

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 Recompletion Date

API No.: \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE  NW  SE  SW

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

Datum:  NAD27  NAD83  WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: \_\_\_\_\_

Confidential Release Date: \_\_\_\_\_

Wireline Log Received  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

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

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

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

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</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	Agricultural Energy Services
Well Name	HOPE 1-23
Doc ID	1585991

All Electric Logs Run

Compensated Neutron Litho Density
Gamma Ray XY Caliper
Dual Induction Laterlog
MicroLog





785-953-0222

TICKET NUMBER 1314 K-C  
 LOCATION Hugoton, ks  
 FOREMAN Walt Dunkel

**FIELD TICKET & TREATMENT REPORT  
 CEMENT**

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
7-29-2021		Rigmit #1-23	23	3B5	33W	Sevier
CUSTOMER			TRUCK #			
Agricultural Energy Services			103	DRIVER	TRUCK #	DRIVER
MAILING ADDRESS			800-850	Walt D		
CITY			801-851	Eddie		
STATE			ZIP CODE			

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH \_\_\_\_\_ CASING SIZE & WEIGHT 8 5/8"  
 CASING DEPTH \_\_\_\_\_ DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 14.5 SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 42'  
 DISPLACEMENT 14.8 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE 4 BPM @ 600# max  
 REMARKS: 105 1/2 Safety meeting, Rig up on Duke #1

Mixed 575 sks Lito, 14# Flashed, Tail in w/ 150 sks cone, 3% ace-2% lal  
Released Plug & Displaced 105.5 BPM @ 600#, Landed Plug @ 850'  
Cement Did Cure

*Thank You  
 Walt & crew*

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
	1	PUMP CHARGE	1,500.00	1,500.00
	20	MILEAGE	7.15	1,430.00
	32.06	Tom Mileage Delivery	1.76	1,122.10
	150 SKs	Surface Blend II	24.00	3,600.00
	575 SKs	Lightweight Blend <del>IX</del> IX	19.50	11,212.50
	144#	Flashed	3.00	432.00
	1	8 5/8 Guide Shoe	650.00	650.00
	1	8 5/8 API Insert	380.00	380.00
	2	8 5/8 Centralizers	110.00	220.00
	1	8 5/8 Basket	530.00	530.00
	1	8 5/8 Rubber Plug	185.00	185.00
				19,994.00
		Loss 40% Disc		7,989.84
				11,984.16
			SALES TAX	
			ESTIMATED TOTAL	

AUTHORIZATION

*[Signature]*

TITLE

DATE

7/29/21

I acknowledge that the payments terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Agricultural Energy

**23-33s-31w Seward Ks**

P.O. Box 31865  
Edmond Ok 73003

**Hope 1-23**

Job Ticket: 67467

**DST#: 1**

ATTN: Tom Williams

Test Start: 2021.08.05 @ 00:53:42

## GENERAL INFORMATION:

Formation: **Atoka LM**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:31:42

Time Test Ended: 09:14:12

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

**Interval: 5375.00 ft (KB) To 5453.00 ft (KB) (TVD)**

Reference Elevations: 2755.00 ft (KB)

Total Depth: 5453.00 ft (KB) (TVD)

2744.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8674 Outside**

Press@RunDepth: 117.16 psig @ 5376.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.08.05

End Date:

2021.08.05

Last Calib.: 1899.12.30

Start Time: 00:53:47

End Time:

09:14:11

Time On Btm: 2021.08.05 @ 03:27:42

Time Off Btm: 2021.08.05 @ 07:08:12

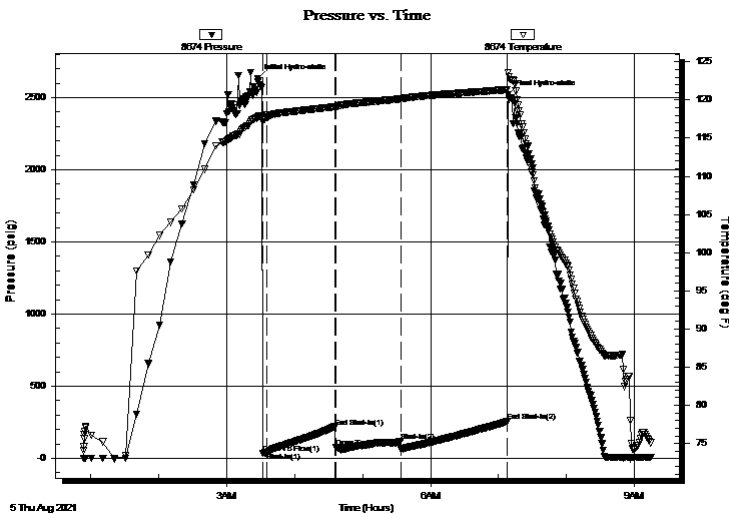
TEST COMMENT: IF: 1/4 blow built to 1/2.

IS: No return.

FF: Surface blow built to 1.

FS: No return. 3-60-60-90

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2634.68	117.79	Initial Hydro-static
4	35.14	117.14	Open To Flow (1)
8	38.54	117.70	Shut-In(1)
68	217.67	119.12	End Shut-In(1)
69	76.25	119.05	Open To Flow (2)
126	117.16	120.15	Shut-In(2)
220	253.14	121.36	End Shut-In(2)
221	2523.02	123.62	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100%m	0.28

## Gas Rates

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



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# DRILL STEM TEST REPORT

Agricultural Energy

**23-33s-31w Seward Ks**

P.O. Box 31865  
Edmond Ok 73003

**Hope 1-23**

Job Ticket: 67467

**DST#: 1**

ATTN: Tom Williams

Test Start: 2021.08.05 @ 00:53:42

## GENERAL INFORMATION:

Formation: **Atoka LM**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:31:42

Time Test Ended: 09:14:12

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

Interval: **5375.00 ft (KB) To 5453.00 ft (KB) (TVD)**

Reference Elevations: 2755.00 ft (KB)

Total Depth: 5453.00 ft (KB) (TVD)

2744.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8790**

**Inside**

Press@RunDepth: psig @ 5376.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.08.05

End Date:

2021.08.05

Last Calib.:

2021.08.05

Start Time:

00:53:21

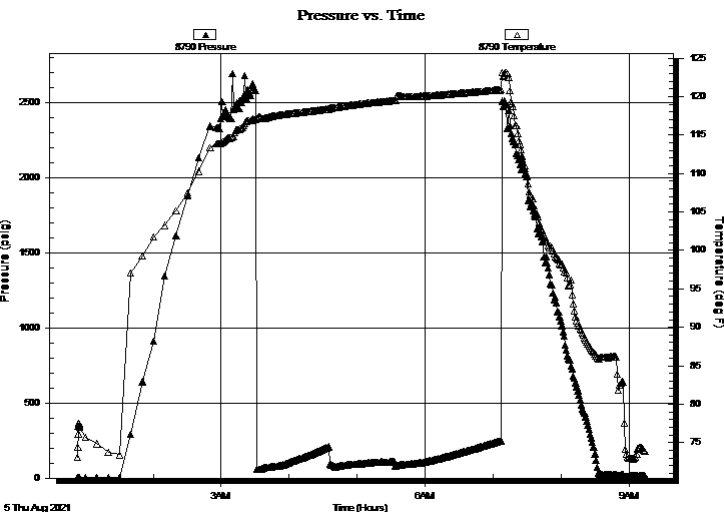
End Time:

09:13:45

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1/4 blow built to 1/2.  
IS: No return.  
FF: Surface blow built to 1.  
FS: No return. 3-60-60-90



## PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
20.00	mud 100%m	0.28

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Agricultural Energy

**23-33s-31w Seward Ks**

P.O. Box 31865  
Edmond Ok 73003

**Hope 1-23**

Job Ticket: 67467

**DST#: 1**

ATTN: Tom Williams

Test Start: 2021.08.05 @ 00:53:42

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	mud 100%m	0.281

Total Length: 20.00 ft      Total Volume: 0.281 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

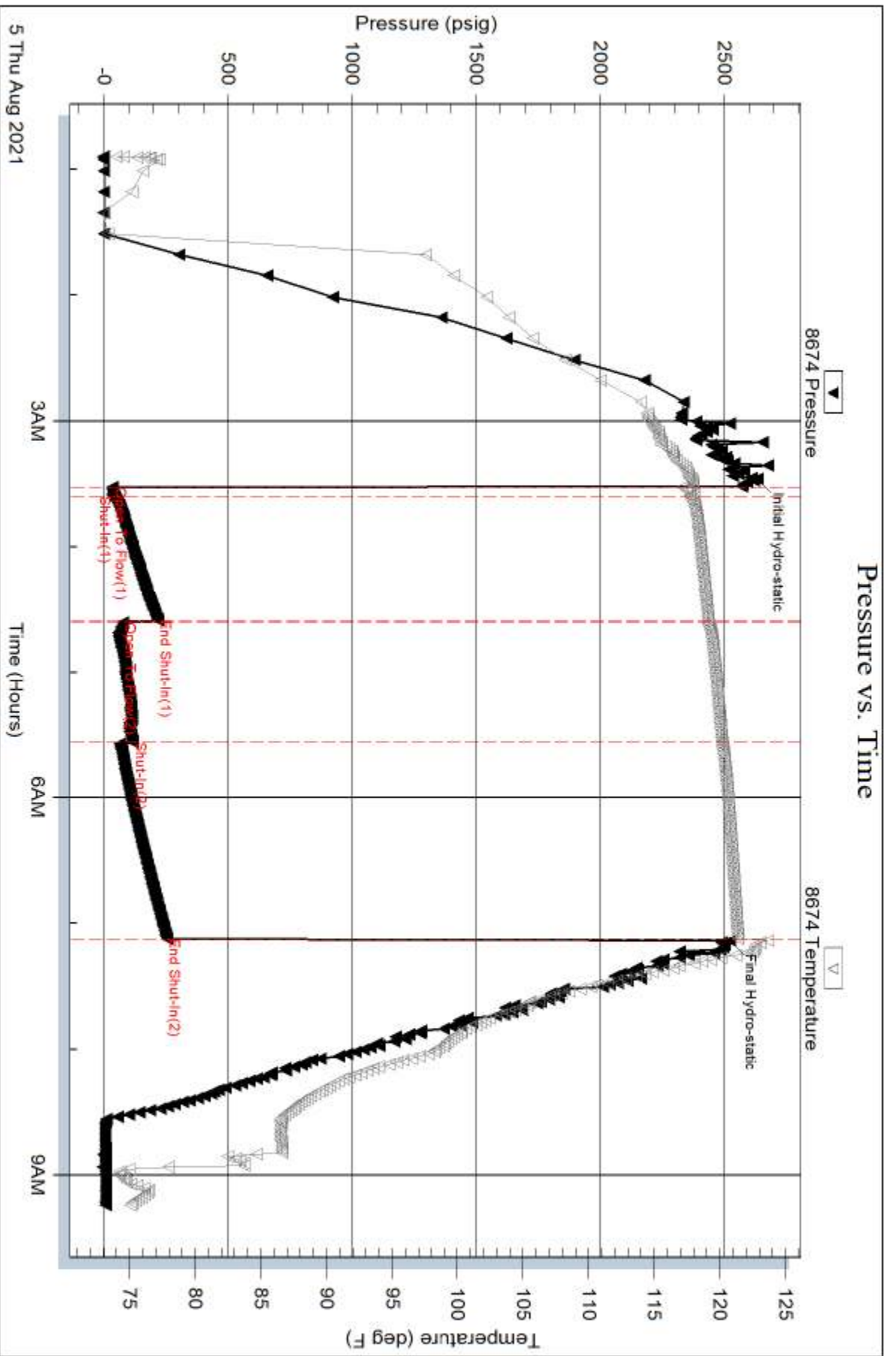
Serial #:

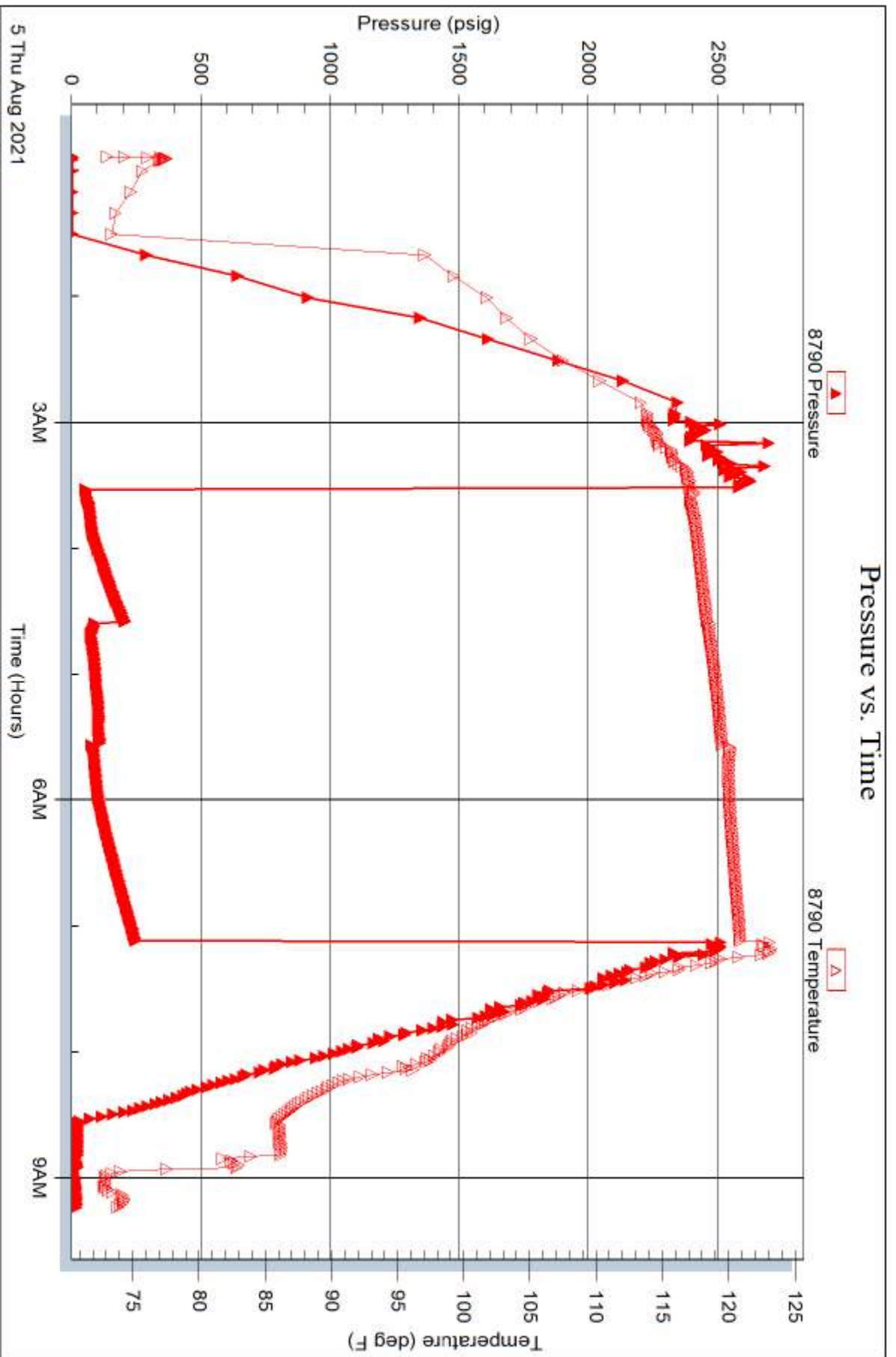
Laboratory Name:

Laboratory Location:

Recovery Comments:









**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Agricultural Energy

**23-33s-31w Seward Ks**

P.O. Box 31865  
Edmond Ok 73003

**Hope 1-23**

ATTN: Tom Williams

Job Ticket: 67468

**DST#: 2**

Test Start: 2021.08.06 @ 13:30:40

## GENERAL INFORMATION:

Formation: **Chester**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:00:10

Time Test Ended: 18:21:40

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 5632.00 ft (KB) To 5674.00 ft (KB) (TVD)**

Reference Elevations: 2755.00 ft (KB)

Total Depth: 5674.00 ft (KB) (TVD)

2744.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8674 Outside**

Press@RunDepth: psig @ 5633.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.08.06 End Date: 2021.08.06

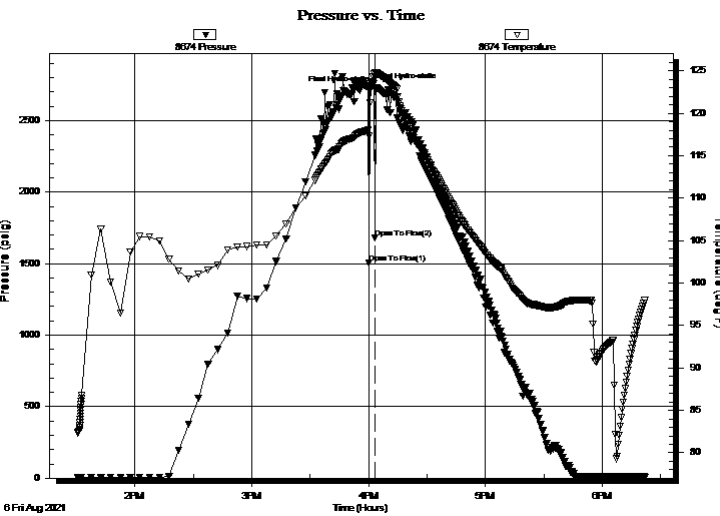
Last Calib.: 2021.08.06

Start Time: 13:30:45 End Time: 18:21:39

Time On Btm: 2021.08.06 @ 15:59:40

Time Off Btm: 2021.08.06 @ 16:03:40

TEST COMMENT: Packers failed at open.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2733.36	118.00	Initial Hydro-static
1	1503.73	117.28	Open To Flow (1)
4	1681.64	124.25	Open To Flow (2)
4	2712.63	124.81	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
134.00	mud 100%m	1.88

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Agricultural Energy

**23-33s-31w Seward Ks**

P.O. Box 31865  
Edmond Ok 73003

**Hope 1-23**

Job Ticket: 67468

**DST#: 2**

ATTN: Tom Williams

Test Start: 2021.08.06 @ 13:30:40

## GENERAL INFORMATION:

Formation: **Chester**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:00:10

Time Test Ended: 18:21:40

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 5632.00 ft (KB) To 5674.00 ft (KB) (TVD)**

Reference Elevations: 2755.00 ft (KB)

Total Depth: 5674.00 ft (KB) (TVD)

2744.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8790** Inside

Press@RunDepth: psig @ 5633.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.08.06

End Date: 2021.08.06

Last Calib.: 2021.08.06

Start Time: 13:30:27

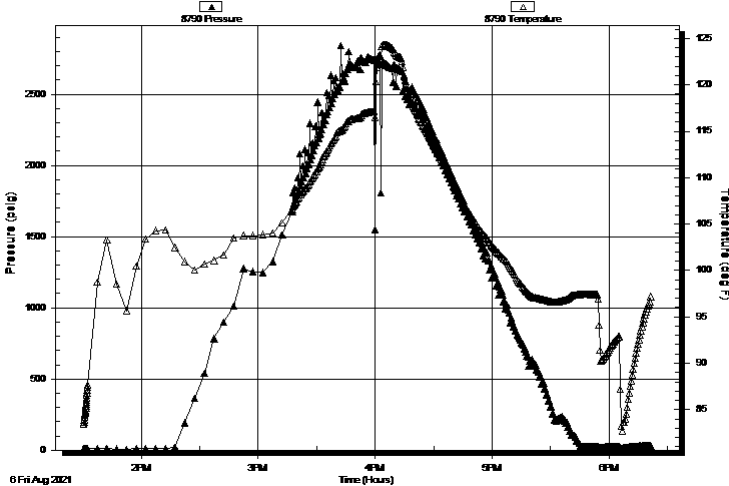
End Time: 18:21:21

Time On Btm:

Time Off Btm:

TEST COMMENT: Packers failed at open.

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
134.00	mud 100%m	1.88

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Agricultural Energy

**23-33s-31w Seward Ks**

P.O. Box 31865  
Edmond Ok 73003

**Hope 1-23**

Job Ticket: 67468

**DST#: 2**

ATTN: Tom Williams

Test Start: 2021.08.06 @ 13:30:40

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1300.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
134.00	mud 100%m	1.880

Total Length: 134.00 ft      Total Volume: 1.880 bbl

Num Fluid Samples: 0

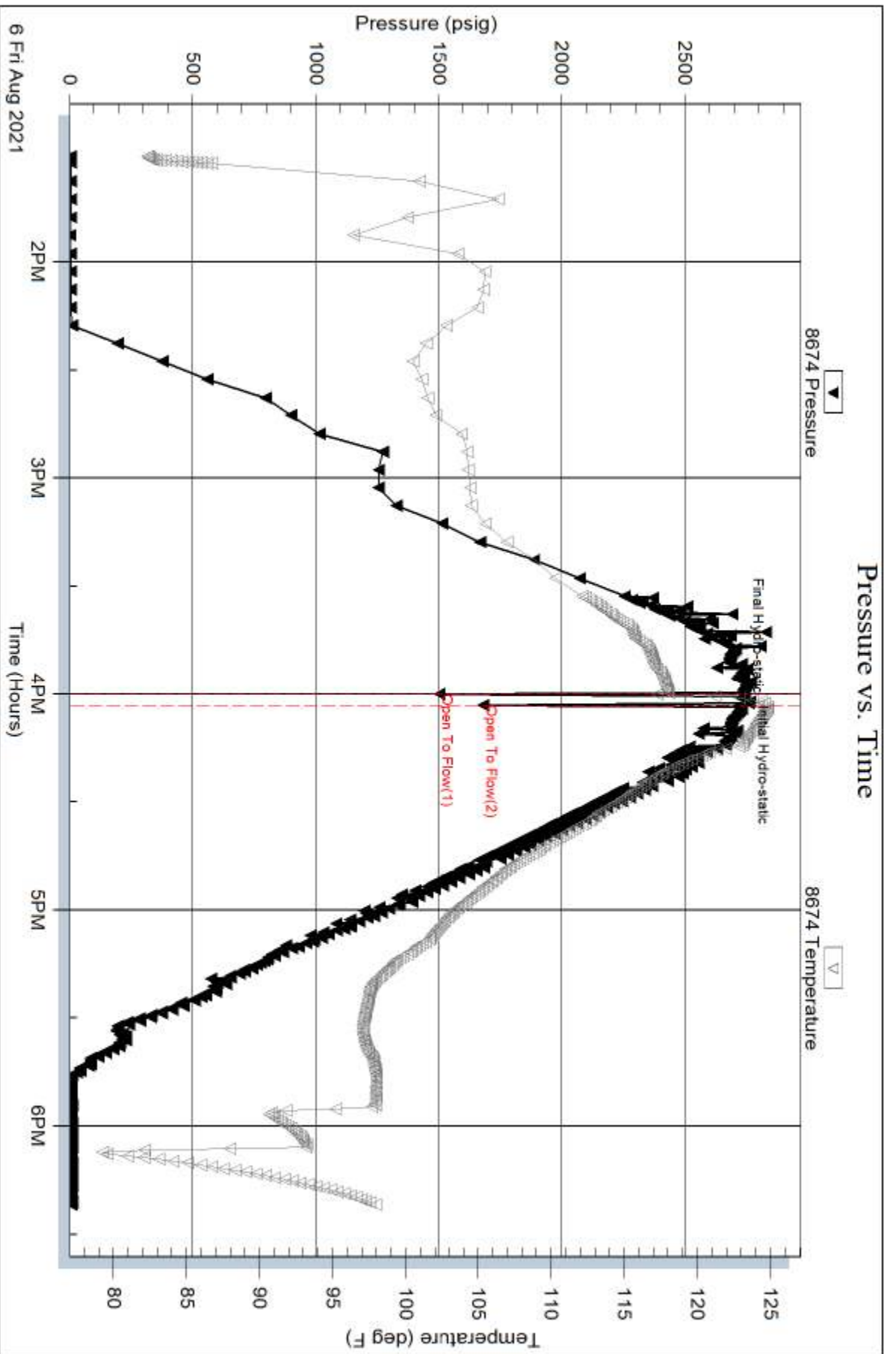
Num Gas Bombs: 0

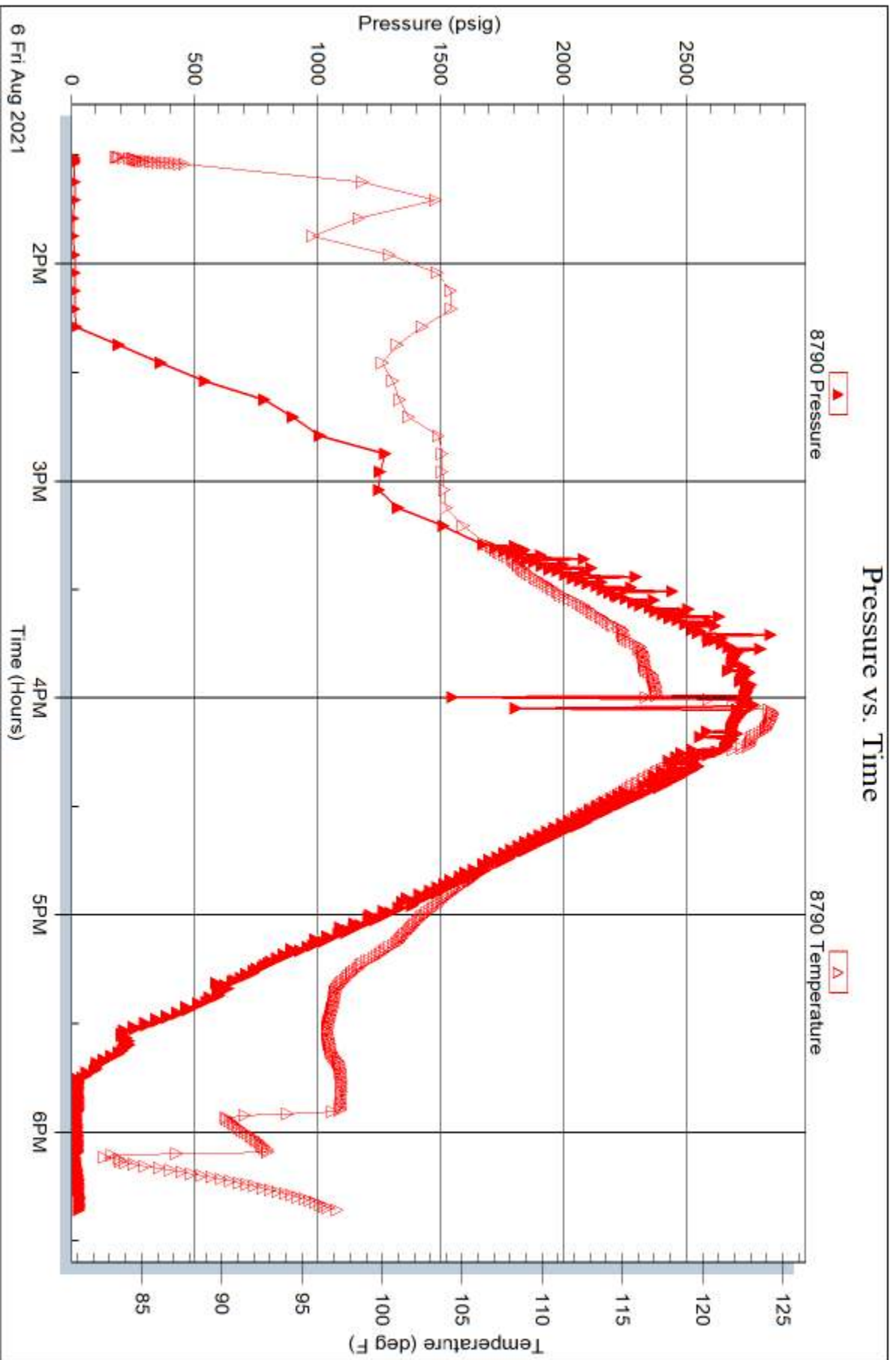
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Agricultural Energy

**23-33s-31w Seward Ks**

P.O. Box 31865  
Edmond Ok 73003

**Hope 1-23**

Job Ticket: 67469

**DST#: 3**

ATTN: Tom Williams

Test Start: 2021.08.06 @ 18:35:02

## GENERAL INFORMATION:

Formation: **Chester**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:27:02

Time Test Ended: 01:29:02

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

**Interval: 5650.00 ft (KB) To 5674.00 ft (KB) (TVD)**

Reference Elevations: 2755.00 ft (KB)

Total Depth: 5674.00 ft (KB) (TVD)

2744.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

**Serial #: 8674 Outside**

Press@RunDepth: 44.48 psig @ 5651.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.08.06

End Date:

2021.08.07

Last Calib.: 2021.08.07

Start Time: 18:35:07

End Time:

01:29:01

Time On Btm: 2021.08.06 @ 20:22:02

Time Off Btm: 2021.08.06 @ 23:27:32

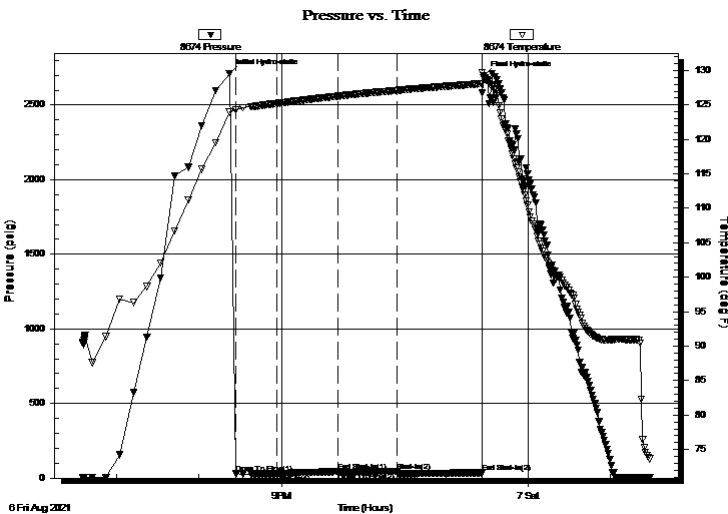
TEST COMMENT: IF: 1/4 blow built to 1/2 died in 20 mins.

IS: No return.

FF: No blow.

FS: No return. 30-45-45-60

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2712.79	123.98	Initial Hydro-static
5	28.86	124.32	Open To Flow (1)
35	27.81	125.21	Shut-In(1)
79	43.85	126.27	End Shut-In(1)
80	38.46	126.28	Open To Flow (2)
123	44.48	127.11	Shut-In(2)
184	36.01	128.08	End Shut-In(2)
186	2698.20	128.94	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	m 100%m	0.07

\* Recovery from multiple tests

## Gas Rates

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





# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Agricultural Energy

**23-33s-31w Seward Ks**

P.O. Box 31865  
Edmond Ok 73003

**Hope 1-23**

ATTN: Tom Williams

Job Ticket: 67469

**DST#: 3**

Test Start: 2021.08.06 @ 18:35:02

### GENERAL INFORMATION:

Formation: **Chester**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 20:27:02  
Time Test Ended: 01:29:02  
Interval: **5650.00 ft (KB) To 5674.00 ft (KB) (TVD)**  
Total Depth: 5674.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches  
Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)  
Tester: Brandon Turley  
Unit No: 79  
Reference Elevations: 2755.00 ft (KB)  
2744.00 ft (CF)  
KB to GR/CF: 11.00 ft

**Serial #: 8790**

**Inside**

Press@RunDepth: psig @ 5651.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2021.08.06 End Date: 2021.08.07

Last Calib.: 2021.08.07

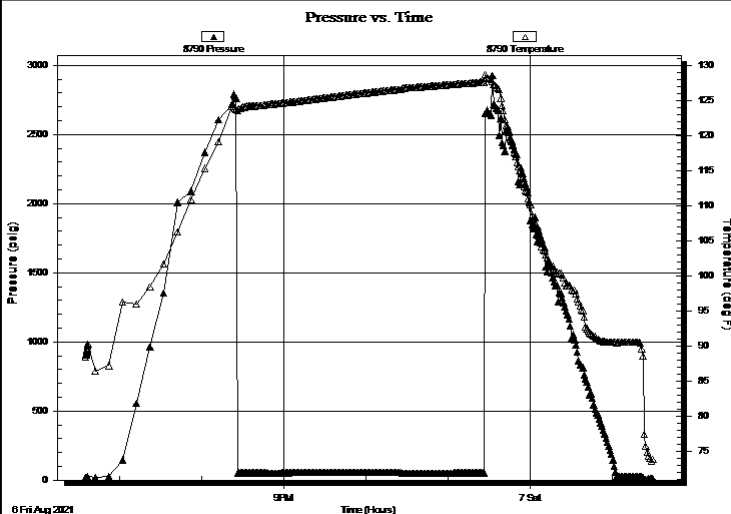
Start Time: 18:35:33 End Time: 01:29:27

Time On Btm:

Time Off Btm:

TEST COMMENT: IF: 1/4 blow built to 1/2 died in 20 mins.  
IS: No return.  
FF: No blow.  
FS: No return. 30-45-45-60

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
5.00	m 100% m	0.07

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Agricultural Energy

**23-33s-31w Seward Ks**

P.O. Box 31865  
Edmond Ok 73003

**Hope 1-23**

Job Ticket: 67469

**DST#: 3**

ATTN: Tom Williams

Test Start: 2021.08.06 @ 18:35:02

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 61.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	m 100%m	0.070

Total Length: 5.00 ft      Total Volume: 0.070 bbl

Num Fluid Samples: 0

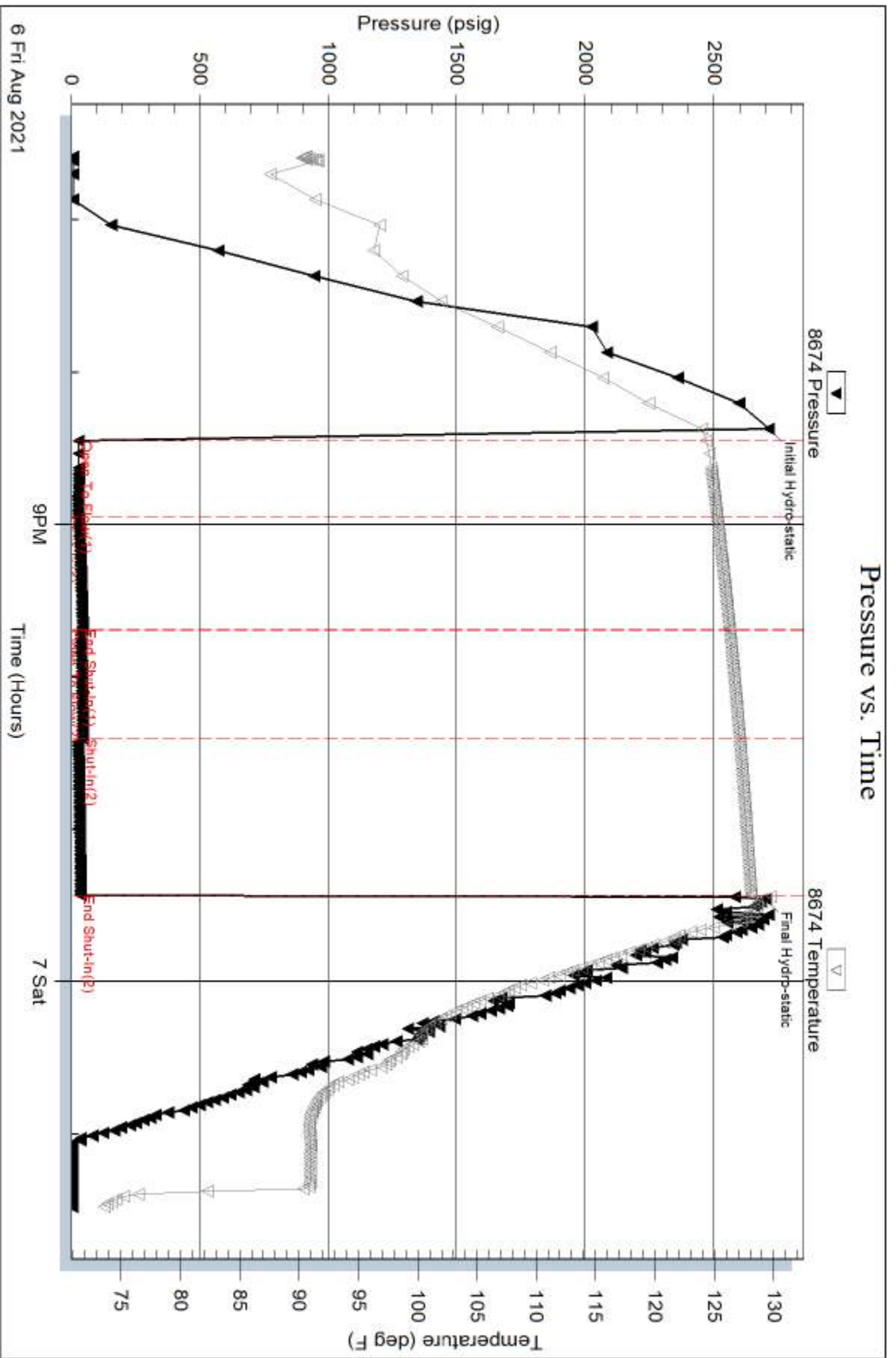
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



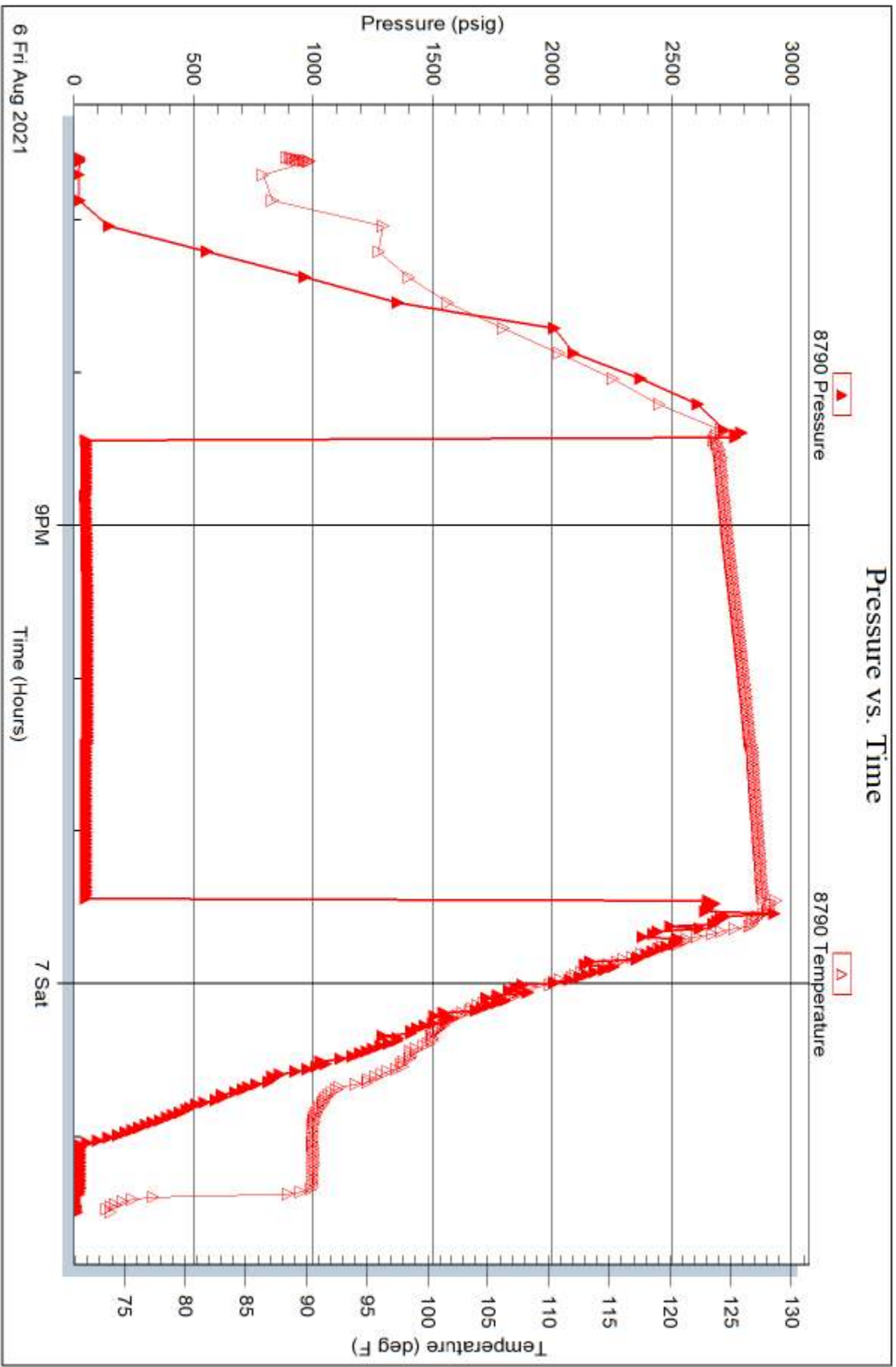
Serial #: 8790

Inside

Agricultural Energy

Hope 1-23

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 67469

Printed: 2021.08.07 @ 07:35:38

# Agricultural Energy Services

## Hope 1-23

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

Well Name: Hope #1-23  
API: 15-175-22277-00-00  
Location: NE/4 of Section 23-T33S-R31W  
License Number: 34089  
Spud Date: 7/27/2021  
Surface Coordinates: 990' FNL & 990' FEL  
Region: Seward Co., KS  
Drilling Completed:  
Bottom Hole Coordinates: 990' FNL & 990' FEL  
Ground Elevation (ft): 2,744.1' K.B. Elevation (ft): 2,756.1  
Logged Interval (ft): 2,300' To: Total Depth (ft):  
Formation: Mississippian  
Type of Drilling Fluid: Chemical

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

### OPERATOR

Company: Agricultural Energy Services, Inc.  
Address: P.O. Box 622377  
Oviedo, FL 32762

### GEOLOGIST

Name: Thomas M. Williams  
Company: Petroleum Geologist  
Address: Wichita, KS

**CORE**

**Contractor:**  
**Core #:**  
**Formation:**  
**Core Interval:**            **From:**                            **Cut:**  
     **To:**                                    **Recovered:**  
  
**Bit type:**  
**Size:**  
**Coring Time:**

**Formation Tops**

	<b>Sample Top</b>	<b>E-Log Top</b>
Herington	2626 (+130)	
Krider	2654 (+102)	
Winfield	2720 (+36)	
Towanda	2791 (-35)	
Ft. Riley	2897 (-91)	
Council Grove	2987 (-231)	
Funston (A1)	3003 (-247)	
Crouse (B1)	3066 (-310)	
Middleburg (B2)	3091 (-335)	
Eiss (B3)	3113 (-357)	
Morrill (B4)	3134 (-378)	
Cottonwood	3176 (-420)	
Neva (C)	3254 (-498)	
Howe	3317 (-561)	
Long Creek	3377 (-621)	
Wabaunsee	3446 (-690)	
Topeka	3664 (-908)	
Tecumseh	3978 (-1222)	
Lecompton	4111 (-1355)	
Kanwaka Sh	4220 (-1464)	
Oread Lm	4275 (-1519)	
Heebner Sh	4321 (-1565)	
Base/Heebner	4327 (-1571)	
Toronto 1	4338 (-1582)	
Toronto 2	4351 (-1595)	
Lansing	4447 (-1691)	
Kansas City	4526 (-1770)	
Iola Lm	4639 (-1883)	
Drum	4756 (-2000)	
Swope Lm	4936 (-2180)	
Hertha Lm	4979 (-2223)	
Marmaton	5081 (-2325)	
Pawnee	5161 (-2402)	
Ft. Scott Lm	5220 (-2464)	
Cherokee Sh	5284 (-2528)	
Verdigris Lm	5335 (-2579)	
Thorp Lm	5441 (-2685)	
Morrow Sh	5578 (-2822)	
Miss. Chester	5639 (-2883)	
Basal Chester Lm	5769 (-3013)	
Ste. Genevieve		

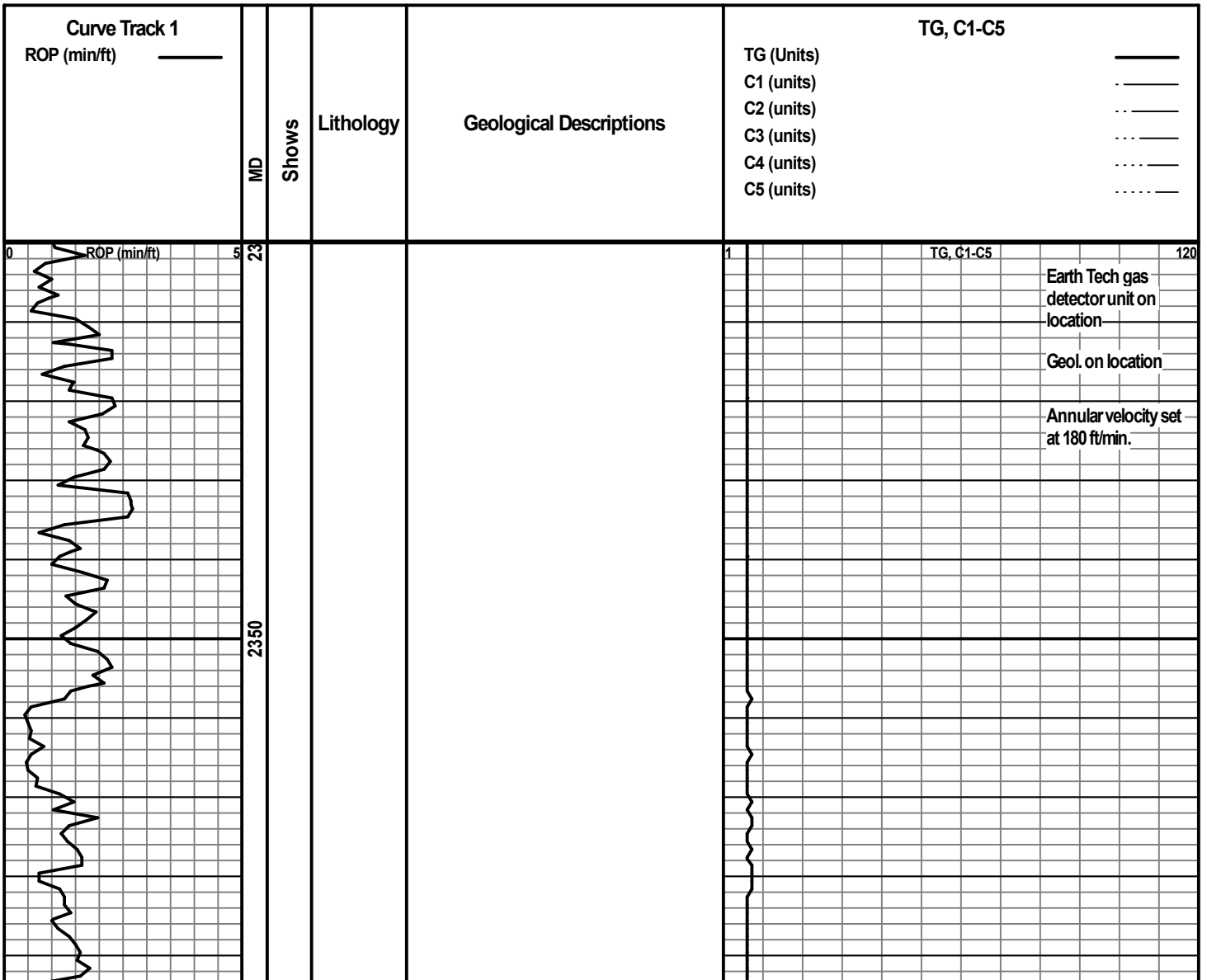
### DSTs

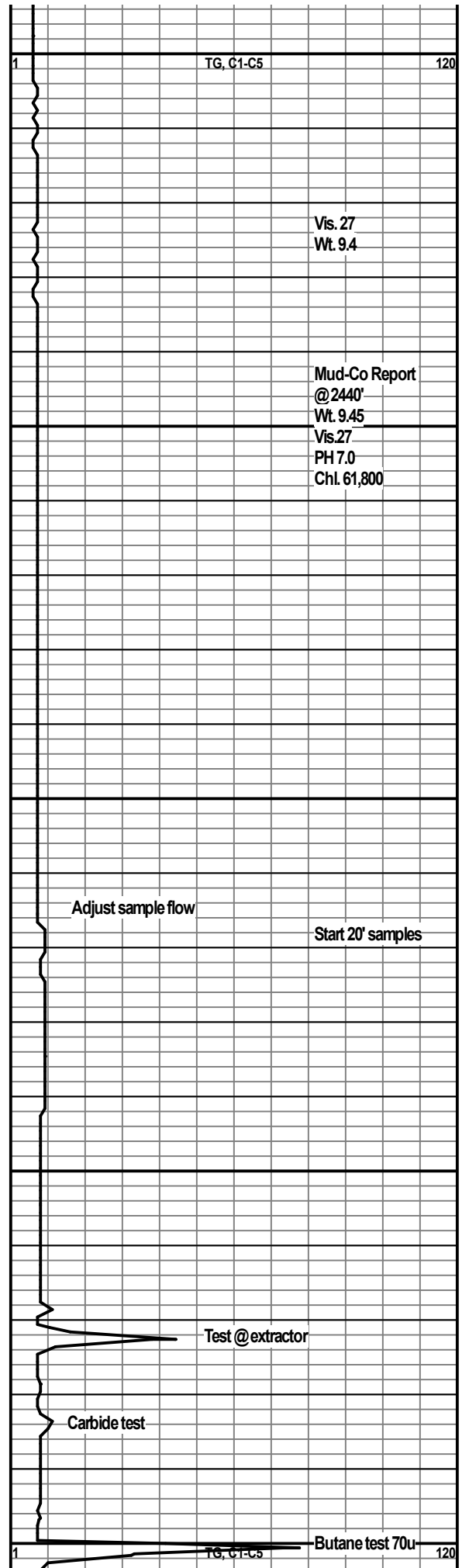
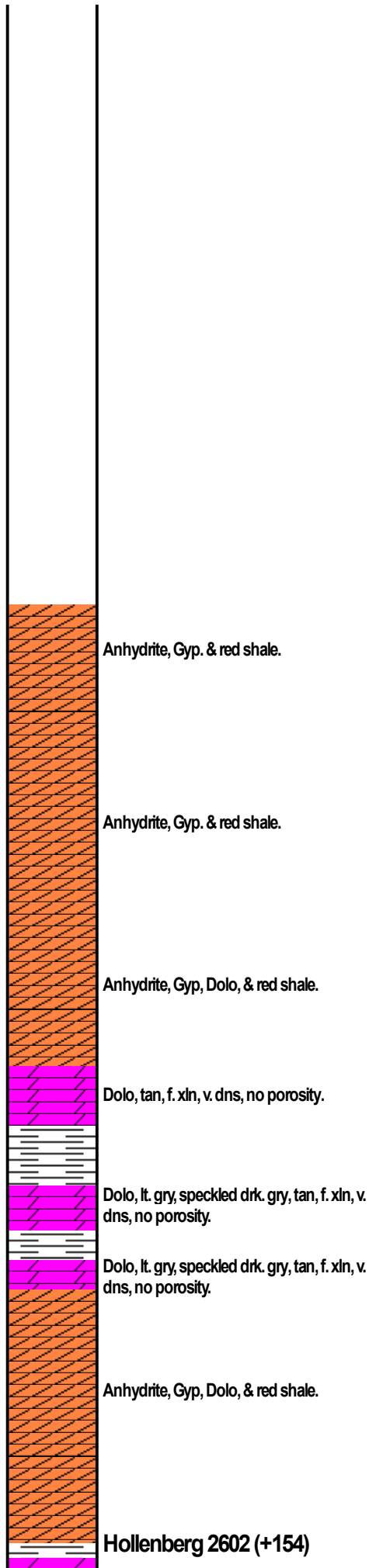
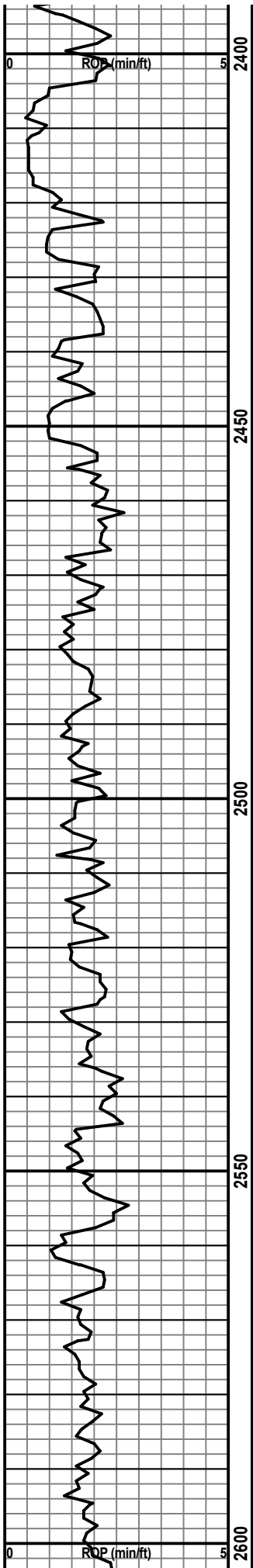
#### Comments

Well Comp.	Hope 1-23	Louthan 1-23	Stoddard 1-14
Base/Heeb	4327 (-1571)	4295 (-1544) +27	4318 (-1560) +11
Lansing	4447 (-1691)	4428 (-1677) +14	4456 (-1698) -7
Iola	4639 (-1883)	4612 (-1861) +22	4638 (-1880) +3
Swope	4936 (-2180)	4902 (-2151) +29	4934 (-2176) +4
Cherokee Sh	5284 (-2528)	5238 (-2487) +41	5265 (-2507) +21
Thorpe Lm	5441 (-2685)	5403 (-2652) +33	5424 (-2666) +19

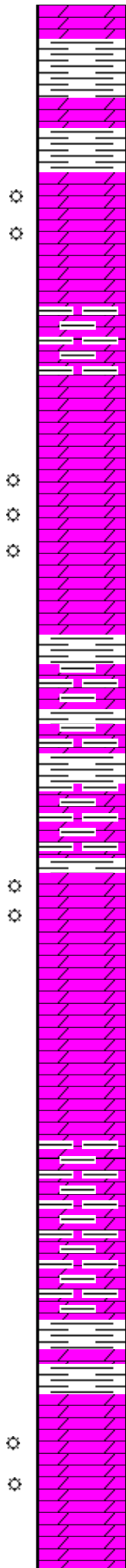
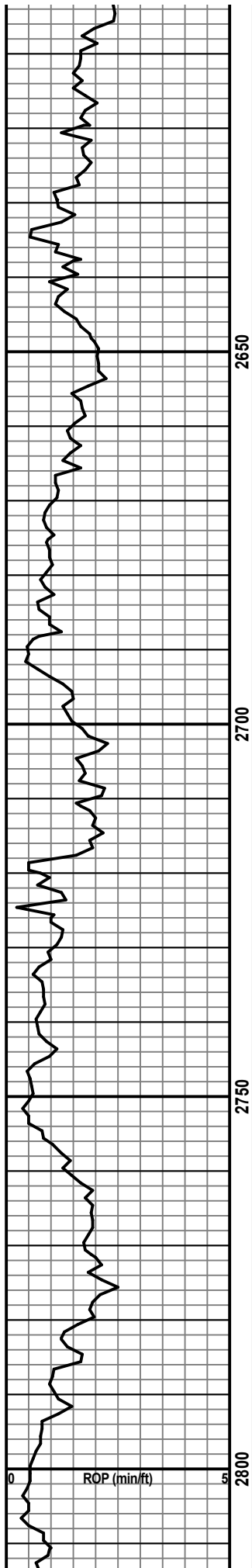
#### ROCK TYPES

	Anhy		Carb.sh		Lmst		Shcol
	Bent		Congl		Meta		Shgy
	Brec		Dol		Mrlst		Sltst
	Cht		Gyp		Salt		Ss
	Clyst		Igne		Shale		Till









Dolo, tan, f. xln, v. dns, no porosity.

Abdt. red & gry. shale, anhy.

**Herington 2626 (+130)**

Dolo, buff, tan, lt. gry-wh, f. xln, granular, sucrosic, fair dev. int. xln. porosity, sli. shw gas, no fluor, no odor, no staining.

Abdt. red & gry. shale in samples.

**Krider 2654 (+102)**

**Krider 2666 (+90)**

Dolo, lt. gry, white, tan, f. xln, sucrosic to granular, well dev. int. xln. porosity, sli. show of gas, no fluor, no odor, no staining.

Abdt. red & gry. shale in samples.

Sh, med. gry.

Abdt. red & gry. shale in samples.

**Winfield 2720 (+36)**

Dolo, lt. gry, buff, tan, f. xln, sucrosic to granular, fair to well dev. int. xln. & vugular porosity, v. sli. show of gas, dull gold fluor.

Abdt. red & gry. shale in samples.

Dolo, lt. gry, buff, tan, f. xln, sucrosic to granular, fair to well dev. int. xln. & vugular porosity, no show, no odor, no fluor.

Abdt. red & gry. shale in samples.

Sh, lt. to med. gry, fistle to non-fistle, sli. silty.

**Towanda 2791 (-35)**

Dolo, lt. gry, buff, tan, f. xln, sucrosic to granular, fair to well dev. int. xln. & vugular porosity, sli. show of gas, no fluor.

TG inc. 17 units

Vis. 28  
Wt. 9.4

TG inc. 35 units

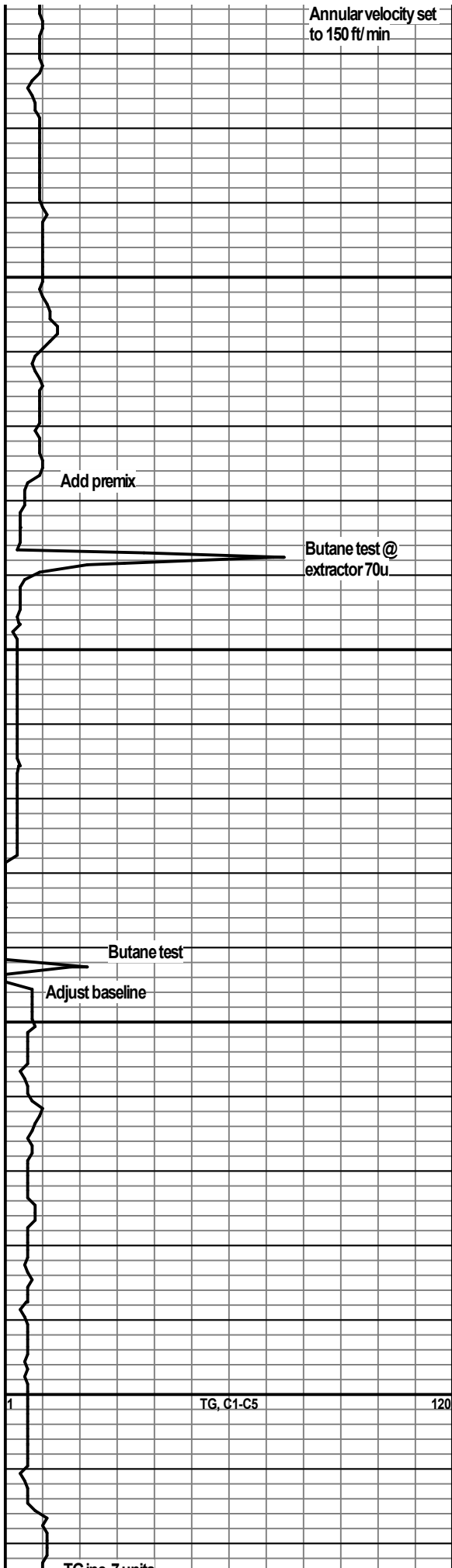
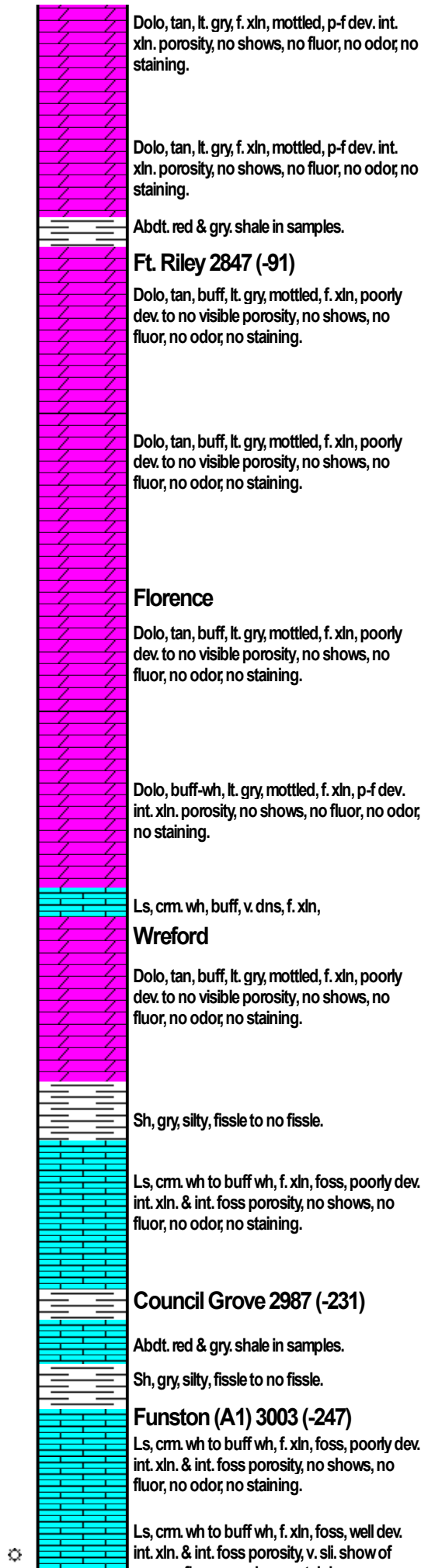
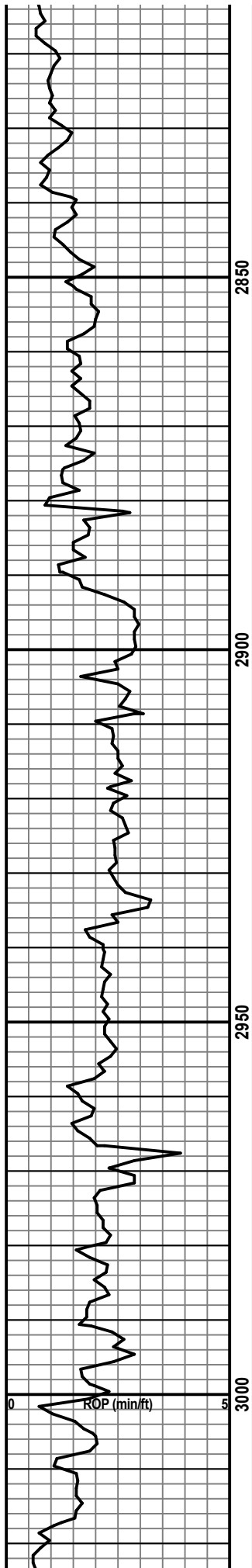
TG inc. 12 units

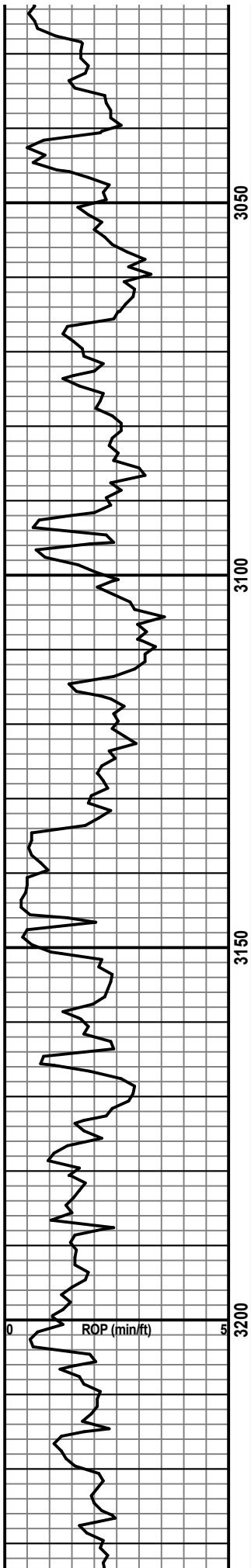
Annular velocity set  
to 159 ft/min

TG inc. 15 units

G, C1-C5

120





gas, no fluor, no odor, no staining.

Ls, cm. wh to buff wh, f. xln, foss, poorly dev. porosity, no shw.

Ls, cm. wh to buff wh, f. xln, foss, well dev. int. xln. & int. foss porosity, no shows, no fluor, no odor, no staining.

**Crouse (B1) 3066 (-310)**  
Ls, cm. wh to buff wh, f. xln, foss, poorly dev. int. xln. & int. foss porosity, no shows, no fluor, no odor, no staining.

Sh, gry, silty, fissle to no fissle.

**Middleburg 3091 (-3335)**  
Ls, tan, foss, f-m xln, p-f dev. int. xln. & int. foss. porosity, v. sli. shw gas, no fluor, no odor, no staining.

**Eiss (B3) 3113 (-357)**  
Ls, tan, foss, f-m xln, p-f dev. int. xln. & int. foss. porosity, v. sli. shw gas, no, no odor, no staining.

**Morrill (B4) 3134 (-378)**  
Ls, buff, tan, foss, f-m xln, p-f dev. int. xln. & int. foss. porosity, v. sli. shw gas, no fluor, no odor, no staining.

Abdt. red & gry shale in samples.

Sh, lt. to med. gry, fissle.

Ls, buff, tan, foss, f-m xln, p-f dev. int. xln. & int. foss. porosity, v. sli. shw gas, no fluor, no odor, no staining.

**Cottonwood 3176 (-420)**  
Ls, buff, tan, v. foss, f-m xln, poorly dev. to no visible porosity, v. sli. shw of gas, dull fluor, no odor, no staining.

Abdt. red & gry shale in samples.

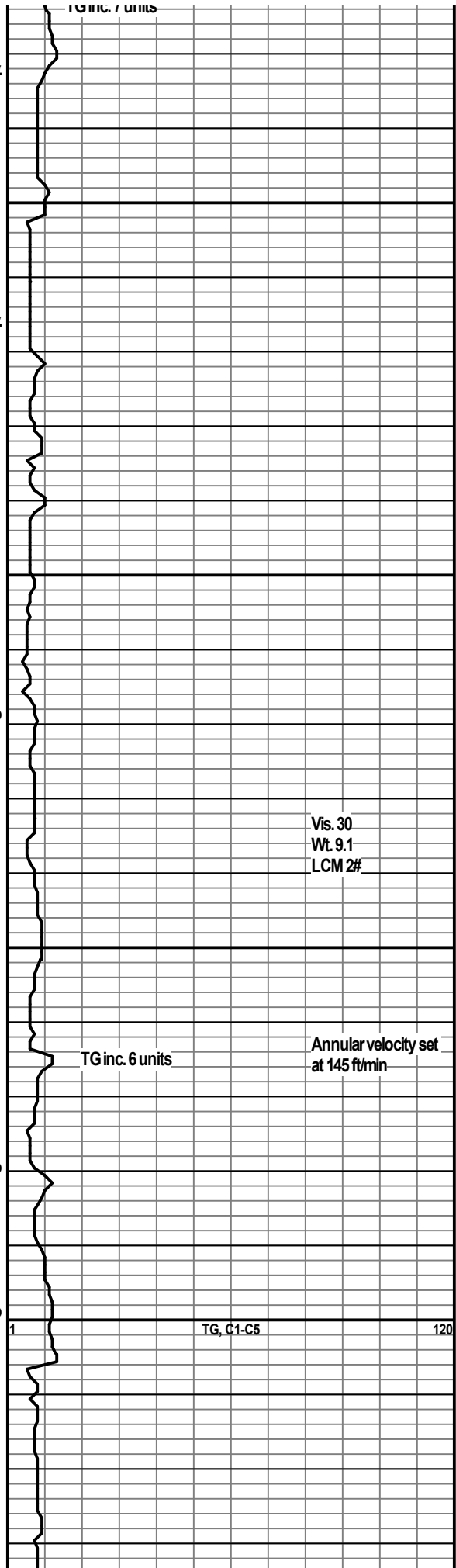
Ls, buff, tan, v. foss, f-m xln, poorly dev. to no visible porosity, v. sli. shw of gas, dull fluor, no odor, no staining.

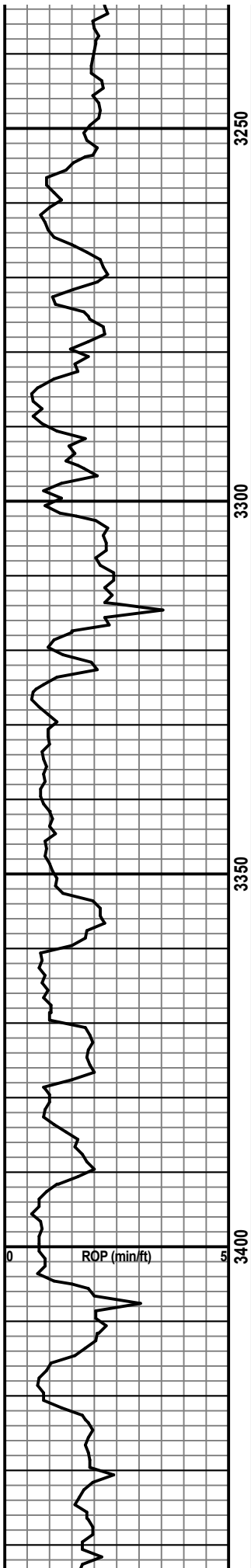
Abdt. red & gry shale in samples.

Sh, lt. to med. gry, fissle.

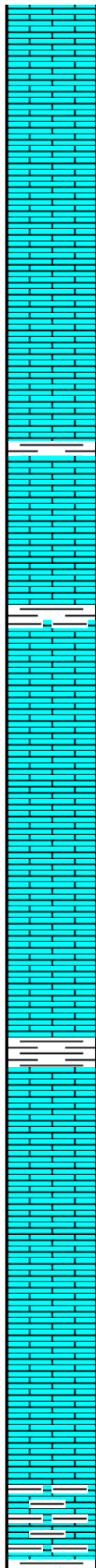
Sh, lt. to med. gry, fissle.

Ls. buff. tan. f. xln. dns. poorly dev. to no vis.





3250  
3300  
3350  
3400



porosity, no shows.

Abdt. red & gry shale in samples.

**Neva (C) 3254 (-498)**  
Ls, cm wh, m. xln, granular to sucrosic, well dev. int. xln. porosity, no shows, no fluor, no odor, no staining.

Sh, med. gry, fissle to non-fissle.

Ls, cm wh, buff, f-c xln, v. foss, well dev. int. xln. & int. foss porosity, no shw. gas, no fluor, no odor, no staining.

Abdt. red shale & anhydrite in samples.

Ls, buff, tan, f. xln, dns, poorly dev. to no vis. porosity, no shows.

**Howe 3317 (-561)**  
Ls, buff, tan, lt. gry, f-m xln, v. foss, well dev. int. xln, vugular & int. foss. porosity, no shows, no fluor, no odor, no staining.

Ls, buff, tan, lt. gry, f-m xln, v. foss, well dev. int. xln, vugular & int. foss. porosity, no shows, no fluor, no odor, no staining.

Ls, buff, tan, f. xln, dns, poorly dev. to no vis. porosity, no shows.

Ls, buff, tan, lt. gry, f-m xln, v. foss, well dev. int. xln, vugular & int. foss. porosity, no shows, no fluor, no odor, no staining.

**Long Creek 3377 (-621)**  
Ls, buff, tan, lt. gry, f-m xln, v. foss, fair dev. int. xln, vugular & int. foss. porosity, no shows, no fluor, no odor, no staining.

Ls, buff, tan, lt. gry, f-m xln, v. foss, well dev. int. xln, vugular & int. foss. porosity, no shows, no fluor, no odor, no staining.

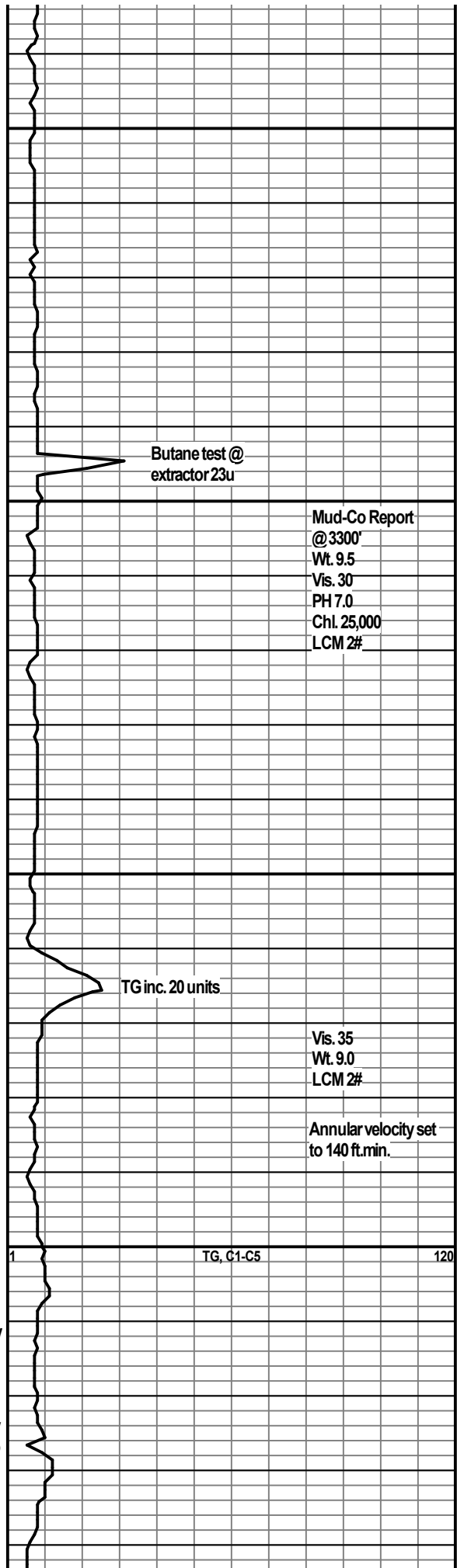
Abdt. red shale & anhydrite in samples.

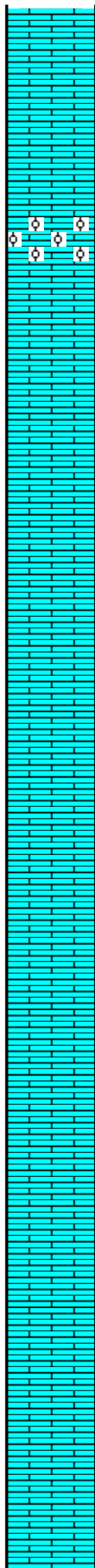
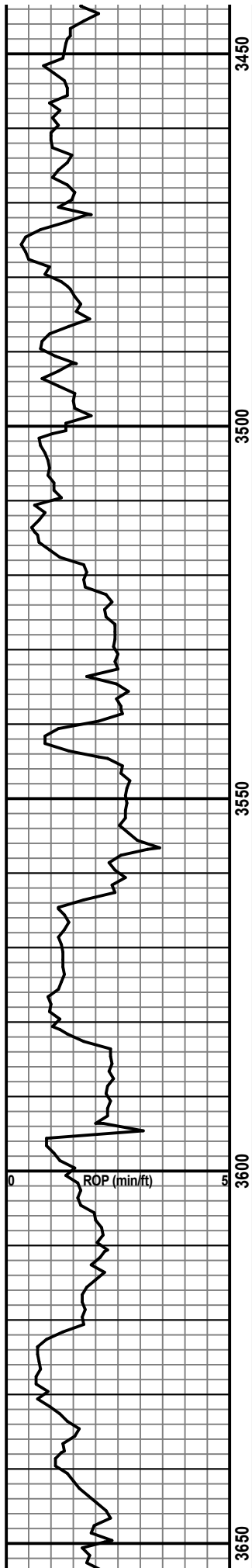
Ls, cm wh, buff, lt. gry-wh, f. xln, foss, chalky in part, fair to well dev. int. xln & vugular porosity, no shows, no fluor, no strn.

Ls, lt. to med. gry, arg. & shaley in part, poorly dev. to no vis. porosity, no show, no fluor, no staining, no odor.

Sh, gry, silty to calcareous.

Sh. & siltstone, gry, calcareous.





**Wabaunsee 3446 (-690)**

Ls, lt. to med. gry, arg. & shaley in part, poorly dev. to no vis. porosity, no show, no fluor, no staining, no odor.

Ls, tan, buff, f-m xln, oolitic, fair to well dev. oomoldic porosity, no shows, no fluor, no odor, no staining.

Ls, cm. wh, buff, lt. gry-wh, f. xln, foss, chalky in part, fair to well dev. int. xln & vugular porosity, no shows, no fluor, no strn.

Ls, cm. wh, buff, lt. gry-wh, f. xln, foss, chalky in part, fair to well dev. int. xln & vugular porosity, no shows, chalky fluor, no strn.

Ls, buff-wh, f. xln, v. dns, poorly dev. to no vis. porosity, no shows, no fluor, no odor, no strn.

Ls, cm. wh, buff, lt. gry-wh, f. xln, foss, chalky in part, fair to well dev. int. xln & vugular porosity, no shows, chalky fluor, no strn.

Ls, buff-wh, f. xln, v. dns, poorly dev. to no vis. porosity, no shows, no fluor, no odor, no strn.

Ls, cm. wh, buff, lt. gry-wh, f. xln, v. foss, fair to well dev. int. xln & vugular porosity, no shows, chalky fluor, no strn.

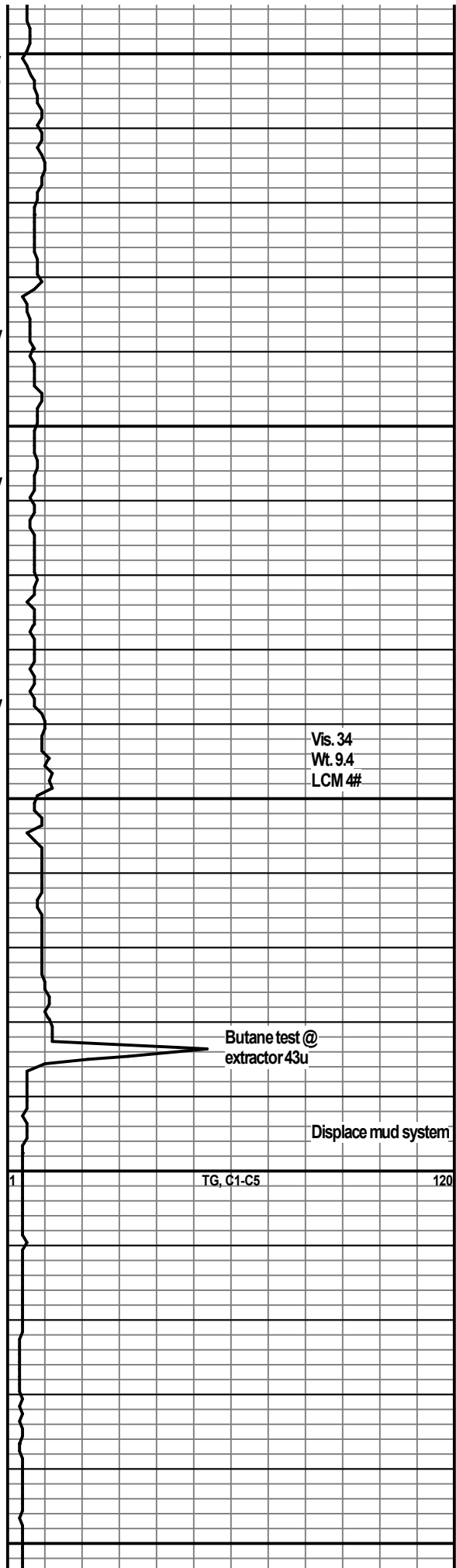
Ls, buff-wh, f. xln, v. dns, poorly dev. to no vis. porosity, no shows, no fluor, no odor, no strn.

Ls, cm-wh, buff, f-m xln, fair to well dev. int. xln. & vug. porosity, no shows, chalky fluor, no odor, no staining.

Ls, buff-wh, f. xln, v. dns, poorly dev. to no vis. porosity, no shows, no fluor, no odor, no strn.

Ls, lt. gry, cm. wh, buff, v. foss, well dev. int. foss & vug. porosity, no shows, chalky fluor, no odor, no staining.

Ls, buff-wh, f. xln, v. dns, poorly dev. to no vis. porositv. no shows. no fluor. no odor: no

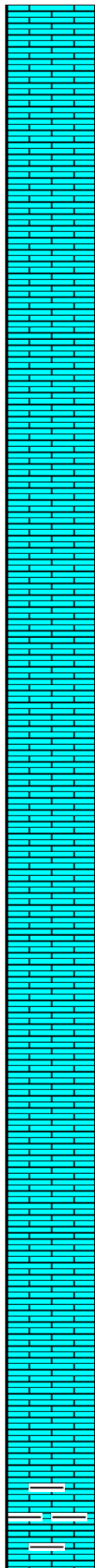
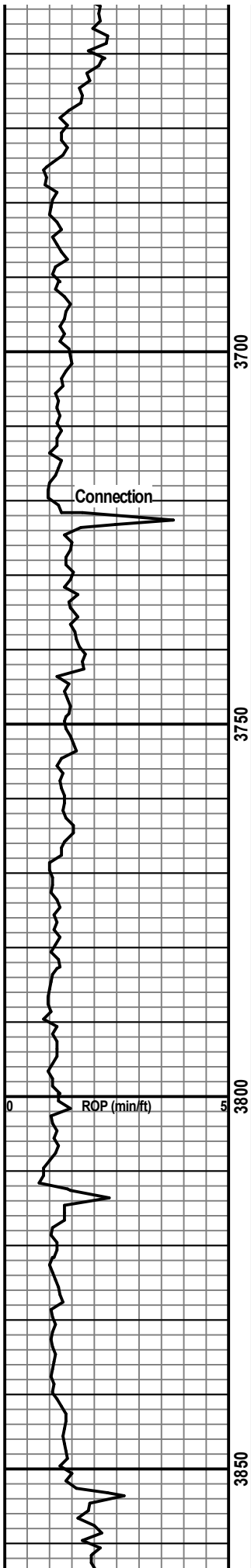


Vis. 34  
Wt. 9.4  
LCM 4#

Butane test @  
extractor 43u

Displace mud system

TG, C1-C5 120



str.

**Topeka 3664 (-908)**

Ls, lt. gry, buff, tan, granular, m. xln, well dev. int. foss & int. xln. porosity, no shows, chalky fluor, no odor, no staining.

Ls, buff, cm-wh, v. foss, well dev. int. xln. & int. foss porosity, no shows, chalky fluor, no odor, no staining.

Ls, cm. wh, buff, f-c xln, v. foss, well dev. int. foss. & vugular porosity, no shows, no fluor, no odor, no staining.

Ls, buff, lt. gry, cm. wh, f-m xln, sub-chalky, well dev. int. xln. & vug. porosity, no shows, no odor, no staining, chalky fluor.

Ls, lt. gry, buff, tan, granular, m. xln, well dev. int. foss & int. xln. porosity, no shows, chalky fluor, no odor, no staining.

Ls, buff, cm-wh, v. foss, well dev. int. xln. & int. foss porosity, no shows, chalky fluor, no odor, no staining.

Ls, cm. wh, buff, f-c xln, v. foss, well dev. int. foss. & vugular porosity, no shows, no fluor, no odor, no staining.

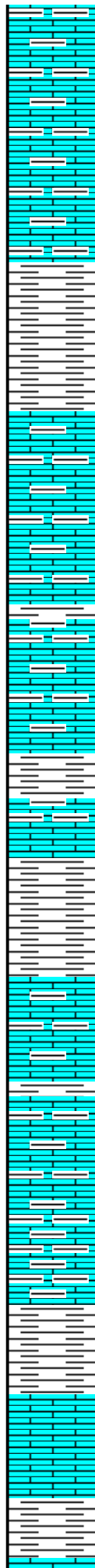
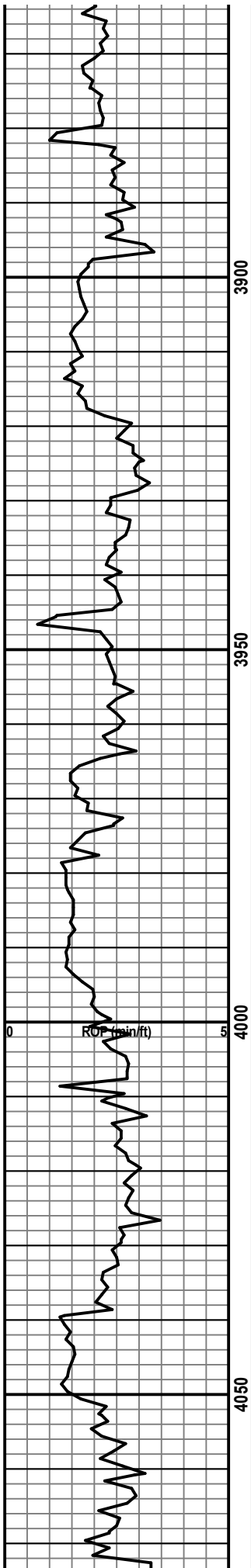
Ls, buff, lt. gry, cm. wh, f-m xln, sub-chalky, well dev. int. xln. & vug. porosity, no shows, no odor, no staining, chalky fluor.

Ls, lt. gry, f. xln, dns, arg., w/ abdt. lt. to med. gry. shale, no vis. por., no shows, no odor, no fluor.

Wt. 8.7  
Vis 42  
LCM 2#

TG, C1-C5

120



Ls, lt. gry, f. xln, dns, arg., w/ abdt. lt. to med. gry. shale, no vis. por., no shows, no odor, no fluor.

**3897 (-1141)**

Sh, lt. to med. gry, silty, fissle.

Sh, lt. to med. gry, calcareous.

**3918 (-1162)**

Ls, med. gry, f. xln, v. dns, v. arg., no vis. porosity, no shows, no fluor, no odor, no staining.

Ls, med. gry, f. xln, v. dns, v. arg., no vis. porosity, no shows, no fluor, no odor, no staining.

Sh, med. to drk. gry, brittle.

Ls, med. gry, f. xln, v. dns, v. arg., no vis. porosity, no shows, no fluor, no odor, no staining.

Sh, med. to drk. gry, silty, fissle.

Ls, tan, f. xln to micritic, v. dns, no vis. porosity, no shows.

**Tecumseh Sh 3978 (-1222)**

Sh, lt. to med. gry, calcareous.

Sh, lt. to med. gry, silty, fissle.

**3994 (-1238)**

Ls, lt. gry, mottled buff, tan, f. xln, no vis. porosity, no show, no fluor, no odor, no staining.

Sh, lt. to med. gry, silty, fissle.

Ls, lt. gry, mottled buff, tan, f. xln, no vis. porosity, no show, no fluor, no odor, no staining.

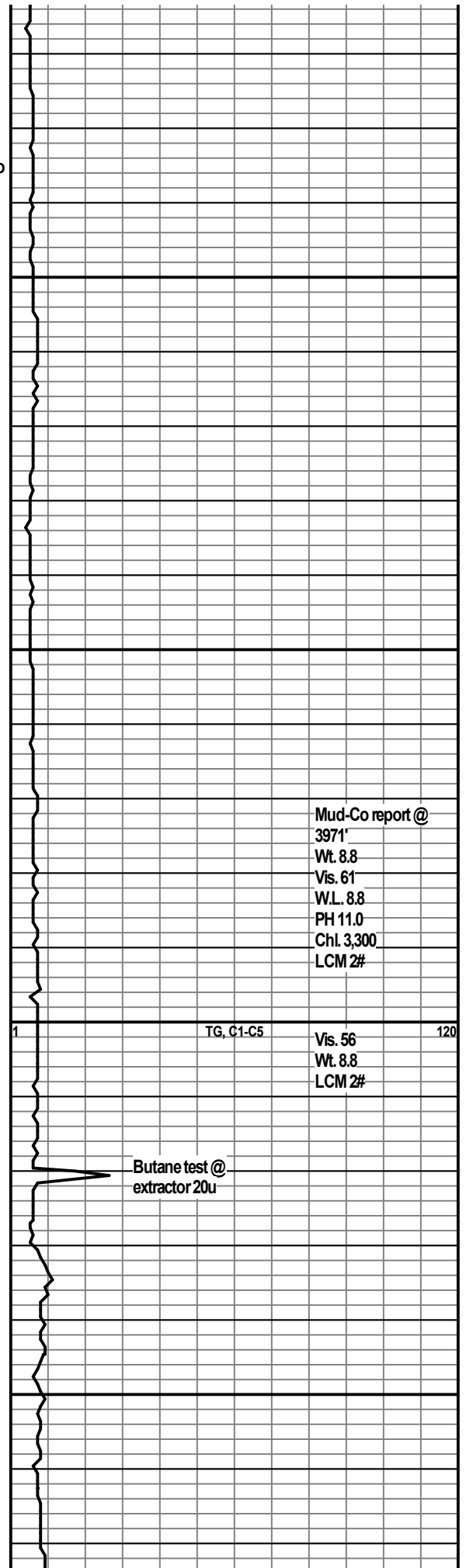
Ls, tan & gry, v. f. xln. to micritic, no vis. porosity, no shows, no odor, no fluor.

Sh. & siltstone lt. to med. gry, fissle.

Ls, tan & gry, v. f. xln. to micritic, no vis. porosity, no shows, no odor, no fluor.

Sh. & siltstone, gry, fissle.

Ls, tan & gry, v. f. xln. to micritic

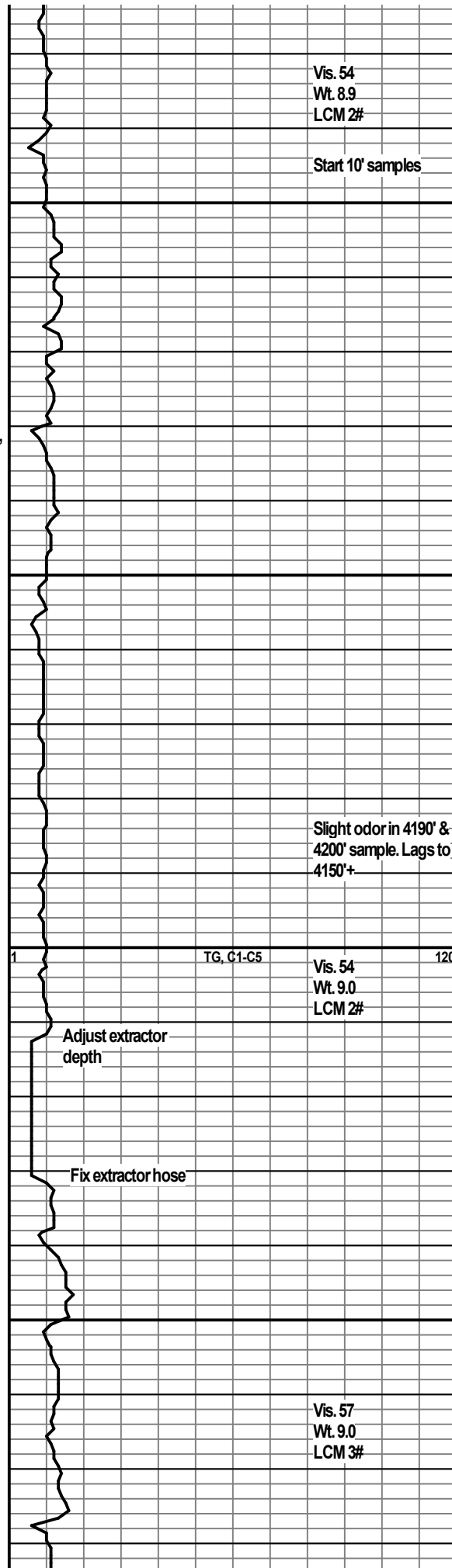
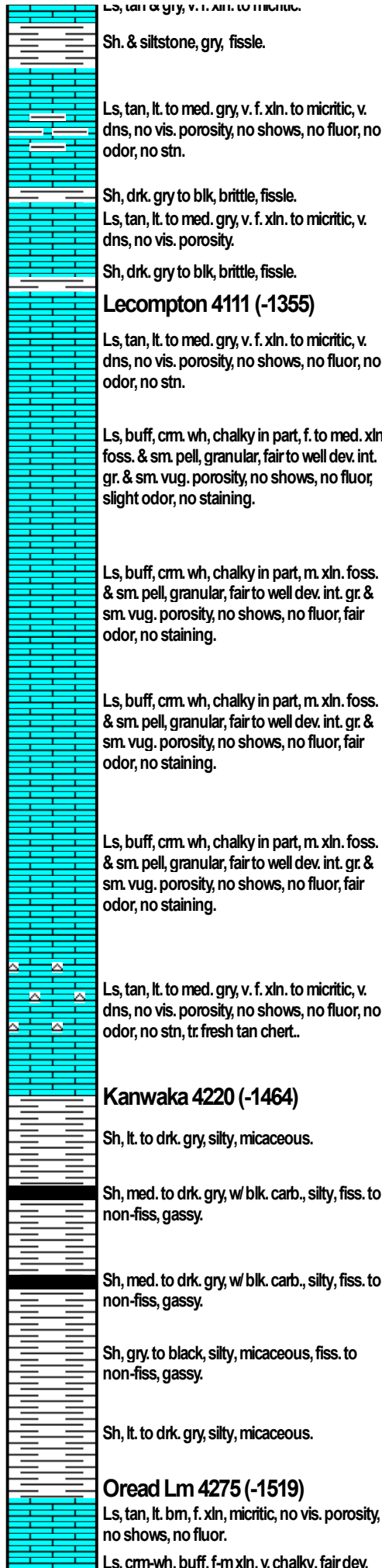
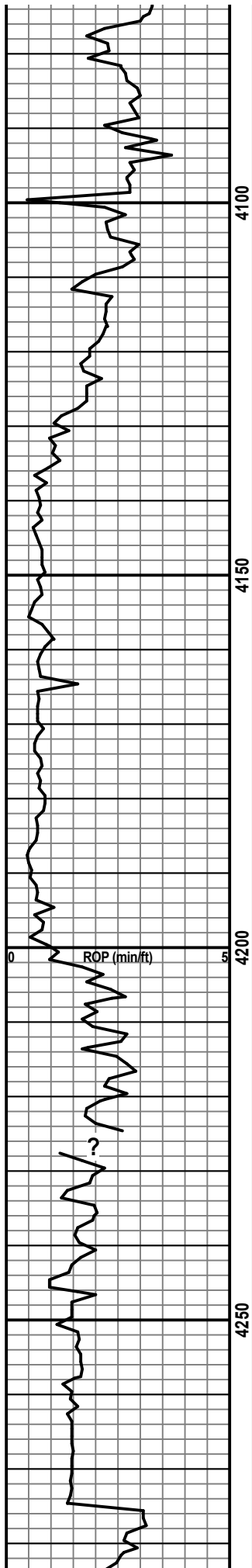


Mud-Co report @  
3971'  
Wt. 8.8  
Vis. 61  
W.L. 8.8  
PH 11.0  
Chl. 3,300  
LCM 2#

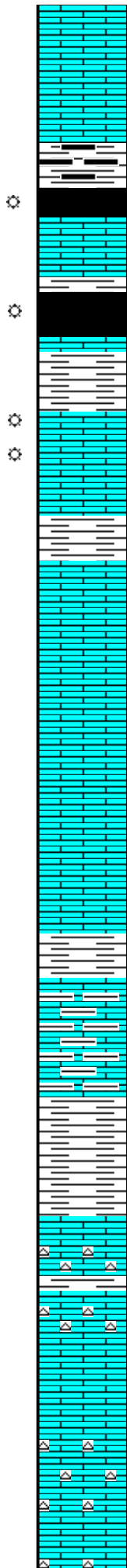
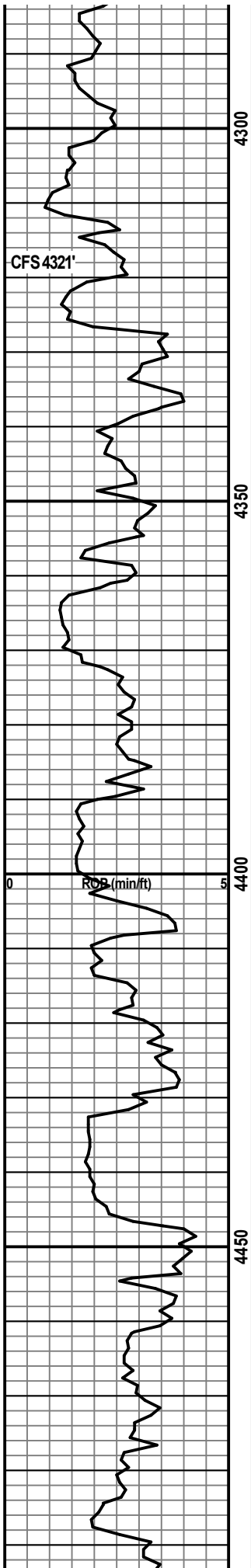
TG, C1-C5

Vis. 56  
Wt. 8.8  
LCM 2#

Butane test @  
extractor 20u







int. xln. & vug. porosity, no show, no fluor, no odor. no stain.

Ls, cm. wh, buff, tan, m. xln, granular, poorly dev. int. xln. por. no show, no fluor, no odor, no stn.

Sh, drk. gry. to blk. carbonaceous.

Sh, blk, carbonaceous, gassy.

Ls, tan, lt. bm, gry, f. xln, micritic, no vis. porosity, no shows.

**Heebner Sh 4321 (-1565)**  
Sh, black, carb, bleeding abdt. gas.

**Base/ Heeb. 4327 (-1571)**  
Sh, lt. to med. gry, silty, non-fissle, calcareous, micaceous.

**Toronto 1 4338 (-1582)**  
Ls, buff, cm. wh, tan, f-m xln, poorly dev. int. xln. & sm. vugular porosity, v. sli. show gas, dull gold fluor, no odor, no staining.

Sh, lt. to med. gry, silty, calcareous.

**Toronto 2 4351 (-1595)**  
Ls, buff, cm. wh, tan, f-m xln, poor to fair dev. int. xln. & sm. vugular porosity, no show gas, no fluor, no odor, no staining.

Ls, buff wh, tan, f-m xln, v. dns, poorly dev. to no vis. porosity, no shows, no odor, chalky fluor.

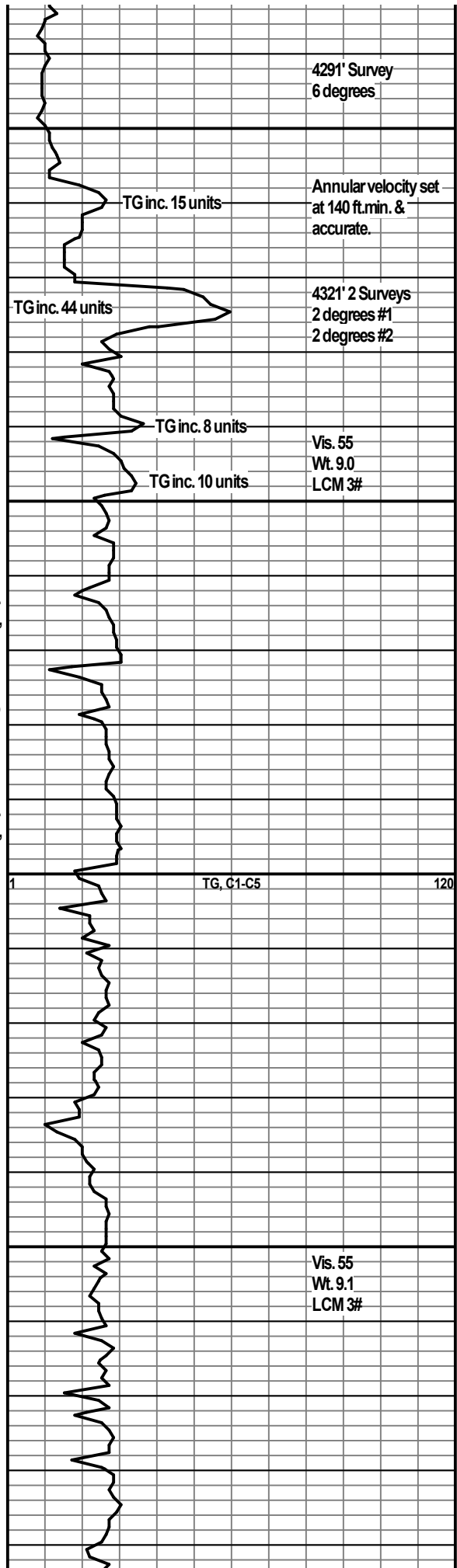
Ls, buff, cm. wh, tan, f-m xln, poor to fair dev. int. xln. & sm. vugular porosity, no show gas, no fluor, no odor, no staining.

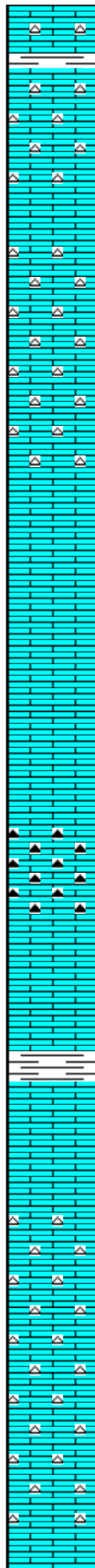
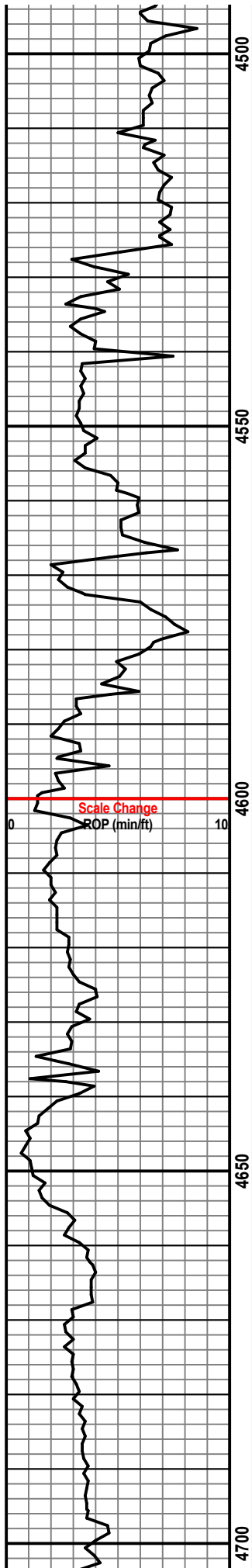
Sh, lt. to med. gry, silty, fissle.

Ls, buff, tan, gry, f-m xln, dns, poorly dev. to no vis. porosity, no shows, no fluor, no odor, no stn.

Sh, lt. to med. gry, silty, fissle.

**Lansing 4447 (-1691)**  
Ls, buff, lt. gry-wh, f. xln, v. dns, no vis. porosity, no show, no fluor.  
Ls, buff, tan, lt. gry, f. xln, v. dns, no vis. porosity, no show, no fluor, no odor, w/ abdt. fresh tan chert.  
Ls, tan, f-m xln, foss, poorly dev. int. xln. & small vug. porosity, no shows, no fluor, no odor, no staining.  
Ls, tan, f-c xln, foss, poor to fair dev. int. xln. & small vug. porosity, no shows, no fluor, slight odor, no staining, w/ tan chert.





Ls, lt. gry-wh, buff, tan, f. xln. to micritic, no vis. porosity, no show, no fluor, no odor, no stain, w/ tan & gry. chert.

Ls, lt. gry-wh, buff, tan, f. xln. to micritic, no vis. porosity, no show, no fluor, no odor, no stain, w/ tan chert.

**Kansas City 4526 (-1770)**

Ls, cm. wh, tan, buff, f-m xln, chalky, fair dev. int. xln. & vug. porosity, no shows, chalky fluor, no odor, no staining, w/ abdt. tan & gry chert.

Ls, cm. wh, tan, buff, f-m xln, chalky, fair dev. int. xln. & vug. porosity, no shows, chalky fluor, no odor, no staining, w/ abdt. tan & gry chert.

Ls, buff, tan, f-m xln, fair to well dev. int. xln. & vug. porosity, no shows, chalky fluor, no odor, no staining.

Ls, buff, tan, f-m xln, brittle, fair to well dev. int. xln. & sm. vugular porosity, no show, chalky fluor, no odor, no stain.

Ls, lt. to med. gry, buff, f-m xln, chalky, poorly dev. to no vis. porosity, no shows, no fluor, no odor, no staining, w/ abdt. drk. gry chert.

Ls, lt. gry-wh, tan, f. xln, v. dns, no vis. porosity, no shows, no fluor.

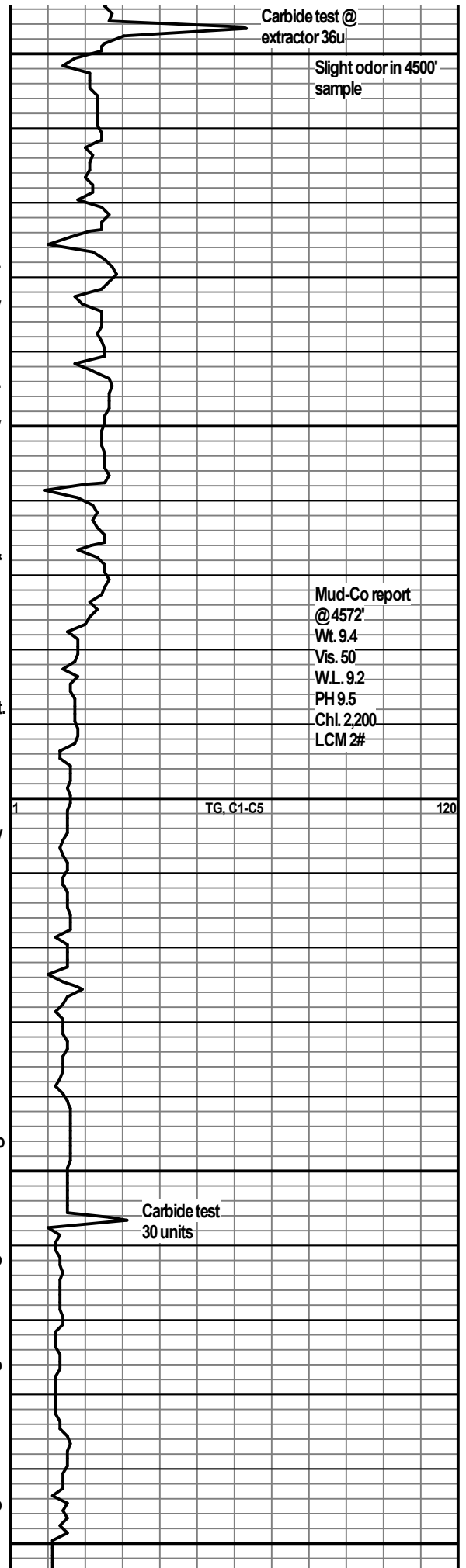
**Iola Lm 4639 (-1883)**

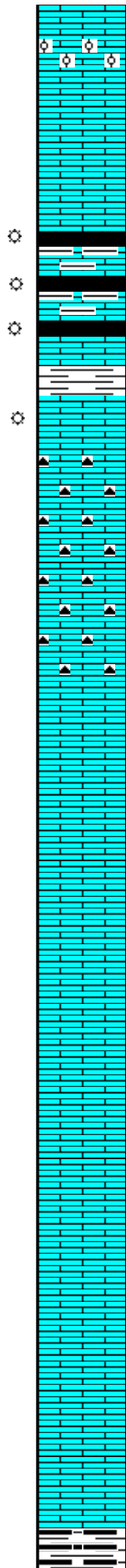
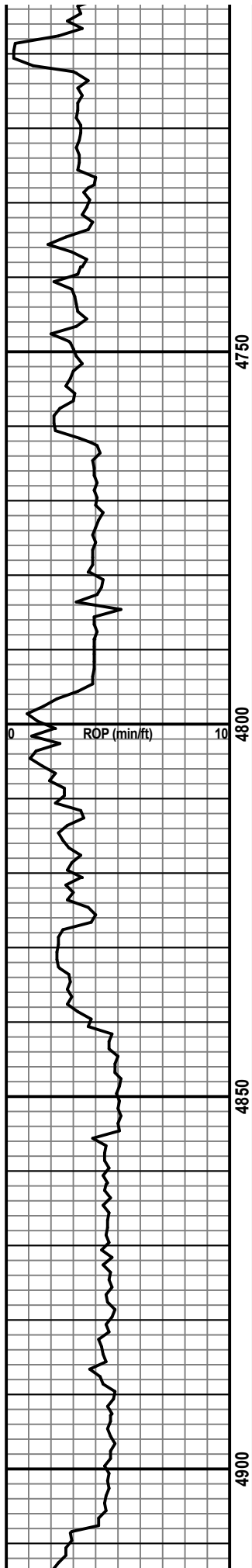
Ls, tan, buff, m-c xln, brittle, well dev. int. xln. & sm. vugular porosity, no show, no fluor, no odor, no staining.

Ls, tan, lt. gry-wh, f. xln. to micritic, v. dns, no vis. porosity, no shows, no fluor, no odor, no staining.

Ls, tan, lt. gry-wh, f. xln. to micritic, v. dns, no vis. porosity, no shows, no fluor, no odor, no staining.

Ls, tan, lt. gry-wh, f. xln. to micritic, v. dns, no vis. porosity, no shows, no fluor, no odor, no staining.





Ls, tan, f-m xln, Oolitic w/ well developed Oomoldic porosity, no show, no fluor, no odor, no stain.

Ls, tan, lt. gry-wh, f. xln. to micritic, v. dns, no vis. porosity, no shows, no fluor, no odor, no staining.

Sh, blk, carbonaceous, gassy.

Sh, drk. gry, blk, carbonaceous.

Sh, blk, carbonaceous, gassy.

**Drum 4756 (-2000)**

Ls, tan, foss, poorly dev. int. foss. porosity, v. sli. shw. gas, dull to no fluor, sli. odor, no staining.

Ls, lt. to med. gry, buff, f-m xln, chalky, poorly dev. to no vis. porosity, no shows, no fluor, no odor, no staining, drk. gry chert.

Ls, buff, tan, f-m xln, foss, fair to well dev. sm. vugular & int. xln. porosity, no shows, no fluor, slight odor, no staining.

Ls, buff, tan gry, v. dns. to chalky, f. xln, poorly dev. to no vis. porosity, no show, no fluor, no odor.

Ls, buff, tan gry, v. dns. to chalky, f. xln, poorly dev. to no vis. porosity, no show, no fluor, no odor.

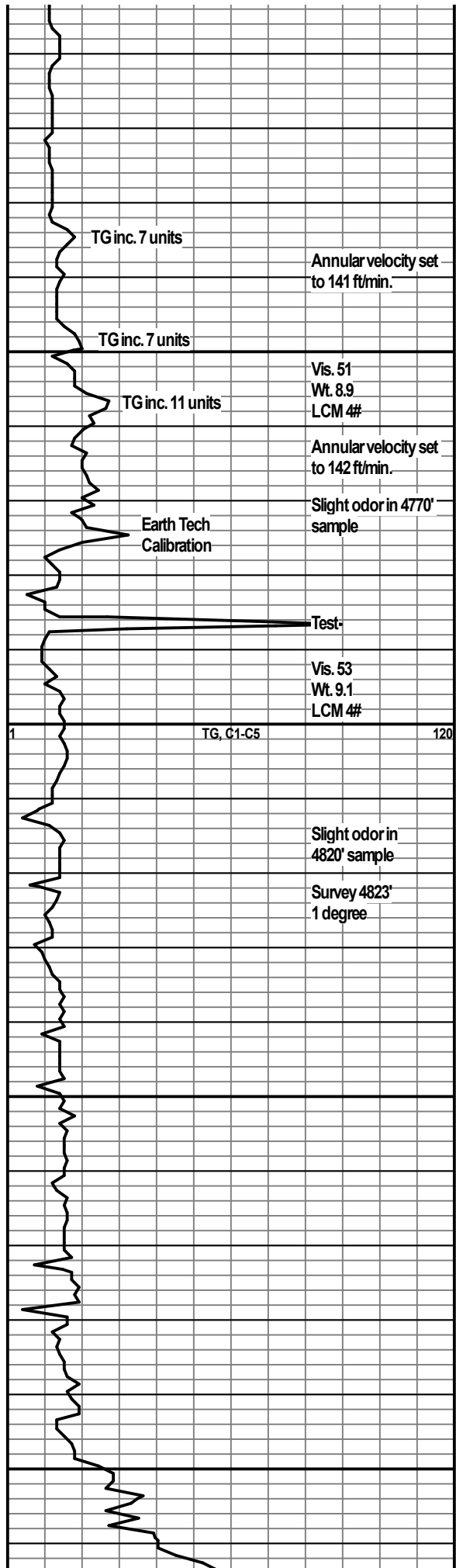
Ls, lt. gry-wh, buff, v. dns, f. xln. to micritic, no vis. porosity, no show, no fluor, no odor, no staining.

Ls, buff, tan gry, v. dns. to chalky, f. xln, poorly dev. to no vis. porosity, no show, no fluor, no odor.

Ls, lt. gry-wh, buff, v. dns, f. xln. to micritic, no vis. porosity, no show, no fluor, no odor, no staining.

Ls, buff, tan gry, v. dns. to chalky, f. xln, poorly dev. to no vis. porosity, no show, no fluor, no odor.

**Stark Shale 4908 (-2152)**



Annular velocity set to 141 ft/min.

Vis. 51  
Wt. 8.9  
LCM 4#

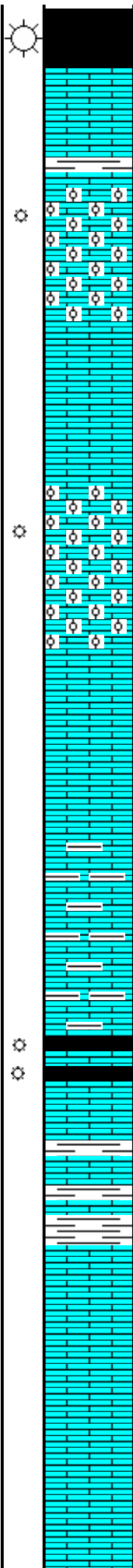
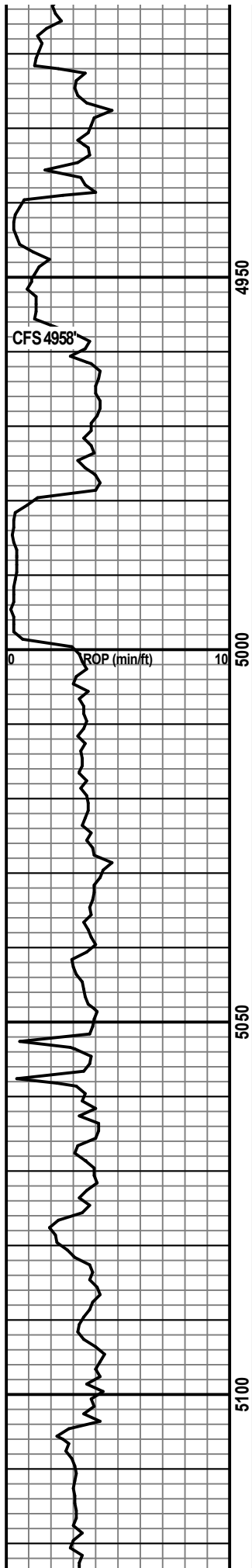
Annular velocity set to 142 ft/min.

Slight odor in 4770' sample

Vis. 53  
Wt. 9.1  
LCM 4#

Slight odor in 4820' sample

Survey 4823' 1 degree



Sh, black, carb, bleeding abdt. gas.

Ls, tan, oolitic, w/ gry. pell, f. xln, poorly dev. to no vis. porosity, no show, no fluor, sli odor, no stn.

**Swope 4936 (-2180)**

Ls, tan, f-c xln, v. oolitic w/ well dev. oomoldic and int. xln. por., sli. shw gas w/ abdt. barren porosity, dull fluor, sli. odor, no staining,

Ls, tan, buff, lt. gry, oolitic in part, f-m xln, some micritic, poorly dev. to no vis. porosity, no show, no fluor, sli. odor, no staining.

**Hertha 4979 (-2223)**

Ls, tan, f-c xln, v. oolitic w/ well developed oomoldic and inter crystalline porosity, with slight shows of 'trapped' gas when broken, w/ abdt. barren porosity, dull fluor, sli. odor, no staining,

Ls, tan, buff, lt. gry, oolitic in part, f-m xln, some micritic, poorly dev. to no vis. porosity, no show, no fluor, sli. odor, no staining.

Ls, med. gry, foss, arg, v. dns, fine xln. to micritic, no vis. porosity.

Ls, med. gry, foss, arg, v. dns, fine xln. to micritic, no vis. porosity.

Sh, blk, carbonaceous, gassy.

Sh, black, carb, bleeding abdt. gas.

Ls, med. gry, foss, arg, v. dns, fine xln. to micritic, no vis. porosity.

Ls, tan, lt. gry, buff, v. dns, fine xln. to micritic, no vis. porosity.

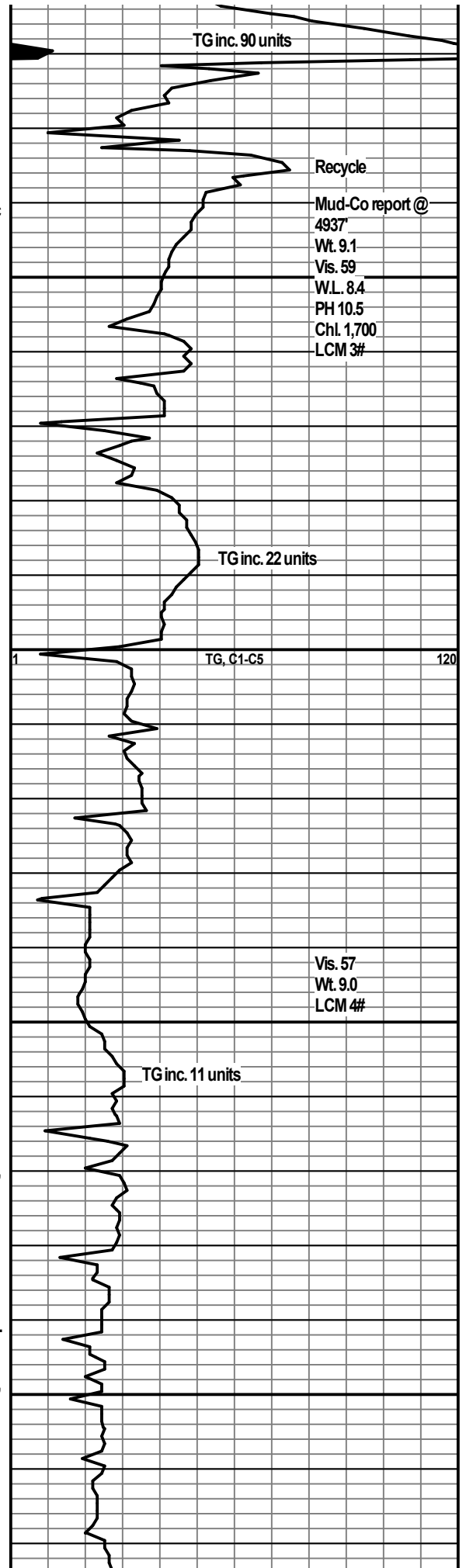
Sh, lt. to med. gry, silty, fissle.

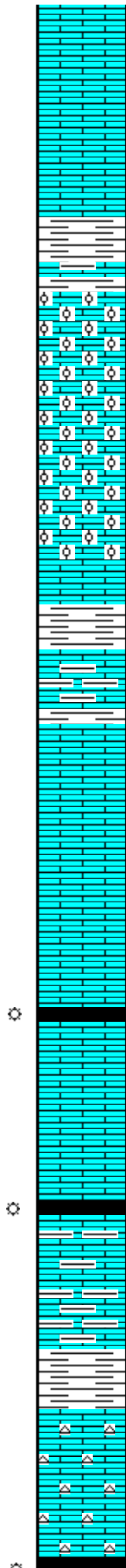
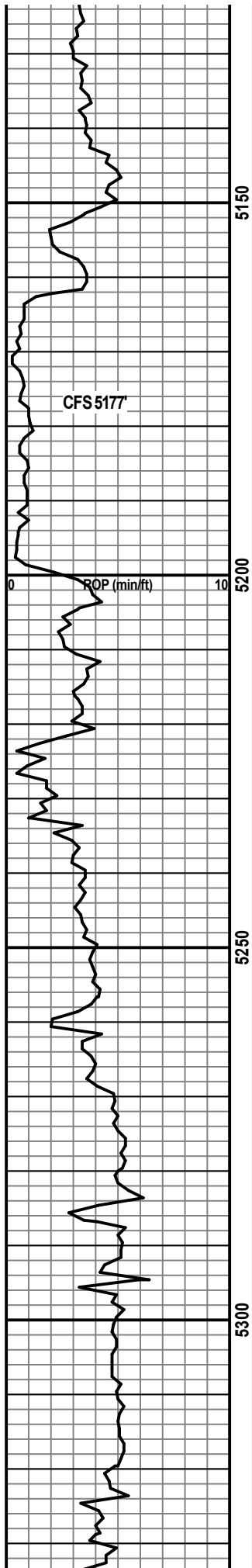
**Marmaton 5081 (-2325)**

Ls, tan, buff, cm. wh, foss, oolitic, chalky in part, poorly dev. int. foss. & int. xln. porosity, no shows, chalky fluor, no odor, no staining.

Ls, tan, lt. gry, buff, v. dns, fine xln. to micritic, no vis. porosity.

Ls, buff wh, tan, v. dns, fine xln. to micritic, poorly dev. int. xln. porosity, no shows, no fluor, no odor, no staining.





Ls, buff wh, tan, v. dns, fine xln. to micritic, no vis. porosity, no shows, no fluor, no odor, no staining.

Ls, tan, lt. gry, buff, v. dns, fine xln. to micritic, no vis. porosity.

Sh, lt. to med. gry, silty, fissile.

**Pawnee 5161 (-2402)**  
Ls, tan, f-c xln, foss, v. oolitic w/ well dev. oomoldic and int. foss. por., sli. shw gas w/ abdt. barren porosity, no fluor, slight odor, no staining.

Ls, tan, f-c xln, foss, v. oolitic w/ well dev. oomoldic and int. foss. por., no shows w/ abdt. barren porosity, no fluor, slight odor, no staining.

Ls, buff, lt. gry-wh, v. dns, f. xln. to micritic, foss.

Sh, lt. to med. gry, silty, fissile.

Ls, buff, lt. gry-wh, v. dns, f. xln. to micritic, foss.

**Ft. Scott 5220 (-2464)**  
Ls, tan, f-c xln, foss, oolitic w/ fair to well dev. oomoldic and int. foss. por., no shows w/ abdt. barren porosity, no fluor, slight odor, no staining.

Ls, buff wh, tan, v. dns, fine xln. to micritic, no vis. porosity, no show, no fluor, no odor, no staining.

Ls, lt. to med. gry, arg., f. xln, v. dns, no vis. porosity, no shows,

**L. Osage Sh. 5258 (-2502)**  
Sh, black, carb, bleeding abdt. gas.

Ls, tan, buff, f. xln, micritic, v. dns, no vis. porosity, no shows, no fluor, no odor, no str, abdt. chert.

**Cherokee Sh 5284 (-2528)**  
Sh, black, carb, bleeding abdt. gas.

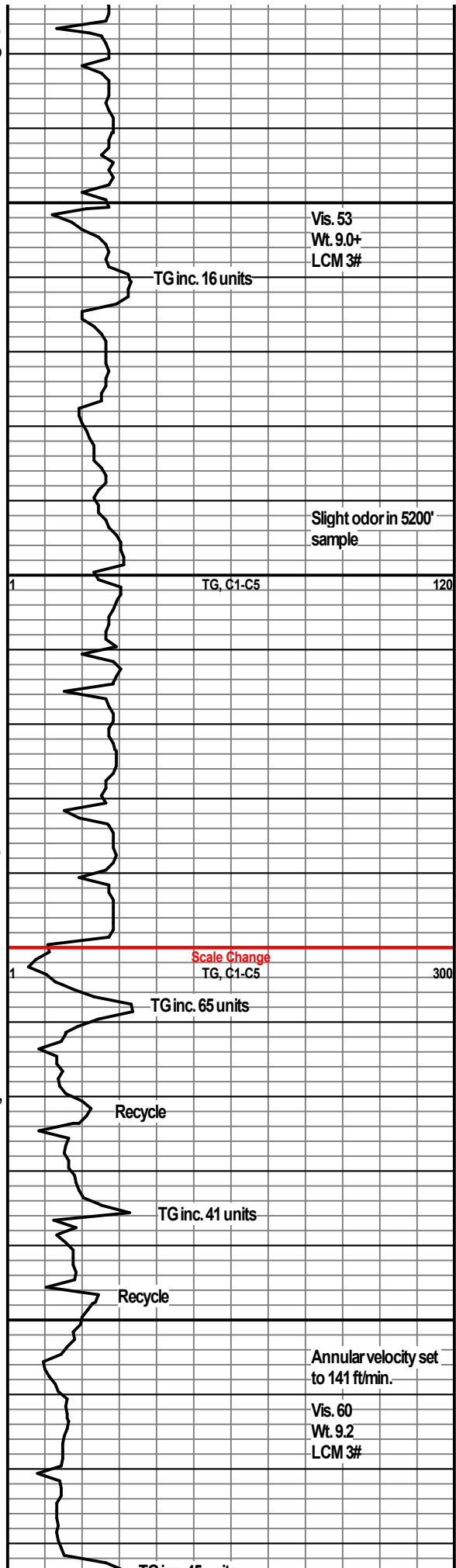
Ls, tan, lt. bm, lt. to med. gry, arg., f. xln. to micritic, no vis. porosity.

Ls, lt. to med. gry, tan, arg., f. xln, v. dns, no vis. porosity, no shows, no fluor, no odor, no staining.

Sh, med. to drk. gry, calcareous.

Ls, tan, buff, lt. gry, f. xln, micritic, no vis. porosity, no shows, no fluor, no odor, no staining, some fresh tan chert.

Sh, black carb. bleeding abdt. gas.



Vis. 53  
Wt. 9.0+  
LCM 3#

TG inc. 16 units

Slight odor in 5200' sample

TG, C1-C5

Scale Change  
TG, C1-C5

TG inc. 65 units

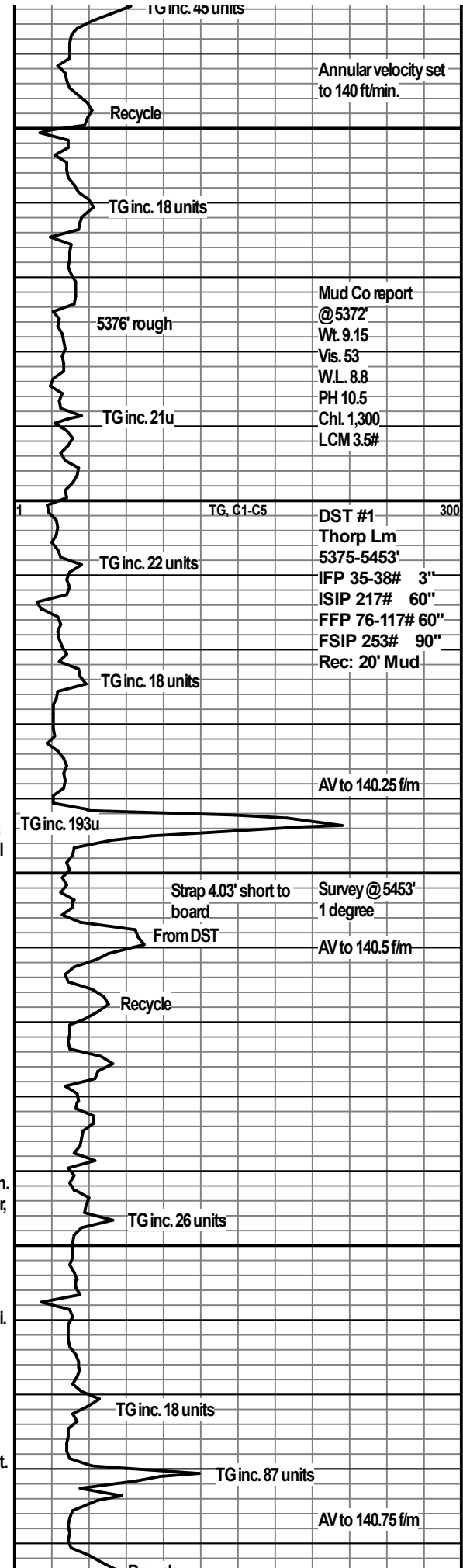
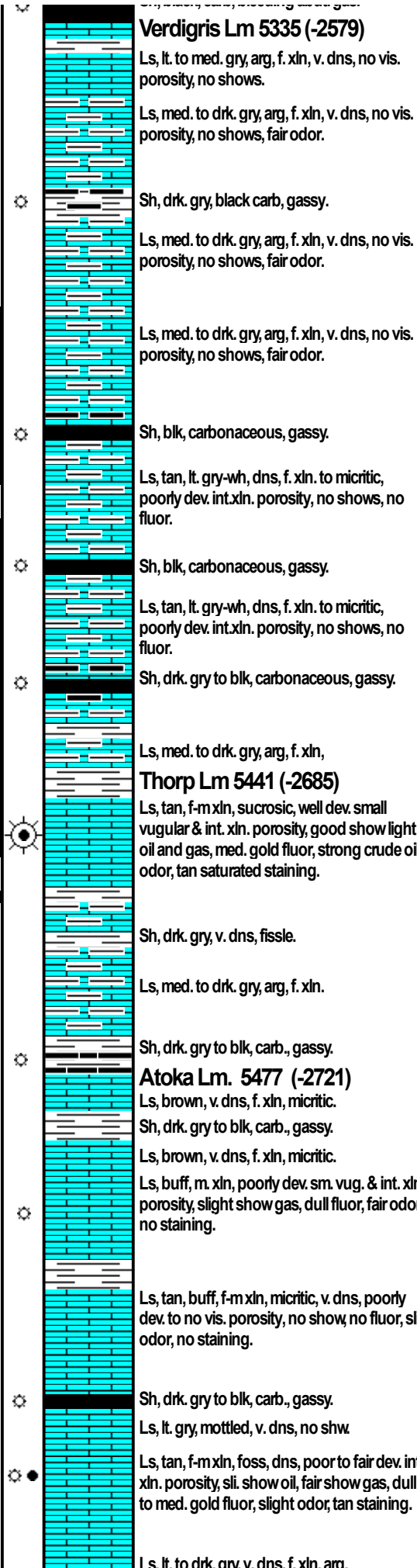
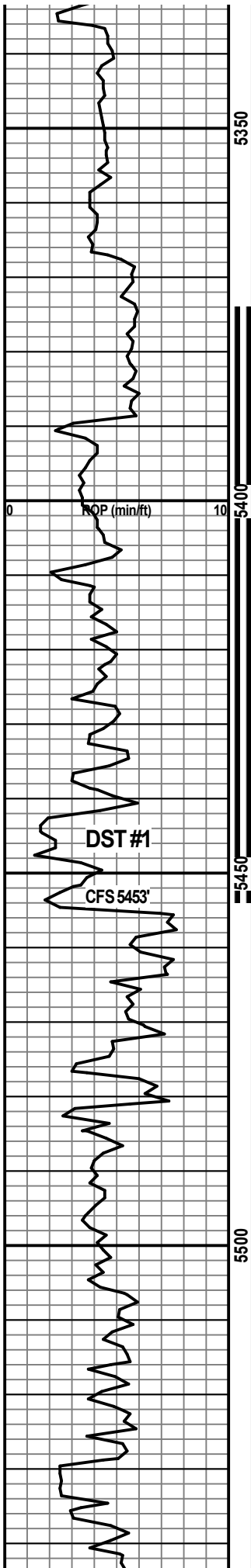
Recycle

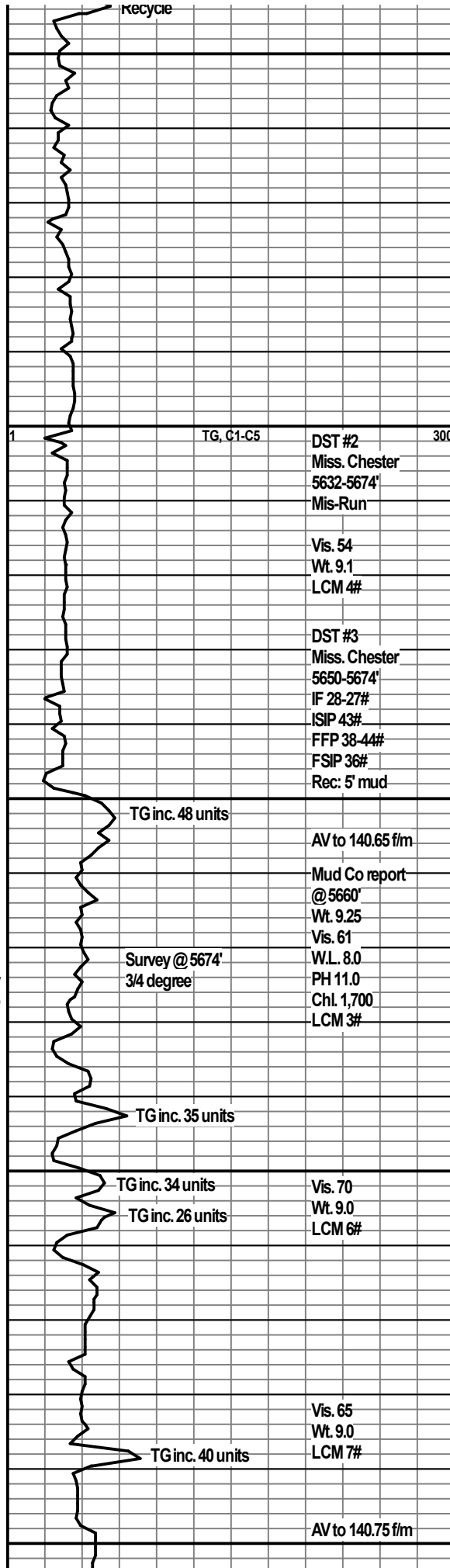
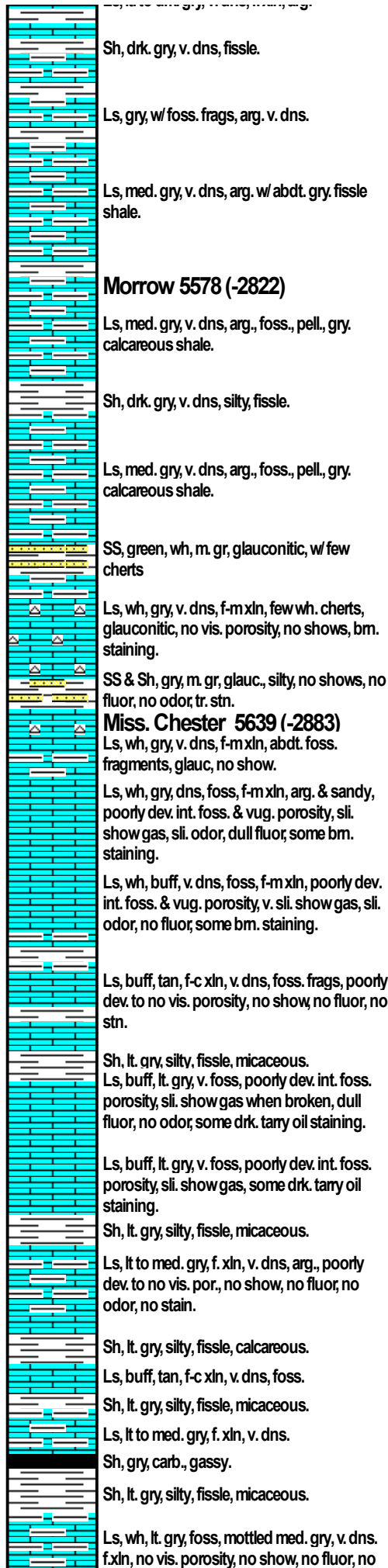
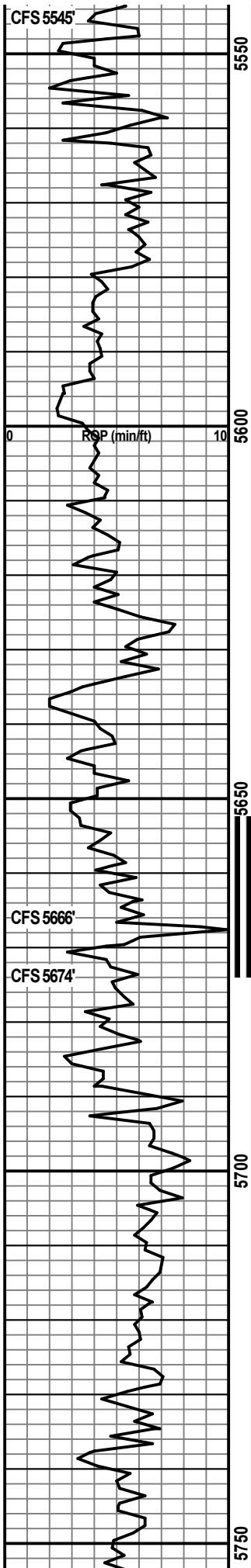
TG inc. 41 units

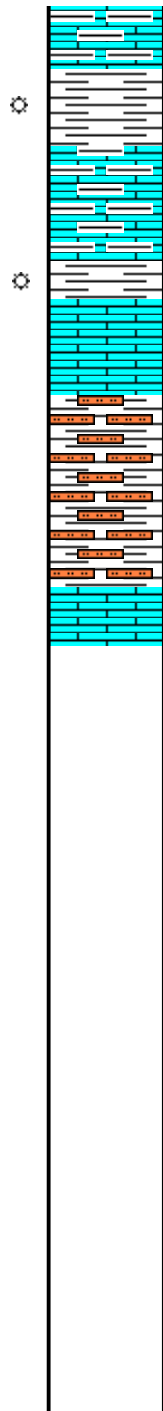
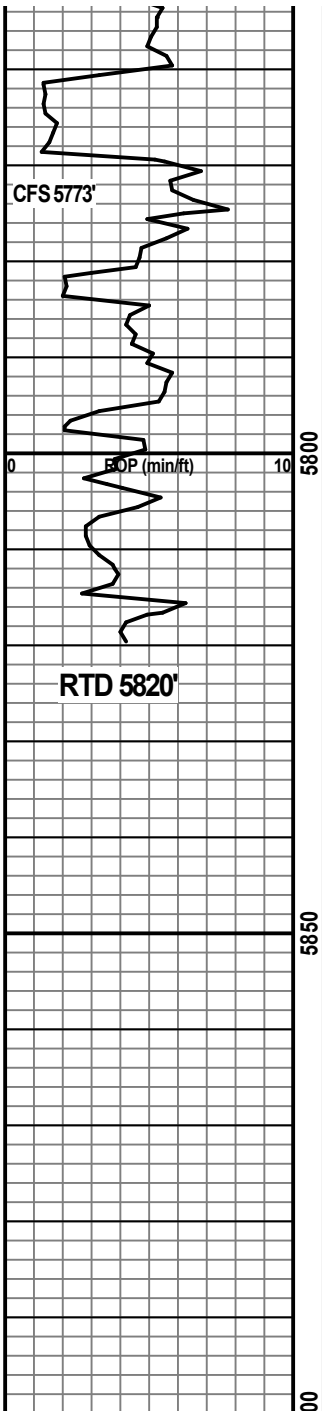
Recycle

Annular velocity set to 141 ft/min.

Vis. 60  
Wt. 9.2  
LCM 3#







odor.

Sh, lt. gry, silty, brittle, laminated, fissle, w/ abdt. pyrite.

**B/ Chest. Lm 5769 (-3013)**  
 Ls, lt. to med. gry, v. dns, f. xln, arg., no vis. porosity, no show, no fluor, no odor, no staining.

Sh, lt. gry, silty, w/ abdt. pyrite.

Ls, green-wh, gry-wh, v. dns, f. xln. to micritic, no vis. porosity, no shows, no fluor, no odor, no stain.

Sh & siltstone, red-brown, green, sandy in part, non-fissle.

Samples washing red-brown.

Sh & siltstone, red-brown, green, sandy in part, non-fissle.

**Ste. Gen. 5815 (-3059)**  
 Ls, lt. gry-wh, sandy w/ f. gr. sand, no vis. por, no show, no fluor.

