KOLAR Document ID: 1575149

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 # 30705
Name: Younger Energy Company
Address 1: 9415 E Harry St.., Suite 403, Bldg. 400
Address 2:
City: Wichita State: KS Zip: 67207 + 5083
Contact Person: Diane Rebstock
Phone: (316) 681-2542
CONTRACTOR: License # 5929
Name: Duke Drilling Co., Inc.
Wellsite Geologist: Keith Reavis
Purchaser: Sunoco Partners Marketing & Terminals

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 #:

2/4/2021 Spud Date or Recompletion Date
2/11/2021 Date Reached TD
3/31/2021 Completion Date or Recompletion Date

API No.: 15-185-24076-00-00
Spot Description:
W2 - NE - NW - SE Sec. 30 Twp. 25 S. R. 12 ☐ East ☑ West
2310 Feet from ☐ North / ☑ South Line of Section
1760 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☑ SE ☐ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Stafford
Lease Name: CHRISTIE Well #: #21-2
Field Name: Wildcat
Producing Formation: Kinderhook
Elevation: Ground: 1889 Kelly Bushing: 1898
Total Vertical Depth: 4285 Plug Back Total Depth: 4225
Amount of Surface Pipe Set and Cemented at: 430 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: 38000 ppm Fluid volume: 700 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: Bob's Hauling Service Inc.
Lease Name: Rogers License #: 33779
Quarter NW Sec. 34 Twp. 23 S. R. 13 ☐ East ☑ West
County: Stafford Permit #: D23350

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: 05/28/2021
☐ **Confidential Release Date:** 05/28/2023
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 05/31/2021

Page Two

Operator Name: Younger Energy Company Lease Name: CHRISTIE Well #: #21-2

Sec. 30 Twp. 25 S. R. 12 ☐ East ☑ West County: Stafford

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 ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☐ Yes ☑ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

Geologist Report / Mud Logs ☑ Yes ☐ No

List All E. Logs Run:
Attached

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Attached	Attached	Attached

CASING RECORD ☑ New ☐ 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
Surface	12.25	8.625	20	430	60/40 Pozmix	375	2&3, 1/4# flake
Production	7.875	5.5	17	4280	H-Long	165	

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ 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: 3/31/2021

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	14	0	106		40

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*

PRODUCTION INTERVAL:

Top	Bottom
4043	4047

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*
4	4043	4047			acid 500 gal. 10% MCA, 1000 gal. 10% NEFE, frac 80 gal & 8300# sand
4	4189	4193	CIBP Cast Iron Bridge Plug	4150	acid 250 gal. 7-1/2%

TUBING RECORD: Size: 2.875 Set At: 4071 Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Younger Energy Company
Well Name	CHRISTIE #21-2
Doc ID	1575149

All Electric Logs Run

Dual Induction
Compensated Density/Neutron PE
Sonic
Micro
Computer Processed
Geologist Mudlog
Cement Bond

Form	ACO1 - Well Completion
Operator	Younger Energy Company
Well Name	CHRISTIE #21-2
Doc ID	1575149

Tops

Name	Top	Datum
Heebner	3433	-1535
Toronto	3451	-1553
Douglas	3470	-1572
Brown Lime	3600	-1702
Lansing	3622	-1724
LKC "H"	3760	-1862
BKC	3910	-2012
Conglomerate	3979	-2081
Kinderhook Sand	4043	-2145
Viola	4068	-2170
Simpson Sand	4163	-2265
Arbuckle	4242	-2344

Form	ACO1 - Well Completion
Operator	Younger Energy Company
Well Name	CHRISTIE #21-2
Doc ID	1575149

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	20	430	60/40 Pozmix	375	2&3, 1/4# flake
Production	7.875	5.5	17	4280	H-Long	165	

Scale 1:240 Imperial

Well Name:	Christie 21-2		
Surface Location:	Sec. 30 - T25S - R12W		
Bottom Location:			
API:	15-185-24076-0000		
License Number:	30705		
Spud Date:	2/4/2021	Time:	8:45 AM
Region:	Stafford County		
Drilling Completed:	2/11/2021	Time:	9:45 PM
Surface Coordinates:	2310' FSL & 1760' FEL		
Bottom Hole Coordinates:			
Ground Elevation:	9.00ft		
K.B. Elevation:	1898.00ft		
Logged Interval:	3100.00ft	To:	4285.00ft
Total Depth:	4285.00ft		
Formation:	Arbuckle		
Drilling Fluid Type:	Chemical/Fresh Water Gel		

OPERATOR

Company:	Younger Energy Company		
Address:	9415 E. Harry St. Bldg 400, Ste. 403 Wichita, KS 67207		
Contact Geologist:			
Contact Phone Nbr:	316-681-2542		
Well Name:	Christie 21-2		
Location:	Sec. 30 - T25S - R12W		
API:	15-185-24076-0000		
Pool:		Field:	Un-named
State:	Kansas	Country:	USA

SURFACE CO-ORDINATES

Well Type:	Vertical
Longitude:	-98.679950
Latitude:	37.845930
N/S Co-ord:	2310' FSL
E/W Co-ord:	1760' FEL

LOGGED BY

Keith Reavis
Consulting Geologist

Company:	Keith Reavis, Inc.		
Address:	3420 22nd Street Great Bend, KS 67530		
Phone Nbr:	620-617-4091		
Logged By:	KLG #136	Name:	Keith Reavis

CONTRACTOR

Contractor:	Duke Drilling Company		
Rig #:	4		
Rig Type:	mud rotary		
Spud Date:	2/4/2021	Time:	8:45 AM
TD Date:	2/11/2021	Time:	9:45 PM
Rig Release:		Time:	

ELEVATIONS

K.B. Elevation: 1898.00ft
K.B. to Ground: 1889.00ft
Ground Elevation: 9.00ft

NOTES

Due to results of drill stem tests conducted and electrical log analysis, 5 1/2 inch production casing was set and cemented to further test the Simpson and Kinderhook through perforations and stimulation. Other zones to be tested in the future are the Mississippian Chert and Lansing H.

A Bloodhound gas detections system was employed during the drilling of this well. ROP and gas data were imported into this log, as well as the gamma ray and caliper curves from the electrical log suite.

Respectfully submitted,
Keith Reavis

daily drilling report

DATE	7:00 AM DEPTH	REMARKS
02/07/2021		geologist Keith Reavis on location 1000 hrs, 3036 ft, drilling ahead Topeka, mud displacement under way
02/08/2021	3515	drilling ahead, Topeka, Heebner, Toronto, Douglas, had power go down in gas detector trailer, had to call in for new power cable, replace, back up running, drilling ahead, LKC thru day
02/09/2021	3850	cfs J zone, shows in H thru J warrant test, short trip, ctch, drop survey and strap out, make up tools, TIH, conduct and complete DST #1, successful test, TIH w/bit, resume drilling, BKC
02/10/2021	4010	drilling Marmaton, Conglomerate, Mississippian, Kinderhook, show in Kinderhook warrants test, short trip, ctch, TOH w/bit and in w/tools, conduct DST #2
02/11/2021	4086	complete DST #2, successful test, TIH w/bit, resume drilling, Viola, Simpson, Arbuckle, TD @ 4285 ft @ 2145 hrs, cfs, short trip, ctch, TOH for logs
02/12/2021	4285	finish TOH, conduct logging operations. Geologist off location 930 hrs.

well comparison sheet

	DRILLING WELL Christie 21-2 2310' FSL & 1760' FEL Sec 30-T25S-R12W 1898 KB				COMPARISON WELL Younger - Christie #1 NE NE SW Sec 30-T25S-R12W 1902 KB		Structural Relationship		COMPARISON WELL Mustang - A. Brinkman #1 NW NE SE Sec 30-T25S-R12W 1891 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Topeka	3111	-1213			3116	-1214	1		3110	-1219	6	
Heebner	3434	-1536	3433	-1535	3446	-1544	8	9	3434	-1543	7	8
Toronto	3453	-1555	3451	-1553	3463	-1561	6	8	3454	-1563	8	10
Douglas	3474	-1576	3470	-1572	3484	-1582	6	10	3470	-1579	3	7
Brown Lime	3601	-1703	3600	-1702	3613	-1711	8	9	3601	-1710	7	8
Lansing	3624	-1726	3622	-1724	3638	-1736	10	12	3624	-1733	7	9
H Zone	3765	-1867	3760	-1862	3774	-1872	5	10	3764	-1873	6	11
BKC	3911	-2013	3910	-2012	3923	-2021	8	9	3912	-2021	8	9
Conglomerate	3979	-2081	3979	-2081	3991	-2089	8	8	3980	-2089	8	8
Kinderhook Sd	4043	-2145	4043	-2145	4058	-2156	11	11	4040	-2149	4	4
Viola	4068	-2170	4068	-2170	4092	-2190	20	20	4070	-2179	9	9
Simpson Sd	4164	-2266	4163	-2265	4176	-2274	8	9	4172	-2281	15	16
Arbuckle	4245	-2347	4242	-2344	4252	-2350	3	6	4246	-2355	8	11
Total Depth	4285	-2387	4285	-2387	4277	-2375	-12	-12	4258	-2367	-20	-20

	COMPARISON WELL Younger - Hearn B1 SW SW NE Sec 30-T25S-R12W 1902 KB		Structural Relationship	
Formation	Log	Sub-Sea	Sample	Log
Topeka	3120	-1218	5	
Heebner	3446	-1544	8	9
Toronto	3463	-1561	6	8
Douglas	3489	-1587	11	15
Brown Lime	3612	-1710	7	8

Lansing	3632	-1730	4	6
H Zone	3774	-1872	5	10
BKC	3924	-2022	9	10
Conglomerate	3995	-2093	12	12
Kinderhook Sd	4065	-2163	18	18
Viola	4093	-2191	21	21
Simpson Sd	4170	-2268	2	3
Arbuckle	4247	-2345	-2	1
Total Depth	4257	-2355	-32	-32

Drill Stem Test #1

DRILL STEM TEST REPORT

Younger Energy Company

9415 E harry StreetSuite403
building 400
Wichita,Kansas 67207
ATTN: Keith Reavis

30-25s-12wStafford

christie #21-2

Job Ticket: 01462 **DST#: 1**

Test Start: 2021.02.09 @ 07:25:00

GENERAL INFORMATION:

Formation: **Kansas City "H-I&J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:39:00
Time Test Ended: 03:44:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Gene Budig
Unit No: 1

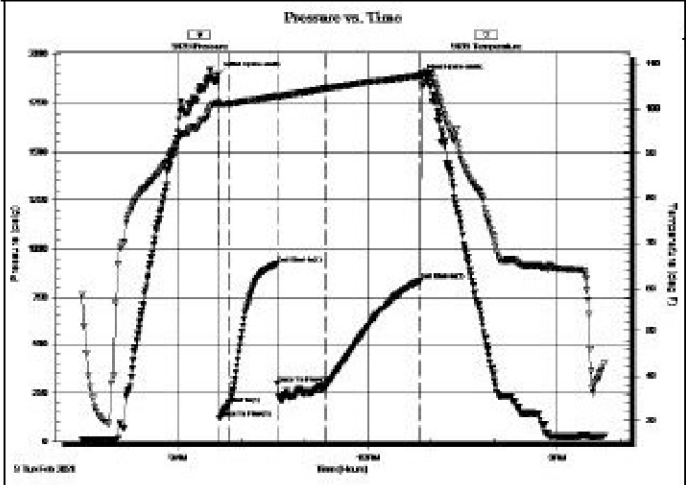
Interval: 3760.00 ft (KB) To 3850.00 ft (KB) (TVD)
Total Depth: 3850.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1897.00 ft (KB)
1889.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 9139
Press@RunDepth: 837.75 psig @ ft (KB)
Start Date: 2021.02.09 End Date: 2021.02.09
Start Time: 07:26:00 End Time: 15:44:00

Capacity: psig
Last Calib.: 1899.12.30
Time On Btm: 2021.02.09 @ 09:37:30
Time Off Btm: 2021.02.09 @ 12:50:00

TEST COMMENT: 1st Opening 10 Minutes Good blow built to the bottom of a 5 gallon bucket in 4 minutes
1st Shut-In 45 Minutes no blow back
2nd Opening 45 Minutesn Fair blow built to the bottom of a 5 gallon bucket in 11 Minutes and decreased
final Shut-in 90 Minutes no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1897.72	101.30	Initial Hydro-static
1	121.60	100.91	Open To Flow (1)
11	195.66	101.06	Shut-In(1)
56	924.57	102.79	End Shut-In(1)
57	299.27	102.63	Open To Flow (2)
102	261.55	104.42	Shut-In(2)
192	837.75	107.32	End Shut-In(2)
193	1881.07	107.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	180 gas in the pipe	0.00
60.00	slightlyh oil and gas cut mud	0.30
0.00	5% Gas 8% Oil 80% Mud 7% Water	0.00
120.00	Gas oil and water cut mud	0.60
0.00	10% Gas 20% Oil 50% Mud 20% water	0.00
60.00	gassy oil cut muddy water	0.84

Gas Rates

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

Drill Stem Test #2

DRILL STEM TEST REPORT

Younger Energy Company

9415 Eharry StreetSuite403
building 400
Wichita,Kansas 67207
ATTN: Keith Reavis

30-25s-12wStafford

christie #21-2

Job Ticket: 01463 **DST#:2**

Test Start: 2021.02.10 @ 17:12:00

GENERAL INFORMATION:

Formation: **kinderhook**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:23:00
Time Test Ended: 01:22:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Gene budig
Unit No: 1

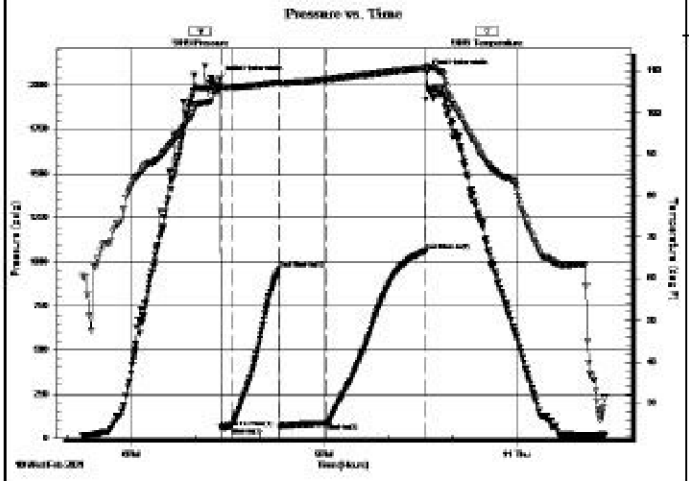
Interval: 4033.00 ft (KB) To 4061.00 ft (KB) (TVD)
Total Depth: 4061.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1897.00 ft (KB)
1889.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 9119 **Inside**
Press@RunDepth: 1060.74 psig @ 4057.00 ft (KB)
Start Date: 2021.02.10 End Date: 2021.02.11
Start Time: 17:12:00 End Time: 01:22:00

Capacity: 5000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2021.02.10 @ 19:23:00
Time Off Btm: 2021.02.10 @ 22:36:00

TEST COMMENT: 1st opening 10 minutes fair blow built to the bottom of a 5 gallon bucket in 8 minutes
1st shut-in 45 minutes weak blow back
2nd opening 45 minutes good blow bottom of the bucket in 30 seconds decreased to fair blow
2nd shut-in 90 Minutes no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2038.22	106.49	Initial Hydro-static
1	53.98	106.08	Open To Flow (1)
10	61.68	106.14	Shut-In(1)
55	960.19	107.21	End Shut-In(1)
57	56.91	106.98	Open To Flow (2)
100	83.94	107.99	Shut-In(2)
192	1060.74	110.61	End Shut-In(2)
193	2073.92	111.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	800 feet of gas in the pipe	0.00
60.00	slightly oil cut mud 10%Oil 90%Mud	0.32
60.00	gassy oil cut mud 30%Gas20%Oil 48%M0.30%	
0.00	right above the tool 70%Gas 20%Oil	0.00
0.00	8%Mud 2%water	0.00

Gas Rates

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

ROCK TYPES

Cht, Cht vari, Chtcongl, Dolprim, Lmst fw<7, Lmst fw7>, shale, grn, shale, gry, Carbon Sh, shale, red, Ss, Sltst

ACCESSORIES

MINERAL
- Argillaceous
- Chert, dark
- Dolomitic
- Pyrite
- Chert White

FOSSIL
- Bioclastic or Fragmental
- Fossils < 20%
- Oolite
- Pellets
- Oomoldic

STRINGER
- Dolomite
- Limestone
- Sandstone
- Siltstone
- Shale

TEXTURE
- Chalky
- Lithogr

Mc Mica

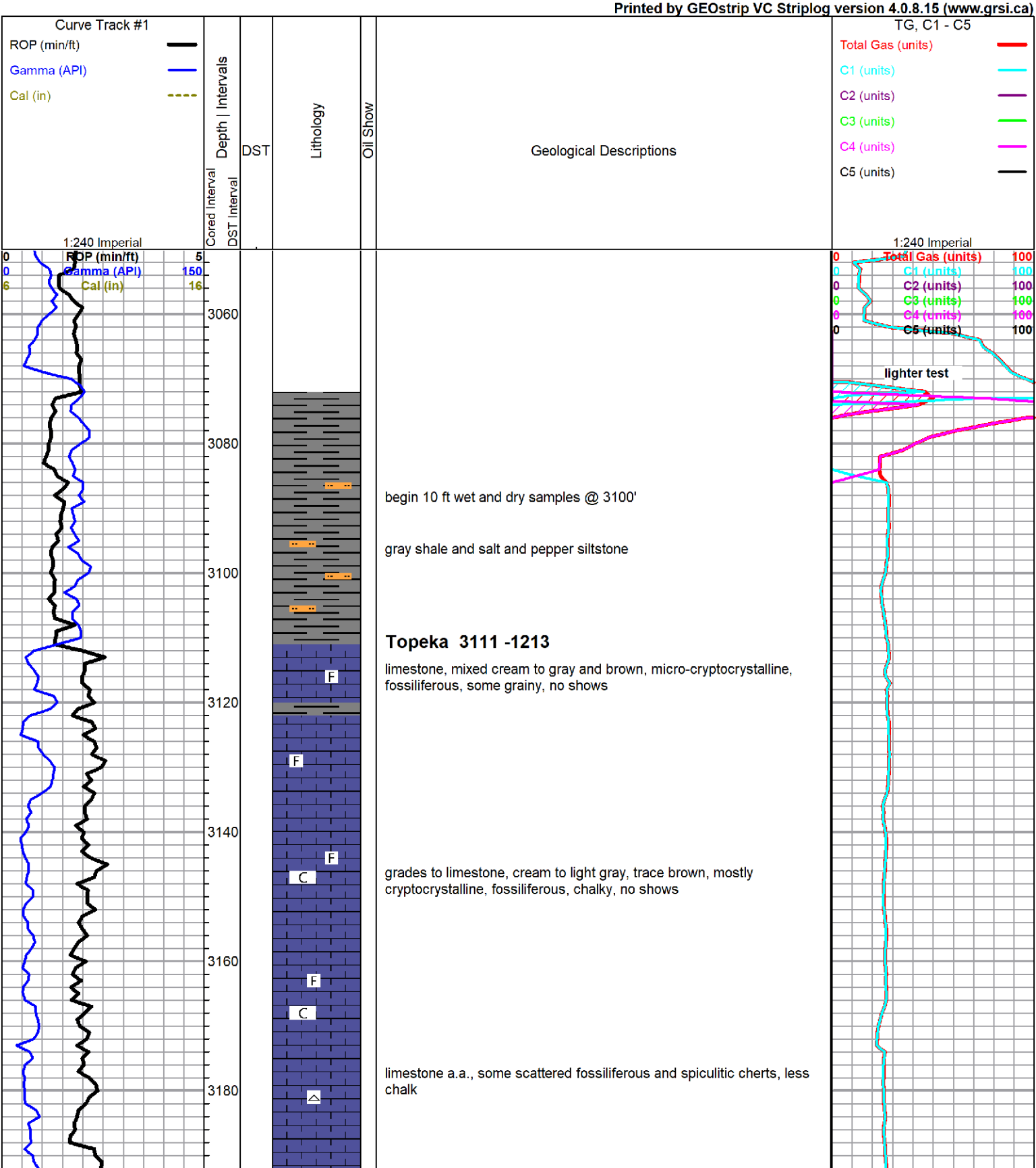
green shale
red shale

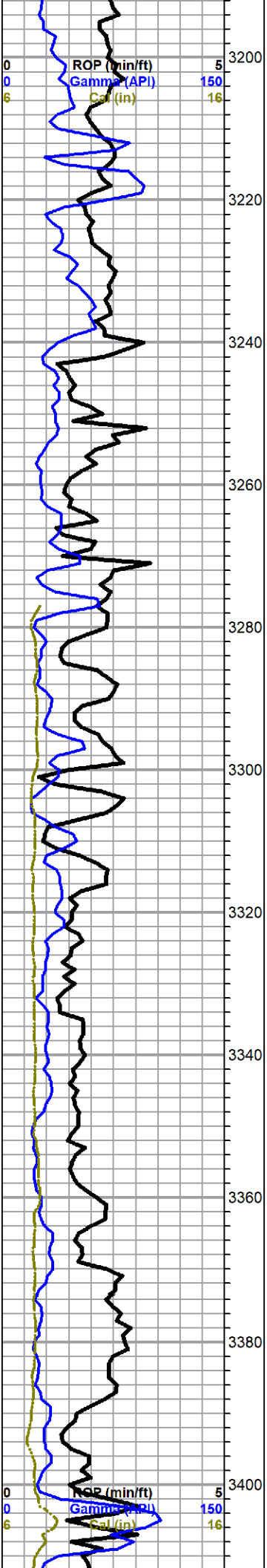
OTHER SYMBOLS

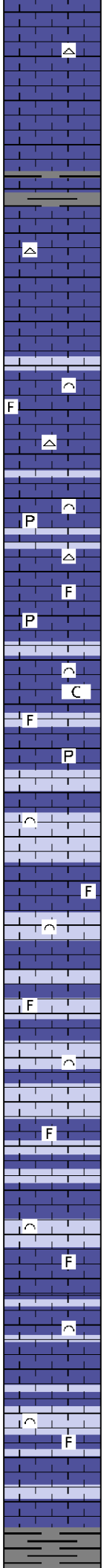
Oil Show
- Good Show
- Fair Show
- Poor Show
- Spotted or Trace
- Questionable Stn
- Dead Oil Stn
- Fluorescence
- Gas

DST
- DST Int
- DST alt
- Core
- tail pipe

Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)







limestones, a.a.

limestone, mixed cream to gray, fossiliferous, dense to chalky, some bioclastic and trace oomoldic, marked increase in cherts, no shows

a.a. with pyrite

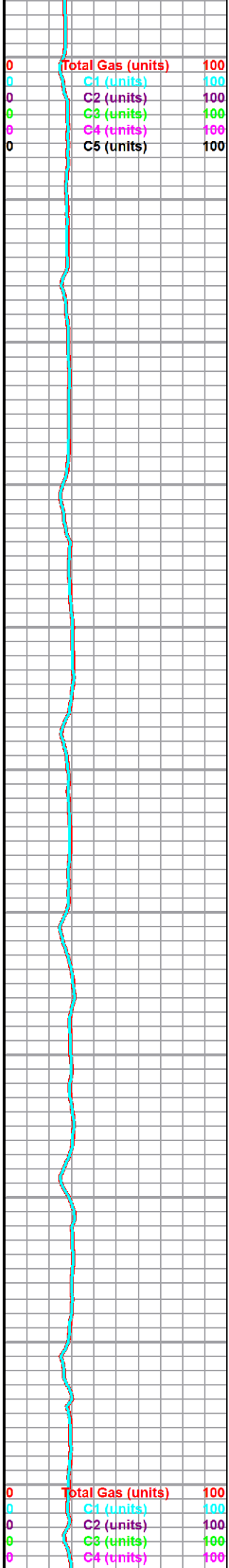
a.a., increase pyrite

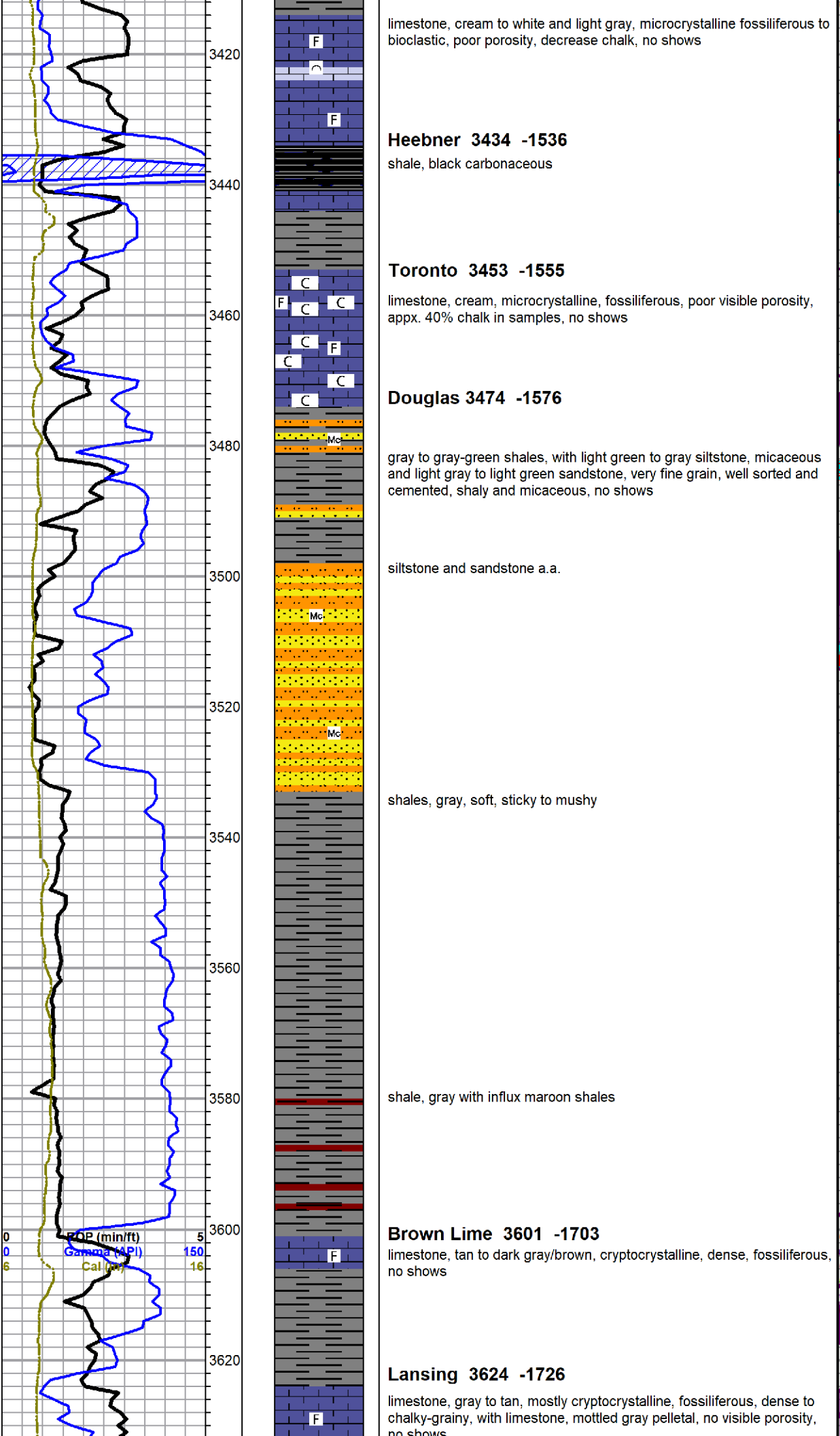
limestone a.a. with increase in cream to tan bioclastic, some chalk, no shows

limestone, cream to white and light gray, bioclastic to fossiliferous, grainy in part, chalky, some fair porosity, flood chalk in samples, no shows

a.a.

a.a.





limestone, cream to white and light gray, microcrystalline fossiliferous to bioclastic, poor porosity, decrease chalk, no shows

Heebner 3434 -1536

shale, black carbonaceous

Toronto 3453 -1555

limestone, cream, microcrystalline, fossiliferous, poor visible porosity, appx. 40% chalk in samples, no shows

Douglas 3474 -1576

gray to gray-green shales, with light green to gray siltstone, micaceous and light gray to light green sandstone, very fine grain, well sorted and cemented, shaly and micaceous, no shows

siltstone and sandstone a.a.

shales, gray, soft, sticky to mushy

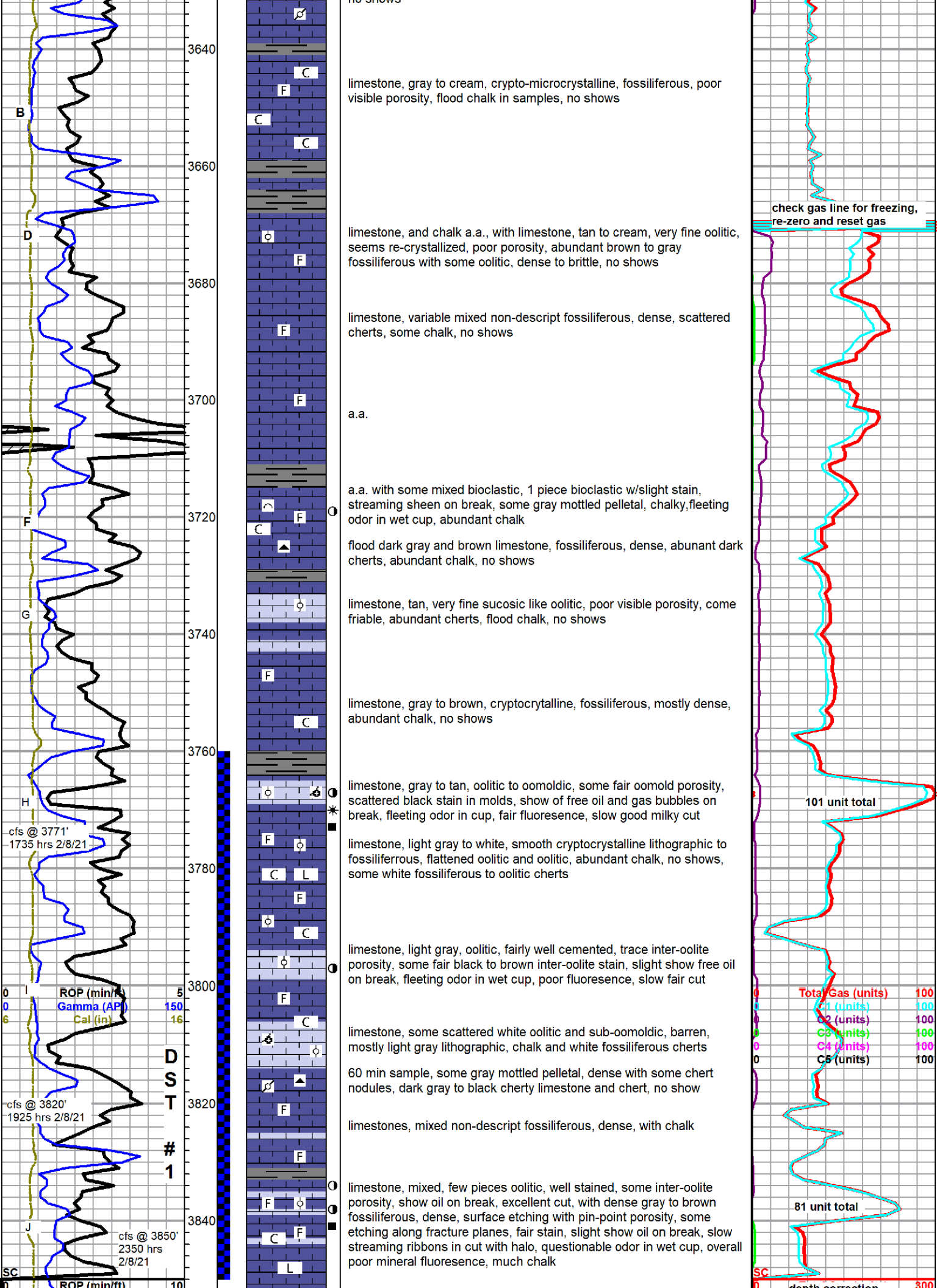
shale, gray with influx maroon shales

Brown Lime 3601 -1703

limestone, tan to dark gray/brown, cryptocrystalline, dense, fossiliferous, no shows

Lansing 3624 -1726

limestone, gray to tan, mostly cryptocrystalline, fossiliferous, dense to chalky-grainy, with limestone, mottled gray pelletal, no visible porosity, no shows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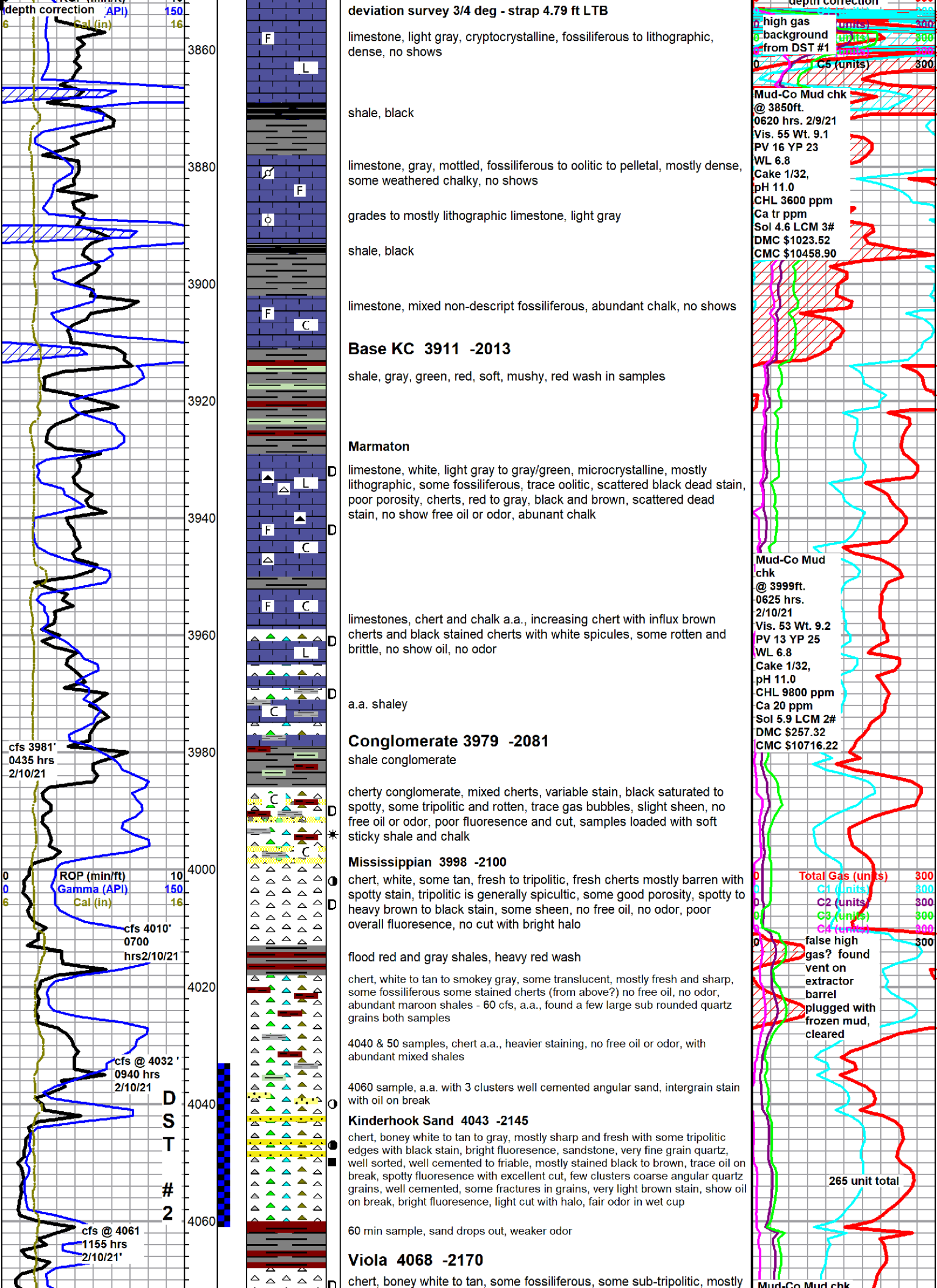
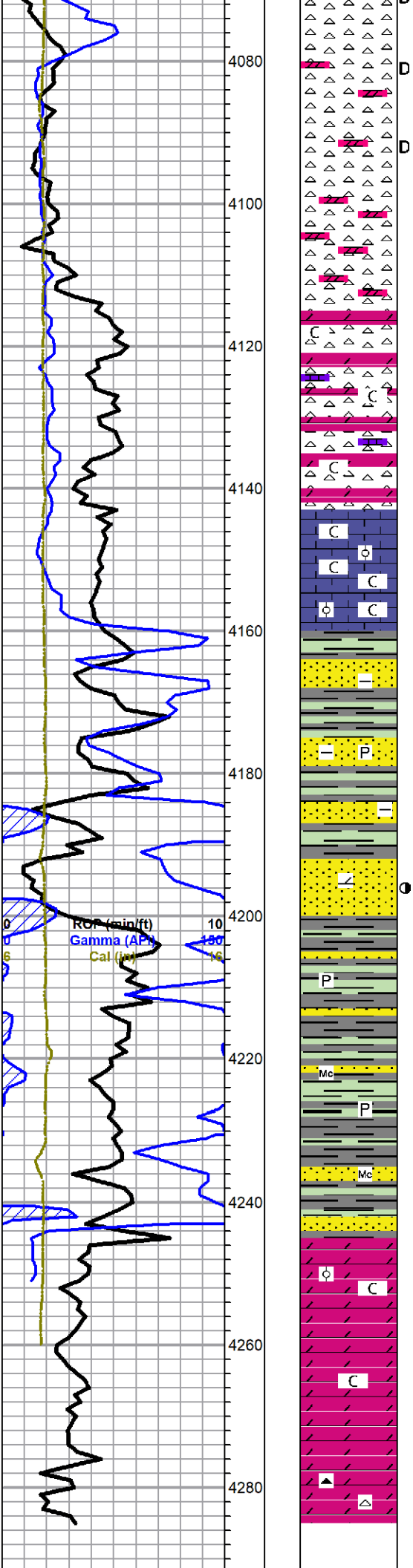
H
I
J
SC
cfs @ 3771'
1735 hrs 2/8/21
cfs @ 3820'
1925 hrs 2/8/21
cfs @ 3850'
2350 hrs
2/8/21
DST #1
0 ROP (min/ft) 5
0 Gamma (API) 150
6 Cal (in) 16
ROP (min/ft) 10
limestone, gray to cream, crypto-microcrystalline, fossiliferous, poor visible porosity, flood chalk in samples, no shows
limestone, and chalk a.a., with limestone, tan to cream, very fine oolitic, seems re-crystallized, poor porosity, abundant brown to gray fossiliferous with some oolitic, dense to brittle, no shows
limestone, variable mixed non-descript fossiliferous, dense, scattered cherts, some chalk, no shows
a.a.
a.a. with some mixed bioclastic, 1 piece bioclastic w/slight stain, streaming sheen on break, some gray mottled pelletal, chalky,fleeting odor in wet cup, abundant chalk
flood dark gray and brown limestone, fossiliferous, dense, abunant dark cherts, abundant chalk, no shows
limestone, tan, very fine sucosic like oolitic, poor visible porosity, come friable, abundant cherts, flood chalk, no shows
limestone, gray to brown, cryptocrytalline, fossiliferous, mostly dense, abundant chalk, no shows
limestone, gray to tan, oolitic to oomoldic, some fair oomold porosity, scattered black stain in molds, show of free oil and gas bubbles on break, fleeting odor in cup, fair fluoresence, slow good milky cut
limestone, light gray to white, smooth cryptocrystalline lithographic to fossiliferrous, flattened oolitic and oolitic, abundant chalk, no shows, some white fossiliferous to oolitic cherts
limestone, light gray, oolitic, fairly well cemented, trace inter-oolite porosity, some fair black to brown inter-oolite stain, slight show free oil on break, fleeting odor in wet cup, poor fluoresence, slow fair cut
limestone, some scattered white oolitic and sub-oomoldic, barren, mostly light gray lithographic, chalk and white fossiliferous cherts
60 min sample, some gray mottled pelletal, dense with some chert nodules, dark gray to black cherty limestone and chert, no show
limestones, mixed non-descript fossiliferous, dense, with chalk
limestone, mixed, few pieces oolitic, well stained, some inter-oolite porosity, show oil on break, excellent cut, with dense gray to brown fossiliferous, dense, surface etching with pin-point porosity, some etching along fracture planes, fair stain, slight show oil on break, slow streaming ribbons in cut with halo, questionable odor in wet cup, overall poor mineral fluoresence, much chalk
check gas line for freezing, re-zero and reset gas
101 unit total
81 unit total
Total Gas (units) 0 100
C1 (units) 0 100
C2 (units) 0 100
C3 (units) 0 100
C4 (units) 0 100
C5 (units) 0 100
SC
depth correction 0 300


depth correction
API)
150
Cal (in)
16
3860
3880
3900
3920
3940
3960
3980
4000
4020
4040
4060
cfs 3981'
0435 hrs
2/10/21
ROP (min/ft)
10
Gamma (API)
150
Cal (in)
16
cfs 4010'
0700
hrs2/10/21
cfs @ 4032 '
0940 hrs
2/10/21
DST #2
cfs @ 4061
1155 hrs
2/10/21'
deviation survey 3/4 deg - strap 4.79 ft LTB
limestone, light gray, cryptocrystalline, fossiliferous to lithographic, dense, no shows
shale, black
limestone, gray, mottled, fossiliferous to oolitic to pelletal, mostly dense, some weathered chalky, no shows
grades to mostly lithographic limestone, light gray
shale, black
limestone, mixed non-descript fossiliferous, abundant chalk, no shows
Base KC 3911 -2013
shale, gray, green, red, soft, mushy, red wash in samples
Marmaton
limestone, white, light gray to gray/green, microcrystalline, mostly lithographic, some fossiliferous, trace oolitic, scattered black dead stain, poor porosity, cherts, red to gray, black and brown, scattered dead stain, no show free oil or odor, abunant chalk
limestones, chert and chalk a.a., increasing chert with influx brown cherts and black stained cherts with white spicules, some rotten and brittle, no show oil, no odor
a.a. shaley
Conglomerate 3979 -2081
shale conglomerate
cherty conglomerate, mixed cherts, variable stain, black saturated to spotty, some tripolitic and rotten, trace gas bubbles, slight sheen, no free oil or odor, poor fluoresence and cut, samples loaded with soft sticky shale and chalk
Mississippian 3998 -2100
chert, white, some tan, fresh to tripolitic, fresh cherts mostly barren with spotty stain, tripolitic is generally spicultic, some good porosity, spotty to heavy brown to black stain, some sheen, no free oil, no odor, poor overall fluoresence, no cut with bright halo
flood red and gray shales, heavy red wash
chert, white to tan to smokey gray, some translucent, mostly fresh and sharp, some fossiliferous some stained cherts (from above?) no free oil, no odor, abundant maroon shales - 60 cfs, a.a., found a few large sub rounded quartz grains both samples
4040 & 50 samples, chert a.a., heavier staining, no free oil or odor, with abundant mixed shales
4060 sample, a.a. with 3 clusters well cemented angular sand, intergrain stain with oil on break
Kinderhook Sand 4043 -2145
chert, boney white to tan to gray, mostly sharp and fresh with some tripolitic edges with black stain, bright fluoresence, sandstone, very fine grain quartz, well sorted, well cemented to friable, mostly stained black to brown, trace oil on break, spotty fluoresence with excellent cut, few clusters coarse angular quartz grains, well cemented, some fractures in grains, very light brown stain, show oil on break, bright fluoresence, light cut with halo, fair odor in wet cup
60 min sample, sand drops out, weaker odor
Viola 4068 -2170
chert, boney white to tan, some fossiliferous, some sub-tripolitic, mostly
high gas background from DST #1
C5 (units)
300
Mud-Co Mud chk
@ 3850ft.
0620 hrs. 2/9/21
Vis. 55 Wt. 9.1
PV 16 YP 23
WL 6.8
Cake 1/32,
pH 11.0
CHL 3600 ppm
Ca tr ppm
Sol 4.6 LCM 3#
DMC $1023.52
CMC $10458.90
Mud-Co Mud
chk
@ 3999ft.
0625 hrs.
2/10/21
Vis. 53 Wt. 9.2
PV 13 YP 25
WL 6.8
Cake 1/32,
pH 11.0
CHL 9800 ppm
Ca 20 ppm
Sol 5.9 LCM 2#
DMC $257.32
CMC $10716.22
Total Gas (units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)
false high gas? found vent on extractor barrel plugged with frozen mud, cleared
265 unit total



sharp and fresh, scattered dead black stain, no show free oil, no odor, good fluoresence

a.a. with: scattered dolomite, cream to light gray, microcrystalline, dense, no show

a.a., increasing dolomite, stain drops out

as above, appx 40% dolomite, influx arenaceous dolomitic limestone, flood chalk in samples, no shows

a.a.

limestone, white to light gray and cream, oolitic to flattened oolitic and fossiliferous, very chalky, appx 50% chalk in samples

Simpson Sand 4164 -2266

sandstone, dirty gray, fine grain, fair sorting, round to sub-round, argillaceous/shaley, fairly friable, some pyrite, no shows, with: shales, gray and green

a.a

sandstone, quartz, very fine grain, well sorted and cemented, dolomitic cement, even light brown saturated stain, no oil show, fair odor, excellent fluoresence, no cut

shale, gray and green, abundant mushy and soft, some pyrite with: streaks of sandstone, gray to dark gray, very fine to medium grain, poor sorting, mostly well rounded, argillaceous and micaceous, fair to well cemented, some pyrite, no shows

a.a.

Arbuckle 4145 -2347

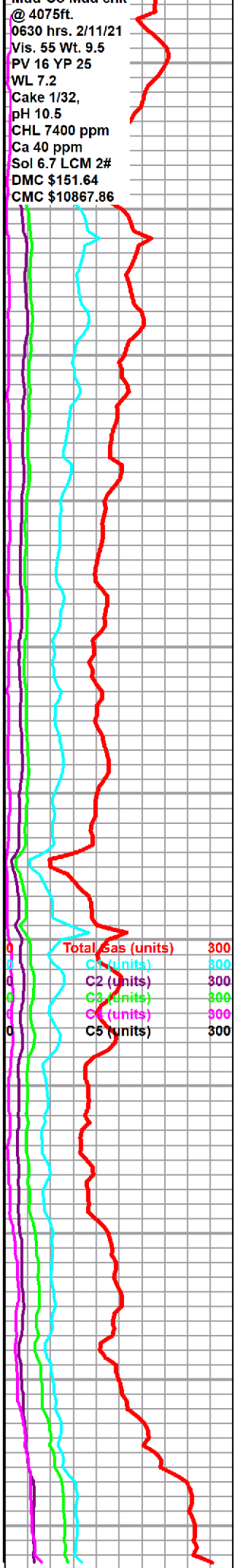
dolomite, gray to tan, microcrystalline, grainy, caliche in-fill with cryptocrystalline lithographic, dense, some oolitic, no shows

a.a., grainy microcrystalline facies more pronounced sub-rhombic, some intercrytalline porosity, but caliche filled, oolitic facies drops out

dolomite, white to gray and tan, some pink, microcrystalline to crypotcrystalline, poor visible porosity, abundant mixed cherts, no shows

Rotary TD 4285 ft @ 2145 hrs 2/11/21
ELI Wireline TD 4285 ft

Mud 55 Mud chk @ 4075ft.
0630 hrs. 2/11/21
Vis. 55 Wt. 9.5
PV 16 YP 25
WL 7.2
Cake 1/32,
pH 10.5
CHL 7400 ppm
Ca 40 ppm
Sol 6.7 LCM 2#
DMC $151.64
CMC $10867.86



				Complete logging operations 830 hrs 2/12/21	

DRILL STEM TEST REPORT

Prepared For: **Youmger Energy Company**

9415 E harry StreetSuite403
building 400
Wichita,Kansas 67207

ATTN: Keith 'Reavis

christie #21-2

30-25s-12wStafford

Start Date: 2021.02.09 @ 07:25:00
End Date: 2021.02.09 @ 03:44:00
Job Ticket #: 01462 DST #: 1

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2021.02.09 @ 16:36:40

DRILL STEM TEST REPORT

Youmger Energy Company

9415 E harry StreetSuite403
building 400
Wichita,Kansas 67207
ATTN: Keith 'Reavis

30-25s-12wStafford

christie #21-2

Job Ticket: 01462 **DST#: 1**

Test Start: 2021.02.09 @ 07:25:00

GENERAL INFORMATION:

Formation: **Kansas City "H-I&J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:39:00
Time Test Ended: 03:44:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Gene Budig
Unit No: 1

Interval: 3760.00 ft (KB) To 3850.00 ft (KB) (TVD)
Total Depth: 3850.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

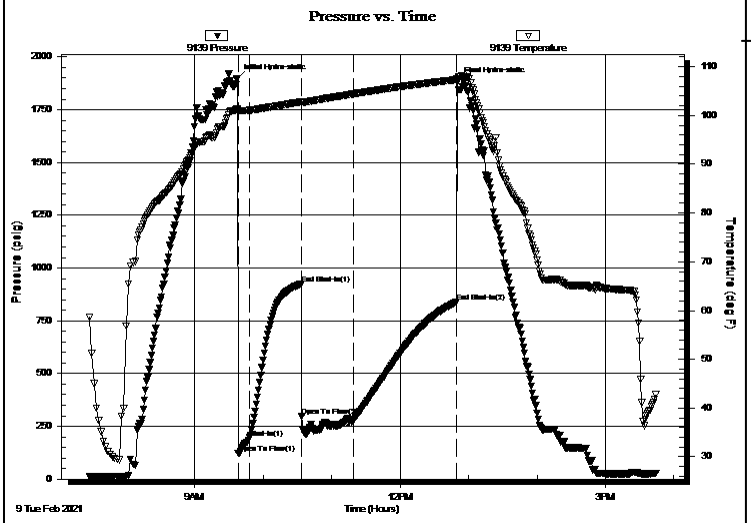
Reference Elevations: 1897.00 ft (KB)
1889.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 9139

Press@RunDepth: 837.75 psig @ ft (KB)
Start Date: 2021.02.09 End Date: 2021.02.09
Start Time: 07:28:00 End Time: 15:44:00

Capacity: psig
Last Calib.: 1899.12.30
Time On Btm: 2021.02.09 @ 09:37:30
Time Off Btm: 2021.02.09 @ 12:50:00

TEST COMMENT: 1st Opening 10 Minutes Good blow built to the bottom of a 5 gallon bucket in 4 minutes
1st Shut-In 45 Minutes no blow back
2nd Opening 45 Minutesn Fair blow built to the bottom of a 5 gallon bucket in 11 Minutes and decreased
final Shut-in 90 Minutes no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1897.72	101.30	Initial Hydro-static
1	121.60	100.91	Open To Flow (1)
11	195.66	101.06	Shut-In(1)
56	924.57	102.79	End Shut-In(1)
57	299.27	102.63	Open To Flow (2)
102	281.55	104.42	Shut-In(2)
192	837.75	107.32	End Shut-In(2)
193	1881.07	107.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	180 gas in the pipe	0.00
60.00	slightlyh oil and gas cut mud	0.30
0.00	5% Gas 8% Oil 80% Mud 7% Water	0.00
120.00	Gas oil and w ater cut mud	0.60
0.00	10% Gas 20% Oil 50%Mud 20% w ater	0.00
60.00	gassy oil cut muddy w ater	0.84

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Youmger Energy Company

9415 E harry StreetSuite403
building 400
Wichita,Kansas 67207
ATTN: Keith 'Reavis

30-25s-12wStafford

christie #21-2

Job Ticket: 01462 **DST#: 1**

Test Start: 2021.02.09 @ 07:25:00

Tool Information

Drill Pipe:	Length:	3585.00 ft	Diameter:	3.80 inches	Volume:	50.29 bbl	Tool Weight:		2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.76 inches	Volume:	0.00 bbl	Weight set on Packer:		20000.00 lb
Drill Collar:	Length:	179.00 ft	Diameter:	2.25 inches	Volume:	0.88 bbl	Weight to Pull Loose:		70000.00 lb
					Total Volume:	51.17 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		32.00 ft					String Weight:	Initial	60000.00 lb
Depth to Top Packer:		3760.00 ft						Final	61000.00 lb
Depth to Bottom Packer:		ft							
Interval betw een Packers:		90.03 ft							
Tool Length:		118.03 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			3737.00		
Hydraulic tool	5.00			3742.00		
Jars	6.00			3748.00		
Safety Joint	2.00		Fluid	3750.00		
Top Packer	5.00			3755.00		
Packer	5.00			3760.00	28.00	Bottom Of Top Packer
Change Over Sub	0.75			3760.75		
Drill Pipe	61.53			3822.28		
Change Over Sub	0.75			3823.03		
Anchor	22.00			3845.03		
Recorder	1.00	9119	Inside	3846.03		
Recorder	1.00	9139	Outside	3847.03		
Bullnose	3.00			3850.03	90.03	Anchor Tool
Total Tool Length:	**118.03**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Youmger Energy Company

9415 E harry StreetSuite403
building 400
Wichita,Kansas 67207

ATTN: Keith 'Reavis

30-25s-12wStafford

christie #21-2

Job Ticket: 01462 **DST#: 1**

Test Start: 2021.02.09 @ 07:25:00

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:	55.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.80 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	3600.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	180 gas in the pipe	0.000
60.00	slightlyh oil and gas cut mud	0.295
0.00	5% Gas 8% Oil 80% Mud 7% Water	0.000
120.00	Gas oil and w ater cut mud	0.599
0.00	10% Gas 20% Oil 50%Mud 20% w ater	0.000
60.00	gassy oil cut muddy w ater	0.842
0.00	45 Gas 10% Oil 20% Mud 25% Water	0.000
60.00	oil and gas cut muddy w ater	0.842
0.00	20% Gas 15% Oil 35%Mud 30% Water	0.000
60.00	oil and gas cut muddy w ater	0.842
0.00	20% Gas 10% Oil 30 %Mud 40% Water	0.000
0.00	Chlorides 38,000	0.000

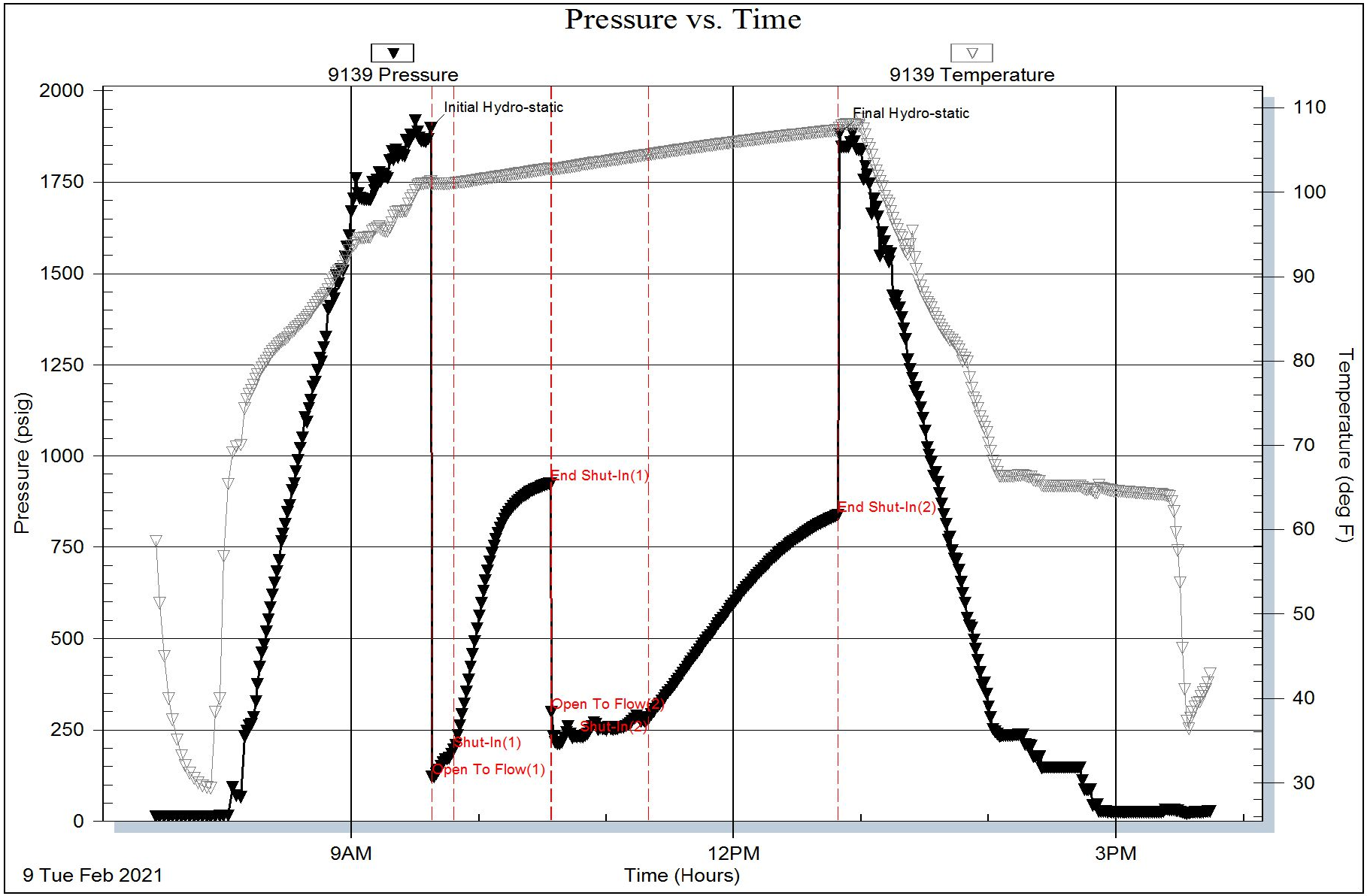
Total Length: 360.00 ft Total Volume: 3.420 bbl

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

Laboratory Name: Laboratory Location:

Recovery Comments:

Serial #: 9139 | Youmger Energy Company | christie #21-2 | DST Test Number: 1



Eagle Testers | Ref. No: 01462 | Printed: 2021.02.09 @ 16:36:41

DRILL STEM TEST REPORT

Prepared For: **Youmger Energy Company**

9415 E harry StreetSuite403
building 400
Wichita,Kansas 67207

ATTN: Keith 'Reavis

christie #21-2

30-25s-12wStafford

Start Date: 2021.02.10 @ 17:12:00

End Date: 2021.02.11 @ 01:22:00

Job Ticket #: 01463 DST #: 2

Eagle Testers

1309 Patton Road Great Bend, Kansas 67530

620-791-7394

Printed: 2021.02.11 @ 01:46:26

DRILL STEM TEST REPORT

Youmger Energy Company

9415 E harry StreetSuite403
building 400
Wichita,Kansas 67207
ATTN: Keith 'Reavis

30-25s-12w Stafford

christie #21-2

Job Ticket: 01463 **DST#: 2**

Test Start: 2021.02.10 @ 17:12:00

GENERAL INFORMATION:

Formation: **kinderhook**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:23:00
Time Test Ended: 01:22:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Gene budig
Unit No: 1

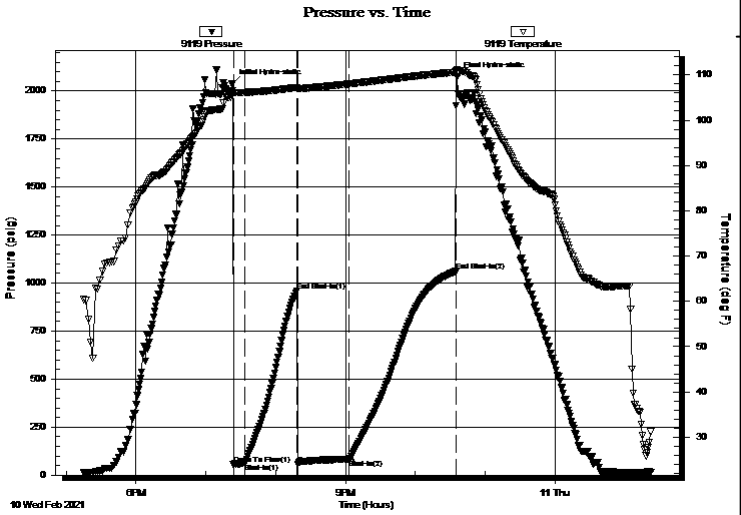
Interval: 4033.00 ft (KB) To 4061.00 ft (KB) (TVD)
Total Depth: 4061.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1897.00 ft (KB)
1889.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 9119 **Inside**
Press@RunDepth: 1060.74 psig @ 4057.00 ft (KB)
Start Date: 2021.02.10 End Date: 2021.02.11
Start Time: 17:12:00 End Time: 01:22:00

Capacity: 5000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2021.02.10 @ 19:23:00
Time Off Btm: 2021.02.10 @ 22:36:00

TEST COMMENT: 1st opening 10 minutes fair blow built to the bottom of a 5 gallon bucket in 8 minutes
1st shut-in 45 minutes w eak blow back
2nd opening 45 minutes good blow bottom of the bucket in 30 seconds decreased to fair blow
2nd shut-in 90 Minutes no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2038.22	106.49	Initial Hydro-static
1	53.98	106.08	Open To Flow (1)
10	61.68	106.14	Shut-In(1)
55	960.19	107.21	End Shut-In(1)
57	56.91	106.98	Open To Flow (2)
100	83.94	107.99	Shut-In(2)
192	1060.74	110.61	End Shut-In(2)
193	2073.92	111.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	800 feet of gas in the pipe	0.00
60.00	slightly oil cut mud 10%Oil 90%Mud	0.32
60.00	gassy oil cut mud 30%Gas20%Oil 48%Mi	0.30
0.00	right above the tool 70%Gas 20%Oil	0.00
0.00	8%Mud 2%w ater	0.00

Gas Rates

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

DRILL STEM TEST REPORT

Youmger Energy Company

9415 E harry StreetSuite403
building 400
Wichita,Kansas 67207
ATTN: Keith 'Reavis

30-25s-12w Stafford

christie #21-2

Job Ticket: 01463 **DST#: 2**

Test Start: 2021.02.10 @ 17:12:00

GENERAL INFORMATION:

Formation: **kinderhook**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:23:00
Time Test Ended: 01:22:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Gene budig
Unit No: 1

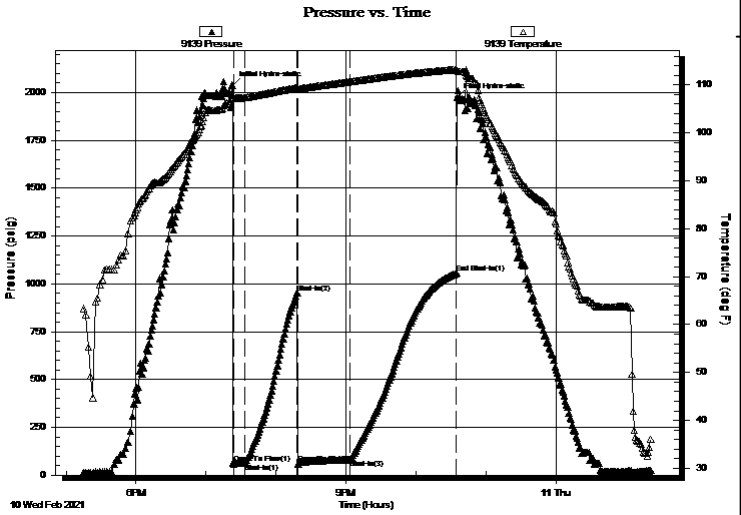
Interval: 4033.00 ft (KB) To 4061.00 ft (KB) (TVD)
Total Depth: 4061.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1897.00 ft (KB)
1889.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 9139 **Outside**
Press@RunDepth: 1055.48 psig @ 4058.00 ft (KB)
Start Date: 2021.02.10 End Date: 2021.02.11
Start Time: 17:12:00 End Time: 01:21:29

Capacity: 5000.00 psig
Last Calib.: 1899.12.30
Time On Btm: 2021.02.10 @ 19:22:30
Time Off Btm: 2021.02.10 @ 22:35:00

TEST COMMENT: 1st opening 10 minutes fair blow built to the bottom of a 5 gallon bucket in 8 minutes
1st shut-in 45 minutes w eak blow back
2nd opening 45 minutes good blow bottom of the bucket in 30 seconds decreased to fair blow
2nd shut-in 90 Minutes no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2037.55	107.88	Initial Hydro-static
1	59.67	107.41	Open To Flow (1)
11	60.96	107.32	Shut-In(1)
56	950.77	109.38	Shut-In(2)
57	59.53	109.19	Open To Flow (2)
101	81.01	110.65	Shut-In(3)
192	1055.48	113.23	End Shut-In(1)
193	1975.66	113.04	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	800 feet of gas in the pipe	0.00
60.00	slightly oil cut mud 10%Oil 90%Mud	0.32
60.00	gassy oil cut mud 30%Gas20%Oil 48%Mi	0.30
0.00	right above the tool 70%Gas 20%Oil	0.00
0.00	8%Mud 2%w ater	0.00

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Youmger Energy Company

9415 E harry StreetSuite403
building 400
Wichita,Kansas 67207
ATTN: Keith 'Reavis

30-25s-12w Stafford

christie #21-2

Job Ticket: 01463 **DST#: 2**

Test Start: 2021.02.10 @ 17:12:00

Tool Information

Drill Pipe:	Length:	3825.00 ft	Diameter:	3.80 inches	Volume:	53.65 bbl	Tool Weight:		2000.00 lb
Heavy Wt. Pipe:	Length:	9.00 ft	Diameter:	2.76 inches	Volume:	0.07 bbl	Weight set on Packer:		20000.00 lb
Drill Collar:	Length:	179.00 ft	Diameter:	2.25 inches	Volume:	0.88 bbl	Weight to Pull Loose:		75000.00 lb
					Total Volume:	54.60 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		8.00 ft					String Weight:	Initial	60000.00 lb
Depth to Top Packer:		4033.00 ft						Final	61000.00 lb
Depth to Bottom Packer:		ft							
Interval betw een Packers:		28.00 ft							
Tool Length:		56.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4010.00		
Hydraulic tool	5.00			4015.00		
Jars	6.00			4021.00		
Safety Joint	2.00		Fluid	4023.00		
Top Packer	5.00			4028.00		
Packer	5.00			4033.00	28.00	Bottom Of Top Packer
Anchor	23.00			4056.00		
Recorder	1.00	9119	Inside	4057.00		
Recorder	1.00	9139	Outside	4058.00		
Bullnose	3.00			4061.00	28.00	Anchor Tool
Total Tool Length:	**56.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Youmger Energy Company

9415 E harry StreetSuite403
building 400
Wichita,Kansas 67207

ATTN: Keith 'Reavis

30-25s-12w Stafford

christie #21-2

Job Ticket: 01463 **DST#: 2**

Test Start: 2021.02.10 @ 17:12:00

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:	53.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.80 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	9800.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	800 feet of gas in the pipe	0.000
60.00	slightly oil cut mud 10%Oil 90%Mud	0.317
60.00	gassy oil cut mud 30%Gas20%Oil 48%Mud 2	0.295
0.00	right above the tool 70%Gas 20%Oil	0.000
0.00	8%Mud 2%w ater	0.000

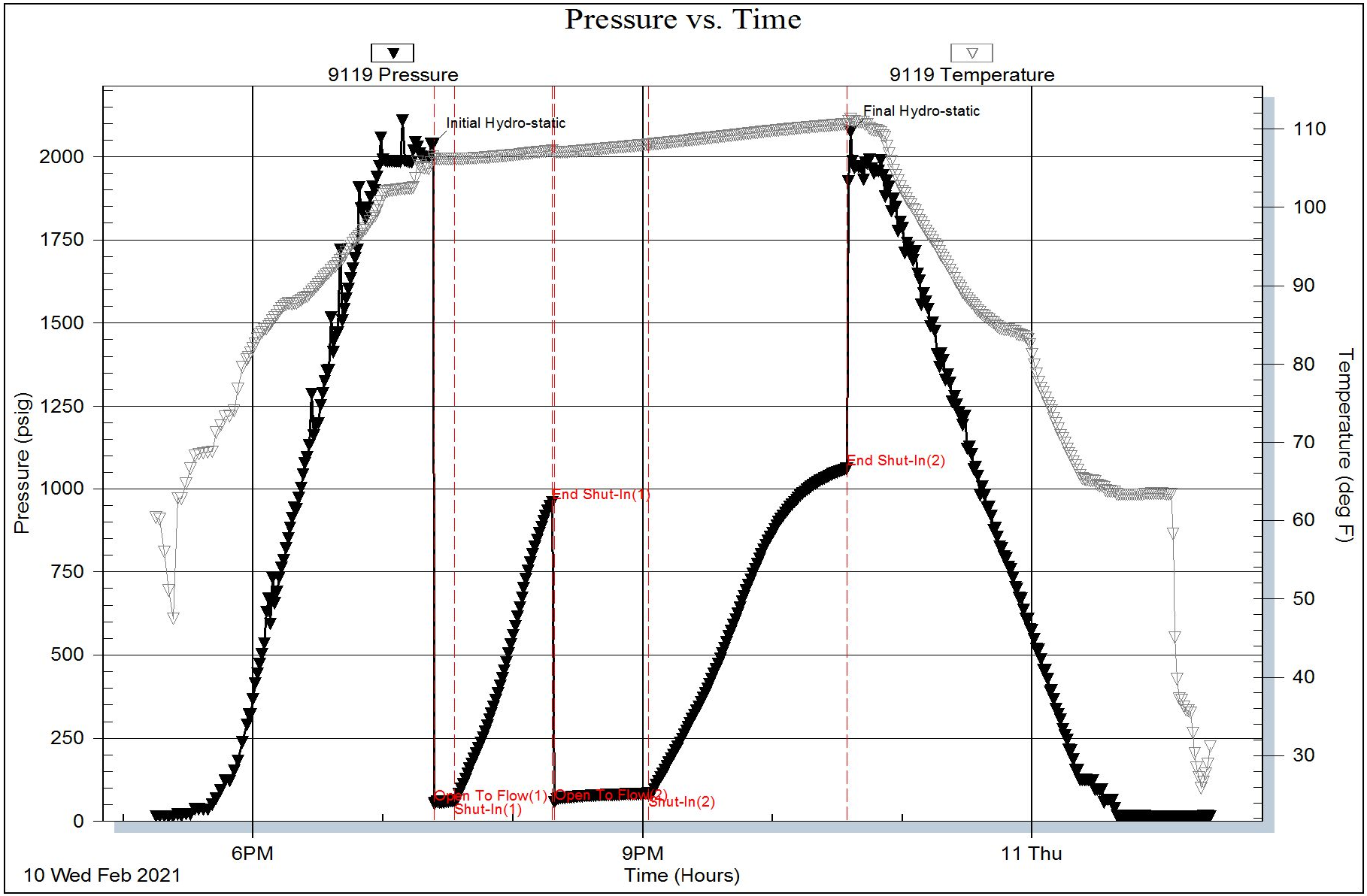
Total Length: 120.00 ft Total Volume: 0.612 bbl

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

Laboratory Name: Laboratory Location:

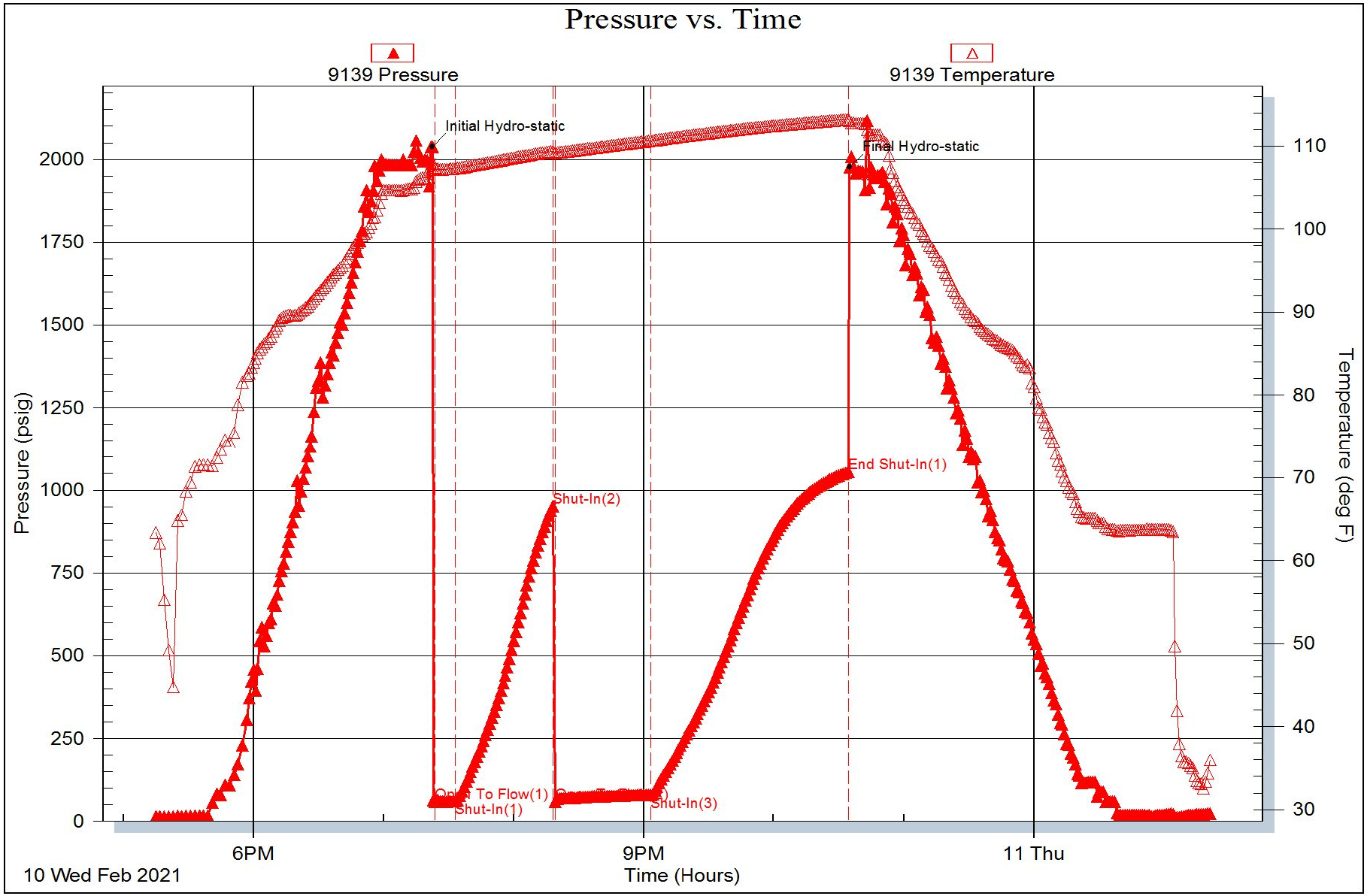
Recovery Comments:

Serial #: 9119 **Inside** Youmger Energy Company christie #21-2 DST Test Number: 2



Eagle Testers Ref. No: 01463 Printed: 2021.02.11 @ 01:46:28

Serial #: 9139 **Outside** Youmger Energy Company christie #21-2 DST Test Number: 2



Eagle Testers Ref. No: 01463 Printed: 2021.02.11 @ 01:46:28

HURRICANE SERVICES INC

Remit To: Hurricane Services, Inc.
250 N. Water, Suite 200
Wichita, KS 67202
316-303-9515

RECEIVED FEB 15 2021

Customer:

YOUNGER ENERGY COMPANY
9415 E HARRY ST
SUITE 403, BUILDING 400
WICHITA, KS 67207-5083

Invoice Date:	2/4/2021
Invoice #:	0351446
Lease Name:	Christie
Well #:	21-2 (New)
County:	Stafford, Ks
Job Number:	WP1129
District:	Pratt

Date/Description	HRS/QTY	Rate	Total
Surface	0.000	0.000	0.00
Cement Pozmix 60/40	375.000	9.100	3,412.50
Calcium Chloride	969.000	0.525	508.73
Cello Flake	94.000	1.225	115.15
Light Eq Mileage	15.000	1.400	21.00
Light Eq Mileage	15.000	2.800	42.00
Ton Mileage	242.000	1.050	254.10
Cement Pump Service	1.000	525.000	525.00

131
Cement surface csg

Total 4,878.48

TERMS: Net 30 days. Interest may be charged on past due invoice at rate of 1 ½% per month or maximum allowed by applicable state or federal laws. HSI has right to revoke any discounts applied in arriving at net invoice price if invoice is past due. If revoked, full invoice price without discount plus additional sales tax, as applicable, is due immediately and subject to interest charges. Customer agrees to pay all collection costs directly or indirectly incurred by HSI in the event HSI engages a third party to pursue collection of past due invoice.
SALES TAX: Services performed on oil, gas and water wells in Kansas are subject to sales tax, with certain exceptions. HSI relies on the well information provided by the customer in identifying whether the services performed on wells qualify for exemption.

WE APPRECIATE YOUR BUSINESS!

Christie
copy to bill
JIB

DA

Hurricane Services, Inc.
250 N. Water St., Suite #200
Wichita, KS 67202

Customer	Younger Energy Company	Lease & Well #	Christie 21-2	Date	2/4/2021
Service District	Pratt Kansas	County & State	stafford Kansas	Legals S/T/R	30-25s-12w	Job #	
Job Type	surface	☑ PROD ☐ INJ ☐ SWD		New Well?	☑ YES ☐ No	Ticket #	wp 1129

Equipment #	Driver
916	M Brungardt
267	R Osborn
181/532	B Whitfield
	G Mclemore

Job Safety Analysis - A Discussion of Hazards & Safety Procedures

☑ Hard hat	☑ Gloves	☐ Lockout/Tagout	☐ Warning Signs & Flagging
☑ H2S Monitor	☑ Eye Protection	☐ Required Permits	☐ Fall Protection
☑ Safety Footwear	☐ Respiratory Protection	☑ Slip/Trip/Fall Hazards	☐ Specific Job Sequence/Expectations
☑ FRC/Protective Clothing	☐ Additional Chemical/Acid PPE	☑ Overhead Hazards	☐ Muster Point/Medical Locations
☐ Hearing Protection	☑ Fire Extinguisher	☐ Additional concerns or issues noted below	

Comments

Product/ Service Code	Description	Unit of Measure	Quantity			Net Amount
cp070	60/40/2 Pozmix	sack	375.00			$3,412.50
cp100	Calcium Chloride	lb	969.00			$508.73
cp120	Cello-flake	lb	94.00			$115.15
m015	Light Equipment Mileage	mi	15.00			$21.00
m010	Heavy Equipment Mileage	mi	15.00			$42.00
m020	Ton Mileage	tm	242.00			$254.10
c010	Cement Pump Service	ea	1.00			$525.00

Customer Section: On the following scale how would you rate Hurricane Services Inc.?

Based on this job, how likely is it you would recommend HSI to a colleague?

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Unlikely 1 2 3 4 5 6 7 8 9 10 Extremely Likely

				Net:	$4,878.48
Total Taxable	$ -	Tax Rate:			
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.			Sale Tax:	$ -	
			Total:	$ 4,878.48	

HSI Representative:

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 ½% 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 affect 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 information in determining taxable services.

X _____ **CUSTOMER AUTHORIZATION SIGNATURE**

ftv: 13-2021/01/19
mplv: 105-2021/01/27

CEMENT TREATMENT REPORT

Customer:	Younger Energy Company	Well:	Christie 21-2	Ticket:	wp 1129
City, State:	Iuka Kansas	County:	stafford Kansas	Date:	2/4/2021
Field Rep:	Emigdio Rojas	S-T-R:	30-25s-12w	Service:	surface

Downhole Information	
Hole Size:	7 7/8 in
Hole Depth:	435 ft
Casing Size:	8 5/8 in
Casing Depth:	430 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	26.5 bbls

Calculated Slurry - Lead	
Blend:	375 60/40 2 & 3
Weight:	14.8 ppg
Water / Sx:	5.2 gal / sx
Yield:	1.21 ft^3 / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0.0 bbls
Excess:	
Total Slurry:	81.0 bbls
Total Sacks:	375 sx

Calculated Slurry - Tail	
Blend:	
Weight:	ppg
Water / Sx:	gal / sx
Yield:	ft^3 / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0 bbls
Excess:	
Total Slurry:	0.0 bbls
Total Sacks:	0 sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
1:30 AM			-	-	on location job and safety
2:30 PM				-	spot trucks and rig up
3:30 PM				-	start casing in the hole
4:10 PM				-	on bottom and circulate
4:40 PM	3.0	100.0	3.0	3.0	pump 3 bbls water ahead
4:45 PM	3.5	100.0	81.0	81.0	start cement
5:05 PM	3.5	100.0			cement on bottom and start displacement
5:15 PM	3.5	100.0	26.0	26.0	diplacement in and shut in well
				26.0	cement did circulate
				26.0	
				26.0	

	CREW	UNIT
Cementer:	M Brungardt	916
Pump Operator:	R Osborn	287
Bulk #1:	B Whitfield	181/532
Bulk #2:	G Mclemore	

SUMMARY		
Average Rate	Average Pressure	Total Fluid
3.4 bpm	100 psi	110 bbls

RECEIVED FEB 2 5 2021

HURRICANE SERVICES INC

Remit To: Hurricane Services, Inc.
250 N. Water, Suite 200
Wichita, KS 67202
316-303-9515

Customer:

YOUNGER ENERGY COMPANY
9415 E HARRY ST
SUITE 403, BUILDING 400
WICHITA, KS 67207-5083

Invoice Date:	2/12/2021
Invoice #:	0351538
Lease Name:	Christie
Well #:	21-2 (New)
County:	Stafford, Ks
Job Number:	WP1155
District:	Pratt

Date/Description	HRS/QTY	Rate	Total
Longstring	0.000	0.000	0.00
H-Long	165.000	22.400	3,696.00
H-Plug	50.000	10.400	520.00
5 1/2" Floatshoe-Flapper AFU	1.000	300.000	300.00
5 1/2" LD Plug & Baffle	1.000	280.000	280.00
5 1/2" Turbolizers	8.000	64.000	512.00
Mud flush	1,000.000	0.800	800.00
Light Eq Mileage	15.000	1.600	24.00
Heavy Eq Mileage	15.000	3.200	48.00
Ton Mileage Minimum	1.000	240.000	240.00
Cement Pump Service	1.000	1,200.000	1,200.00
Cement Plug Container	1.000	200.000	200.00

231
Cement Production Csg

Total 7,820.00

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WE APPRECIATE YOUR BUSINESS!

Christie 1/8

Hurricane Services, Inc.
250 N. Water St., Suite #200
Wichita, KS 67202

Customer	Younger Energy company	Lease & Well #	christie 21-2			Date	2/12/2021
Service District	Pratt Kansas	County & State	Stafford Kansas	Legals S/T/R	30 25s 12w	Job #	
Job Type	longstring	☑ PROD	☐ INJ ☐ SWD	New Well?	☑ YES ☐ No	Ticket #	wp1186

Equipment #	Driver
75	K Lesely
179/520	R Osborn
181/532	B Whitfield
	M Brungardt

Job Safety Analysis - A Discussion of Hazards & Safety Procedures

☑ Hard hat	☑ Gloves	☐ Lockout/Tagout	☐ Warning Signs & Flagging
☑ H2S Monitor	☑ Eye Protection	☐ Required Permits	☐ Fall Protection
☑ Safety Footwear	☐ Respiratory Protection	☑ Slip/Trip/Fall Hazards	☐ Specific Job Sequence/Expectations
☑ FRC/Protective Clothing	☐ Additional Chemical/Acid PPE	☑ Overhead Hazards	☐ Muster Point/Medical Locations
☐ Hearing Protection	☑ Fire Extinguisher	☐ Additional concerns or issues noted below	

Comments

Product/ Service Code	Description	Unit of Measure	Quantity			Net Amount
cp030	H-Long	sack	165.00			$3,696.00
cp055	H-Plug	sack	50.00			$520.00
fe145	5 1/2" Float Shoe - AFU Flapper Type	ea	1.00			$300.00
fe170	5 1/2" Latch Down Plug & Baffle	ea	1.00			$280.00
fe135	5 1/2 Turbolizer	ea	8.00			$512.00
cp170	Mud Flush	gal	1,000.00			$800.00
m015	Light Equipment Mileage	mi	15.00			$24.00
m010	Heavy Equipment Mileage	mi	15.00			$48.00
m025	Ton Mileage - Minimum	each	1.00			$240.00
c015	Cement Pump Service	ea	1.00			$1,200.00
c050	Cement Plug Container	job	1.00			$200.00

Customer Section: On the following scale how would you rate Hurricane Services Inc?

Based on this job, how likely is it you would recommend HSI to a colleague?

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Unlikely 1 2 3 4 5 6 7 8 9 10 Extremely Likely

			Net:	$7,820.00
Total Taxable	$ -	Tax Rate:		
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.			Sale Tax:	$ -
			Total:	$ 7,820.00

HSI Representative: Mark Brungardt

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X _____ **CUSTOMER AUTHORIZATION SIGNATURE**

ftv: 15-2021/01/25
mplv: 105-2021/01/27

CEMENT TREATMENT REPORT

Customer:	Younger Energy company	Well:	christie 21-2	Ticket:	wp1155
City, State:	luka Kansas	County:	Stafford Kansas	Date:	2/12/2021
Field Rep:	Kelly Branum	S-T-R:	30 25s 12w	Service:	longstring

Downhole Information	
Hole Size:	7 7/8 in
Hole Depth:	4285 ft
Casing Size:	5 1/2 in
Casing Depth:	4280 ft
Tubing / Liner:	in
Depth:	ft
Tool / Packer:	
Tool Depth:	ft
Displacement:	98.43:45 bbls

Calculated Slurry - Lead	
Blend:	h-long
Weight:	15.0 ppg
Water / Sx:	6.0 gal / sx
Yield:	1.42 ft^3 / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0.0 bbls
Excess:	
Total Slurry:	41.7 bbls
Total Sacks:	165 sx

Calculated Slurry - Tail	
Blend:	h-plug
Weight:	13.7 ppg
Water / Sx:	6.9 gal / sx
Yield:	1.43 ft^3 / sx
Annular Bbls / Ft.:	bbs / ft.
Depth:	ft
Annular Volume:	0 bbls
Excess:	
Total Slurry:	12.7 bbls
Total Sacks:	50 sx

TIME	RATE	PSI	STAGE BBLs	TOTAL BBLs	REMARKS
3:45 PM			-	-	On location job and safety
				-	spot trucks and rig up
5:00 PM				-	start casing in the hole
				-	centralizers on joints 1,3,5,7,9,11,13,15
				-	
8:05 PM				-	casing on bottom
8:25 PM				-	rig up head and mannifold and start circulation
				-	stop circulation
12:10 AM	2.5	100.0	24.0	24.0	start mud flush 24 bbls
12:25 AM	5.0	400.0	41.7	41.7	mud flush in and start cement
					cement in 41 bbls slurry
					wash pump and lines
12:45 AM					start displacement pump 20 bbls fresh and switch to rig pump
1:20 AM		600.0	98.0	98.0	displacement in took plug from 600psi to ~1500psi
					release psi plug did hold

	CREW	UNIT
Cementer:	K Lesely	75
Pump Operator:	R Osborn	179/520
Bulk #1:	B Whitfield	181/632
Bulk #2:	M Brungardt	

SUMMARY		
Average Rate	Average Pressure	Total Fluid
3.8 bpm	367 psi	164 bbls