

OPERATOR: MARATHON OIL COMPANY

WELL: 596-31C-15

LOCATION: SEC. 31, T5S, R96W

COUNTY: GARFIELD

STATE: COLORADO

SPOT: 2121' FSL x 586' FWL

ELEVATION: G: 8521' KB: 8545'

FIELD: GRAND VALLEY

SPUD DATE: 02/25/09

TD DATE: 03/04/09

DATES LOGGED: 02/25/09 - 03/04/09

DEPTHS LOGGED: 2450' - 9711'

LOGGERS: MARK MCLAUGHLIN

DRILLING FLUID: LSND

DRILLING RIG: H&P 324

BOTTOM HOLE: CCNAD27, X:1234898, Y:643043.5
























































LOG TYPE: MUD LOG

SCALE: 1:240 (5.0 INCH/100 FT)

REMARKS:

API# 05-045-16022-0000

LITHOLOGIES

| | | | | |
|--|---|--|---|---|
|  SANDSTONE |  SILTSTONE |  SHALE |  COAL |  BENTONITE |
|  LIMESTONE |  DOLOMITE |  ANHYDRITE |  CHERT |  SALT |
|  CONGLOMERATE |  TUFF |  ALLUVIUM |  METAMORPHIC |  GLACIAL TILL |
|  DARK CHERT |  WELDED TUFF |  ARGILLACEOUS LIMESTONE |  LIME MUDSTONE |  CRYSTALLINE LIMESTONE |
|  LIME BOUNDSTONE |  LIME GRAINSTONE |  LIME PACKSTONE |  LIME WACKSTONE |  DOLOMITIC LIMESTONE |
|  CALCAREOUS DOLOMITE |  ARGILLACEOUS DOLOMITE |  DOLOMITIC MUDSTONE |  CRYSTALLINE DOLOMITE |  DOLOMITIC BOUNDSTONE |
|  DOLOMITIC GRAINSTONE |  DOLOMITIC PACKSTONE |  DOLOMITIC WACKSTONE |  SHALY SANDSTONE |  CLAYSTONE |
|  GRAY CLAYSTONE |  COLORED CLAYSTONE |  VOLCANICS |  BRIGHT COAL |  INTERMEDIATE COAL |
|  DULL COAL |  COALY SHALE |  NON COAL |  GRANITE |  BRECCIA |
|  MARL |  DOLOMITIC MARL |  CARBONACEOUS SHALE |  CHALK |  GYPSUM |
|  UNABLE TO INTERPRET |  NO SAMPLE |  BLACK SHALE |  COLORED SHALE |  GRAY SHALE |

CH TV

CH V



CORE RECOVERED



CORE LOST



DST INTERVAL



ROTATING



SLIDING



CANISTER

ABBREVIATIONS

CB - CORE BIT

CG - CONNECTION GAS

CO - CIRCULATE OUT

SPM - STROKES/MIN

DST - DRILL STEM TEST

DTG - DOWNTIME GAS

LAT - LOGGED AFTER TRIP

TG - TRIP GAS

NR - NO RETURNS

NS - NO SAMPLE

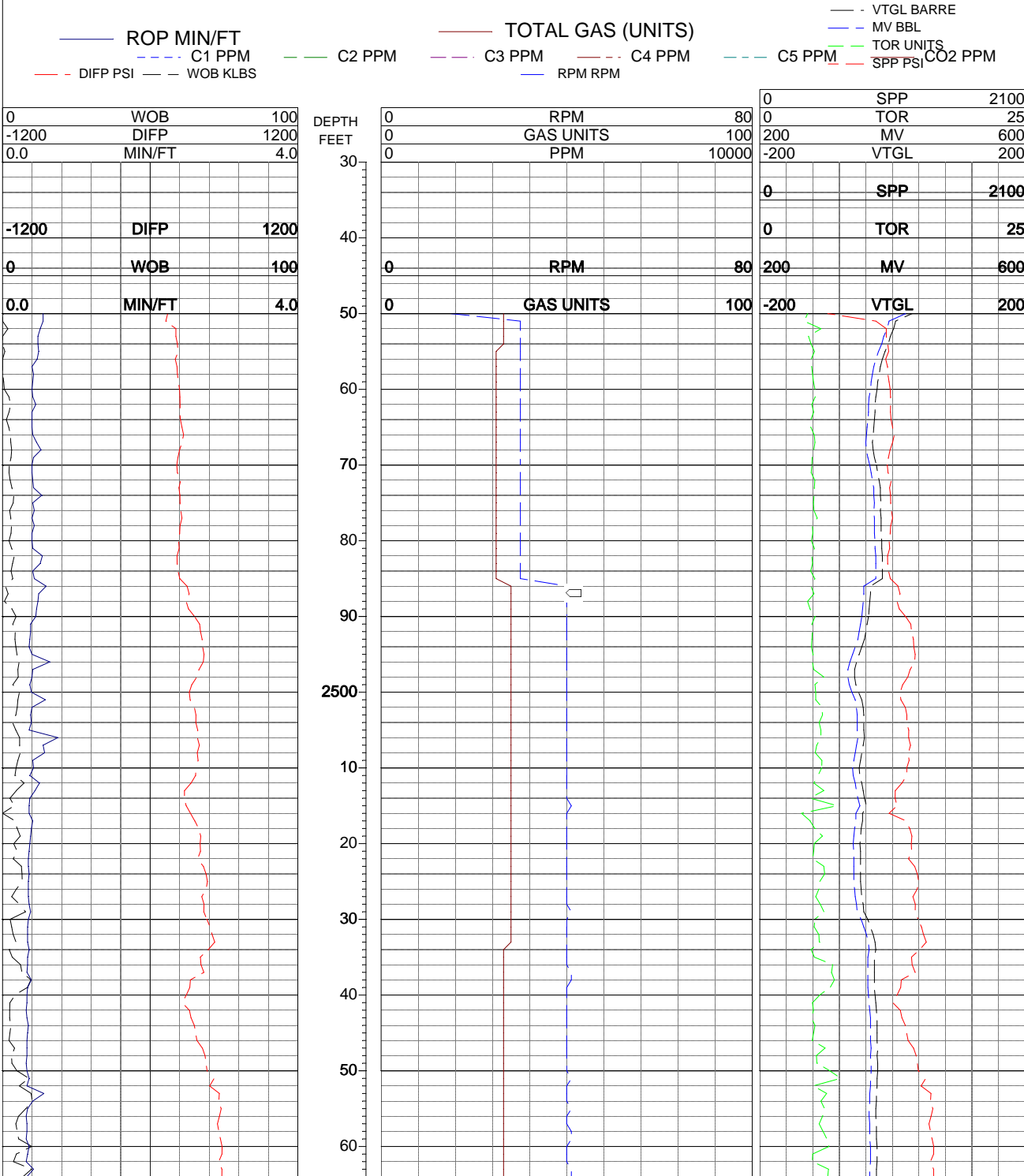
PP - PUMP PRESSURE

WOB - WEIGHT ON BIT

RPM - REVOLUTIONS/MIN

RR - RE-RUN

SLM - STEEL LINE MEASURE



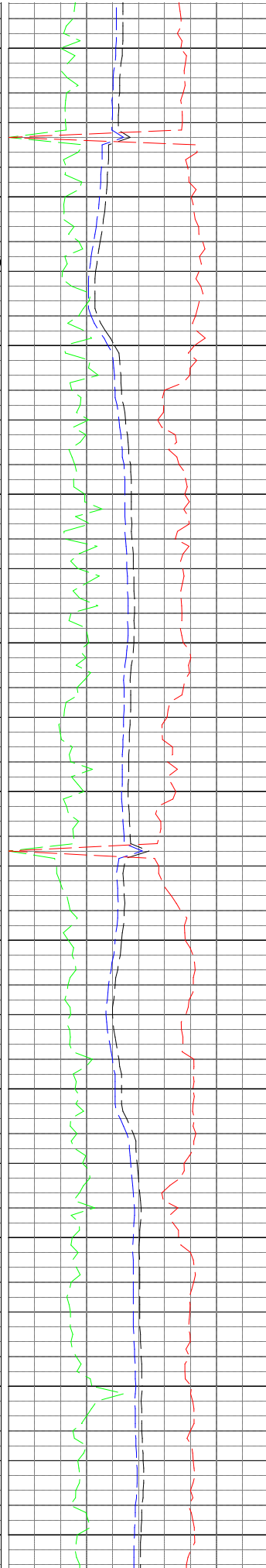
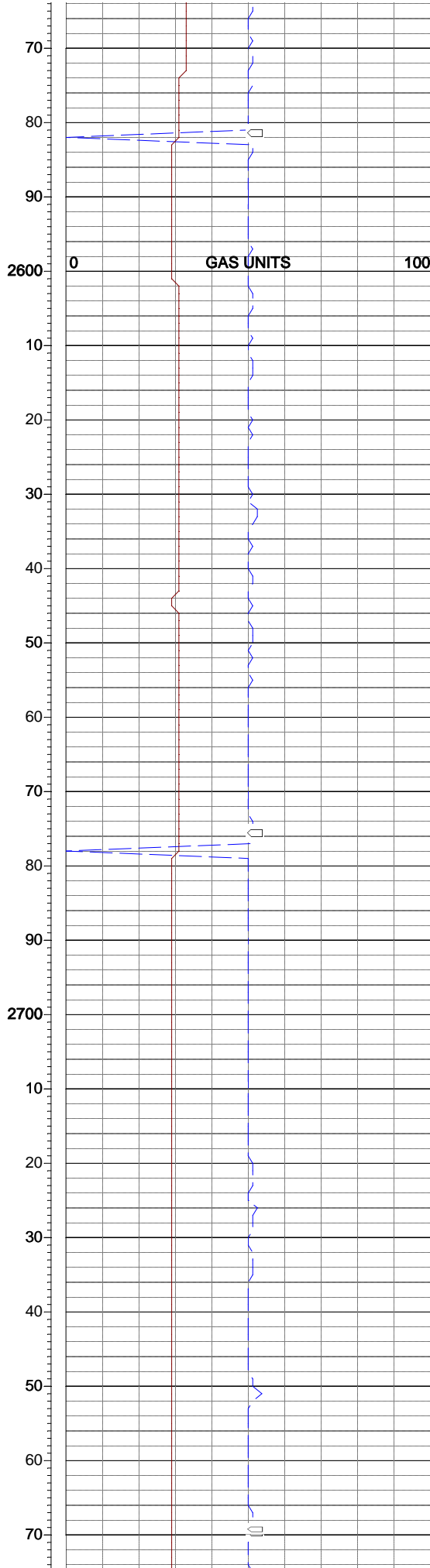
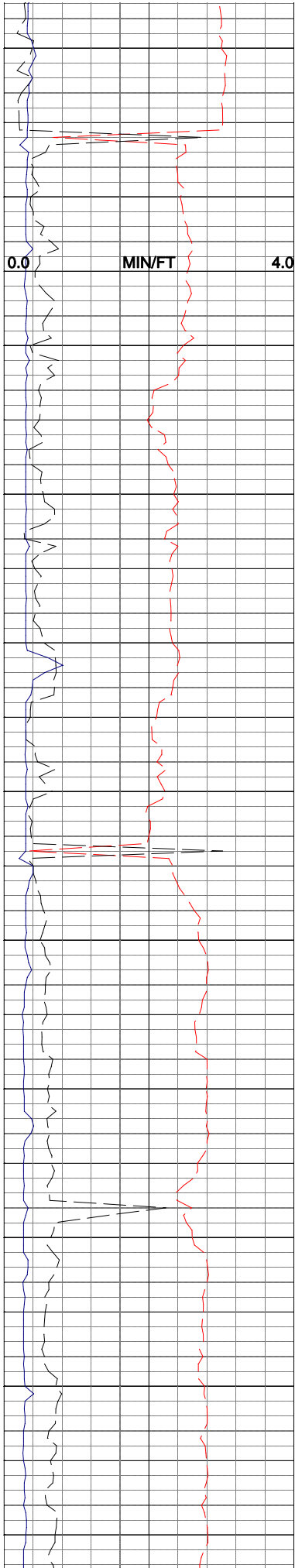
LITHOLOGY DESCRIPTIONS

PASON SYSTEMS
RIGGED AND
LOGGING ON
02/25/09 AT 12pm

TVD VS. MD = 91'

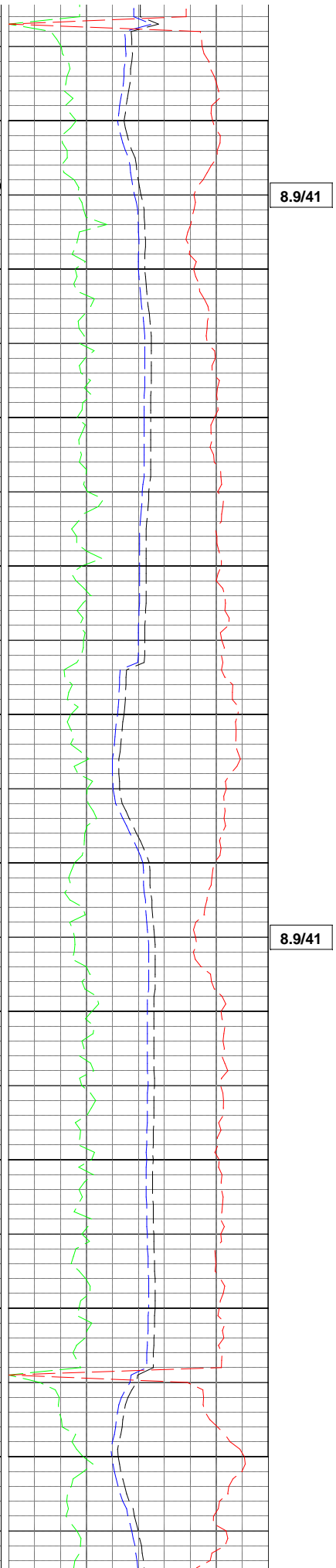
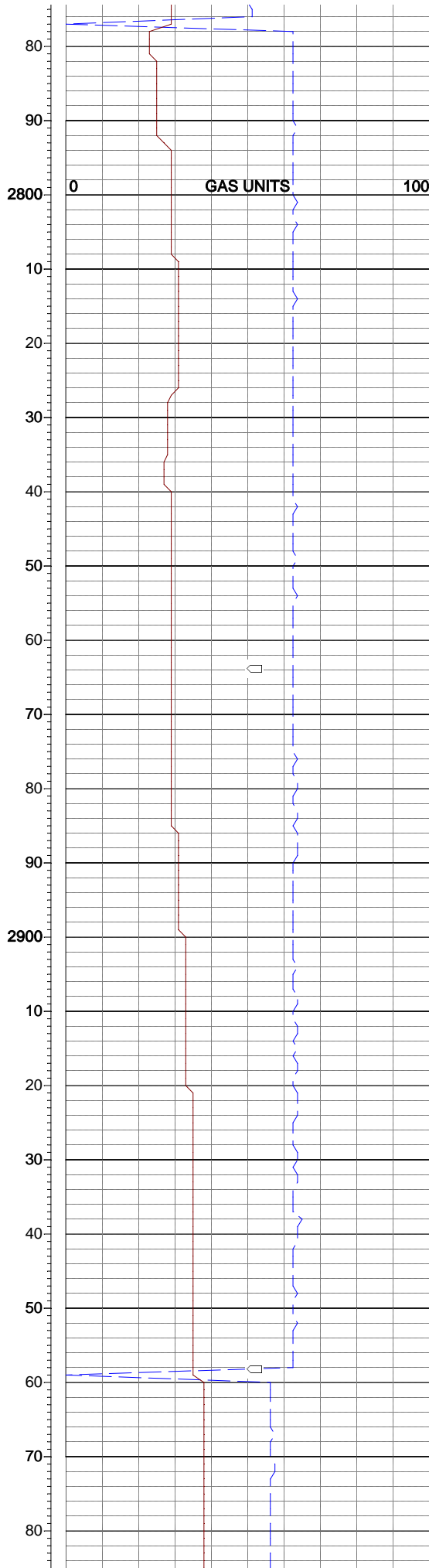
BIT #3
8 3/4"
SECURITY
FMR3563Z
IN AT 2445'

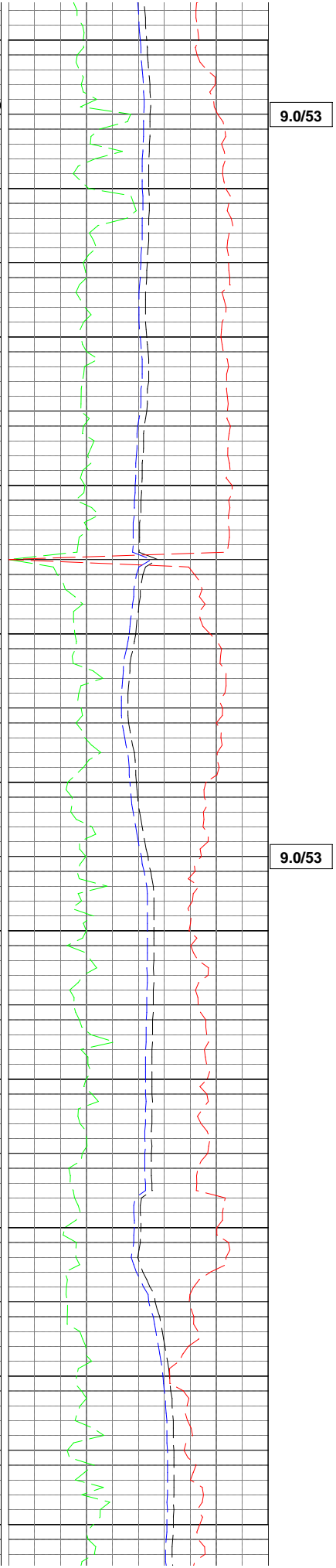
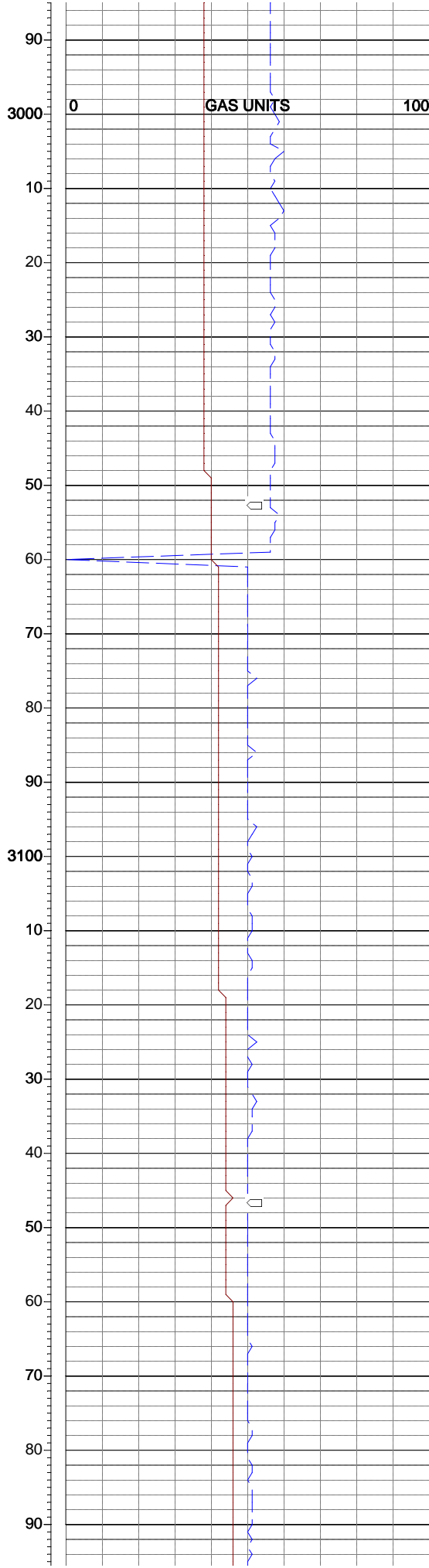
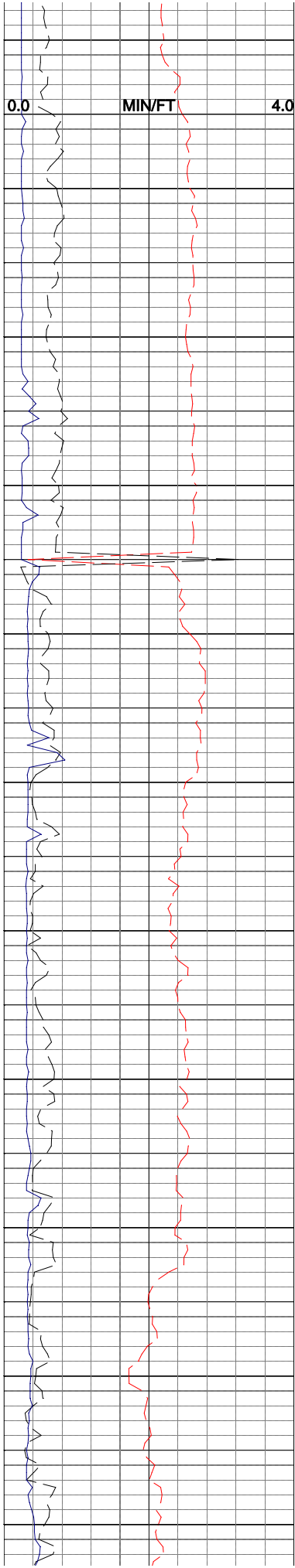
8.9/40

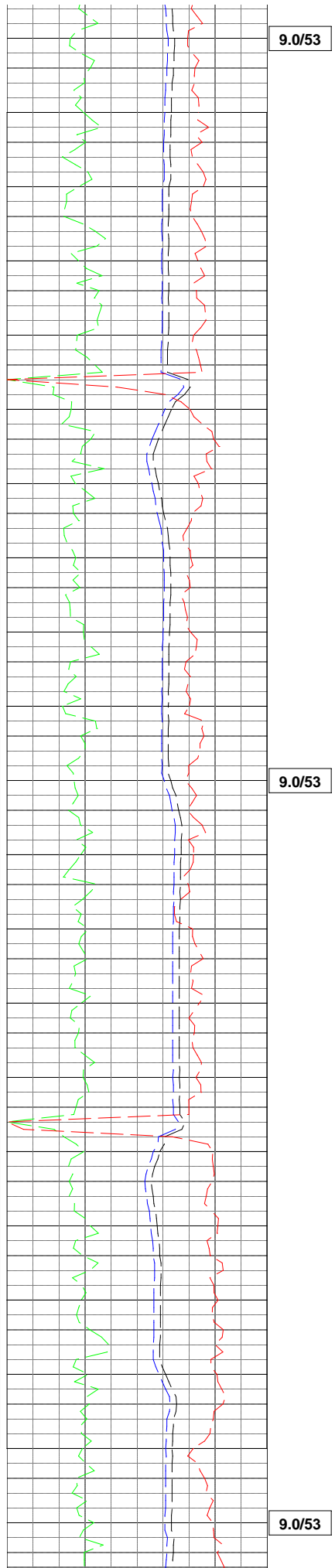
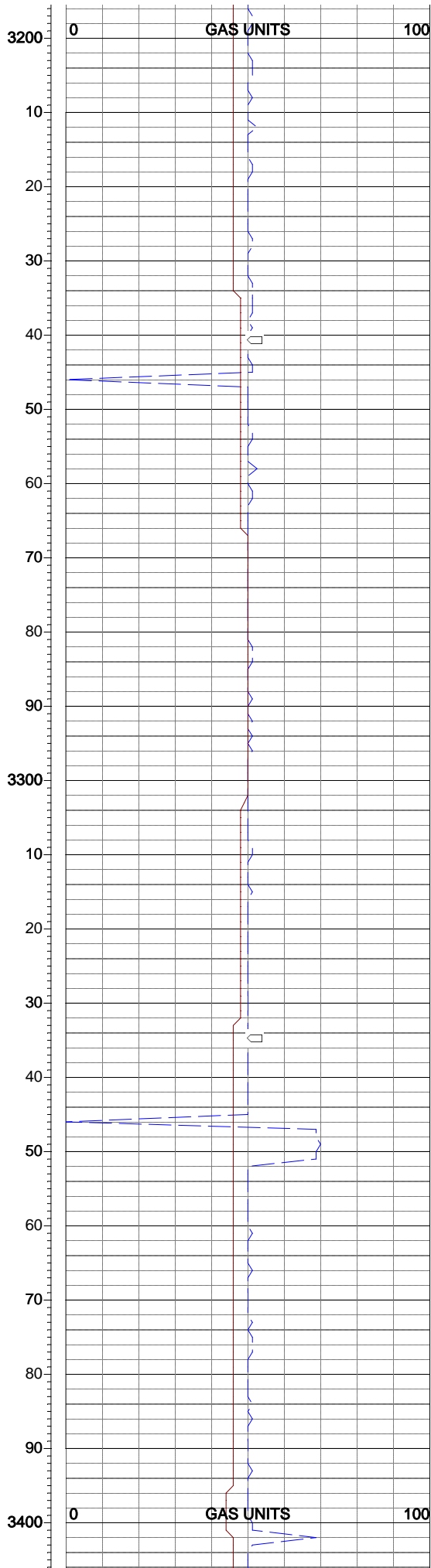
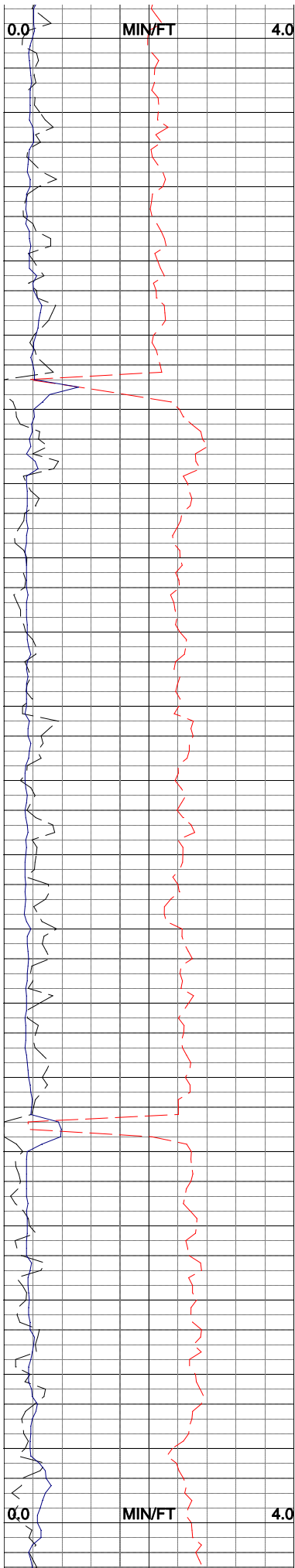


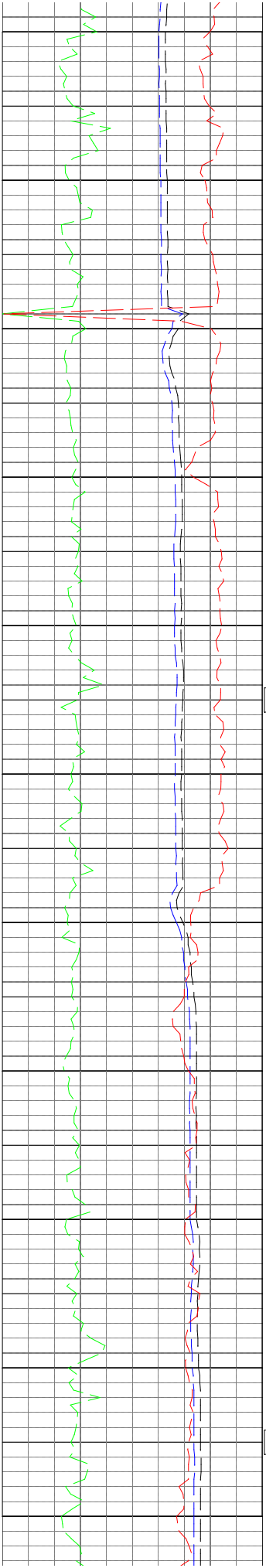
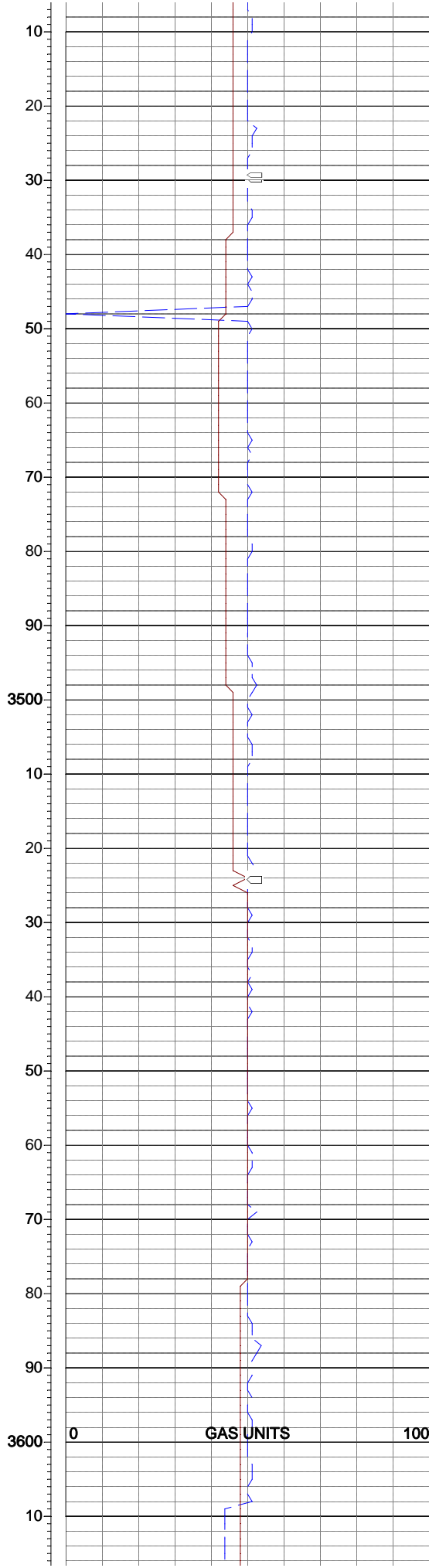
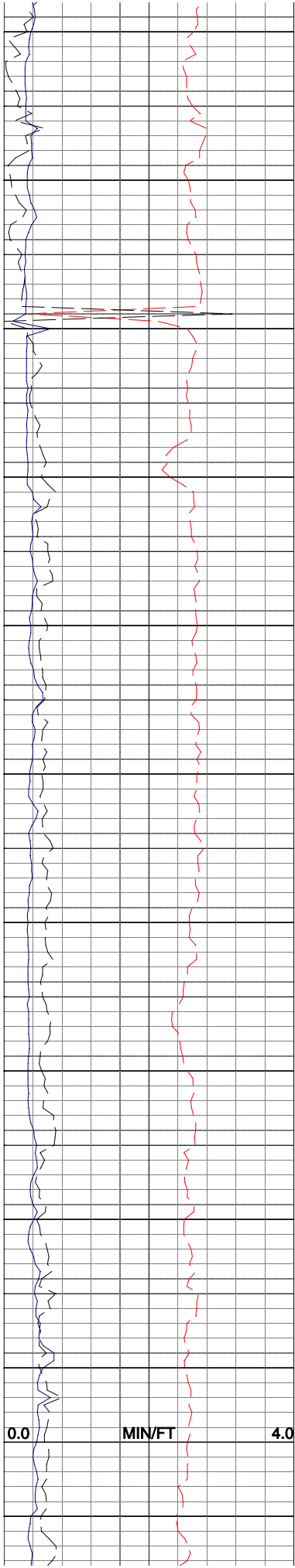
8.9/41

8.9/41



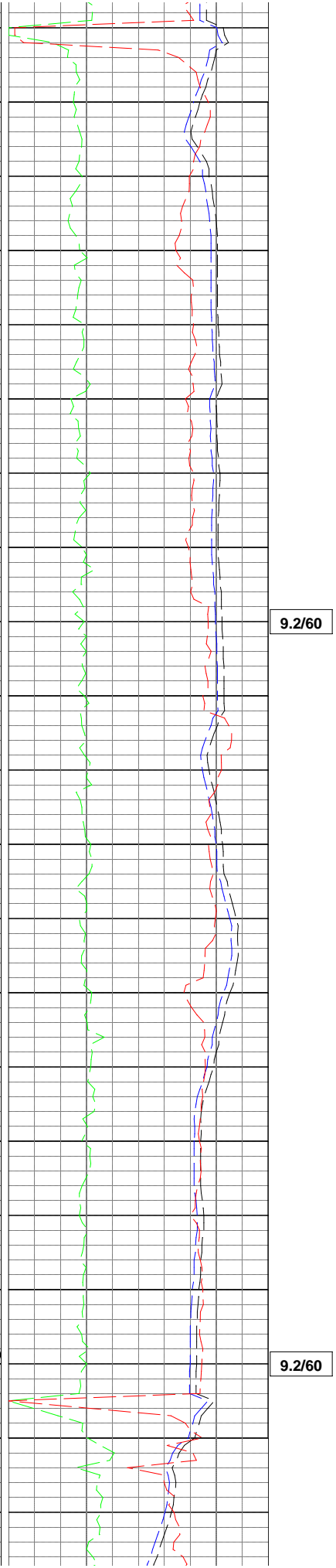
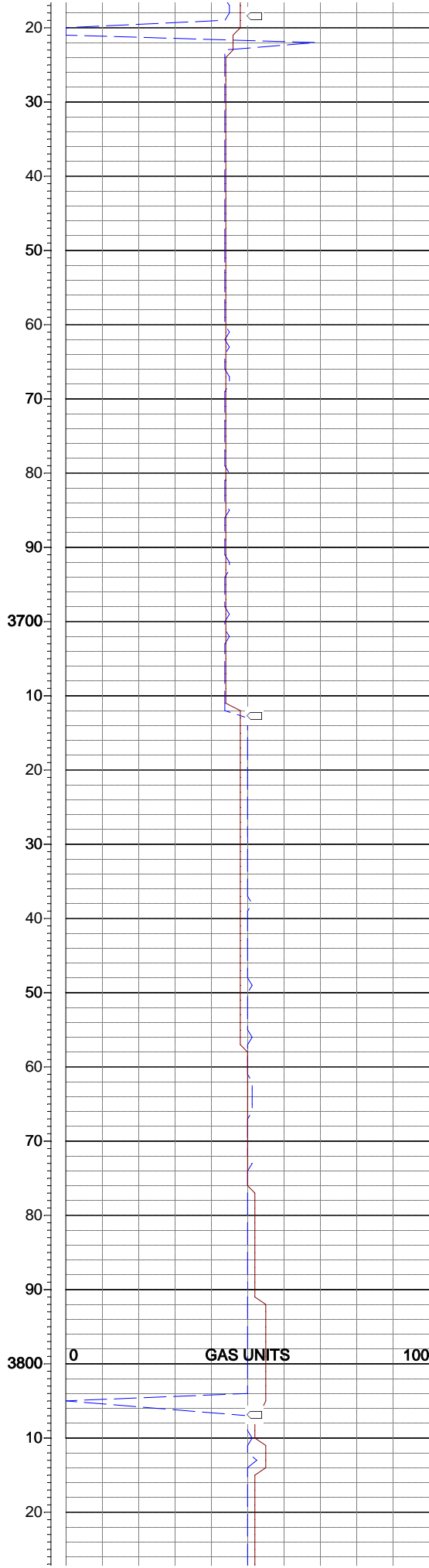
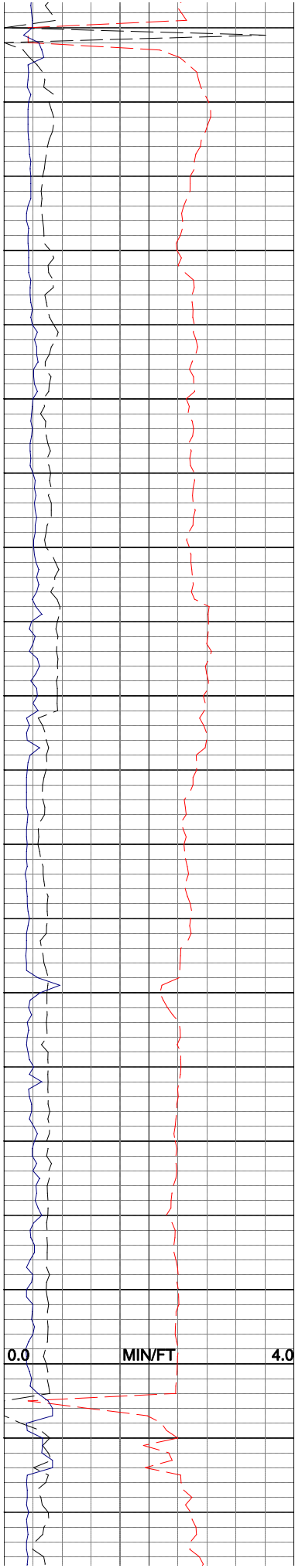


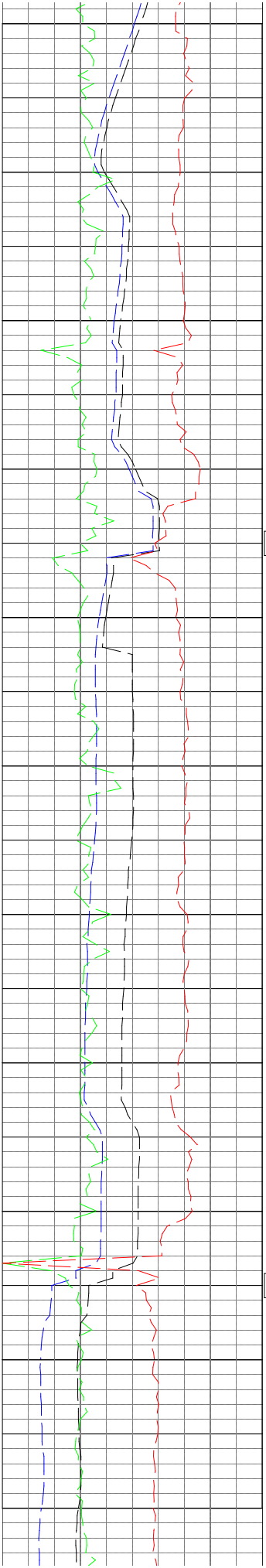
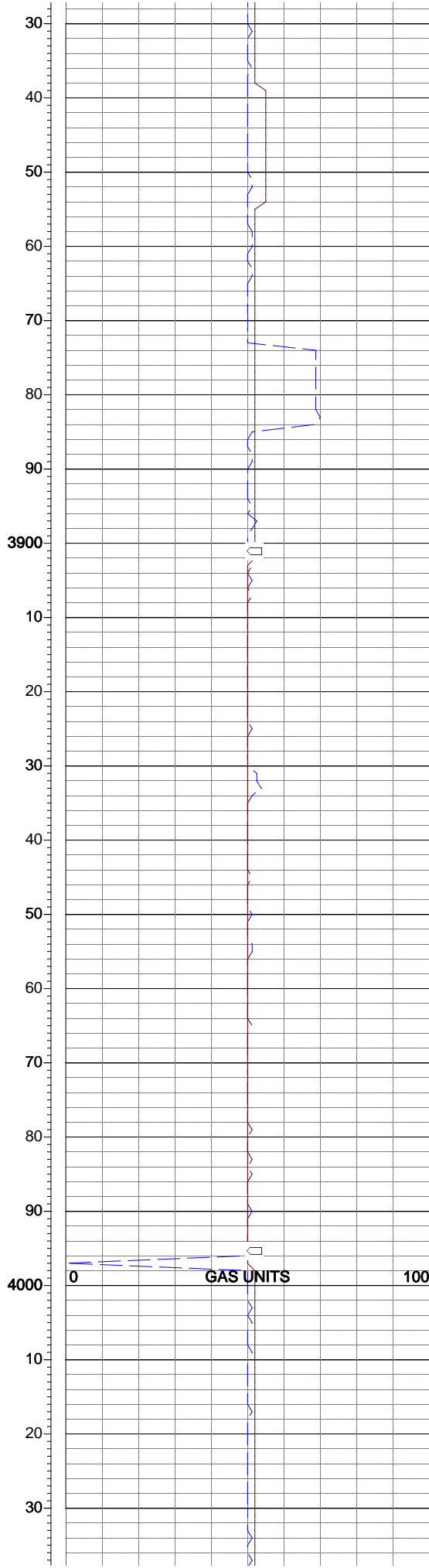
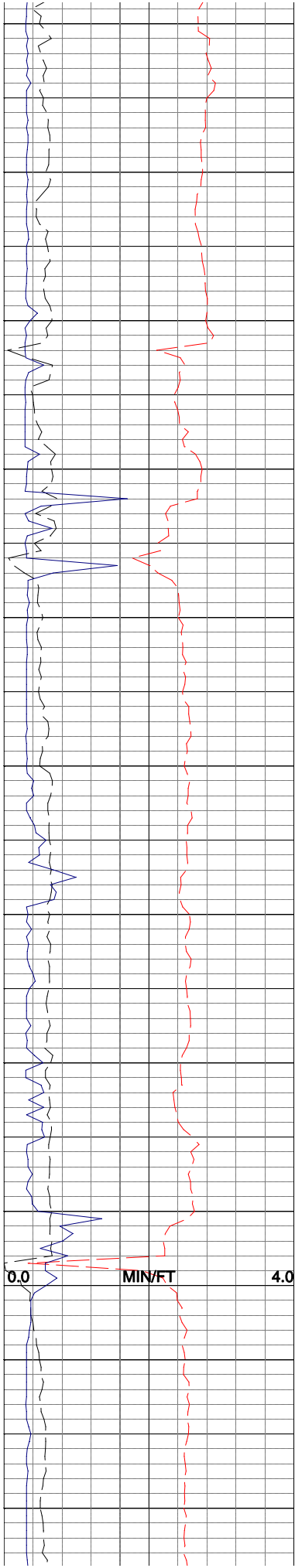




9.2/58

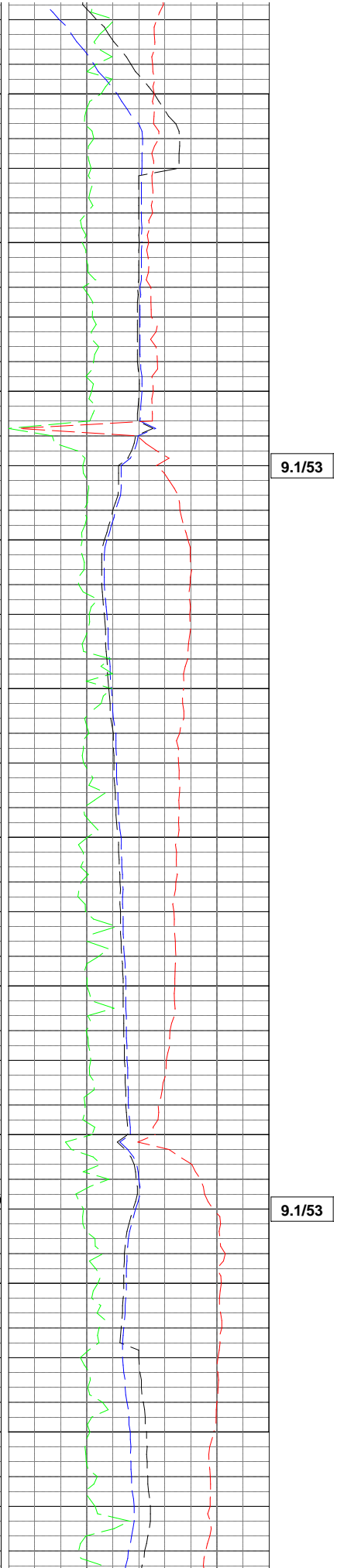
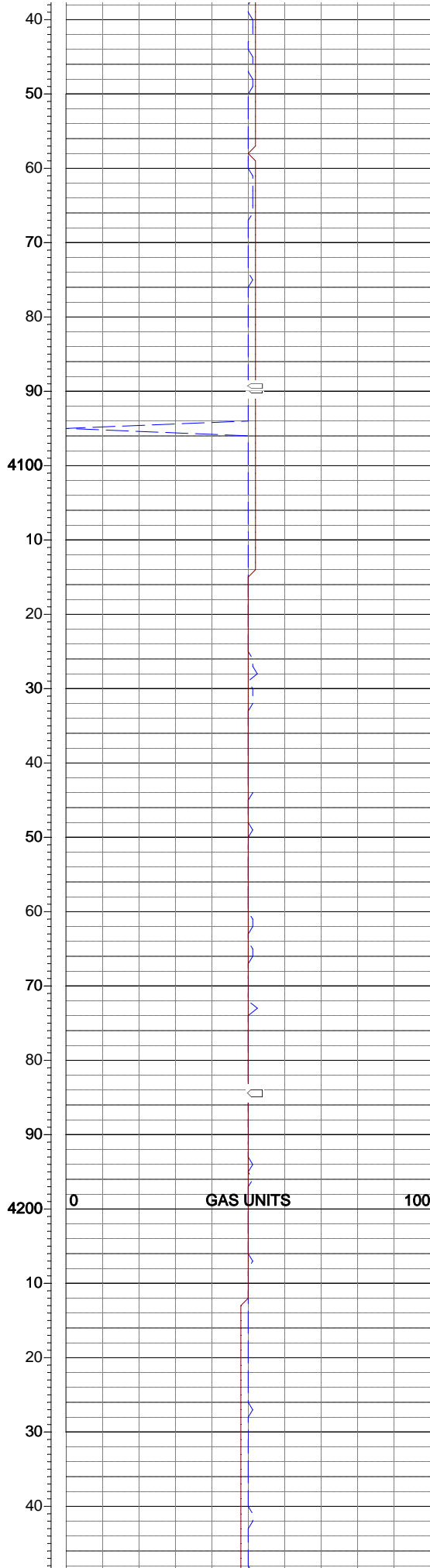
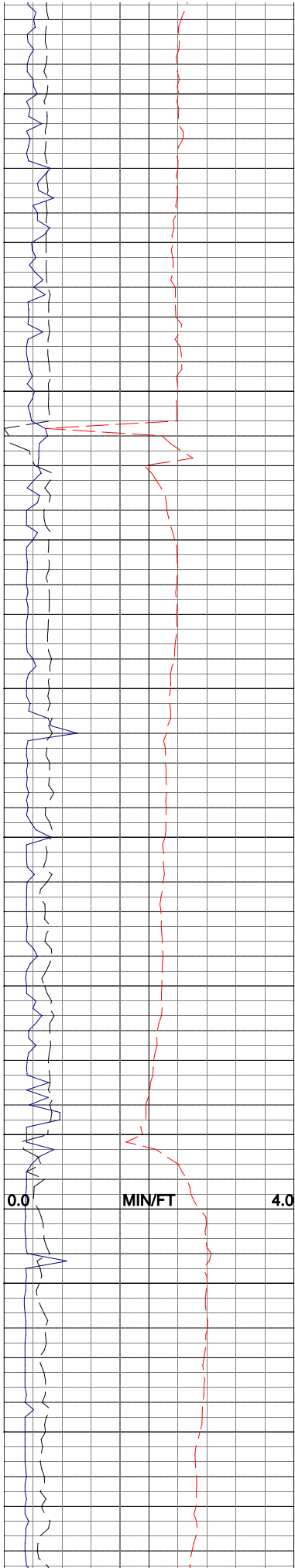
9.2/60

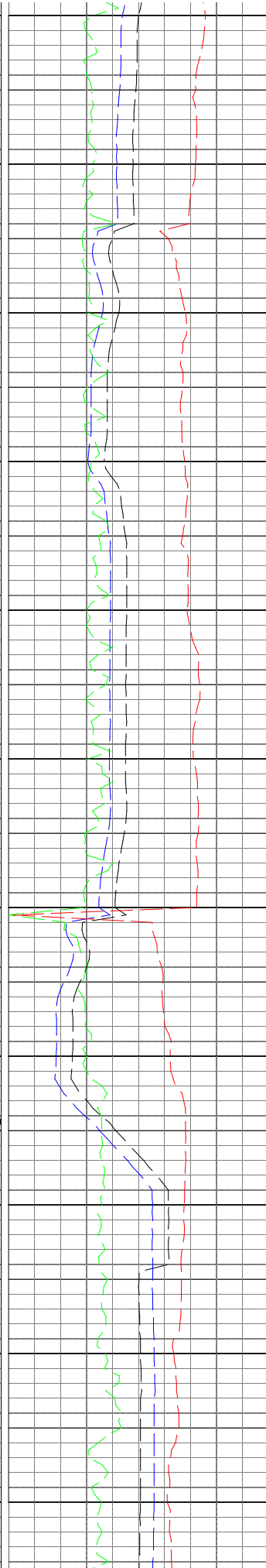
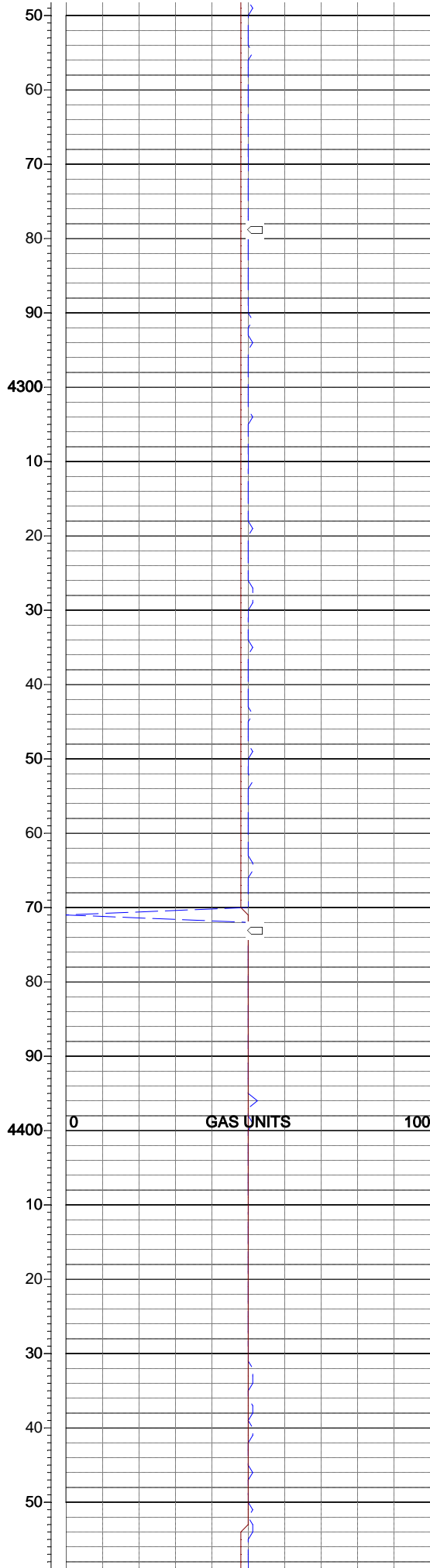
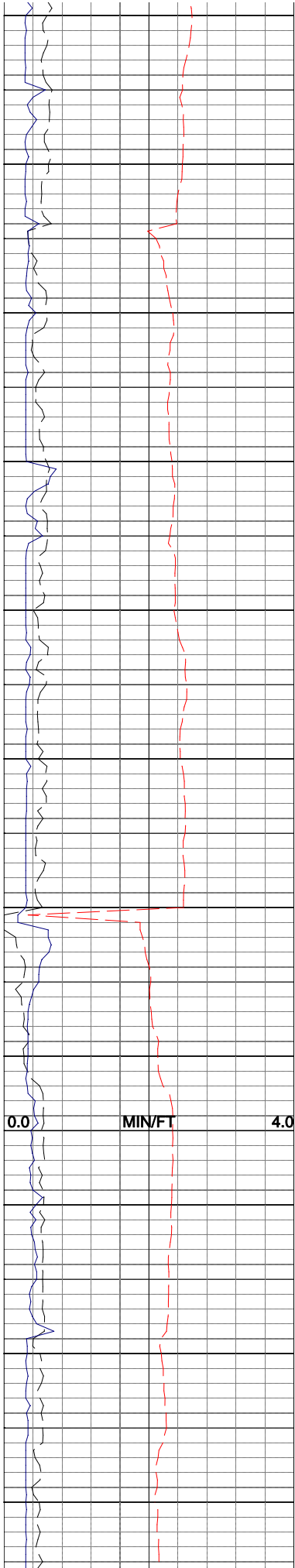


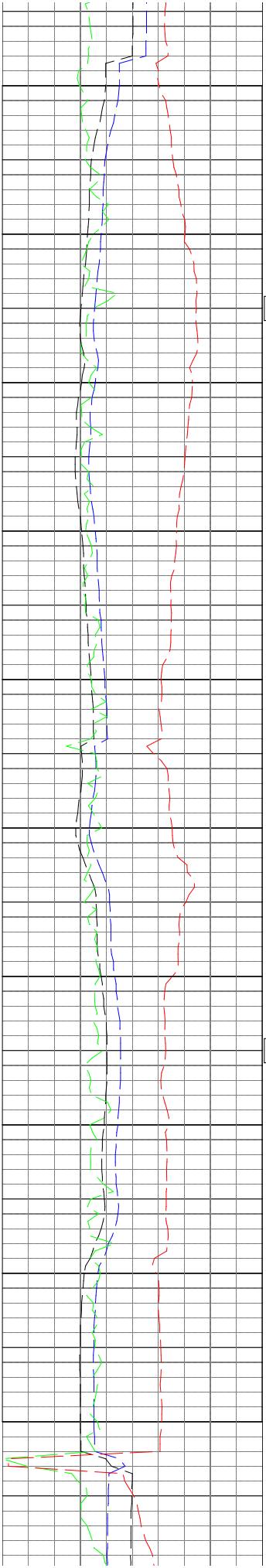
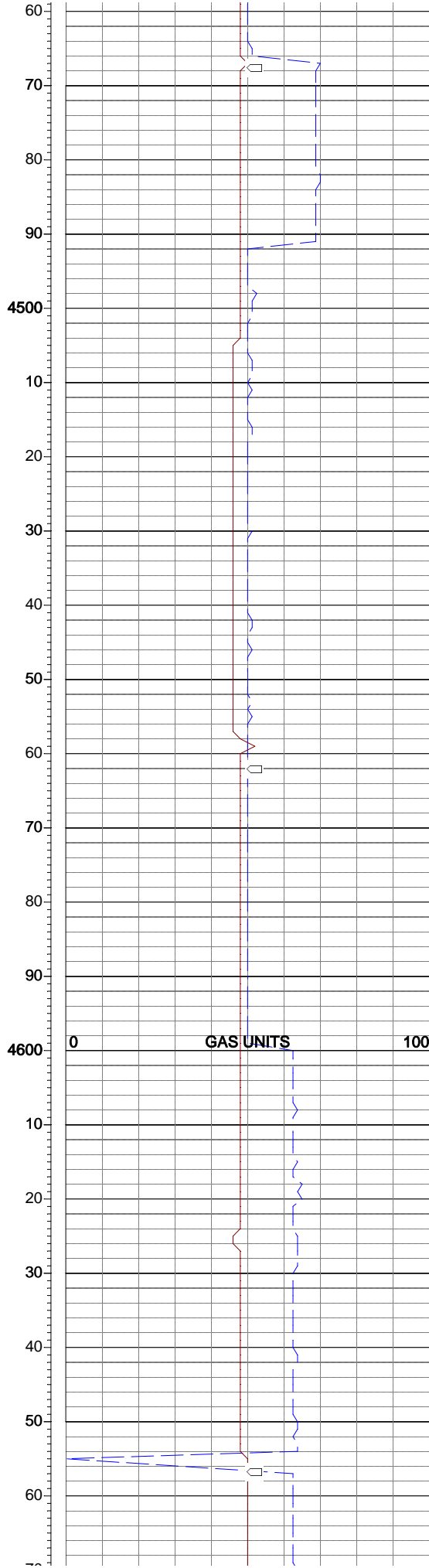
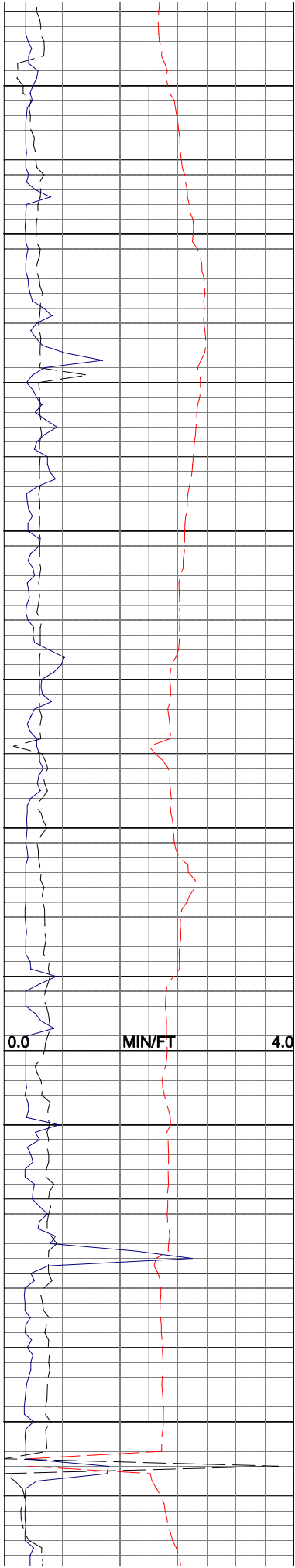


9.1/53

9.1/53

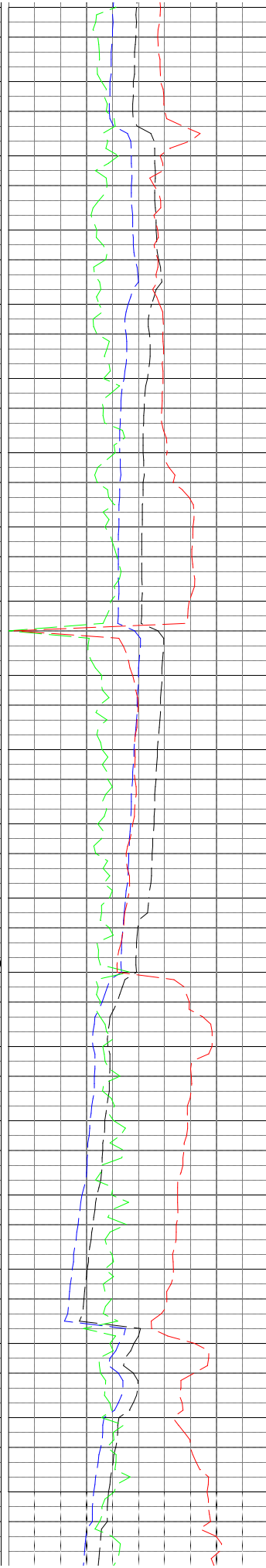
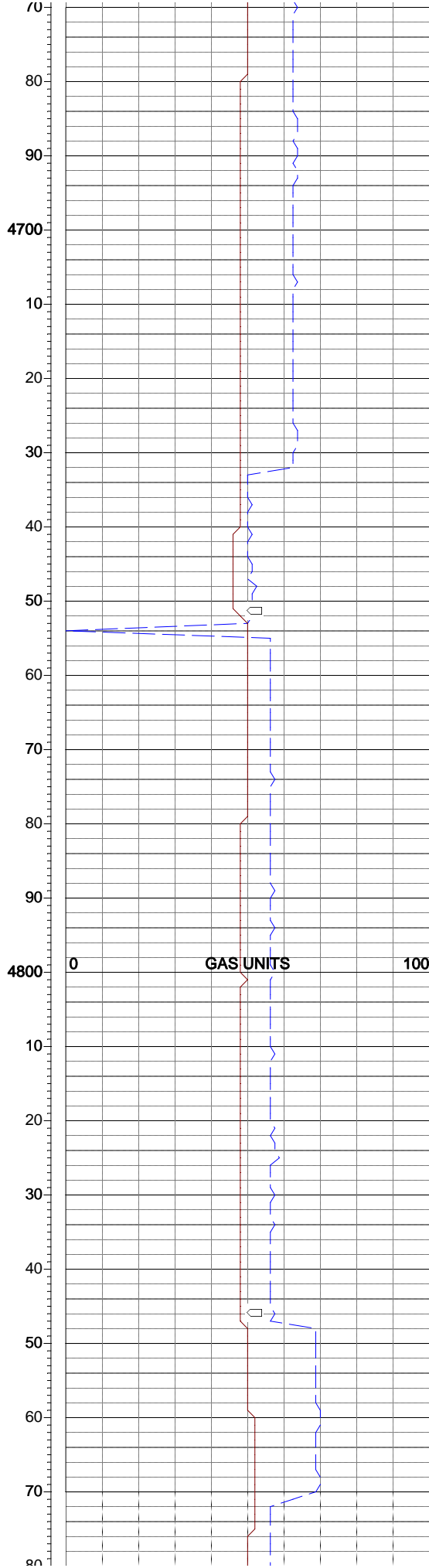
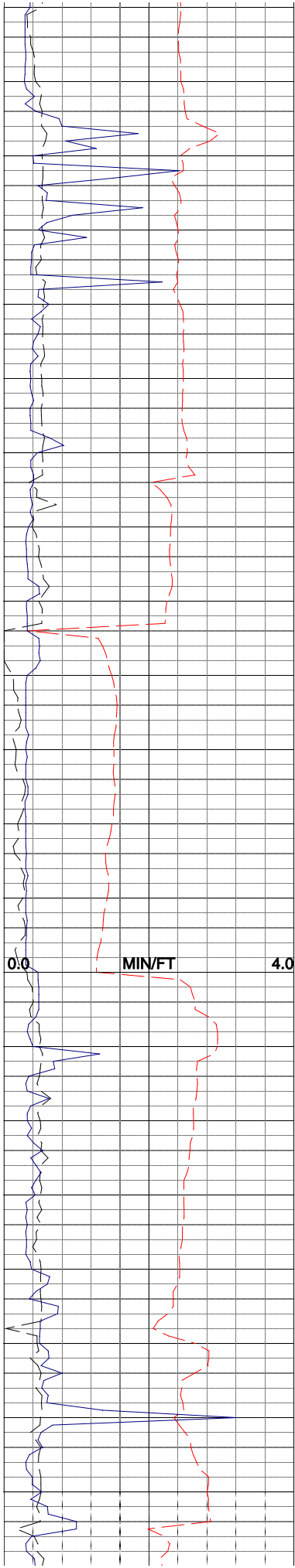






9.1/55

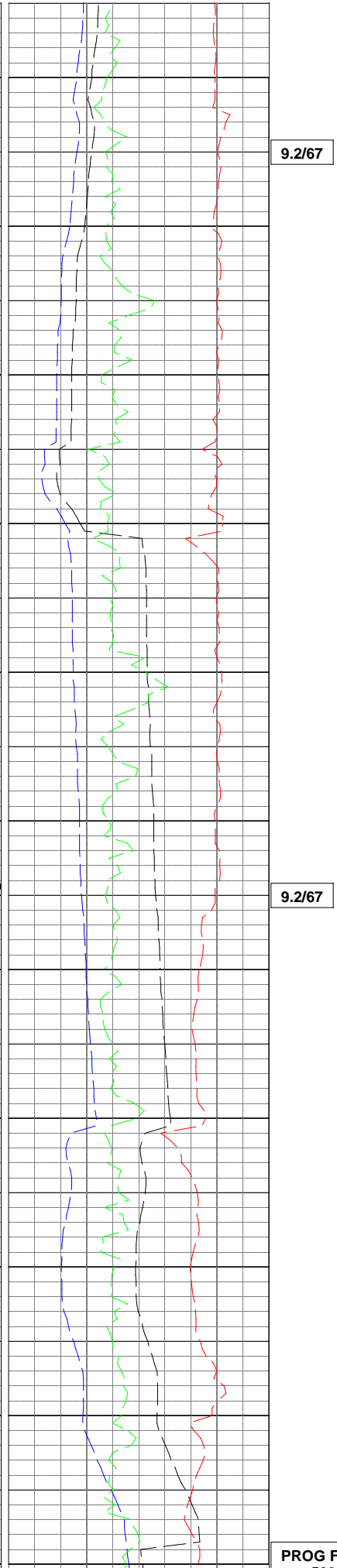
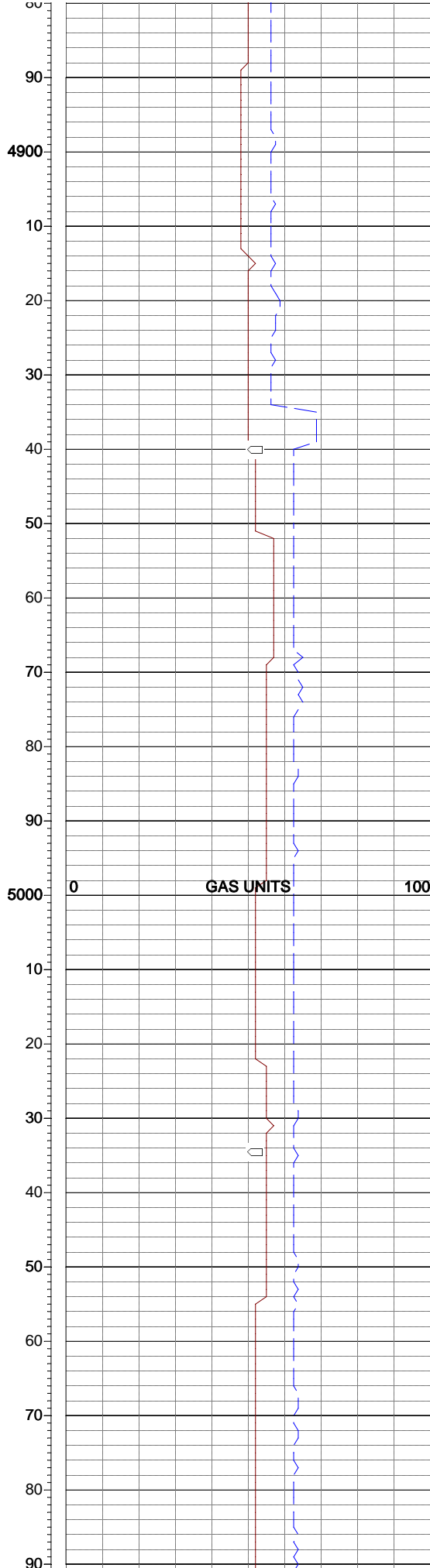
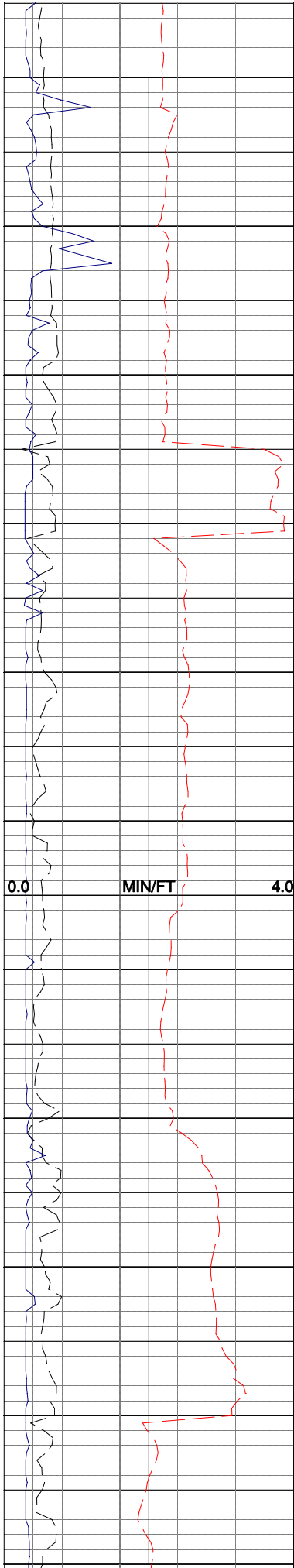
9.1/55



9.2/67

PROG "G" SAND
= 4733' MD

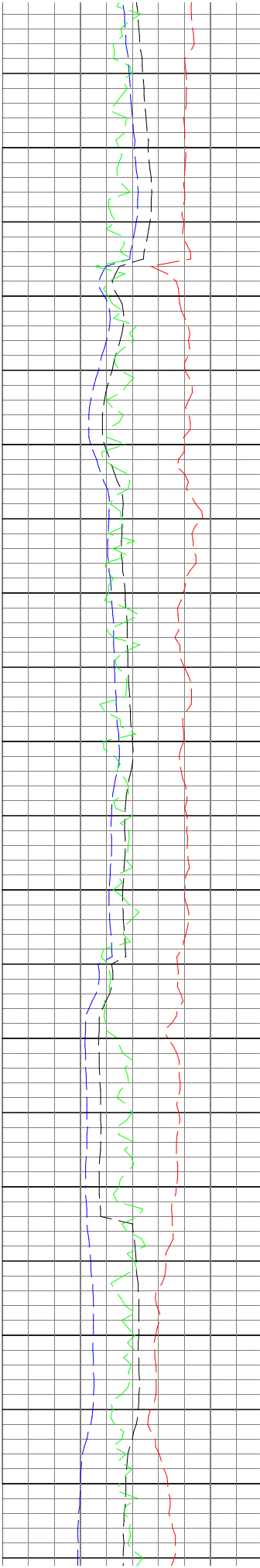
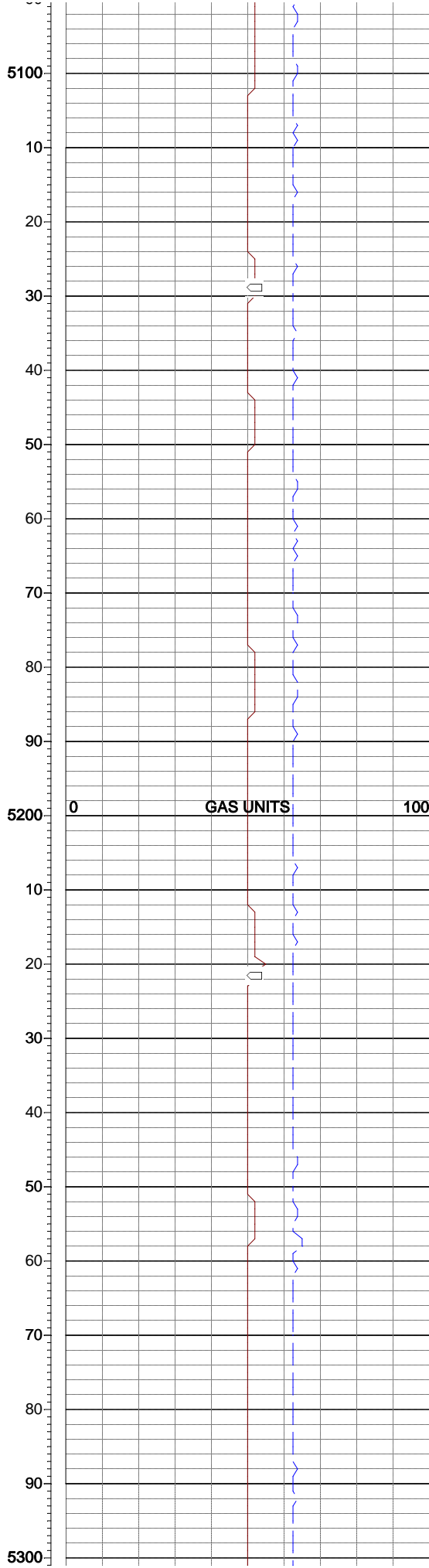
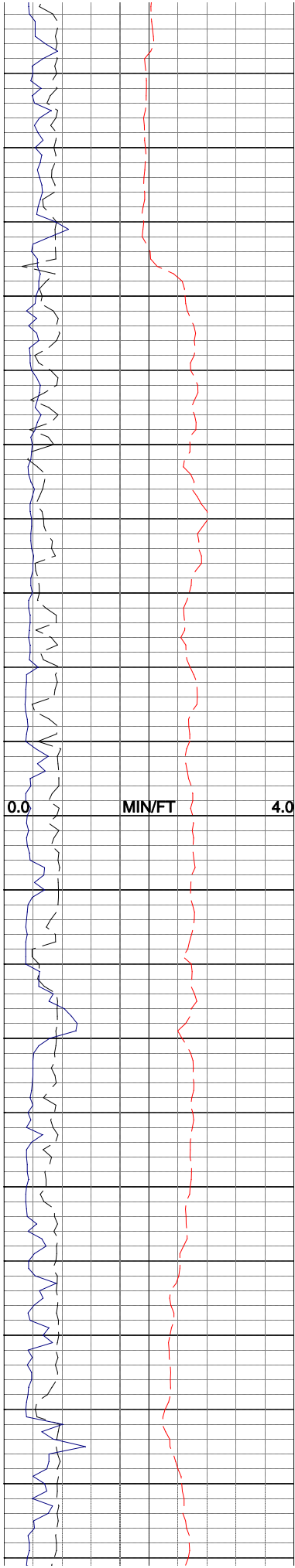
9.2/67



9.2/67

9.2/67

PROG FORT UNION

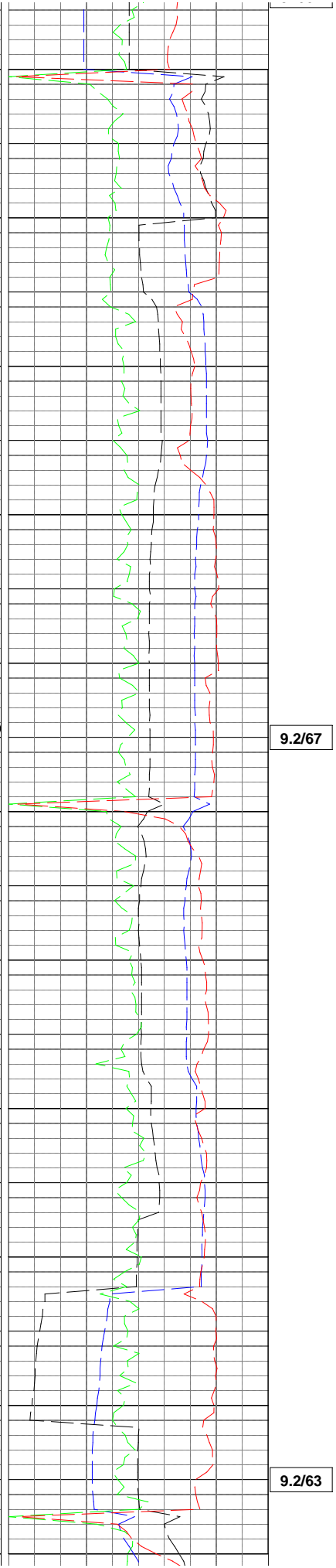
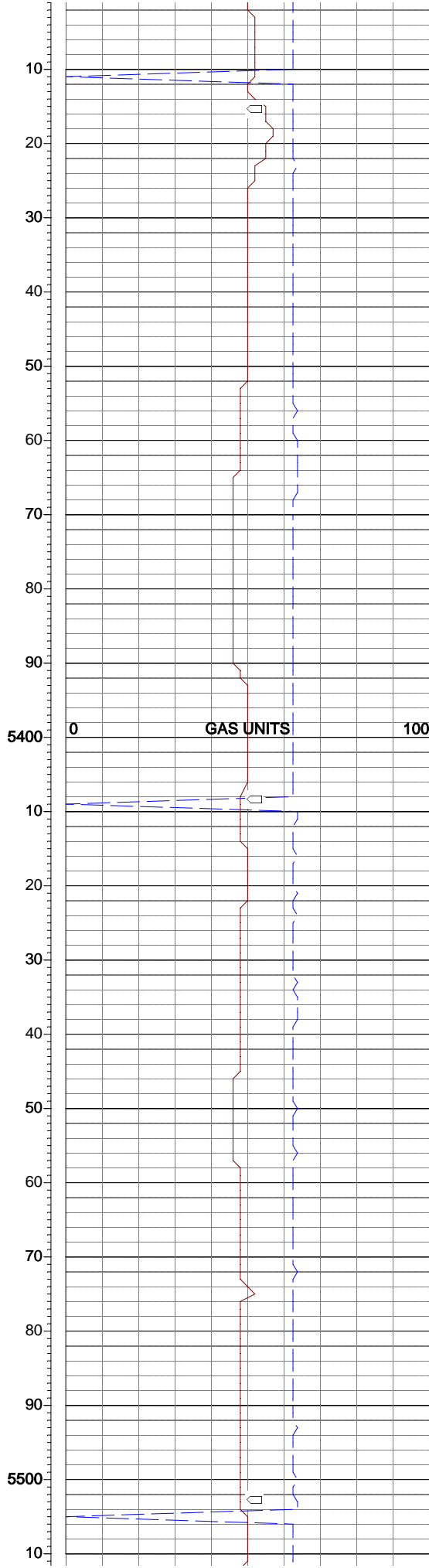
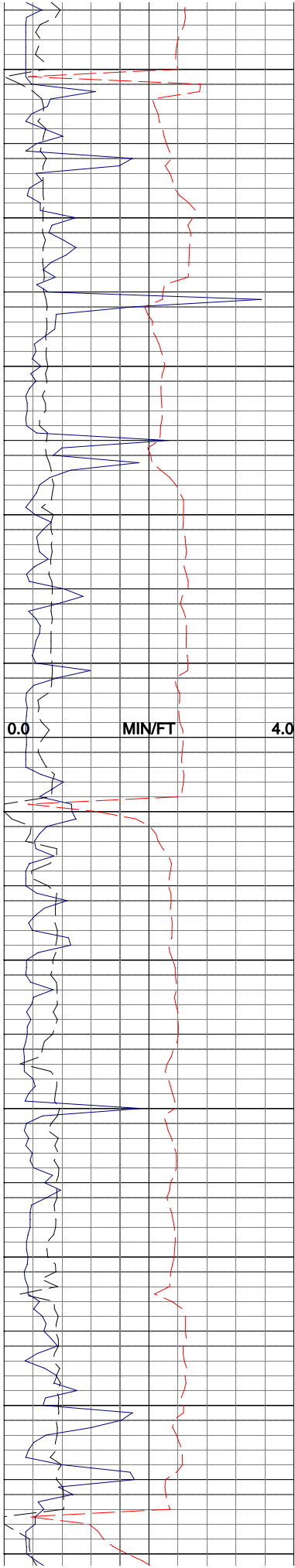


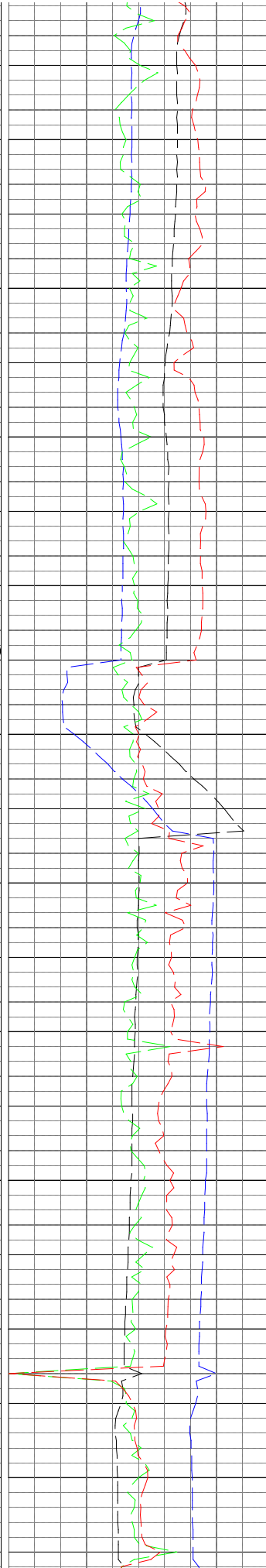
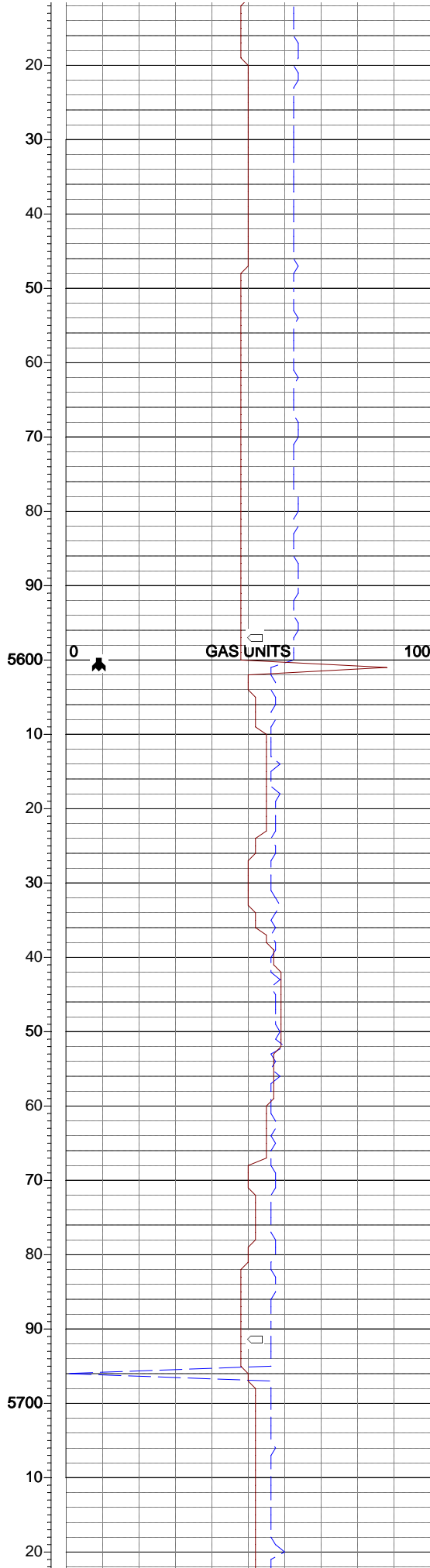
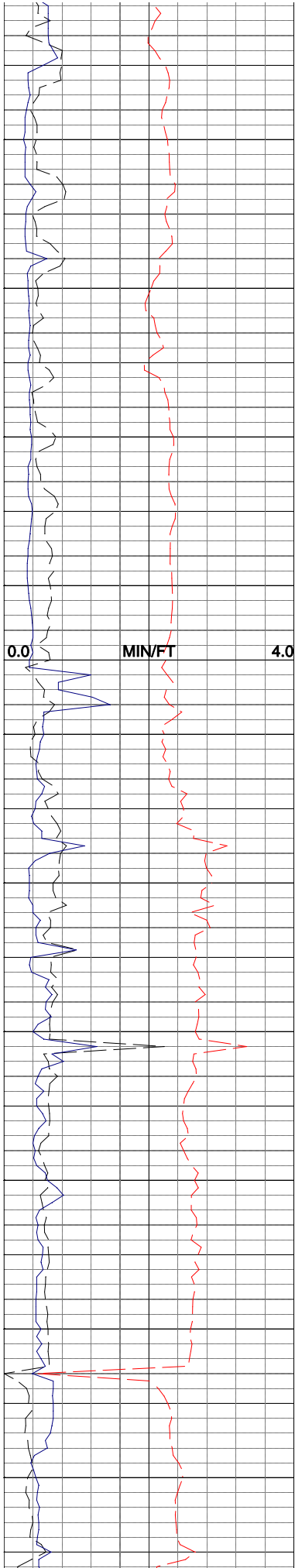
= 5090' MD

9.2/67

9.2/67

9.2/67





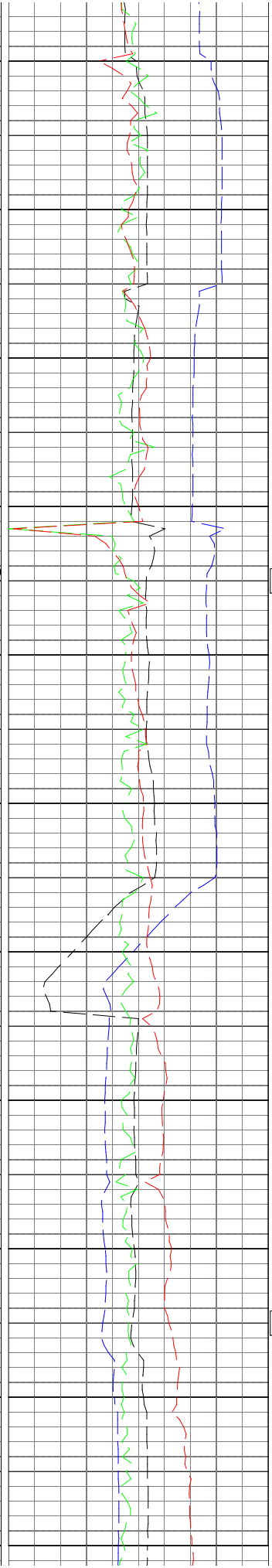
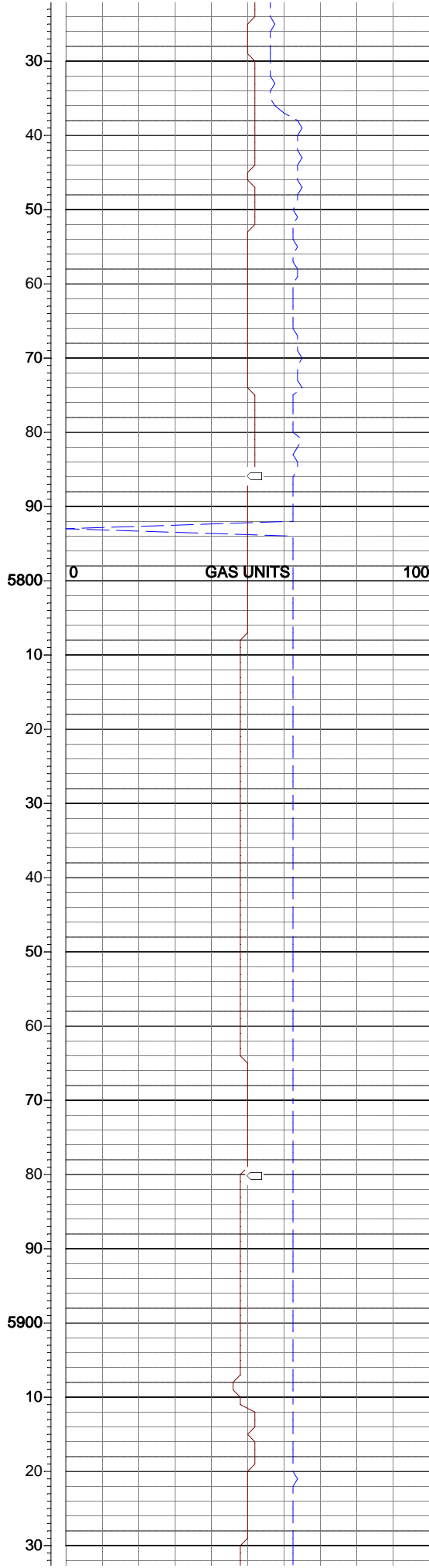
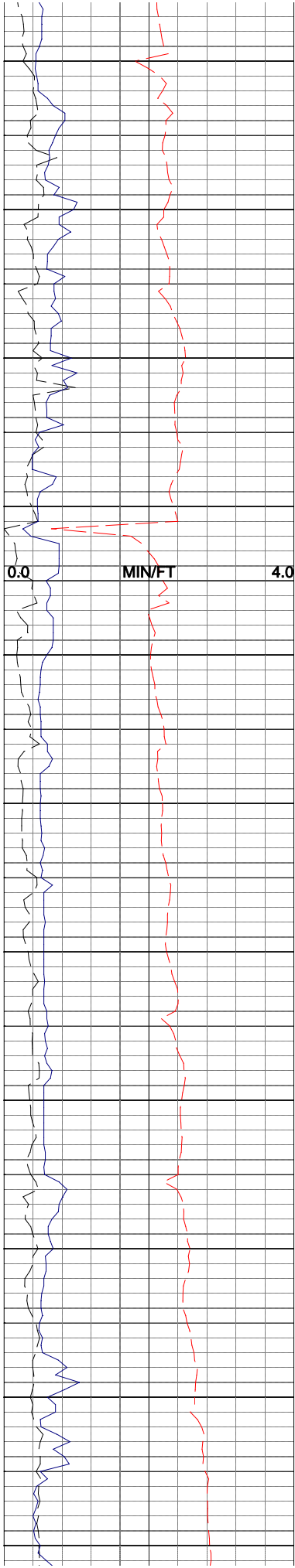
9.2/63

BIT #3
FTG: 3155'
HRS: 31

TOOH FOR BIT #4

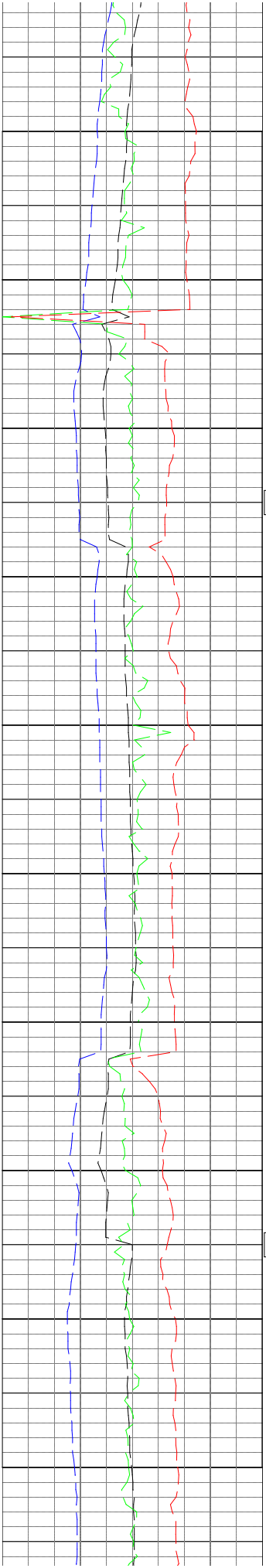
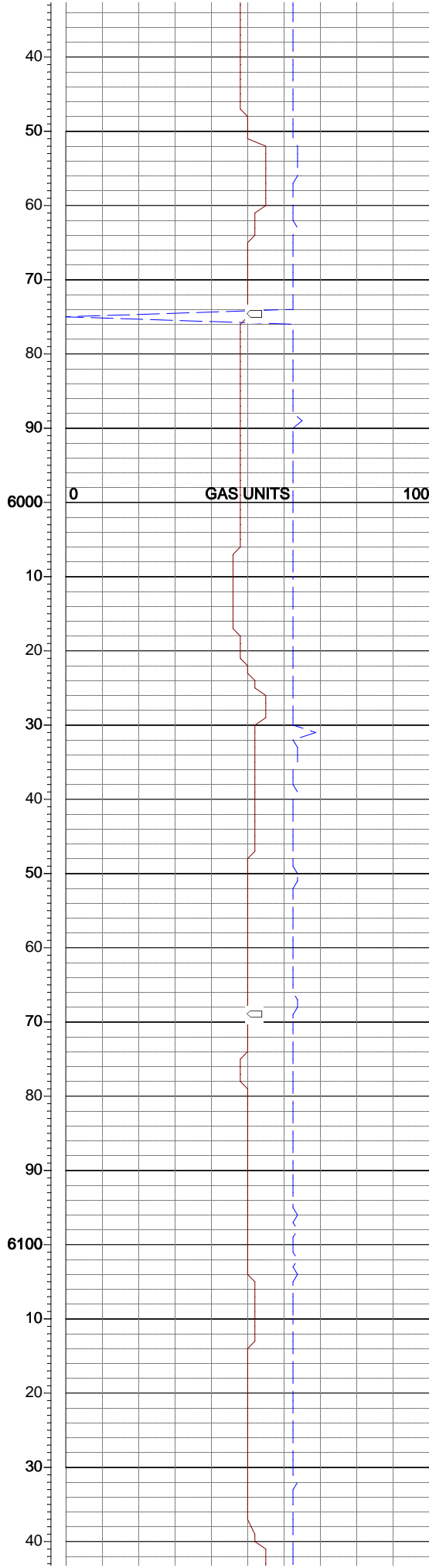
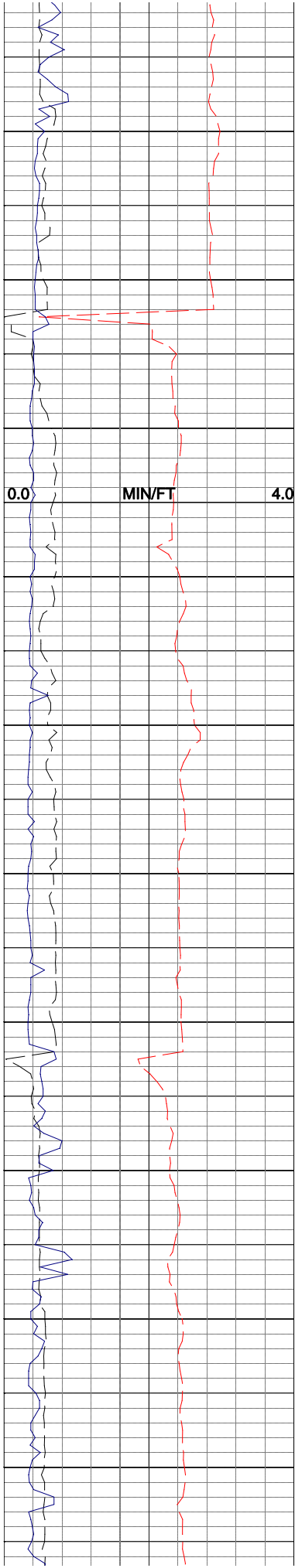
BIT #4
8 3/4"
REED
DSR516M-1M
IN AT 5600'

9.2/63



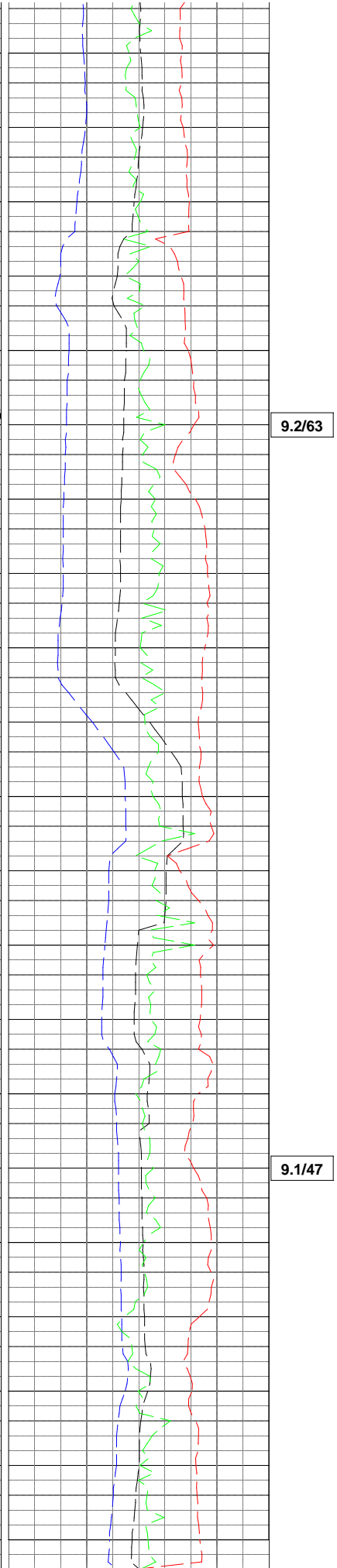
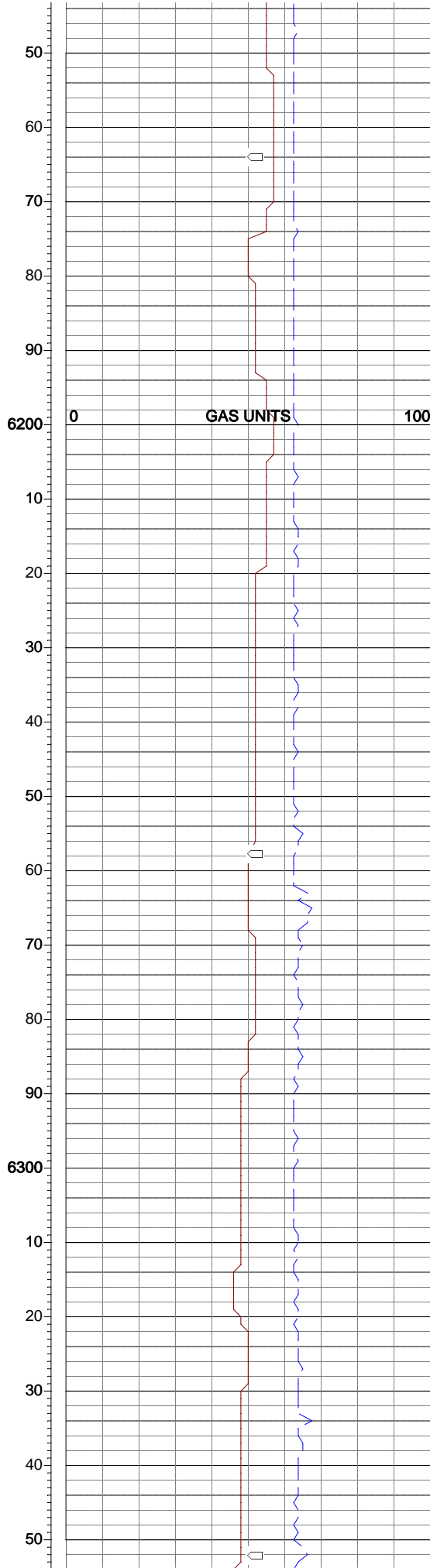
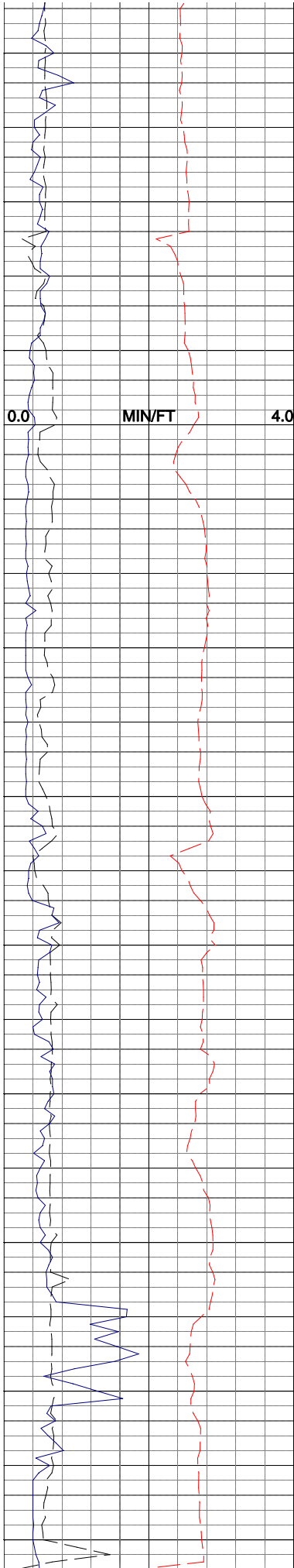
9.2/63

9.2/63

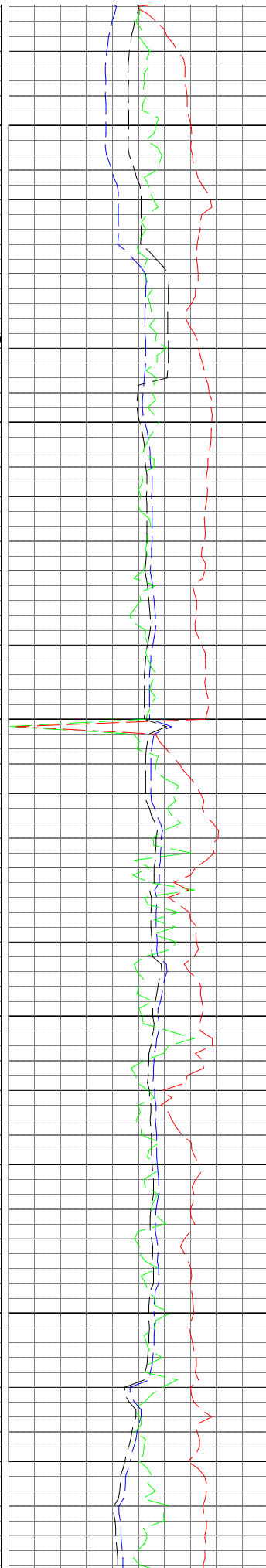
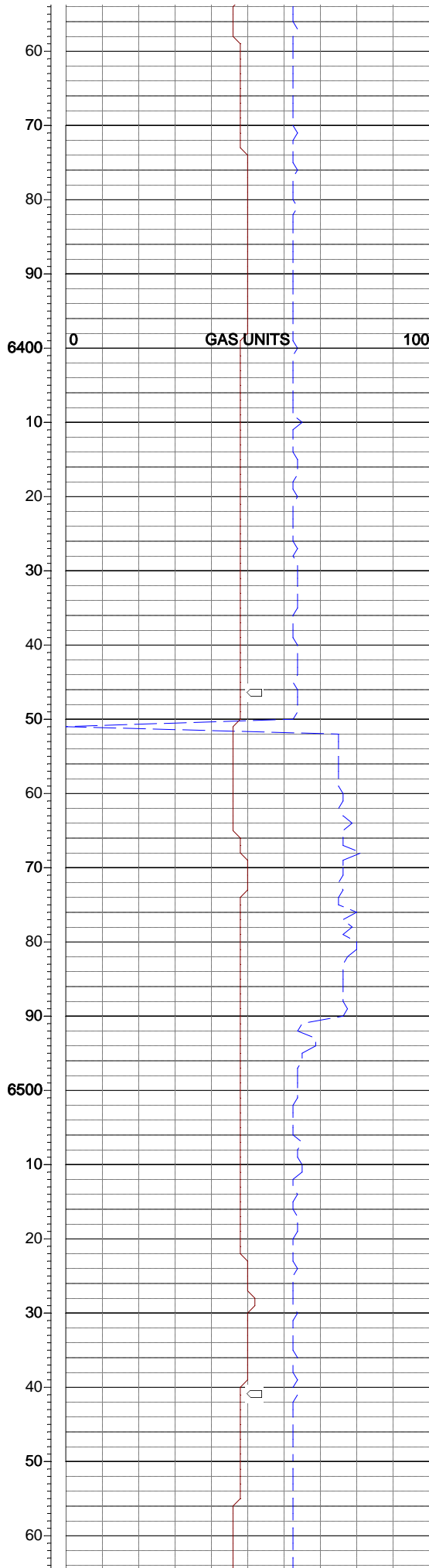
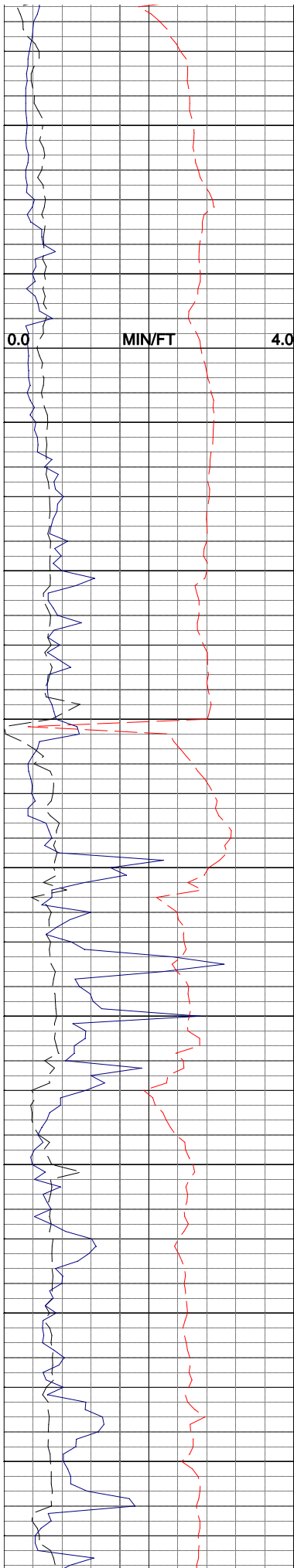


9.2/63

9.2/63



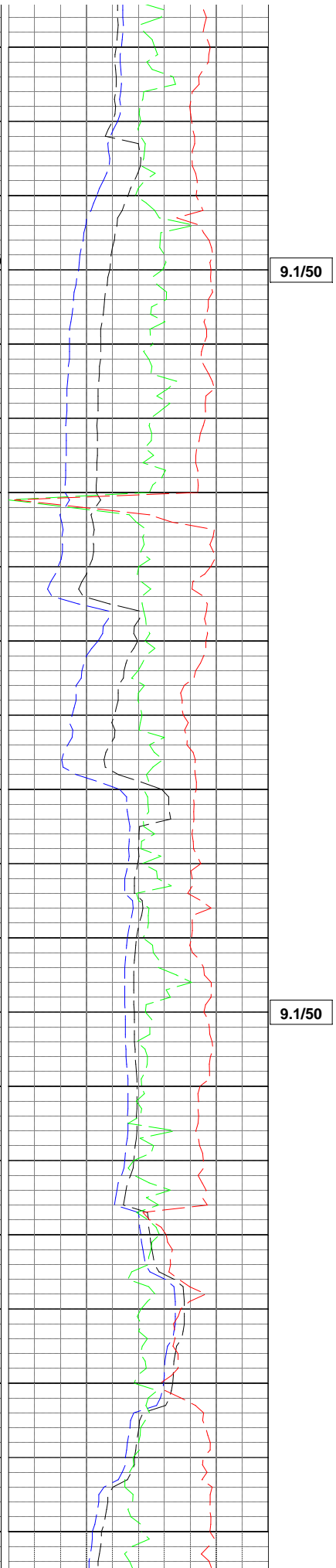
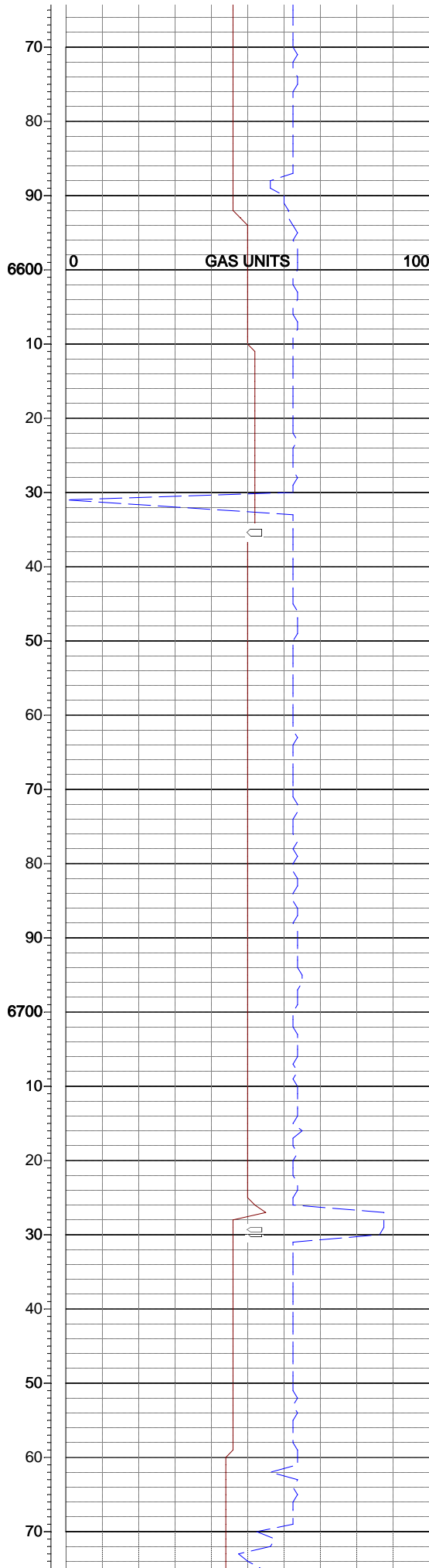
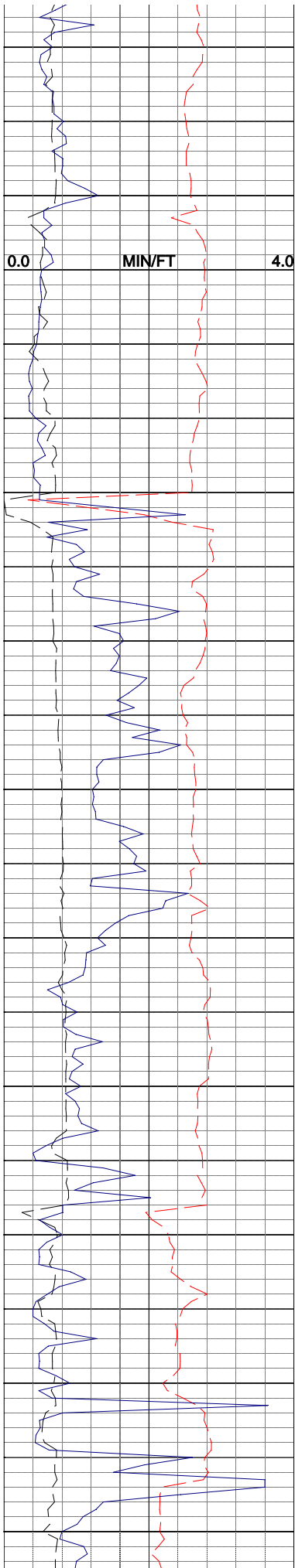
9.1/47



9.1/47

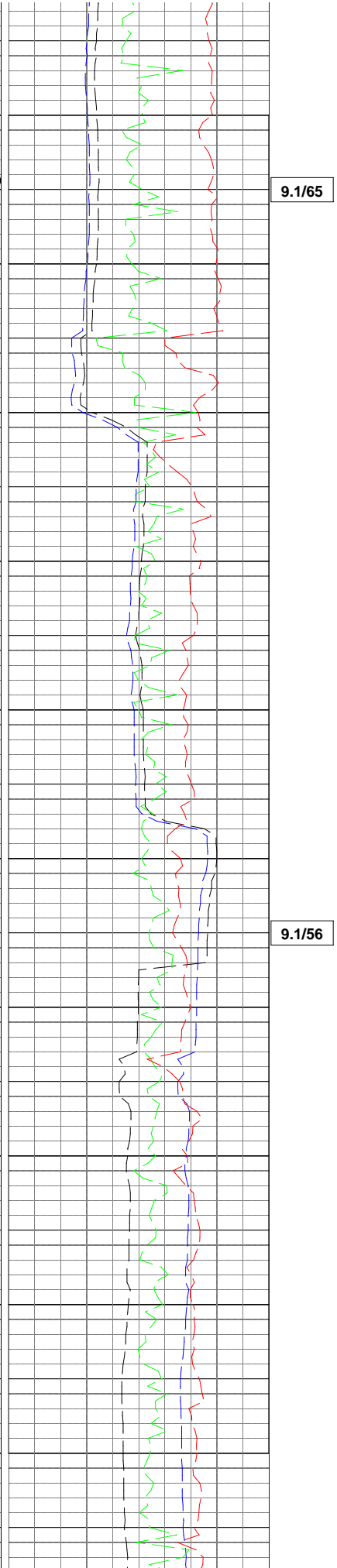
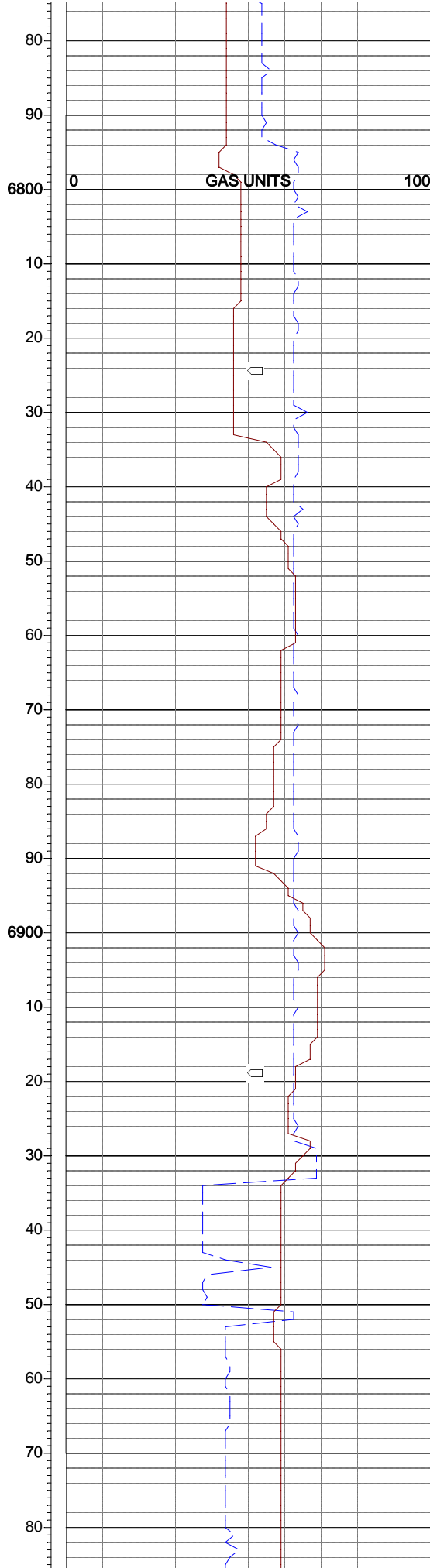
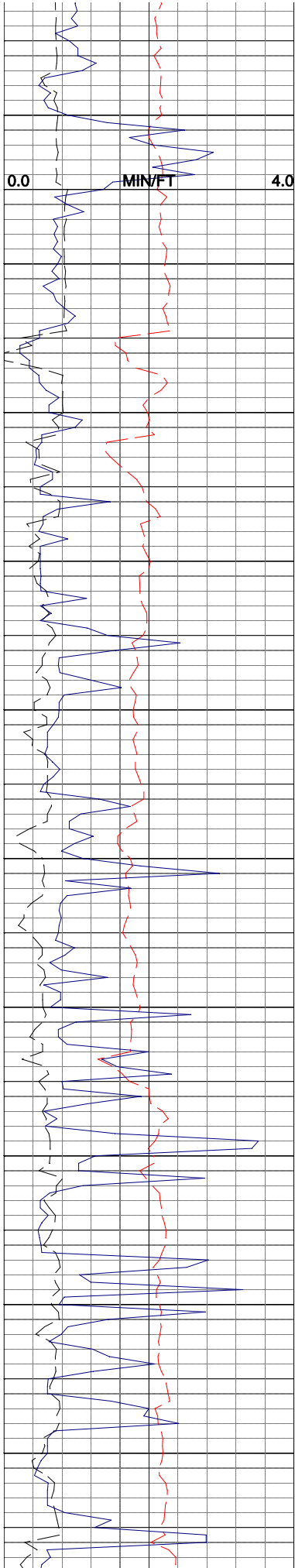
PROG MESAVERDE
= 6452' MD

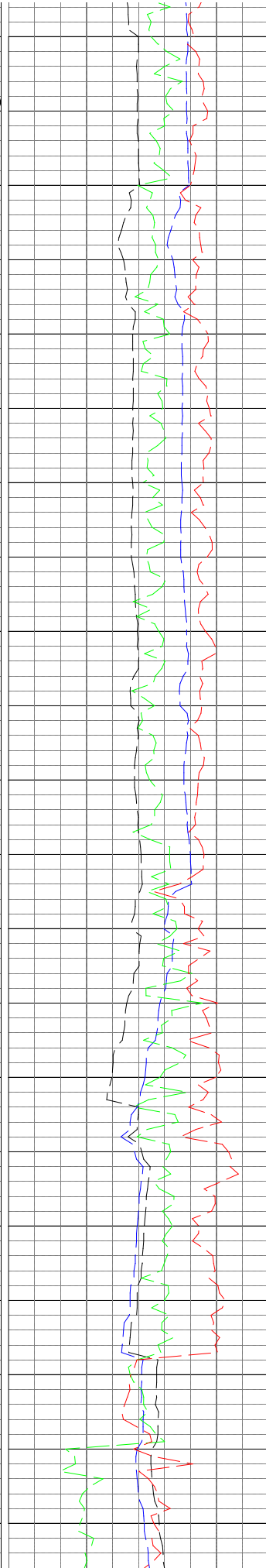
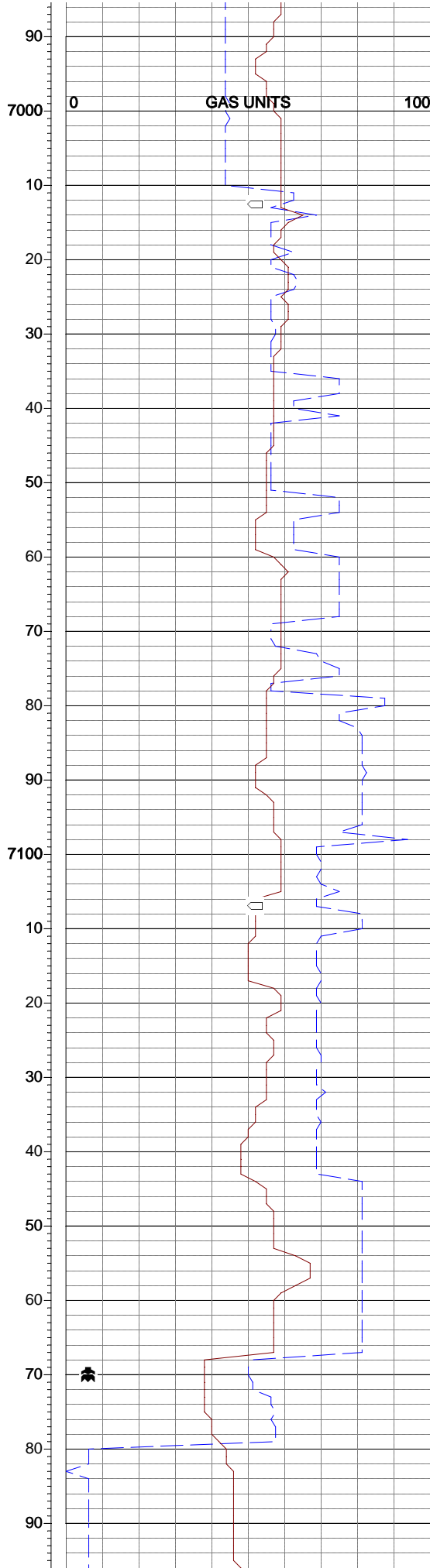
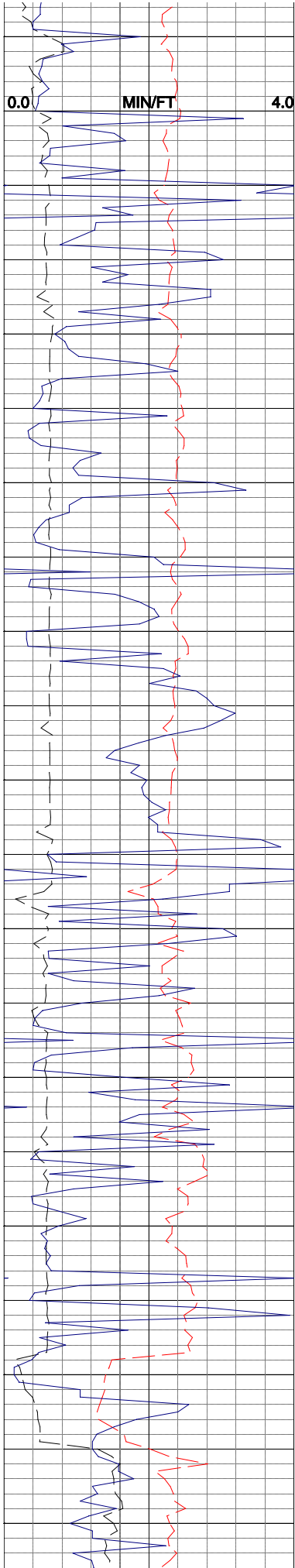
9.1/50



9.1/50

9.1/50





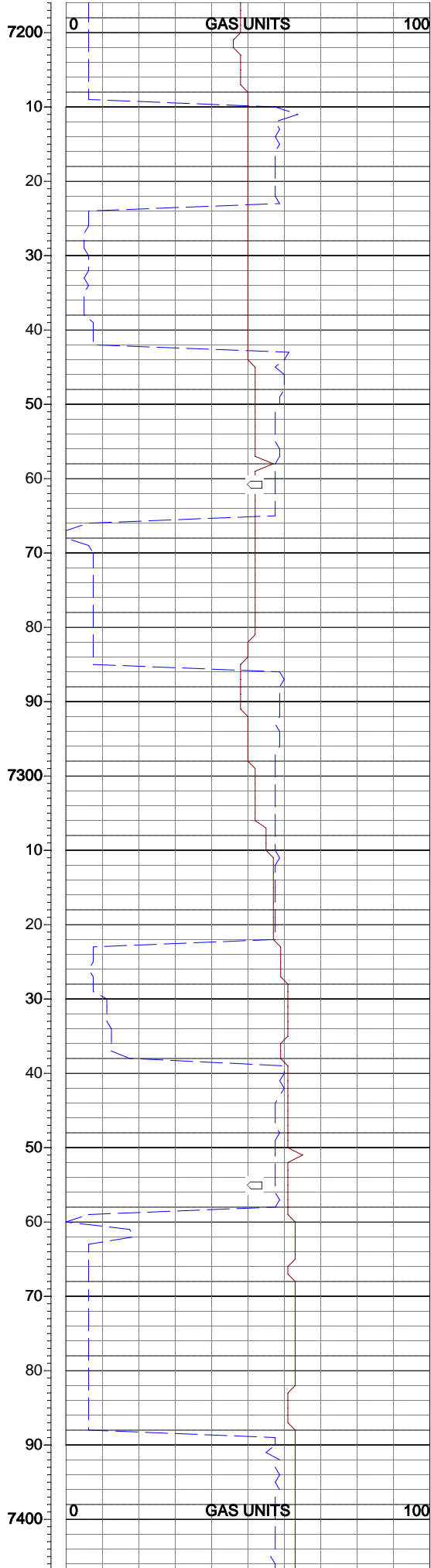
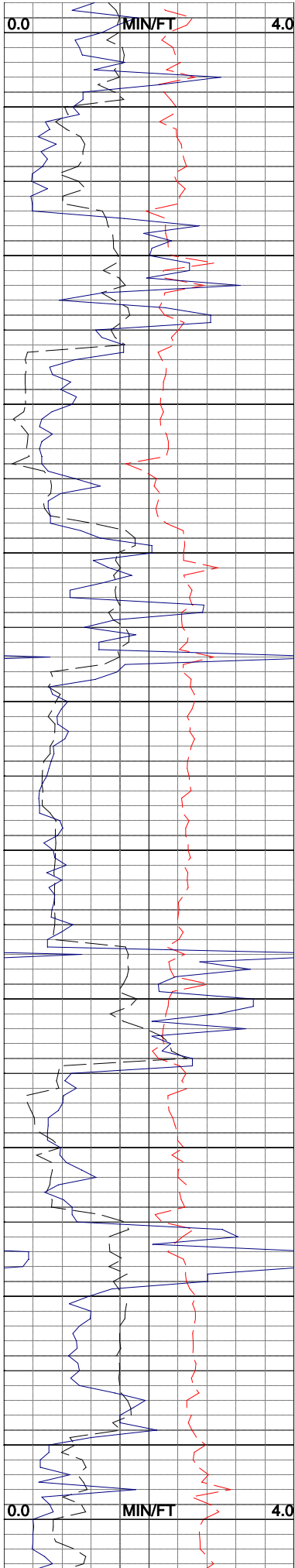
9.1/50

9.2/57

BIT #4
FTG: 1569'
HRS: 28

TOOH FOR BIT #5

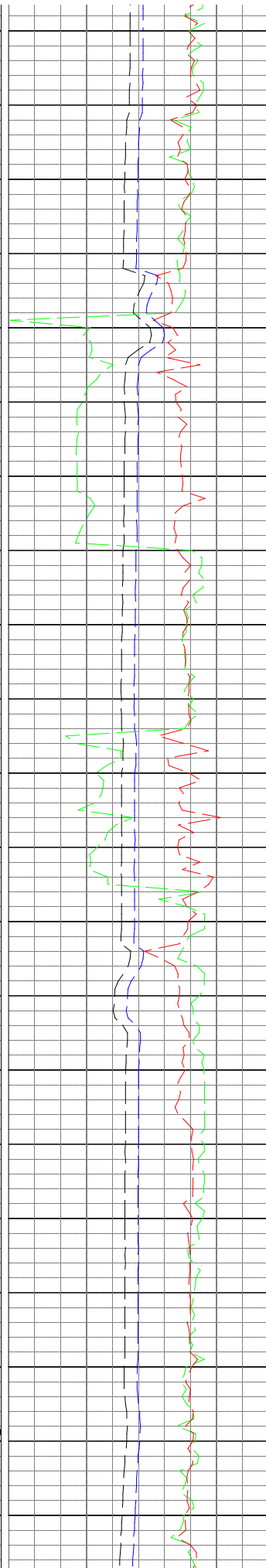
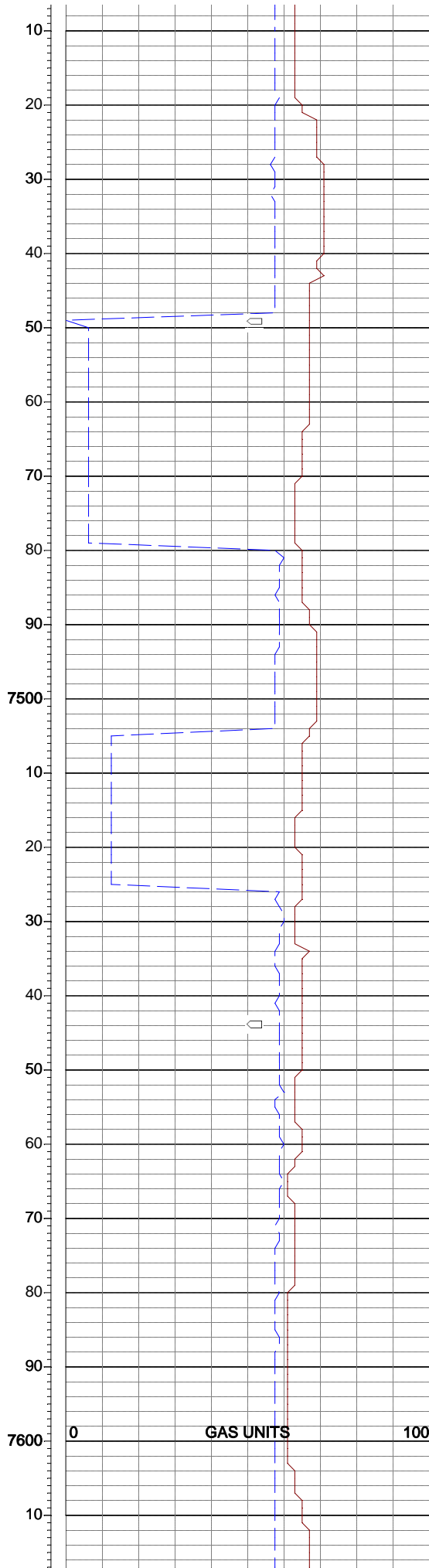
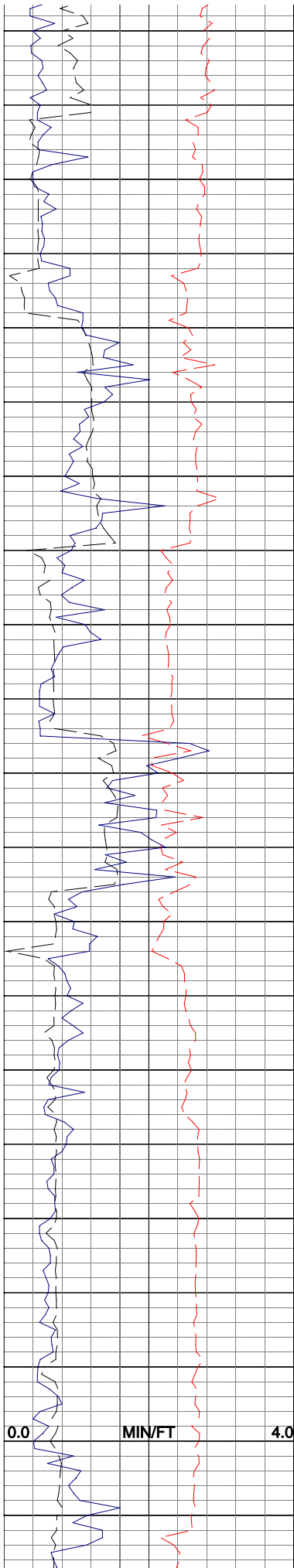
BIT #5
7 7/8"
SECURITY
FMHX555ZM
IN AT 7169'



9.1/57

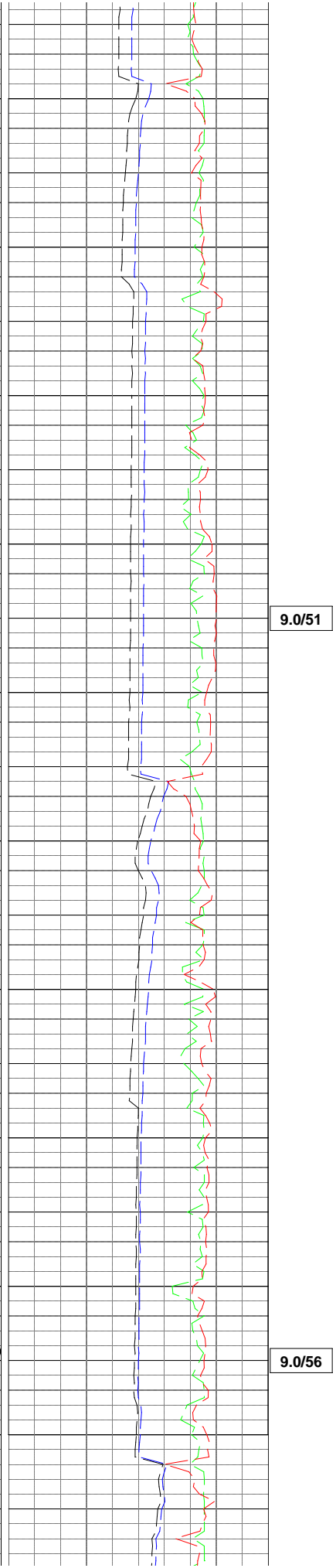
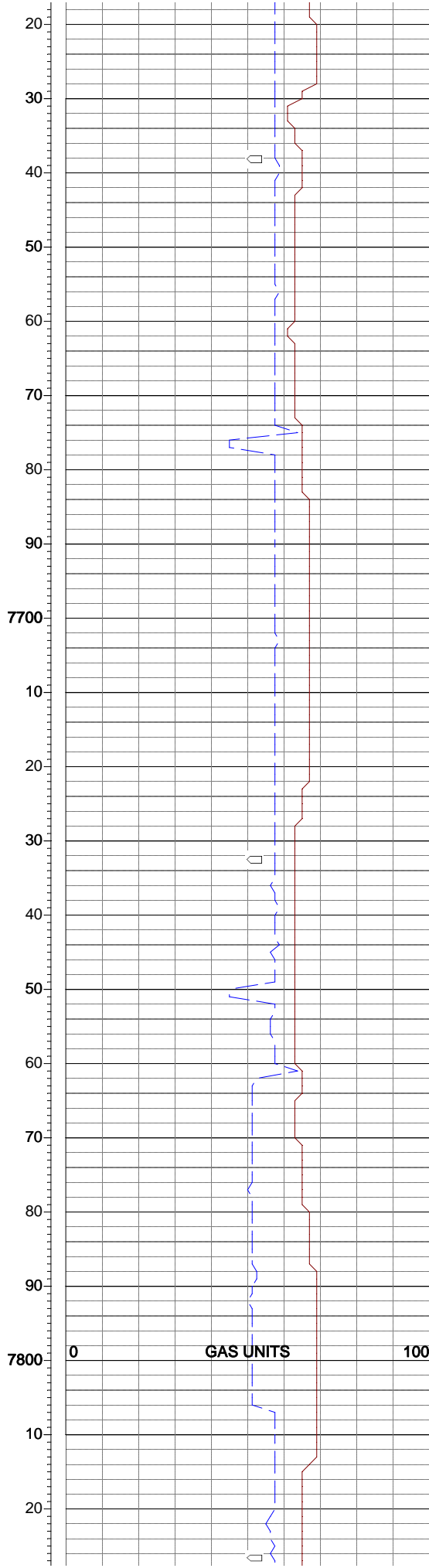
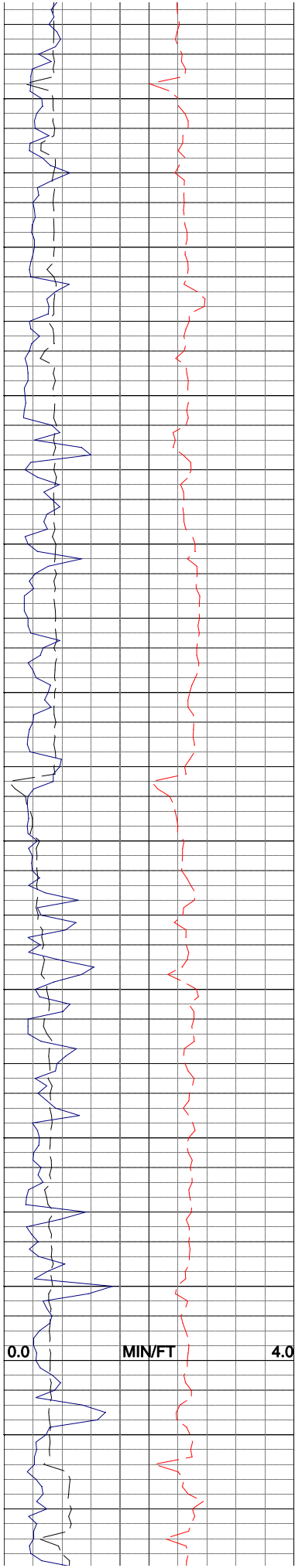
8.9/48

9.0/52



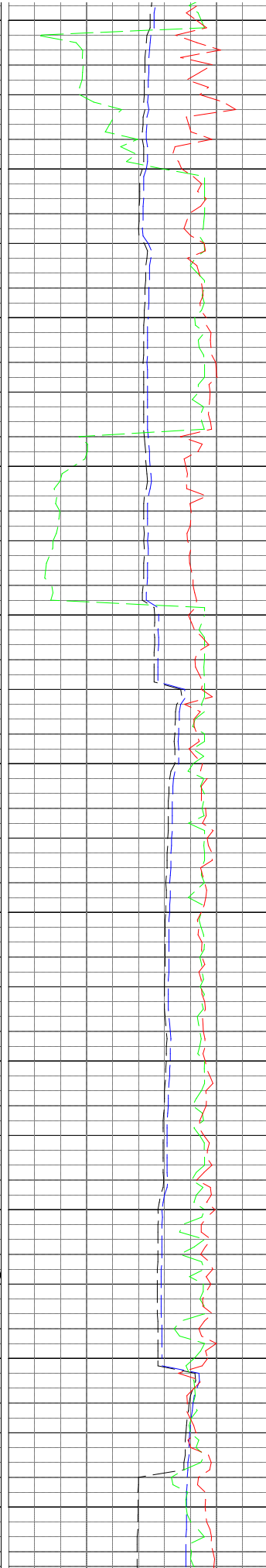
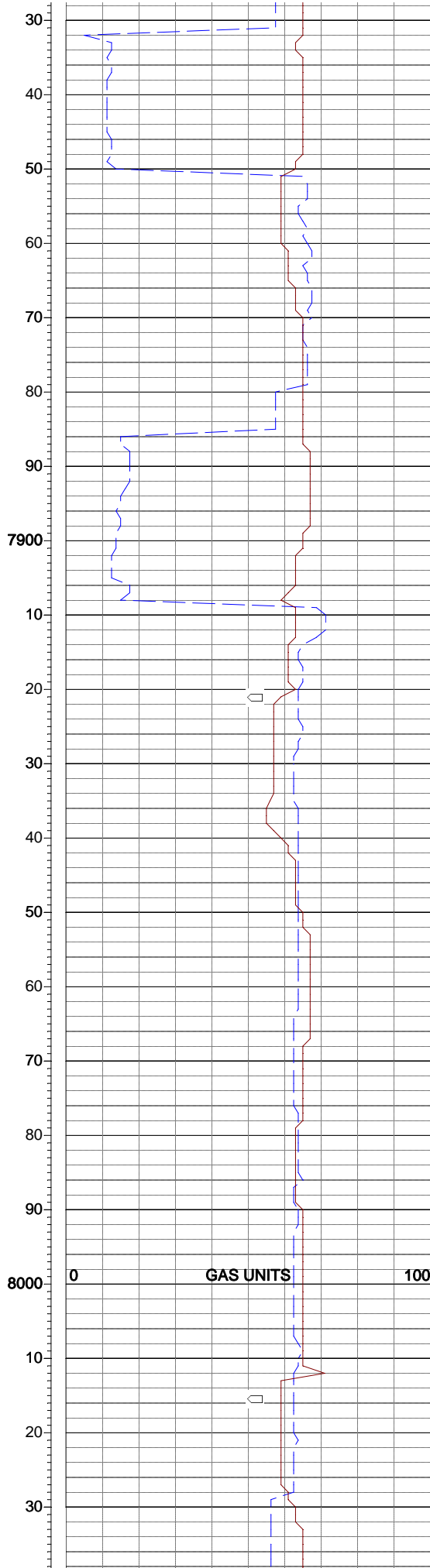
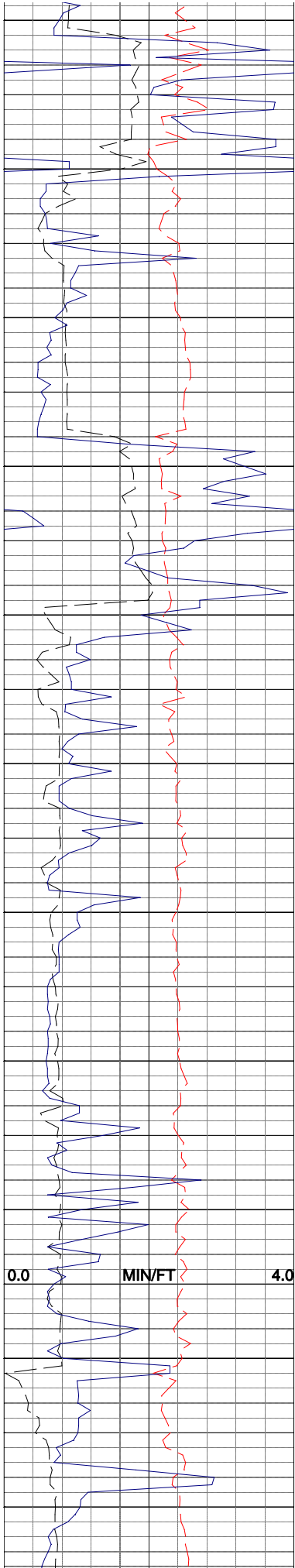
9.0/52

9.0/51



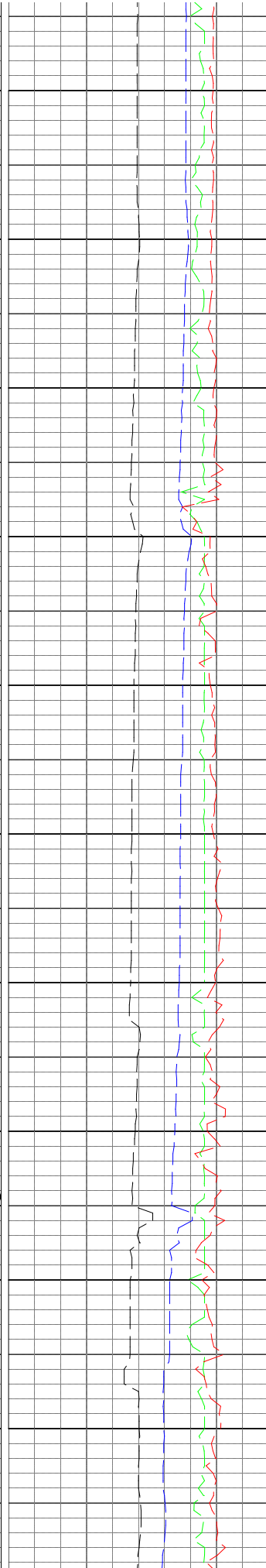
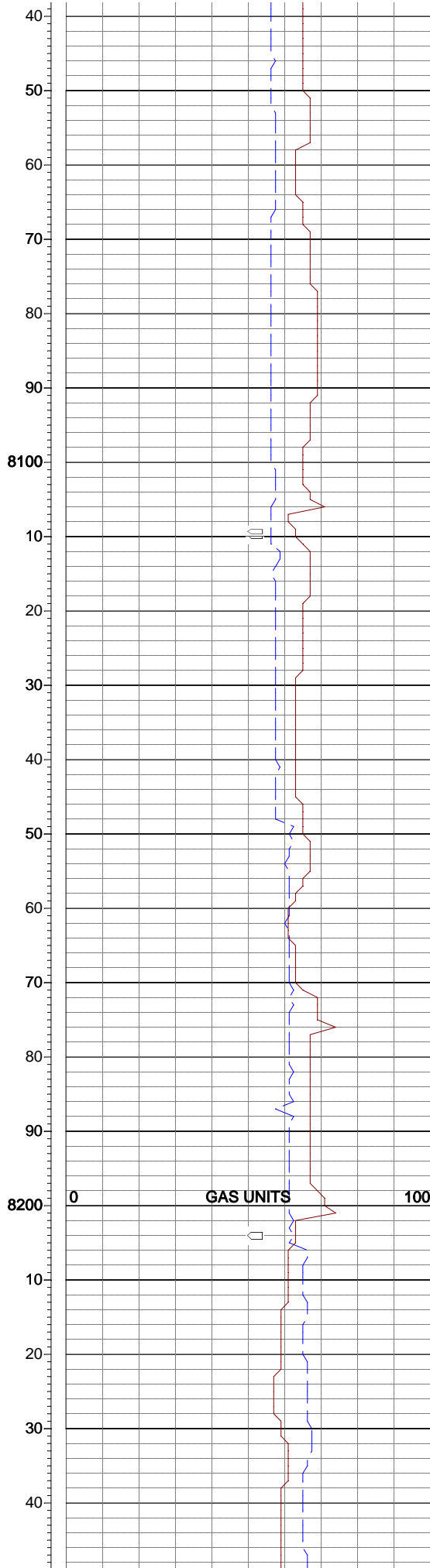
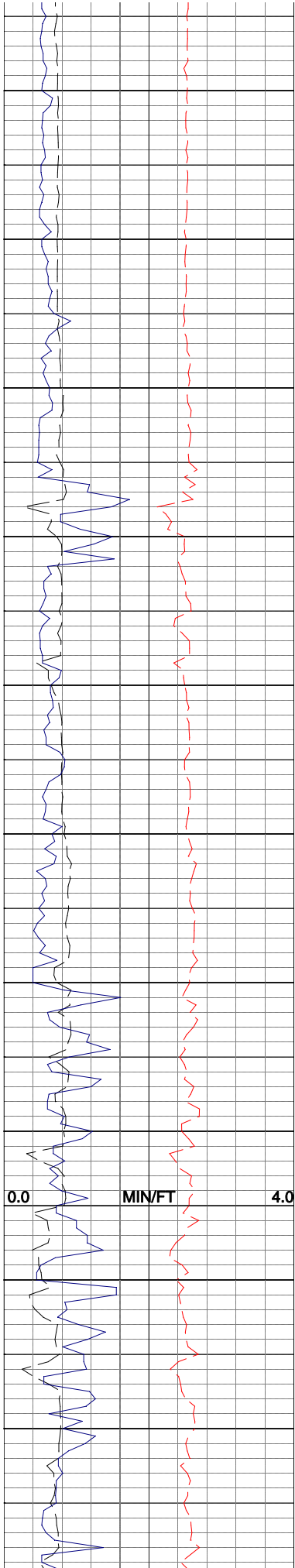
9.0/51

9.0/56



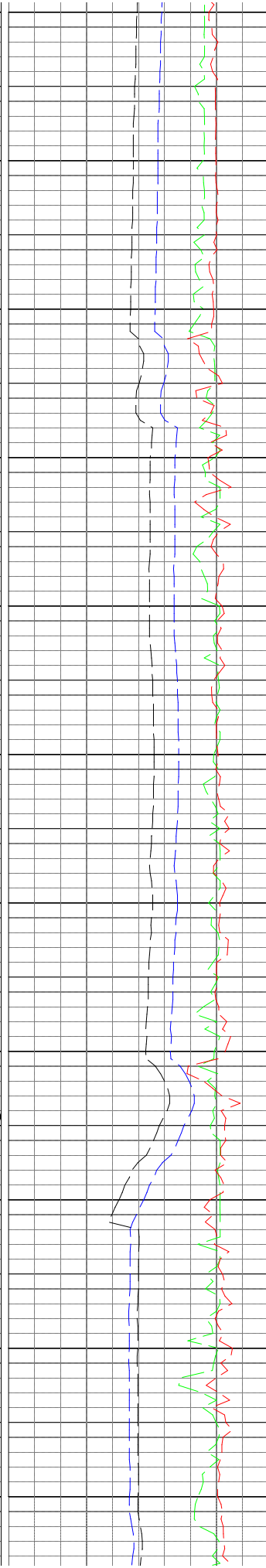
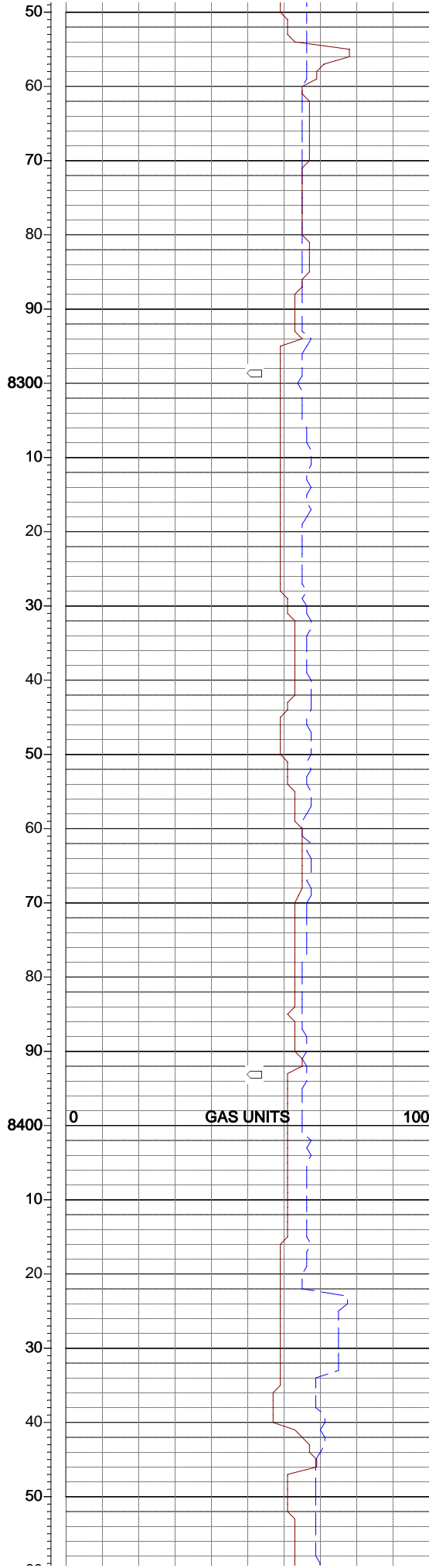
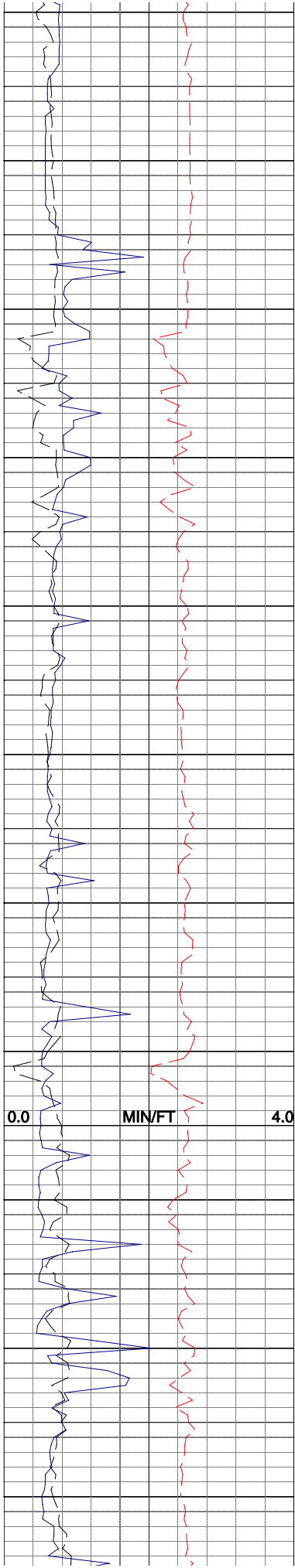
9.0/54

9.1/57



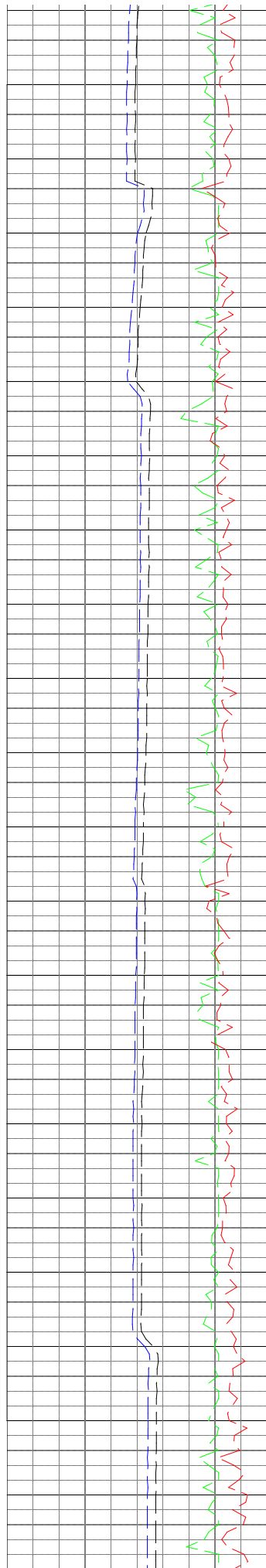
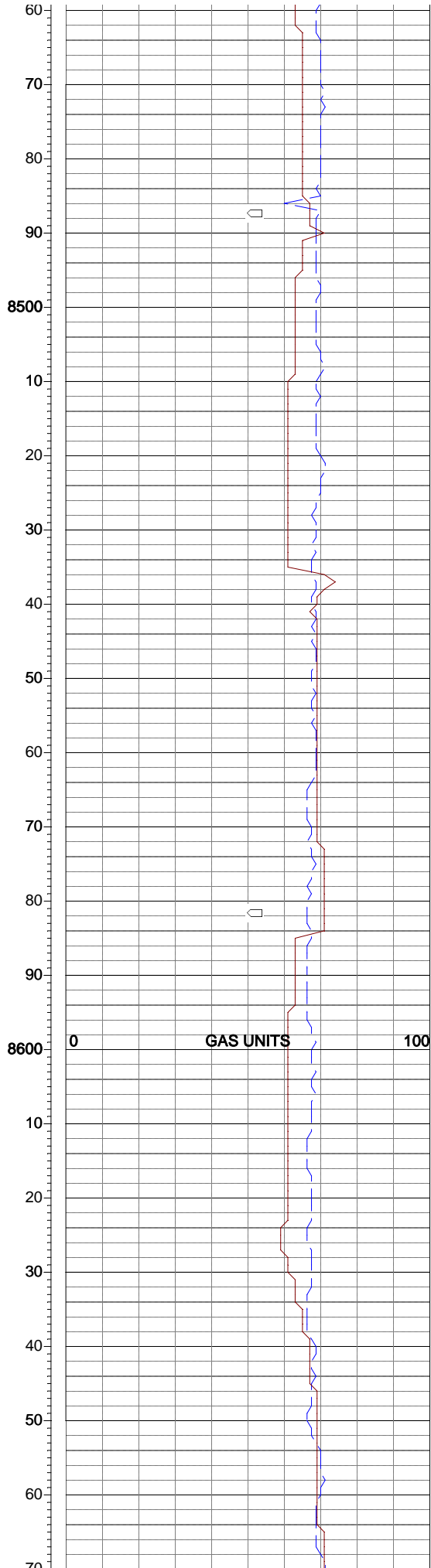
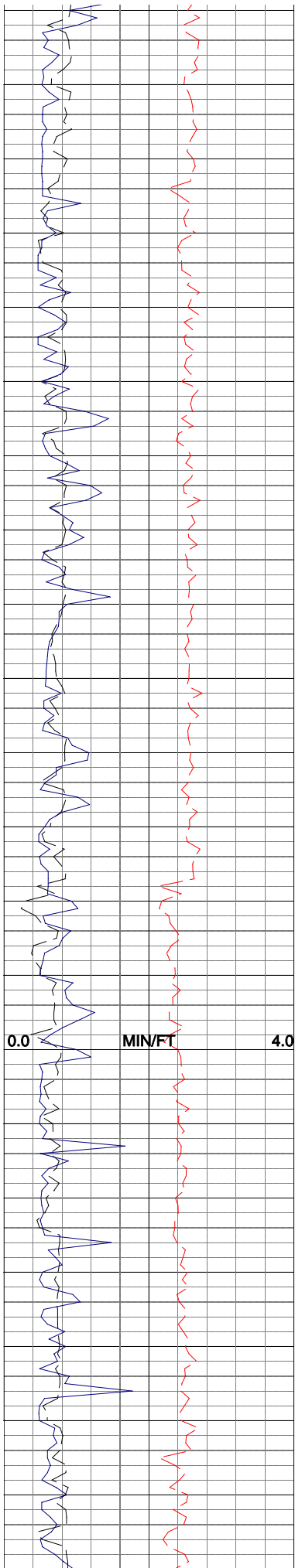
9.1/57

9.1/54



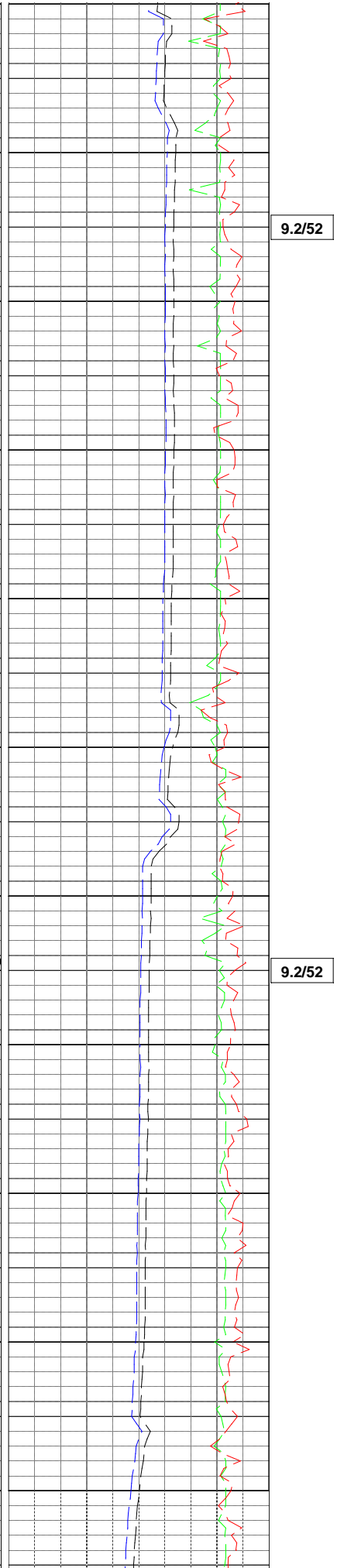
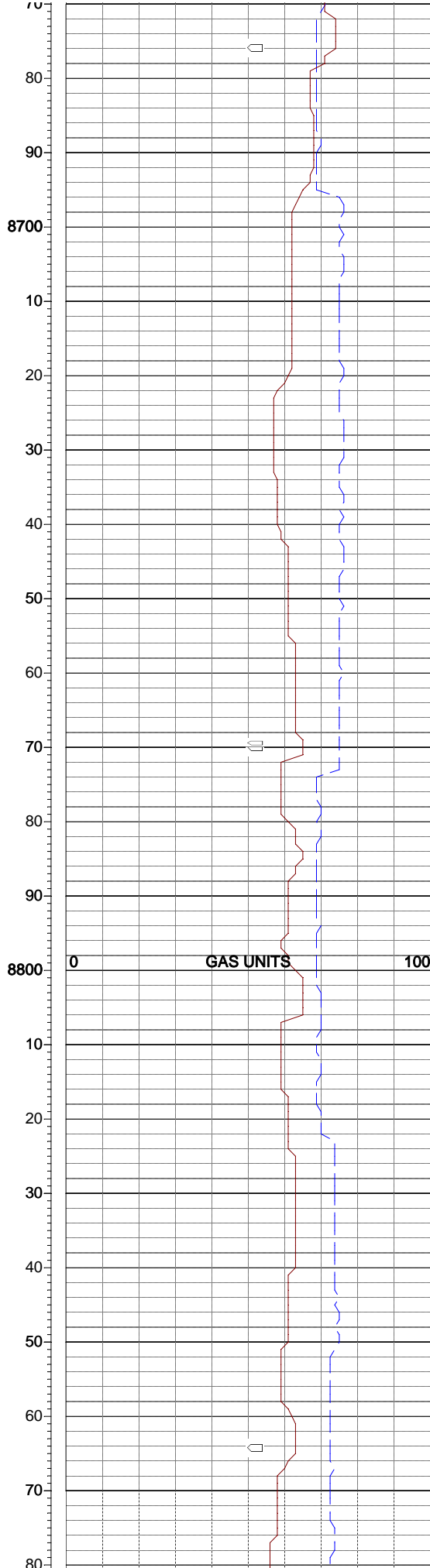
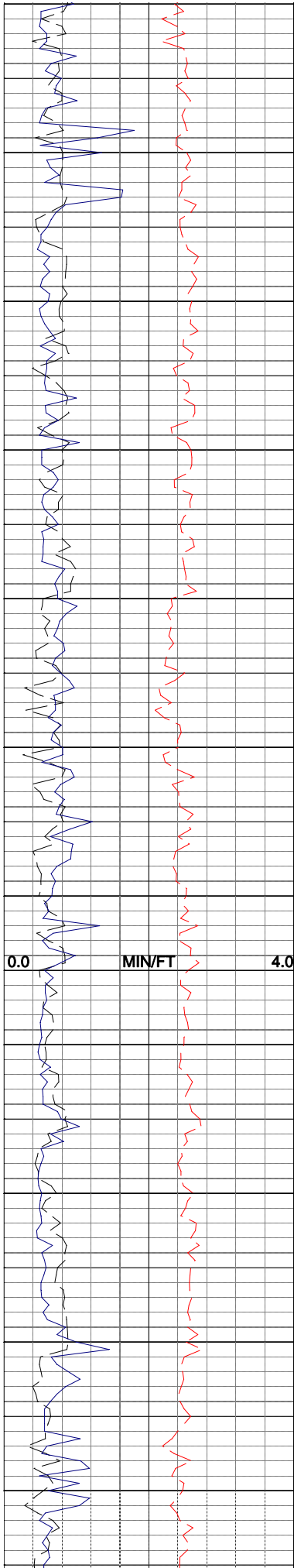
9.1/54

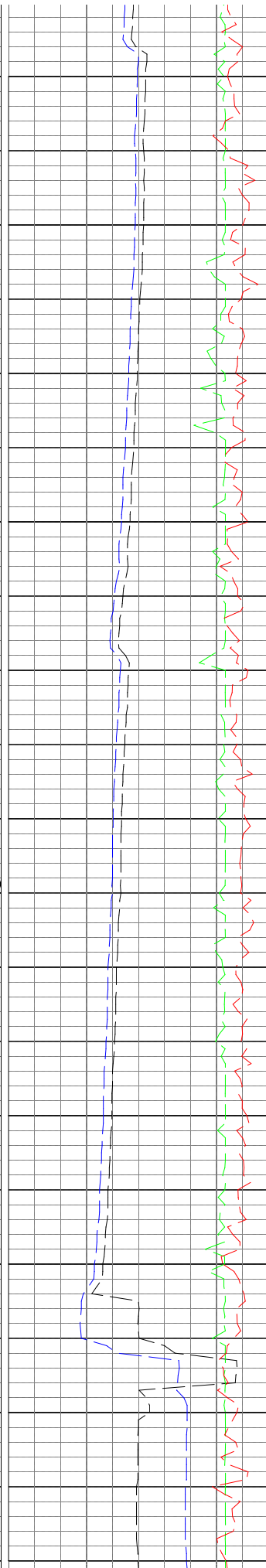
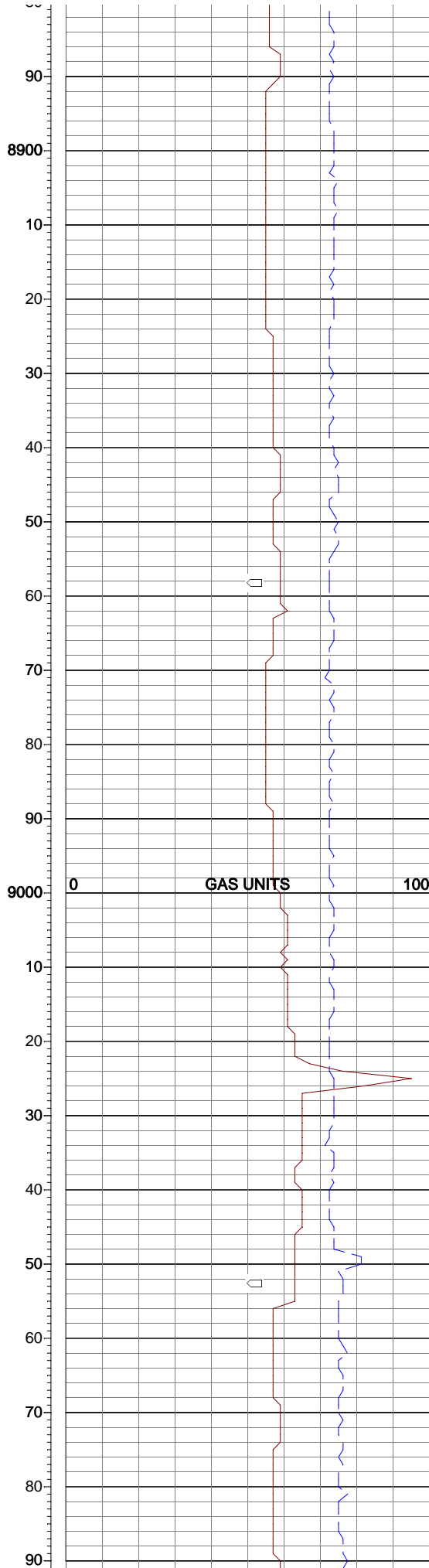
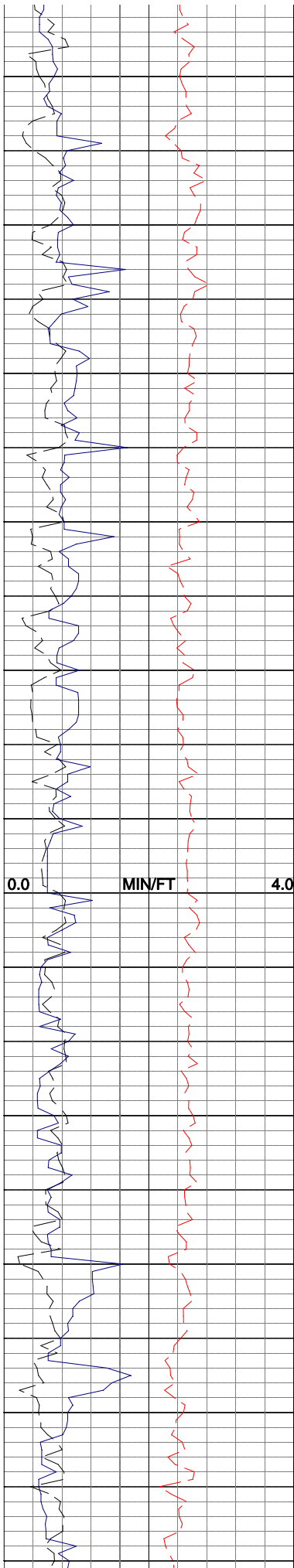
9.1/55



9.2/53

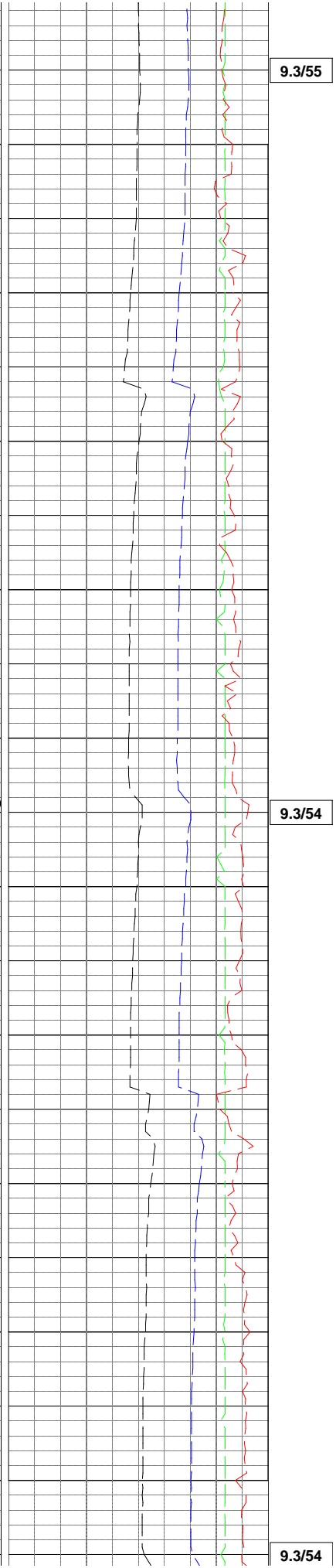
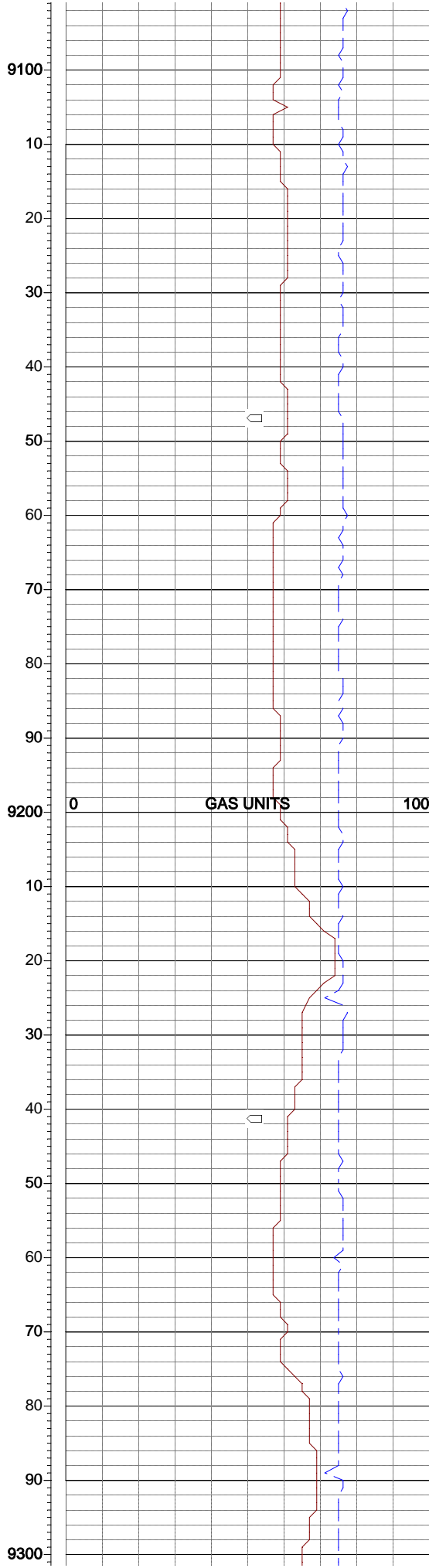
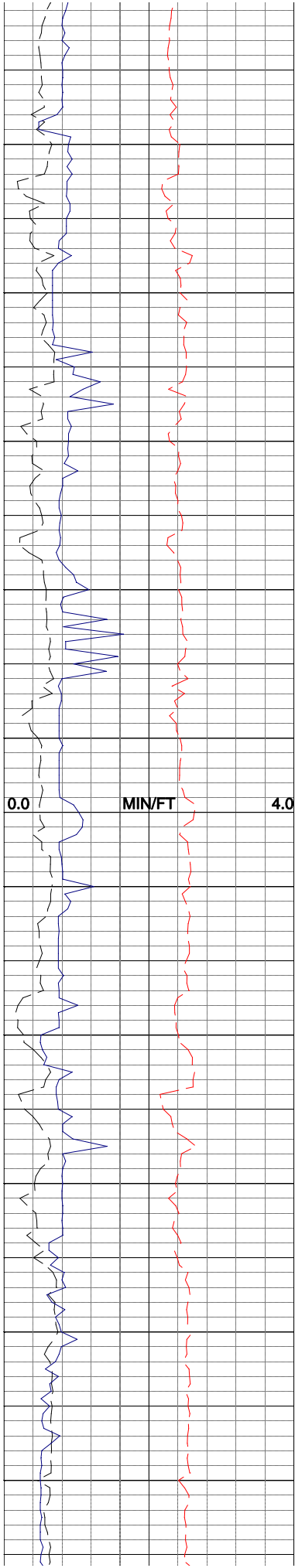
9.2/57





9.3/55

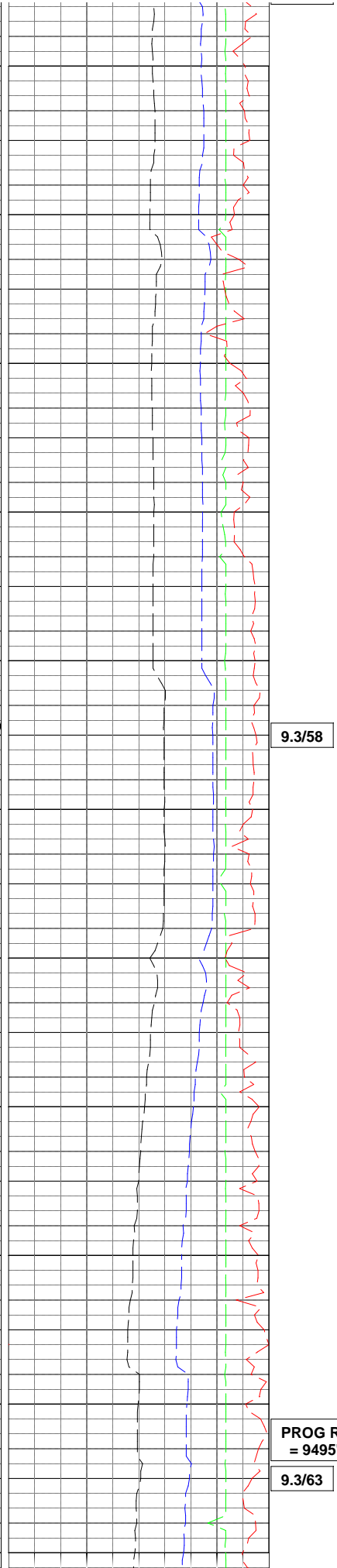
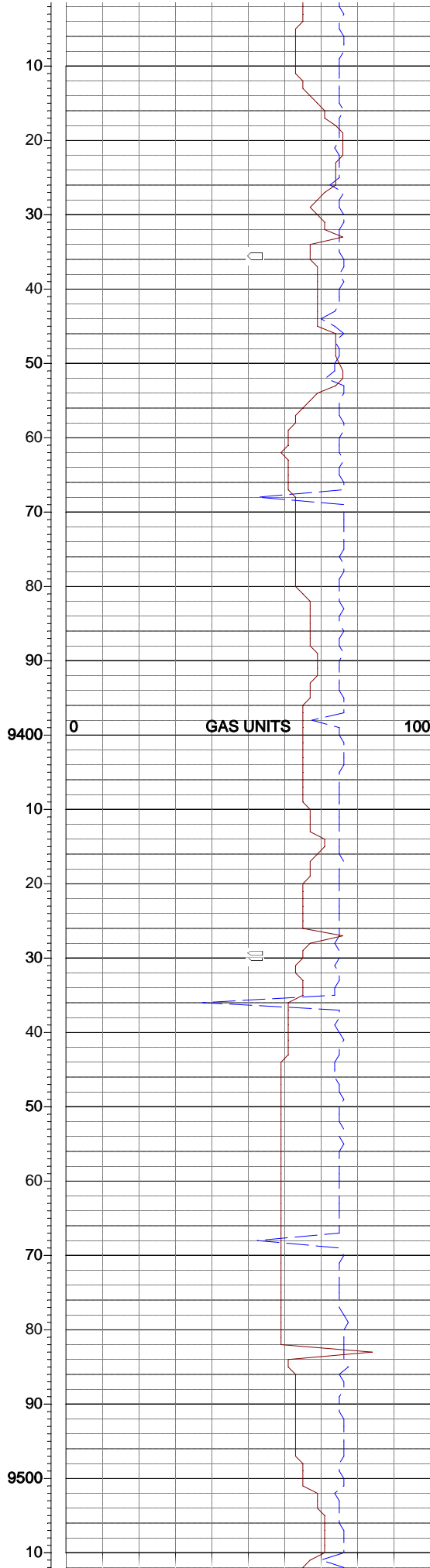
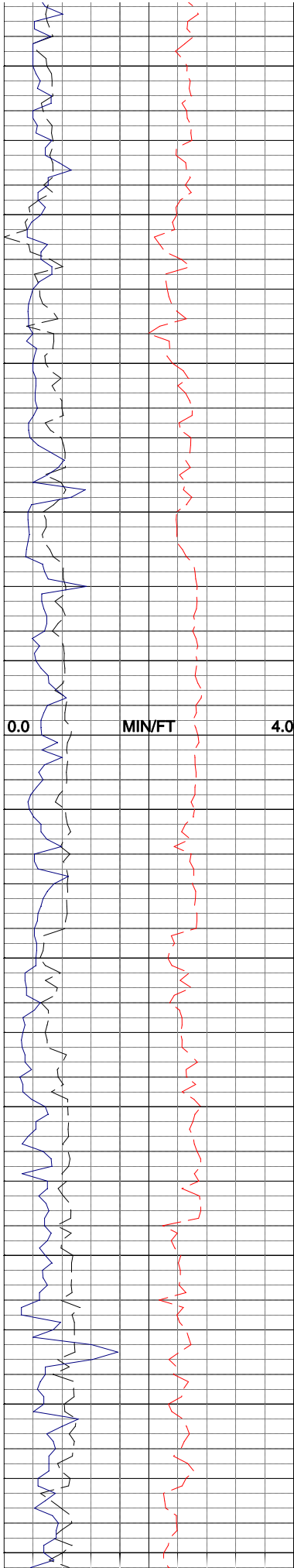
9.3/55
PROG CAMEO
= 9005' MD

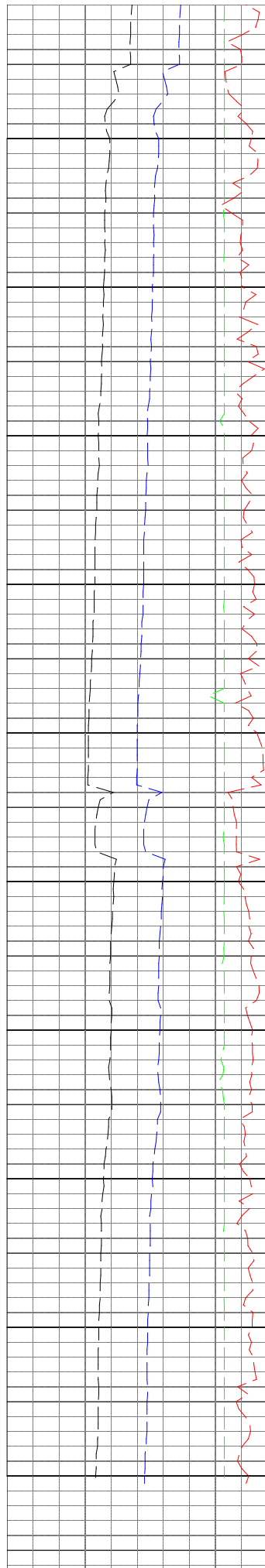
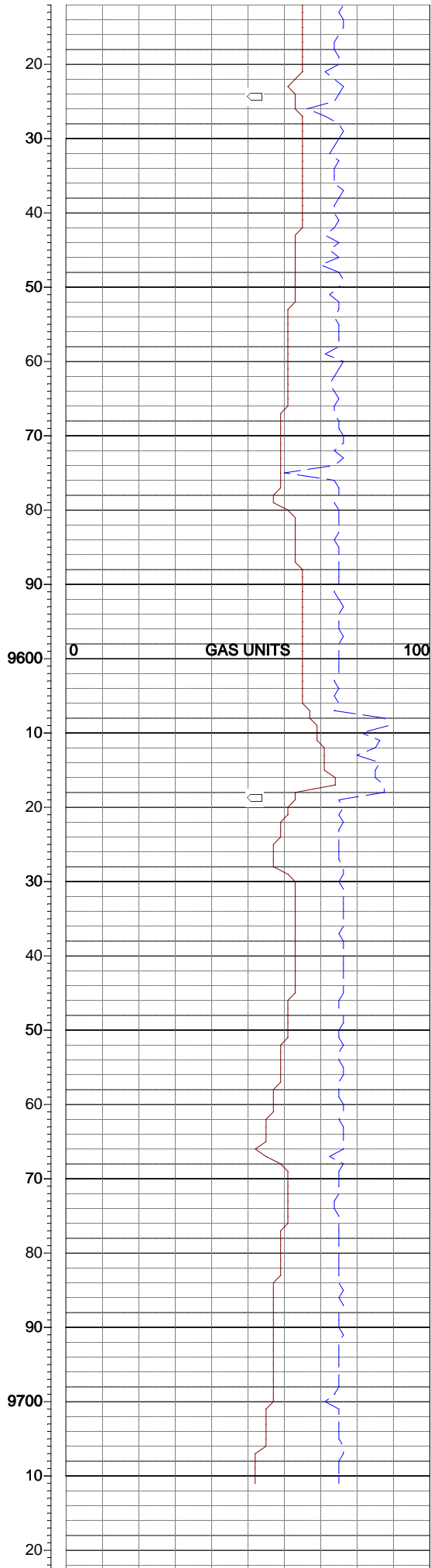
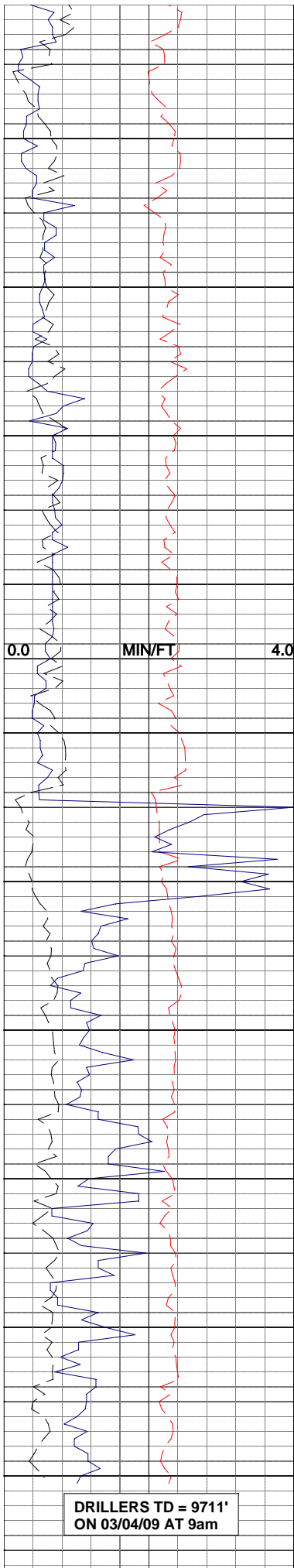


9.3/55

9.3/54

9.3/54





9.3/58

BIT #5
FTG: 2542'
HRS: 54.5

9.3/58

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