

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

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Lotus Operating Company, L.L.C.
Well Name	RON PIESTER 2
Doc ID	1418511

All Electric Logs Run

Dual Induction
Neutron Density
Microlog
Sonic Log
Frac log

Form	ACO1 - Well Completion
Operator	Lotus Operating Company, L.L.C.
Well Name	RON PIESTER 2
Doc ID	1418511

Tops

Name	Top	Datum
Heebner	3942	-1933
Lansing	4121	-2112
BKC	4502	-2493
Miss	4672	-2663
Viola	4784	-2775
Simp SH	4848	-2839
Arb	4972	-2963
LTD	5012	-3003



<b>Fracture Start Date/Time:</b>	<b>8/14/18 10:03</b>
<b>Fracture End Date/Time:</b>	<b>8/14/18 11:55</b>
<b>State:</b>	<b>Kansas</b>
<b>County:</b>	<b>Kiowa</b>
<b>API Number:</b>	<b>15-097-21842-0000</b>
<b>Operator Number:</b>	
<b>Well Name:</b>	<b>Ron Piester 2</b>
<b>Federal Well:</b>	<b>No</b>
<b>Tribal Well:</b>	<b>No</b>
<b>Longitude:</b>	<b>-99.0367329</b>
<b>Latitude:</b>	<b>37.5159521</b>
<b>Long/Lat Projection:</b>	<b>NAD27</b>
<b>True Vertical Depth (TVD):</b>	<b>4,704'</b>
<b>Total Clean Fluid Volume* (gal):</b>	<b>369,200</b>

(e.g. XX-XXX-XXXXX-0000)



<i>Additive</i>	<i>Specific Gravity</i>
WATER	1.00
Sand	2.65
Plexcide P5	0.96
Plexcide P5	0.96
Plexsurf 580 ME	0.95
Plexsurf 580 ME	0.95
Plexsurf 580 ME	0.95
Plexsurf 580 ME	0.95
Plexsurf 580 ME	0.95
Plexsurf 580 ME	0.95
Plexgel 907L-EB	1.02
Plexgel 907L-EB	1.02
Plexslick 957	1.02
Plexgel XPA	1.03
Clayplex 650	1.15


**Ingredients Section:**

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**
Water	Operator	Carrier/Base Fluid	Water	7732-18-5	100.00%
Sand	Superior Silica Sand	Proppant	Crystalline Silica in the form of quartz	14808-60-7	100.00%
Plexcide P5	Chemplex	Biocide	Methanol	67-56-1	20.00%
Plexcide P5	Chemplex	Biocide	Tributyl Tetradecyl Phosphonium Chloride	81741-28-8	1.00%
Plexsurf 580 ME	Chemplex	Surfactant	Diathanolamone	111-42-2	1.00%
Plexsurf 580 ME	Chemplex	Surfactant	Ethylene glycol monobutyl ether	111-76-2	40.00%
Plexsurf 580 ME	Chemplex	Surfactant	Methanol	67-56-1	2.00%
Plexsurf 580 ME	Chemplex	Surfactant	Oleamide Dielhanolamide	61790-66-7	1.00%
Plexsurf 580 ME	Chemplex	Surfactant	D-limonene	5989-27-5	1.00%








\*Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

All component information

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<i>Additive Quantity</i>	<i>Mass (lbs)</i>	
<b>369,200</b>	<b>3,080,974</b>	<i>gal</i>
<b>209,900</b>	<b>209,900</b>	<i>lb</i>
<b>37</b>	<b>296</b>	<i>gal</i>
<b>37</b>	<b>296</b>	<i>gal</i>
<b>93</b>	<b>737</b>	<i>gal</i>
<b>93</b>	<b>737</b>	<i>gal</i>
<b>93</b>	<b>737</b>	<i>gal</i>
<b>93</b>	<b>737</b>	<i>gal</i>
<b>93</b>	<b>737</b>	<i>gal</i>
<b>173</b>	<b>1,473</b>	<i>gal</i>
<b>173</b>	<b>1,473</b>	<i>gal</i>
<b>256</b>	<b>2,179</b>	<i>gal</i>
<b>66</b>	<b>567</b>	<i>gal</i>
<b>348</b>	<b>3,340</b>	<i>gal</i>
		<i>gal</i>
		<i>gal</i>
		<i>gal</i>

		<i>gal</i>
		<i>gal</i>
	<b>Total Slurry Mass (Lbs)</b> <i>3,304,184</i>	

<b>Mass per Component (LBS)</b>	<b>Maximum Ingredient Concentration in HF Fluid (% by mass)**</b>	<b>Comments</b>	<b>Claimant Company</b>	<b>Claimant First Name</b>	<b>Claimant Last Name</b>	<b>Claimant Email</b>	<b>Claimant Phone (nnn-nnn-nnnn)</b>
<i>3,080,974</i>	<i>93.24462%</i>						
<i>209,900</i>	<i>6.35255%</i>						
<i>59</i>	<i>0.00179%</i>						
<i>3</i>	<i>0.00009%</i>						
<i>7</i>	<i>0.00022%</i>						
<i>295</i>	<i>0.00893%</i>						
<i>15</i>	<i>0.00045%</i>						
<i>7</i>	<i>0.00022%</i>						
<i>7</i>	<i>0.00022%</i>						








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**BASIC**<sup>SM</sup>  
ENERGY SERVICES

RECEIVED

JUL 19 2018

PAGE	CUST NO	YARD #	INVOICE DATE
1 of 1	1002427	1718	07/17/2018
INVOICE NUMBER			
92758023			

Pratt (620) 672-1201  
 B LOTUS OPERATING CO. LLC  
 I 100 S MAIN ST STE 420  
 L WICHITA  
 L KS US 67202  
 T  
 O ATTN: ACCOUNTS PAYABLE

J LEASE NAME Ron Piester 2  
 O LOCATION  
 B COUNTY Pratt  
 S STATE KS  
 I JOB DESCRIPTION Cement-New Well Casing/Pi  
 T JOB CONTACT  
 E

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE
41120426	20920		Net - 30 days	08/16/2018

	QTY	U of M	UNIT PRICE	INVOICE AMOUNT
<b>For Service Dates: 07/17/2018 to 07/17/2018</b>				
0041120426				
171817008A Cement-New Well Casing/Pi 07/17/2018 Cement/Surface				
60/40 POZ	225.00	EA	6.84	1,539.00 T
Celloflake	57.00	EA	2.11	120.21 T
Calcium Chloride	582.00	EA	0.60	348.33 T
"Unit Mileage Chg (PU, cars one way)"	30.00	MI	2.57	76.95
Heavy Equipment Mileage	60.00	MI	4.28	256.50
Proppant & Bulk Del. Chgs., per ton mil	291.00	EA	1.42	414.67
Depth Charge; 0-500'	1.00	EA	570.00	570.00
Blending & Mixing Service Charge	225.00	BAG	0.80	179.55
"Service Supervisor, first 8 hrs on loc.	1.00	EA	99.76	99.76

PLEASE REMIT TO:	SEND OTHER CORRESPONDENCE TO:	SUB TOTAL	3,604.97
BASIC ENERGY SERVICES, LP	BASIC ENERGY SERVICES, LP	TAX	165.62
PO BOX 841903	801 CHERRY ST, STE 2100	INVOICE TOTAL	3,770.59
DALLAS, TX 75284-1903	FORT WORTH, TX 76102		



**BASIC**<sup>SM</sup>  
ENERGY SERVICES  
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61  
P.O. Box 8613  
Pratt, Kansas 67124  
Phone 620-672-1201

TT 13 H  
39

0041130436  
**FIELD SERVICE TICKET**  
1718 17008 A

DATE \_\_\_\_\_ TICKET NO. \_\_\_\_\_

DATE OF JOB <b>08/17/18</b> DISTRICT <b>Pratt</b>		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:							
CUSTOMER <b>LOTUS OPERATING CO LLC</b>		LEASE <b>RON PIERSON</b> WELL NO. <b>2</b>							
ADDRESS		COUNTY <b>Pratt</b> STATE <b>KS</b>							
CITY STATE		SERVICE CREW <b>MATTI LESLY HANSON</b>							
AUTHORIZED BY		JOB TYPE: <b>2-42 8 5/8 SUIKRO</b>							
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM PM	TIME
<b>20920</b>	<b>0.5</b>						<b>7-16</b>	<b>AM</b>	<b>7:40</b>
<b>19918</b>	<b>0.5</b>						<b>7-17</b>	<b>AM</b>	<b>1:33</b>
								<b>AM</b>	<b>1:33</b>
								<b>PM</b>	<b>2:30</b>
						MILES FROM STATION TO WELL	<b>30</b>		

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: X [Signature]  
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
<b>CP 103</b>	<b>60/40 POZ</b>	<b>SM</b>	<b>225</b>		<b>2,700.00</b>
<b>CC 102</b>	<b>cellolox</b>	<b>lb</b>	<b>57</b>		<b>210.90</b>
<b>CC 109</b>	<b>calcium chloride</b>	<b>lb</b>	<b>582</b>		<b>611.10</b>
<b>E 100</b>	<b>P.U. mix</b>	<b>mi</b>	<b>30</b>		<b>135.00</b>
<b>E 101</b>	<b>heavy eq mix</b>	<b>mi</b>	<b>60</b>		<b>450.00</b>
<b>E 113</b>	<b>blend + mix prof + bulk dsl</b>	<b>TM</b>	<b>291</b>		<b>727.50</b>
<b>CE 200</b>	<b>depth charge 0-500'</b>	<b>4hr</b>	<b>1</b>		<b>1,000.00</b>
<b>CE 240</b>	<b>blend + mix</b>	<b>SM</b>	<b>225</b>		<b>315.00</b>
<b>5003</b>	<b>supervisor</b>	<b>hr</b>	<b>1</b>		<b>175.00</b>
<b>SUB TOTAL</b>					<b>6,324.50</b>

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
<b>TOTAL</b>		<b>3,604.97</b>

SERVICE REPRESENTATIVE <b>Mike Mural</b>	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY <u>X [Signature]</u> (WELL OWNER OPERATOR CONTRACTOR OR AGENT)
--	--

FIELD SERVICE ORDER NO. \_\_\_\_\_

# BASIC

energy services, L.P.

# TREATMENT REPORT

Customer	LOT 45 OPERATING CO LLC	Lease No.		Date	7-17-18						
Lease	RONTA 12711	Well #	2								
Field Order #	17008	Station	Pratt	Casing	8 5/8	Depth	270	County	Pratt	State	KS
Type Job	2-42 8 5/8 SURFACE	Formation		Legal Description	14-295-16w						

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME			
Casing Size	8 5/8	Tubing Size		Acid	CMT 225 SKI	RATE	PRESS	ISIP	
Depth	270	Depth		Pre Pad	3% CC 2	Max	60/40 POZ	5 Min.	
Volume	7.2	Volume		Pad		Min		10 Min.	
Max Press	300	Max Press		Frac		Avg		15 Min.	
Well Connection	SV	Annulus Vol.				HHP Used		Annulus Pressure	
Plug Depth	250	Packer Depth		Flush	16	Gas Volume		Total Load	

Customer Representative	ROBIN Brown	Station Manager	Westerman	Treater	MATTA					
Service Units	83357		7848	20920	84981	19918				
Driver Names	MATTA		Lesly		HANSON					

Time	Casing Pressure	Tubing Pressure	Bbbs. Pumped	Rate	Service Log
7:40					ON location / SAKMY MATTA
12:15					Run 8 5/8 Casing
1:20					Casing on Bottom
1:25					Hook to Casing / Break Circ. W. Rig
1:35	200		3	6	PUMP 3 bbl WATER
1:37	200		48.5	6	MIX 225 SKI 60/40 POZ
1:47	150			3	START displacement
1:55	750		16		plugdown / shut in well
					CMT TO SURFACE

JOB COMPLETE  
THANK YOU!  
MIKE MATTA  
KEEVAN + JOSH



**BASIC**  
ENERGY SERVICES

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JUL 26 2018

PAGE	CUST NO	YARD #	INVOICE DATE
1 of 1	1002427	1718	07/25/2018
INVOICE NUMBER			
92763948			

Pratt (620) 672-1201  
 B LOTUS OPERATING CO. LLC  
 I 100 S MAIN ST STE 420  
 L WICHITA  
 L KS US 67202  
 T  
 O ATTN: ACCOUNTS PAYABLE

J LEASE NAME Ron Piester 2  
 O LOCATION  
 B COUNTY Pratt  
 S STATE KS  
 I JOB DESCRIPTION Cement-New Well Casing/Pi  
 T JOB CONTACT  
 E

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE
41122075	27463		Net - 30 days	08/24/2018

	QTY	U of M	UNIT PRICE	INVOICE AMOUNT
<i>For Service Dates: 07/24/2018 to 07/24/2018</i>				
0041122075				
171817039A Cement-New Well Casing/Pi 07/24/2018 Cement/Production Casing				
AA2 Cement	150.00	EA	8.16	1,224.00 T
60/40 POZ	50.00	EA	5.76	288.00 T
C-41P	71.00	EA	1.92	136.32 T
Salt	789.00	EA	0.24	189.36 T
Gypsum	705.00	EA	0.36	253.80 T
C-17	85.00	LB	9.60	816.00 T
Cement Gel	141.00	EA	0.12	16.92 T
Gilsonite	751.00	EA	0.32	241.52 T
"Auto Fill Float Shoe 5 1/2" (Blue)"	1.00	EA	172.80	172.80
"Latch Down Plug & Baffle, 5 1/2" (Blu	1.00	EA	192.00	192.00
"5 1/2" Basket (Blue)"	1.00	EA	139.20	139.20
"Turbolizer, 5 1/2" (Blue)"	4.00	EA	52.80	211.20
Mud Flush	500.00	EA	0.72	360.00 T
"Unit Mileage Chg (PU, cars one way)"	30.00	MI	2.16	64.80
Heavy Equipment Mileage	60.00	MI	3.60	216.00
275----Propp & Bulk Del Chgs per ton mil	1.00	EA	329.40	329.40
Depth Charge; 5001-6000'	1.00	EA	1,382.40	1,382.40
Blending & Mixing Service Charge	200.00	BAG	0.67	134.40
Plug Container Util. Chg.	1.00	EA	120.00	120.00
"Service Supervisor, first 8 hrs on loc.	1.00	EA	84.00	84.00

PLEASE REMIT TO:	SEND OTHER CORRESPONDENCE TO:	SUB TOTAL	6,572.12
BASIC ENERGY SERVICES,LP	BASIC ENERGY SERVICES,LP	TAX	290.89
PO BOX 841903	801 CHERRY ST, STE 2100	INVOICE TOTAL	6,863.01
DALLAS, TX 75284-1903	FORT WORTH, TX 76102		

TMA 47

0041122075  
**FIELD SERVICE TICKET**  
**1718 17039 A**



**BASIC**  
**ENERGY SERVICES**  
 PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61  
 P.O. Box 8613  
 Pratt, Kansas 67124  
 Phone 620-672-1201

DATE \_\_\_\_\_ TICKET NO. \_\_\_\_\_

DATE OF JOB <b>7-24-18</b> DISTRICT <b>Pratt Kansas</b>		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:								
CUSTOMER <b>Lotus operating Co. LLC</b>		LEASE <b>Ron Piester</b> WELL NO. <b>2</b>								
ADDRESS		COUNTY <b>Pratt</b> STATE <b>Kansas</b>								
CITY STATE		SERVICE CREW <b>Fernis/Josh/Derrick</b>								
AUTHORIZED BY		JOB TYPE: <b>5 1/2 production casing 2-47</b>								
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	PM	TIME
<b>27463</b>	<b>4</b>						<b>7-21-18</b>			<b>2030</b>
<b>19806</b>	<b>9.5</b>					ARRIVED AT JOB				<b>05215</b>
<b>19843</b>	<b>1.5</b>					START OPERATION				<b>0650</b>
						FINISH OPERATION				<b>1100</b>
						RELEASED				<b>1200</b>
						MILES FROM STATION TO WELL				<b>30</b>

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: **\*Robin**  
 (WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP105	AA2 cement	SK	150		2550 00
CP103	60/110 PUZ	SK	50		600 00
CC105	C-41P	lb	71		284 00
CC111	Salt	lb	789		394 50
CC113	Gypsum	lb	705		528 75
CC148	C-17	lb	85		1700 00
CC200	Cement Gel	lb	141		35 25
CC201	Zirconite	lb	751		503 17
CF1251	AutoCil Float shoe 5 1/2 (Blue)	EA	1		360 00
CF607	Latch Down Plug & Baffle 5 1/2 (Blue)	EA	1		400 00
CF1901	5 1/2 cement Rasket (Blue)	EA	1		290 00
CF1651	Turbolizer 5 1/2 (Blue)	EA	4		440 00
CC151	mud Flush	Gal	500		750 00
E100	Pickup mileage	mi	30		135 00
E101	Heavy equipment mileage	mi	60		450 00
E113	Bulk Delivery charge	Tulm	275		686 25
CF206	Depth charge 500'-6000'	9hr	1		2880 00
CF240	Blending & Mixing charge	SK	200		280 00
CF504	Plug cement (Cil. 700' on charge)	Job	1		250 00
5003	Service Supervisor First 8 hrs on Loc	EA	1		175 00
SUB TOTAL					175 00
Book Total					13,691 92

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$
MATERIALS	%TAX ON \$

Discounted Price **6592 12**  
 TOTAL **6592 12**

SERVICE REPRESENTATIVE <b>[Signature]</b>	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: <b>*Robin Brown</b> (WELL OWNER OPERATOR CONTRACTOR OR AGENT)
---	--

FIELD SERVICE ORDER NO.



Customer <i>Lotus operating LLC</i>	Lease No.	Date <i>7-29-16</i>
Lease <i>RON Piestler</i>	Well # <i>2</i>	
Field Order # <i>17039</i>	Station	Casing <i>5 1/2 15.5</i>
Type Job <i>5 1/2 Production casing 2-42</i>	Formation	Depth <i>41462.79</i>
		County <i>Pratt</i>
		State <i>KS</i>
		Legal Description <i>14-2AS-16W</i>

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP
<i>5 1/2</i>				Pre Pad	Max		5 Min.
Depth <i>41462.79</i>	Depth	From	To	Pad	Min		10 Min.
Volume <i>115.7</i>	Volume	From	To	Frac	Avg		15 Min.
Max Press <i>4100.25</i>	Max Press	From	To		HHP Used		Annulus Pressure
Well Connection <i>8" CD</i>	Annulus Vol.	From	To	Flush	Gas Volume		Total Load
Plug Depth	Packer Depth	From	To				

Customer Representative <i>Robin Brown</i>	Station Manager <i>Justin Westerman</i>	Treater <i>Ferris Hardin</i>
---	--	---------------------------------

Service Units	<i>76668</i>	<i>27463</i>	<i>19427</i>	<i>19406</i>	<i>76666</i>	<i>19443</i>				
Driver Names	<i>Ferris</i>	<i>Tosh</i>	<i>Derrick</i>	<i>Derrick</i>	<i>Darrin</i>	<i>Darrin</i>				

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>0715</i>					<i>Arrival location / safety meeting</i>
<i>0730</i>					<i>Rig up equipment</i>
<i>0650</i>	<i>150</i>		<i>12</i>	<i>4</i>	<i>Pump mud flush</i>
<i>0653</i>	<i>150</i>		<i>3</i>	<i>4</i>	<i>Pump H2O spacer</i>
<i>0654</i>	<i>150</i>		<i>4</i>	<i>4</i>	<i>start mixing AA2 cement @ 1 SPPG</i>
<i>0700</i>	<i>150</i>		<i>41</i>	<i>41</i>	<i>Due to mechanical issues had to call for another pump truck, Pump considered off sent bulk truck into load 255x movement, rig circulated</i>
<i>0930</i>					<i>Bulk truck / pump truck arrived, tied pump in</i>
<i>0935</i>	<i>200</i>		<i>12</i>	<i>6</i>	<i>Pump mud flush space</i>
<i>0937</i>	<i>200</i>		<i>3</i>	<i>6</i>	<i>Pump H2O spacer</i>
<i>0945</i>	<i>200</i>			<i>41</i>	<i>mix 150 slt AA2 cement @ 1 SPPG</i>
<i>10:15</i>	<i>150</i>		<i>40</i>		<i>slow wash pump string, drop plug</i>
<i>1026</i>	<i>100</i>			<i>6</i>	<i>slow H2O displacement</i>
<i>1036</i>	<i>170</i>		<i>80</i>	<i>6</i>	<i>slow H2O displacement 550 Bbls. to displacement</i>
<i>1042</i>	<i>600</i>		<i>105</i>	<i>3</i>	<i>slow rate to land plug, 125 Bbls cement</i>
<i>1045</i>	<i>1500</i>		<i>115</i>	<i>3</i>	<i>Land Plug</i>
<i>1049</i>					<i>check fluids (had 25 Bbls acid)</i>
<i>1055</i>	<i>0</i>		<i>12</i>	<i>3</i>	<i>plug RH / MH</i>
<i>1200</i>					<i>Rig down, leave location Thank you Ferris</i>
					<i>Condensers - 1, Turbolizers - 1, 5, 10, 15</i>
					<i>Cement Baskets - 46 116 STS Total</i>



## DRILL STEM TEST REPORT

Prepared For: **Lotus Operating Co**

100 S Main St Ste 420  
Wichita, KS 67202

ATTN: Wes Hansen

### **Ron Piester #2**

#### **14-29S-16W Kiowa,KS**

Start Date: 2018.07.21 @ 16:58:19

End Date: 2018.07.21 @ 23:48:21

Job Ticket #: 63990                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2018.07.24 @ 13:44:17

Lotus Operating Co  
14-29S-16W Kiowa,KS  
Ron Piester #2  
DST # 1  
Mississippi Chert  
2018.07.21



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Lotus Operating Co  
 100 S Main St Ste 420  
 Wichita, KS 67202  
 ATTN: Wes Hansen

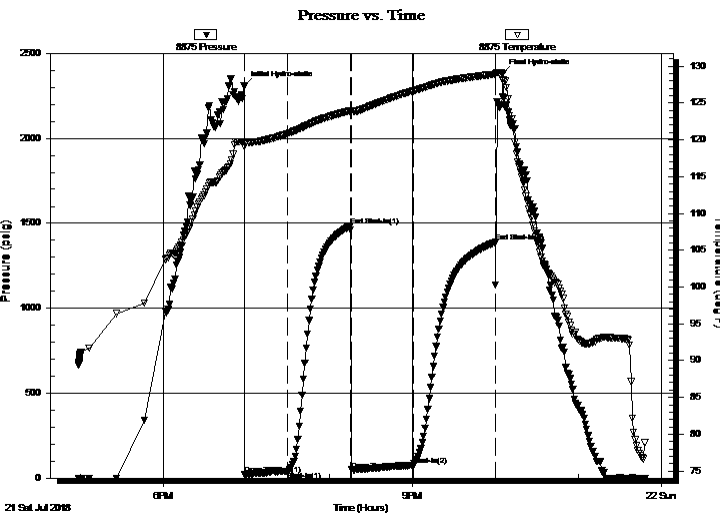
**14-29S-16W Kiowa, KS**  
**Ron Piester #2**  
 Job Ticket: 63990 **DST#: 1**  
 Test Start: 2018.07.21 @ 16:58:19

## GENERAL INFORMATION:

Formation: **Mississippi Chert**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 18:58:21  
 Time Test Ended: 23:48:21  
 Interval: **4683.00 ft (KB) To 4710.00 ft (KB) (TVD)**  
 Total Depth: 4710.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Leal Cason  
 Unit No: 74  
 Reference Elevations: 2009.00 ft (KB)  
 1996.00 ft (CF)  
 KB to GR/CF: 13.00 ft

**Serial #: 8875 Inside**  
 Press@RunDepth: 77.62 psig @ 4684.00 ft (KB) Capacity: psig  
 Start Date: 2018.07.21 End Date: 2018.07.21 Last Calib.: 2018.07.21  
 Start Time: 16:58:20 End Time: 23:48:21 Time On Btm: 2018.07.21 @ 18:58:06  
 Time Off Btm: 2018.07.21 @ 22:05:21

TEST COMMENT: IF: Weak Blow , Built to 2 1/2"  
 IS: No Blow Back  
 FF: Weak Blow , Built to 1 1/2"  
 FS: No Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2307.48	119.69	Initial Hydro-static
1	20.21	119.04	Open To Flow (1)
32	41.69	120.84	Shut-In(1)
77	1483.56	123.92	End Shut-In(1)
78	48.20	123.80	Open To Flow (2)
123	77.62	126.63	Shut-In(2)
182	1387.88	128.94	End Shut-In(2)
188	2382.60	128.15	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	Mud	0.59

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Lotus Operating Co

**14-29S-16W Kiowa,KS**

100 S Main St Ste 420  
Wichita, KS 67202

**Ron Piester #2**

Job Ticket: 63990

**DST#: 1**

ATTN: Wes Hansen

Test Start: 2018.07.21 @ 16:58:19

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.98 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 0.02 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	Mud	0.590

Total Length: 120.00 ft

Total Volume: 0.590 bbl

Num Fluid Samples: 0

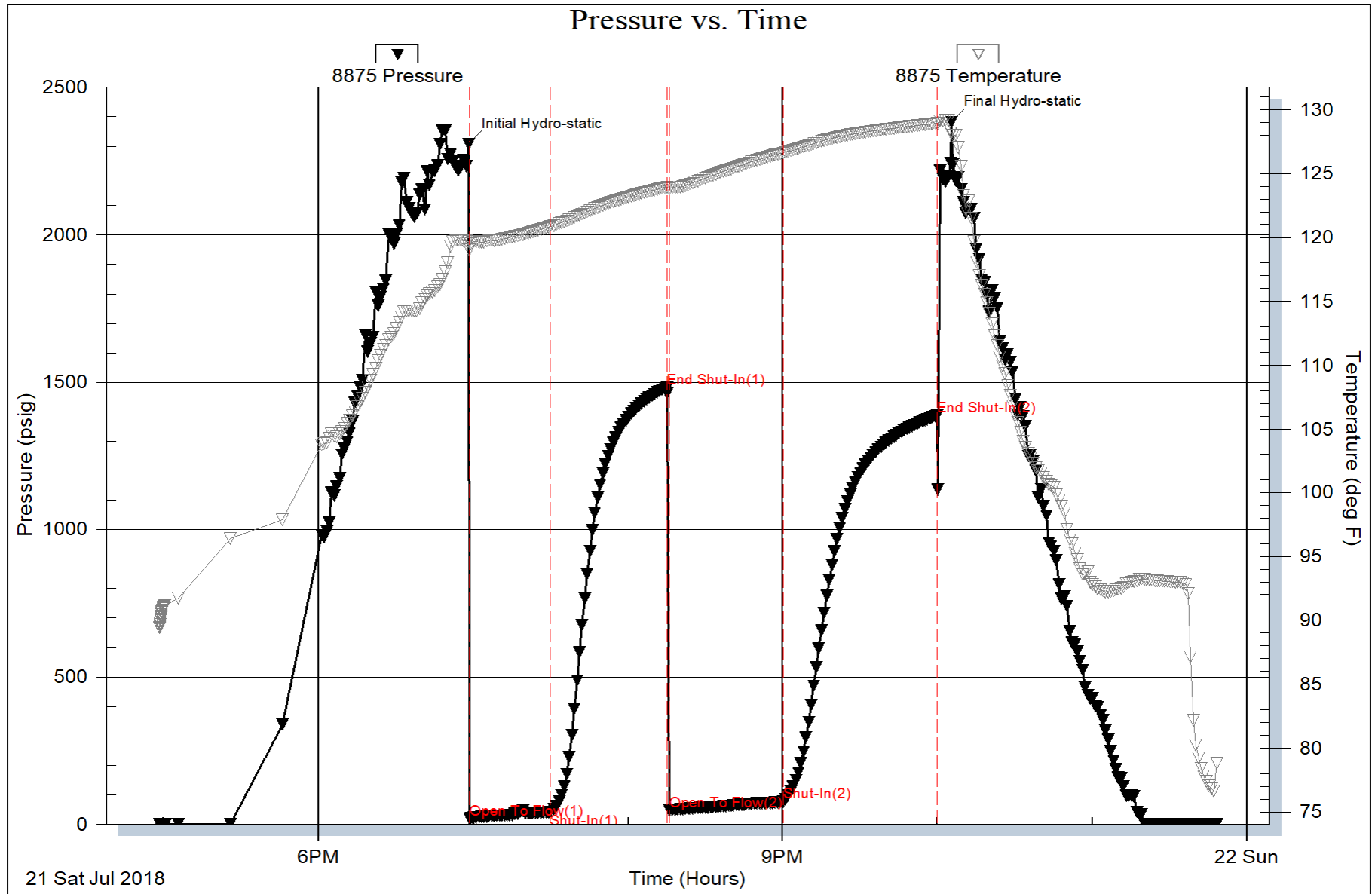
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**WESLEY D. HANSEN Consulting Petroleum Geologist**

212 N. Market, Suite 257, Wichita, KS 67202

Cellular 316.772.6188  
whansen4651@sbcglobal.net

KGS  
AAPG #799479  
Kansas License #418

## LITHOLOGY STRIP LOG

### WellSight Systems

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

Well Name: Lotus Operating Co. L.L.C. #2 Ron Piester

API: 15-097-21842

Location: 730' FSL, 1560' FEL of Section 14-29S-16W

License Number:

Region: Kiowa County, Kansas

Spud Date: 7-16-2018

Drilling Completed: 7-23-2018

Surface Coordinates: 730' FSL, 1560' FEL of Section 14-29S-16W

Bottom Hole Vertical hole

Coordinates:

Ground Elevation (ft): 1996'

K.B. Elevation (ft): 2009'

Logged Interval (ft): 3800' To: RTD

Total Depth (ft): 5020'

Formation: Arbuckle at RTD

Type of Drilling Fluid: Chemical - displaced at 3587'

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

## OPERATOR

Company: Lotus Operating Co. L.L.C.

Address: 100 S. Main St.

Ste. 420

Wichita, KS 67202

## GEOLOGIST

Name: Wesley D. Hansen

Company: Wesley D. Hansen - Consulting Petroleum Geologist

Address: 212 N. Market, Suite 257

Wichita, KS 67202

Cellular: 316-772-6188

## COMMENTS

Contractor: Duke Drilling Co., Inc. Rig 7  
 Pusher: Galen Roach

Surface Casing: 8 5/8" set at 265' w/225 sx  
 Production Casing:

Mud by: MudCo - Brad Bortz was the engineer

DST's by: Trilobite - Leal Cason was the tester

Logs by: ELI - (DIL, CN-CD w/PE, MEL, Frac, Sonic) - JasonCappellucci was the engineer

Deviation Surveys: 1/2 deg. @ 269'; 1/2 deg. @ 491'; 1/2 deg. @ 1019'; 3/4 deg. @ 1521'; 3/4 deg. @ 1993'; 3/4 deg. @ 2492'; 3/4 deg. @ 2993'; 1/2 deg. @ 3493'; 3/4 deg. @ 4028'; 3/4 deg. @ 4495'; 1 deg. @ 5020'

The log was 8' shallower than the rotary measure.

## BIT RECORD

Bit #	Size	MFG	Type	Depth Out	Footage Cut	Hours on bit
1	12 1/4"	JZ	rerun	269'	269'	5 1/2
2	7 7/8"	HTC	DP-506	4495'	4226'	57 1/4
3	7 7/8"	JZ	HA-20 rr	5520'	525'	36 1/2

## FORMATION TOPS AND STRUCTURAL COMPARISON

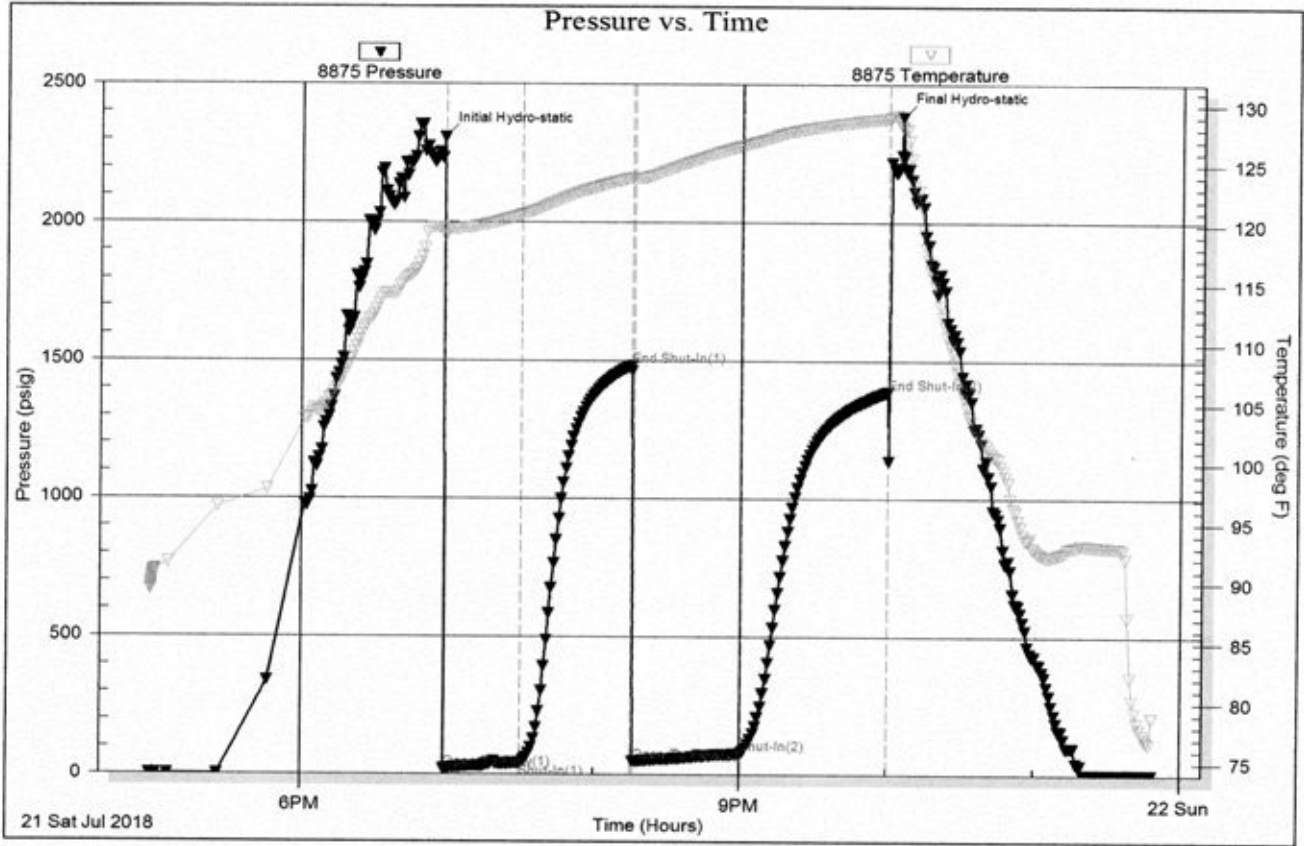
FORMATION	SAMPLE TOPS		LOG TOPS		COMPARISON WELL	
	Depth	Datum	Depth	Datum	1.) Lotus #1 Ron Piester 2035' KB	2.) Lotus #1 C Piester 1988' KB
	2009' KB		2009' KB		1	2
Heebner	3942'	-1933	3942'	-1933	-1919	-1916
Brown Lime	4103'	-2094	4104'	-2095	-2085	-2078
Lansing	4122'	-2113	4120'	-2111	-2099	-2094
BKC	4510'	-2501'	4502'	-2493	-2476	-2476
Marmaton	4529'	-2520	4516'	-2507	-2491	-2496
Cherokee Shale	4636'	-2627	4624'	-2615	-2599	-2600
Miss. Chert	4680'	-2671	4672'	-2663	-2621	-2632
Arbuckle	4980'	-2971	4972'	-2963	-2945	-2948
RTD	5020'	-3011				
LTD			5012'	-3003		

# DRILL STEM TESTS

DST No. 1 Mississippian Chert  
 Interval: 4683'-4710'  
 Times: 30-45-45-60  
 Recovery: 120' mud  
 FP: 20-42/48-77 SIP: 1483-1388  
 HP: 2307-2382 BHT: 129 deg. F

IFP: weak blow, built to 2 1/2 inches  
 ISIP: no return blow  
 FFP: weak blow, built to 1 1/2 inches  
 FSIP: no return blow

Serial #: 8875    Inside    Lotus Operating Co    Ron Pester 2    DST Test Number: 1



Triobite Testing, inc

Ref. No: 63990

Printed: 2018.07.21 @ 23:55:15

## ROCK TYPES

- Congl
- Igne
- Anhy
- Cht
- Coal
- Congl
- Gyp

- Lmst
- Salt
- Shale
- Shcol
- Siltstone
- red sst
- Sst

- Carb sh
- Dol
- Dtd
- Grayshale
- Sandylms
- Redshale
- Greenshale

- Sltstn
- Shlyslts
- Sndy/siltyshale
- Silty dolo
- Shy dolo
- Shaly ls
- Dolomite



### ACCESSORIES

#### FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant

- Strom
- Fuss
- Oomold

#### MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breclfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp

- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Sltly

- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbstn
- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- red shale
- green shale
- Sltstn

#### STRINGER

- Anhy
- Arg

### OTHER SYMBOLS

#### INTERVALS

- Dst top/bottom
- Dst
- Dst

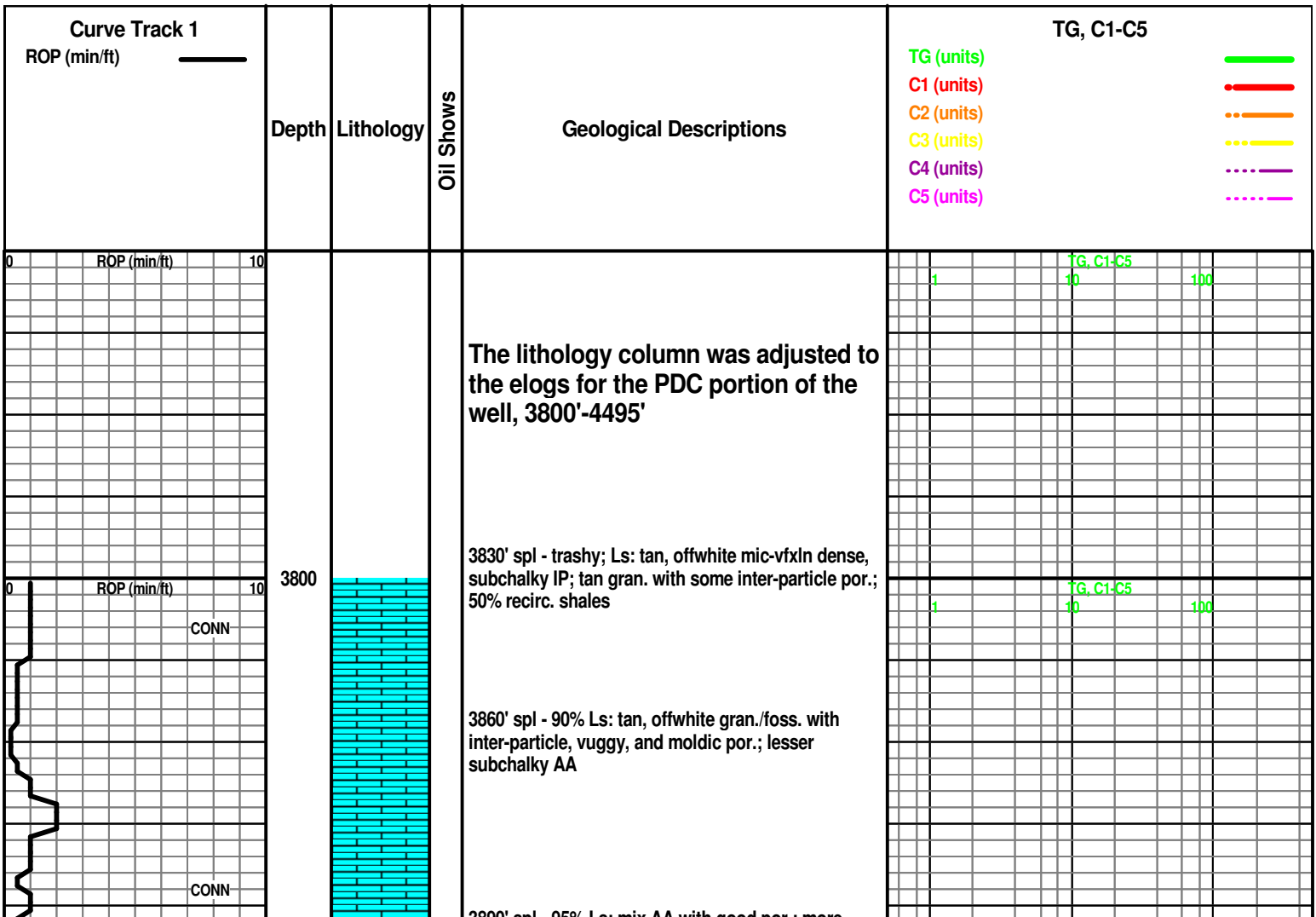
#### EVENTS

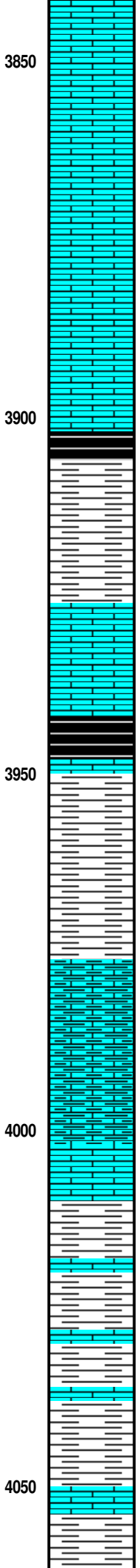
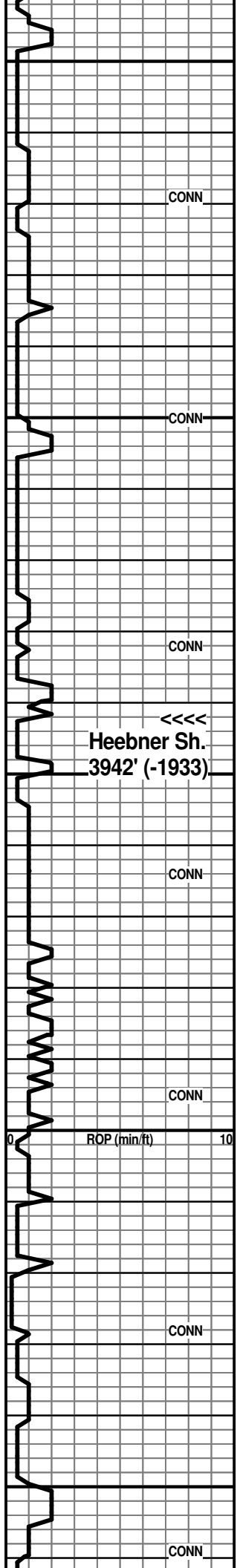
- Rft
- Rft

#### OIL SHOWS

- Even
- Spotted
- Trace

- Dead
- Oil & gas show
- Gas show





3890' spl - 95% Ls: mix AA with good por.; more offwhite subchalky; Sh: scatt. dark gray to black carbon.

3920' spl - 95% Ls: offwhite, tan fnxln with micln matrix, subchalky with ppt and inter-particle por.; lesser tan, lt gray vf-cryptoxln, NVP

3950' spl - 90% Ls: tan gran./foss. IP with inter-particle and vuggy por., subchalky IP; some lt brn, lt gray cryptoxln; Sh: some dark gray to black

3980' spl - 95% Ls: mix AA with influx tan fn gran./foss. with inter-particle and fossil moldic por., N.S.; minor gray shale

Heebner Sh.  
3942' (-1933)

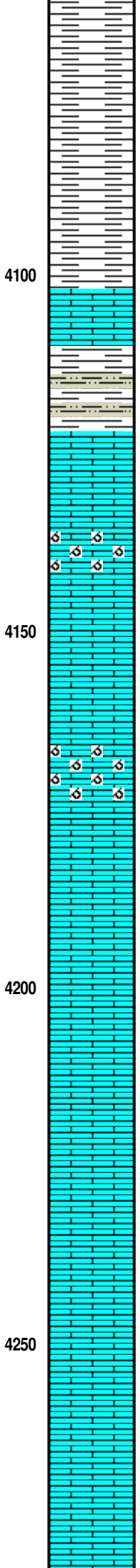
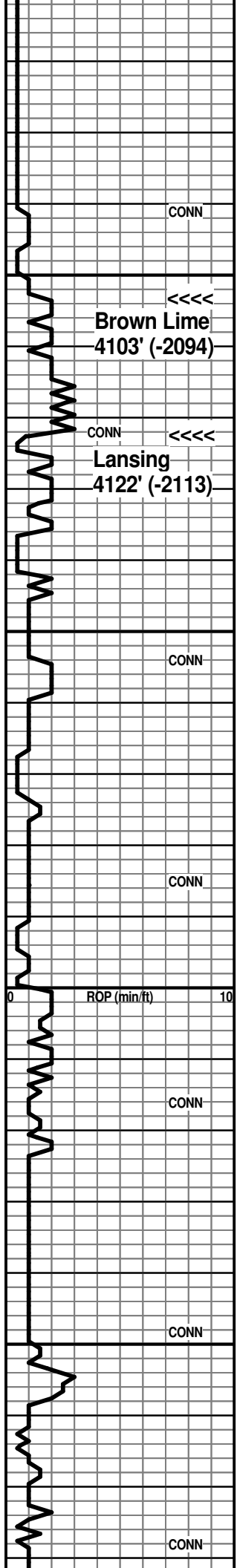
4010' spl - 65% Ls: mix AA with por. AA; Sh: 35% dark gray to black carbon.

4040' spl - 50% Sh: dark gray to black carbon.; Ls: mix AA with some new med brn cryptoxln; trace tan vfxln dolomite

4070' spl - Sh: med to dark gray, black; with Ls: med brn, gray cryptoxln and mottled gray gran. with offwhite micln matrix; tan, lt brn gran. with inter-particle por.

4100' spl - Sh/Ls mix AA with more med to dark brn cryptoxln Ls

TG, C1-C5  
1 10 100



4130' spl - Sh: vc gray to black; Ls: med brn, gray, tan cryptoxln, NVP

4160' spl - Sh: vc gray to black with lt gray finely micac. Siltst; Ls: tan, lt brn gran./foss. with inter-particle por., N.S.

4190' spl - Ls: med to dark brn, gray cryptoxln and offwhite mic-vfxln dense; fair influx lt brn oolitic with good-exc. oomoldic por., N.S.

4220' spl - Ls: pred. offwhite, tan sl gran. with subchalky matrix; lesser lt gray, lt brn cryptoxln and oolitic/oomoldic AA

7:00 AM at 4180' on 7-20-2018

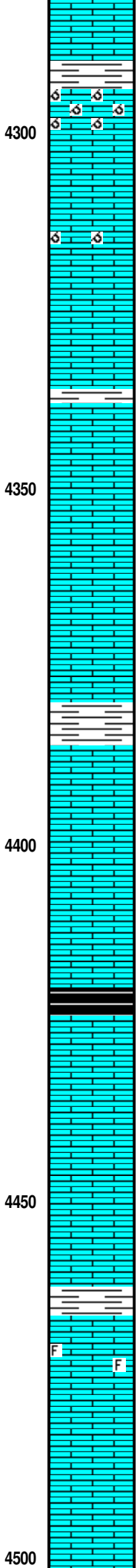
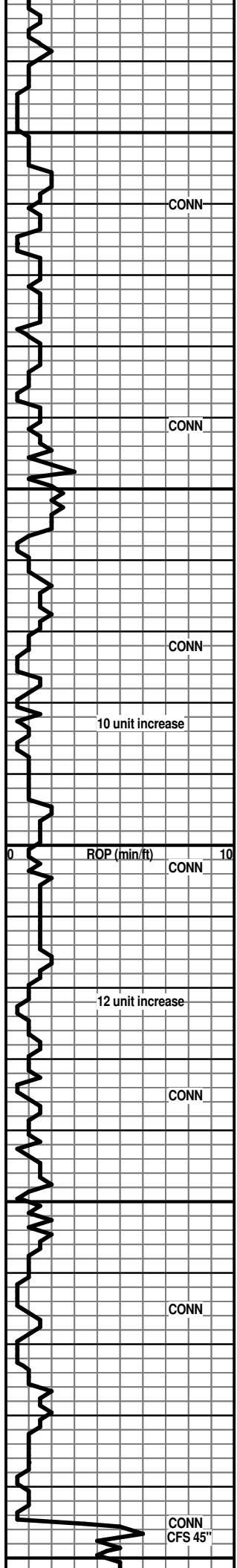
4250' spl - much decr. shale %; Ls: mix offwhite, tan mic-vfxln dense, subchalky and med-dark brn, gray cryptoxln; scatt. gray opq chert

TG, C1-C5  
1 10 100

4280' spl - Ls: mix AA; new mottled gray/brn gran., poor- NVP; scatt. chert

MudCo Mud Check at 4230'  
8:45 AM on 7-20-2018  
wt vis wl pH chl  
9.1 51 8.8 11.5 6000  
PV YP GelS lcm solids  
15 17 10/48 0 5.3%

4310' spl - Ls: mix offwhite, tan mic-vfxln dense; lt-med brn, gray cryptoxln; sl incr. Chert: tan, gray opq; Sh: some med to dark gray, black



4340' spl - Ls: mix AA with good influx lt brn, gray fn oolitic with good-exc oomoldic por., N.S.; scatt. chert AA; shales AA

4370' spl - Ls: mix AA; Sh: sl incr. med to dark gray

4400' spl - Ls: mix offwhite, tan mic-vfxln dense, subchalky and tan, lt brn, lt gray cryptoxln; Sh: med to dark gray and black carbon.

4430' spl - Ls: very pred. offwhite, tan mic-vfxln dense; lesser tan, lt brn cryptoxln; Sh: 5% dark gray to black

4460' spl - Ls: AA with more lt brn, lt gray vf-cryptoxln, NVP and sl mottled tan/offwhite gran.; Sh: 5% AA

4490' spl - Ls: more mottled tan/offwhite fn gran. with subchalky matrix; common lt brn vf-cryptoxln; Sh: incr. % med to dark gray, some black carbon.

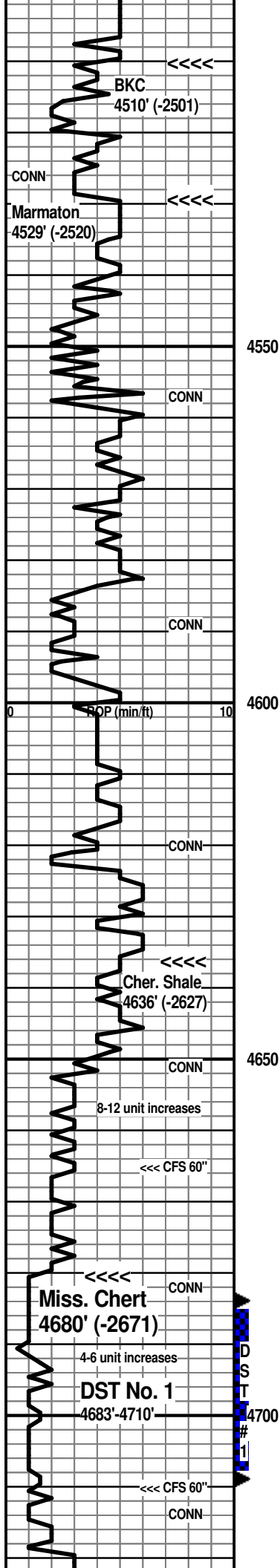
CFS 4495' 20" spl - Ls: influx tan fn gran./foss. with inter-particle and some intra-fossil por., N.S. scatt. dark gray, dark brn cryptoxln, NVP; occ dark brn dolomite; Sh: good % vc gray and black carbon.

CFS 4495' 45" spl - Ls: mix AA; incr. % brn and gray cryptoxln; abund. shales AA

10' spl - Ls: tan, lt brn gran. and med to dark brn, dark gray cryptoxln; Sh: med to dark gray, black

TG, C1-C5  
1 10 100

Bit trip at 4495'  
-Button bit replaces PDC bit-



20' spl - Ls: influo med to dark brn, dark gray cryptoxln; other tan mic-vfxln dense; Sh: mix AA

30' spl - Sh: med to dark gray; Ls: AA; occ mottled gran./foss., NVP

40' spl - Ls: mix various brn, gray cryptoxln to sl gran., NVP; abund. Sh: med to dark gray

50' spl - very shaly mix AA; Ls: various AA; some mottled tan, lt brn gran., sl foss. with scatt. inter-particle and vuggy por., N.S.

60' spl - Sh: med to dark gray, silty IP; Ls: med to dark brn, gray cryptoxln

70' spl - Sh: various gray AA, with lt red-maroon and mottled gray/lt red; Ls: med to dark brn and dark gray cryptoxln, NVP, N.S.

80' spl - Ls: mix AA, more dark gray cryptoxln

90' spl - Ls: good influx tan mic-vfxln dense, subchalky and offwhite chalky

4600' spl - Ls: mix AA with lt gray vf-cryptoxln; Sh: lt to med gray

10' spl - Sh: lt to med gray; Ls: lt to med brn cryptoxln and tan mic-vfxln dense

20' spl - Ls: more med brn, gray-brn cryptoxln; shales AA

30' spl - Ls: various cryptoxln AA; new lt gray vf-cryptoxln; Sh: abund. lt to med gray

40' spl - Ls: mix AA; offwhite mic-vfxln dense, subchalky and sl mottled tan/offwhite fn gran.; Sh: softer lt gray, gray-green, scatt. bryozoan fossil fragments

50' spl - depr. Ls's AA; pred. Sh: mostly lt gray, some very soft

60' spl - Sh: common lt to med gray, occ gray-green, red-brn; Ls: lt to med brn, gray cryptoxln; lesser offwhite, lt gray mic-vfxln dense

CFS 4665' 30" spl - Sh: vc gray AA, sl influx soft red-brn; abund. various cryptoxln Ls's AA; Sst: 5-6 clusters gray vf-fg well sorted, well cmted (silica) with sat. dead black flaky stain, nfo, no odor, no fluor., milky cut; 60" spl - scatt. Sst AA, some friable, some offwhite and lt green with N.S.; Sh: influx red-brn, red-maroon, vc gray, mottled red/green

80' spl - Sh: multi-colored AA with scatt. Sst AA, some with dead shows; 90' spl - Sh: red-brn, red-maroon, lt to med gray, gray-green, some mottled red/green; scatt. Sst AA, one cluster with brn stain; 4700' spl - flood red-brn shale

10' spl - Sh: very pred. red-maroon; scatt. Sst and Ls AA

CFS 4710' 30" spl - very pred. shales AA; sl influx Chert: offwhite, tan weath with poor-fair ppt por. with spotty stain, sl sfo IP, no odor, even lt yellow fluor. IP, nsg, modest 4-6 units of gas increase

CFS 4710' 60" spl - flood Chert: some offwhite weath AA with sl shows AA; good influx offwhite, tan fresh, opq, N.S.; depr. shale %

CFS 4710' 90" spl - cherts AA with sl influx Ls: med to dark gray, gray-brn cryptoxln; some shales AA

30' - spl - pred. Sh: med to dark gray, lesser red-brn, red-maroon; Chert: offwhite, tan some weath., most fresh, scatt. stain; Ls: some dark gray, gray-brn cryptoxln

1 10 100  
TG, C1-C5

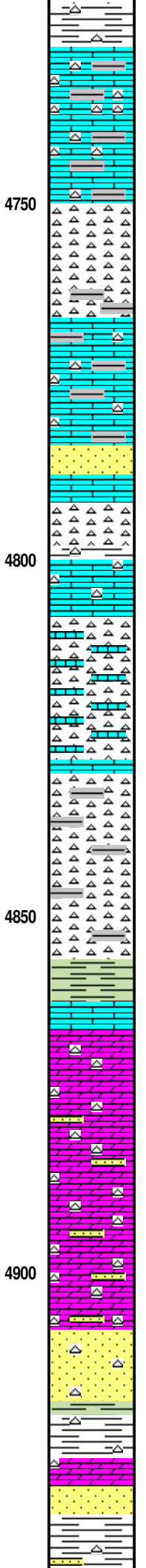
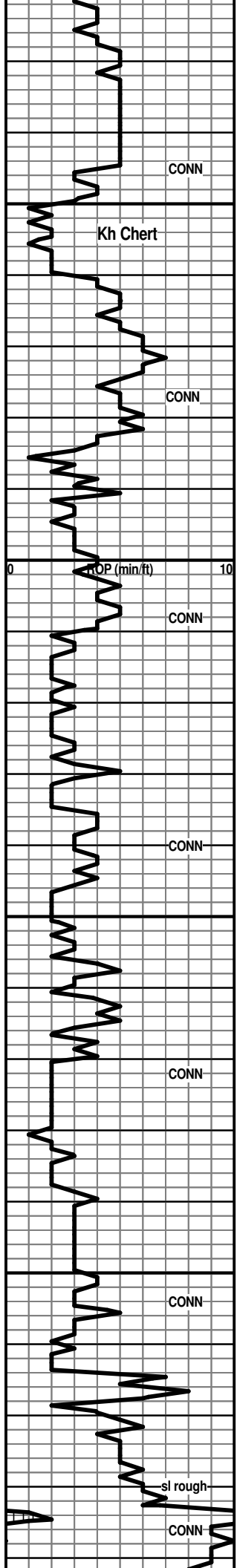
7:00 AM at 4630' on 7-21-2018

**MudCo Mud Check at 4665"**

10:00 AM on 7-21-2018  
wt vis wl pH chl  
9.2 49 10.0 11.5 6000  
-PV YP GelS lcm solids  
15 15 12/47 2# 6.1%

**-DST No. 1 Mississippian Chert**

Interval: 4683'-4710'  
Times: 30-45-45-60  
IFP: weak blow, built to 2 1/2 inches  
ISIP: no return blow  
FFP: weak blow, built to 1 1/2 inches  
FSIP: no return blow  
Recovery: 120' mud  
FP: 20-42/48-77 SIP: 1483-1388  
HP: 2307-2382 BHT: 129 deg. F



40' spl - Chert: offwhite, tan fresh, opq, occ sl oolitic, some vuggy por., N.S.; fairly minor Ls: gray, lt brn cryptoxln

50' spl - influx Sh: vc gray, red-brn, red-maroon; with Chert: various fresh AA, some mottled and shaly

60' spl - chert and shale mix AA; some dense gray Ls

70' spl - shales and cherts AA; influx offwhite, tan opq fresh chert, N.S.

80' spl - Chert: pred. offwhite, tan opq fresh AA; some red silic. shale to shaly chert; common shales AA

90' spl - Chert: mix fresh opq AA, some tan, offwhite weath., N.S.; Sh: common vc gray, gray-green, red-brn; very minor Ls: gray vf-cryptoxln

4800' spl - shales and cherts AA; sl influx Ls: offwhite mic-vfxln, finely sandy to subchalky

10' spl - Chert: offwhite, tan fresh, trace dark orange; some lt gray, offwhite tight calcar. Sst to finely sandy Ls, subchalky IP, some lt green-gray cryptoxln Ls; Sh: sl influx lt green

20' spl - pred. Chert: offwhite, tan, lt gray; scatt. tight Sst AA; minor offwhite subchalky Ls; Sh: lt to med gray, lt green, some red-brn

30' spl - very cherty mix AA

40' spl - Chert: offwhite, tan, occ brn and orange opq, fresh; Ls: offwhite, tan mic-vfxln dense, subchalky and lt gray vfxln. dense; Sh: lt to med gray, gray-green

50' spl - very cherty AA; Ls: offwhite dense, subchalky AA, some offwhite finely sandy, some purplish tinted vf-cryptoxln; Sh: some new gray-purple

60' spl - very cherty mix AA; incr. gray-purple shale

70' spl - flood Chert: tan, lt gray fresh, opq; some offwhite very soft clay; Sh: more med to dark gray, splintery and gray-green

80' spl - Chert: offwhite, tan AA; some offwhite, tan subchalky Ls; Sh: sl influx pale green, common lt to med gray

90' spl - Dolo: influx tan, lt gray, offwhite fn-medln, some vuggy and interln por., N.S.; some tight, NVP; much decr. chert %; shales AA

4900' spl - pred. Dolo: AA; common offwhite opq chert; occ Sst: tan, lt gray vf-fg, subrnd-rnd, mod. well sorted, dolo. cmt, tight to friable, N.S.

10' spl - Dolo: AA with cherts and Sst AA; Sh: sl influx dark red-maroon

20' spl - mix Sst/Dolo/Chert AA; Sh: common med to dark gray, dark red-maroon, dark red-brn

30' spl - pred. Sst: offwhite, tan, lt gray vf-fg tight to friable, common loose qtz grains, N.S.; Sh: streaks AA, some lt blue-green

40' spl - Sst: tan fg rnd, mod sorted, tight to friable, common loose grains; sl influx Dolo: dark brn, dark gray-brn vf-fnxln, shaly; Sh: vc gray, red-brn, red-maroon

50' spl - Sst AA with offwhite opq chert; Dolo: tan fnxln; Sh: incr.

7:00 AM at 4755' on 7-22-2018

MudCo Mud Check at 4788'

9:30 AM on 7-22-2018

wt	vis	wl	pH	chl
9.2	55	10.4	11.5	8500
PV	YP	Gels	lcm	solids
15	16	13/54	3#	5.9%

1	10	100
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TG, C1-C5

