

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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#1 Whitham-Smith Trust

2,432' FNL & 976' FWL

122' S & 14' W of SE SW NW Section 35-16S-37W

Wichita County, Kansas

API# 15-203-20342-0000

Elevation: GL: 3,344', KB: 3,352'

Sample Tops			Ref. Well
Anhydrite	2537'	816	-12
B/Anhydrite	2554'	798	-11
Stotler	3620'	-268	-15
Heebner	3998'	-646	-4
Toronto	4021'	-669	-12
Lansing	4056'	-704	-14
Muncie	4235'	-883	-12
Stark	4328'	-976	-7
Hush	4376'	-1024	-7
BKC	4421'	-1069	-6
Marmaton	4468'	-1116	+4
Altamont	4482'	-1130	+5
Pawnee	4555'	-1203	+8
Myrick	4592'	-1240	+9
Ft. Scott	4608'	-1256	+9
Cherokee	4635'	-1285	+8
Johnson	4724'	-1375	+10
Morrow	4794'	-1442	+9
Mississippian	4917'	-1565	-20
RTD	4960'	-1608	



PRESSURE PUMPING LLC

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

11460
11349

TICKET NUMBER 55854

LOCATION Oakley KS

FOREMAN Jerry Y

FIELD TICKET & TREATMENT REPORT
CEMENT

Invoice # 813997 KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
8-28-15	7173	Whitham-Smith #1	35	16S	37W	Wichita
CUSTOMER <u>Ritchie Exp.</u>			TRUCK #			
MAILING ADDRESS <u>P.O. Box 783188</u>			DRIVER			
CITY <u>Wichita</u>			TRUCK #			
STATE <u>KS</u>			DRIVER			
ZIP CODE <u>67278-3188</u>			TRUCK #			
			DRIVER			

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 265' CASING SIZE & WEIGHT 8 3/8 23
CASING DEPTH 263 DRILL PIPE _____ TUBING _____ OTHER _____
SLURRY WEIGHT 14.8 SLURRY VOL 1.24 WATER gal/sk _____ CEMENT LEFT in CASING 20'
DISPLACEMENT 15 1/4 bbl DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Softy meeting & rig upon well 12 circulate casing mix 5 sks
com 38 cc 2% gal wash disp displace with 15 1/4 bbl fresh water & shut in
12 bbl to pit

Cement did
circulate

Thank you
Jerry & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
<u>CE0711</u>	<u>1</u>	<u>PUMP CHARGE</u>	<u>1150.00</u>	<u>1150.00</u>
<u>CE0002</u>	<u>45</u>	<u>MILEAGE</u>	<u>7.15</u>	<u>321.75</u>
<u>CE0710</u>	<u>423 9.4</u>	<u>ton mileage delivery</u>	<u>1.75</u>	<u>740.25</u>
<u>CC5871</u>	<u>200 sks</u>	<u>surface blend IT</u>	<u>24.00</u>	<u>4800.00</u>
			<u>Subtotal</u>	<u>7012.00</u>
			<u>-30%</u>	<u>2103.60</u>
			<u>Subtotal</u>	<u>4908.40</u>
			<u>SALES TAX</u>	<u>285.60</u>
			<u>ESTIMATED TOTAL</u>	<u>5194.01</u>

SCANNED

Ravin 3737

AUTHORIZATION [Signature]

TITLE Jool p... [Signature]

DATE 8-28-15

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



PRESSURE PUMPING LLC
PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

11593
11480

FIELD TICKET & TREATMENT REPORT
CEMENT

TICKET NUMBER 55863
LOCATION Oakley, KS
FOREMAN Jerry V. Wolford
Invoice # 814130 KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
9-11-88	7173	Whitman-Smith #1	35	16 ^s	37 ^w	Wichita

CUSTOMER	MAILING ADDRESS	CITY	STATE	ZIP CODE	TRUCK #	DRIVER	TRUCK #	DRIVER
Ritchie Exp	P.O. Box 783188	Wichita	KS	67278-3188	731	Carly D		
					528-7127	Nest W		
					535	Jerry V		
					679	Wolford		

JOB TYPE Port Collar HOLE SIZE _____ HOLE DEPTH _____ CASING SIZE & WEIGHT 4 1/2
CASING DEPTH _____ DRILL PIPE _____ TUBING 2 3/8 OTHER Port Collar 25 ft
SLURRY WEIGHT 12.5 SLURRY VOL 6.89 WATER gal/sk _____ CEMENT LEFT in CASING 2423
DISPLACEMENT 8 1/2 bbl DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting & run up on 4 1/2 test tool to 1200 ft hold 7 min
open tool take inj rate 4.8 bbl/min & 200# mix 380 sks 60/40 8.9 gal 1/4# flt
wash up & displace with 8 1/2 bbl shut-down close tool & test to 1200 ft hold 10 min
run 5 ft in reverse clean with 25 bbl pull tubing lead casing & press to 500#
shift : 1

Cement circulated
to surface

Thank you
Jerry & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0451	1	PUMP CHARGE	1900.00	1900.00
CE0002	45	MILEAGE	7.15	321.75
CE0710	16.34	van mileage delivery	11.75	1286.78
CC5831	380 sks	1/4# flt	17.50	6650.00
CC6075	95 #	flashed	3.00	285.00
CC6080	500 #	balls	1.00	500.00
			subtotal	10943.53
			-25%	2735.88
			subtotal	8207.65
			SALES TAX	473.99
			ESTIMATED TOTAL	8681.63

SCANNED

AUTHORIZATION [Signature] TITLE _____ DATE _____

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



Services, Inc.

CHARGE TO ADDRESS Reche Exploration
CITY, STATE, ZIP CODE

TICKET 27392

PAGE 1 OF 1

1. SERVICE LOCATIONS Hayes KS WELL/PROJECT NO. #1 LEASE Whitman - Swift test Wichita COUNTY/PARISH KS STATE KS DATE 9-8-18 OWNER

2. Ness City KS CONTRACTOR AKA Drilling RIG NAME/NO. Rig # 14 SHIPPED VIA OT DELIVERED TO Location ORDER NO.

3. WELL TYPE D-1 WELL CATEGORY Development JOB PURPOSE Long String WELL PERMIT NO. WELL LOCATION

4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.	UM	QTY.	UM	UNIT PRICE	AMOUNT
		LOC	ACCT	DF								
575					MILEAGE	100	mi				5.00	500.00
578					Ramp Charge - Long String	1	ea				1300.00	1300.00
290					A-Bar.	3	loc				42.00	126.00
281					Mudflush	550	loc				1.50	750.00
221					Leaving Val	2	loc				25.00	50.00
403					Annular Basket	3	ea	4 1/2			250.00	750.00
404					Part Collar	1	ea				2400.00	2400.00
406					Latch Down Rig & Battery	1	ea				225.00	225.00
407					Insert Foot Shoe w/ Basin Fill	1	ea				300.00	300.00
409					Turbolover	9	ea				70.00	630.00

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 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
 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?
 CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL 91 TOTAL 13713.91

SWIFT OPERATOR Davis Egerton APPROVAL _____

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

Thank You!



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

TICKET CONTINUATION

TICKET No. **27392**

PAGE **1** OF **1**

CUSTOMER NAME: **White Exploration** WELL NAME: **Whithorn South Hole** DATE: **9-8-15**

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING		TIME	DESCRIPTION	WELL		UNIT PRICE	AMOUNT
		LOC	ACCT			DF	QTY		
385					Standard Cement	265	SKS	13	3445.00
284					Cal Seal	12	SKS	35	420.00
283					Salt	1356	lbs	20	2720.00
277					Coal Seal	1300	lbs	85	1105.00
SERVICE CHARGE					COUNT				
MILEAGE CHARGE					TOTAL MILEAGE	LOADER MILES	TON MILES		
					35481	1000	1774	75	568.75
								85	1507.90
CONTINUATION TOTAL									7316.65

JOB LOG

SWIFT Services, Inc.

DATE 9-8-15 PAGE NO.

CUSTOMER *Viduse Exp* WELL NO. *#1* LEASE *Whitham-Smith* JOB TYPE *Long String* TICKET NO. *27392*

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		Trust	DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING		
	<i>800</i>								<i>On location</i>
									<i>RTS - 4960</i>
									<i>LTs - 4958</i>
									<i>Pipe 4956</i>
									<i>Centralizers - 1, 3, 5, 7, 8, 13, 59, 64, 78</i>
									<i>Baskets 10, 60, 77</i>
									<i>Start running Csg</i>
									<i>Circ on bottom</i>
	<i>1415</i>	<i>2.5</i>	<i>8</i>			<i>0</i>			<i>plug rat hole - 30 sks</i>
		<i>6</i>	<i>12</i>			<i>200</i>			<i>pump mud flush - 500 gal</i>
		<i>6</i>	<i>20</i>			<i>200</i>			<i>pump kel spacer</i>
	<i>1430</i>	<i>5</i>	<i>55</i>			<i>200</i>			<i>pump cement - 235 @ 15.5 ppq</i>
									<i>Drop plug</i>
	<i>1445</i>	<i>6.5</i>	<i>0</i>			<i>0</i>			<i>Start Disp</i>
	<i>1500</i>	<i>6</i>	<i>78</i>			<i>600/1500</i>			<i>land plug - 800 # 1/4"</i>
									<i>1500 # land</i>
									<i>Release Psi - Dry</i>
									<i>Thanks</i>
									<i>David, Zach & Kirby</i>



DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc**

8100 E 22nd St #700
Wichita, KS 67278

ATTN: John Goldsmith

35-16-37w Wichita,KS

Whitham-Smith Trust #1

Start Date: 2018.09.03 @ 06:29:55

End Date: 2018.09.03 @ 12:55:25

Job Ticket #: 63919 DST #: 1

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

Printed: 2018.09.10 @ 09:21:52

Ritchie Exploration Inc

Whitham-Smith Trust #1

35-16-37w Wichita,KS

DST # 1

LKC I

2018.09.03



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration Inc
8100 E 22nd St #700
Wichita, KS 67278
ATTN: John Goldsmith

Whitham-Smith Trust #1
35-16-37w Wichita,KS
Job Ticket: 63919 **DST#: 1**
Test Start: 2018.09.03 @ 06:29:55

GENERAL INFORMATION:

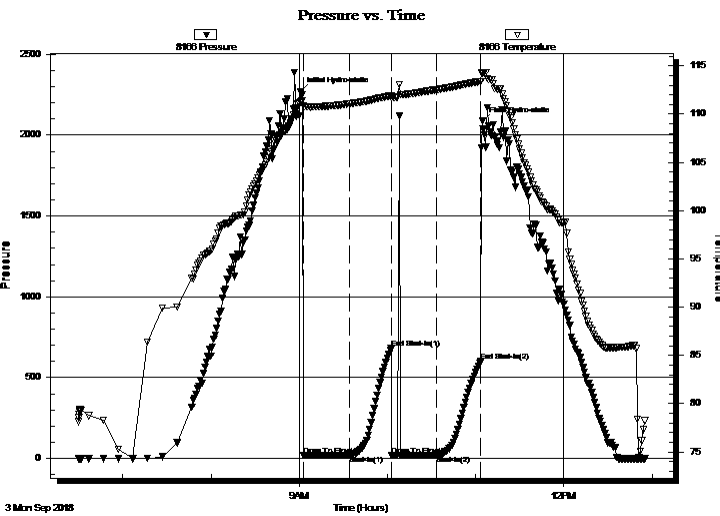
Formation: **LKC I**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:02:55
Time Test Ended: 12:55:25
Interval: **4268.00 ft (KB) To 4294.00 ft (KB) (TVD)**
Total Depth: 4294.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Reference Elevations: 3352.00 ft (KB)
3345.00 ft (CF)
KB to GR/CF: 7.00 ft
Test Type: Conventional Bottom Hole (Initial)
Tester: Brandon Turley
Unit No: 79

Serial #: 8166

Outside

Press@RunDepth: 20.89 psig @ 4269.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2018.09.03 End Date: 2018.09.03 Last Calib.: 2018.09.03
Start Time: 06:30:00 End Time: 12:55:24 Time On Btm: 2018.09.03 @ 09:00:55
Time Off Btm: 2018.09.03 @ 11:04:25

TEST COMMENT: IF: 1/2" blow never built.
IS: No return.
FF: No blow . Flushed tool no blow .
FS: No return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2268.96	111.23	Initial Hydro-static
2	18.12	110.85	Open To Flow (1)
33	20.29	111.07	Shut-In(1)
62	680.10	111.91	End Shut-In(1)
62	19.68	111.65	Open To Flow (2)
93	20.89	112.52	Shut-In(2)
123	600.63	113.39	End Shut-In(2)
124	2085.07	114.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
12.00	mud oil spots 100%m	0.06

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration Inc

8100 E 22nd St #700
Wichita, KS 67278

ATTN: John Goldsmith

Whitham-Smith Trust #1

35-16-37w Wichita,KS

Job Ticket: 63919

DST#: 1

Test Start: 2018.09.03 @ 06:29:55

GENERAL INFORMATION:

Formation: **LKC I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:02:55

Time Test Ended: 12:55:25

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

Interval: 4268.00 ft (KB) To 4294.00 ft (KB) (TVD)

Total Depth: 4294.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3352.00 ft (KB)

3345.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 6651 Inside

Press@RunDepth: psig @ 4269.00 ft (KB)

Start Date: 2018.09.03

End Date:

2018.09.03

Capacity: 8000.00 psig

Last Calib.:

2018.09.03

Start Time:

06:29:06

End Time:

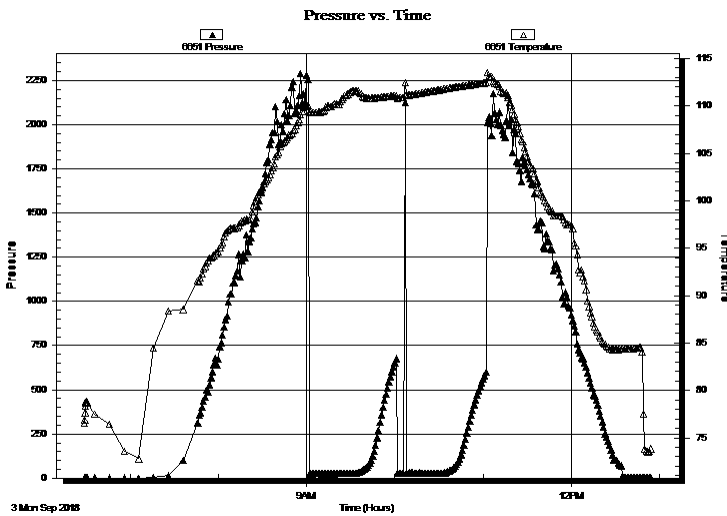
12:54:30

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1/2" blow never built.
IS: No return.
FF: No blow . Flushed tool no blow .
FS: No return.

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
12.00	mud oil spots 100%m	0.06

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration Inc

Whitham-Smith Trust #1

8100 E 22nd St #700
Wichita, KS 67278

35-16-37w Wichita,KS

ATTN: John Goldsmith

Job Ticket: 63919

DST#: 1

Test Start: 2018.09.03 @ 06:29:55

Tool Information

Drill Pipe:	Length: 4074.00 ft	Diameter: 3.80 inches	Volume: 57.15 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 58.03 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4268.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	26.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

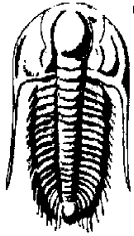
Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00			4242.00	
Shut In Tool	5.00			4247.00	
Hydraulic tool	5.00			4252.00	
Jars	5.00			4257.00	
Safety Joint	2.00			4259.00	
Packer	5.00			4264.00	27.00 Bottom Of Top Packer
Packer	4.00			4268.00	
Stubb	1.00			4269.00	
Recorder	0.00	6651	Inside	4269.00	
Recorder	0.00	8166	Outside	4269.00	
Perforations	20.00			4289.00	
Bullnose	5.00			4294.00	26.00 Bottom Packers & Anchor

Total Tool Length: 53.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration Inc

Whitham-Smith Trust #1

8100 E 22nd St #700
Wichita, KS 67278

35-16-37w Wichita,KS

Job Ticket: 63919

DST#: 1

ATTN: John Goldsmith

Test Start: 2018.09.03 @ 06:29:55

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 68.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4800.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
12.00	mud oil spots 100%m	0.059

Total Length: 12.00 ft Total Volume: 0.059 bbl

Num Fluid Samples: 0

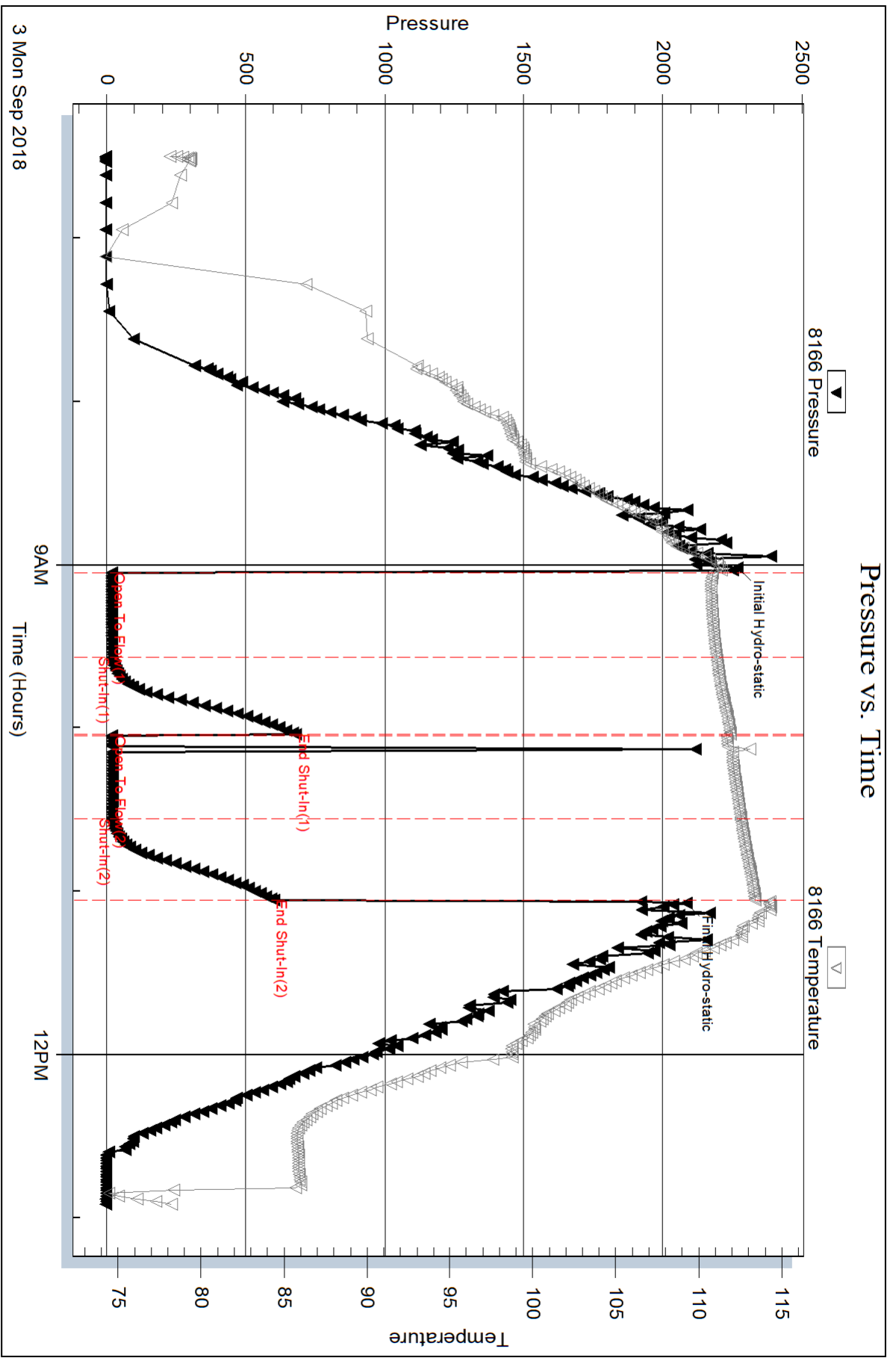
Num Gas Bombs: 0

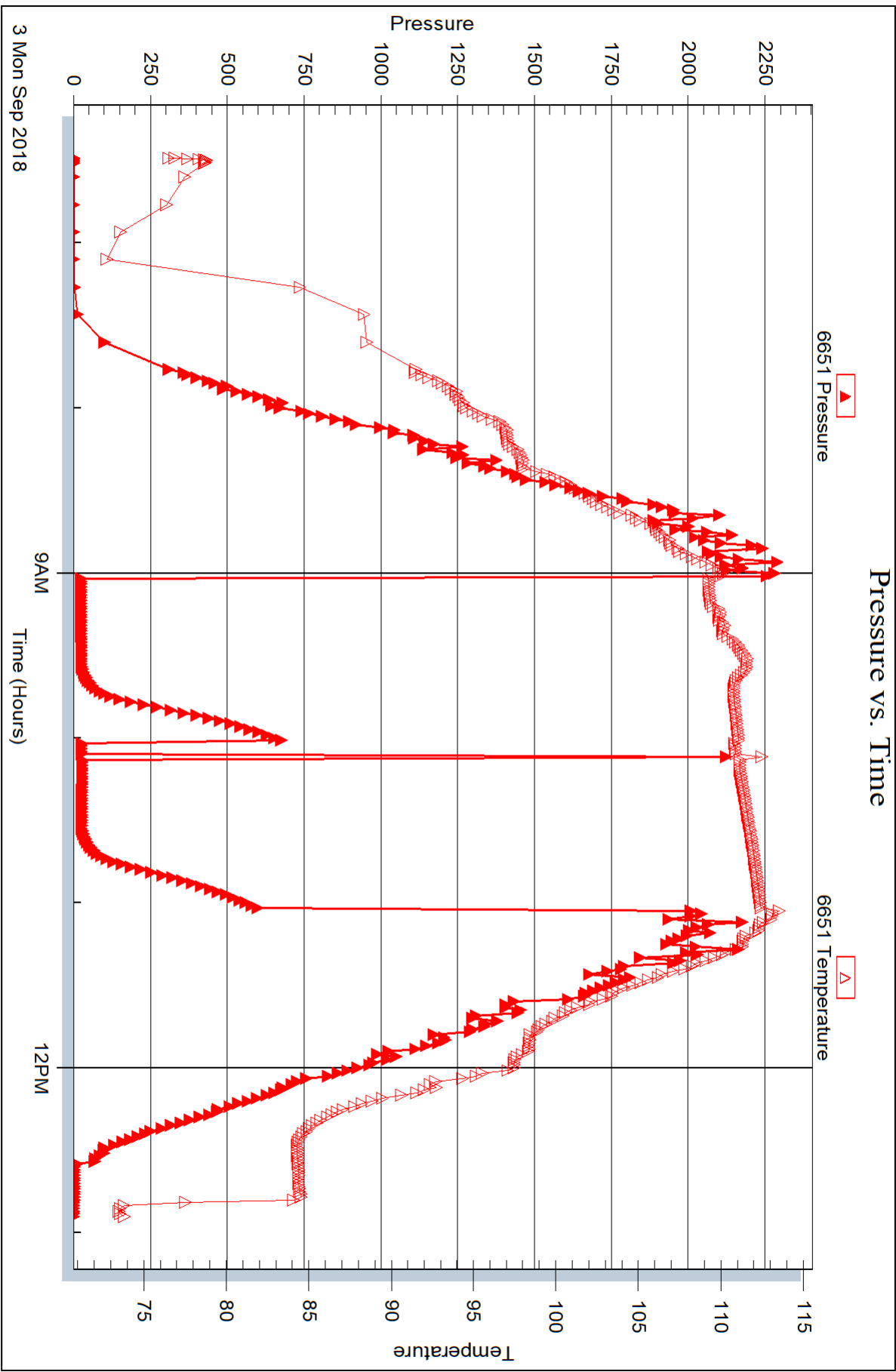
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc**

8100 E 22nd St #700
Wichita, KS 67278

ATTN: John Goldsmith

35-16-37w Wichita,KS

Whitham-Smith Trust #1

Start Date: 2018.09.04 @ 13:57:19

End Date: 2018.09.04 @ 22:04:19

Job Ticket #: 63920 DST #: 2

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

Printed: 2018.09.10 @ 09:21:21

Ritchie Exploration Inc

Whitham-Smith Trust #1

35-16-37w Wichita,KS

DST # 2

Alt- A

2018.09.04



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration Inc
8100 E 22nd St #700
Wichita, KS 67278
ATTN: John Goldsmith

Whitham-Smith Trust #1
35-16-37w Wichita,KS
Job Ticket: 63920 **DST#: 2**
Test Start: 2018.09.04 @ 13:57:19

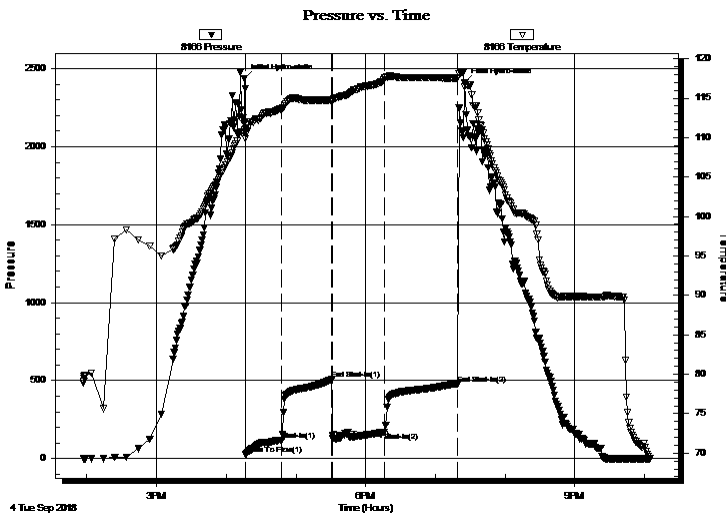
GENERAL INFORMATION:

Formation: **Alt- A**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 16:16:49 Tester: Brandon Turley
Time Test Ended: 22:04:19 Unit No: 79
Interval: 4444.00 ft (KB) To 4508.00 ft (KB) (TVD) Reference Elevations: 3352.00 ft (KB)
Total Depth: 4508.00 ft (KB) (TVD) 3345.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 7.00 ft

Serial #: 8166 Outside
Press@RunDepth: 168.50 psig @ 4445.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2018.09.04 End Date: 2018.09.04 Last Calib.: 2018.09.04
Start Time: 13:57:24 End Time: 22:04:18 Time On Btm: 2018.09.04 @ 16:15:49
Time Off Btm: 2018.09.04 @ 19:25:19

TEST COMMENT: IF: BOB in 20 min. 15 1/2"
IS: Surface blow built to 2"
FF: BOB in 20 min. 25 1/2"
FS: Surface blow built to 2 1/2."

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2435.73	110.98	Initial Hydro-static
1	26.80	109.86	Open To Flow (1)
32	117.38	113.68	Shut-In(1)
75	506.97	114.72	End Shut-In(1)
76	131.12	114.79	Open To Flow (2)
121	168.50	117.54	Shut-In(2)
184	480.26	117.56	End Shut-In(2)
190	2411.96	116.43	Final Hydro-static

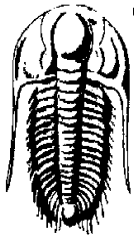
Recovery

Length (ft)	Description	Volume (bbl)
124.00	gocm 10%g 30%o 60%m	0.61
124.00	mcgo 20%g 40%o 40%m	1.24
124.00	mcgo 10%g 70%o 20%m	1.74
72.00	go 10%g 90%o	1.01
0.00	414 GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration Inc

8100 E 22nd St #700
Wichita, KS 67278

ATTN: John Goldsmith

Whitham-Smith Trust #1

35-16-37w Wichita,KS

Job Ticket: 63920

DST#: 2

Test Start: 2018.09.04 @ 13:57:19

GENERAL INFORMATION:

Formation: **Alt- A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:16:49

Time Test Ended: 22:04:19

Interval: 4444.00 ft (KB) To 4508.00 ft (KB) (TVD)

Total Depth: 4508.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Reference Elevations: 3352.00 ft (KB)

3345.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 6651

Inside

Press@RunDepth: psig @ 4445.00 ft (KB)

Start Date: 2018.09.04

End Date:

2018.09.04

Start Time: 13:57:45

End Time:

22:04:39

Capacity: 8000.00 psig

Last Calib.:

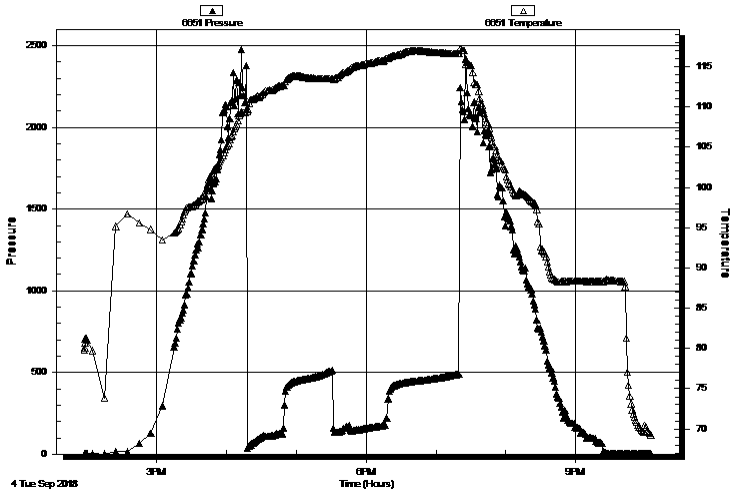
2018.09.04

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: BOB in 20 min. 15 1/2"
IS: Surface blow built to 2"
FF: BOB in 20 min. 25 1/2"
FS: Surface blow built to 2 1/2."

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
124.00	gocm 10%g 30%o 60%m	0.61
124.00	mcgo 20%g 40%o 40%m	1.24
124.00	mcgo 10%g 70%o 20%m	1.74
72.00	go 10%g 90%o	1.01
0.00	414 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

Ritchie Exploration Inc

Whitham-Smith Trust #1

8100 E 22nd St #700
Wichita, KS 67278

35-16-37w Wichita, KS

Job Ticket: 63920

DST#: 2

ATTN: John Goldsmith

Test Start: 2018.09.04 @ 13:57:19

Tool Information

Drill Pipe:	Length: 4262.00 ft	Diameter: 3.80 inches	Volume: 59.78 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 60.66 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4444.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	91.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			4418.00	
Shut In Tool	5.00			4423.00	
Hydraulic tool	5.00			4428.00	
Jars	5.00			4433.00	
Safety Joint	2.00			4435.00	
Packer	5.00			4440.00	27.00 Bottom Of Top Packer
Packer	4.00			4444.00	
Stubb	1.00			4445.00	
Recorder	0.00	6651	Inside	4445.00	
Recorder	0.00	8166	Outside	4445.00	
Perforations	25.00			4470.00	
Change Over Sub	1.00			4471.00	
Drill Pipe	31.00			4502.00	
Change Over Sub	1.00			4503.00	
Bullnose	5.00			4508.00	64.00 Bottom Packers & Anchor

Total Tool Length: 91.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration Inc

Whitham-Smith Trust #1

8100 E 22nd St #700
Wichita, KS 67278

35-16-37w Wichita,KS

Job Ticket: 63920

DST#: 2

ATTN: John Goldsmith

Test Start: 2018.09.04 @ 13:57:19

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

28 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
124.00	gocm 10%g 30%o 60%m	0.610
124.00	mcgo 20%g 40%o 40%m	1.238
124.00	mcgo 10%g 70%o 20%m	1.739
72.00	go 10%g 90%o	1.010
0.00	414 GIP	0.000

Total Length: 444.00 ft Total Volume: 4.597 bbl

Num Fluid Samples: 0

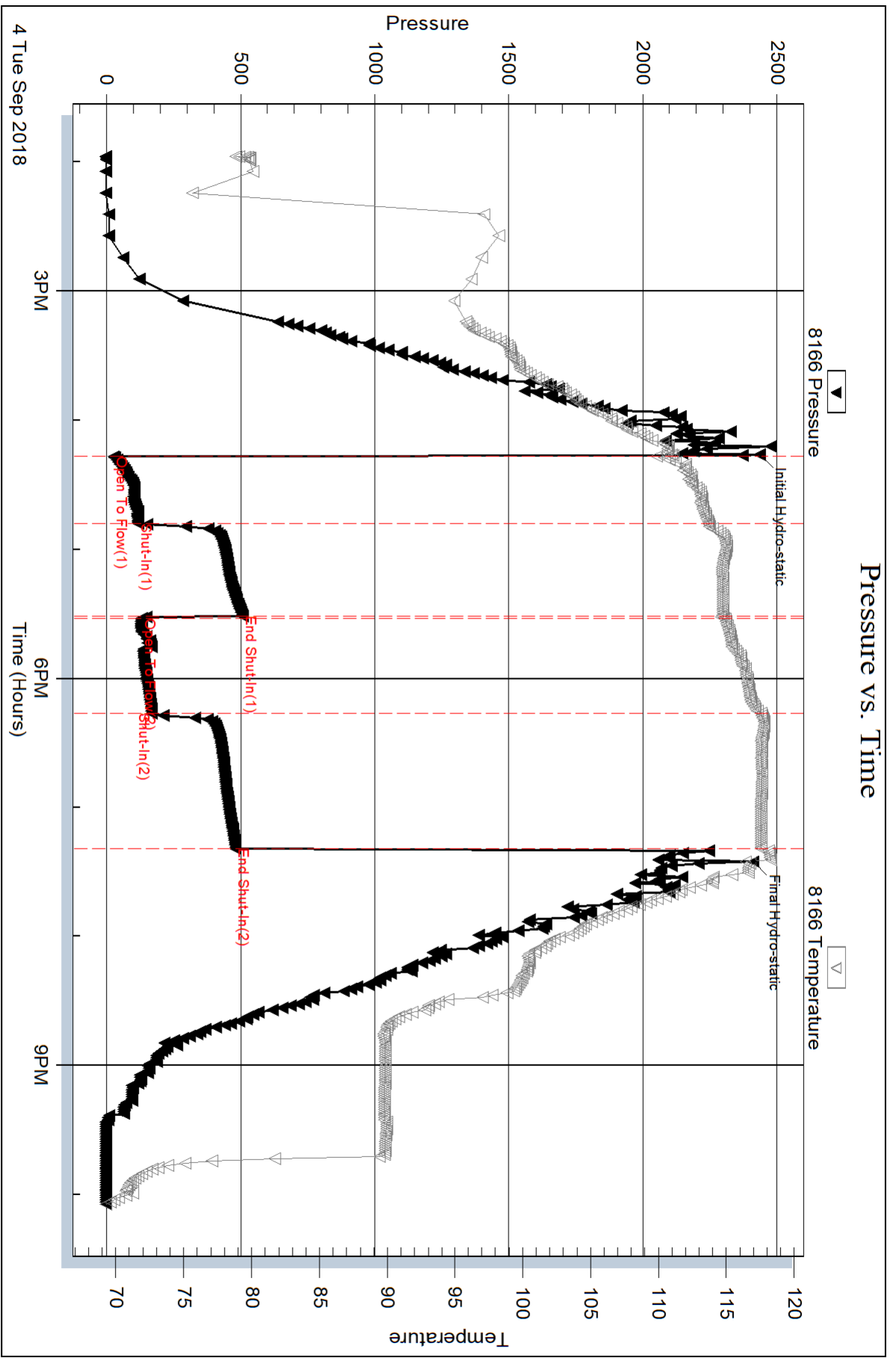
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 30@80=28



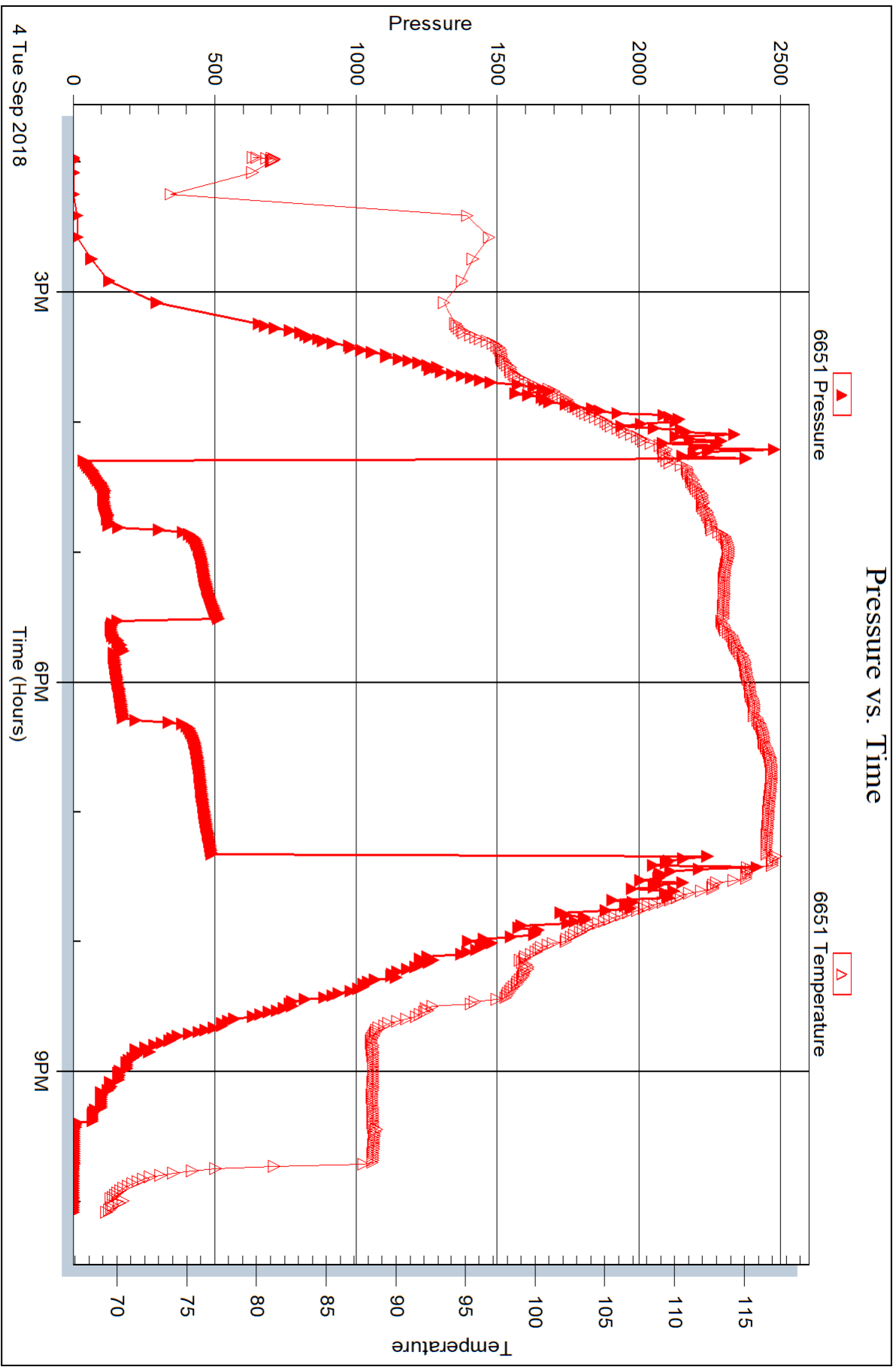
Serial #: 6651

Inside

Ritchie Exploration Inc

35-16-37w Wichita,KS

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration Inc**

8100 E 22nd St #700
Wichita, KS 67278

ATTN: John Goldsmith

35-16-37w Wichita,KS

Whitham-Smith Trust #1

Start Date: 2018.09.05 @ 10:30:27

End Date: 2018.09.05 @ 16:37:27

Job Ticket #: 63921 DST #: 3

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

Printed: 2018.09.10 @ 09:19:47

Ritchie Exploration Inc

Whitham-Smith Trust #1

35-16-37w Wichita,KS

DST # 3

Altamont B-C

2018.09.05



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration Inc
 8100 E 22nd St #700
 Wichita, KS 67278
 ATTN: John Goldsmith

Whitham-Smith Trust #1
35-16-37w Wichita,KS
 Job Ticket: 63921 **DST#: 3**
 Test Start: 2018.09.05 @ 10:30:27

GENERAL INFORMATION:

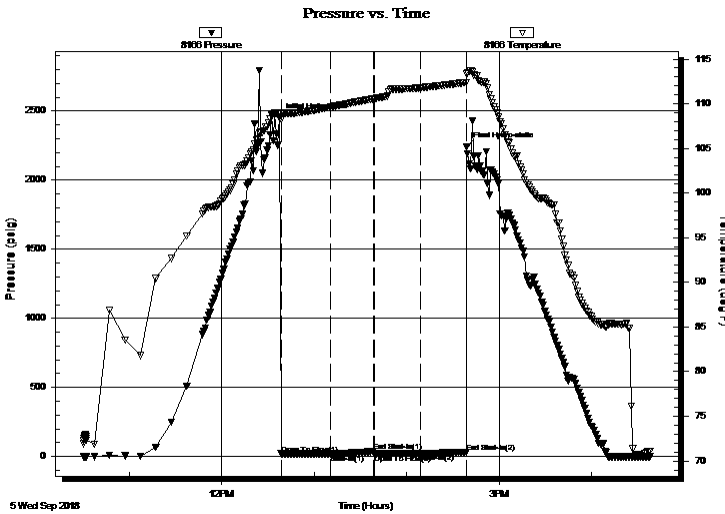
Formation: **Altamont B-C**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:38:27
 Time Test Ended: 16:37:27
 Interval: **4508.00 ft (KB) To 4556.00 ft (KB) (TVD)**
 Total Depth: 4556.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brandon Turley
 Unit No: 79
 Reference Elevations: 3352.00 ft (KB)
 3345.00 ft (CF)
 KB to GR/CF: 7.00 ft

Serial #: 8166 Outside

Press@RunDepth: 22.17 psig @ 4509.00 ft (KB)
 Start Date: 2018.09.05 End Date: 2018.09.05
 Start Time: 10:30:32 End Time: 16:37:26
 Capacity: 8000.00 psig
 Last Calib.: 2018.09.05
 Time On Btm: 2018.09.05 @ 12:37:27
 Time Off Btm: 2018.09.05 @ 14:38:57

TEST COMMENT: IF: 1/4" blow died in 15 min.
 IS: No return.
 FF: No blow . Flushed tool no blow .
 FS: No return.

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2455.22	108.94	Initial Hydro-static
1	18.79	108.23	Open To Flow (1)
33	19.71	109.63	Shut-In(1)
61	36.29	110.56	End Shut-In(1)
62	16.63	110.57	Open To Flow (2)
92	22.17	111.79	Shut-In(2)
121	32.01	112.40	End Shut-In(2)
122	2242.59	113.32	Final Hydro-static

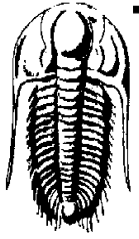
Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud oil spots 100%m	0.02

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Ritchie Exploration Inc
 8100 E 22nd St #700
 Wichita, KS 67278
 ATTN: John Goldsmith

Whitham-Smith Trust #1
35-16-37w Wichita, KS
 Job Ticket: 63921 **DST#: 3**
 Test Start: 2018.09.05 @ 10:30:27

GENERAL INFORMATION:

Formation: Altamont B-C		
Deviated: No Whipstock:	ft (KB)	Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 12:38:27		Tester: Brandon Turley
Time Test Ended: 16:37:27		Unit No: 79
Interval: 4508.00 ft (KB) To 4556.00 ft (KB) (TVD)		Reference Elevations: 3352.00 ft (KB)
Total Depth: 4556.00 ft (KB) (TVD)		3345.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good		KB to GR/CF: 7.00 ft

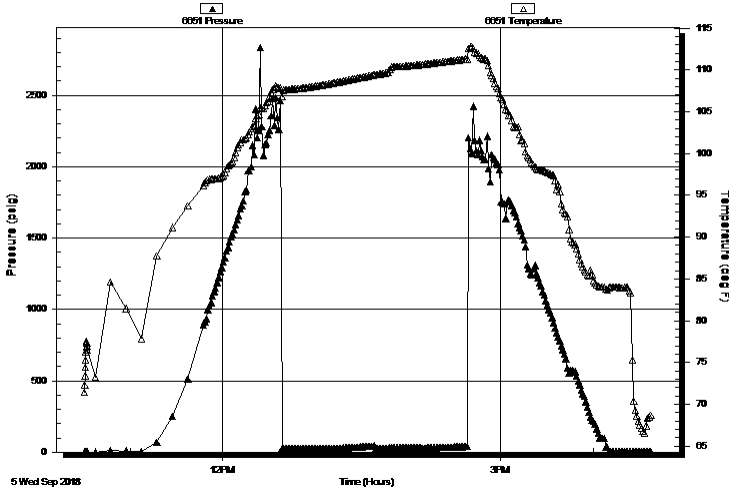
Serial #: 6651

Inside

Press@RunDepth: psig @ 4509.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2018.09.05 End Date: 2018.09.05	Last Calib.: 2018.09.05
Start Time: 10:30:27 End Time: 16:37:21	Time On Btm: Time Off Btm:

TEST COMMENT: IF: 1/4" blow died in 15 min.
 IS: No return.
 FF: No blow . Flushed tool no blow .
 FS: No return.

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud oil spots 100%m	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration Inc

Whitham-Smith Trust #1

8100 E 22nd St #700
Wichita, KS 67278

35-16-37w Wichita, KS

Job Ticket: 63921

DST#: 3

ATTN: John Goldsmith

Test Start: 2018.09.05 @ 10:30:27

Tool Information

Drill Pipe:	Length: 4324.00 ft	Diameter: 3.80 inches	Volume: 60.65 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 179.00 ft	Diameter: 2.25 inches	Volume: 0.88 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 61.53 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4508.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	75.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

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

Stubb	1.00			4482.00	
Shut In Tool	5.00			4487.00	
Hydraulic tool	5.00			4492.00	
Jars	5.00			4497.00	
Safety Joint	2.00			4499.00	
Packer	5.00			4504.00	27.00 Bottom Of Top Packer
Packer	4.00			4508.00	
Stubb	1.00			4509.00	
Recorder	0.00	6651	Inside	4509.00	
Recorder	0.00	8166	Outside	4509.00	
Perforations	8.00			4517.00	
Change Over Sub	1.00			4518.00	
Drill Pipe	32.00			4550.00	
Change Over Sub	1.00			4551.00	
Bullnose	5.00			4556.00	48.00 Bottom Packers & Anchor

Total Tool Length: 75.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration Inc

Whitham-Smith Trust #1

8100 E 22nd St #700
Wichita, KS 67278

35-16-37w Wichita, KS

Job Ticket: 63921

DST#: 3

ATTN: John Goldsmith

Test Start: 2018.09.05 @ 10:30:27

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6700.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud oil spots 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

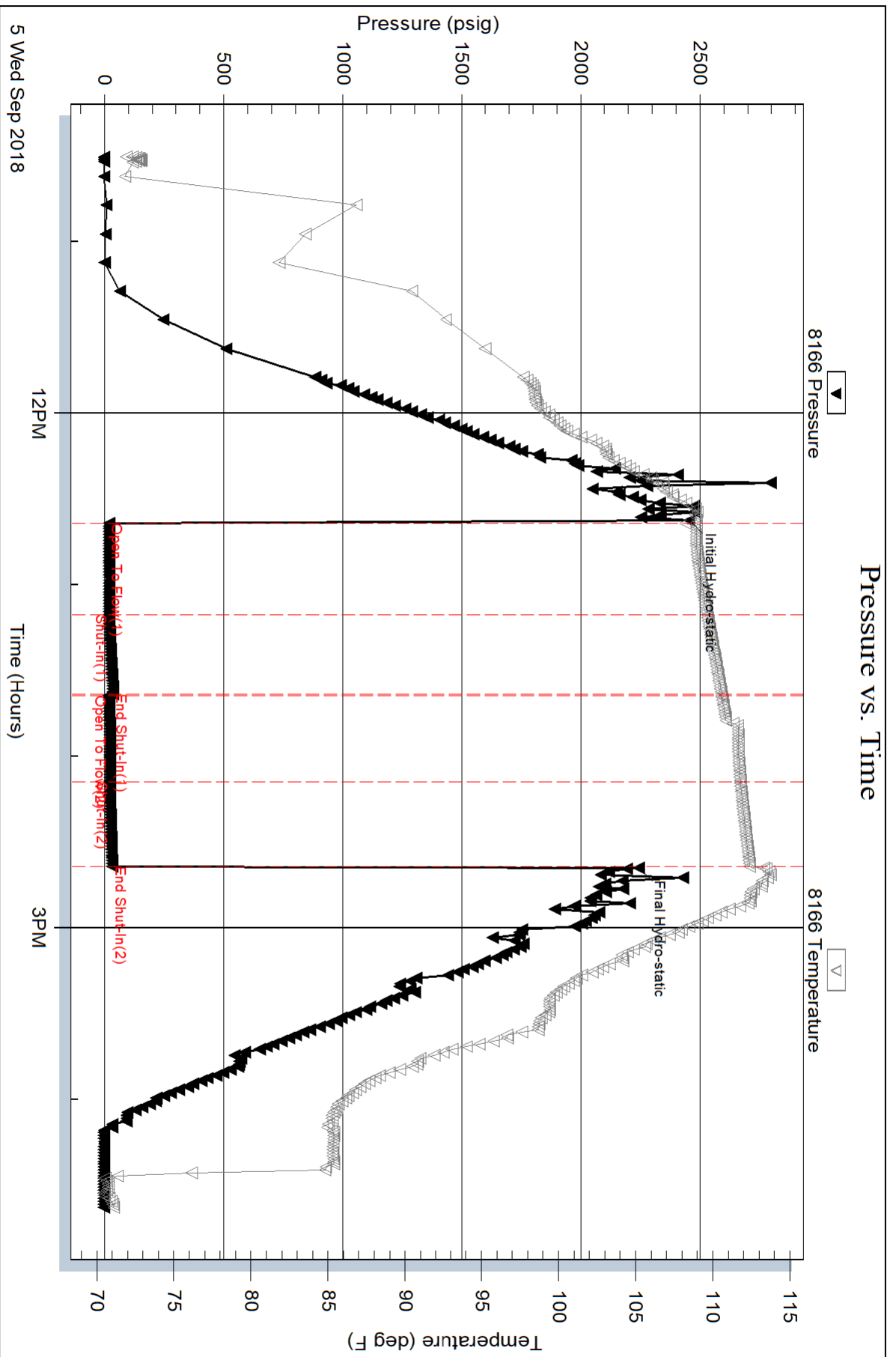
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



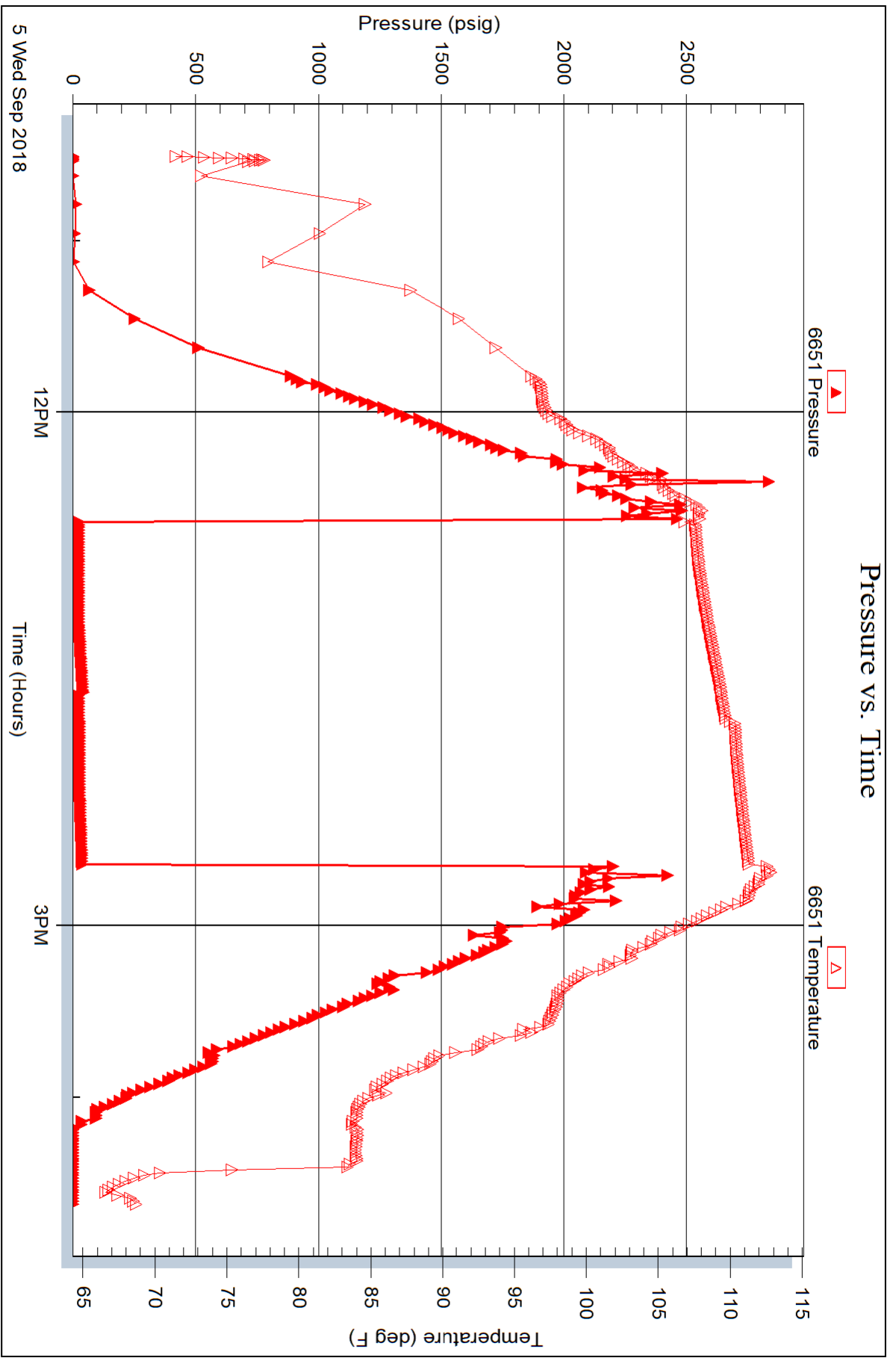
Serial #: 6651

Inside

Ritchie Exploration Inc

35-16-37w Wichita,KS

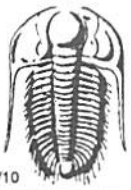
DST Test Number: 3



Triobite Testing, Inc

Ref. No: 63921

Printed: 2018.09.10 @ 09:19:49



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **63919**

4/10

Well Name & No. Whitham-Smith Trust #1 Test No. 1 Date 9-3-18
 Company Ritchie Exploration Elevation 3352 KB 3345 GL
 Address 8100 E 22nd St #700 Wichita, KS 67278
 Co. Rep / Geo. John Goldsmith Rig WW #12
 Location: Sec. 35 Twp. 16S Rge. 37W Co. Wichita State KS

Interval Tested 4268 4294 Zone Tested LKC ±
 Anchor Length 26 Drill Pipe Run 4074 Mud Wt. 9.1
 Top Packer Depth 4263 Drill Collars Run 179 Vis 68
 Bottom Packer Depth 4268 Wt. Pipe Run — WL 8.0
 Total Depth 4294 Chlorides 4800 ppm System LCM 2

Blow Description IF: 1/2 blow never built.
IS: No return,
FF: No blow, Flushed tool no blow.
FS: No return.

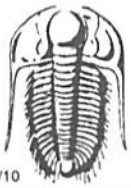
Rec	Feet of	%gas	%oil	%water	%mud
<u>12</u>	<u>mud oil spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 12 BHT 113 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2268</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>4:30</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>6:29</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>9:01</u>
(D) Initial Shut-In <u>680</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>11:01</u>
(E) Second Initial Flow <u>19</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>12:55</u>
(F) Second Final Flow <u>20</u>	<input checked="" type="checkbox"/> Mileage <u>74-</u> 74	Comments
(G) Final Shut-In <u>600</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2085</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1549</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1549</u>	

Approved By [Signature] Our Representative [Signature]

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. **63920**

Well Name & No. Whithorn-Smith Trust #1 Test No. 2 Date 9-4-18
 Company Ritchie Exploration Elevation 3352 KB 3345 GL
 Address _____
 Co. Rep / Geo. John Goldsmith Rig WW #12
 Location: Sec. 35 Twp. 165 Rge. 37W Co. Wichita State KS

Interval Tested 4444 4508 Zone Tested A14-A
 Anchor Length _____ 64 Drill Pipe Run 4262 Mud Wt. 9.3
 Top Packer Depth _____ 4439 Drill Collars Run ~~179~~ 179 Vis 62
 Bottom Packer Depth _____ 4444 Wt. Pipe Run _____ WL 9.6
 Total Depth _____ 4508 Chlorides 6000 ppm System LCM 2

Blow Description IF! BoB in 20 min. 15 1/2"
IS! surface blow built to 2.
FF! BoB in 20 min. 25. 1/2.
FF! surface blow built to 2 1/2.

Rec	Feet of	%gas	%oil	%water	%mud
<u>72</u>	<u>90</u>	<u>10</u>	<u>90</u>		
<u>124</u>	<u>MC90</u>	<u>10</u>	<u>70</u>	<u>20</u>	
<u>124</u>	<u>MC90</u>	<u>20</u>	<u>40</u>	<u>40</u>	
<u>124</u>	<u>96CM</u>	<u>10</u>	<u>30</u>	<u>60</u>	
<u>414</u>	<u>6IP</u>				

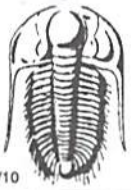
Rec Total 454 BHT 117 Gravity 28 API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2435 Test 1150 T-On Location 12:45
 (B) First Initial Flow 26 Jars 250 T-Started 13:57
 (C) First Final Flow 117 Safety Joint 75 T-Open 16:15
 (D) Initial Shut-In 506 Circ Sub NIL T-Pulled 19:15
 (E) Second Initial Flow 131 Hourly Standby _____ T-Out 22:06
 (F) Second Final Flow 168 Mileage 74. 74 Comments _____
 (G) Final Shut-In 480 Sampler _____
 (H) Final Hydrostatic 2411 Straddle _____

Initial Open 30 Shale Packer _____
 Initial Shut-In 45 Extra Packer _____
 Final Flow 45 Extra Recorder _____
 Final Shut-In 60 Day Standby _____
 Sub Total 1549 Accessibility _____
 Total 1549 MP/DST Disc't _____

Approved By [Signature] Our Representative [Signature]

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. **63921**

Well Name & No. Whithorn-Smith Trust #1 Test No. 3 Date 9-5-18
 Company Ritchie Exploration Elevation 3352 KB 3345 GL
 Address _____
 Co. Rep / Geo. John Goldsmith Rig WW #12
 Location: Sec. 35 Twp. 16S Rge. 37W Co. Wichita State KS

Interval Tested 4508 4556 Zone Tested AH B-C
 Anchor Length 48 Drill Pipe Run 4324 Mud Wt. 9.1
 Top Packer Depth 4503 Drill Collars Run 179 Vis 56
 Bottom Packer Depth 4508 Wt. Pipe Run — WL 9.6
 Total Depth 4556 Chlorides 6700 ppm System LCM 1

Blow Description IF: 8 1/4 blow dtd in 15 min.
IS: No return.
FF: No blow. Flushed tool No blow.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>mud oil spots</u>			<u>100</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 5 BHT 112 Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2455</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>10:15</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>10:30</u>
(C) First Final Flow <u>19</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>12:38</u>
(D) Initial Shut-In <u>36</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>14:38</u>
(E) Second Initial Flow <u>16</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>16:39</u>
(F) Second Final Flow <u>22</u>	<input checked="" type="checkbox"/> Mileage <u>74-x2</u> 148	Comments <u>loaded 9-8</u>
(G) Final Shut-In <u>32</u>	<input type="checkbox"/> Sampler	<u>1:11 am</u>
(H) Final Hydrostatic <u>2242</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Open <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>800</u>
Initial Shut-In <u>30</u>	<input checked="" type="checkbox"/> Day Standby <u>1.5d 20.75h</u>	Total <u>2423</u>
Final Flow <u>30</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
Final Shut-In <u>30</u>	Sub Total <u>1623</u>	

Approved By [Signature] Our Representative [Signature]
 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.

Wellsite Services, LLC

John Goldsmith
(316) 640-0236

427 Roosevelt St.
Cheney, KS 67025

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

Well Name: #1 Whitham-Smith Trust
API: 15-203-20342-0000
Location: 2,432' FNL & 976' FWL, Sec 35-16S-37W, SE SW NW
License Number: REI #4767
Spud Date: 8/28/2018
Surface Coordinates: LAT: 38.6200080
LONG: -101.3825191
Bottom Hole Vertical Hole
Coordinates: 3/4 Degree Deviation
Ground Elevation (ft): 3344'
Logged Interval (ft): 3800' To: RTD
Formation: Mississippian at RTD
Type of Drilling Fluid: Chemical

Region: Wichita County
Drilling Completed: 9/7/2018

K.B. Elevation (ft): 3352'
Total Depth (ft): 4960'

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

OPERATOR

Company: Ritchie Exploration Inc.
Address: 8100 E. 22nd St. N. #700
Wichita, KS 67226
(316) 691-9500

GEOLOGIST

Name: John Goldsmith
Company: Wellsite Services LLC
Address: 427 Roosevelt St.
Cheney, KS 67025
(316) 640-0236

RIG RECORDS

Contractor: WW Drilling Rig #12
Pusher: Calvin Phannensteil

Collar Tally: 434'

Pump: National K-380
Liner & Stroke: 6 x 14

BIT RECORDS

Size:	Type:	Footage:	Condition:	Hours:	Serial #:
12 1/4"	Smith	0-263'	RR	2.5	RJ 7490
7 7/8"	Sm-F27	263'-4960'	New	140.75	RJ 8187

COMMENTS

Surface Casing: 6 joints of 8 5/8" set @ 262'
Production Casing: 4.5" production casing was set.
Mud by: MudCo
DST's by: Trilobite Testing
Logs by: Pioneer Energy Services (DIL, CN-CD, ML, CS)
RTD=4960' LTD=4958'

FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Anhydrite	2536'	+816	2530'	+822
B/Anhydrite	2556'	+796	2548'	+804
Stotler	3620'	-268	3624'	-272
Heebner Shale	3998'	-646	3997'	-645
Toronto	4021'	-669	4016'	-664
Lansing	4056'	-704	4050'	-698
Muncie Creek Shale	4235'	-883	4229'	-877
Stark Shale	4328'	-976	4325'	-973
Hushpuckney Shale	4376'	-1024	4371'	-1019
Base of LKC	4421'	-1069	4418'	-1066
Marmaton	4468'	-1116	4466'	-1114
Altamont	4482'	-1130	4480'	-1128
Pawnee	4455'	-1203	4451'	-1199
Myrick Station	4594'	-1242	4590'	-1238
Ft. Scott	4608'	-1256	4604'	-1252
Cherokee	4635'	-1283	4630'	-1278
Johnson Zone	4727'	-1375	4724'	-1378
Morrow	4794'	-1442	4789'	-1437
Mississippian	4917'	-1565	4909'	-1557
RTD	4960'	-1608		
LTD			4958'	-1606

DST's

DST #1 "LKC I" 4268'-4294' 9-3-18 30-30-30-30
 1st Blw: 1/2" blw never blt (No BB)
 2nd Blw: No blw, flshd tool, no blw (No BB)
 IFP: 18-20# ISIP: 680# FFP: 20-21# FSIP: 601#
 Hyd: 2267-2085#
 Rec: 12' Mud w/OS.

DST #2 "Alt A" 4444'-4508' 9-4-18 30-45-45-60
 1st Blw: Blw blt to BOB in 20min (BB blt to 2")
 2nd Blw: Blw blt to BOB in 20min (BB blt to 2.5")
 IFP: 27-117# ISIP: 507# FFP: 131-167# FSIP: 480#
 Hyd: 2436-2412#
 Rec: 414'GIP, 72'GO, 248'MCGO, 124'GOCM.

DST #3 "Alt B&C" 4508'-4556' 9-5-18 30-30-30-30
 1st Blw: 1/4" blw dead in 15min (No BB)
 2nd Blw: No blw, flshd tool, no blw (NoBB)
 IFP: 19-20# ISIP: 36# FFP: 17-22# FSIP: 32#
 Hyd: 2455-2242#
 Rec: 5'Mud w/OS.

ROCK TYPES

	Anhy		Dol		Sltst		Sandylms
	Cht		Lmst		Ss		Shaly ls
	Congl		Shale		Carb sh		

ACCESSORIES

EVENTS

- Circ
- Conn

FOSSIL

- Brach
- Bryozoa
- Crin

-
-
-
-
-
-
-

- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Fuss
- Oolcast

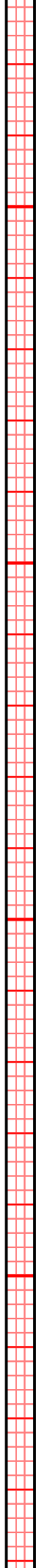
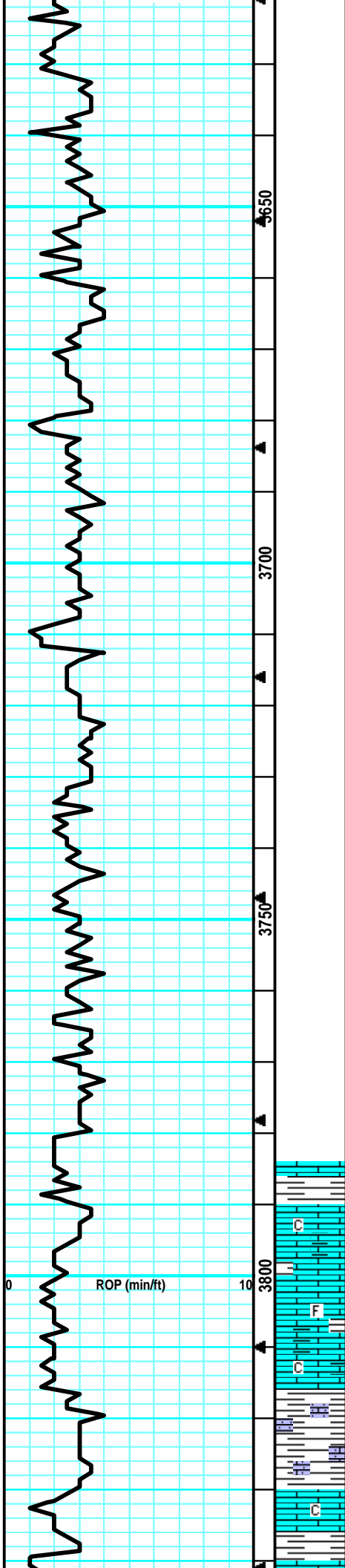
MINERAL

- Calc
- Chtdk
- Chtlt
- Glau
- Pyr
- Sil

TEXTURE

- Chalky
- Crsxn
- Finexln
- Microxln

Drilling Time ROP (min/ft)	Depth	Lithology	CFS Point	Oil Shows	Geological Descriptions	Remarks	
	<p>0</p> <p>10</p> <p>2550</p> <p>3550</p> <p>3600</p>	<p>Anhydrite</p> <p>B/Anhydrite</p> <p>Stotler</p>			<p>Morning Activity/Report</p> <p>August 28, 2018: Spud @ 8:30am</p> <p>8/29/18: drlg @ 1,271'</p> <p>8/30/18: TIH after rig repair @ 1,778'</p> <p>8/31/18: drlg @ 3,045'</p> <p>9/1/18: drlg @ 3,710'</p> <p>9/2/18: drlg @ 4,090'</p> <p>9/3/18: DST #1 (LKC I)</p> <p>9/4/18: drlg @ 4,485' (DST #2 Alt A)</p> <p>9/5/18: drlg @ 4,550' (DST #3 Alt B&C)</p> <p>9/6/18: drlg @ 4,657'</p> <p>9/7/18: drlg @ 4,876' (RTD 4,960', Ran E-Log)</p> <p>9/8/18: LDDP for casing</p>	<p>Survey @ 263' = 3/4 Degree</p> <p>Anhydrite @ 2536' (+816)</p> <hr/> <p>B/Anhydrite @ 2556' (+796)</p> <p>Mud Report #2 1439' 5/29/18 Wt Vis pH 8.8 28 7.0 Filt Chlr LCM n/c 100 0#</p> <p>Mud Report #3 1826' 8/30/18 Wt Vis pH 9.1 30 7.0 Filt Chlr LCM n/c 400 1#</p> <p>Mud Report #4 3123' 8/31/18 Wt Vis pH 9.4 30 7.0 Filt Chlr LCM n/c 54K 3#</p>	<p>Stotler @ 3620' (-268)</p>



Mud Report #5
 3698' 9/1/18
 Wt Vis pH
 8.6 58 11.0
 Filt Chlr LCM
 7.2 3.6K 3#

10ft Samples Begin @ 3800' on 9/1/18

LS: lt gry/crm, micro-fn xln, dense, firm, chlky in prt, tr-nvp, no cup odr, ns.

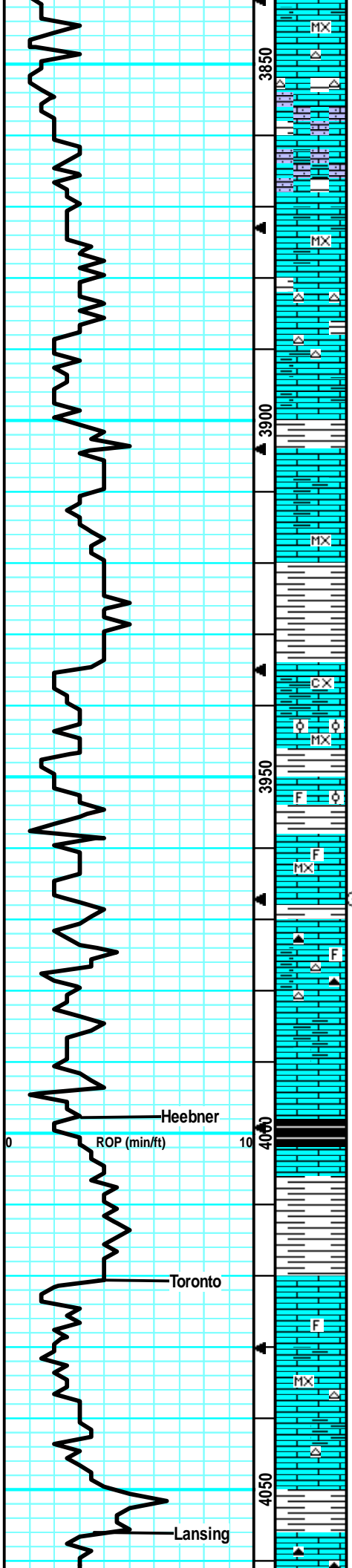
LS: tan/gry, fn xln, many dense, sub-chlky, tr-nvp, no cup odr, ns.

LS: tan/lt tan, sing, fn xln, fw foss frags, fw brit, tr-nvp, chlky in prt, tr-nvp, no cup odr, ns.

Much of the same, fw pcs of, drk dry/blk, SH, no cup odr, ns.

LS: gry/tan, mott, sandy/grny, tr-nvp, lrg infx SH: gry/drk gry, silty, soft, no odr, ns.

LS: tan, sing, micro-fn xln, sm dense, sub-chlky, tr-nvp, fw red beds, no odr, ns.



LS: tan/lt tan, sing, micro-fn xln, dense, tr-nvp, no odr, ns.

Much of the same micro xln LS, influx Chert: wht/opaq, foss, sharp, no odr, ns.

LS: lt gry/lt tan, sandy/gritty, pr intgrn/intxln por, no cup odr, ns.

LS: gry/tan, sing, micro-fn xln, dense, fw SH: drk gry/gry, no cup odr, ns.

Much of the same, fw SltStn: lght brn, gritty, firabl, fw Chert: lt tan/wht, sharp, no odr, ns.

LS: gry/tan, sing, fn xln, sm brittle, fw sandy/gritty, tr-nvp, fw SH: drk gry, no cup odr, ns.

LS: gry/brn/tan, mott, fn xln, fw flakey, tr-nvp, svrl SH: brn/gry, silty, no odr, ns.

LS: tan/lt gry, sing, micro-fn xln, dense, tr-nvp, no cup odr, ns.

Much of the same, influx of SH: gry/lght brn, silty, soft, no odr, ns.

LS: gry, mott, fn-crs xln, flakey/mealy, foss, fw SH: brn/gry, silty, no odr, ns.

LS: tan/lt tan/lt gry, sing, micro-fn xln, sm foss/ool, dense, tr-nvp, no cup odr, ns.

LS: lt tan/lt gry, slght mott, fn xln, fw foss frags, fw flakey, tr-nvp, no cup odr, ns.

LS: tan/lt tan, sing, micro-fn xln, dense, tr-nvp, fw Chert: gry, fw foss frags, no cup odr, ns.

LS: tan/lt gry, micro-fn xln, foss in prt w/ fuss/frags, tr-nvp, fw Chert: gry/wht, foss, sharp, fw SH: gry, silty, no odr, ns.

LS: gry/tan, mott, fn xln, fw flakey, svrl SH: gry/brn, silty, no cup odr, ns.

LS: tan, slght mott, fn xln, fw pcs w/ drk brn/blk spstd min stns, no fluor/cut, tr-nvp, fw SH: gry, no cup odr, ns.

LS: tan/gry, mott, fn xln, fw foss frags, sub-chlky, tr-nvp, no odr, ns.

SH: gry/brn/blk, silty, sm v soft, fw carb, no cup odr, ns.

LS: tan/gry, slght mott, fn xln, fw foss frags, tr-? intxln por in, spstd drk brn stns on fw pcs, no fluor/cut, nsfo, cup odr.

LS: crm/lt tan, micro-fn xln, dense, britt, sub-chlky, tr-nvp, fw Chert, no cup odr, ns.

Much of the same, fw more Chert: wht/opaq, foss, sharp, no cup odr, ns.

SH: gry/brn, silty, soft, fw LS: tan/lt gry, fn xln, fw foss w/ crin/frags, fw Chert: gry, foss, no odr, ns.

Wiper trip 25 Stands

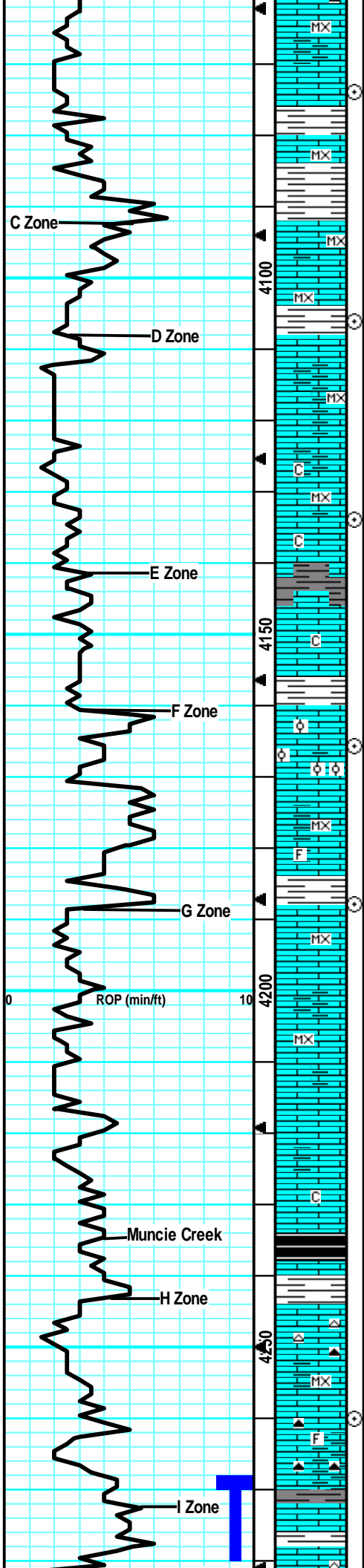
CFS @ 3967'
(20"/45")

Heebner @ 3998' (-646)

Mud Report #6		
4106'	9/2/18	
Wt	Vis	pH
9.1	68	10.5
Filt	Chlr	LCM
8.0	4.8K	2#

Toronto @ 4021' (-669)

Lansing @ 4056' (-704)



LS: lt tan, sing, micro xln, dense, chlky, tr-nvp, no cup odr, ns.

CFS @ 4074'
(30"/60")

LS: tan/lt gry, micro-fn xln, dense, sm brit, sub-chlky, tr-nvp, no cup odr, ns.

Many of the same LS, lrg influx SH: brn/gry, silty, sm v soft, fw muddy like, no cup, odr, ns.

SH: brn/gry, silty, soft, fw muddy like, fw LS: tan/lt gry, micro-fn xln, fw pcs w/ pr patchy intxn por, no cup odr, ns.

CFS @ 4106'
(30"/60")

LS: lt tan/lt gry, micro-fn xln, dense, tr-nvp, no odr, ns.

SH: drk brn/gry, silty, fw LS: lt gry/lt tan, micro-fn xln, dense, tr-nvp, no odr, ns.

LS: tan/lt tan, micro-fn xln, dense, tr-nvp, 2-3 pcs w/ pos drk dead stn on edge, no fluor/cut, no cup odr, ns.

Much of the same, fw more pcs sub-chlky, and fw gry LS, fn xln, tr-nvp, no odr, ns.

CFS @ 4134'
(30"/60")

LS: lt gry/lt tan, micro-fn xln, dense, fw scat vugs, no cup odr, ns.

LS: lt tan/lt gry, fn xln, sub-chlky in prt, fw w/ pr scat vug por, sub-chlky, no cup odr, ns.

Much of same LS, infx SH: drk gry, slght carb, fw lght grn, no cup odr, ns.

LS: gry/tan, fn xln, many dense, firm, fw flakey, tr-pr intxn por in v fw, no cup odr, ns.

CFS @ 4166'
(30"/60")

LS: gry/lt tan, fn xln, fw scat foss frags, mostly firm, fw flakey/mealy, tr-nvp, no odr, ns.

LS: gry/tan, slght mott, fn xln, many ool, sm brittle, tr-pr intool por, no cup odr, ns.

LS: crm/lt tan, sing, micro-fn xln, dense, firm, tr-nvp, no cup odr, ns.

CFS @ 4188'
(30"/60")

LS: crm/lt tan, sing, fn xln, fw foss frags, many brittle, sub-chlky, tr-nvp, no odr, ns.

LS: crm/lt tan, sing, micro-fn xln, dense, brittle, chlky, tr-nvp, no cup odr, ns.

LS: crm/lt tan/lt gry, sing, micro-fn xln, many dense, brittle, sub-chlky, fw prc w/ pr intxn por no cup odr, ns.

Much of the same, fw more pcs w/ pr intxn/scat slght vuggy por, no odr, ns.

LS: gry/lt tan, slght mott, fn xln, fw flakey/mealy, sub-chlky in prt, tr-pr intxn por in fw, no odr, ns.

Muncie Creek @ 4235' (-883)

SH: blk, silty, soft, carb, LS: lt tan/lt gry, chlky, tr-nvp, no cup odr, ns.

LS: gry/tan, sing, fn xln, fw flakey, tr-nvp, abund Chert: gry/wh, sharp, no cup odr, ns.

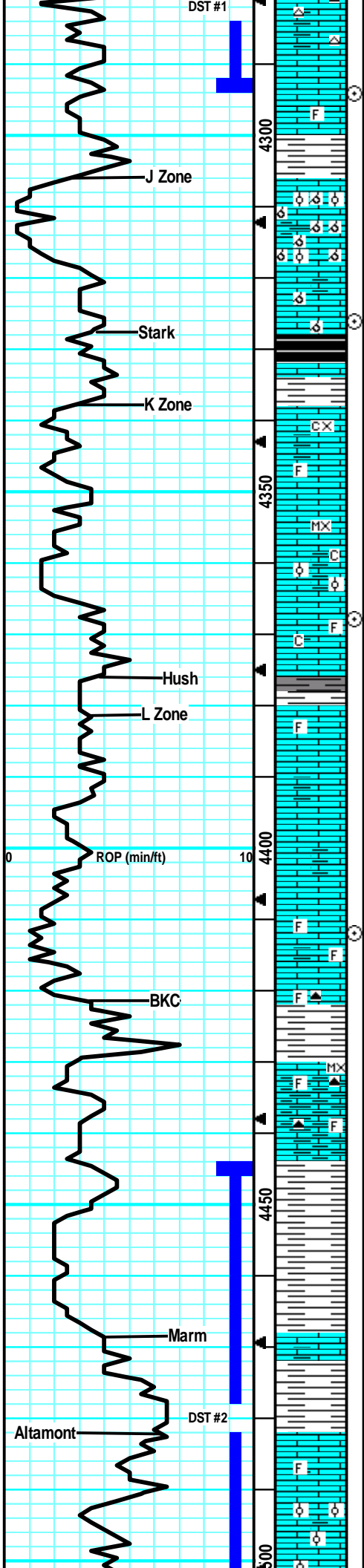
LS: gry/lt tan, sing, micro-fn xln, dense, 1 pcs w/ pr frac edge por, drk blk, tarry like stn, no fluor/cut, no sfo, no cup odr.

CFS @ 4260'
(30"/60")

LS: gry, slght mott, fn xln, fw flakey/mealy, fw Chert: gry/brn, foss, sharp, fw SH: gry/drk gry, silty, 2 pcs w/ spttd drk brn stns, wk-? fluor, no cut, no odr, nsfo.

LS: crm/lt gry, slght mott, micro-fn xln, fw foss, frags, sub-chlky, tr-nvp, fw Chert: gry/wh, sharp, no odr, ns.

DST #1 "LKC I" 4268'-4294' 9-3-18
30-30-30-30
1st Blw: 1/2" blw never blt (No BB)
2nd Blw: No blw, flshd tool, no blw (No BB)
IFP: 18-20# ISIP: 680# FFP: 20-21# FSIP: 601#
Hvd: 2267-2085#



LS: tan/lt gry, slight mott, fn xln, mostly dense, britl, 3 pcs w/ pr ppt intxn por on frac edge, vssfo on crush, wk fluor, slw cut, fnt cup odr.

SH: brn/gry/blu, silty, sm fissile, fw carb, fw red beds indict sloug from above, no odr, ns.

SH: gry/blu/brn, silty, fw LS: tan, mott, fn xln, v foss, fw flakey, sub-chlky, tr-nvp, no odr, ns.

LS: lt gry/lt tan, mott, fn xln, profus ool, mostly gd oolcast por, sub-chlky in prt, brit, no cup odr, ns.

Much of the same oolcast LS, larg amnt of SH slough as well, no odr, ns.

SH: blk/gry/brn, silty, soft, mostly carb, no cup odr, ns.

LS: gry/tan/lt brn, mott, fn-crs xln, sm hard, many flakey/mealy, tr-nvp, no cup odr, ns.

LS: tan/lt tan, fn xln, many foss, sub-chlky in prt, tr-nvp, 1 pcs w/ blk tar like stns, no fluor/cut, nsfo, drk dead oil, no cup odr.

LS: lt tan/lt gry, micro-fn xln, mostly foss, chlky, brittle, tr-nvp, no cup odr, ns.

Much of the same, fw pcs w/ sml ool, abund of pur chl, no odr, ns.

LS: gry/lt tan, slight mott, fn xln, fw foss frags, sub-chlky in prt, fw flakey, tr-nvp, fw SH: gry, silty, no cup odr, ns.

LS: gry/lt tan, slight mott, fn xln, fw foss frags, many flake/mealy, sub-chlky in prt, tr-nvp, no odr, ns.

Much of the same, fw pcs more britl, 2 pcs w/ pos patchy v lght brn stns, no fluor/cut, nsfo, no cup odr.

LS: gry/lt tan, fn xln, sub-chlky, sm flakey/mealy, tr-pr intxn por in fw, 3 pcs w/ patchy lght brn stns, wk-? fluor, nsfo, no cup odr, ns.

LS: gry/tan, slight mott, fn xln, svrl foss, fw flakey, mostly brittle, sub-chlky, tr-nvp, no odr, ns.

LS: gry/lt tan, micro-fn xln, fw foss, chlky, britl, fw Chert: gry, foss, sharp, sm SH: no odr, ns.

LS: gry/tan, slight mott, fn xln, fw foss frags, mostly chlky, many flakey/mealy, tr-nvp, no cup odr, ns.

Much of the same, fw more foss/ool, sm dense, no cup odr, ns.

LS: gry/lt gry, fn xln, dense, sm flakey, sm hard, tr-nvp, influx of SH: gry, silty, no odr, ns.

SH: gry/blu/brn, silty, fw soft, fw SS: gry/blu, silty, arg, v fn grn, wel srt, tr-nvp, no cup odr, ns.

LS: gry/tan, slight mott in prt, micro-fn xln, dense, sm firm, fw flakey/mealy, tr-nvp, no cup odr, ns.

LS: gry/tan, slight mott, fn xln, mostly dense, sub-chlky in prt, tr-nvp, fw SH: gry/blu, silty, no odr, ns.

LS: lt gry/lt tan, fn xln, sm v foss/ool, fr intfoss/intool por, sm gd scat vuggy por, drk hvy stns in por, gd gld fluor/stm cut, fr sfo on brk, gd cup odr.

30" Smpl: much less odr and sho. LS: tan. sptd salt/pep like stns in

Rec: 12' Mud w/OS.

Survey @ 4294' = 3/4 Degree

CFS @ 4294' (30"/60") Strap was 1.16 Log

Mud Report #7

4294'	9/3/18	
Wt	Vis	pH
9.3	48	10.0
Filt	Chlr	LCM
8.8	5.2K	2#

CFS @ 4326' (30"/60")

Stark @ 4328' (-976)

CFS @ 4368' (30"/60")

Hushpuckney @ 4376' (-1024)

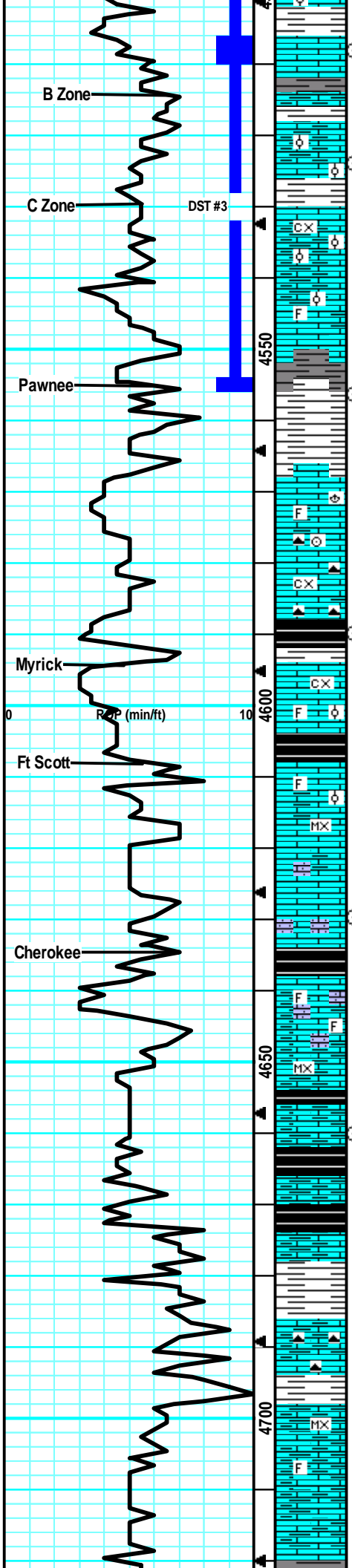
CFS @ 4402' (30"/60")

BKC @ 4421' (-1069)

DST #2 "Alt A" 4444'-4508' 9-4-18
30-45-45-60
1st Blw: Blw blt to BOB in 20min (BB blt to 2")
2nd Blw: Blw blt to BOB in 20min (BB blt to 2.5")
IFP: 27-117# ISIP: 507# FFP:
131-167# FSIP: 480#
Hyd: 2436-2412#
Rec: 414'GIP, 72'GO, 248'MCGO, 124'GOCM.

Marmaton @ 4468' (-1116)

Altamont @ 4482' (-1130)



5-6, vssfo on brk, wk cup odr.
 LS: gry/lt tan, fn xln, sub-chlky in prt, fw flaky/mealy, tr-nvp, 2 pcs w/ sho from above, no cup odr.

SH: gry/blu/grn, silty, soft, no cup odr, ns.

LS: gry/lt brn, fn xln, mostly dense, sm hard, fw flakey, tr-nvp, no cup odr, ns.

LS: gry/tan, mott, fn-crs xln, fw ool, sm flakey, sm firm, tr-nvp, no cup odr, ns.

LS: gry/tan, fn xln, mostly dense, tr-nvp, 1 pcs w/ patchy lght brn stns on surf in ppt in xln por, 2 pcs ool vuggy/intool por, fr fso in por, fr cut odr on brk, may be from above?

LS: gry/tan, slight mott, fn xln, foss in prt, sm grainy/sndy, sm firm, tr-nvp, no odr, ns.

LS: gry/tan, slight mott, fw foss/ool, mostly dense, firm, tr-nvp, no cup odr, ns.

SH: drk gry/blu/grn/brn, silty, soft, fw fissile, no cup odr, ns.

LS: gry/tan, slight mott, fn xln, foss w/ brach/crin/frags, fw flakey, tr-nvp, no odr, ns.

LS: gry, slight mott, fn-crs xln, flakey/mealy, frim, fw hard, tr-nvp, no cup odr, ns.

LS: gry/lt gry, mott, fn-crs xln, flakey/mealy, sm firm, tr-nvp, fw Chert: gry/brn, sharp, no odr, ns.

LS: gry/tan, slight mott, fn-crs xln, fw foss, many hard, sm flakey/mealy, tr-nvp, fw SH: gry/drk gry, silty, no odr, ns.

LS: gry/lt tan, sing, fn xln, fw foss frags, fw ool, mostly dense/firm, tr-nvp, fw SH: drk gry/brn, silty, fw carb, no odr, ns.

LS: tan/lt gry, micro-fn xln, dense, mostly firm, tr-nvp, no cup odr, ns.

LS: tan/lt brn/gry, fn xln, dense, sm firm, fw sub-chlky, tr-nvp, no cup odr, ns.

LS: gry/tan, fn xln, fw sandy/grainy, many profus foss, sm firm, tr-nvp, svrl SH: drk gry/blk, silty, fw carb, no cup odr, ns.

LS: gry/tan, fn xln, sm dense/firm, fw sandy/grny, tr-nvp, no cup odr, ns.

LS: gry/lt tan, micro-fn xln, mostly dense, sub-chlky in prt, fw flakey like, tr-nvp, no cup odr, ns.

LS: gry/lt tan/tan, sing, fn xln, dense, hard, fw flakey, tr-nvp, no cup odr, ns.

LS: gry, fn xln, dense, hard, fw flakey/mealy, tr-nvp, no cup odr, ns.

Much of the same, influx of SH: drk gry/blk, silty, sm carb, fw Chert: brn, sharp, no odr, ns.

LS: tan, micro-fn xln, fw sml foss frags, dense, hard, svrl SH: drk gry/blk, fw carb, no odr, ns.

LS: gry/tan, fn xln, dense, hard, tr-nvp, fw SH: drk gry, no cup odr, ns.

LS: Much of the same dense hard LS, fw flakey/mealy, tr-nvp, more SH, no cup odr, ns.

Mud Report #8

4508' 9/4/18

Wt	Vis	pH
9.3	62	10.5
Filt	Chlr	LCM
9.6	6.0K	2#

CFS @ 4508' (30"/60")

CFS @ 4524' (30"/60")

Mud Report #9

4556' 9/5/18

Wt	Vis	pH
9.1	59	11.0
Filt	Chlr	LCM
9.6	6.7K	1#

Pawnee @ 4555' (-1203)

CFS @ 4556' (30"/60")

DST #3 "Alt B&C" 4508'-4556' 9-5-18
 30-30-30-30
 1st Blw: 1/4" blw dead in 15min (No BB)
 2nd Blw: No blw, flshd tool, no blw (NoBB)
 IFP: 19-20# ISIP: 36# FFP: 17-22# FSIP: 32#
 Hyd: 2455-2242#
 Rec: 5'Mud w/OS.

CFS @ 4590' (30"/60")

Myrick @ 4594' (-1242)

CFS @ 4590' (30"/60")

Myrick @ 4594' (-1242)

CFS @ 4630' (30"/60")

Ft Scott @ 4608' (-1256)

CFS @ 4630' (30"/60")

Cherokee @ 4635' (-1283)

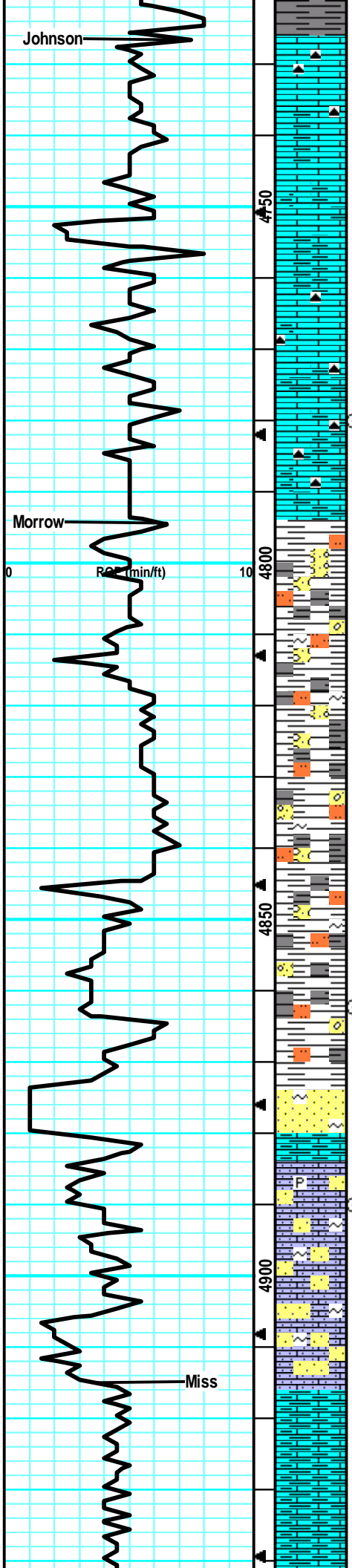
CFS @ 4650' (30"/60")

Mud Report #10

4671' 9/6/18

Wt	Vis	pH
9.3	58	9.5
Filt	Chlr	LCM
10.4	7.8K	1#

CFS @ 4650' (30"/60")



LS: gry/tan, fn xln, dense, hard, tr-nvp, fw SH: blk/drk gry, fw carb, fw Chert: blk/smokey, sharp, no odr, ns.

LS: gry/tan, fn xln, dense, mostly hard, tr-nvp, no cup odr, ns.

LS: tan/lt gry, slight mott, fn xln, fw flakey/mealy, sm sub-chlky in prt, tr-nvp, no cup odr, ns.

Much of the same as above, influx up SH: gry, silty, sm soft, no odr, ns.

LS: gry/tan, slight mott, fn xln, many flakey/mealy, sub-chlky in prt, sm brittle, tr-nvp, fw Chert: gry/smokey, foss, sharp, no odr, ns.

LS: gry/lt gry, mott in prt, fn xln, sm flakey/mealy, fw gritty like, tr-nvp, svrl SH: drk gry, silty, no odr, ns.

LS: gry/drk gry, mott, fn xln, fw flakey/mealy, firm, fw brittle, tr-nvp, fw Chert: drk gry/smokey, svrl SH: drk gry, no odr, ns.

Much of the same as above, no cup odr, ns.

LS: gry/tan, slight mott, fn xln, dense, firm, fw flakey, tr-nvp, fw SH: drk gry/brn/yel, soft, fw withrd, no cup odr, ns.

SH: drk gry/blu/grn/yel, silty, mostly soft, fw withrd, no cup odr, ns.

Much of the same as above.

SH: drk gry/gry/blu/grn, silty, sm soft, no odr, ns.

Most SH: gry/blu/grn, silty, soft, fw SS: gry/blu, fn grn, arg, silty, friable, tr-nvp, no cup odr, ns.

Much of the same as above.

SS: crm/grn-blu, fn grn, sub rnd, sil cem, friable, slight glauc, sm britl, fw firm, fr intgrn por, no cup odr, ns.

Much of the same SS, fw pyrt, influx of SH: drk gry, silty, no cup odr, ns.

LS: crm/lt tan, sing, fn xln, sandy/gritty, firm, sm friable, tr-nvp, svrl SH: gry/grn-blu, silty, soft, no cup odr, ns.

Much of the same as above, abund of SH slough from uphole, no cup odr, ns.

LS: crm/tan/gry, fn xln, sandy/gritty, many much more brittle, friable, fw pyrt, tr-nvp, svrl SH: gry/blu-grn, silty, no odr, ns.

LS: gry/crm, fn xln, much less sand/more dense, fw LS: tan, fn dense, hard, tr-nvp, no odr, ns.

Much of the same as above.

Johnson @ 4727' (-1375)

CFS @ 4780'
(30"/60")

Morrow @ 4794' (-1442)

CFS @ 4862'
(30"/60")

CFS @ 4890'
(30"/60")

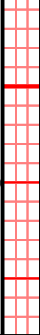
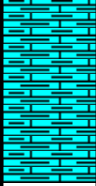
Mud Report #11
4890' 9/7/18

Wt	Vis	pH
9.4	63	10.0
Filt	Chlr	LCM
10.4	7.8K	2#

Mississippi @ 4917' (-1565)



4950



Much of the same, fw pcs of LS: tan/lt brn, micro-fn xln, dense, hard, tr-nvp, abund SH: slough, no cup odr, ns.

Much of the same as above.

RTD = 4960' (-1608)
LTD = 4958' (-1606)

Survey @ 4960' = 3/4 Degree

CFS @ 4960'
(30"/60")