

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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Form	ACO1 - Well Completion
Operator	White Exploration, Inc.
Well Name	SPENCER'S BLUFFS 1-21
Doc ID	1511346

All Electric Logs Run

Compensated Density/Neutron
Dual Induction
Micro Log
Sonic Log

QUALITY WELL SERVICE, INC.

7374

Federal Tax I.D. # 481187368

Home Office 30060 N. Hwy 281, Pratt, KS 67124

Mailing Address P.O. Box 468

Office 620-727-3410
Fax 620-672-3663

Rich's Cell 620-727-3409
Brady's Cell 620-727-6964

Date	3-5-20	Sec.	21	Twp.	31S	Range	12W	County	BARBER	State	KI	On Location		Finish	
Lease	SPENLER'S BLDG			Well No.	1-21			Location MEADOWS, KI 201 1/2 LAKE CITY RD 2 1/2 W							
Contractor	PICKRELL DRIG RIG #10							Owner to SPRINGCREEK Rd 2 1/2 W to CATTLE CREEK							
Type Job	SURFACE							To Quality Well Service, Inc. 3/4 N 1 E into You are hereby requested to rent cementing equipment and furnish cement and helper to assist owner or contractor to do work as listed.							
Hole Size	12 1/4		T.D.	349			Charge To								
Csg.	35/8 23 #		Depth	348			WHITE EXPLORATION INC								
Tbg. Size			Depth				Street								
Tool			Depth				City State								
Cement Left in Csg.	20'		Shoe Joint	20'			The above was done to satisfaction and supervision of owner agent or contractor.								
Meas Line			Displace	20.99			Cement Amount Ordered 275 x 60/40								
EQUIPMENT							2 1/2 GAL 3 1/2 CC 1/2" PS								
Pumptrk	8	No.					Common #65 SK								
Bulktrk	15	No.					Poz. Mix 110 SK								
Bulktrk		No.					Gel. 473 #								
Pickup		No.					Calcium 710 #								
JOB SERVICES & REMARKS							Hulls								
Rat Hole							Salt								
Mouse Hole							Flowseal 137.5"								
Centralizers							Kol-Seal								
Baskets							Mud CLR 48								
D/V or Port Collar							CFL-117 or CD110 CAF 38								
Run 8 H's 35/8 23 # CSG SET @ 348							Sand								
START CSG CSG ON BOTTOM							Handling 294								
Hook up to CSG & BREAK CIRC W/ RIG							Mileage 35/10290								
Pump 10 Bbls H2O							8 5/8 FLOAT EQUIPMENT								
Mix Pump 275 x 60/40							Guide Shoe WOODEN PIPE 1 EA								
2 1/2 GAL 3 1/2 CC 1/2" PS @ 14.8" GAL							Centralizer HEAD MANIFOLD 1 EA								
START DISC							Baskets								
TOTAL 20.99							AFU Inserts								
CLOSE VALVE ON CSG 150"							Float Shoe								
GOING CIRC THRU JOB							Latch Down								
CIRC CMT TO PIT							SERVICE SPT 1 EA								
							LMI 35								
							Pumptrk Charge SURFACE								
							Mileage 70								
THANK YOU PLEASE CALL AGAIN TOO IT TAKE 1 Doug Brady							Tax								
							Discount								
							Total Charge								

QUALITY WELL SERVICE, INC.

7386

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Brady's Cell 620-727-6964

Date	Sec.	Twp.	Range	County	State	On Location	Finish
3- -20	21	31S	12W	Barber	Ks		
Lease SPENCERS BLUFF		Well No. 1-21		Location MEO LOOGE KS 281! Lolie CH Rd W to SPENCERS BLUFF			
Contractor RICKRELL DR B, R B #10				Owner 2 W to GATHIC Ground 1 N! .7 SE into			
Type Job 5 1/2 L.S.				To Quality Well Service, Inc.			
Hole Size 7 7/8				T.D. 4680'			
Csg. 5 1/2 15.5"				Depth 4676'			
Tbg. Size				Depth			
Tool				Depth			
Cement Left in Csg.				Shoe Joint 21.42			
Meas Line				Displace 110.87			
EQUIPMENT				10% SAH 5 1/2 Kolseal .6% C16A 2 1/2 41" .25" PS			
Pumptrk	B	No.		Common 200.			
Bulktrk	7	No.		Poz. Mix			
Bulktrk		No.		Gel. 376"			
Pickup		No.		Calcium			
JOB SERVICES & REMARKS				Hulls			
Rat Hole 30				Salt 1101"			
Mouse Hole 20				Flowseal 50"			
Centralizers 2-3-7-8-9-10-11-15-16-17				Kol-Seal 50" 1000"			
Baskets 2				Mud CLR 48 500 GAL.			
D/V or Port Collar Scentchies 2-3-8-9-10-15-16-17				CFL-117 or CD110 CAF 38 C16A 112.8"			
Run 111 1/2 B 15.5" CSG SET @ 4676'				Sand C41P 47" CC-1-9.			
START CSG CSG ON Bottom 1 TAG				Handling 246			
Hook up to CSG & Break size w/ RIG				Mileage 3518610			
Pump 10 Bbls H2O 12 Bbls MF 10 Bbls H2O				5 1/2 FLOAT EQUIPMENT			
Plug R-Hole 309				Guide-Shoe Plug CUT 1 EA.			
Mix & Pump 1705 Proc @ 14.8 1/4 GAL				Centralizer 10 EA Rotate HEAD 1 EA.			
SHUT DOWN Wash up 2K & Release 5 1/2 LD Plug				Baskets 1 EA.			
START Disp w/ 2% KCL				AFU Inserts 40 EA Rotate Scentchies			
89 SHUT DOWN Couldn't Get WATER (ran out				Float Shoe 1 EA.			
Switch over to Pit Down 5 mp				Latch Down 1 EA.			
Pump Lift PSI 600" 92 out				SERVICE Spv 1 EA.			
Land Plug 111 out 1200"				LNU - 35"			
PSI up CSG 1500"				Pumptrk Charge LS			
Release! HELD 1/2 Bbl pack				Mileage 20			
Good Ciel thru JOB							
THANK YOU PLEASE CALL AGAIN JAKE MIKE							
Signature: <i>[Signature]</i>							
				Tax			
				Discount			
				Total Charge			



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

Well Name: Spencer's Bluffs 1-21
API: 15-007-24367
Location: 21-31S-12W
License Number:
Spud Date: 03/04/2020
Surface Coordinates: 3590' FSL, 880' FEL

Region: Barber County, KS
Drilling Completed: 03/12/2020

**Bottom Hole
Coordinates:**
Ground Elevation (ft): 1639 **K.B. Elevation (ft):** 1646
Logged Interval (ft): 3400 **To:** 4680 **Total Depth (ft):** 4680
Formation: Viola
Type of Drilling Fluid: Chemical

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

OPERATOR

Company: White Exploration, Inc.
Address: 1635 N Waterfront Pkwy, Ste. 100
Wichita, KS 67206

GEOLOGIST

Name: Andrew White
Company: White Exploration, Inc.
Address:

Remarks

Due to positive shows and good DST results, the decision to run casing to test the Mississippian was made.

General Info

Drilling Contractor: Pickrell Drilling, Rig #10

Logs: ELI, Neutron/Density, Dual Induction, Micro, Sonic

Drilling Mud: Mudco/Service Mud, Inc.

DST: Trilobite

Gas Detector: Bluestem

Surveys: 348'-1, 2013'-1, 4680'-3/4

Daily Status

03/04/20: MIRT. Spud 5:00 p.m. Ran 8 joints new 23# 8-5/8" Surface Casing(338') @ 348'. Cemented with 275 sacks Common Cement with 2% gel and 3% CC and 1/4# floseal/sack.

03/05/20: Waiting on cement @348'

03/06/20: Drilling ahead @ 1474'

03/07/20: Drilling ahead @ 2459'

03/08/20: Drilling ahead @ 3189'

03/09/20: Drilling ahead @ 3887'

03/10/20: Drilling ahead @ 4310'

03/11/20: Drilling ahead @ 4400'

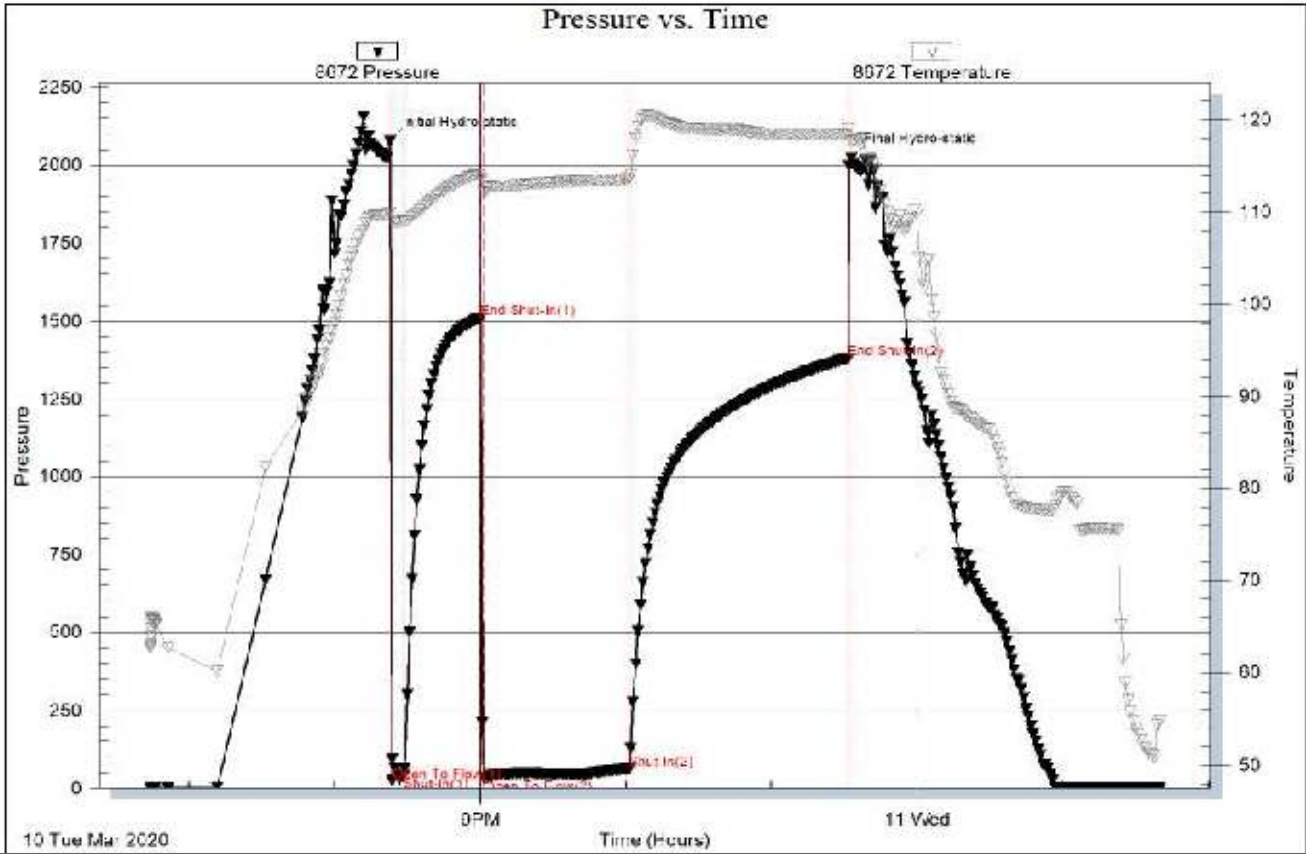
03/12/20: Coming out of hole @ 4680' for logs

White Ex			
Spencers Bluffs 1-21			
21-31S-12W			
1690' FNL, 880' FEL			
KB:1646			
Sample	Log	Datum	
Heebner	3592	3586	-1940
Lansing	3802	3800	-2154
Stark	4135	4134	-2488
Miss	4322	4317	-2671
Kind	4485	4496	-2850
Viola	4626	4614	-2968

Graves	
Youngers #1	
22-31S-12W	
3300' FSL, 4620' FEL	
KB: 1613	
Relationship	
+7	
-2	
+5	
+2	
N/A	
N/A	

White	
Cargill #1	
15-31S-12W	
1980' FSL, 1980' FEL	
KB: 1630	
Relationship	
-1	
-2	
+1	
0	
-22	
-6	

Texas Oil & Gas	
Elliott A1	
16-31S-12W	
660' FSL, 790' FEL	
KB: 1660	
Relationship	
+14	
+14	
+12	
+17	
N/A	
N/A	



ROCK TYPES

LITHOLOGY

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal
- Congl
- Dol
- Gyp
- Igne
- Lmst
- Meta
- Mrlst
- Salt
- Shale
- Shcol
- Shgy

- Sltst
- Ss
- Till

MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel

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FOSSIL

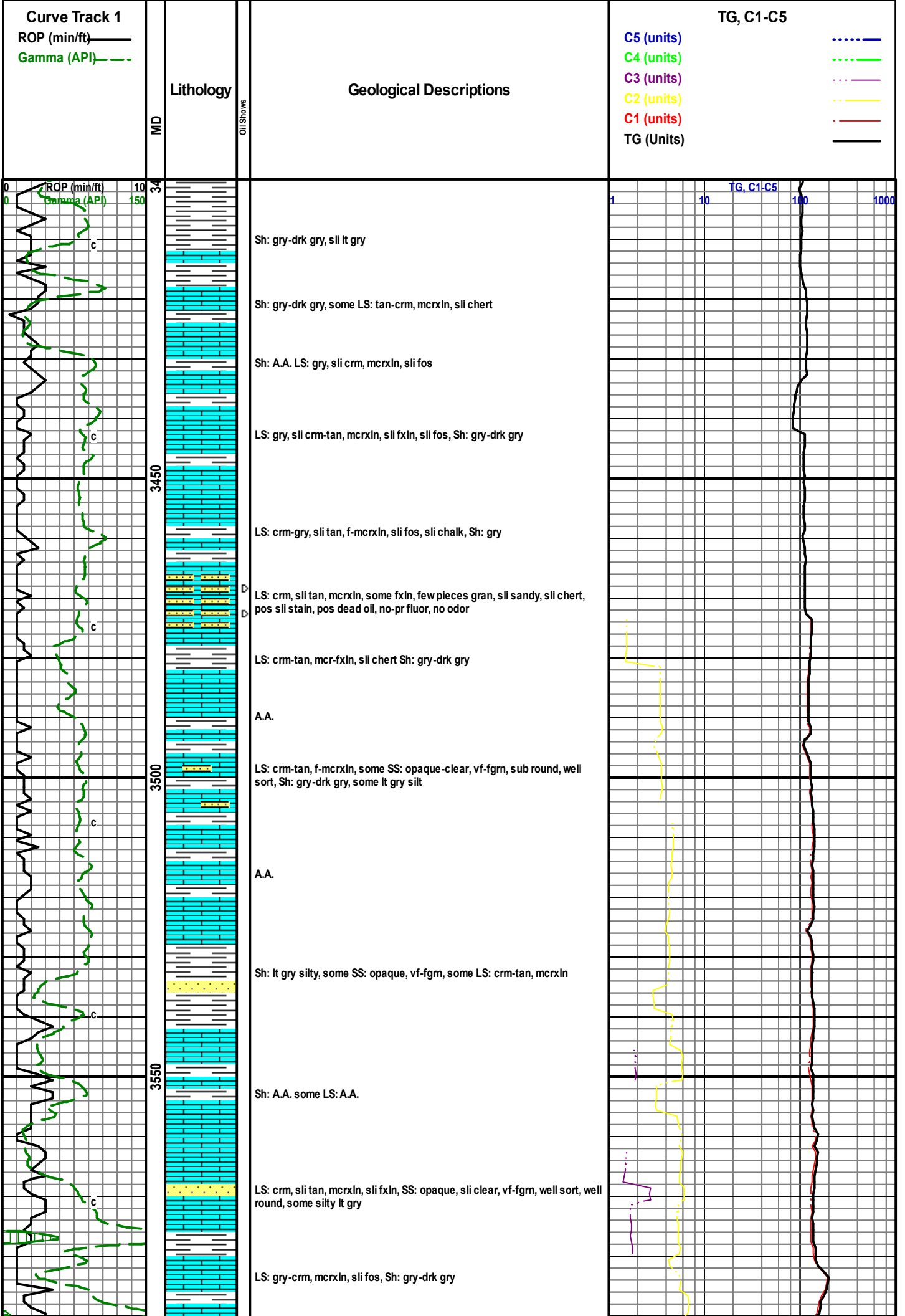
- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec

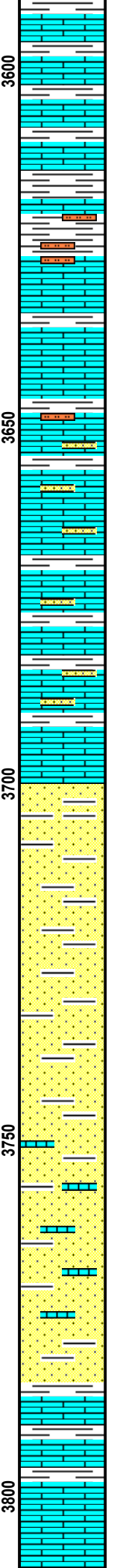
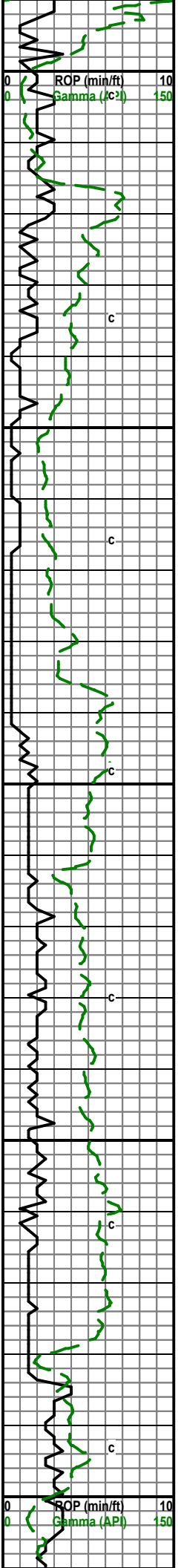
-
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- Pellet**
- Pisolite**
- Plant**
- Strom**

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg





LS: A.A. Sh: gry-drk gry-blck

Sh: gry-drk gry, LS: crm-tan, fxln, some mcxln, fos, sli chert, some Silt: gry, sli sandy

LS: crm, sli tan, mcxln, some fxln, sli cherty, sli fos

LS: crm, sli tan-gry, fxln, some mcxln, sli fos, Sh: gry- drk gry, some lt gry Silt, sli sandy

A.A. with some SS: opaque-gry, vf grn-fgrn well sort, well rnd

LS: crm, sli tan, f-mcxln, cherty, sli chalk, Sh: gry-drk gry, some SS: A.A. more silty

SS: gry, sli cream-opaque, vf-fgrn, part silty

A.A.

A.A.

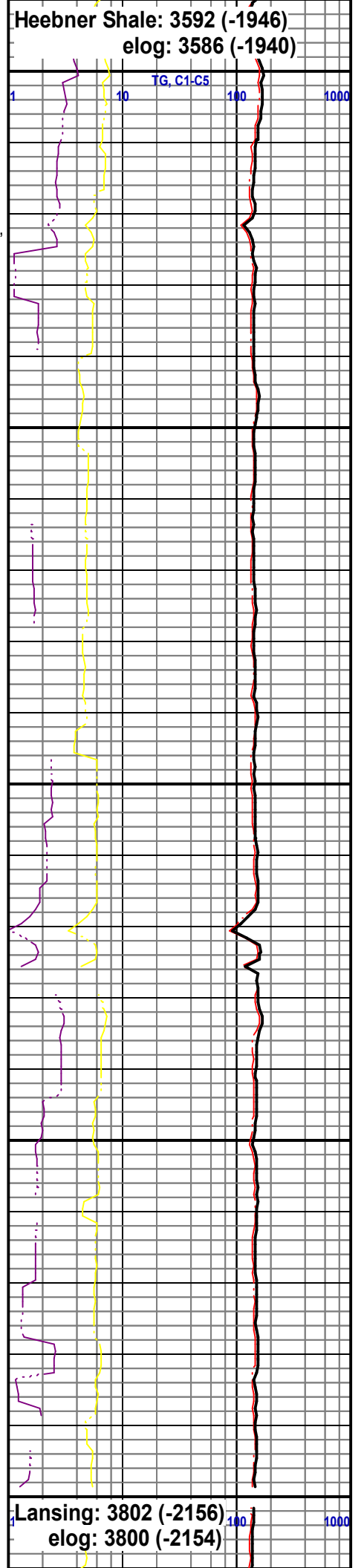
A.A. with some Sh: gry-drk gry

A.A. increase in Sh with some LS: crm,mcxln, sli fos

SS: gry, sli crm-opaque, vf-fgrn, part silty, Sh: gry-drk gry, lt gry silty, some LS: crm, sli tan, mcxln, sli fos

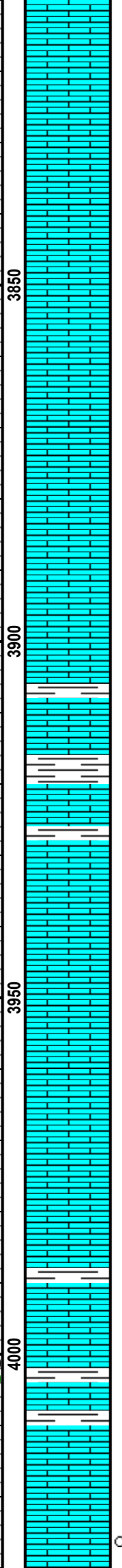
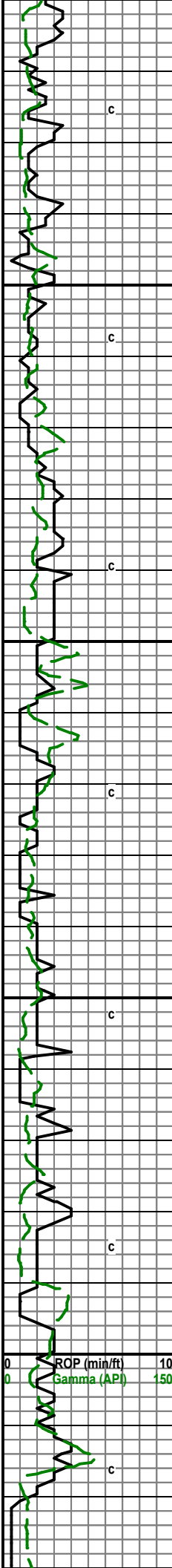
LS: crm, sli tan, mcxln, sli fxln, sli fos, Sh: gry

LS: crm-tan, mcxln, sli chalk



Heebner Shale: 3592 (-1946)
elog: 3586 (-1940)

Lansing: 3802 (-2156)
elog: 3800 (-2154)



LS: crm-tan, mcrxln, sli chert

LS: crm-gry, mcrxln

LS: crm, sli gry, mcrxln, sli chalky

LS: crm-gry, mcrxln, sli chalky, sli cherty

A.A.

A.A.

LS: gry-crm, mcrxln, sli chalk

A.A.

LS: crm-gry, sli tan, mcrxln,

LS: gry-crm, mcrxln cherty Sh: gry

LS: gry-crm, sli tan, mcrxln, chert, Sh: gry

LS: A.A. some Sh: A.A.

LS: crm-tan-gry, mcrxln, some fxln, sli fos

LS: crm-tan, sli gry, mcrxln, fos, sli chalky

LS: crm-gry, sli tan, mcrxln

LS: crm, sli gry-tan, mcrxln, sli fxln, sli chalky

LS: crm-gry, mcrxln, sli fxln, sli chert

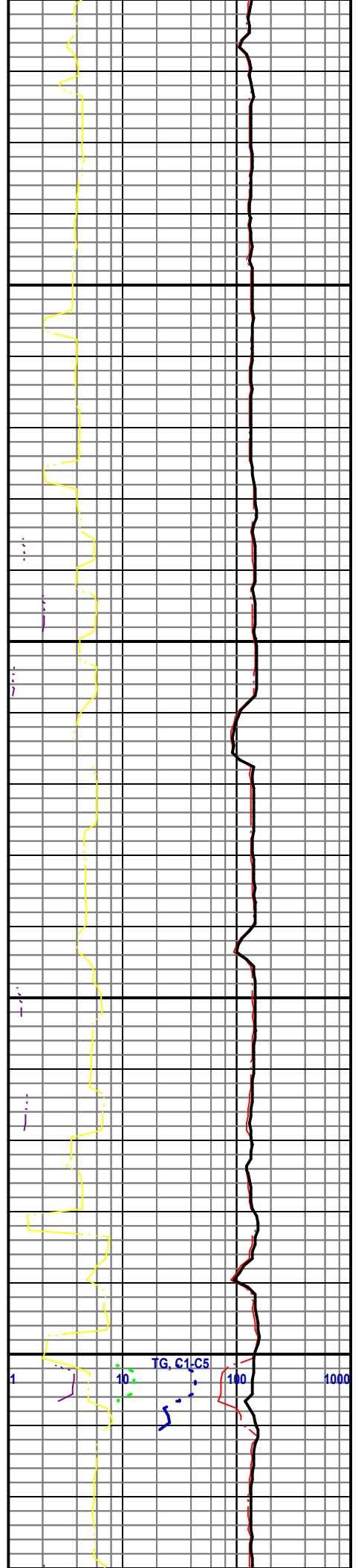
LS: crm-gry, sliu tan, mcrxln, sli fxln, fos, sli chalkk, Sh: gry

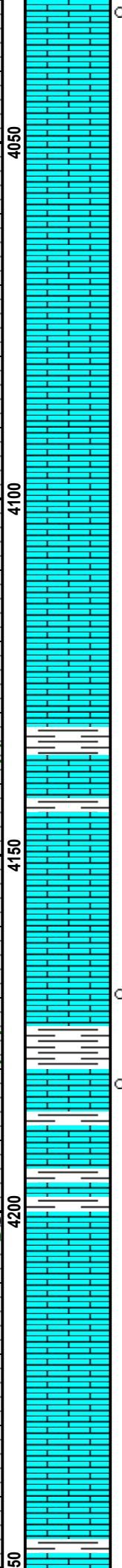
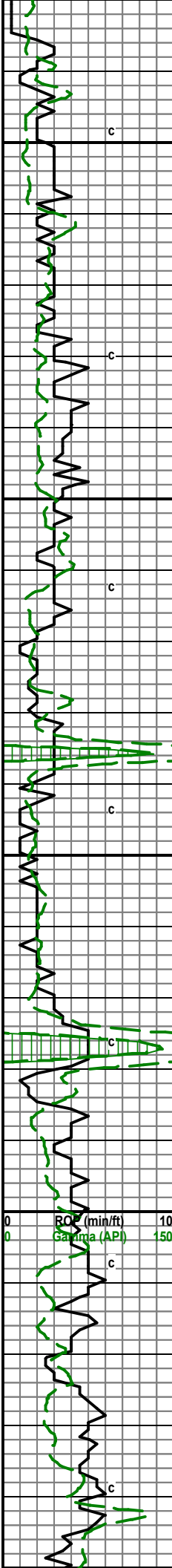
LS: crm-gry, sli tan, mcrxln, fos, sli chert

LS: gry-crm, mcrxln, sli fos, sli chalky, Sh: gry

No Sample

LS: crm, sli gry, mcr-fxln, sli chalky, pos sli stain, no show, no odor, no





fluor, some pyrite

LS: crm, sli tan, mcr-fxln, sli chalky, few oom

LS: crm-tan, mcrxln, sli fxln, few oom

LS: crm-gry some tan, mcr-fxln, some ool/oom, sli chert

LS: crm-gry, mcrxln

LS: crm-gry, sli tan, mcrxln

LS: A.A. few pieces oom

LS: crm-gry, sli tan, mcrxln, sli cherty, few pieces oom

pr sample: A.A.

LS: crm-gry-tan, mcrxln, cherty, few pieces ool/oom, some Sh: drk gry-blck

LS: crm-tan, mcrxln, chalky, Sh: gry-drk gry

LS: gry-crm, sli tan, mcrxln, some f-mxln, some ool, chalky

LS: gry-crm, mcrxln, some fxln, sli ool, chalky

LS: crm-gry, mcrxln, chalky, sli odor, pos dead oil, pos dead stain

LS: gry-crm, mcrxln, sli chert, sli chalk, some Sh: gry-drk gry

LS: gry-crm, sli tan, mcrln, Sh: gry-drk gry

LS: gry-crm, mcrxln, sli fxln, sli fos, sli chalk

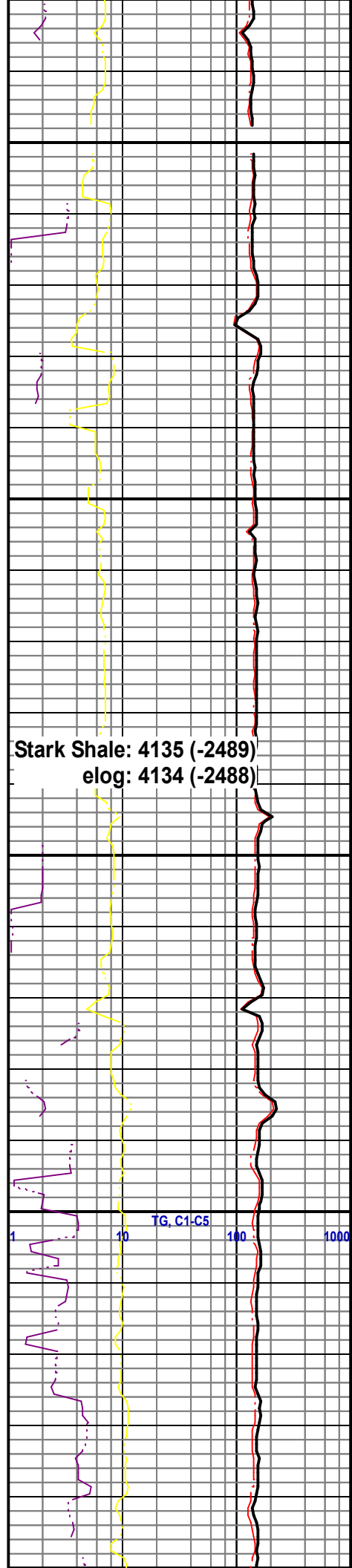
LS: A.A.

LS: crm-gry, mcrxln, sli chak

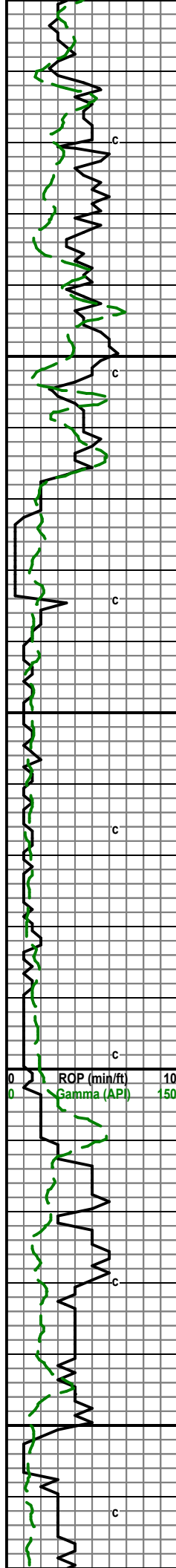
LS: A.A.

LS: gry-crm, mcrxln

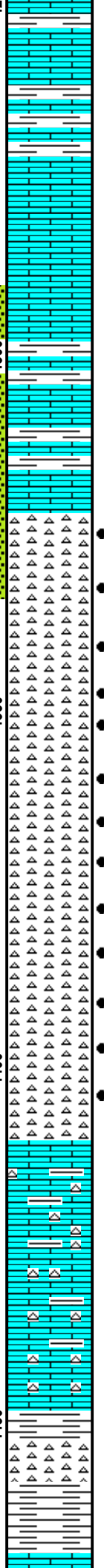
LS: crm-gry, mcrxln, chalky, Sh: gry-drk gry-lt gry



Stark Shale: 4135 (-2489)
eolog: 4134 (-2488)



42
4300
4350
4400
4450



LS: crm-gry, mcrxln, chalky, Sh: gry-drk gry-lt gry

A.A. with some added Sh: green/teal

LS: crm-gry, mcrxln, chalky, Sh: gry-drk gry-lt gry, some green/teal

LS: crm-gry, sli tan, mcrxln, some fxln, chalky

LS: crm, sli gry-tan, mcrxln, sli fxln, chalky

LS: gry-crm, mcrxln, sli fos some Sh: gry-drk gry

LS: crm-tan, sli gry, mcrxln, sli fxln, Sh: lt gry, some teal-purple

Chert: trip, fresh, sat stain, fr show gas, pr-fr SFO, sli dull yellow to gold fluor, no odor

Chert: trip-fresh, sat stain, fr odor, gd show gas, gd SFO, dull yellow fluor

A.A., increase in fresh

Chert: fresh, some trip, sat stain, fr odor, fr SG, fr SFO

Chert: A.A.

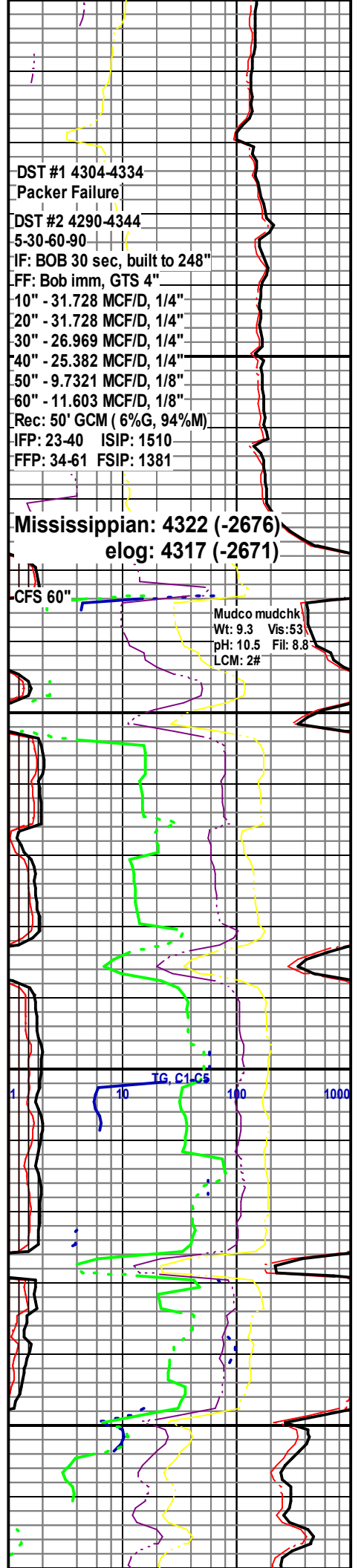
Chert: fresh, some trip, stain, fr odor, sli SFO, sli SG, sli dull yellow fluor

Chert: fresh some trip A.A. some LS: tan, mcrxln,

LS: gry, sli crm, mcrxln some Sh: gry-drk gry

LS: gry, sli crm, mcrxln, some Chert: fresh, sli trip, some Sh: gry-drk gry

A.A.



DST #1 4304-4334
Packer Failure

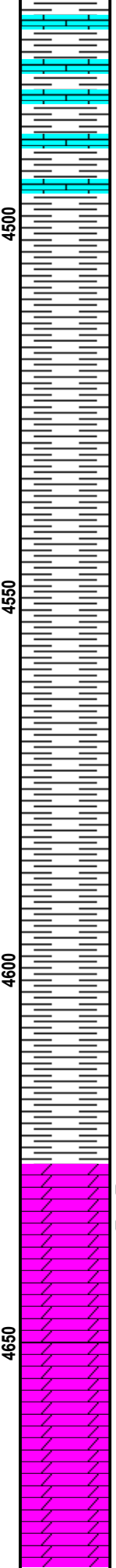
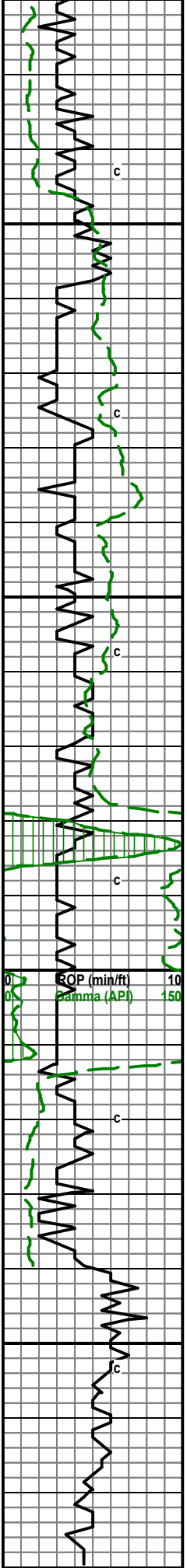
DST #2 4290-4344
5-30-60-90
IF: BOB 30 sec, built to 248"
FF: Bob imm, GTS 4"
10" - 31.728 MCF/D, 1/4"
20" - 31.728 MCF/D, 1/4"
30" - 26.969 MCF/D, 1/4"
40" - 25.382 MCF/D, 1/4"
50" - 9.7321 MCF/D, 1/8"
60" - 11.603 MCF/D, 1/8"
Rec: 50' GCM (6%G, 94%M)
IFP: 23-40 ISIP: 1510
FFP: 34-61 FSIP: 1381

Mississippian: 4322 (-2676)
e log: 4317 (-2671)

CFS 60"

Mudco mudchk
Wt: 9.3 Vis: 53
pH: 10.5 Fil: 8.8
LCM: 2#

TG, C1-C5



Sh: gry-drk gry, some LS: crm, sli gry, mcrxln Chert: fresh

Sh: gry-drk gry, some lt gry, some Chert: fresh

Sh: gry-drk gry

Sh: A.A. some LS, and chert from above

Sh: gry-drk gry, some lt gry

Sh: gry-lt gry-drk gry

Sh: A.A.

Sh: gry-lt gry, some drk gry

Sh: A.A., LS: gry, tan/brwn-crm, mcrxln, slidolo

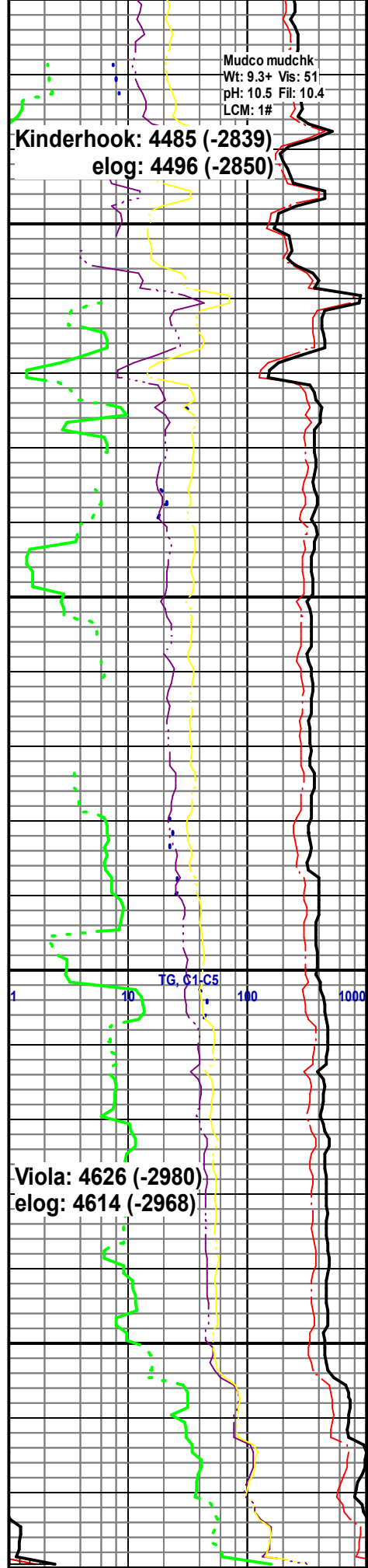
Dolo: crm, sli tan, fxln, some gran, sli cherty, sli stain, show dead oil, pr-fr pp por

Dolo: gry-crm, sli tan, fxln, sli cherty

Dolo: tan-crm, f-mcrxln, sli lime, sli chert

LTD 4677

RTD 4680



Mudco mudchk
 Wt: 9.3+ Vis: 51
 pH: 10.5 Fil: 10.4
 LCM: 1#

**Kinderhook: 4485 (-2839)
 elog: 4496 (-2850)**

**Viola: 4626 (-2980)
 elog: 4614 (-2968)**

TG, C1-C5

1 10 100 1000



DRILL STEM TEST REPORT

Prepared For: **White Exploration**

1635 N Waterfront Pkwy
Ste 100
Wichita, KS 67206

ATTN: Andy White

Spencer's Bluff 1-21

21-31S-12W Barber,KS

Start Date: 2020.03.10 @ 14:40:00

End Date: 2020.03.10 @ 18:36:17

Job Ticket #: 65497 DST #: 1

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

Printed: 2020.03.12 @ 15:38:50



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

White Exploration
1635 N Waterfront Pkw y
Ste 100
Wichita, KS 67206
ATTN: Andy White

21-31S-12W Barber,KS

Spencer's Bluff 1-21

Job Ticket: 65497 **DST#: 1**

Test Start: 2020.03.10 @ 14:40:00

GENERAL INFORMATION:

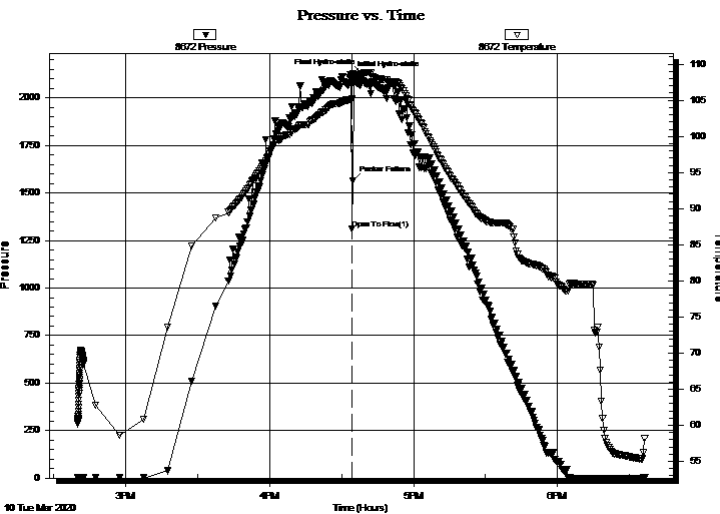
Formation: **Mississippi**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:34:17
 Time Test Ended: 18:36:17
 Interval: **4304.00 ft (KB) To 4344.00 ft (KB) (TVD)**
 Total Depth: 4334.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Leal Cason
 Unit No: 74
 Reference Elevations: 1646.00 ft (KB)
 1639.00 ft (CF)
 KB to GR/CF: 7.00 ft

Serial #: 8672

Inside

Press@RunDepth: psig @ 4305.00 ft (KB) Capacity: psig
 Start Date: 2020.03.10 End Date: 2020.03.10 Last Calib.: 2020.03.10
 Start Time: 14:40:01 End Time: 18:36:17 Time On Btm: 2020.03.10 @ 16:34:02
 Time Off Btm: 2020.03.10 @ 16:38:17

TEST COMMENT: IF: Packer Failure, Tried to Reset, Failed Again, Pulled Test



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2119.67	105.13	Initial Hydro-static
1	1311.70	105.16	Open To Flow (1)
1	1565.12	108.73	Packer Failure
5	2129.35	108.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
315.00	Mud	4.42

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

White Exploration
1635 N Waterfront Pkwy
Ste 100
Wichita, KS 67206
ATTN: Andy White

21-31S-12W Barber,KS
Spencer's Bluff 1-21
Job Ticket: 65497 **DST#: 1**
Test Start: 2020.03.10 @ 14:40:00

Tool Information

Drill Pipe:	Length: 4289.00 ft	Diameter: 3.80 inches	Volume: 60.16 bbl	Tool Weight: 2100.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 60.16 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4304.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	30.00 ft			
Tool Length:	59.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: Shale Packer on Bottom

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4280.00	
Hydraulic tool	5.00			4285.00	
Jars	5.00			4290.00	
EM Tool	3.00			4293.00	
Safety Joint	2.00			4295.00	
Packer	5.00			4300.00	29.00 Bottom Of Top Packer
Packer	4.00			4304.00	
Stubb	1.00			4305.00	
Recorder	0.00	8672	Inside	4305.00	
Recorder	0.00	6751	Outside	4305.00	
Perforations	26.00			4331.00	
Bullnose	3.00			4334.00	30.00 Bottom Packers & Anchor

Total Tool Length: 59.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

White Exploration

21-31S-12W Barber,KS

1635 N Waterfront Pkw y
Ste 100
Wichita, KS 67206
ATTN: Andy White

Spencer's Bluff 1-21

Job Ticket: 65497

DST#: 1

Test Start: 2020.03.10 @ 14:40:00

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:

ppm

Viscosity: 63.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7500.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
315.00	Mud	4.419

Total Length: 315.00 ft Total Volume: 4.419 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

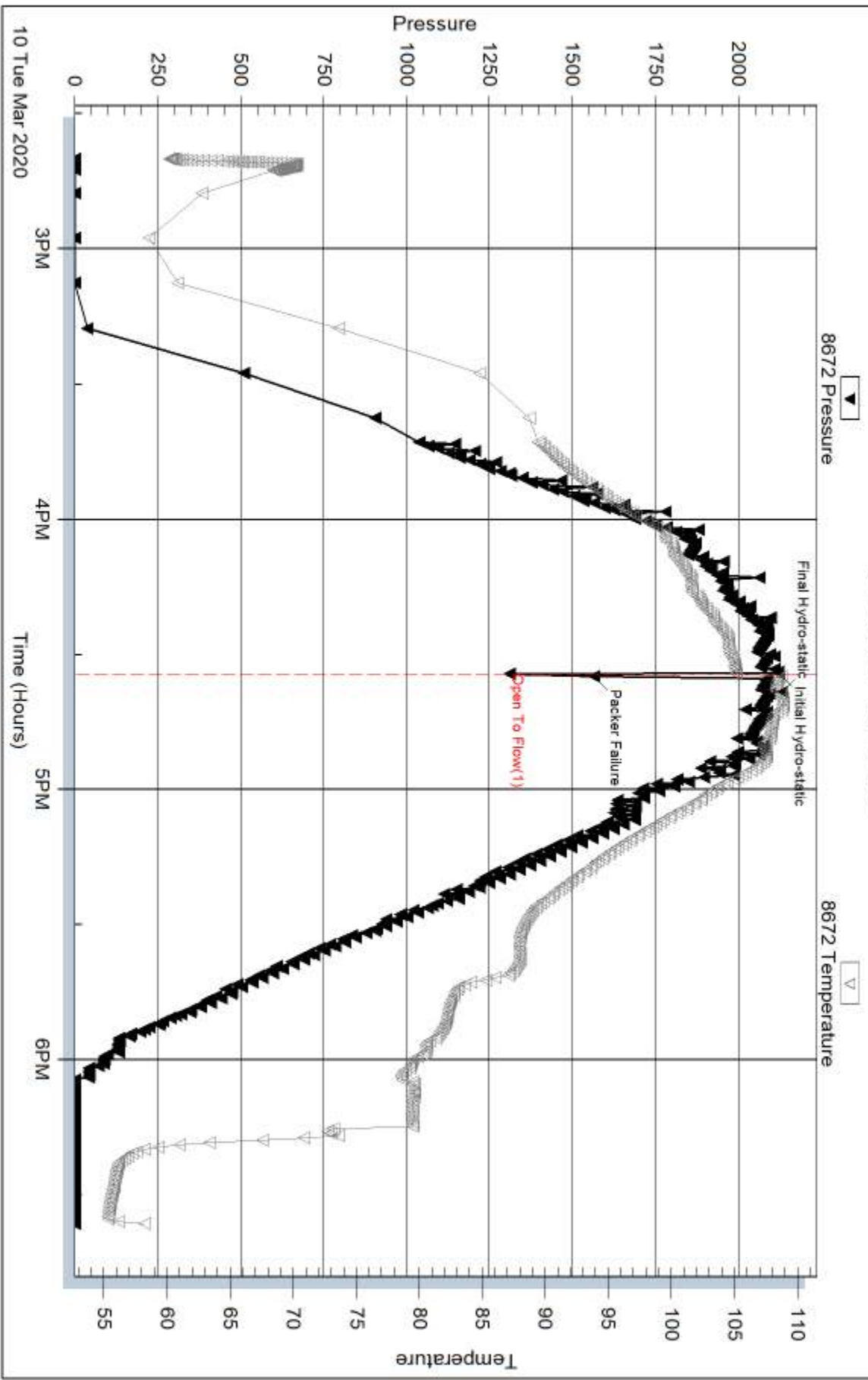
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

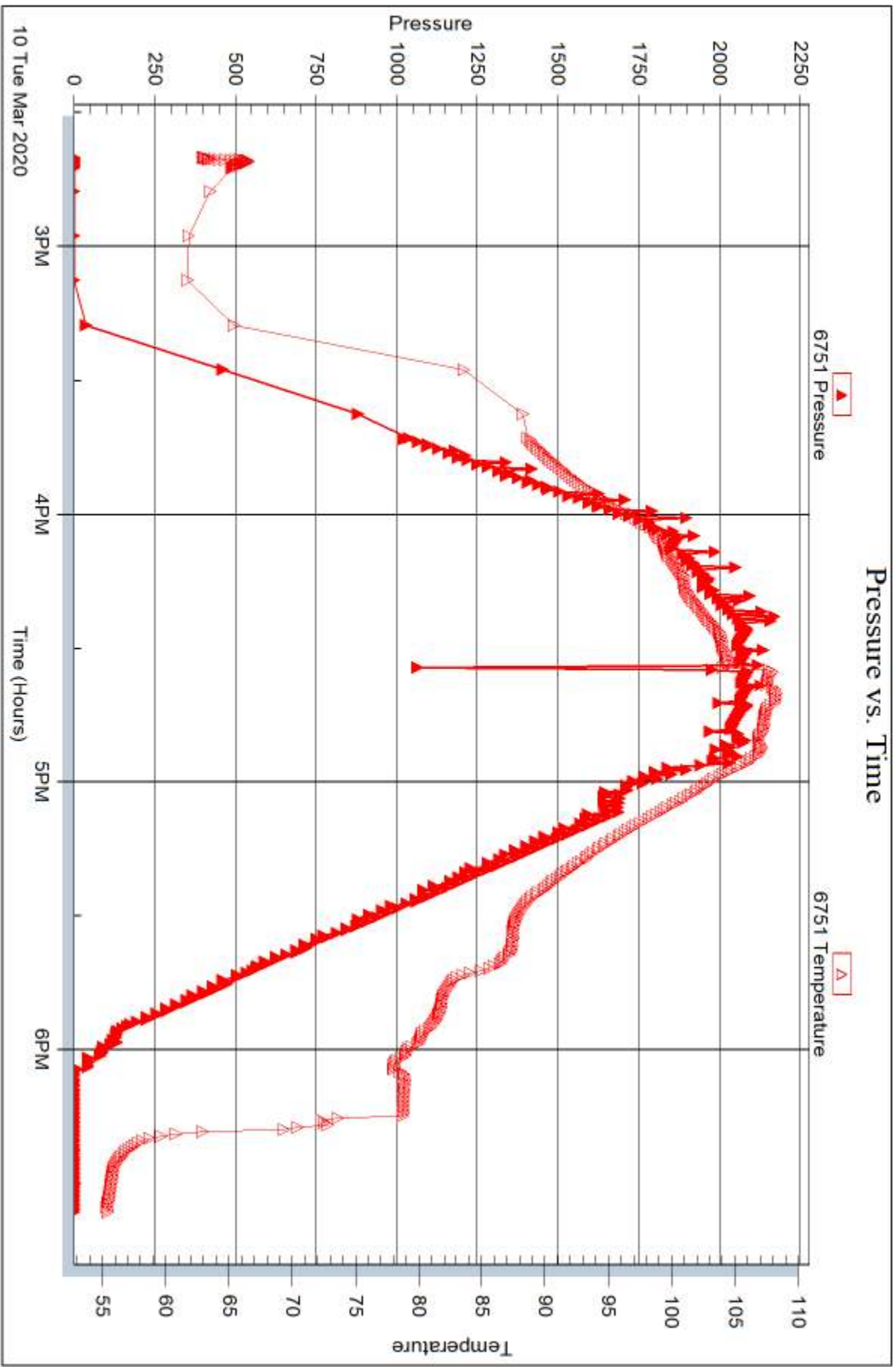


Serial #: 6751

Outside White Exploration

Spencer's Bluff 1-21

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **White Exploration**

1635 N Waterfront Pkwy
Ste 100
Wichita, KS 67206

ATTN: Andy White

Spencer's Bluff 1-21

21-31S-12W Barber,KS

Start Date: 2020.03.10 @ 18:44:00

End Date: 2020.03.11 @ 01:40:02

Job Ticket #: 65498 DST #: 2

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

Printed: 2020.03.12 @ 15:29:19



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

White Exploration
1635 N Waterfront Pkw y
Ste 100
Wichita, KS 67206
ATTN: Andy White

21-31S-12W Barber,KS

Spencer's Bluff 1-21

Job Ticket: 65498 **DST#: 2**

Test Start: 2020.03.10 @ 18:44:00

GENERAL INFORMATION:

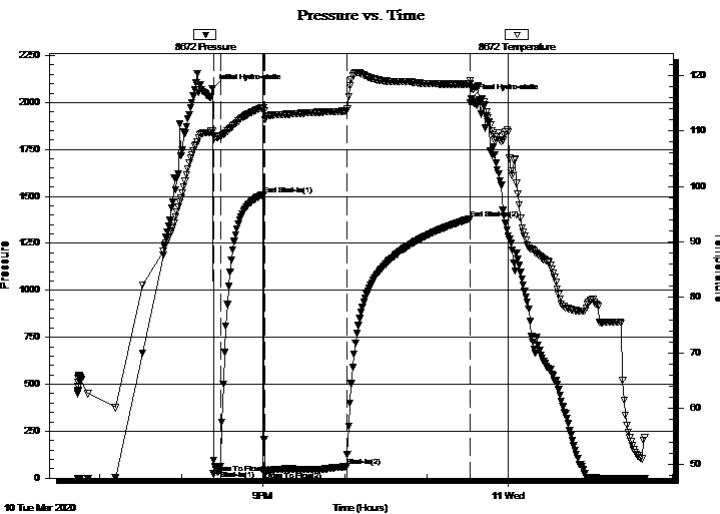
Formation: **Mississippi**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:23:32
 Time Test Ended: 01:40:02
 Interval: **4290.00 ft (KB) To 4334.00 ft (KB) (TVD)**
 Total Depth: 4334.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Leal Cason
 Unit No: 74
 Reference Elevations: 1646.00 ft (KB)
 1639.00 ft (CF)
 KB to GR/CF: 7.00 ft

Serial #: 8672

Inside

Press@RunDepth: 61.48 psig @ 4291.00 ft (KB) Capacity: psig
 Start Date: 2020.03.10 End Date: 2020.03.11 Last Calib.: 2020.03.11
 Start Time: 18:44:01 End Time: 01:40:02 Time On Btm: 2020.03.10 @ 20:22:47
 Time Off Btm: 2020.03.10 @ 23:32:47

TEST COMMENT: IF: Strong Blow , BOB in 30 seconds, Built to 248 inches
 IS: No Blow Back
 FF: Strong Blow , BOB Immediate, GTS in 4 minutes, Gauged & Caught Sample
 FS: No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2075.79	109.94	Initial Hydro-static
1	23.46	109.07	Open To Flow (1)
6	40.13	109.02	Shut-In(1)
38	1509.79	114.19	End Shut-In(1)
39	33.77	111.98	Open To Flow (2)
99	61.48	113.60	Shut-In(2)
189	1381.10	118.41	End Shut-In(2)
190	2020.94	117.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	GTS	0.00
50.00	GCM 6%G 94%M	0.70

* Recovery from multiple tests

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	20.00	31.73
Last Gas Rate	0.13	31.00	11.60
Max. Gas Rate	0.13	31.00	11.60



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

White Exploration
1635 N Waterfront Pkwy
Ste 100
Wichita, KS 67206
ATTN: Andy White

21-31S-12W Barber,KS
Spencer's Bluff 1-21
Job Ticket: 65498 **DST#: 2**
Test Start: 2020.03.10 @ 18:44:00

Tool Information

Drill Pipe:	Length: 4290.00 ft	Diameter: 3.80 inches	Volume: 60.18 bbl	Tool Weight: 2100.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 60.18 bbl</u>	Tool Chased 12.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	4290.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	44.00 ft			
Tool Length:	73.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4266.00	
Hydraulic tool	5.00			4271.00	
Jars	5.00			4276.00	
EM Tool	3.00			4279.00	
Safety Joint	2.00			4281.00	
Packer	5.00			4286.00	29.00 Bottom Of Top Packer
Packer	4.00			4290.00	
Stubb	1.00			4291.00	
Recorder	0.00	8672	Inside	4291.00	
Recorder	0.00	6751	Outside	4291.00	
Perforations	3.00			4294.00	
Change Over Sub	1.00			4295.00	
Drill Pipe	32.00			4327.00	
Change Over Sub	1.00			4328.00	
Perforations	3.00			4331.00	
Bullnose	3.00			4334.00	44.00 Bottom Packers & Anchor
Total Tool Length:	73.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

White Exploration

21-31S-12W Barber,KS

1635 N Waterfront Pkwy
Ste 100
Wichita, KS 67206
ATTN: Andy White

Spencer's Bluff 1-21

Job Ticket: 65498

DST#: 2

Test Start: 2020.03.10 @ 18:44:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 63.00 sec/qt

Water Loss: 8.59 in³

Resistivity: ohm.m

Salinity: 7500.00 ppm

Filter Cake: 0.02 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	GTS	0.000
50.00	GCM 6%G 94%M	0.701

Total Length: 50.00 ft Total Volume: 0.701 bbl

Num Fluid Samples: 1

Num Gas Bombs: 1

Serial #: P8

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

White Exploration

21-31S-12W Barber,KS

1635 N Waterfront Pkw y
Ste 100
Wichita, KS 67206
ATTN: Andy White

Spencer's Bluff 1-21

Job Ticket: 65498

DST#: 2

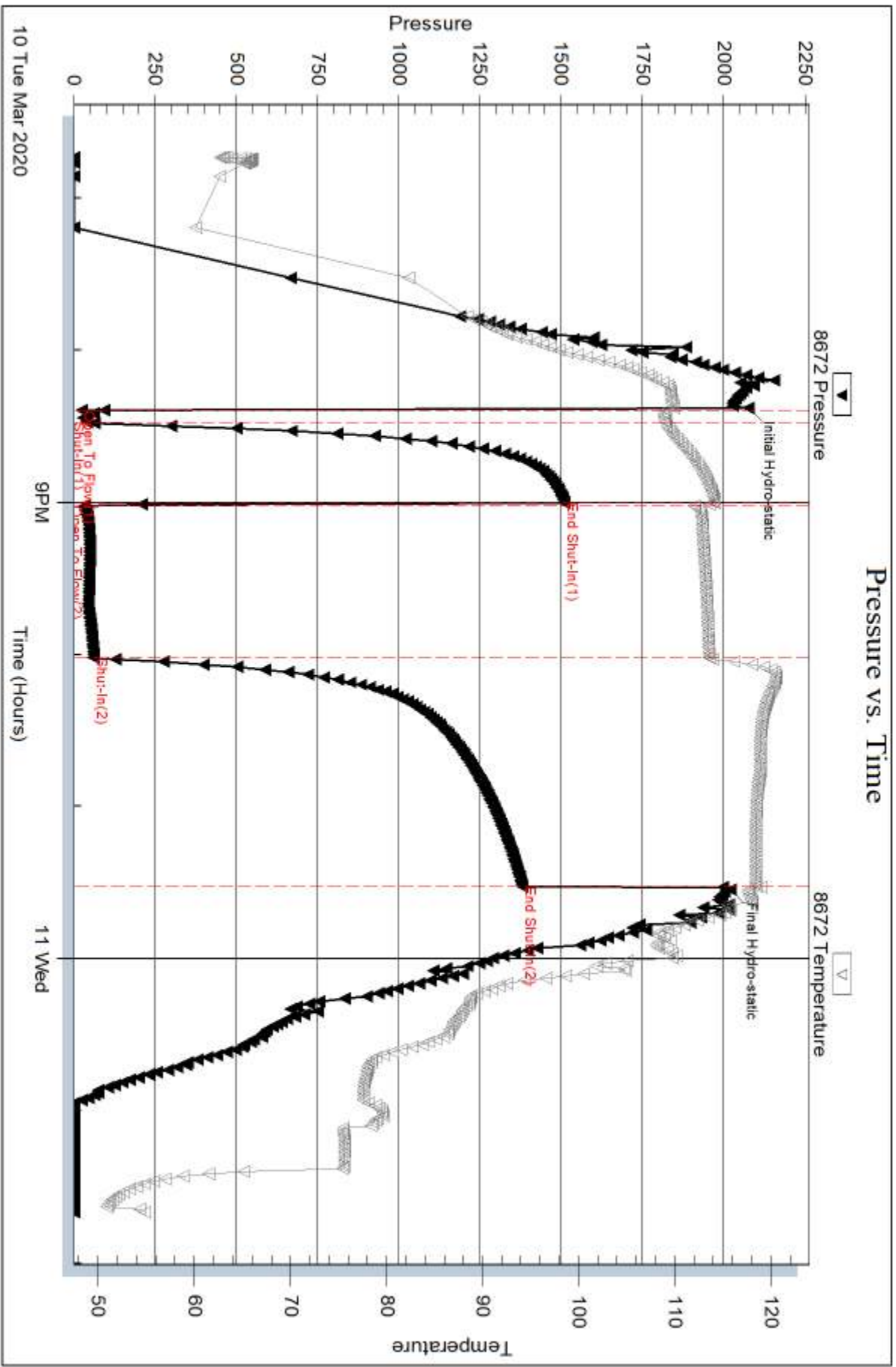
Test Start: 2020.03.10 @ 18:44:00

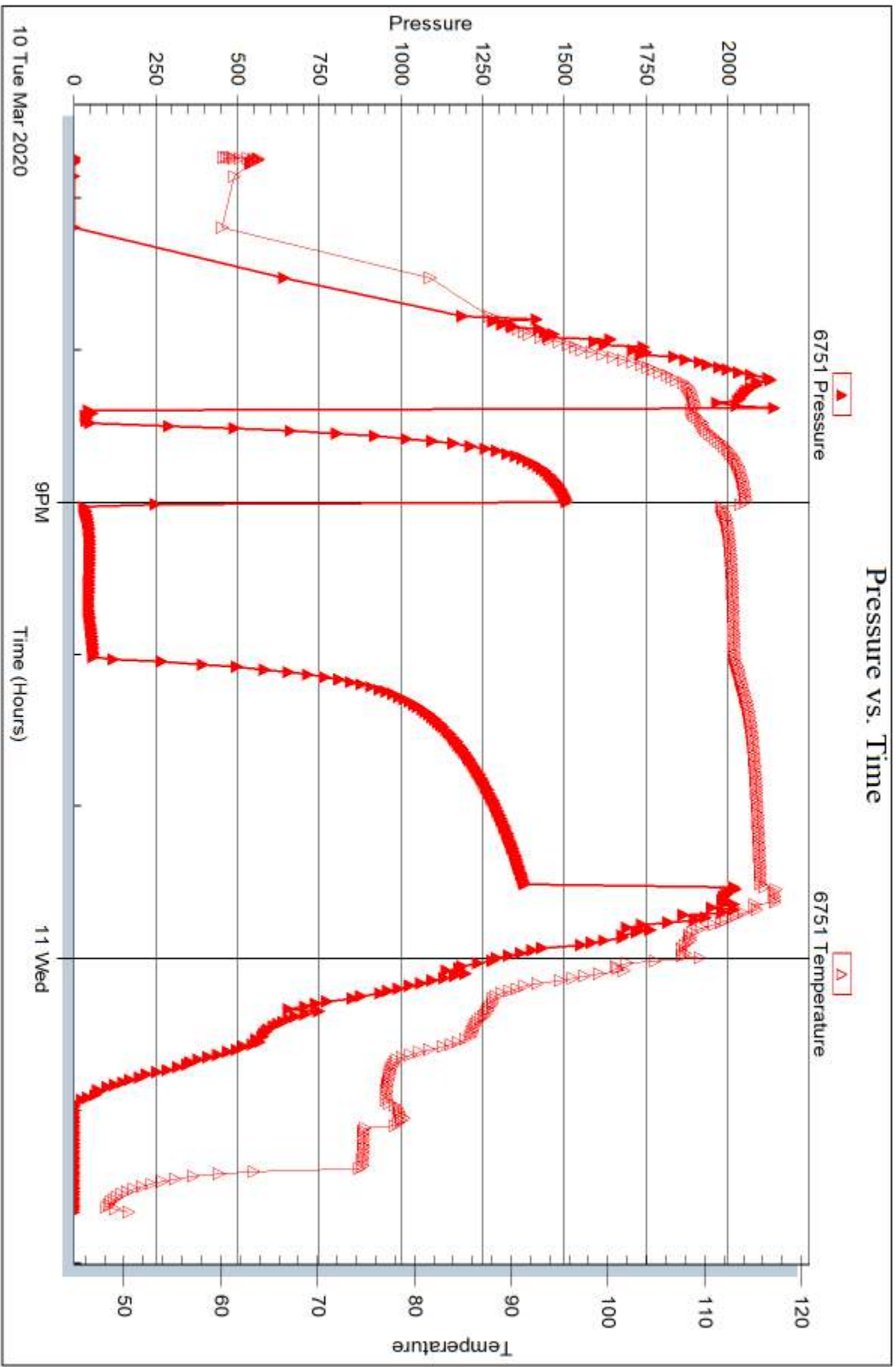
Gas Rates Information

Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	10	0.25	20.00	31.73
2	20	0.25	20.00	31.73
2	30	0.25	17.00	26.97
2	40	0.25	16.00	25.38
2	50	0.13	26.00	9.73
2	60	0.13	31.00	11.60







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 65497

Well Name & No. Spencer's Bluff 1-21 Test No. 1 Date 03/10/20
 Company White Exploration inc Elevation 1646 KB 1639 GL
 Address 1635 N. Waterfront Pkwy Ste 100 Wichita, KS 67206
 Co. Rep / Geo. Andy White Rig Pickrell 10
 Location: Sec. 21 Twp 315 Rge. 12 W Co. Barber State KS

Interval Tested 41304 - 4334 Zone Tested Mississippi
 Anchor Length 30 Drill Pipe Run 4289 Mud Wt. 9.0
 Top Packer Depth 4299 Drill Collars Run 0 Vis 63
 Bottom Packer Depth 4304 Wt. Pipe Run 0 WL 8.0
 Total Depth 4334 Chlorides 7500 ppm System LCM 1
 Blow Description IF: Packer Failure, Tried to Reset, Failed Again, Pulled Test

Rec	Feet of	%gas	%oil	%water	%mud
<u>315</u>	<u>Mud</u>				

Rec Total 315 BHT 108 Gravity NIC API RW NIC @ NIC °F Chlorides NIC ppm

(A) Initial Hydrostatic <u>2119</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>13:50</u>
(B) First Initial Flow <u>N/A</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>14:40</u>
(C) First Final Flow <u>N/A</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>16:34</u>
(D) Initial Shut-In <u>N/A</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>16:40</u>
(E) Second Initial Flow <u>N/A</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>18:36</u>
(F) Second Final Flow <u>N/A</u>	<input checked="" type="checkbox"/> Mileage <u>80</u> → 80	Comments
(G) Final Shut-In <u>N/A</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2129</u>	<input type="checkbox"/> Straddle	<input checked="" type="checkbox"/> EM Tool <u>350</u> NO CHG
Initial Open <u>N/A</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>N/A</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>N/A</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>N/A</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>1705</u>
	Sub Total <u>1705</u>	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. 65498

Well Name & No. Spencer's Bluff 1-21 Test No. 2 Date 03/10/20
 Company White Exploration inc Elevation 1646 KB 1639 GL
 Address 1635 N. Waterfront Pkwy Ste 100 Wichita, KS 67206
 Co. Rep / Geo. Andy White Rig Pickrell 10
 Location: Sec. 21 Twp 31 S Rge. 12 W Co. Barber State KS

Interval Tested 4290 - 4334 Zone Tested Mississippi
 Anchor Length 44 Drill Pipe Run 4290 Mud Wt. 9.0
 Top Packer Depth 4285 Drill Collars Run 0 Vis 63
 Bottom Packer Depth 4290 Wt. Pipe Run 0 WL 8.6
 Total Depth 4334 Chlorides 7500 ppm System LCM 1

Blow Description IF: Strong Blow, BOB in 30 seconds Built to 248 inches
ISF: NO Blow Back

FF: strong Blow, BOB immediate, GTS in 4 minutes, Gauged + caught sample
FSI: NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>4240</u>	<u>GIP</u>				
<u>50</u>	<u>GCM</u>	<u>6%</u>			<u>94%</u>

Rec Total 50 BHT 118 Gravity NK API RW NK @ NK F Chlorides NK ppm

(A) Initial Hydrostatic 2076 Test 1300 T-On Location 18:30
 (B) First Initial Flow 23 Jars 250 T-Started 18:44
 (C) First Final Flow 40 Safety Joint 75 T-Open 20:23
 (D) Initial Shut-In 1510 Circ Sub _____ T-Pulled 23:31
 (E) Second Initial Flow 34 Hourly Standby _____ T-Out 01:40
 (F) Second Final Flow 61 Mileage _____
 (G) Final Shut-In 1381 Sampler _____
 (H) Final Hydrostatic 2020 Straddle _____
 Shale Packer 250 EM Tool 350
 Extra Packer _____ Ruined Shale Packer _____
 Extra Recorder _____ Ruined Packer _____
 Day Standby _____ Extra Copies _____

Initial Open 5
 Initial Shut-In 30
 Final Flow 60
 Final Shut-In 90
 Sub Total 1875 Sub Total 350
 Total 2225 MP/DST Disc't _____

Approved By [Signature] Our Representative [Signature]

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