 1min DATA PORT 54.80"
FSIP - BOB IN 23min

Rec	Feet of	%gas	%oil	%water	%mud
<u>2110</u>	<u>GIP</u>				
<u>415</u>	<u>CO</u>				
<u>120</u>	<u>MGO</u>	<u>48</u>	<u>45</u>		<u>15</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 535 BHT 124 Gravity 38 API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1880 Test 1050 T-On Location 0530
 (B) First Initial Flow 77 Jars 250 T-Started 0555
 (C) First Final Flow 115 Safety Joint 75 T-Open 0740
 (D) Initial Shut-In 572 Circ Sub _____ T-Pulled 0955
 (E) Second Initial Flow 134 Hourly Standby _____ T-Out 1207
 (F) Second Final Flow 215 Mileage 120 Comments _____
 (G) Final Shut-In 571 Sampler _____ MOTEL STAY
 (H) Final Hydrostatic 1852 Straddle _____ Ruined Shale Packer _____
 Shale Packer 250 Ruined Packer _____

Initial Open 15 Extra Packer _____ Extra Copies _____
 Initial Shut-In 30 Extra Recorder _____ Sub Total 0
 Final Flow 30 Day Standby _____ Total 1745
 Final Shut-In 60 Accessibility _____ MP/DST Disc't _____
 Sub Total 1745

Approved By _____ Our Representative RAY SCHWAGER Thank you

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63781

Well Name & No. WORTH #4 Test No. 3 Date 9-2-18
 Company CARMEN SCHMITT, Inc Elevation 2411 KB 2406 GL
 Address PO Box 47 GREAT BEND, Ks 67530-0047
 Co. Rep / Geo. BRAD RINE Rig MURFIN 16
 Location: Sec. 7 Twp 14^N Rge. 25^W Co. TREGO State Ko

Interval Tested 3921-3937 Zone Tested LKC "K"
 Anchor Length 16 Drill Pipe Run 3893 Mud Wt. 9
 Top Packer Depth 3916 Drill Collars Run 30 Vis 60
 Bottom Packer Depth 3921 Wt. Pipe Run — WL 6
 Total Depth 3937 Chlorides 2300 ppm System LCM 2#
 Blow Description IFP - BOB IN 4min DATA PORT 32.65"
TSIP - NO BLOW BACK
FFP - BOB IN 4min DATA PORT 39.14"
FSTP - 1" BLOW BACK

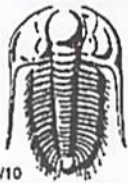
Rec	Feet of	%gas	%oil	%water	%mud
<u>1310</u>	<u>GIP</u>				
<u>180</u>	<u>CO</u>				
<u>60</u>	<u>HO+GCM</u>	<u>20</u>	<u>30</u>		<u>50</u>

Rec Total 240 BHT 123 Gravity 39 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1890</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>1735</u>
(B) First Initial Flow <u>33</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1825</u>
(C) First Final Flow <u>48</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2055</u>
(D) Initial Shut-In <u>505</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>2325</u>
(E) Second Initial Flow <u>53</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0106</u>
(F) Second Final Flow <u>106</u>	<input checked="" type="checkbox"/> Mileage <u>120</u>	Comments
(G) Final Shut-In <u>506</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1861</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer
Initial Open <u>15</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>45</u>	<input type="checkbox"/> Day Standby	Total <u>1745</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1745</u>	

Approved By _____ Our Representative RAY SCHWAGN Thank you

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63782

Well Name & No. Weeth #4 Test No. 4 Date 9-3-18
 Company CARMA Schmitt Inc Elevation 2411 KB 2406 GL
 Address PO Box 47 GREAT Bend, Ks 67530-0047
 Co. Rep / Geo. BRAD Rine Rig Murfin rig 16
 Location: Sec. 7 Twp 14^s Rge. 25^w Co. TRAGO State Ks

Interval Tested 3943-3970 Zone Tested 1KC "L"
 Anchor Length 27 Drill Pipe Run 3894 Mud Wt. 9.1
 Top Packer Depth 3938 Drill Collars Run 30 Vis 52
 Bottom Packer Depth 3943 Wt. Pipe Run - WL 6
 Total Depth 3970 Chlorides 2300 ppm System LCM 2#
 Blow Description IFP - BOB IN 3min DATA PORT 21.79"
ISIP - NO BLOW BACK
FFP - BOB IN 3min DATA PORT 36.88"
FSIP - NO BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>1020</u>	<u>GTP</u>				
<u>90</u>	<u>CO</u>				
<u>60</u>	<u>MGO</u>	<u>30</u>	<u>40</u>		<u>30</u>

Rec Total 150 BHT 121 Gravity 38 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1874 Test 1050 T-On Location 0060
 (B) First Initial Flow 29 Jars 250 T-Started 0835
 (C) First Final Flow 40 Safety Joint 75 T-Open 1025
 (D) Initial Shut-In 514 Circ Sub _____ T-Pulled 1255
 (E) Second Initial Flow 39 Hourly Standby _____ T-Out -1428
 (F) Second Final Flow 62 Mileage _____ Comments mudded in at mg, stayed between tests 3+4
 (G) Final Shut-In 439 Sampler _____ Ruined Shale Packer _____
 (H) Final Hydrostatic 1839 Straddle _____ Ruined Packer _____
 Shale Packer 250 Extra Copies _____
 Initial Open 15 Extra Packer _____ Sub Total 0
 Initial Shut-In 30 Extra Recorder _____ Total 1625
 Final Flow 45 Day Standby _____ MP/DST Disc't _____
 Final Shut-In 60 Accessibility _____ Sub Total 1625

Approved By _____ Our Representative Ray Schwann Thank you

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63783

Well Name & No. WERTH #4 Test No. 5 Date 9-4-18
 Company CARMA SCHMITT INC Elevation 2411 KB 2406 GL
 Address PO BOX 47 GREAT BEND, KS 67530-0047
 Co. Rep / Geo. BRAD RINE Rig MURFIN RIG 16
 Location: Sec. 7 Twp 14^S Rge. 25^W Co. TREGO State Ks

Interval Tested 3964-4070 Zone Tested MARMATON-ALTAMONT
 Anchor Length 106 Drill Pipe Run 3926 Mud Wt. 9.1
 Top Packer Depth 3959 Drill Collars Run 30 Vis 51
 Bottom Packer Depth 3964 Wt. Pipe Run - WL 6
 Total Depth 4070 Chlorides 2300 ppm System LCM 2#

Blow Description IFP - WEAK SURFACE BLOW THRU OUT
ISIP - NO BLOW
FFP - NO BLOW
FSTP - PULLED TOOL

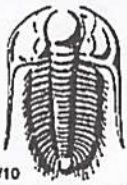
Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>mud</u>				

Rec Total 2 BHT 111 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>1906</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0030</u>
(B) First Initial Flow <u>22</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0105</u>
(C) First Final Flow <u>24</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0230</u>
(D) Initial Shut-In <u>402</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>0325</u>
(E) Second Initial Flow <u>25</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0441</u>
(F) Second Final Flow <u>26</u>	<input checked="" type="checkbox"/> Mileage <u>120</u>	Comments
(G) Final Shut-In	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1896</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer
Initial Open <u>15</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>10</u>	<input type="checkbox"/> Day Standby	Total <u>1845</u>
Final Shut-In <u>out</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1845</u>	

Approved By _____ Our Representative RAY SCHWAGN Thank you

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63784

Well Name & No. WERTL #4 Test No. 6 Date 9-4-18
 Company CARMEN SCHMITT INC Elevation 2411 KB 2406 GL
 Address PO Box 47 GREAT Bend, Ks 67530-0047
 Co. Rep / Geo. BRAD RINE Rig MURFIN 16
 Location: Sec. 7 Twp 14^s Rge. 25^w Co. Trego State Ks

Interval Tested 4135-4200 Zone Tested FT. SCOTT
 Anchor Length 65 Drill Pipe Run 4086 Mud Wt. 9.3
 Top Packer Depth 4130 Drill Collars Run 30 Vis 57
 Bottom Packer Depth 4135 Wt. Pipe Run — WL 6.4
 Total Depth 4200 Chlorides 2900 ppm System LCM 2#

Blow Description IFP - SURFACE BLOW, died IN 8 MIN
ISIP - NO BLOW
FFP - NO BLOW
FSIP - Pull TOOL

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1 BHT 116 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2014 Test 1150 T-On Location 1650
 (B) First Initial Flow 35 Jars 250 T-Started 1735
 (C) First Final Flow 39 Safety Joint 75 T-Open 1915
 (D) Initial Shut-In 538 Circ Sub — T-Pulled 2010
 (E) Second Initial Flow 38 Hourly Standby — T-Out 2149
 (F) Second Final Flow 39 Mileage 120 Comments Released 9-5-18
 (G) Final Shut-In — Sampler — 9:45 AM
 (H) Final Hydrostatic 2011 Straddle — Ruined Shale Packer —
 Shale Packer 250 Ruined Packer —
 Extra Packer — Extra Copies —
 Extra Recorder — Sub Total 0
 Day Standby — Total 1845
 Accessibility — MP/DST Disc't —
 Sub Total 1845

Approved By _____ Our Representative RAY SCHWAGN THANK YOU

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Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: Werth #4 - Carmen Schmitt, Inc.
API: 15-195-23065-00-00
Location: E2-NW-SE-NE, Section 07-14S-25W
License Number: KCC #6569
Spud Date: August 27, 2018
Surface Coordinates: 1650' FNL & 850' FEL,
of Section
Bottom Hole Vertical Wellbore
Coordinates:
Ground Elevation (ft): 2406 Ft. K.B. Elevation (ft): 2411 Ft.
Logged Interval (ft): 3400 Ft. To: 4340 Ft. Total Depth (ft): RTD 4340 Ft. LTD 4339 Ft.
Formation: Mississippian at Total Depth
Type of Drilling Fluid: Chemical

Region: Trego County, Kansas
Drilling Completed: September 05, 2018
Results: Prod Csg Set
Field: Overland Northeast

Printed by MudLog from WellSight Systems 1-800-447-1534 www.WellSight.com

Operator

Company: Carmen Schmitt, Inc.
Address: PO Box 47
Great Bend, Kansas 67530-0047

Geologist

Name: M. Bradford Rine
Company: Consulting Geologist, Kansas Lic. #204, Wyo #189, AAPG Cert. #2647
Address: 100 South Main, Suite #320A
Wichita, Kansas 67202

Remarks

Based on sample observations, drill stem test results, and electric log evaluation, it was the decision of the Operator, to set production casing on the "Werth #4", on September 05, 2018.

Respectfully submitted,
M. Bradford Rine
geologist

Carmen Schmitt, Inc.
"Werth #4"
Section 07-14S-25W, Trego County, Kansas



Drilling Information

Rig: Murfin Drilling Rig #16

Pump: Emsco D375 6x14

Drawworks: Cardwell Royale

Collars: 489' 6-1/4 x 2-1/4

Drillpipe: 4-1/2" 16.6# XH

Toolpusher: Andrew Dinkel

Mud: Mudco (Gary Shmidtberger)

Gas Detector: None

Drill Stem Tests: trilobite (Ray Schwager)

Logs: Pioneer (C. Pfeifer)

Water: Harvey Lease Irrigation Well (pumped)

Company Representatives:

Office: Carmen Schmitt

Field: Curtis Hitchmann

Daily Drilling Status

Date: **Operations/Depth/Comments**
 08-28-18 **MIRT, RU, Spud @ 0'**
 08-29-18 **Drilling @ 550'**
 08-30-18 **Drilling @ 2330'**
 08-31-18 **Drilling @ 3180'**
 09-01-18 **Drilling @ 3800'**
 09-02-18 **Trip in Hole with DST #2 @ 3912'**
 09-03-18 **Circulating for Samples @ 3970'**
 09-04-18 **Drilling @ 4070'**
 09-05-18 **Drilling @ 4290'**
 09-06-18 **Finish Cementing @ 4340' RTD**

	Results: Oil			(Well A) Oil		(Well B) Oil			
	Carmen Schmitt, Inc.			Carmen Schmitt, Inc.		Carmen Schmitt, Inc.			
	Werth #4			Werth #2		Werth #3			
	20001650' FNL & 850' FEL			660'FNL & 330' FEL		2000' FNL & 1900'FEL			
	Sec. 07-14S-25W			Sec. 07-14S-25W		Sec. 07-14S-25W			
	KB	2411		KB	2425	KB	2419	Well A	Well B
Formations	Sample	E-Log	Datum	E-Log	Datum	E-Log	Datum	Comparison(s)	
Anhydrite	1873	1870	541	1880	545	1874	545	-4	-4
B/Anhydrite	1912	1909	502	1922	503	1914	505	-1	-3
Tarkio	NC	3257	-846	3268	-843	3262	-843	-3	-3
Heebner Sh.	3645	3642	-1231	3653	-1228	3649	-1230	-3	-1
Toronto	3666	3662	-1251	3673	-1248	3669	-1250	-3	-1
Lansing	3684	3681	-1270	3691	-1266	3687	-1268	-4	-2
Muncie Creek Sh.	3830	3828	-1417	3843	-1418	3834	-1415	1	-2
Stark Sh.	3910	3910	-1499	3924	-1499	3915	-1496	0	-3
B/Kansas City	3966	3964	-1553	3976	-1551	3969	-1550	-2	-3
Marmaton	4006	4004	-1593	4016	-1591	4010	-1591	-2	-2
Altamont	4032	4028	-1617	4039	-1614	4035	-1616	-3	-1
Pawnee	4110	4108	-1697	4118	-1693	4115	-1696	-4	-1
Ft. Scott	4170	4169	-1758	4179	-1754	4176	-1757	-4	-1
Cherokee Sh.	4197	4194	-1783	4206	-1781	4202	-1783	-2	0
Mississippian	4262	4265	-1854	4269	-1844	4288	-1869	-10	15
Total Depth	4340	4339	-1928	4384	-1959	4350	-1931	31	3

Casing Record, Bit Record, Deviation Surveys

CASING:

Conductor: None

Surface: Ran 5 jts 8-5/8" 23#, set @ 218'. (Copeland) Cement with 180 sx Common/60-40 POZ, 3%CC, 2% gel. Plug down at 7:00 PM, August 27, 2018. Cement did circulate.

Production: Ran 98 jts, 5-1/2" 14# csg, set @ 4131 ft. (Swift) Cement with 400 sx SMD and 150 sx EA2, 30 sx in RH, 20 sx in MH. Plug down at 7:00 AM, September 06, 2018. Cement did circulate.

BITS:

No.	Size	Make	Model	Depth In	Depth Out	Hours
1	12-1/4	Reed	TC11CP	0	218	03.50
2	7-7/8	HTC	GX20C	218	4340	98.75

DEVIATION SURVEYS:

Deviation:	Depth:	Deviation:	Depth:
0.25*	218'	1.00*	4340'
1.00*	3865'		

PIPE STRAPS:

Difference:	Depth:
0.78'	3865'

DST #1: 3825-3865 (LKC H)

Times: 15-30-45-60

Initial Open: Wk Blow, Built to 1/2"

Final Open: Wk Blow, Built to 2-1/4"

Rec: 70' Total Fluid, 110' gas in pipe

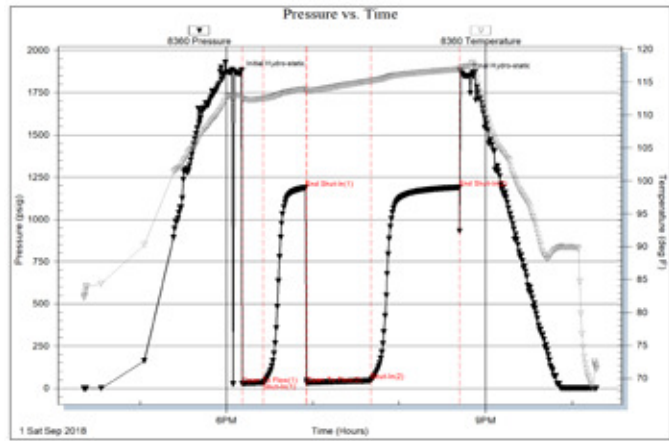
70' MCO: 15%g 55%o 30%m

IHP: 1862 FHP: 1848

IFP: 27-34 FFP: 28-48

ISIP: 1187 FSIP: 1189

BHT: 116°F



DST #2: 3882-3912 (LKC J)

Times: 15-30-30-60

**Initial Open: Stg Blow, b.o.b. 2 min,
Return blow built to 7" i.b.**

**Final Open: Stg Blow, b.o.b. 1 min,
Return blow b.o.b. 23 min**

Rec: 535' Total Fluid, 2110' gas in pipe

415' oil: 100%o

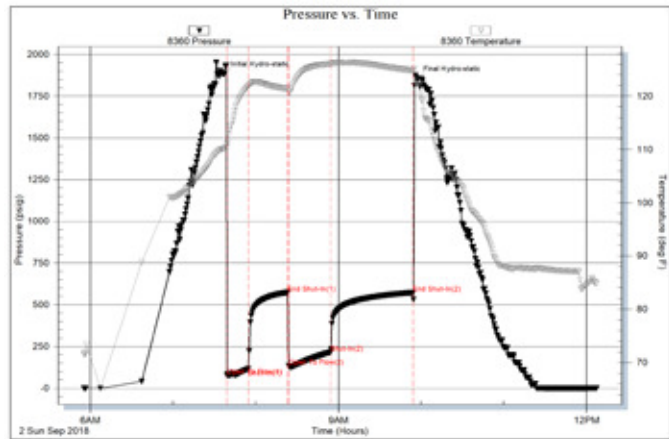
**120' MGCO: 40%g 45%o 15%m
(oil 38* API)**

IHP: 1880 FHP: 1852

IFP: 77-115 FFP: 134-215

ISIP: 572 FSIP: 571

BHT: 124°F



DST #3: 3921-3937 (LKC K)

Times: 15-30-45-60

Initial Open: Stg Blow, b.o.b. 4 min,

**Final Open: Stg Blow, b.o.b. 4 min, Max 39"
Return blow built to 1"**

Rec: 240' Total Fluid, 1310' gas in piipe

180' oil: 100%o

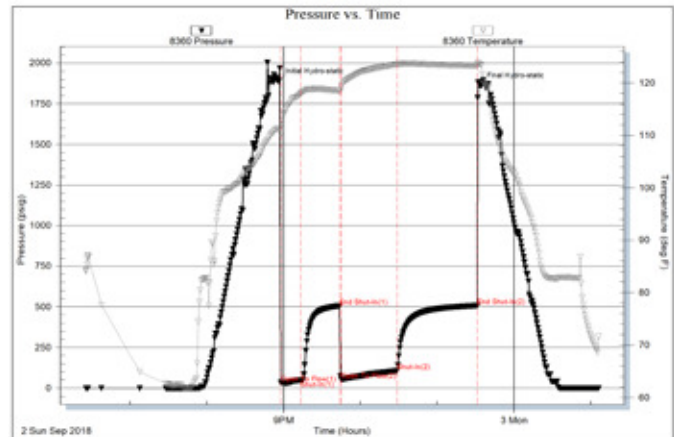
**60' GOCM: 20%g 30%o 50%m
(Oil 39* API)**

IHP: 1890 FHP: 1861

IFP: 33-48 FFP: 53-106

ISIP: 505 FSIP: 506

BHT: 123°F



DST #4: 3943-3970 (LKC L)

Times: 15-30-45-60

**Initial Open: Stg Blow, b.o.b. 3 min,
No return blow**

**Final Open: Stg Blow, b.o.b. 3 min,
No return blow**

Rec: 150' Total Fluid, 1020' gas in pipe

90' Oil: 100%

60' GMCO: 30%g 40%o 30%m

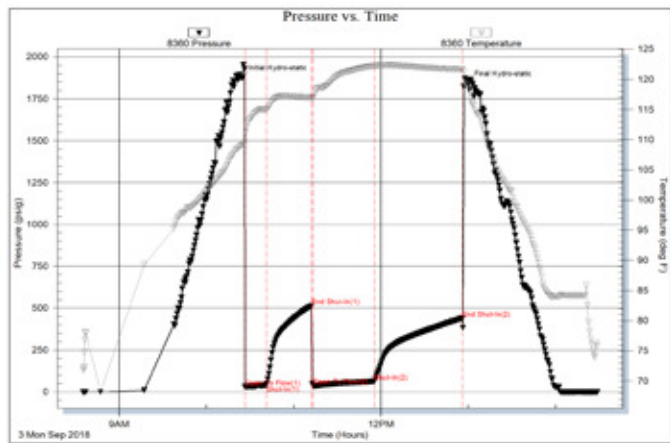
(Oil 38* API)

IHP: 1874 FHP: 1839

IFP: 29-40 FFP: 39-62

ISIP: 514 FSIP: 439

BHT: 121°F



DST #5: 3964-4070 (Marmaton, Altamont)

Times: 15-30-10-out

Initial Open: Wk Surf Blow

Final Open: No Blow

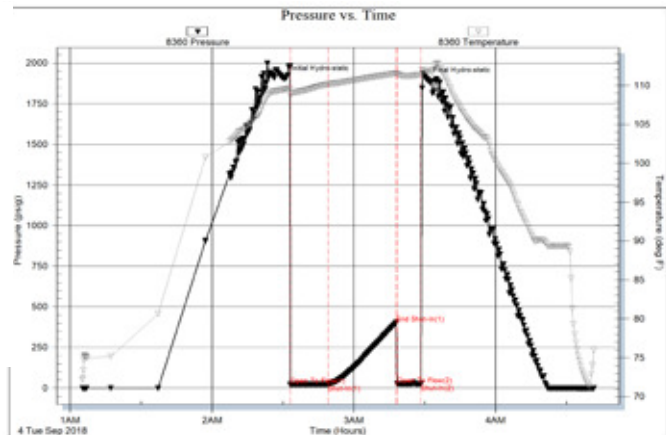
Rec: 2' mud

IHP: 1906 FHP: 1896

IFP: 22-24 FFP: 25-26

ISIP: 402 FSIP: NA

BHT: 111°F



DST #6: 4135-4200 (Ft. Scott)

Times: 15-30-10-out

Initial Open: Wk Surface Blow, died 8 min

Final Open: No Blow

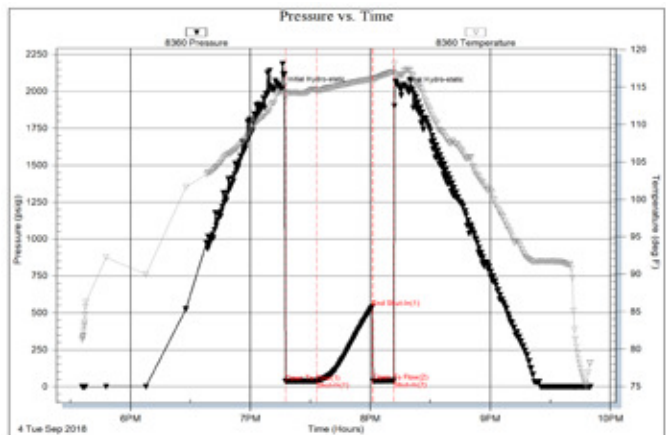
Rec: 1' mud

IHP: 2014 FHP: 2011


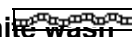




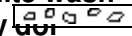



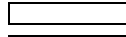
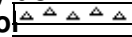







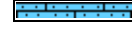
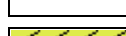





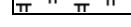
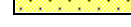
IFP: 35-39 FFP: 38-39

ISIP: 538 FSIP: NA



































































BHT: 116°F



Rock Types



	Congl granite wash		Bent		Dol		Salt		Till
	dol ls limey		Brec		Gyp		Shale		Siltysh
	New symbol		Cht		Igne		Shcol		Shlysiltst
	Dolom ls limey		Clyst		Lmst		Shgy		Sandyls
	New symbol		Black shale/coal		Meta		Siltst		
	Anhy		Congl		Mrlist		Ss		

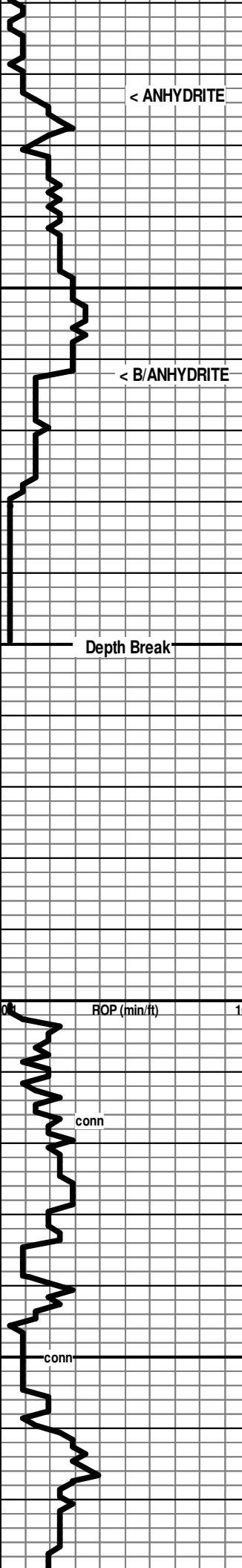
Accessories

MINERAL		Gyp	FOSSIL		Ostra		Siltstrg
	Anhy		Hvymin		Algae		Ssstrg
	Arggrn		Kaol		Amph		
	Arg		Marl		Belm		
	Bent		Minxl		Bioclst	TEXTURE	
	Bit		Nodule		Brach		Boundst
	Brecfrag		Phos		Bryozoa		Chalky
	Calc		Pyr		Cephal		Cryxln
	Carb		Salt		Coral		Earthy
	Chtdk		Sandy		Crin		Finexln
	Chtlt		Silt		Echin		Grainst
	Dol		Sil		Fish		Lithogr
	Feldspar		Sulphur		Foram		Microxln
	Ferrpel		Tuff		Fossil		Mudst
	Ferr				Gastro		Packst
	Glau				Oolite		Wackest
				STRINGER			
					Anhy		
					Shale		
					Bent		
					Coal		
					Dol		
					Gyp		
					Ls		
					Mrst		

Other Symbols

OIL SHOW		Even		Dead	INTERVAL		Dst interval
	Oil & gas show		Spotted		Gas		Dst
	Gas show		Trace or questionable				

ROP (min/ft)	Depth	Lithology	Geological Descriptions	Remarks
ROP (min/ft)  0.1 ROP (min/ft) 10	1800			
	50			



1900

3400

3450

Depth Break

ROP (min/ft)

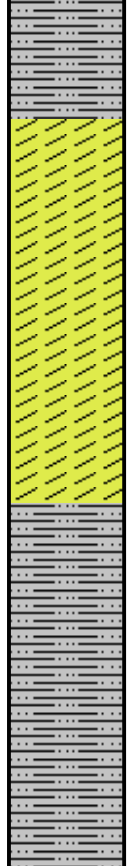
10

conn

conn

< ANHYDRITE

< B/ANHYDRITE



← 1873 (+538)

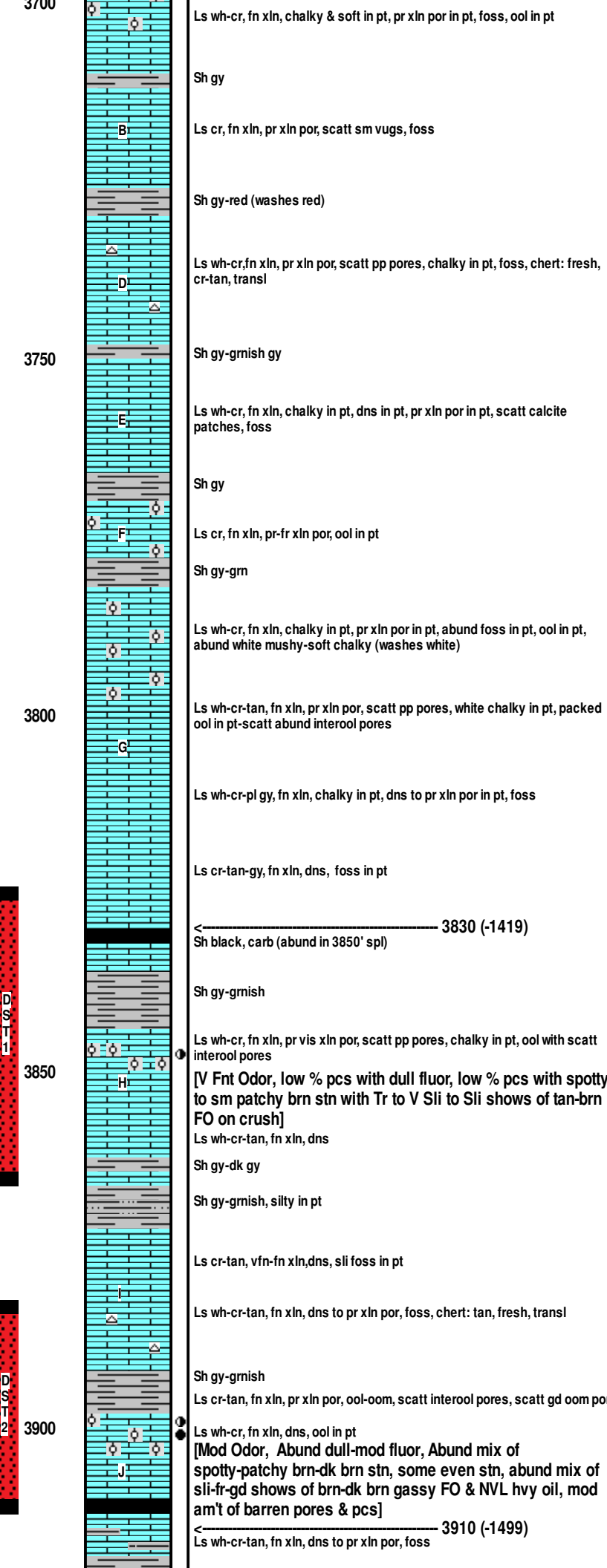
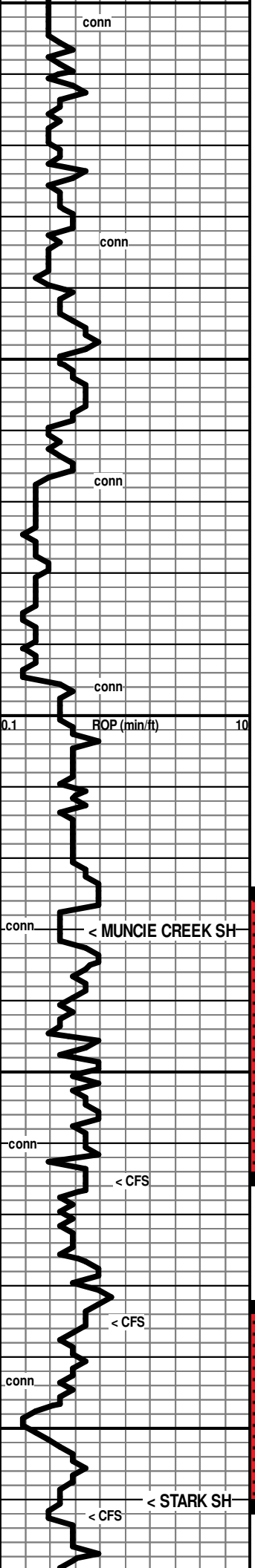
Anhydrite Interval: Based on drill time only!

← 1912 (+499)

* Lost Circulation @ 2746 ft., approx 80 bbls!

Displace & Mudup @ 3260'!

Mud Check Drlg @ 3340':
 Vis Wt WL LCM PV YP
 60 8.7 6.0 2 17 26
 Chl Hd pH Solids
 1300 Tr 11.5 2.8



Ls wh-cr, fn xln, chalky & soft in pt, pr xln por in pt, foss, ool in pt

Sh gy

B
Ls cr, fn xln, pr xln por, scatt sm vugs, foss

Sh gy-red (washes red)

D
Ls wh-cr,fn xln, pr xln por, scatt pp pores, chalky in pt, foss, chert: fresh, cr-tan, transl

3750
Sh gy-gmish gy

E
Ls wh-cr, fn xln, chalky in pt, dns in pt, pr xln por in pt, scatt calcite patches, foss

Sh gy

F
Ls cr, fn xln, pr-fr xln por, ool in pt

Sh gy-gm

Ls wh-cr, fn xln, chalky in pt, pr xln por in pt, abund foss in pt, ool in pt, abund white mushy-soft chalky (washes white)

3800
Ls wh-cr-tan, fn xln, pr xln por, scatt pp pores, white chalky in pt, packed ool in pt-scatt abund interool pores

G
Ls wh-cr-pl gy, fn xln, chalky in pt, dns to pr xln por in pt, foss

Ls cr-tan-gy, fn xln, dns, foss in pt

3830 (-1419)
Sh black, carb (abund in 3850' spl)

Sh gy-gmish

H
Ls wh-cr, fn xln, pr vis xln por, scatt pp pores, chalky in pt, ool with scatt interool pores
[V Fnt Odor, low % pcs with dull fluor, low % pcs with spotty to sm patchy brn stn with Tr to V Sli to Sli shows of tan-brn FO on crush]

3850
Ls wh-cr-tan, fn xln, dns

Sh gy-dk gy

Sh gy-gmish, silty in pt

Ls cr-tan, vfn-fn xln,dns, sli foss in pt

I
Ls wh-cr-tan, fn xln, dns to pr xln por, foss, chert: tan, fresh, transl

Sh gy-gmish

Ls cr-tan, fn xln, pr xln por, ool-oom, scatt interool pores, scatt gd oom por

3900
Ls wh-cr, fn xln, dns, ool in pt
[Mod Odor, Abund dull-mod fluor, Abund mix of spotty-patchy brn-dk brn stn, some even stn, abund mix of sli-fr-gd shows of brn-dk brn gassy FO & NVL hvy oil, mod am't of barren pores & pcs]

3910 (-1499)
Ls wh-cr-tan, fn xln, dns to pr xln por, foss

7:00 AM, September 01, 2018

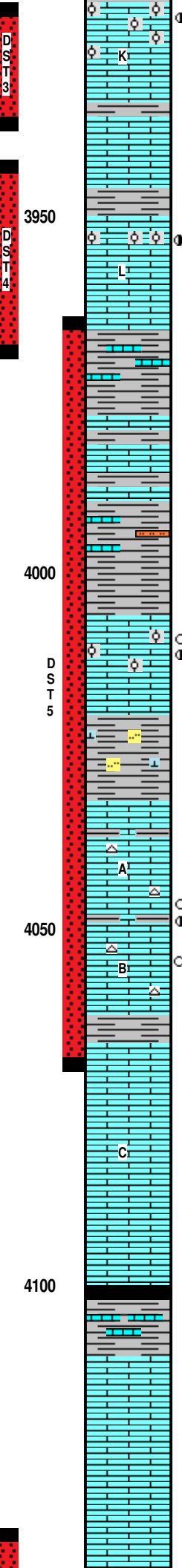
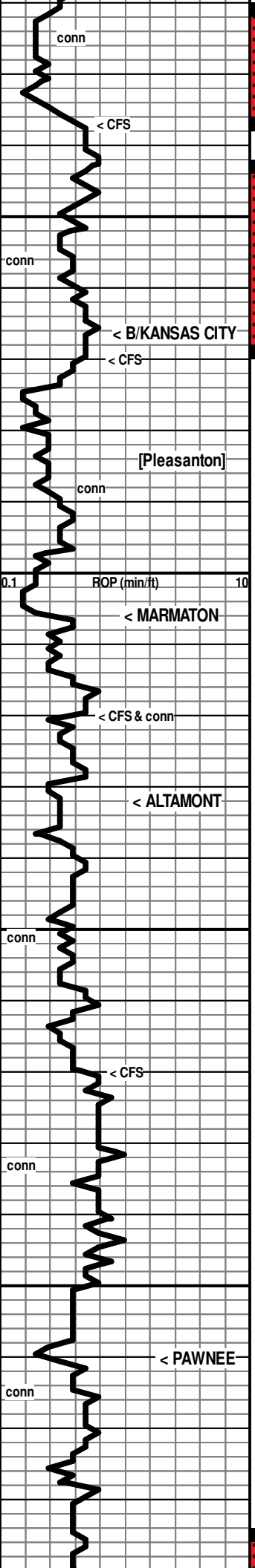
DST #1: 3825-3865 (LKC H)
Times: 15-30-45-60
Initial Open: Wk Blow, Built to 1/2"
Final Open: Wk Blow, Built to 2-1/4"
Rec: 70' Total Fluid, 110' gas in pipe
70' MCO: 15%g 55%o 30%m
IHP: 1862 FHP: 1848
IFP: 27-34 FFP: 28-48
ISIP: 1187 FSIP: 1189
BHT: 116°F

* Pipe Strap:
0.78' Long to Board!

Mud Check: Short Trip @ 3865':
Vis Wt WL LCM PV YP
62 8.9 6.4 2 16 27
Chl Hd pH Solids
2300 Tr 11.0 4.3

DST #2: 3882-3912 (LKC J)
Times: 15-30-30-60
Initial Open: Stg Blow, b.o.b. 2 min,
Return blow built to 7" i.b.
Final Open: Stg Blow, b.o.b. 1 min,
Return blow b.o.b. 23 min
Rec: 535' Total Fluid, 2110' gas in pipe
415' oil: 100%o
120' MGCO: 40%g 45%o 15%m
(oil 38* API)
IHP: 1880 FHP: 1852
IFP: 77-115 FFP: 134-215
ISIP: 572 FSIP: 571
BHT: 124°F

Mud Check: CTCH after DST 2 @ 3912':
Vis Wt WL LCM PV YP
60 9.0 6.0 2 19 31



Ls wh-cr-tan, fn xln, chalky in pt, pr vis xln por, ool & oom in pt, scatt interool pores, foss
 [Fnt Odor, Low % of pcs with spotty-patchy dull fluor, low % pcs with mostly trace-sli shows of sli gassy FO-NVL oil-dead oil, Rr Fr show oil, some patchy-even tan stn]

Ls cr-pl gy, vfn-fn xln, dns, subgrainy text in pt

Sh gy-dk gy-black

Ls cr, mostly pr xln por with scatt pp pores, foss, finely ool in pt with scatt interool pores, becoming dns with depth
 [Mild Odor, Fr am't of mod-brt fluor, Mod am't of pcs with trace to sli shows of tan-brn gassy FO & NVL oil, Rr pcs with Fr show brn FO, with spotty-patchy & Rr even Stn]

← 3966 (-1555)

Sh gy-grn-brn-red, with some dns ls

Ls wh-cr-tan, fn xln, dns to pr xln por, foss in pt, abund shales in spls

Sh gy-dk gy-grn-red, silty text in pt, calc in pt

← 4006 (-1595)

Ls wh-cr, fn xln, chalky in pt, pr xln por to dns in pt, micro-ool in pt, scatt pr interool pores, some interool red clay fill/stn
 [No Odor, couple of pcs per tray with dull spotty fluor, with spotty interool lt brn stn, & with trace show of lt brn FO on crush]

Sh gy-gmish-red-brn, silty to calc in pt

← 4032 (-1621)

Ls wh-cr,fn xln, mostly dns with scatt patches of pr xln por, VR pp pores, chert: fresh, tan-orange, transl
 [No Odor, low % pcs with patches of dull fluor, with patchy brn stn, with Rr trace shows of micro-drops FO, found 1 pc with sli show of brn gassy FO]

Ls wh-cr, fn xln, mostly dns with Rr pcs with patchy pr xln por. abund chert: fresh, tan, subtransl
 [Possible pcs with patchy brn stn, NSFO...Possibly from above?]

Ls cr-tan-pl gy, vfn-fn xln, dns, subgrainy text in pt, some patchy edges

Ls cr-tan-pl gy, vfn-fn xln, dns, subgrainy text in pt, some patchy edges

Sh gy-dk gy-black, carb in pt, abund ls, some pyritic shale

← 4110 (-1699)

Ls cr-tan-gy, vfn-fn xln, dns, scatt subchalky in pt, subsilty text in pt

Ls mostly pl gy-gr, vfn xln, dns, subsilty text in pt

Chl Hd pH Solids
 2300 Tr 11.0 4.6

DST #3: 3921-3937 (LKC K)
 Times: 15-30-45-60
 Initial Open: Stg Blow, b.o.b. 4 min,
 No return blow
 Final Open: Stg Blow, b.o.b. 4 min, Max 39"
 Return blow built to 1"
 Rec: 240' Total Fluid, 1310' gas in piipe
 180' oil: 100%o
 60' GOCM: 20%g 30%o 50%m
 (Oil 39° API)
 IHP: 1890 FHP: 1861
 IFP: 33-48 FFP: 53-106
 ISIP: 505 FSIP: 506
 BHT: 123°F

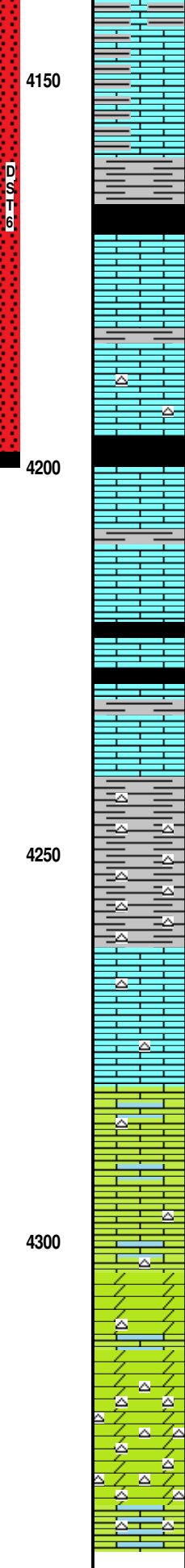
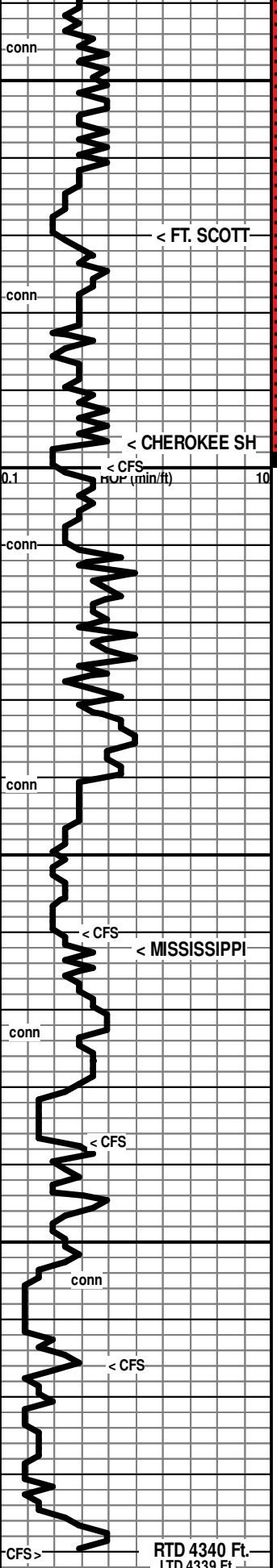
7:00 AM, September 03, 2018

Mud Check: OB/DST4 @ 3970':
 Vis Wt WL LCM PV YP
 43 9.0 6.8 1 10 17
 Chl Hd pH Solids
 2900 20 10.5 4.8

DST #4: 3943-3970 (LKC L)
 Times: 15-30-45-60
 Initial Open: Stg Blow, b.o.b. 3 min,
 No return blow
 Final Open: Stg Blow, b.o.b. 3 min,
 No return blow
 Rec: 150' Total Fluid, 1020' gas in pipe
 90' Oil: 100%o
 60' GMCO: 30%g 40%o 30%m
 (Oil 38° API)
 IHP: 1874 FHP: 1839
 IFP: 29-40 FFP: 39-62
 ISIP: 514 FSIP: 439
 BHT: 121°F

DST #5: 3964-4070 (Marmaton, Altamont)
 Times: 15-30-10-out
 Initial Open: Wk Surf Blow
 Final Open: No Blow
 Rec: 2' mud
 IHP: 1906 FHP: 1896
 IFP: 22-24 FFP: 25-26
 ISIP: 402 FSIP: NA
 BHT: 111°F

7:00 AM, September 04, 2018



Shaley Ls to Limey Shale gy

Ls tan-gy-dk gy, vfn xln, dns, subchalky in patches, subsilty text in pt, abund shaley-incr with depth

Sh dk gy-black, abund carb

← 4170 (-1759)

Ls cr-tan-gy, vfn-fn xln, dns, sli foss in pt

Sh gy
Ls wh-cr-tan, fn xln, mostly dns, some patches & pcs with pr vis xln por, subchalky in pt, foss, cherty, fresh, tan-gy, foss
[V Fnt Odor, Low % pcs with mod fluor, with patchy-spotty brn stn, with a few pcs with trace-v sli shows of brn FO, v sli gassy in pt]

← 4197 (-1786)

Sh black, carb

Ls wh-gy, vnf-fn xln, mostly dns with chalky edges, foss in pt

Sh gy-dk gy

Ls cr-tan-gy, vfn-fn xln, dns, sli foss in pt

Sh gy-dk gy-black, carb in pt

Ls wh-cr-tan, vfn -fn xln, mostly dns & firm, some softer & chalky, foss in pt

Sh gy-grn, subsilty to subwaxy in pt

4260' spl: abund chert & shale, shale gy-grn, chert: fresh to some subfresh, wh-cr-tan-orange, transl-subtransl-opaq, foss in pt

Sh gy-grn-red-yell, mushy-soft-firm, some wh mushy lime marbled with mushy red shale, abund chert as above

← 4262 (-1851)

Ls wh-cr-pl gy, fn xln, mostly dns & firm, some softer & chalky, still abund chert & shale in spls

Dol Ls to Limey Dol, wh-cr, fn xln with scatt crs rhombic inclusions, silty to sucrt text, pr-fr xln por, scatt red clay speckling in pores, cherty

Dol wh-cr-pl gy, fn xln, pr-fr xln por, subscr-sucrosic, chert: fresh, wh-tan-gy, subtransl-opaq, foss in pt; Some limey dol

Dol wh-cr-pl gy, fn xln, pr-fr xln por, some pp pores, subscr-sucrosic, abund chert: fresh, wh-cr, subtransl-opaq, foss in pt

Dol wh-cr-pl gy, fn xln, pr-fr xln por, subscr-sucrosic, chert: fresh, wh-tan-gy, subtransl-opaq, foss in pt; Some limey dol

Mud Check: Drlg @ 4155':
Vis Wt WL LCM PV YP
57 9.3 6.4 2 17 26
Chl Hd pH Solids
2900 Tr 10.5 6.3

DST #6: 4135-4200 (Ft. Scott)
Times: 15-30-10-out
Initial Open: Wk Surface Blow, died 8 min
Final Open: No Blow
Rec: 1' mud
IHP: 2014 FHP: 2011
IFP: 35-39 FFP: 38-39
ISIP: 538 FSIP: NA
BHT: 116°F

7:00 AM, September 05, 2018

RTD 4340 Ft., Reached at 9:40 AM,
September 05, 2018!

Mud Check: CTCH @ 4340' RTD:
Vis Wt WL LCM PV YP
59 9.2 6.8 2 15 28
Chl Hd pH Solids
2800 20 10.5 6.3

