

Confidentiality Requested:

Yes No

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

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

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

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD
 Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

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

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

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

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

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

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration INC**

8100 E 22ND ST #700
Wichita, KS 67278

ATTN: John Goldsmith

13-15S-36W Logan,KS

Mollenkamp-Spellman #1

Start Date: 2018.07.26 @ 07:00:00

End Date: 2018.07.26 @ 14:36:39

Job Ticket #: 64194 DST #: 1

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

Printed: 2018.07.30 @ 10:25:30

Ritchie Exploration INC

Mollenkamp-Spellman #1

13-15S-36W Logan,KS

DST # 1

Altamont A - B

2018.07.26



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Ritchie Exploration INC
8100 E 22ND ST #700
Wichita, KS 67278
ATTN: John Goldsmith

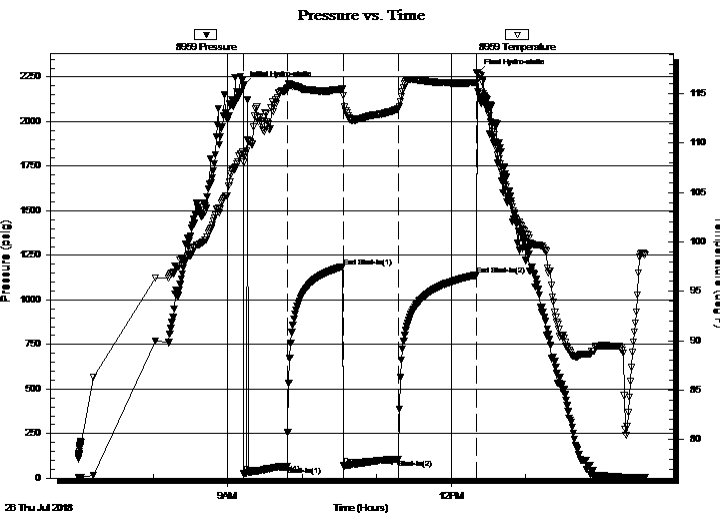
Mollenkamp-Spellman #1
13-15S-36W Logan,KS
Job Ticket: 64194 **DST#: 1**
Test Start: 2018.07.26 @ 07:00:00

GENERAL INFORMATION:

Formation: **Altamont A - B**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:13:10
Time Test Ended: 14:36:39
Interval: **4438.00 ft (KB) To 4515.00 ft (KB) (TVD)**
Total Depth: 4515.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Martine Salinas
Unit No: 82
Reference Elevations: 3308.00 ft (KB)
3300.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8959 **Inside**
Press@RunDepth: 105.16 psig @ 4439.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2018.07.26 End Date: 2018.07.26 Last Calib.: 2018.07.26
Start Time: 07:00:01 End Time: 14:36:40 Time On Btm: 2018.07.26 @ 09:13:00
Time Off Btm: 2018.07.26 @ 12:21:00

TEST COMMENT: 30-IF-Surface blow built to 2 1/4"
45-ISI-No blow
45-FF-Surface blow @ 5 mins built to 1 1/4"
60-FSI-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2200.33	108.83	Initial Hydro-static
1	24.67	108.07	Open To Flow (1)
35	67.70	115.48	Shut-In(1)
80	1186.81	115.47	End Shut-In(1)
81	70.30	114.82	Open To Flow (2)
125	105.16	113.46	Shut-In(2)
188	1139.03	116.11	End Shut-In(2)
188	2271.08	117.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
189.00	MCW 30% m, 70% W	1.02

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

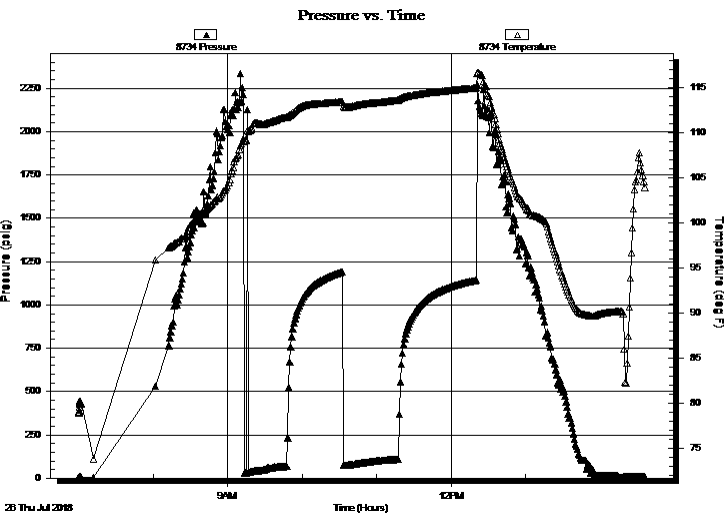
Mollenkamp-Spellman #1
13-15S-36W Logan,KS
Job Ticket: 64194 **DST#: 1**
Test Start: 2018.07.26 @ 07:00:00

GENERAL INFORMATION:

Formation: **Altamont A - B**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:13:10
 Time Test Ended: 14:36:39
 Interval: **4438.00 ft (KB) To 4515.00 ft (KB) (TVD)**
 Total Depth: 4515.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Martine Salinas
 Unit No: 82
 Reference Elevations: 3308.00 ft (KB)
 3300.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8734 Outside
 Press@RunDepth: psig @ 4439.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.07.26 End Date: 2018.07.26 Last Calib.: 2018.07.26
 Start Time: 07:00:01 End Time: 14:36:40 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IF-Surface blow built to 2 1/4"
 45-ISI-No blow
 45-FF-Surface blow @ 5 mins built to 1 1/4"
 60-FSI-No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
189.00	MCW 30% m, 70% W	1.02

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration INC

Mollenkamp-Spellman #1

8100 E 22ND ST #700
Wichita, KS 67278

13-15S-36W Logan,KS

ATTN: John Goldsmith

Job Ticket: 64194

DST#: 1

Test Start: 2018.07.26 @ 07:00:00

Tool Information

Drill Pipe:	Length: 4264.00 ft	Diameter: 3.80 inches	Volume: 59.81 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 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: 60000.00 lb
			<u>Total Volume: 60.69 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	4438.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	77.00 ft			
Tool Length:	105.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Tool opened w hile putting on Head JT

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			4415.00	
Hydraulic tool	5.00			4420.00	
Jars	5.00			4425.00	
Safety Joint	3.00			4428.00	
Packer	5.00			4433.00	28.00 Bottom Of Top Packer
Packer	5.00			4438.00	
Stubb	1.00			4439.00	
Recorder	0.00	8959	Inside	4439.00	
Recorder	0.00	8734	Outside	4439.00	
Perforations	6.00			4445.00	
Change Over Sub	1.00			4446.00	
Drill Pipe	63.00			4509.00	
Change Over Sub	1.00			4510.00	
Bullnose	5.00			4515.00	77.00 Bottom Packers & Anchor

Total Tool Length: 105.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration INC

Mollenkamp-Spellman #1

8100 E 22ND ST #700
Wichita, KS 67278

13-15S-36W Logan,KS

Job Ticket: 64194

DST#: 1

ATTN: John Goldsmith

Test Start: 2018.07.26 @ 07:00:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

23000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 10.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
189.00	MCW 30% _m , 70% _W	1.021

Total Length: 189.00 ft Total Volume: 1.021 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

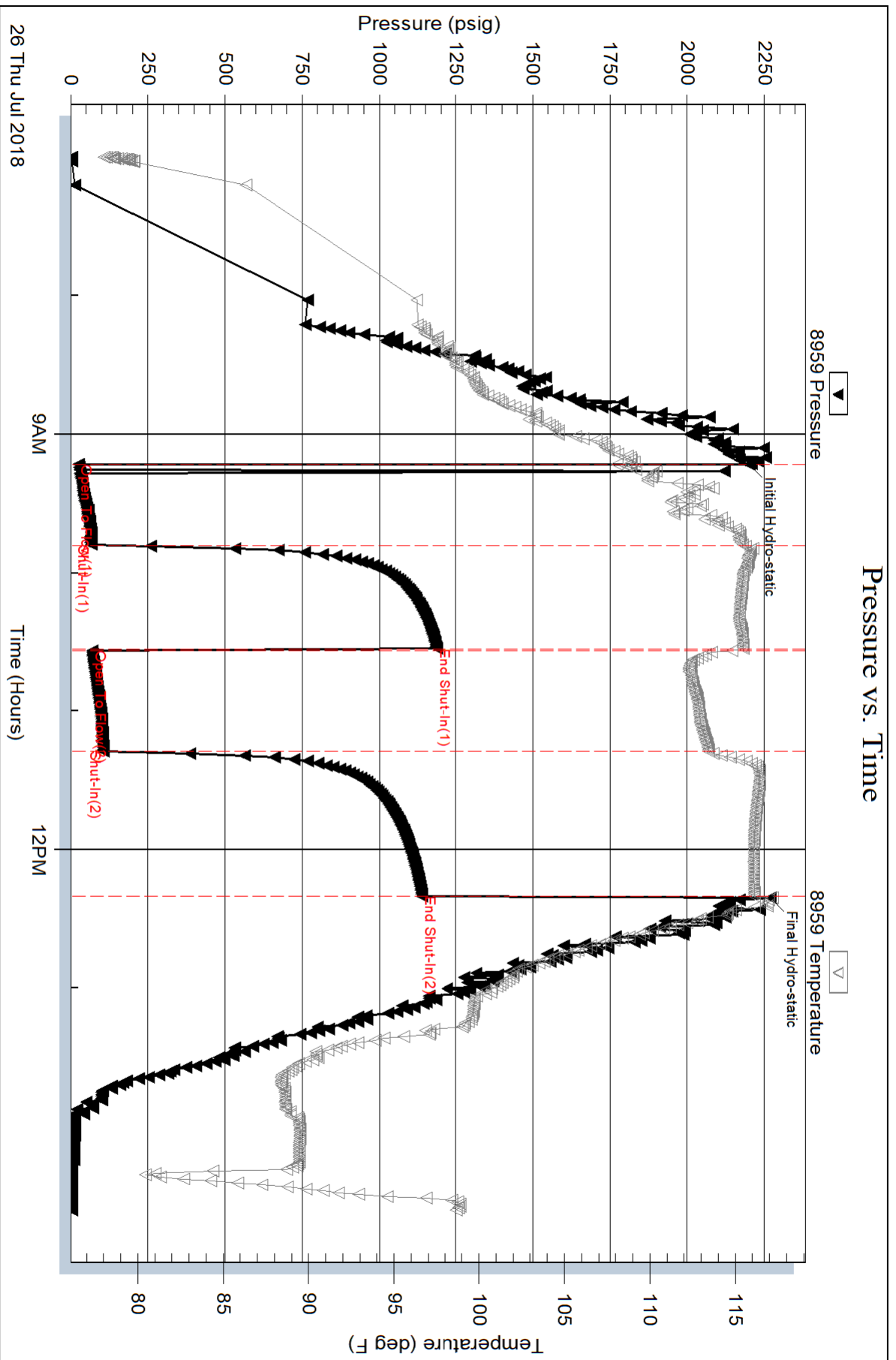
Serial #:

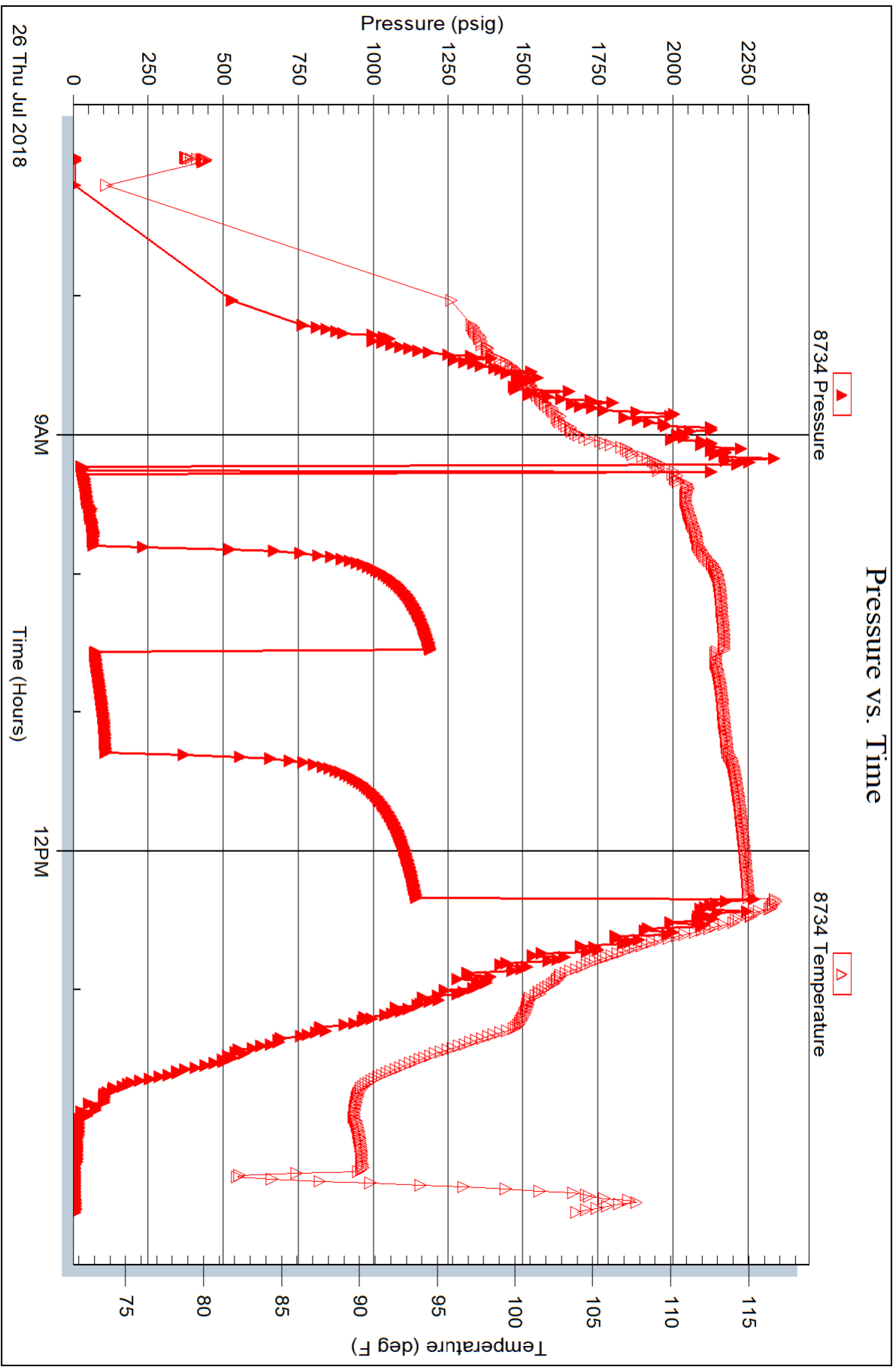
Laboratory Name:

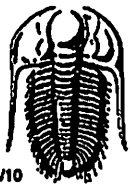
Laboratory Location:

Recovery Comments: RW= .227 @ 94.5 degs= 23,000 PPM

Pressure vs. Time







TRIOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 64194

Well Name & No. ██████ #1 Mollenkamp-Spellman Test No. 1 Date 7-26-18
 Company Ritchie Exploration Inc. Elevation 3308 KB 3300 GL
 Address 8100 E 22nd St N #700 Wichita, KS 67278
 Co. Rep / Geo. John Goldsmith Rig WW #12
 Location: Sec. 13 Twp 15 S. Rge. 36 W. Co. Logan State KS

Interval Tested 4438-4515 Zone Tested Altament A+B
 Anchor Length 77' Drill Pipe Run 4264 Mud Wt. 9.1
 Top Packer Depth 4433 Drill Collars Run 179 Vls 57
 Bottom Packer Depth 4438 Wt. Pipe Run — WL 10.4
 Total Depth 4515 Chlorides 8400 ppm System LCM 1#
 Blow Description IF - S. blow built to 2 1/4"
ISE - No blow
FF - S. blow @ 5 min built to 1 1/4"
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>189</u>	<u>MCW</u>		<u>70</u>	<u>30</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 189 BHT 117 Gravity — API RW 227 @ 94.5 °F Chlorides 23,000 ppm

(A) Initial Hydrostatic <u>2200</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>03:00</u>
(B) First Initial Flow <u>25</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>07:00</u>
(C) First Final Flow <u>68</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>09:18</u>
(D) Initial Shut-In <u>1187</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>12:18</u>
(E) Second Initial Flow <u>70</u>	<input checked="" type="checkbox"/> Hourly Standby <u>.5h 40</u>	T-Out <u>14:37</u>
(F) Second Final Flow <u>105</u>	<input checked="" type="checkbox"/> Mileage <u>From Scott City 100 RT x 2</u>	Comments <u>Total open white</u>
(G) Final Shut-In <u>1139</u>	<input type="checkbox"/> Sampler	<u>Putting H. It on.</u>
(H) Final Hydrostatic <u>2271</u>	<input type="checkbox"/> Straddle	<u>Tools loaded 20:15 7-28-18</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>800</u>
	<input type="checkbox"/> Day Standby <u>1.5d 17.75h</u>	Total <u>2515</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1715</u>	

Approved By [Signature] Our Representative [Signature]
 Triobite Testing Inc. shall not be held 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 Mollenkamp-Spellman
API: 15-109-21558
Location: 1159' FSL & 215' FWL, Sec 13-15S-36W, W/2 W/2 SW
License Number: REI #4767
Spud Date: 7/20/2018
Surface Coordinates: LAT: 38.7479100
LONG: -101.2792202
Bottom Hole Vertical Hole
Coordinates: 3/4 Degree Deviation
Ground Elevation (ft): 3300' K.B. Elevation (ft): 3308'
Logged Interval (ft): 3800' To: RTD Total Depth (ft): 4920'
Formation: Mississippian at RTD
Type of Drilling Fluid: Chemical

Region: Logan County
Drilling Completed: 7/29/2018

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: 420'
(785) 259-1727

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

BIT RECORDS

Size:	Type:	Footage:	Condition:	Hours:	Serial #:
12 1/4"	Smith	0-221'	RR	2	RJ7490
7 7/8"	Sm-F27	221'-4920'	New	132.5	RJ6628

COMMENTS

Surface Casing: 5 joints of 8 5/8" set @ 220'
Production Casing: No production casing was installed.
Mud by: MudCo
DST's by: Diamond Testing
Logs by: Pioneer Energy Services (DIL, CN-CD, ML, CS)
RTD=4920' LTD=4920'

FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
B/Anhydrite	2599'	+709	2598'	+710
Stotler	3664'	-356	3665'	-357
Heebner Shale	4026'	-718	4026'	-718
Toronto	4046'	-738	4048'	-740
Lansing	4076'	-768	4078'	-770
Muncie Creek Shale	4246'	-938	4247'	-939
Stark Shale	4346'	-1038	4346'	-1038
Hushpuckney Shale	4392'	-1084	4392'	-1084
BKC	4424'	-1116	4426'	-1118
Marmaton	4458'	-1150	4458'	-1150
Altamont	4476'	-1168	4476'	-1168
Pawnee	4542'	-1234	4544'	-1236
Myrick Station	4592'	-1284	4593'	-1285
Ft Scott	4602'	-1294	4602'	-1294
Cherokee Shale	4630'	-1322	4632'	-1324
Johnson Zone	4714'	-1406	4715'	-1407
Morrow	4762'	-1454	4764'	-1456
Mississippian	4835'	-1527	4835'	-1527
RTD	4920'	-1612		
LTD			4920'	-1612
















DST's

DST #1 "Altamont A&B" 4438'-4515' 7/26/18 30-45-45-60
 1st Blw: Surf blw blt to 2.25" (No BB)
 2nd Blw: Furf blw blt to 1.25" (No BB)
 IFP: 25-68# ISIP: 1187# FFP: 70-105# FSIP: 1139#
 Hyd: 2200-2271#
 Rec: 189'MCW.

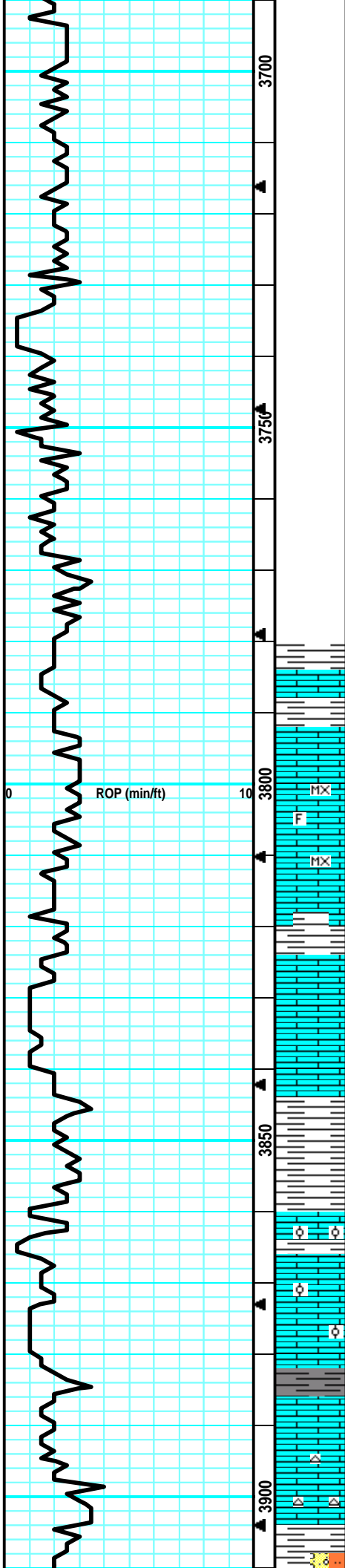
ROCK TYPES

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

ACCESSORIES

EVENTS	 Foram	MINERAL	TEXTURE
 Circ	 Fossil	 Calc	 Chalky
 Conn	 Gastro	 Chtdk	 Crsxln
FOSSIL	 Oolite	 Chtlt	 Finexln
 Brach	 Ostra	 Glau	 Microxln
 Bryozoa	 Fuss	 Pyr	
 Crin	 Oolcast	 Sil	

<p>Drilling Time</p> <p>ROP (min/ft) ———</p>	<p>Depth</p>	<p>Lithology</p>	<p>CFS Point</p>	<p>Oil Shows</p>	<p>Geological Descriptions</p>	<p>Remarks</p>
<p>ROP (min/ft)</p> <p>0 10 35</p> <p>Anhy</p> <p>B/Anh</p> <p>2600</p>	<p>35</p> <p>2600</p>				<p>Survey @ 221' = 1/4 Degree</p> <p>Anhydrite @ 2578' (+730)</p> <p>B/Anhydrite @ 2599' (+709)</p>	<p>Mud Report #2 2798' 7/22/18 Wt Vis pH 9.3 32 7.0 Filt Chl LCM n/c 65K 3#</p>
<p>ROP (min/ft)</p> <p>0 10 3600</p> <p>Stotler</p> <p>3650</p>	<p>3600</p> <p>3650</p>				<p>Mud Report #3 3656' 7/23/18 Wt Vis pH 8.7 63 11.5 Filt Chl LCM 7.2 3.4K 3#</p>	<p>Stotler @ 3664' (-356)</p>



LS: gry/tan, fn xln, dense, flakey, sub-chlky, no odr, ns.

LS: tan, slight mott, sandy/gritty in prt, tr-nvp, no odr, ns.

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

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

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

LS: lt tan/gry, slight mott, fn xln, fw dense, fw drk min specs, no fluor, ns, no odr.

LS: lt tan, sing, dense, fw brittle, tr-nvp, no odr, ns.

SS/LS: gry, fn-vfn grn, arg, limey, firm, tr-nvp, no odr, ns.

LS: lt tan/crm, fn xln, fw ool, grainy like, sm brittle, tr-nvp, no odr, ns.

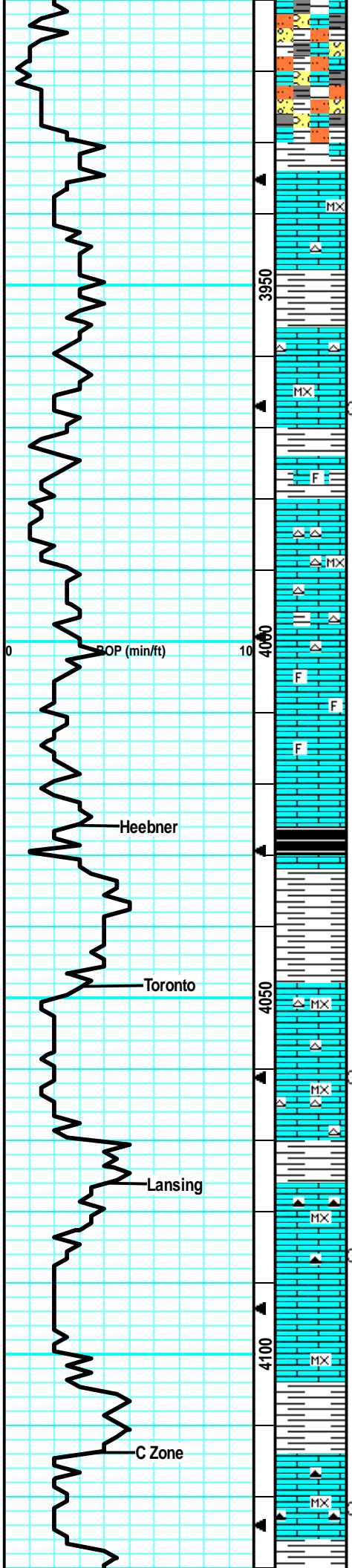
Much of the same as desc above, ns, no odr.

LS: tan, fn xln, fw ool, mostly dense, sm brittle, tr-nvp, fw pcs pur chlk, no odr, ns.

Much of the same, fw pcs SH: gry, no odr, ns.

LS: tan/lt gry, slight mott, fn xln, dense, firm, tr-nvp, fw Chert: wht/opaq, sharp, no odr, ns.

LS: gry/tan/lt brn, mott, fn xln, foss, tr-nvp, fw SH:



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

LS: gry/tan, mott, fn xln, fw foss, sm sandy/grainy, tr-nvp, svrl SH: gry/brn, no odr, ns.

SH: gry/brn, silty, soft, sm muddy like, no odr, ns.

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

Much of the same, influx fw pcs Chert: gry/wht, sharp, fw SH: brn, gritty, no odr, ns.

LS: crm/lt gry, sing, micro-fn xln, fw flakey/mealy, tr-nvp, no odr, ns.

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

LS: crm/lt tan, sing, micro xln, dense, tr-nvp, fw Chert: wht/opaq, sharp, no odr, ns.

LS: lt tan/lt gry, sing, micro-fn xln, brittle, tr-nvp, fw Chert: wht/opaq, no odr, ns.

LS: tan/lt gry, slight mott, fn xln, sm v foss, sm brittle, tr-nvp, no cup odr, ns.

LS: gry, slight mott, fn xln, fw foss frags, fw brittle, tr-nvp, no odr, ns.

LS: gry/tan, slight mott, fn xln, pos drk min stns?, no fluor, tr-nvp, influx of blk carb SH, no cup odr, ns.

SH: brn/gry/grn, muddy, soft, fw blk carb, SH, no odr, ns.

Much of the same as desc above.

LS: crm/lt tan, sing, micro xln, dense, tr-nvp, svrl Chert: wht/opaq, sharp, no odr, ns.

LS: lt tan, sing, miro xln, dense, tr-nvp, fw Chert: wht/opaq, no odr, ns.

LS: lt tan, sing, micro xln, dense, chlky in prt, tr-nvp, fw Chert: wht/opaq, foss, no odr, ns.

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

LS: lt tan, sing, micro xln, dense, brittle in prt, tr-nvp, no odr, ns.

LS: tan, sing, fn xln, sm flakey/mealy, tr-nvp, no odr, ns.

LS: lt tan, sing, micro-fn xln, many dense, sm scat ppt in xln por, no cup odr, ns.

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

LS: tan/lt gry, micro-fn xln, sm flakey/mealy, tr-nvp, sm SH: brn, silty, no odr, ns.

LS: tan, sing, micro-fn xln, fw gritty like, tr-scat ppt por in sm, fw Chert: gry, sharp, no odr, ns.

LS: lt tan, sing, micro-fn xln, fw foss frags, mostly brittle, tr-nvp, fw SH: brn/gry, no odr, ns.

Wiper @ 3967' 25 Stands.

CFS @ 3967' (30"/60")

Heebner @ 4026' (-718)

Toronto @ 4048' (-740)

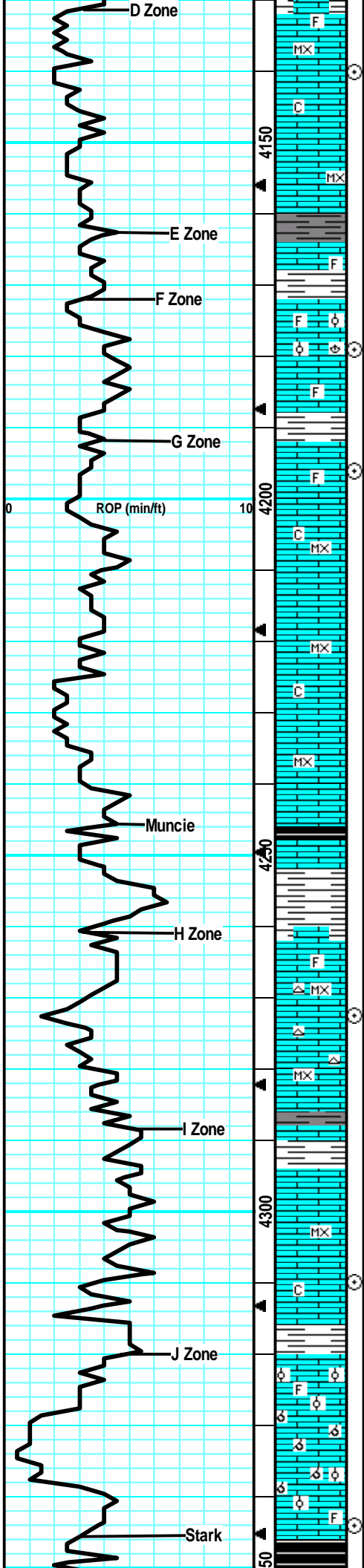
CFS @ 4061' (30"/60")

Lansing @ 4076' (-768)

CFS @ 4086' (30"/60")

CFS @ 4122' (30"/60")

Mud Report #4
4131' 7/24/18
Wt Vis pH
9.2 53 10.0



LS: lt gry/tan, slight mott, micro-fn xln, mostly dense, fw pcs w/ scat pr intxln por, fw pcs w/ 2nd rxln, no odr, ns.

CFS @ 4140'
(30"/60")

LS: lt tan, sing, fn xln, mostly dense, fw pcs w/ pr frac edgy por, no cup odr, ns.

LS: lt tan, sing, micro-fn xln, mostly dense, tr-nvp, fw brittle, fw SH: blk, carb, no odr, ns.

LS: tan/gry, slight mott, fn xln, fw flakey, fw foss, pr scat intxln por in fw pcs, no cup odr, ns.

LS: tan/lt gry, fn xln, flakey/mealy, sub-chlky, tr-nvp, no cup odr, ns.

CFS @ 4179'
(30"/60")

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

LS: tan, slight mott, fn xln, sm foss, dense, sm brittle, tr-nvp, abund SH: brn/gry, silty, no cup odr, ns.

LS: tan/gry, slight mott, fn xln, sm drk min stns, no fluor, no cut, no odr, ns.

CFS @ 4196'
(30"/60")

LS: tan/lt gry, slight mott, fn xln, fw foss, tr-pr ppt intxln por in v fw, no cup odr, ns.

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

LS: lt gry/lt tan, sing, micro-fn xln, brittle, v fw pcs w/ pr ppt intxln por, no cup odr, ns.

LS: lt gry, sing, micro xln, dense, sm brittle, sub-chlky in prt, tr-nvp, no cup odr, ns.

LS: lt gry/crm, sing, micro-fn xln, dense, sub-chlky, tr-nvp, fw pcs chlky, no odr, ns.

Muncie @ 4246' (-938)

Much of the same lt gry LS, influx of SH: blk, silty, carb, no odr, ns.

LS: gry/tan, slight mott, fn xln, sm flakey/mealy, mostly dense, tr-nvp, fw SH: drk gry/blk, silty, sm carb, no cup odr, ns.

LS: tan/lt tan, sing, miro-fn xln, mostly dense, fw flakey in prt, tr-nvp, fw Chert: tan/wht, sharp, no odr, ns.

CFS @ 4272'
(30"/60")

LS: lt tan, sing, micro-fn xln, fw foss frags, mostly dense, v fw pcs w/ pr intfoss/intxln por, fw Chert: wht/opaq, no cup odr, ns.

LS: tan/lt gry, micro-fn xln, dense, sm firm, tr-nvp, fw Chert: tan/wht, sharp, no odr, ns.

LS: gry/tan, slight mott, fn xln, fw flakey in prt, tr-pr ppt intxln por in fw pcs, 2 pcs w/ pr v spttd stns on rx face, no fluor, no fo, no cup odr, fw pcs drk gry/blk SH.

LS: gry/tan, slight mott, fn xln, flakey in prt, sm brittle, 1 pcs w/ spttd stn, no fluor/cut, no cup odr, nsfo.

CFS @ 4310'
(30"/60")

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

LS: gry/tan, mott, fn xln, flakey/mealy, firm, tr-nvp, no cup odr, ns.

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

LS: tan/lt gry, slight mott, fn xln, many v ool, sm brittle, svrl pcs w/ fr oolcast por, chlky, no cup odr, ns.

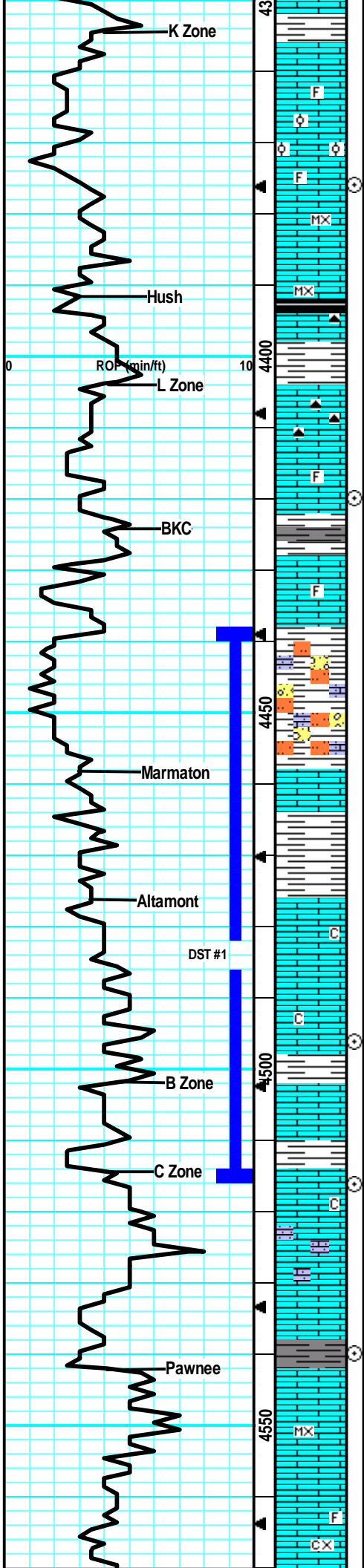
LS: tan/lt gry, mott, fn xln, mostly v ool, brittle, chlky, svrl pcs w/ fr-gd oolcast por, no cup odr, ns.

CFS @ 4344'
(30"/60")

LS: gry/lt gry, mott, fn xln, mostly v ool, fw foss frags, svrl pcs w/ gd oolcast por, no cup odr, ns.

Stark @ 4346' (-1038)

SH: blk/drk arv. silty, mostly carb, no odr, ns.



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

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

LS: tan/gry, slight mott, fn xln, sm ool, v fw foss frags, sm flakey/mealy, tr-nvp, no cup odr, ns.

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

LS: gry/lt tan, sing, micro-fn xln, sub-chlky, fw flakey, tr-nvp, no odr, ns.

SH: blk, silty, carb, no odr, ns.

LS: gry/tan, sing, fn-crs xln, dense, firm, fw flakey, tr-nvp, fw Chert: gry, sharp, no odr, ns.

LS: gry/tan, slight mott, firm, flakey/mealy, tr-nvp, fw Chert: gry/lt brn, sharp, no odr, ns.

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

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

LS: lt gry/tan, fn xln, many firm, fw sandy/gritty, friable, no odr, ns.

LS: lt gry/lt tan, slight mott, fn xln, sub-chlky, tr-nvp, brittle, fw SS: gry, v fn grn, arg, silty, tr-nvp, no cup odr, ns.

Same silty gry SS, fw pcs of LS: tan/lt brn, sandy/grny, brittle/friable, tr-nvp, no cup odr, ns.

LS: gry/lt brn, mott, sandy/grainy, fw brittle, lrg incls, tr-nvp, svrl SH: brn/gry, no cup odr, ns.

LS: tan/gry, slight mott, fn xln, many flakey/mealy, sm firm, tr-nvp, fw brn SH, no odr, ns.

LS: lt gry, sing, fn xln, many flakey/mealy, fw w/ pr ppt intxln por, 4-5 pcs w/ pos drk ded oil spcs, no cup odr, nsfo, no fluor/cut.

LS: gry, slight mott, fn xln, many flakey/mealy, tr-nvp, fw pos spcs of drk ded oil in 3-4 pcs, ? cup odr, nsfo.

LS: tan/gry, slight mott, fn xln, many flakey, sub-chlky in prt, tr-nvp, abund SH: gry/brn, no odr, ns.

LS: tan/lt gry, slight mott, fn xln, flakey, tr pr ppt intxln por in v fw pcs, 3 pcs w/ pos light brn patchy stns, no fluor/cut, no odr, nsfo.

LS: gry/tan, fn xln, flakey/mealy, sm firm, tr-nvp, fw SH: gry/brn, no cup odr, ns.

LS: tan/gry, fn xln, dense, hard, many flakey, v fw pcs w/ tr ppt intxln por, no cup odr, ns, fw SH.

LS: lt brn/gry, mott, sm foss, sm sandy/grainy, hard, flakey in prt, tr-nvp, abund SH, no odr, ns.

LS: gry/tan, slight mott, fn xln, mostly flakey, many hard, tr-nvp, abun brn SH, no odr, ns.

SH: gry/blk/brn, silty, sm carb, fw LS: lt brn/gry, mott, foss in prt, hard, tr-nvp, no odr, ns.

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

LS: gry/lt brn, mott, fn-crs xln, foss in prt, mostly flakey, sm brittle, tr-nvp, no cup odr, ns.

Much of the same LS, mostly gry and mott in color, no

Mud Report #5
4383' 7/25/18
Wt Vis pH
9.2 56 9.5
Filt Chl LCM
10.4 8.4K 2#

CFS @ 4376'
(30"/60")

Hushpuckney @ 4392' (-1084)

CFS @ 4420'
(30"/60")

BKC @ 4424' (-1116)

Marmaton @ 4458' (-1150)

Altamont @ 4476' (-1168)

DST #1 "Altamont A&B"
4438'-4515' 7/26/18
30-45-45-60
1st Blw: Surf blw blt to 2.25" (No BB)
2nd Blw: Furf blw blt to 1.25" (No BB)
IFP: 25-68# ISIP: 1187# FFP:
70-105# FSIP: 1139#
Hyd: 2200-2271#
Rec: 189'MCW.

CFS @ 4496'
(30"/60")

Pipe Strap = .32 Long

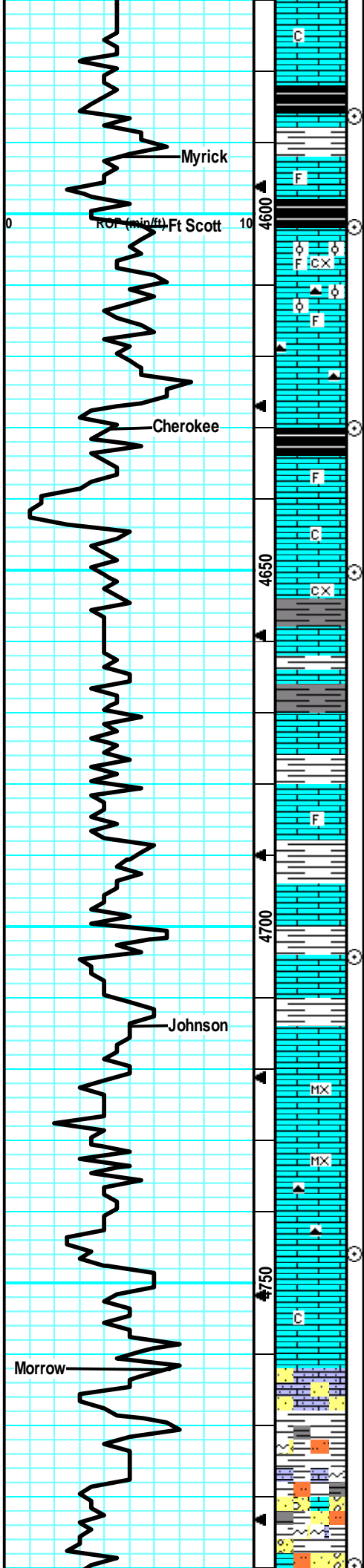
Mud Report #6
4515' 7/26/18
Wt Vis pH
9.3 48 10.0
Filt Chl LCM
11.2 8.5K 1#

Survey @ 4515' = 3/4 Degree

CFS @ 4515'
(30"/60")

CFS @ 4540'
(30"/60")

Pawnee @ 4542' (-1234)



Much of the same LS, mostly gry and mott in color, no odr, ns.

Much of the same gray, flakey, hard LS, large influx of blk carb SH in the 60" Smple, no cup odr, ns.

LS: tan/lt gry, sing, micro-fn xln, fw foss in prt, dense, sub-chlky, sm brittle, tr-nvp, abund of blk carb SH, no cup odr, ns.

LS: gry/tan, slight mott, micro-fn xln, v fw foss frags, mostly dense, tr-nvp, fw SH, no cup odr, ns.

LS: gry/lt brn, mott, fn-crs xln, v foss/ool, sm flakey, tr-nvp, svrl Chert: gry/lt brn, foss, sharp, no odr, ns.

LS tan/lt gry, slight mott, fn xln, fw foss frags, mostly dense, tr-nvp, sm Chert: gry/wht, foss, no cup odr, ns.

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

SH: drk gry/blk, many carb, med crush, no odr, ns.

LS: gry, slight mott, fn xln, fw foss frags, many flakey/mealy, many firm, tr-nvp, abund blk carb SH, no cup odr, ns.

SS/LS: drk gry/drk brn, fn gr, pr srted, arg, limey, tr-nvp, sm firm, svrl SH: drk gry/blk, no cup odr, ns.

60" Smpl much more gry LS, dense, firm flakey, tr-nvp, no odr, ns.

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

LS: gry/lt brn, slight mott, fn xln, firm, many flakey/mealy, tr-nvp, no odr, ns, svrl SH: drk gry.

Much of the same, lighter in color, and less SH, no odr, ns.

LS: tan/lt gry, micro-fn xln, fw foss frags, fw rxl inclus, tr-nvp, fw SH: gry/drk gry, no odr, ns.

LS: tan/gry, slight mott, fn xln, mostly dense, many firm, fw flakey, tr-nvp, abund gry/drk gry SH, no cup odr, ns.

60" Smpl: much of the same 2 pcs w/ pos drk ded oil stn, ? fluor, nsfo, no cup odr.

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

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

LS: tan/lt gry, slight mott, micro-fn xln, sm dense, firm, many flakey/mealy, sub-chlky, no cup odr, ns.

Much of the same, a little more chalky and flakey, no cup odr, ns.

LS: tan/lt gry, fn xln, sm dense, sub-chlky, tr-nvp, 3 pcs w/ drk ded oil stns on edge, wk-? fluor, no cut, no cup odr, nsfo.

Much of the sm, fw pcs gry/wht Chert, sharp, no cup odr, ns.

LS: gry/tan, mott, fn xln, many firm, sub-chlky in prt, most flakey, tr-nvp, svrl SH: drk gry, no odr, ns.

LS: drk gry/gry, mott in prt, fn xln, firm, flakey, tr-nvp, v fw pcs SS/LS: gry/drk gry, mott, fn grn, arg/limey, sm slight hard, tr-nvp, no odr, ns.

LS: gry/tan, mott, fn xln, flakey, tr-nvp, svrl SH: gry/brn/yellow, sm wthrd, soft, fw SltStn: gritty, friable, no odr, ns.

SH: gry/blu/grn/yel, sm wthrd, no odr, ns.

CFS @ 4586'
(30"/60")

Myrick @ 4592' (-1284)

CFS @ 4602'
(30"/60")

Ft Scott @ 4602' (-1294)

Cherokee @ 4630' (-1322)

CFS @ 4630'
(30"/60")

CFS @ 4650'
(30"/60")

Mud Report #7
4667' 7/27/18
Wt Vis pH
9.0 53 10.5
Filt Chl LCM
11.2 8.5K 1#

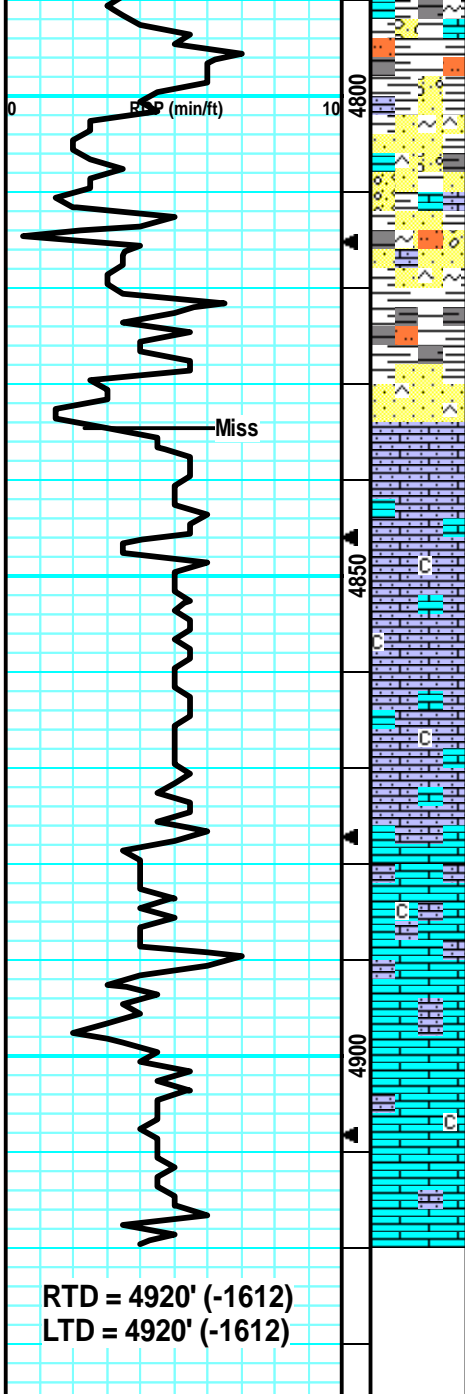
CFS @ 4704'
(30"/60")

Johnson @ 4714' (-1406)

CFS @ 4746'
(30"/60")

Morrow @ 4762' (-1454)

CFS @ 4810'



SH: gry/blu/grn/brn/yel, many wthrd, no odr, ns.

SH: gry/brn/grn/yel, sm wthrd, soft, muddy like, fw SS: grn, fn grn, sub rnd, arg/silty, dirty, friable, glauc, tr-nvp, no cup odr, ns.

Much of the same, fw more dirty glauc SS, no cup odr, ns.

SH: gry/blu/grn, silty, soft, fw SS: blu/grn, fn grn, well srted, arg, friable, glauc, no cup odr, no.

SS: crm/tint grn, fn grn, slght arg, friabl, sil cem, sub rnd, chlky, tr-ppt intgrn por, no cup odr, ns.

LS: crm/lt tan, sing, fn xln, firm, sandy/gritty, tr-ppt intxln por in v fw, chlky, no cup odr, ns.

LS: crm/lt tan, sing, sandy/gritty, sub-chlky, tr-nvp, abund SH slough, no odr, ns.

Much of the same, SH slough cleaning up a little, no odr, ns.

Cleaner smpl of crm/lt tan, sandy LS, no odr, ns.

Much of the same.

Inflx of LS: tan/lt tan, sing, fn xln, sub-chlky, fw flakey like, tr-nvp, no cup odr, ns.

Much of the same, more SH slough.

LS: tan, sing, fn xln, sub-chlky, fw flakey in prt, tr-nvp, no odr, ns.

SH slough almost to point of 95%, fw LS: tan, dense, fw flakey, tr-nvp, no odr, ns.

CFS @ 4840
(30"/60")

Mississippi @ 4835' (-1527)

Mud Report #8
4920' 7/28/18
Wt Vis pH
9.4 54 10.5
Filt Chl LCM
11.2 8.6K 1#

CFS @ 4920'
(30"/60")

RTD = 4920' (-1612)
LTD = 4920' (-1612)

Survey @ 4920' = 3/4 Degree



#1 Mollenkamp-Spellman

1,159' FSL & 215' FWL

161' S & 115' W/2 W/2 SW Section 13-15S-36W

Logan County, Kansas

API# 15-109-21558-0000

Elevation: GL: 3300', KB: 3308'

Sample Tops			Ref. Well
Anhydrite	2579'	+729	+7
B/Anhydrite	2600'	+708	+6
Stotler	3664'	-356	-1
Heebner	4026'	-718	-8
Toronto	4046'	-738	-6
Lansing	4075'	-767	-8
Muncie	4244'	-936	-13
Stark	4349'	-1041	-14
Hush	4390'	-1082	-11
Marmaton	4464'	-1156	-8
Altamont	4476'	-1168	-9
Pawnee	4542'	-1234	-1
Myrick	4586'	-1278	-1
Fort Scott	4598'	-1290	+4
Cherokee	4627'	-1319	+5
Johnson	4710'	-1402	+6
Morrow Shale	4758'	-1450	+7
Mississippian	4835'	-1527	+7
RTD	4920'	-1612	



HURRICANE SERVICES INC

Customer	R/Itche Exploration		Lease & Well #	MollenKamp Spellman #1		Date	7/20/2018
Service District	Oakley,KS		County & State	Logan ks		Legals S/T/R	13-16-36W
Job Type	Surface	<input type="checkbox"/> PROD <input type="checkbox"/> INI <input type="checkbox"/> SWD	New Well?	<input type="checkbox"/> YES <input type="checkbox"/> No		Job #	
Equipment #	Driver	Job Safety Analysis - A Discussion of Hazards & Safety Procedures					

Equipment #	Driver	<input type="checkbox"/> Hard hat	<input type="checkbox"/> Gloves	<input type="checkbox"/> Lockout/Tagout	<input type="checkbox"/> Warning Signs & Flagging
231	Ramiro	<input type="checkbox"/> H2S Monitor	<input type="checkbox"/> Eye Protection	<input type="checkbox"/> Required Permits	<input type="checkbox"/> Fall Protection
241	Qufnln	<input type="checkbox"/> Safety Footwear	<input type="checkbox"/> Respiratory Protection	<input type="checkbox"/> Slip/Trip/Fall Hazards	<input type="checkbox"/> Specific Job Sequence/Expectations
26	Dane	<input type="checkbox"/> FRC/Protective Clothing	<input type="checkbox"/> Additional Chemical/Acid PPE	<input type="checkbox"/> Overhead Hazards	<input type="checkbox"/> Muster Point/Medical Locations
	Paul	<input type="checkbox"/> Hearing Protection	<input type="checkbox"/> Fire Extinguisher	<input type="checkbox"/> Additional concerns or issues noted below	

Comments

All Cement and Chemicals came from the Oakley,KS service center

Product/Service Code	Description	Unit of Measure	Quantity	Net Amount
0001	Heavy Equip. One Way	ml	500.00	\$276.26
0002	Light Equip. One Way	ml	60.00	\$63.76
0003	Ton Mileage - One way	ml	118.00	\$461.89
0019	Cement Pump	ea	1.00	\$607.60
0022	60/20 Pozznik Cement	sack	175.00	\$2,131.38
0016	Bentonite Gel	lb	306.00	\$78.03
0027	Calcium - Chloride	lb	150.00	\$390.16

Customer Section: On the following scale how would you rate Hurricane Services Inc? Net: \$4,208.95

<p>Were you satisfied with your services today?</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Not Satisfied 1 2 3 4 5 6 7 8 9 10 Extremely Satisfied</p> <p>How likely is it you would recommend H.S.I. to a colleague?</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>Unlikely 1 2 3 4 5 6 7 8 9 10 Extremely Likely</p>	<p>Total Taxable \$ - Tax Rate:</p> <p>State tax laws deem certain products and services used on new wells to be sales tax exempt. Hurricane Services relies on the customer provided well information above to make a determination if services and/or products are tax exempt.</p> <p>Sale Tax: \$ -</p> <p>Total: \$ 4,208.95</p> <p>HSI Representative: <i>Dane Reitzloff</i></p>
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TERMS: Cash in advance unless Hurricane Services Inc. (HSI) has approved credit prior to sale. Credit terms of sale for approved accounts are total invoice due on or before the 30th day from the date of invoice. Past due accounts shall pay interest on the balance past due at the rate of 1 1/2% per month or the maximum allowable by applicable state or federal laws. In the event it is necessary to employ an agency and/or attorney to effect the collection, Customer hereby agrees to pay all fees directly or indirectly incurred for such collection. In the event that Customer's account with HSI becomes delinquent, HSI has the right to revoke any discounts previously applied in arriving at net invoice price. Upon revocation, the full invoice price without discount is immediately due and subject to collection. Prices quoted are estimates only and are good for 30 days from the date of issue. Pricing does not include federal, state, or local taxes, or royalties and stated price adjustments. Actual charges may vary depending upon time, equipment, and material ultimately required to perform these services. Any discount is based on 30 days net payment terms or cash. **DISCLAIMER NOTICE:** Technical data is presented in good faith, but no warranty is stated or implied. HSI assumes no liability for advice or recommendations made concerning the results from the use of any product or service. The information presented is a best estimate of the actual results that may be achieved and should be used for comparison purposes and HSI makes no guarantee of future production performance. Customer represents and warrants that well and all associated equipment in acceptable condition to receive services by HSI. Likewise, the customer guarantees proper operational care of all customer owned equipment and property while HSI is on location performing services. The authorization below acknowledges the receipt and acceptance of all terms/conditions stated above, and Hurricane has been provided accurate well formation information in determining taxable services.

Calvin... _____ **CUSTOMER AUTHORIZATION SIGNATURE**

TREATMENT REPORT



HURRICANE SERVICES INC

Customer:	Ritchie Exploration	Date:	7/20/2018	Ticket #:	ICT1214
Field Rep:	Calvin				
Address:					
City, State:					
County, Zip:					

Field Order No.:		Open Hole:	
Well Name:	Mollenkamp-Spellman 1	Casing Depth:	220
Location:	Logan KS	Casing Size:	8 5/8
Formation:		Tubing Depth:	
Type of Service:	cement	Tubing Size:	
Well Type:	oil	Liner Depth:	
Age of Well:	new	Liner Size:	
Packer Type:		Liner Top:	
Packer Depth:		Liner Bottom:	
Treatment Vial:	cement	Total Depth:	221

Perf Depth(s) (ft)	Perfs
Total Perfs	0

TIME	INJECTION RATE		PRESSURE		REMARKS	PROP (lbs)	HCL (gls)	FLUID (bbls)
	FLUID	N ₂ /CO ₂	STP	ANNULUS				
11:45 AM					Arrive on location			
11:50 AM					Safety meeting			
11:56 AM					Rig up			
12:00 PM					Casing on bottom			
12:16 PM	5.5		220.0		Mix 170 80/20 blend 3% cc 2% gel 1.31 yield			39.60
12:30 PM	5.5		180.0		Displace			12.75
12:32 PM					End displace			
12:32 PM					10 bbls to pit			
12:38 PM					shut in			
12:36 PM					Wash up			
12:39 PM					Rig down			
12:50 PM					Rig down			
TOTAL:								62.25

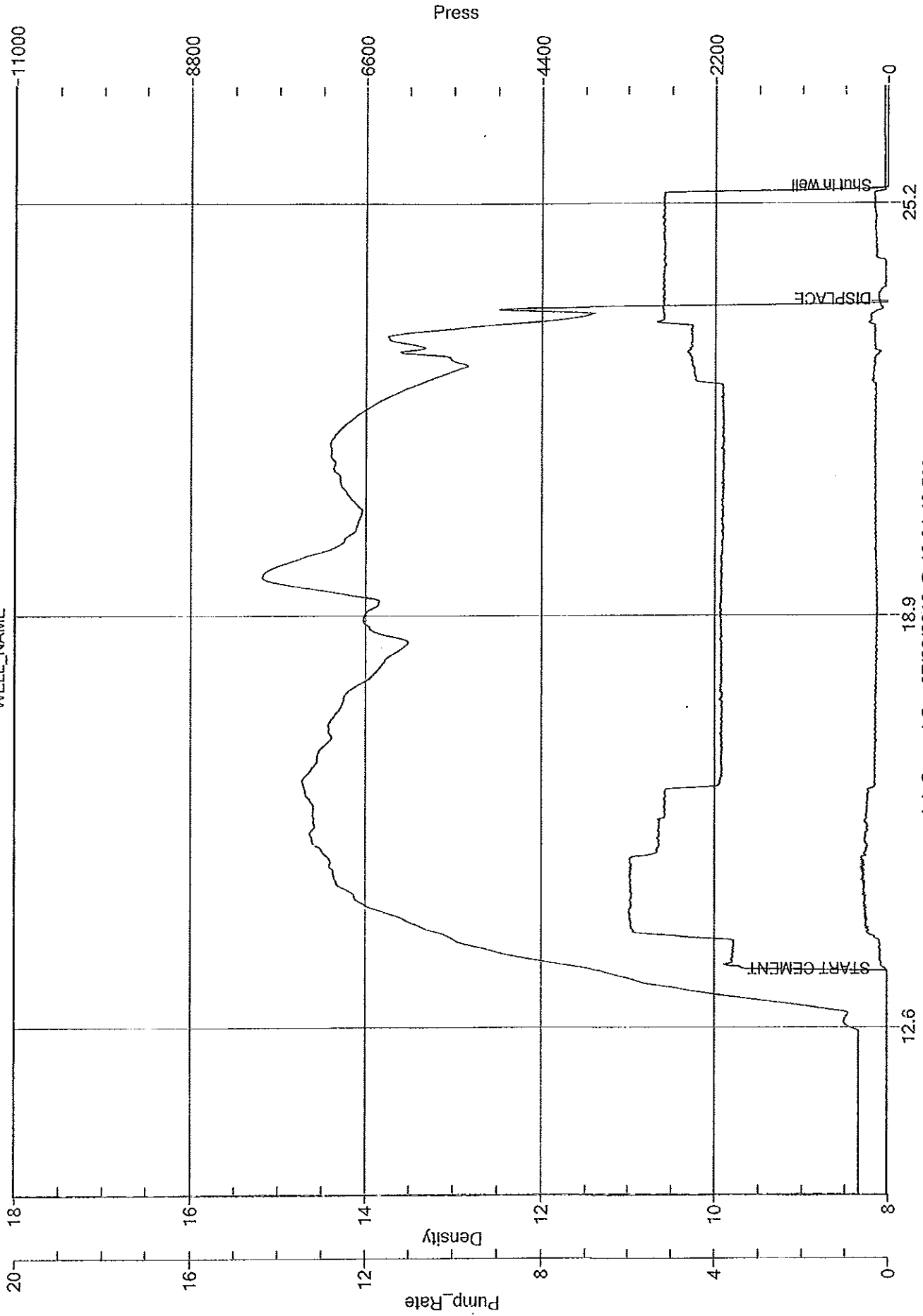
SUMMARY			
Max FI. Rate	Avg FI. Rate	Max PSI	Avg PSI
5.5	5.5	220.0	200.0

PRODUCTS USED
170 sks 80/20 3% cc 2% gel

Treater: Dave Dane

CUSTOMER: [Signature]

Ritchie Exploration
WELL_NAME



Job Started On: 07/23/2018 @ 12:01:43 PM

ICT1214

GLOBAL OIL FIELD SERVICES, LLC

3428

REMIT TO 24 S. Lincoln
Russell, KS 67665

SERVICE POINT: Russell KS

DATE <u>7-28-18</u>	SEC. <u>13</u>	TWP. <u>15</u>	RANGE <u>36</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH <u>3:30 AM</u>
LEASE <u>Mollenkamp</u>	WELL #. <u>1</u>	LOCATION <u>1/4 of Sect 15 3/4 Sec</u>			COUNTY <u>Logan</u>	STATE <u>KS</u>	
OLD OR NEW (CIRCLE ONE) <u>NEW</u>				<u>1/2 inch</u>			

CONTRACTOR WW Drilling Rig #12
 TYPE OF JOB Rotary Plug
 HOLE SIZE 7 7/8 T.D. 4920'
 CASING SIZE DEPTH
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH
 PRES. MAX. MINIMUM
 MEAS. LINE SHOE JOINT
 CEMENT LEFT IN CSG.
 PERFS
 DISPLACEMENT

OWNER Ritchie Exploration

CEMENT AMOUNT ORDERED 240sx Poz Gyp 42 Label
1/2 Per F. Russell

COMMON @ _____
 POZMIX @ _____
 GEL @ _____
 CHLORIDE @ _____
 ASC @ _____
 @ _____
 @ _____
 @ _____
 @ _____
 @ _____
 @ _____
 @ _____
 @ _____
 HANDLING @ _____
 MILEAGE @ _____
 TOTAL _____

EQUIPMENT
 PUMP TRUCK CEMENTER Cooley
 # 409 HELPER Brad
 BULK TRUCK
 # 410 DRIVER TONY L
 BULK TRUCK
 # DRIVER

REMARKS:
50 sx 2590'
100 sx 1350"
50 sx 270'
40v 105x wiper Plug
Rat 305x

CHARGE TO: Ritchie Exploration
 STREET _____
 CITY _____ STATE _____ ZIP _____

SERVICE
 DEPTH OF JOB _____
 PUMP TRUCK CHARGE _____
 EXTRA FOOTAGE @ _____
 MILEAGE @ _____
 MANIFOLD @ _____
 @ _____
 @ _____
 TOTAL _____

PLUG & FLOAT EQUIPMENT
 @ _____
 @ _____
 @ _____
 @ _____
 @ _____
 TOTAL _____

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

PRINTED NAME _____
 SIGNATURE [Signature]

SALES TAX (if Any) _____
 TOTAL CHARGES _____
 DISCOUNT _____ IF PAID IN 30 DAYS