

PLOTTED GEOLOGICAL LOG

WellSight Systems

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

Well Name: Fisher #1

Location: 1464' FNL & 1089' FEL of Sec. 2-T27S-R12W

Licence Number: API# 15-151-22503-00-00

Region: Pratt County, Kansas

Spud Date: Sept. 27, 2019

Drilling Completed: Oct. 3, 2019

Surface Coordinates: Lat. 37.72870, Long. -98.59481 (NAD83)

Bottom Hole Vertical Well

Coordinates:

Ground Elevation (ft): 1863

K.B. Elevation (ft): 1874

Logged Interval (ft): 1800 To: RTD

Total Depth (ft): 4325

Formation: Kinderhook

Type of Drilling Fluid: Chemical Mud by Mud-Co

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

OPERATOR

Company: Prater Oil & Gas Operations, Inc.

Address: 10356 Bluestem Blvd.

Pratt, Kansas 67124

GEOLOGIST

Name: Kent Roberts

Company: Roberts Resources, Inc.

Address: P.O. Box 75187

Wichita, KS 67275

Phone 316-215-1683

INFORMATION

DRILLING CONTRACTOR: Sterling Drilling Rig #4

MUD TYPE: Chemical by Mud-Co

DRILLING TIME KEPT FROM: 1800' to RTD

SAMPLES SAVED FROM: 3300' to RTD

SAMPLES EXAMINED FROM: 3300' to RTD

GEOLOGICAL SUPERVISION FROM: 2600' to RTD

ELECTRICAL SURVEYS: CNL/CDL, DIL by Pioneer

CASING DATA

CONDUCTOR CASING: None

SURFACE CASING: 10-3/4" Set @ 321' w/ 300 sx

PRODUCTION : None

MORNING DRILLING REPORT

Sterling Drilling Company, Rig #4		Website Geologist: Kent Roberts	
Box 1008, Pratt, Kansas 67124-1008			
Office Phone (820) 872-8608, Fax 872-8608			
Rig #4 Phone Numbers (Dog House)		IN USE	Toolpusher
Rig Cellular	(820) 388-4182	Yes	Larry Saloga
Geologist Cellular	(820) 388-6996	Yes	C (820) 388-4183

Fax to: Ron Prater	
# of Pages	1 Fax# Email out
WELL NAME	Fisher #1
LOCATION	NW NW SE NE
SEC	2 TWP
27e	RNG 12w
CO	Pratt
Prater Oil & Gas Operations	
10356 Bluestem Blvd	
Pratt, Kansas 67124	
ELEVATION	G.L. 1863 K.B. 1874 API# 15-151-22503-00-00

Langfeld called Dig-Safe. KCC inspected and approved for earthen reserve pit. On Thursday September 19, 2019 Langfeld leveled location and dug earthen reserve pit. On 09/20/19 Kelly's Water Well Svc drilled a 141' deep water well with a 50' water level. Will set pump at 110'. Mikes Septic for trash trailer, ditches and toilets. Sterling reported spud to KCC District 1 office (Ken Jehlik) Dist #1 on 09/26/19. Had 0.80" rain 09/24. Delayed move one day to Friday 09/27/19. Location is in a low area.

Day	1	Date:	09/27/19 Friday	Perfect weather, no wind, 80's! Location dry.		
Moving off Garner Elwell location in Stafford County at 7 am. Plan move/rig up and spud tonight.						
Day	2	Date:	09/28/19 Saturday	Spud at 6:30pm 09/27/19. Survey at 325' = 0 degrees, Location dry at report time.		
Cementing 10-3/4" casing at 325' at 7:00 am. Drilled 325' in 24.00 hours. Ran 4.00 hours, down 20.00 hours - (11.50 Rig up, 2.50 Mouse/Rat holes, 1.25 Connections, .50 Wiper trip to bit, .25 CTCH and Jet cellar, .25 CTCH at 325', CTCH casing at 321', .50 Tripping, .75 Set up casing casers and cementers, 1.00 Wait on different cement truck) Mud Properties: Vis 50, Wt 9.6, LCM 5#, Wt On Bit 5-15,000, RPM 140-150, Pump Pressure 350-580, SPM 50-60. Surface Bit: HTC RR/RT 14-3/4" GTX-C1 (Tooth), SN#5043847, (3-15's), made 325' in 4.00 hours. 81' ← Last 24-ROP- 14-3/4" <u>Surface Casing:</u> Spud at 6:30 pm on 09/27/19. Drilled 14-3/4" hole to 325'. Ran 7 joints new, 32.75#, 10-3/4" casing. Talled 308.64' + 12.30' L.J. Set at 321' KB. Cut shoe. Welded straps on bottom 3 joints. Welded collars on top 4 lbs. Cemented with 300 sbs 60/40 Poz, 2% Gel, 3% CC, 1/4# CF. Plug down at 7:00am on 09/28/19. Basic Energy Cementing ticket # 18343, Cement did circulate.						
Day	3	Date:	09/29/19 Sunday	Test BOP at 500 psi, Tag cement at 317'. Started losing returns at 450', then down to 25% returns at 506' trip in to surface raise LCM and OK. Location still dry.	Cum Mud \$	NA
Drilling at 1,100'. Drilled 775' in 24 hours. Ran 8.00 hours, down 16.00 hours (.50 Rig check, 2.00 Jet/Connections, .25 Drill plug, 10.00 WOC, .50 Tripping (pulled 5 stands for Lost Circ), 2.75 Lost circulation - at 508' (250 Bbl), mix mud). Mud Properties: Vis 34, Wt 8.6, pH 7.0, LCM 10#, Wt On Bit 12,000, RPM 95+, Pump Pressure 580, SPM 55. Bit #: 7-7/8" TXT, TXT516, SN #911378, (5-15's), in at 325', drilled 775' in 8.00 hours. 97' ← Last 24-ROP->7-7/8"- 92' Cum Mud \$ \$5,708						
Day	4	Date:	09/30/19 Monday	No fluid losses. At 1300' kick pump up to 80 spm, then 85 spm. Location still dry. Anhydrite (SS' - 673')	Cum Mud \$	\$7,816
CFS at 2,660'. Drilled 1,560' in 24 hours. Ran 17.50 hours, down 6.50 hours (1.25 Rig check, 4.25 Connections, 1.00 CFS at 2660'). Mud Properties: Wt 9.5, Vis 34, pH 7.0, Chl. 14,000, LCM 5#, Wt On Bit 14,000, RPM 95, Pump Pressure 650, SPM 65. Bit #: 7-7/8" TXT, TXT516, SN #911378, (5-15's), in at 325', drilled 2,335' in 25.50 hours. 85' ← Last 24-ROP->7-7/8"- 90' Cum Mud \$ \$7,816						
Day	5	Date:	10/01/19 Tuesday	No fluid losses. Displace at 3297'. DST #1 (3718' to 3740'). Survey at 3740' = 3/4 deg. Location still dry. Too windy for pipe strap before DST #1.	Cum Mud \$	\$11,522
Tripping for DST #1 at 3,740'. Drilled 1,080' in 24 hours. Ran 14.75 hours, down 9.25 hours (1.00 Rig check, 2.75 Connections, .25 CFS at 2660', 1.00 CFS at 3740', 1.25 CTCH at 3740', 1.50 Tripping, 1.50 25 stand Short trip to 2150', 0.00 Displaced at 3297' during rig check on evening tour). Mud Properties: Chemical/Pac - Wt. 8.7, Vis. 56, LCM 5#, WOB 14,000, RPM 95, Pump Pressure 800, SPM 65. Bit #: 7-7/8" TXT, TXT516, SN #911378, (5-15's), in at 325', drilled 3,415' in 40.25 hours. 73' ← Last 24-ROP->7-7/8"- 88' Cum Mud \$ \$11,522						
Day	6	Date:	10/02/19 Wednesday	Rained .81" last night and early this am. Location wet and foggy at 7am. Bullseye hauled 240 Bbls off reserve pit on 10/1/19 to the Studer disposal.	Cum Mud \$	\$12,776
Drilling at 4,100' at 7am. Drilled 360' in 24 hours. Ran 8.25 hours, down 15.75 hours (.50 Rig check, 1.00 Connections, 4.50 Tripping, 1.00 Handle test tool, .50 Pick up 13 lbs of DP, .50 Break circ at 2400' & 3300', 1.00 CTCH at 3740', 1.00 CFS at 3868', 1.00 CFS at 3970', 1.00 CFS at 4000', 3.75 DST #1). Mud Properties: Chemical/Pac - Wt. 9.1, Vis. 52, PV/YP 17/18, WL 8.8, pH 10.5, Chl. 3,500, LCM 6#, WOB 14,000, RPM 95, Pump Pressure 750, SPM 65. Bit #: 7-7/8" TXT, TXT516, SN #911378, (5-15's), in at 325', drilled 3,775' in 48.50 hours. 44' ← Last 24-ROP->7-7/8"- 78' Cum Mud \$ \$12,776						
Day	7	Date:	10/03/19 Thursday	DST #2 (4115' - 4194'). Survey at 4194' = 3/4 deg. Cold front came through 50 deg! Rained .06" early this am. Location wet and soft. 0.67" total rain.	Cum Mud \$	\$13,969
CTCH at 4325' (RTD) at 7am. Drilled 225' in 24 hours. Ran 3.75 hours, down 20.25 hours (.50 Connections, 7.00 Tripping, 1.00 Handle test tool, .25 Clean floor, .50 Break circ at 2400' & 3300', 1.50 CFS at 4160', 1.25 CFS at 4194', .25 CTCH at 4325', 1.50 CTCH at 4194', 1.00 CTCH at 4194', 4.00 DST #2, 1.25 Short trip 17 stands to 3138'). Mud Properties: Chemical/Pac - Wt. 9.1, Vis. 58, PV/YP 13/14, WL 10.0, pH 9.50, Chl. 6,000, LCM 6#, WOB 14,000, RPM 95, Pump Pressure 780, SPM 65. Bit #: 7-7/8" TXT, TXT516, SN #911378, (5-15's), in at 325', drilled 4,000' in 52.25 hours. 60' ← Last 24-ROP->7-7/8"- 77' Cum Mud \$ \$13,969						
Day	8	Date:	10/04/19 Friday	Survey at 4325' = 1 degree, RTD=4325', LTD=4328' Plugged Well at 11:15pm 10/3/19	Cum Mud \$	\$14,546
Tearing down for move off location at 4325'. Drilled 0' in 24 hours. Ran 0.00 hours, down 24.00 hours (1.25 Set cement plugs, 1.50 Jet cellar and pits, 3.50 Tripping, .75 Rig up loggers, 2.75 Logging, .50 Rig up lay down line, 1.25 CTCH at 4325', .25 Survey, 3.50 Lay down DP and DC, 1.50 Pull BOP, 1.00 Break Kelly and lay down, 6.25 Rig down and prepare for move). Mud Properties: Chemical/Pac - Wt. 9.4, Vis. 59, PV/YP 17/17, WL 8.8, pH 10.0, Chl. 7,000, LCM 5# Bit #: 7-7/8" TXT, TXT516, SN #911378, (5-15's), in at 325'm out at 4325, drilled 4,000' in 52.25 0' ← Last 24-ROP->7-7/8"- 77' Final Cum Mud \$ \$14,546						

Sterling will schedule the water well to be plugged.

Plugging Data:

Plugged well on 10/03/19. Plugged with heavy mud from 4325' (RTD) to 680' where the first plug was set with 50 sacks, then second plug set 360' with 70 sacks, then third plug set at 60' with 30 sacks. Plugged Rathole with 30 sacks and mousehole with 20 sacks. 200 Total sacks used containing 60/40 Poz, 4% Gel. Plugging job completed at 11:15pm on 10/03/19. Plugging services provided by Basic, Ticket # 18149. Plugging orders received on 10/03/19 at 1:30pm by Kenny Sullivan. Reported to KCC (Heath Walsh) on 10/07/19.



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prater Oil & Gas Oper., Inc.

2-27s-12w Pratt Co., Ks.

10356 Bluestem BLVD
Pratt, Ks. 67124

Fisher # 1

Job Ticket: 64946

DST#: 1

ATTN: Kent Roberts

Test Start: 2019.10.01 @ 06:38:43

GENERAL INFORMATION:

Formation: LKC "B" Zone

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:05:28

Time Test Ended: 15:01:43

Test Type: Conventional Bottom Hole (Initial)

Tester: Matt Smith

Unit No: 68

Interval: 3716.00 ft (KB) To 3740.00 ft (KB) (TVD)

Total Depth: 3740.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1874.00 ft (KB)

1863.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8931

Inside

Press@RunDepth: 23.49 psig @ 3717.00 ft (KB)

Start Date: 2019.10.01

End Date:

2019.10.01

Capacity: 8000.00 psig

Last Calib.: 2019.10.01

Start Time: 06:38:48

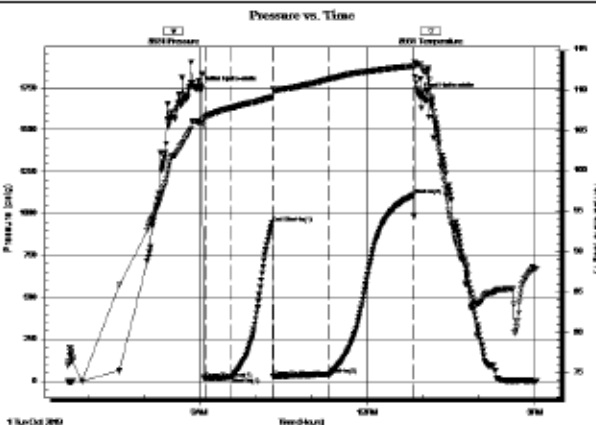
End Time:

15:01:42

Time On Btm: 2019.10.01 @ 09:00:58

Time Off Btm: 2019.10.01 @ 12:54:58

TEST COMMENT: IF: Strong Blow . B.O.B. in 28 mins. Built to 12.65".
IS: No Blow .
FF: Strong Blow . B.O.B. in 29 mins. Built to 16.41".
FS: No Blow .



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1746.49	105.89	Initial Hydro-static
5	16.96	106.62	Open To Flow (1)
33	23.49	107.78	Shut-in(1)
77	941.57	109.06	End Shut-in(1)
79	26.30	110.07	Open To Flow (2)
138	40.29	111.30	Shut-in(2)
229	1110.82	112.92	Shut-in(3)
234	1708.94	113.16	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
118.00	GOWCM 15%g 25%o 5%w 55%m	0.90
3.00	OCM 80%o 20%m	0.02
0.00	314' G.I.P. 100%g	0.00

Gas Rates

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

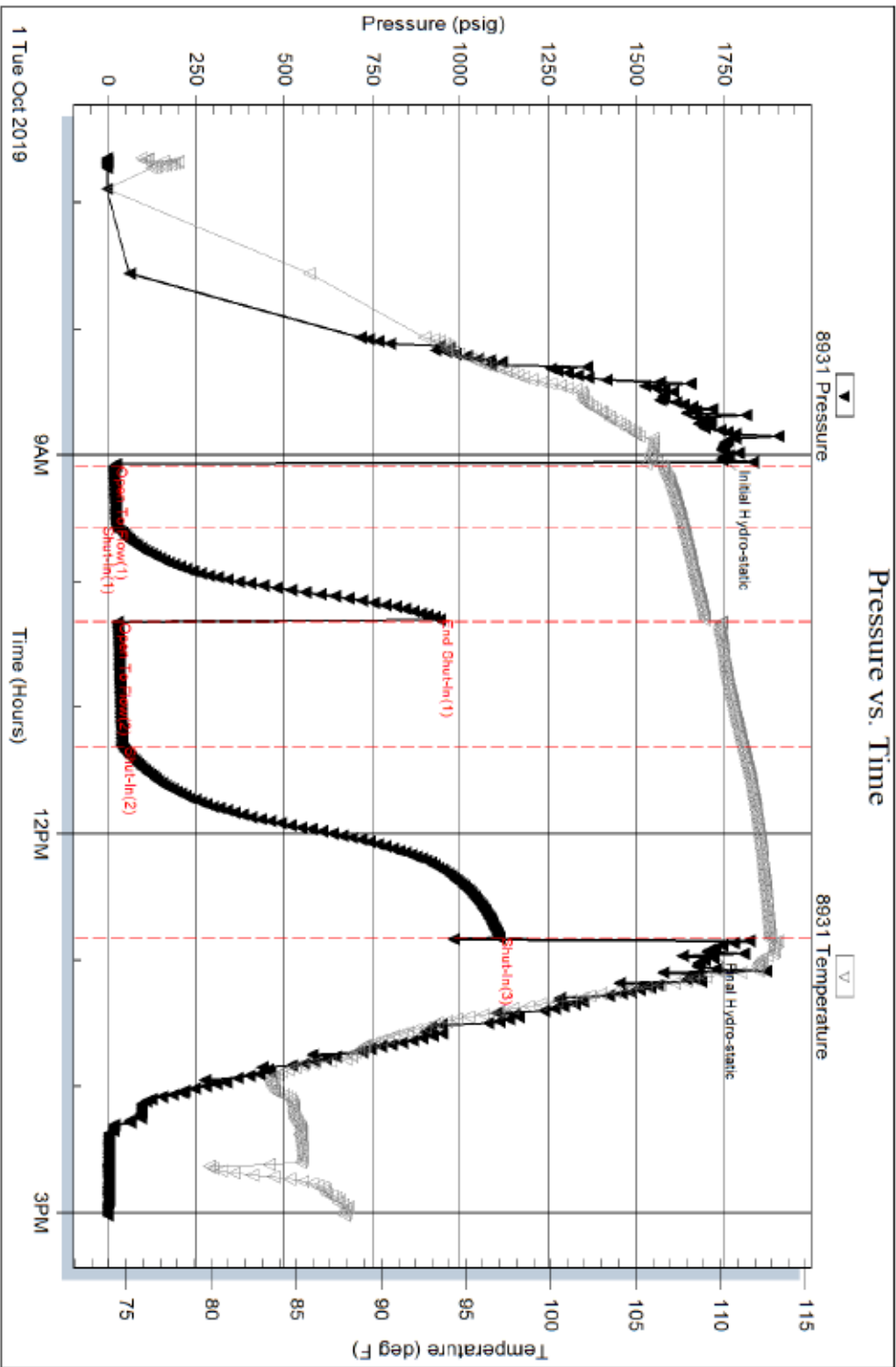
Serial #: 8931

Inside

Frailer Oil & Gas Oper., Inc.

Fisher # 1

DST Test Number: 1





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Prater Oil & Gas Oper., Inc.

2-27s-12w Pratt Co., Ks.

10356 Bluestem BLVD
Pratt, Ks. 67124

Fisher # 1

Job Ticket: 64947

DST#: 2

ATTN: Kent Roberts

Test Start: 2019.10.02 @ 15:21:41

GENERAL INFORMATION:

Formation: **Mississippi Chert**

Deviated: **No** Whipstock: **ft (KB)**

Test Type: **Conventional Bottom Hole (Reset)**

Time Tool Opened: 17:49:26

Tester: **Matt Smith**

Time Test Ended: 00:10:56

Unit No: **68**

Interval: **4115.00 ft (KB) To 4194.00 ft (KB) (TVD)**

Reference Elevations: **1874.00 ft (KB)**

Total Depth: **4194.00 ft (KB) (TVD)**

1863.00 ft (CF)

Hole Diameter: **7.88 inches-hole Condition: Fair**

KB to GR/CF: **11.00 ft**

Serial #: **8931**

Inside

Press@RunDepth: **100.90 psig @ 4116.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2019.10.02**

End Date:

2019.10.03

Last Calib.: **2019.10.03**

Start Time: **15:21:46**

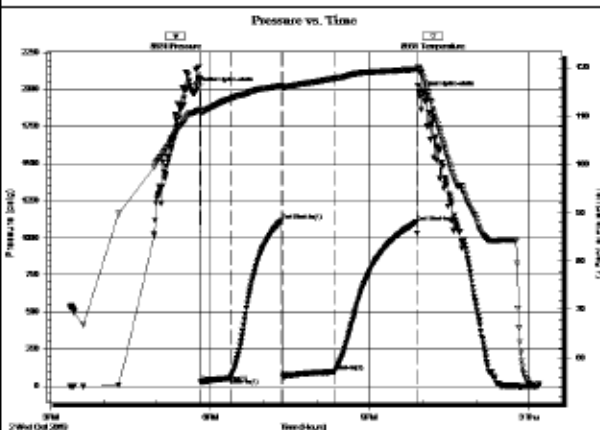
End Time:

00:10:56

Time On Btm: **2019.10.02 @ 17:45:41**

Time Off Btm: **2019.10.02 @ 21:55:41**

TEST COMMENT: F: Strong Blow . B.O.B. in 5 mins. Built to 25.87".
IS: No Blow .
FF: Strong Blow . B.O.B. 27 mins. Built t 18.92".
FS: No Blow .



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2003.75	111.07	Initial Hydro-static
4	27.67	110.92	Open To Flow (1)
37	53.33	113.59	Shut-in(1)
95	1114.61	116.26	End Shut-in(1)
97	62.88	116.03	Open To Flow (2)
156	100.90	117.78	Shut-in(2)
248	1102.61	119.74	End Shut-in(2)
250	1976.71	119.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
170.00	GOSM 5%g 95%m	1.28

* Recovery from multiple tests

Gas Rates

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

Trilobite Testing, Inc

Ref. No: 64947

Printed: 2019.10.03 @ 06:07:37

Serial #: 8931

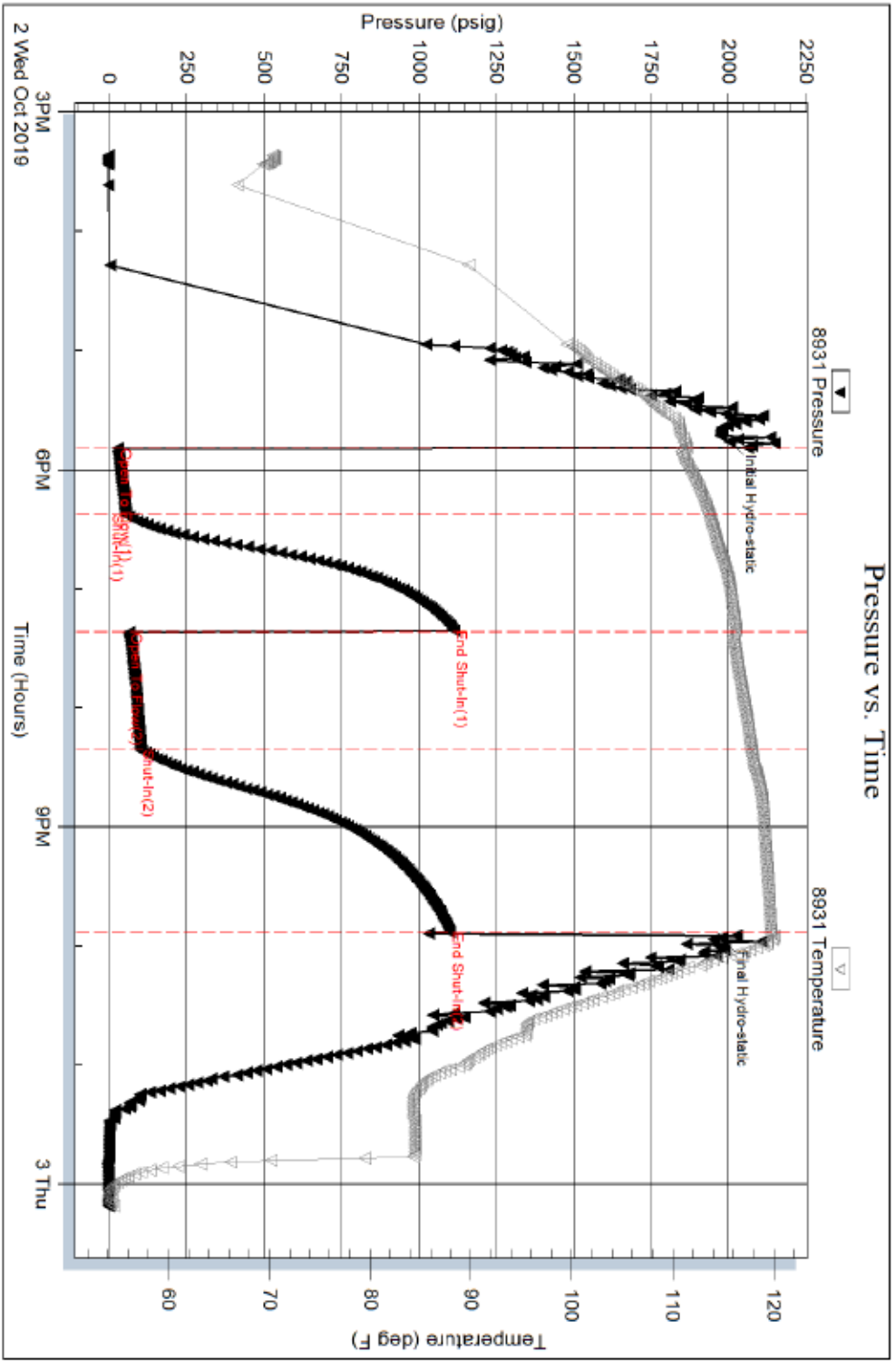
Inside

Frater Oil & Gas Oper., Inc.

Fisher # 1

DST Test Number: 2

Pressure vs. Time



Trioboke Testing, Inc












Ref. No: 64947

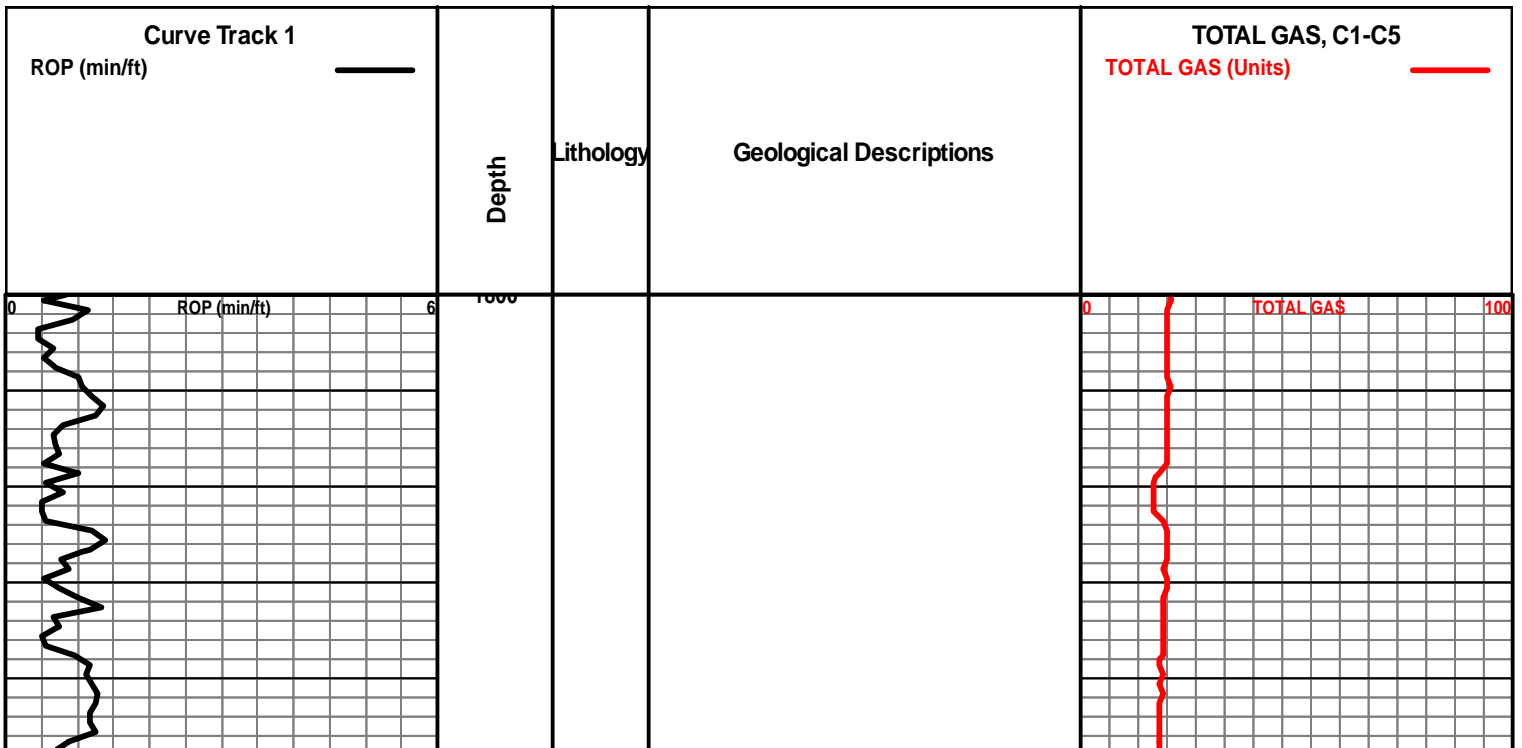
Printed: 2019.10.03 @ 06:07:37

**Prater Oil and Gas
Fisher #1**

Formation	Sample Top	Datum	Log Top	Datum
Anhydrite	655	1219	655	1219
Base Anhydrite	673	1201	673	1201
Topeka	3159	-1285	3160	-1286
Heebner Shale	3492	-1618	3495	-1621
Douglas Shale	3530	-1656	3532	-1658
Brown Lime	3678	-1804	3678	-1804
Lansing	3690	-1816	3691	-1817
Lansing Drum	3860	-1986	3862	-1988
Stark Shale	3986	-2112	3988	-2114
Mississippi Chert	4126	-2252	4148	-2274
Mississippi Lime	4188	-2314	4193	-2319
Kinderhook Shale	4296	-2422	4298	-2424
RTD	4325	-2451	4328	-2454

ROCK TYPES

 Anhy	 Congl	 Salt	 Siltstone
 Cht	 Dolomite	 Shale	 Sandstone
 Black shale	 Limestone	 Cherty dol.	



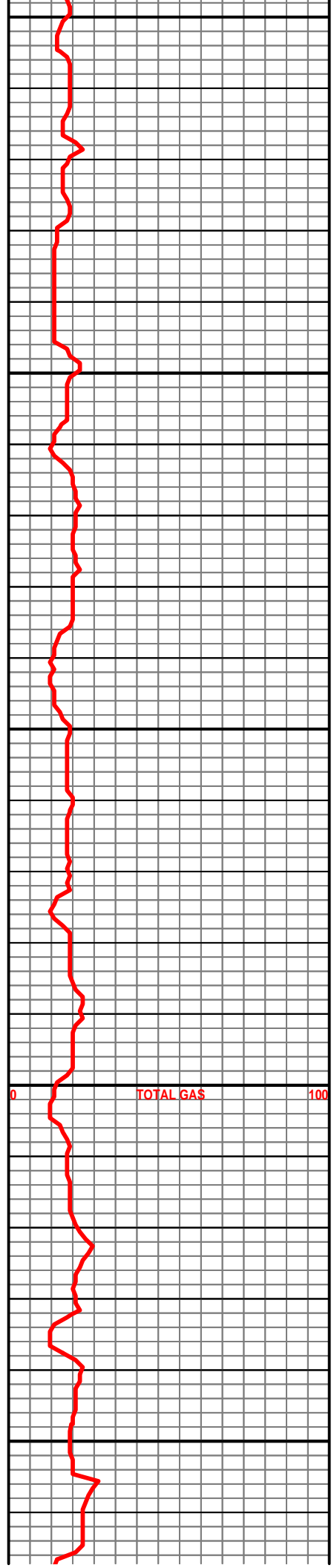
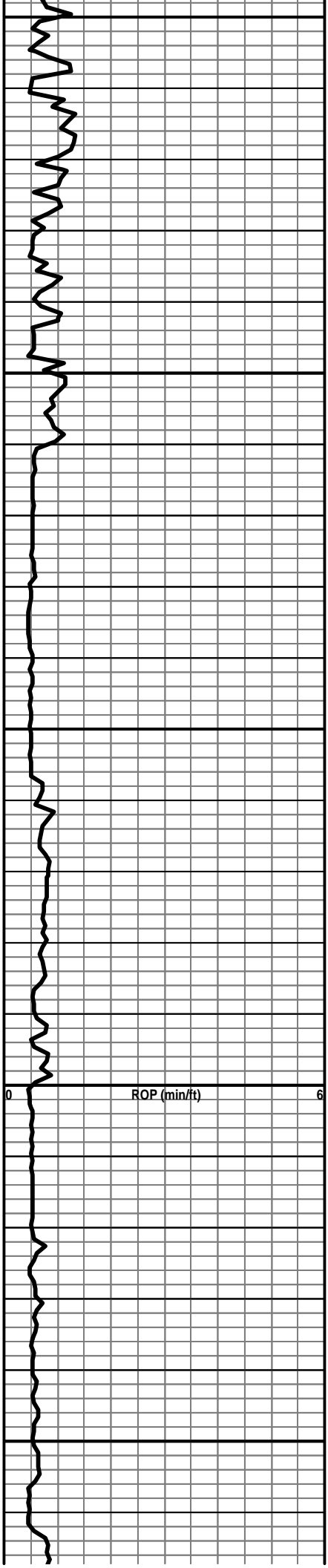
1850

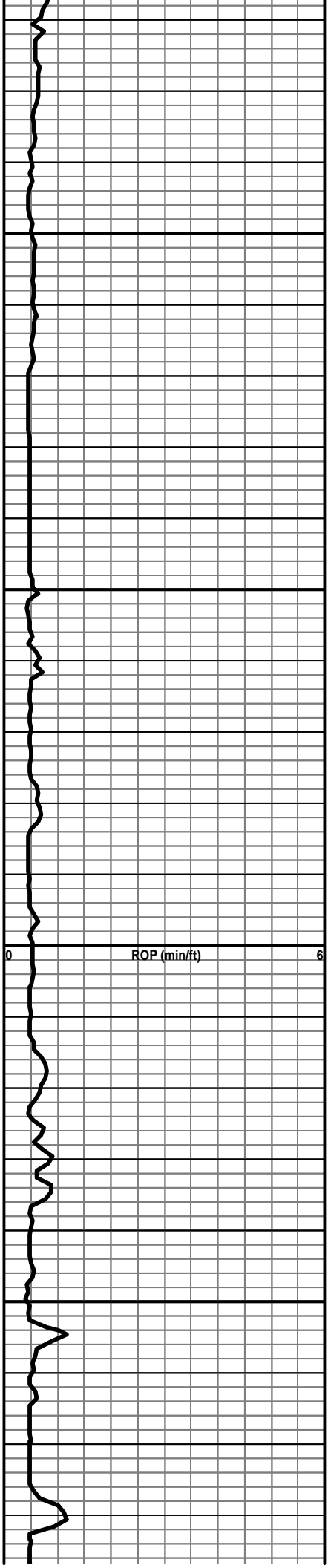
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1950

2000

2050





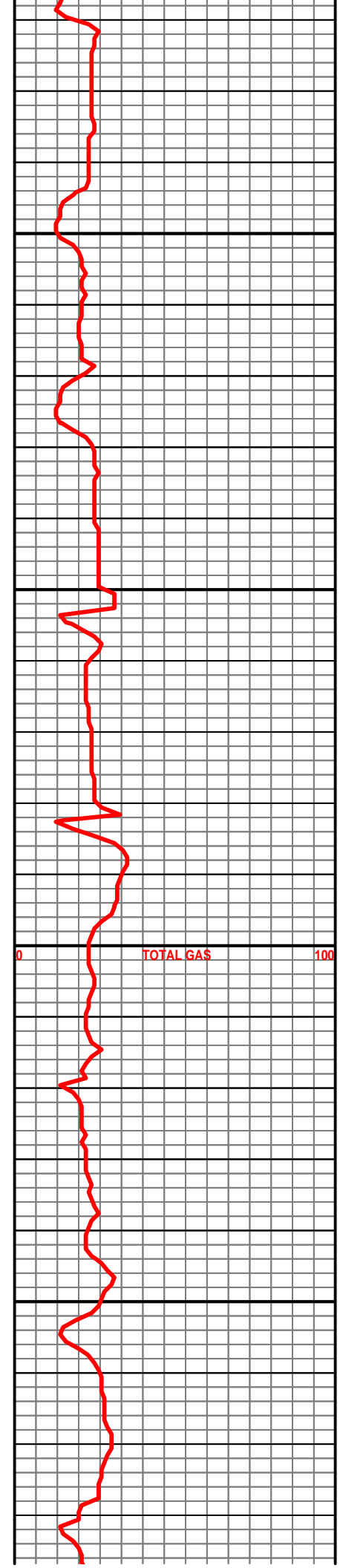
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2150

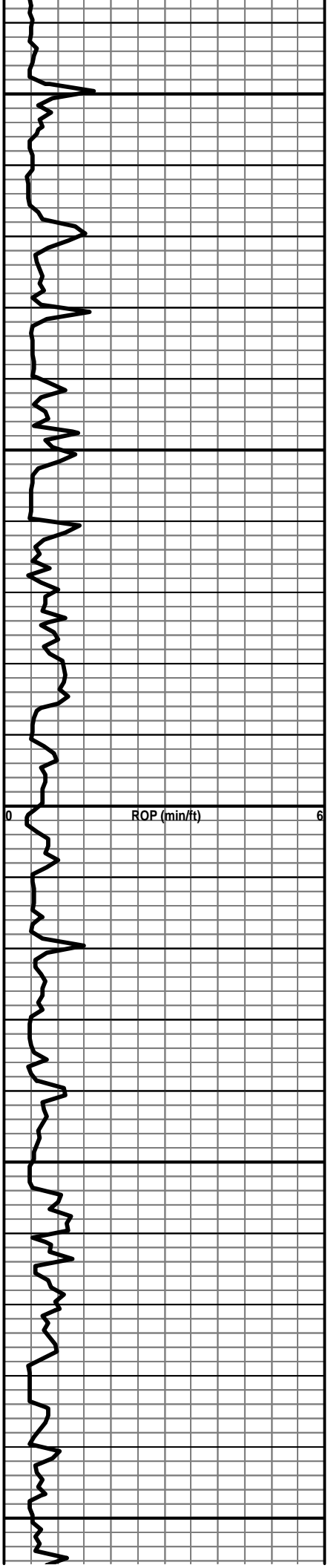
2200

2250

0 ROP (min/ft) 6



0 TOTAL GAS 100



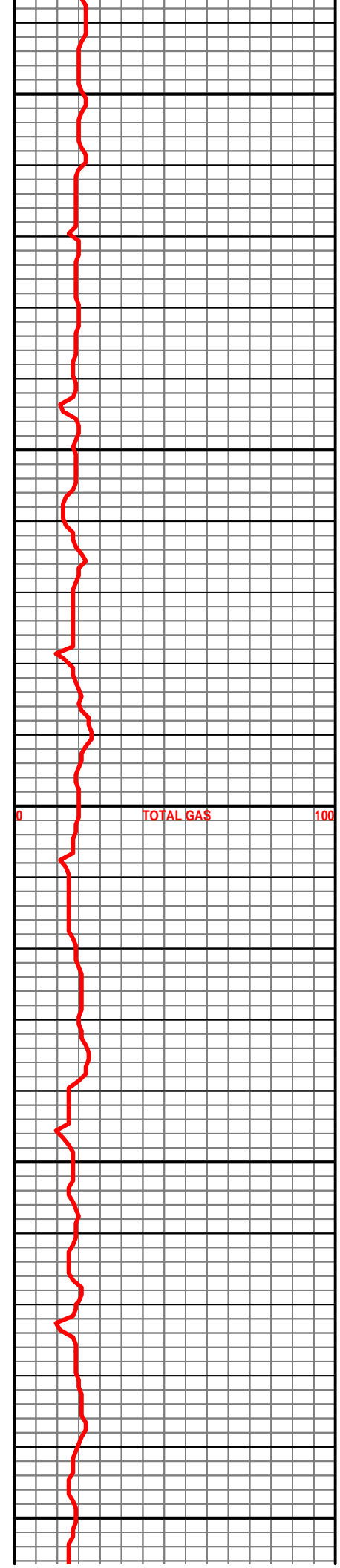
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2350

2400

2450

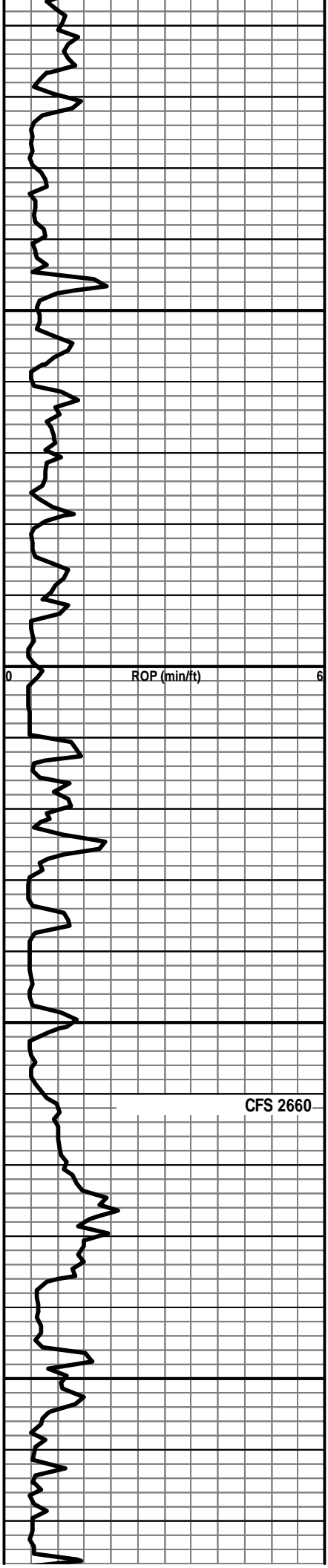
2500



0

TOTAL GAS

100



2550

2600

2650

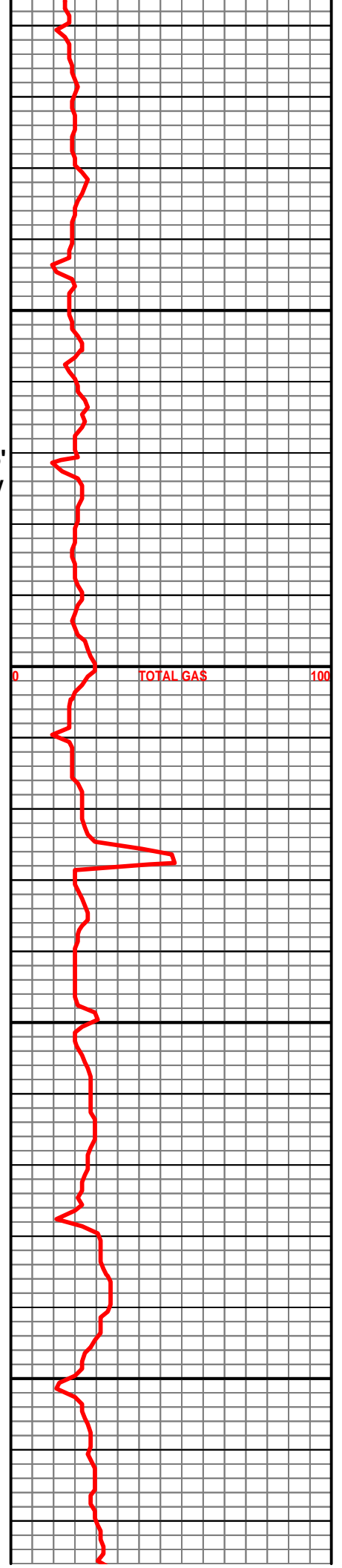
2700

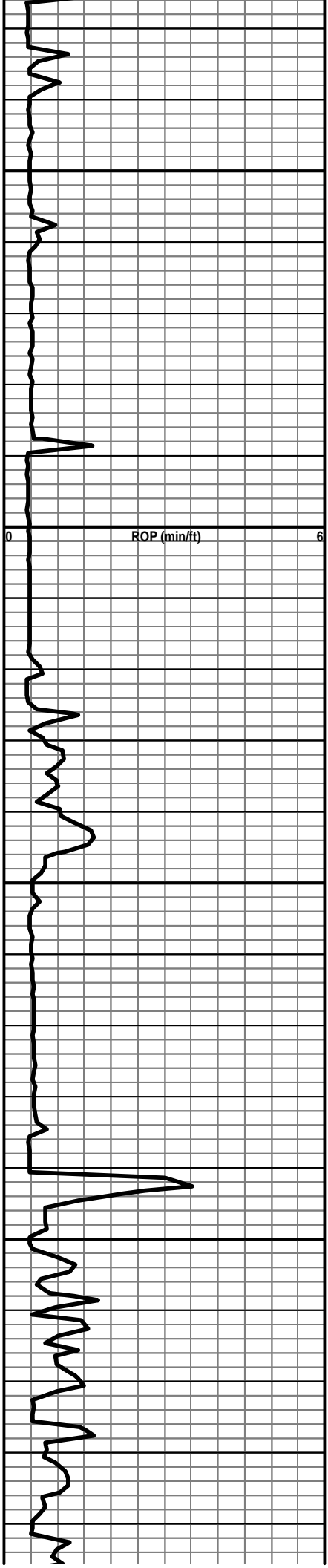
450' Started losing fluid, At 506'
Lost circulation, approximately
250 bbl. Pull to surface pipe.
2 tanks and got returns back

Vis 34 6# LCM

30 UGI

Trace blk carb sh, Ls, wht, foss,
glaucitic, fr porosity, a few pcs with very
slight show gas bubbles on break, mostly
gry, soft silty shale, trace lt gry, pale green
siltstone.



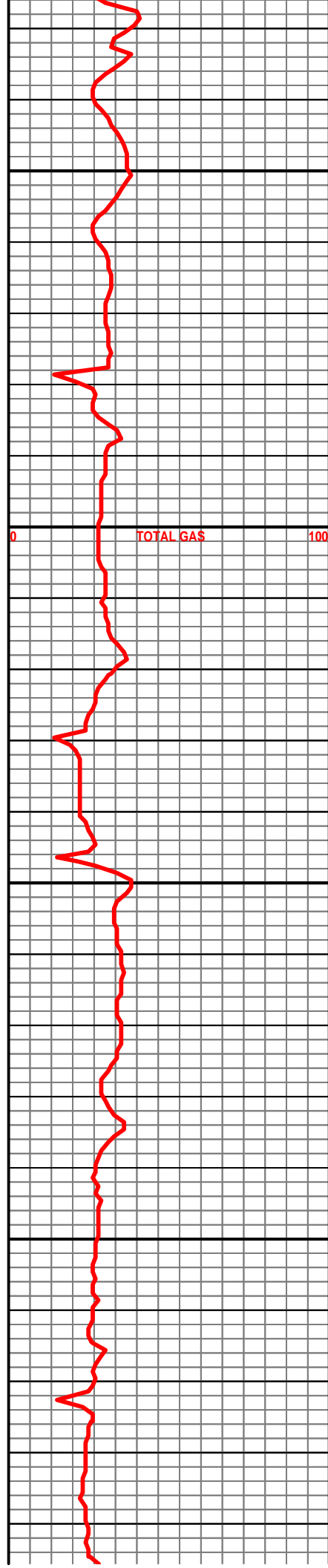


2750

2800

2850

2900



0

TOTAL GAS

100

2950

3000

3050

3100

3150

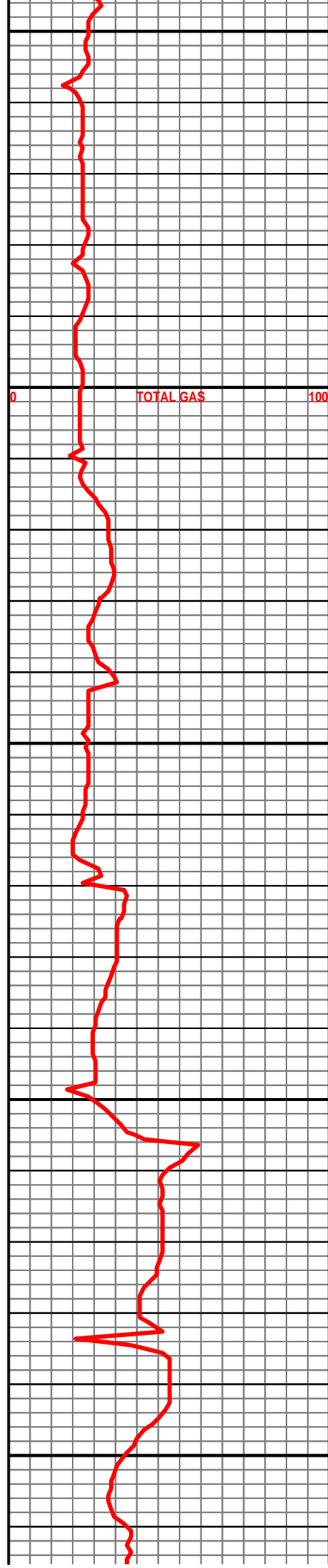
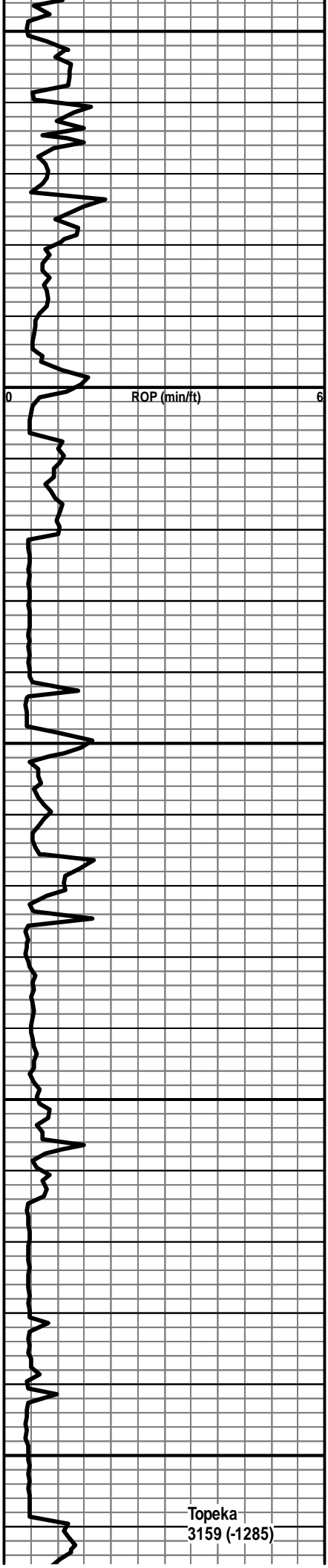
ROP (min/ft)

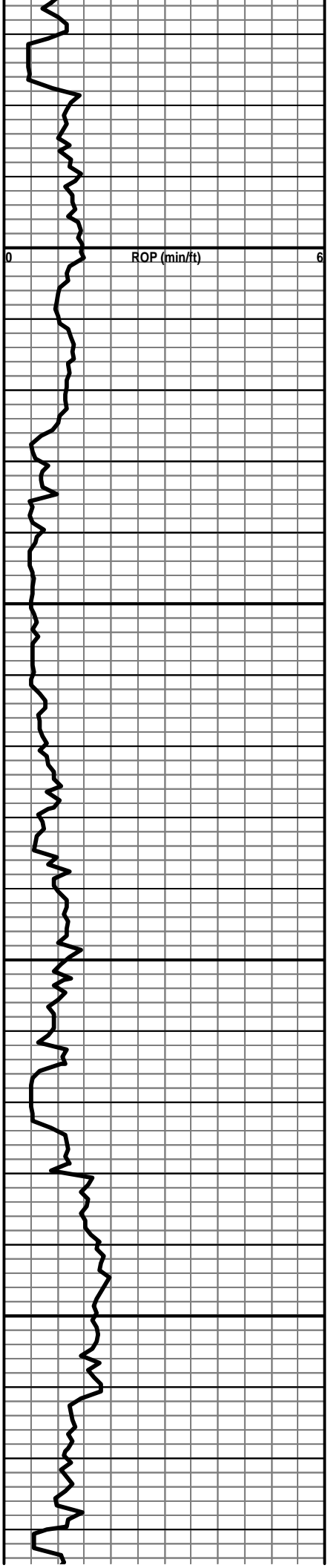
Topeka
3159 (-1285)

0

TOTAL GAS

100





3200

3250

3300

3350

Drilling with Bit #1, 7-7/8" PDC TXT 516

Displace Mud @ 3297' 5:30 PM
on 9/30/19

Start 20' Wet and Dry Samples

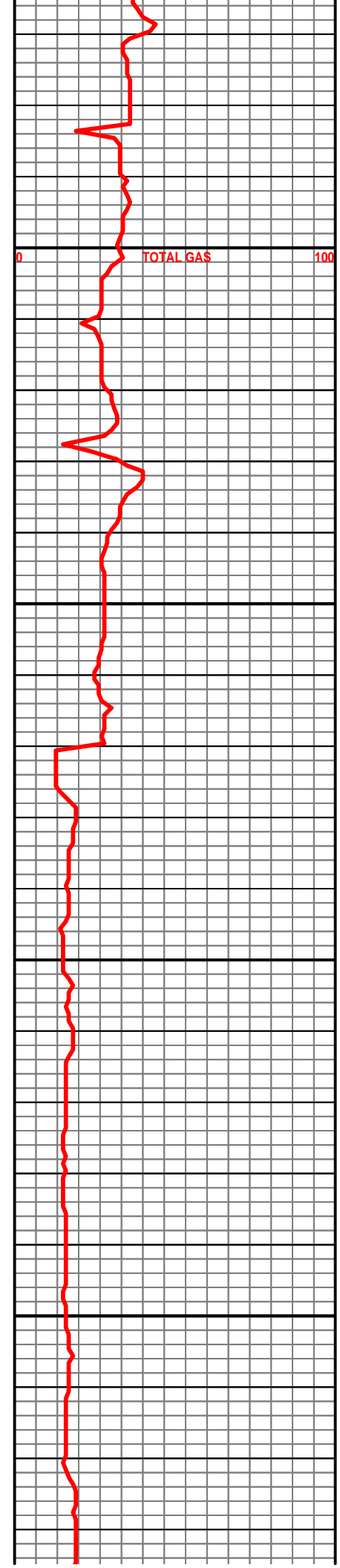
Ls, crm, gry, dk gry, tan, fxln dense, hard

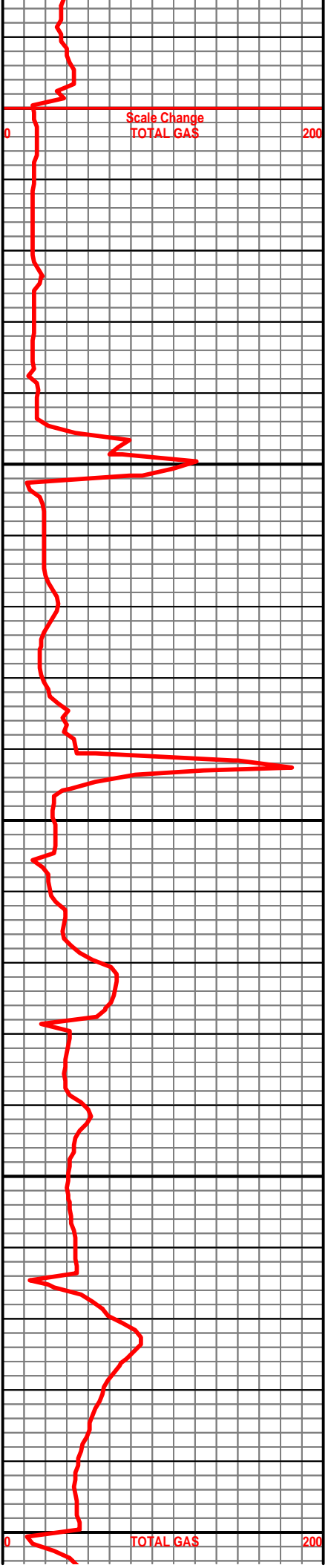
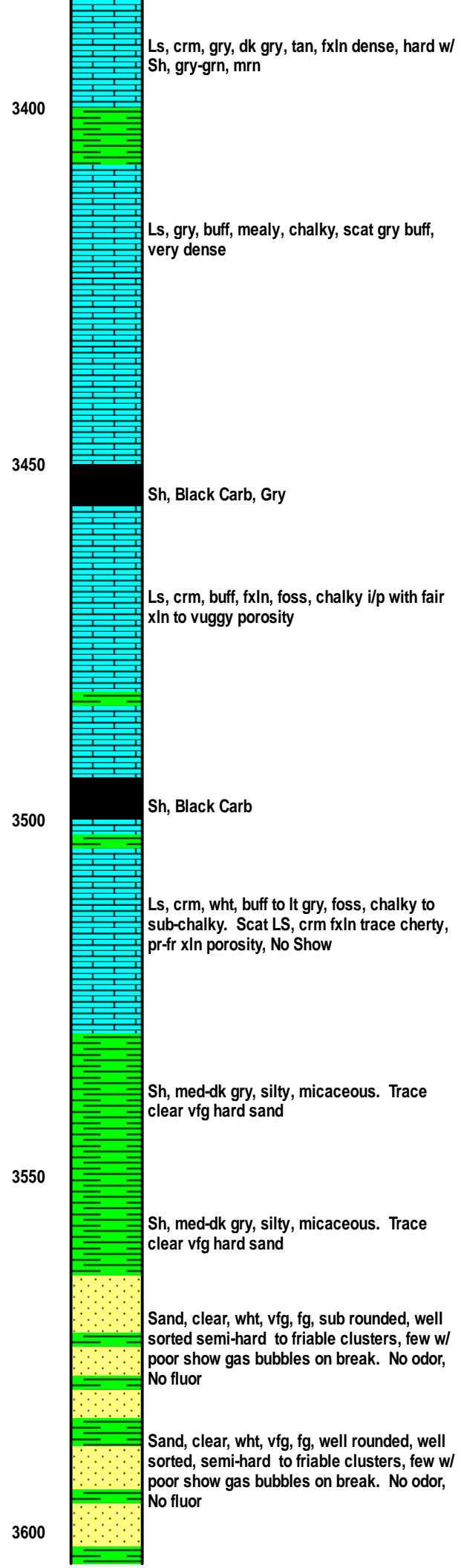
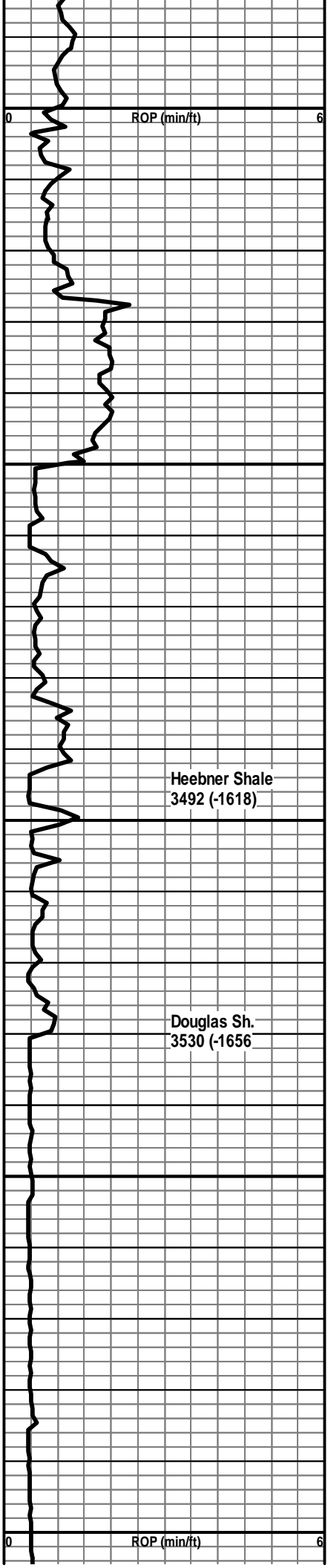
Ls, crm, gry, dk gry, tan, fxln dense, hard

Ls, crm, wht, buff, lt gry, chalky few pcs
have fr pin-point porosity

Ls, crm, gry, dk gry, tan, fxln dense, hard

Ls, crm, gry, dk gry, tan, fxln dense, hard





3400

3450

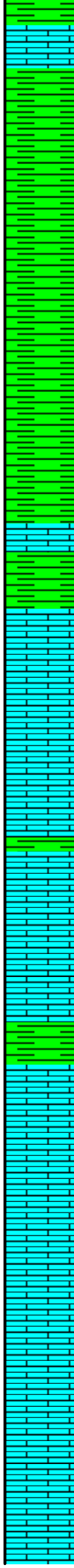
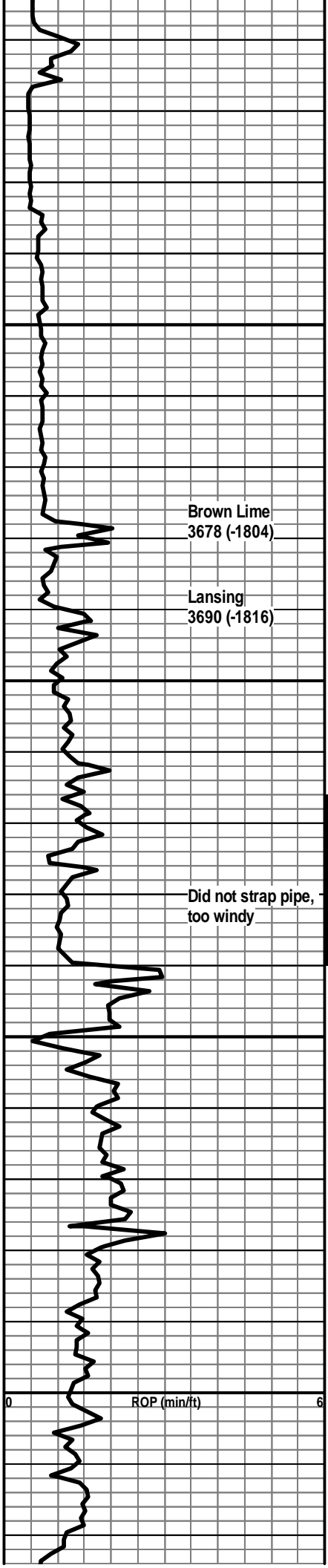
3500

3550

3600

Heebner Shale
3492 (-1618)

Douglas Sh.
3530 (-1656)



Ls, lt gry, sandy, vf xln, hard

Sh, gry, scat mica i/p, pyritic i/p

3650 Sh, gry, scat mica i/p, pyritic i/p becomes light gry-grn silty

Brown Lime 3678 (-1804)

Lansing 3690 (-1816)

3700 Ls, tan, brn, fxln, dense w/ Sh, gry-grn

Ls, brn, tan, crm, f-m xln, foss, pr xln porosity, chalky i/p

Did not strap pipe, too windy

Ls, crm, tan, fxln, foss i/p fair pin-point and poor-fair vuggy porosity, lt brn even oil stain, fair show light free oil and gas bubbles, bright fluor, strong odor

3750 Sh, gry

Ls, crm, buff, fxln, chalky, wht chalk. Ls, tan, brn, fxln, dense. Scat pr vuggy porosity with trace dead black stain. No show free oil, No fluor

Ls, crm, buff, tan, mottled, tan mxln dense. Sh, gry, dk gry

3800 Ls, tan, gry, dk gry, mottled, foss, dense. Sh, gry, dk-gry

Ls, crm, tan, fxln, brn, dense brittle

