

Geologic Report
Aaron L. Young

Drilling Time and Sample Log

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

Well Name: Reta #1
API: 15-007-24351
Location: Section 17 - T30S - R13W
License Number: 31938
Spud Date: 05/31/2019
Surface Coordinates: 330' FNL and 330' FEL

Region: Barber Co., KS
Drilling Completed: 06/08/2019

Bottom Hole
Coordinates:
Ground Elevation (ft): 1834' K.B. Elevation (ft): 1846'
Logged Interval (ft): 3700' To: 4755' Total Depth (ft): 4755'
Formation: Arbuckle
Type of Drilling Fluid: Chemical - MudCo

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

OPERATOR

Company: Indian Oil Co., Inc
Address: PO Box 209
Medicine Lodge, KS 67104-0209

GEOLOGIST

Name: Aaron L. Young, M.S.
Company: Young Consulting LLC
Address: 100 S Main, Suite 505
Wichita, Kansas 67202

General Info

CONTRACTOR: Fossil Drilling Rig #3

BIT RECORD:

No.	Size	Make	Jets	Out	Feet	Hours
1	17-2/4	Milltooth RR	16-16-16	263'	263'	3.5
2	7-7/8	HTC DP506	16-16-16	4421'	4158'	66.5
3	7-7/8	HTC DP606X	3x14s 3x14s	4755'	334'	9.75

GENERAL DRILLING AND PUMP INFORMATION:

Drilling with 12,000-14,000 lbs. on bit and approx 110 RPM.
Running 10 stands of collars; 609.11'
Pumping approx 850-950 psi at standpipe @ 57-60 SPM

Daily Status

05/31/19 Spud @ 345pm

06/01/19 WOC at 263' Drilled 263' 17-1/2" hole. Ran 261" of 13-3/8" surface casing. Pumped 300 sx 60/40 Poz cement. 3% calcium, 1/4# cellflake.

06/02/19 Drilling @ 1705'

06/03/19 Drilling @ 2625'

06/04/19 Drilling @ 3657'

06/05/19 CFS @ 4376' DST #1

06/06/19 TIH w/ bit #3 @ 4421', DST #2, DST #3

06/07/19 Drilling @ 4548'

06/08/19 TIH w/ DST #4 @ 4606'

06/09/19 Logging, RTD @ 4755', Straddle DST #5. Ran 117 jts of 5 1/2" 15.5# production casing set @ 4735'

DST #1

Marmaton 4310'-4376'
30-60-45-90

IF: Surface blow built to 3/4"

ISI: No return

FF: Surface blow stayed weak throughout

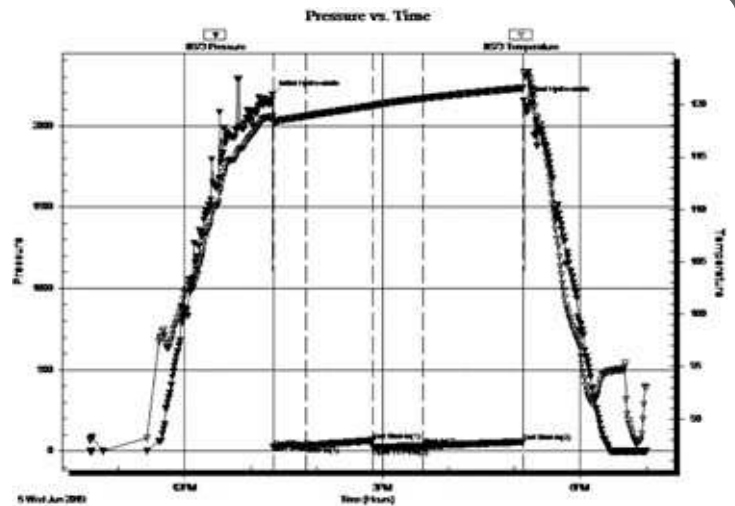
FSI: No return

Rec'd: 10' OSM (100% M)

SIP: 65-58#

FP: 23-31#, 23-30#

HP: 2191-2154#



DST #2 Viola 4484'-4516'
30-60-60-90

IF: Surface blow built to BOB <1min

ISI: No return

FF: Surface blow BOB immediately

FSI: No return

Rec'd: 5' M (100% M)

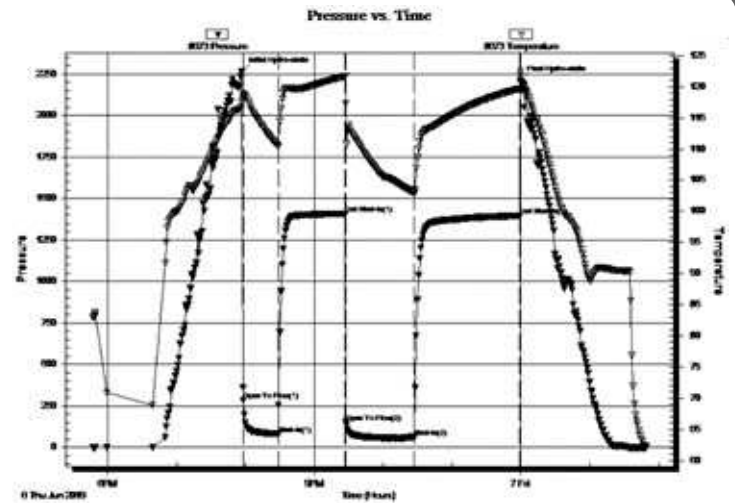
GTS: Mas rate 145 mcf/d

Final rate 75 mcf/d

SIP: 1408-1396#

FP: 286-81#, 151-64#

HP: 2268-2212#

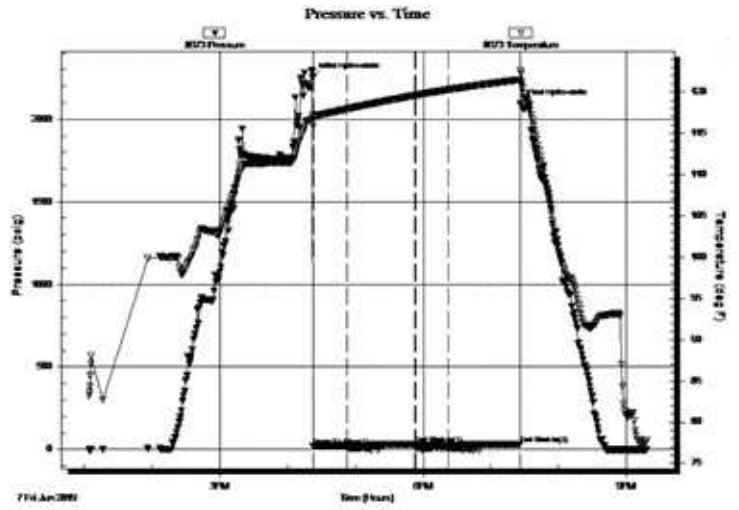


DST #3
 Viola 4516'-4572'
 30-60-30-60

IF: Surface blow built to 1/4", died to weak blow
 ISI: No return
 FF: No surface blow
 FSI: No return

Rec'd: 2' M (100% M)

SIP: 33-33#
 FP: 20-24#, 27-33#
 HP: 2254-2095#

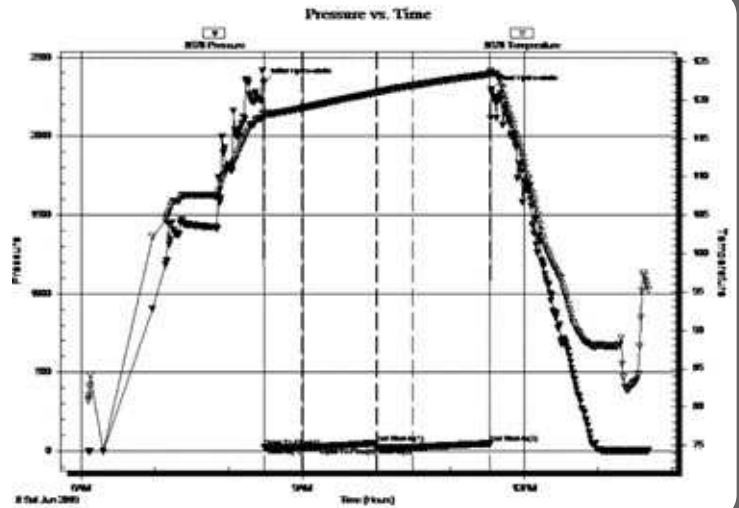


DST #4
 Simpson Sand 4572'-4606'
 30-60-30-60

IF: Surface blow stayed at weak blow
 SI: No return
 FF: No surface blow
 FSI: No return

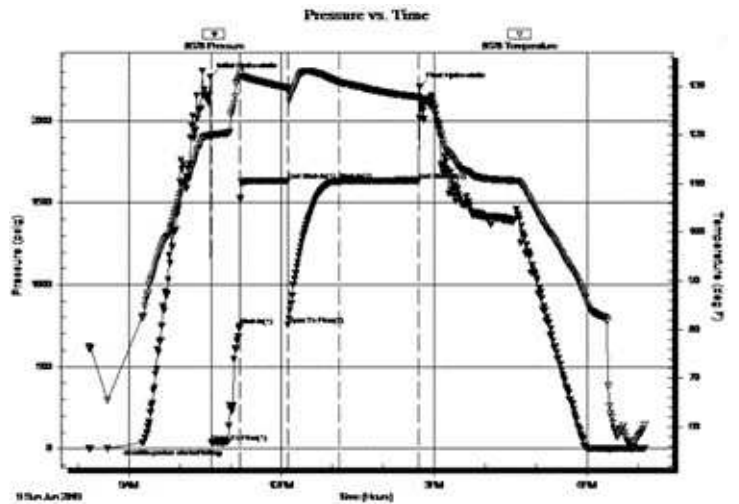
Rec'd: 3' M (100% M)

SIP: 25-26#
 FP: 26-24#, 26-26#
 HP: 2340-2295#



DST #5 Straddle Test
 MISS
 4376'-4424'

Packer Failure - Bottom packer split and recovered 3381' MW



ROCK TYPES

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal
- Congl
- Dol

- Gyp
- Igne
- Lmst
- Meta
- Mrlst
- Salt
- Shale
- Shcol

- Shgy
- Sltst
- Ss
- Till
- Carb sh
- Dol
- Dtd
- Gry sh

- Sandylms
- Shale
- Sltstn
- Shlyslts
- Sltysht
- Lms

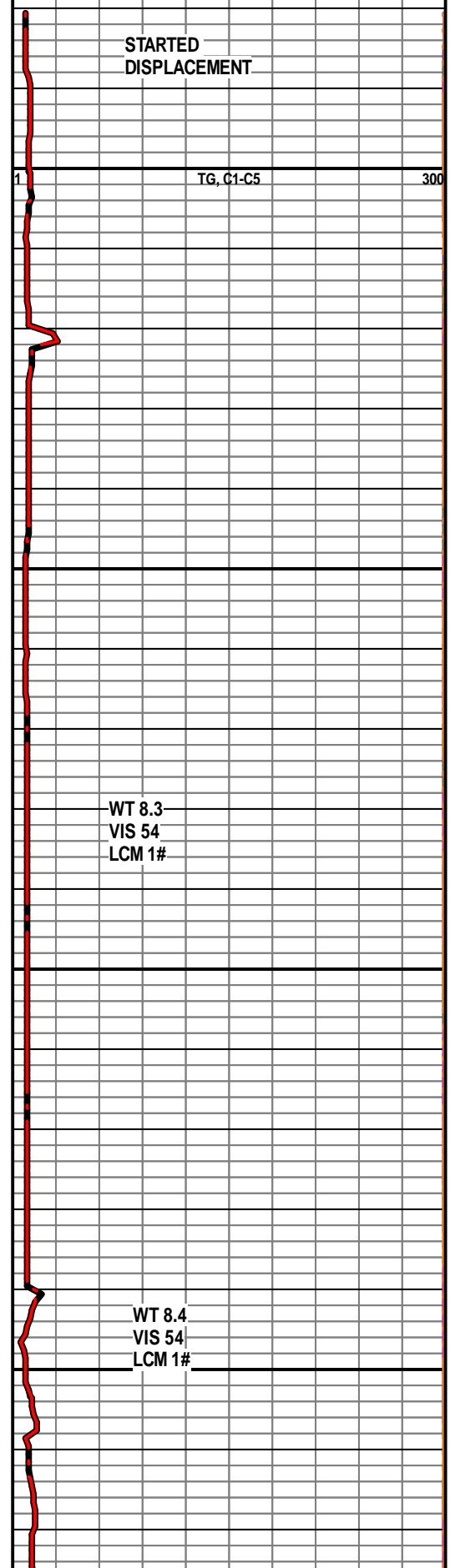


3200

3250

3300

3350

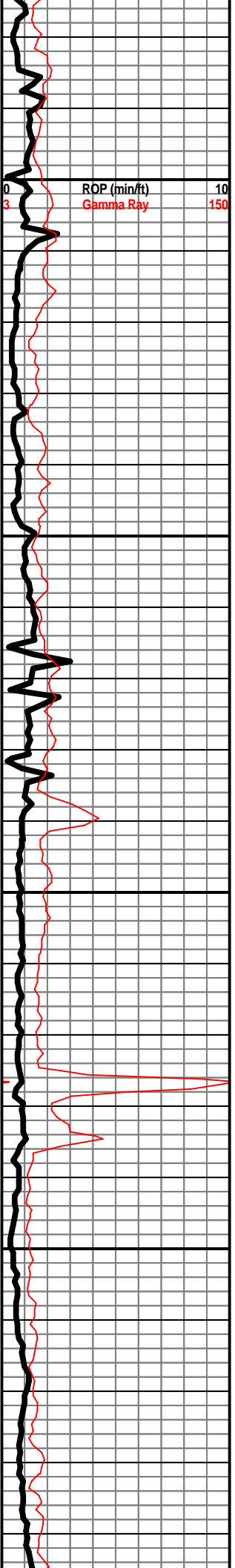


STARTED
DISPLACEMENT

TG, C1-C5

WT 8.3
VIS 54
LCM 1#

WT 8.4
VIS 54
LCM 1#

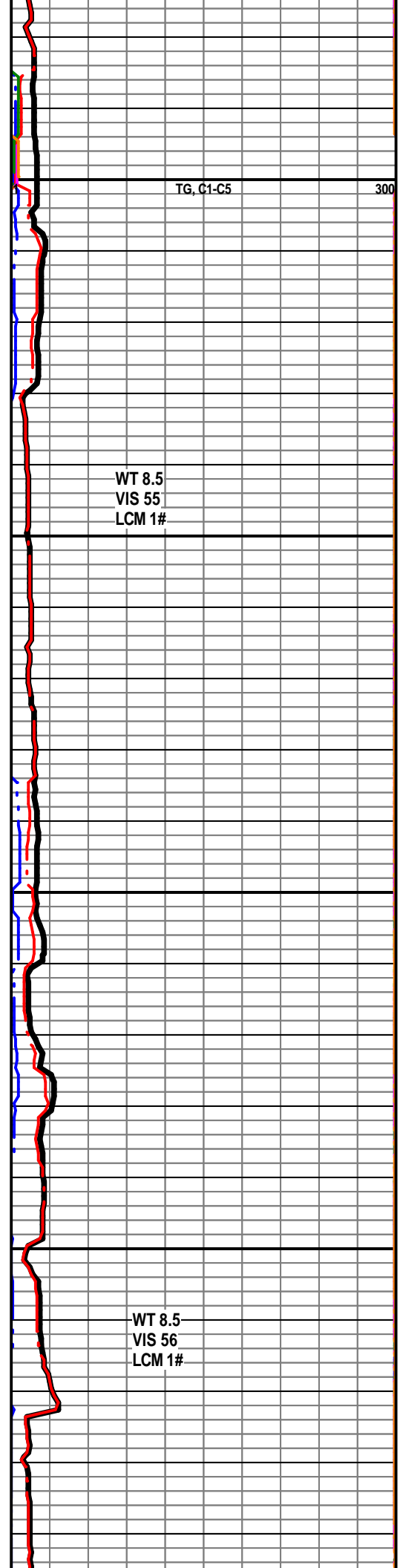


3400

3450

3500

3550

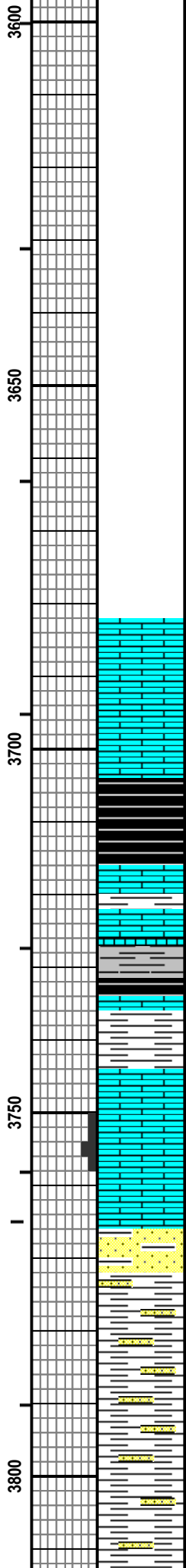
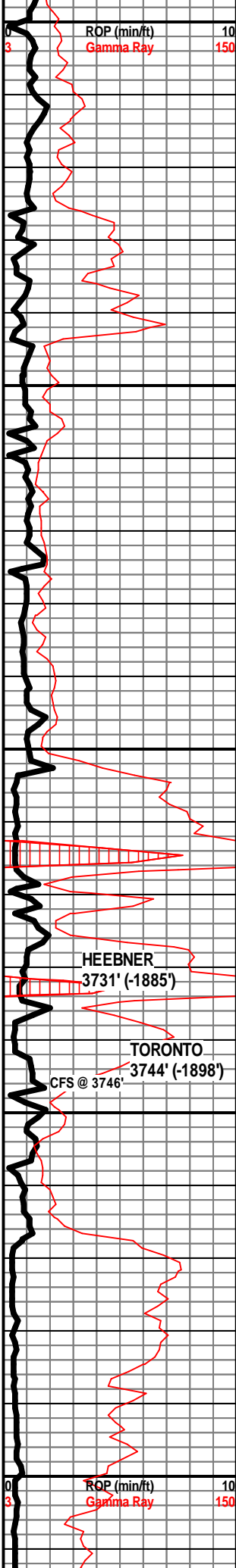


TG, C1-C5

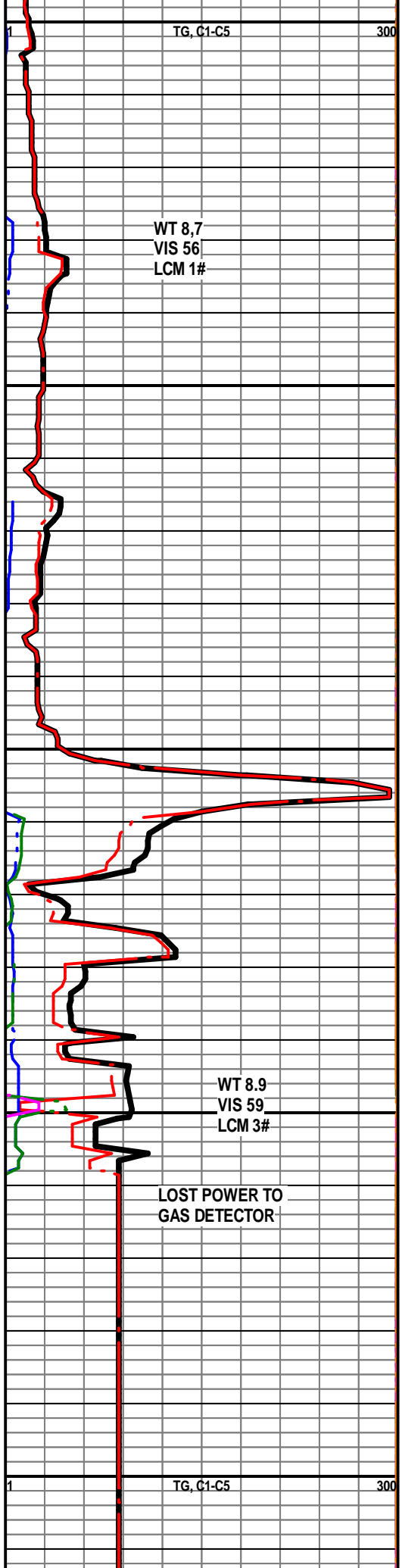
300

WT 8.5
VIS 55
LCM 1#

WT 8.5
VIS 56
LCM 1#



LS - TAN / GY, F XLN, MOD DNS, W/ LS - CRM,
 VF XLN, SUBCHKY / CHKY IN PT
 SH - BLK, CARB, SHO OF GAS BUB
 SH - BLK, CARB, W/ LS - GY / TAN, F XLN, DNS,
 FOSS IN PT
 SH - GY / GRN IN PT, W/ LS - CRM, VF XLN,
 SUBCHKY
 LS - CRM / TAN / GY IN PT, F XLN, MOD DNS,
 FOSS IN PT, P INTXLN POR IN PT, NS
 SS - WHT / GY, VF GR, SUB-ANG, W SRTD,
 MOD CEM, P INTERGR POR, NS, W/ SH - GY,
 SNDY
 SH - LT GY / GY, SNDY



ROP (min/ft)
Gamma Ray

HEEBNER
3731' (-1885')

TORONTO
3744' (-1898')

CFS @ 3746'

ROP (min/ft)
Gamma Ray

WT 8,7
VIS 56
LCM 1#

WT 8.9
VIS 59
LCM 3#

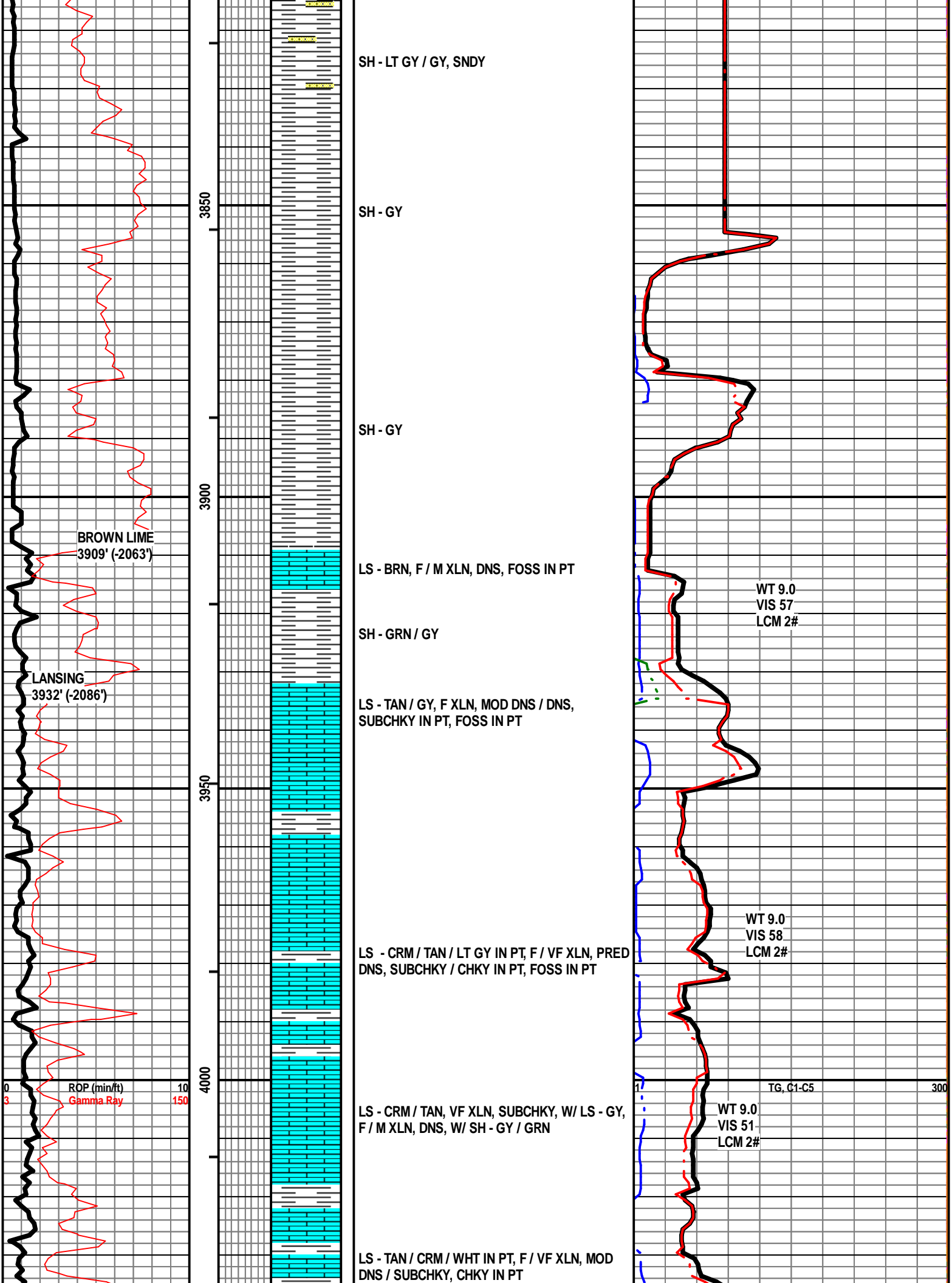
LOST POWER TO
GAS DETECTOR

TG, C1-C5

TG, C1-C5

300

300



SH - LT GY / GY, SNDY

SH - GY

SH - GY

LS - BRN, F / M XLN, DNS, FOSS IN PT

SH - GRN / GY

LS - TAN / GY, F XLN, MOD DNS / DNS, SUBCHKY IN PT, FOSS IN PT

LS - CRM / TAN / LT GY IN PT, F / VF XLN, PRED DNS, SUBCHKY / CHKY IN PT, FOSS IN PT

LS - CRM / TAN, VF XLN, SUBCHKY, W/ LS - GY, F / M XLN, DNS, W/ SH - GY / GRN

LS - TAN / CRM / WHT IN PT, F / VF XLN, MOD DNS / SUBCHKY, CHKY IN PT

WT 9.0
VIS 57
LCM 2#

WT 9.0
VIS 58
LCM 2#

WT 9.0
VIS 51
LCM 2#

TG, C1-C5

BROWN LIME
3909' (-2063')

LANSING
3932' (-2086')

ROP (min/ft)
Gamma Ray

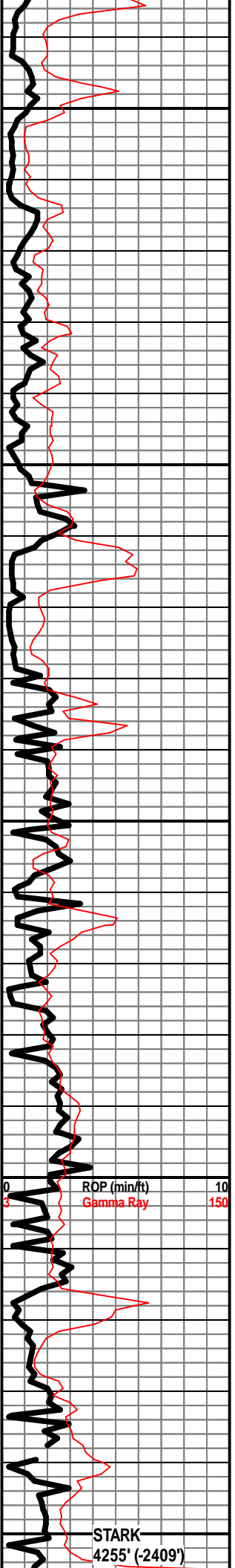
3850

3900

3950

4000

300



4050
4100
4150
4200
4250



LS - BRN, F XLN, OOLITIC, P / F OOLMOLIC AND INTEROOLITIC POR IN PT, ABUND FOSS, NS, W/ LS - CRM / TAN, VF XLN, MOD DNS / SUBCHKY, W/ SH - GY

LS - CRM / TAN, VF XLN, SUBCHKY, W/ SH - GRN / GY

LS - CRM / TAN / BRN, F XLN, P / F INTEROOL & OOLMOLDIC POR IN PT, NS, FOSS, W/ LS - CRM / TAN, VF / F XLN, MOD DNS / SUBCHKY, CHKY IN PT, W/ SH - GY / DK GY

LS - CRM / TAN, VF / F XLN, PRED SUBCKY / MOD DNS, DNS IN PT, W/ SH GY

LS - CRM / TAN / GY, PRED SUBCHKY, MOD DNS / DNS IN PT, W/ SH - LT GY / GY, PYRITIC IN PT

LS - CRM / TAN, F XLN, MOD DNS, FOSS IN PT, W/ SH - V LT GY

WT 9.0
VIS 53
LCM 2#

TG, C1-C5

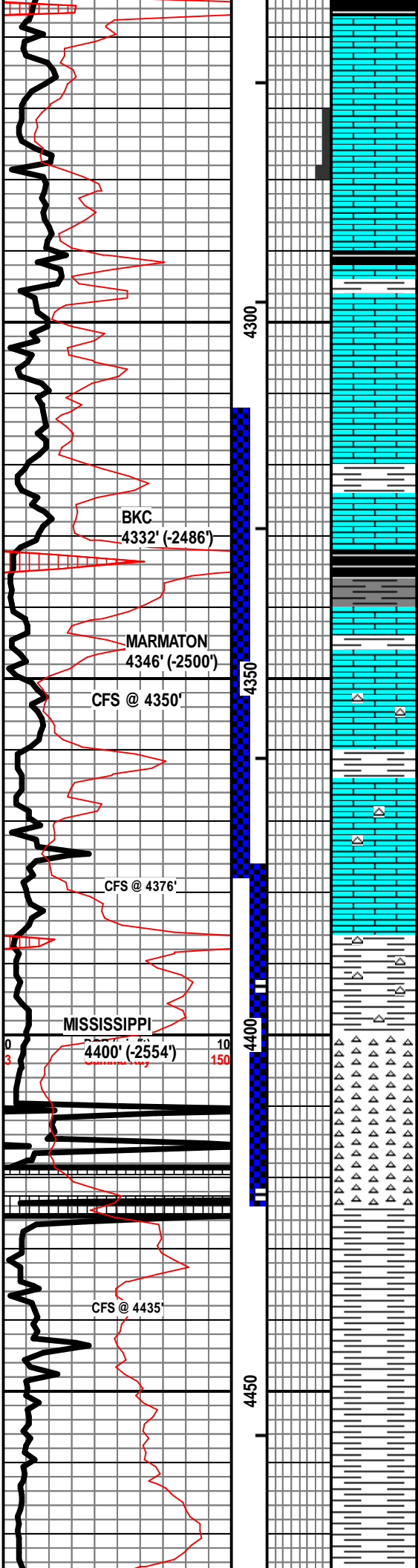
WT 9.3
VIS 53
LCM 2#

ROP (min/ft)
Gamma Ray

STARK
4255' (-2409')

10
150

300



SH - BLK, CARB, SLI SHO GAS BUB

LS - TAN / GY, F XLN, M XLN IN PT, DNS, FOSS IN PT, SCAT OOLITES

SH - BLK, CARB, W/ SH - GY / GRN / RD, W/ LS - CRM / TAN / GY, F / VF XLN, PRED MOD DNS, SUBCHKY / CHKY IN PT, DNS IN PT, P / F OOLMOLDIC & INTEROOLITIC POR, NS

LS - TAN / BRN / GY, F / M XLN, MOD DNS / DNS, FOSS IN PT, W/ SH - GY / GRN

LS - CRM / TAN, VF / F XLN, MOD DNS / SUBCHKY, FOSS IN PT, W/ SH - GRN / GY

SH - BLK, CARB

LS - CRM / WHT, VF / F XLN, P INTERXLN POR IN PT, VSSFO IN PT, ABUND OIL STN, V SLI CUP ODOR, NO FLUOR

LS - CRM / TAN, F XLN, MOD DNS / DNS, FOSS IN PT, CHTY IN PT, W/ SCAT CHT - TAN, FRSH, TRANSLUCNT, W/ SH - GRN / GY

SH - GRN / GY, W/ SCAT CHT - WHT, FRESH, OPAQ & TRANSLUCNT

CHT - WHT, OPAQ, PRED FRSH, SLT WEATH EDGES IN PT, EDGE STN IN PT, NSFO, SLT CUP ODOR, NO FLUOR

SH - GRN / GY

SH - GRN / GY

WT 9.0
VIS 47
LCM 2#

DST #1
Marmaton 4310'-4376'
30-60-45-90

IF: Surface blow built to 3/4"
ISI: No return
FF: Surface blow stayed weak throughout
FSI: No return

Rec'd: 10' OSM (100% M)

SIP: 65-58#
FP: 23-31#, 23-30#
HP: 2191-2154#

DST #5 Straddle Test MISS
4376'-4424'

Packer Failure - Bottom packer split and recovered 3381' MW

WT 9.2
VIS 55
LCM 2#

LOST POWER TO GAS DETECTOR. FOUND CORD SHORTED OUT AND FIXED IT

TG, C1-C5 300

AUTODRILLER GEAR BOX FAILED AND DROPPED ALL THE STRING WEIGHT ON THE BIT AND BROKE THE BIT. BROKEN BLADE WAS WEDGED IN THE BIT WHEN THEY GOT TO SURFACE AND FULLY RECOVERED.

WT 9.2
VIS 60
LCM 2#

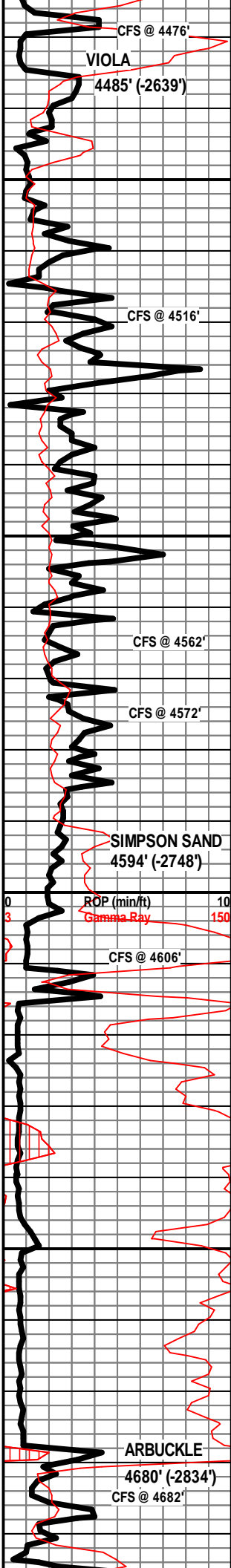
DST #2
Viola 4484'-4516'
30-60-60-90

IF: Surface blow built to BOB <1min
ISI: No return
FF: Surface blow BOB immediately
FSI: No return

Rec'd: 5' M (100% M)
GTS: Mas rate 145 mcf/d
Final rate 75 mcf/d

SIP: 1408-1396#
FP: 286-81#, 151-64#
HP: 2268-2212#

WT 9.2



LS - CRM, VF XLN, SUBCHKY, BLK SPECS

LS - CRM, VF / F XLN, F INTERXLN POR, PRED SUBCHKY, SLI SHO OF GAS BUB, SSFO, LT BRN OIL DROPLETS, SLI YEL-GRN FLUOR IN PT, SCAT CHT - WHT / CLR, FRSH, TRANSLUCNT & OPAQ

LS - CRM, VF XLN, SUBCHKY, W/ SCAT CHT - WHT / CLR, TRANSLUCNT & OPAQ

DOLO - GY / TAN, VF XLN, NO VIS POR, NS

CHT - TAN / GY / WHT / CLR, TRANSLUCNT IN PT, PRED FRSH, 10% WEATH, P / F WEATH POR IN PT, ABUND STN, SSFO, SLI ODOR, NO FLUOR, LMY W/ LS - CRM, VF XLN, SUBCHKY / CHKY

CHT - TAN / GY, FRSH, TRANSLUCNT IN PT, FEW PIECES W/ P WEATH POR, SLI STN, NO FLUOR, DOLOMITIC

DOLO - DK BRN, VF XLN, P INTERXLN POR, NSFO, QUEST ODOR, NO FLUOR

LS - CRM, VF XLN, SUBCHKY / CHKY, W/ SCAT CHT - TAN / GY, FRSH

SH - GRN / GY

SS - GY / CLR, VF GR, SUB-ANG / SUB-RND, MOD / W CEM, P / F INTERGR POR, SSFO IN FEW PIECES, SHO OF GAS, SLI CUP ODOR, NO FLUOR, ARG IN PT

SS - GY / CLR, VF / F GR, SUB-RND, MOD CEM, P / F INTERGR POR, FSFO, F CUP ODOR, NO FLUOR, ABUND OF PYRITE, ARG IN PT

SH - GY / GRN

SS - CLR, VF / F GR, SUB-RND, MOD CEM, P / F INTERGR POR, NS, NO ODOR

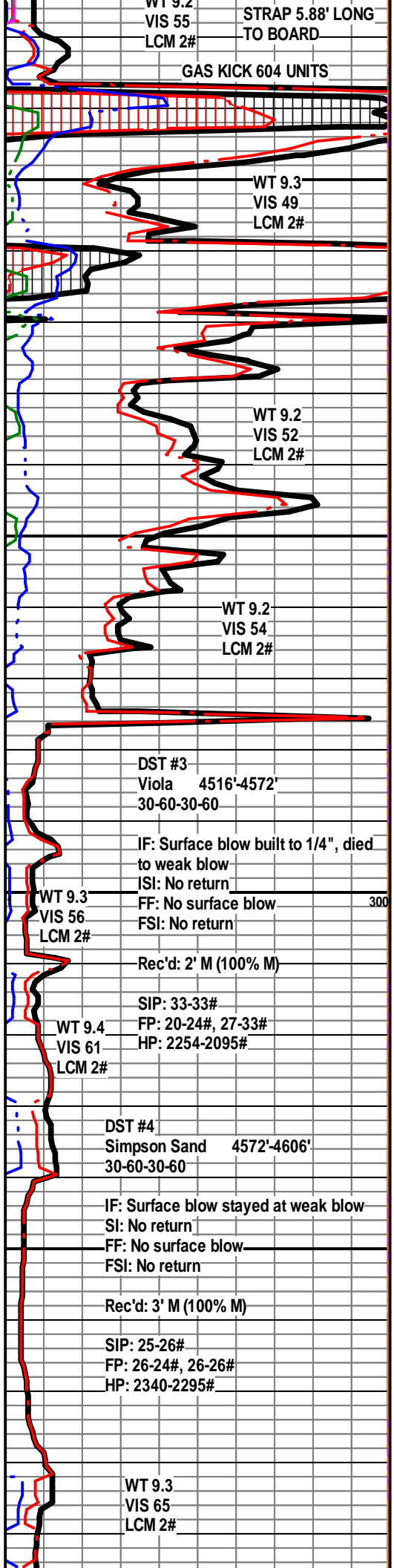
SH - LT BRN / GY / GRN IN PT, SNDY

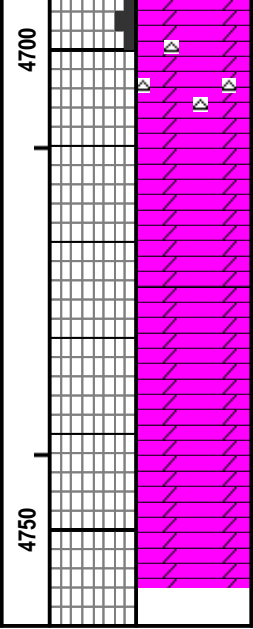
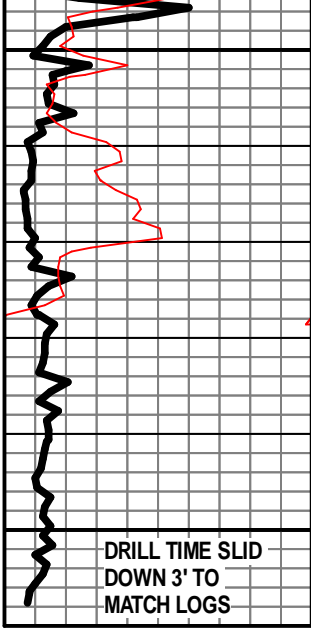
SH - PRED GRN / GY IN PT, WAXY

SH - GRN / GY, WAXY

DOLO - TAN, F XLN, MOD DNS / DNS, P INTERXLN POR IN PT, NS, NO ODOR, BRI YEL MINERAL FLUOR

DOLO - TAN / CRM IN PT, F XLN, DNS, P INTERXLN POR IN PT, F VIS POR IN PT





INTERXLN POR IN PT, F VUG POR IN PT

DOLO - TAN / CRM / WHT, F / VF XLN, PRED
DNS, SUBCHKY / CHKY IN PT, CHTY IN PT

DOLO - TAN / CRM / WHT, F XLN, MOD DNS /
DNS

DOLO - TAN / LT GY, F / M XLN, DNS

DOLO - TAN / CRM, F XLN, DNS

RTD 4755'

