



Scale: 5.41" / 100'
Measured Depth Log

30-025-40420
ELG 1-7-2013

Well Name FRONTIER FIELD SERVICES MALJAMAR AGI #1

Location 130' FSL & 1813' FEL, SEC 21, T17S, R32E

State NM

County LEA

Country USA

Rig UNITED DRILLING #41

API Number 30-025-40420

Field WILDCAT

Drilling Completed NA

Ground Elevation 4016'

K.B. Elevation 4031'

Logged Interval 4230'

To 5844'

Total Depth NA

Operator

Company PB ENERGY

Geologist

Name TOM SHARP

Company GEOLEX

Other

LOGGER - DJ JONES

JOB #805

Dates Logged:
04/08/12 - 04/27/12

Rock Types

UNKNOWN	DOLOMITE	SHALE GRAY	TILL
ANHYDRITE	CHERT	SHALE COLORED	BENTONITE
GYPSUM	COAL	SILTSTONE	TUFF
SALT	MARLSTONE	SANDSTONE	IGNEOUS
SIDERITE or LIMONITE	CLAYSTONE	CONGLOMERATE	METAMORPHIC
LIMESTONE	SHALE	BRECCIA	

Accessories

Fossils

- ALGAE
- AMPHIPORA
- BELEMNITE
- BIOCLASTIC
- BRACHIOPOD
- BRYOZOA
- CEPHALOPOD
- CORAL
- CRINOID
- ECHINOID
- FISH
- FORAMINIFERA

F FOSSIL

- GASTROPOD
- OOLITE
- OSTRACOD
- PELECYPOD
- PELLET
- PISOLITE
- PLANT REMAINS
- PLANT SPORES
- SCAPHOPOD
- STROMATOPOROID

Minerals

- ANHYDRITIC

ARGILLACEOUS

- ARGILLITE GRAIN
- BENTONITE
- BITUMENOUS SUBSTANCE
- BRECCIA FRAGMENTS
- CALCAREOUS
- CARBONACEOUS FLAKES
- CHTDK
- CHTLT
- COAL - THIN BEDS
- DOLOMITIC
- FELDSPAR
- FERRUGINOUS PELLET
- FERRUGINOUS

GLAUCONITE

- GYPSIFEROUS
- HEAVY MINERAL
- KAOLIN
- MARLSTONE
- MINERAL CRYSTALS
- NODULES
- PHOSPHATE PELLETS
- PYRITE
- SALT CAST
- SANDY
- SILICEOUS
- SILTY
- TUFFACEOUS

Stringer

- ANHYDRITE STRINGER
- BENTONITE STRINGER
- COAL STRINGER
- DOLOMITE STRINGER
- GYPSUM STRINGER
- LIMESTONE STRINGER
- MARLSTONE (CALC) STRG
- MARLSTONE (DOL) STRG
- SANDSTONE STRINGER
- SHALE STRINGER
- SILTSTONE STRINGER

Other Symbols

Oil Show

- DEAD
- EVEN
- QUESTIONABLE
- SPOTTED STAINING

Porosity

- E EARTHY
- FENESTRAL
- F FRACTURE
- X INTERCRYSTALLINE
- INTEROOLITIC

MOLDIC

- ORGANIC
- PINPOINT
- VUGGY

Engineering

- BIT
- CONNECTION (LEFT)
- CONNECTION (RIGHT)
- CONNECTION GAS
- CORE - LOST
- CORE - RECOVERED
- DST INTERVAL

FAULT

- FORMATION TOP
- GAS SHOW
- MN DEPTH
- NORMAL FAULT
- OIL SHOW
- OVERTURNED STRATA
- REVERSE FAULT
- SIDEWALL CORE (LEFT)
- SIDEWALL CORE (RIGHT)
- SLIDE
- SURVEY
- TRIP GAS

WIRELINE TESTED - LEFT

WIRELINE TESTED - RT

Rounding

- ANGULAR
- ROUNDED
- SUBANG
- SUBRND

Textures

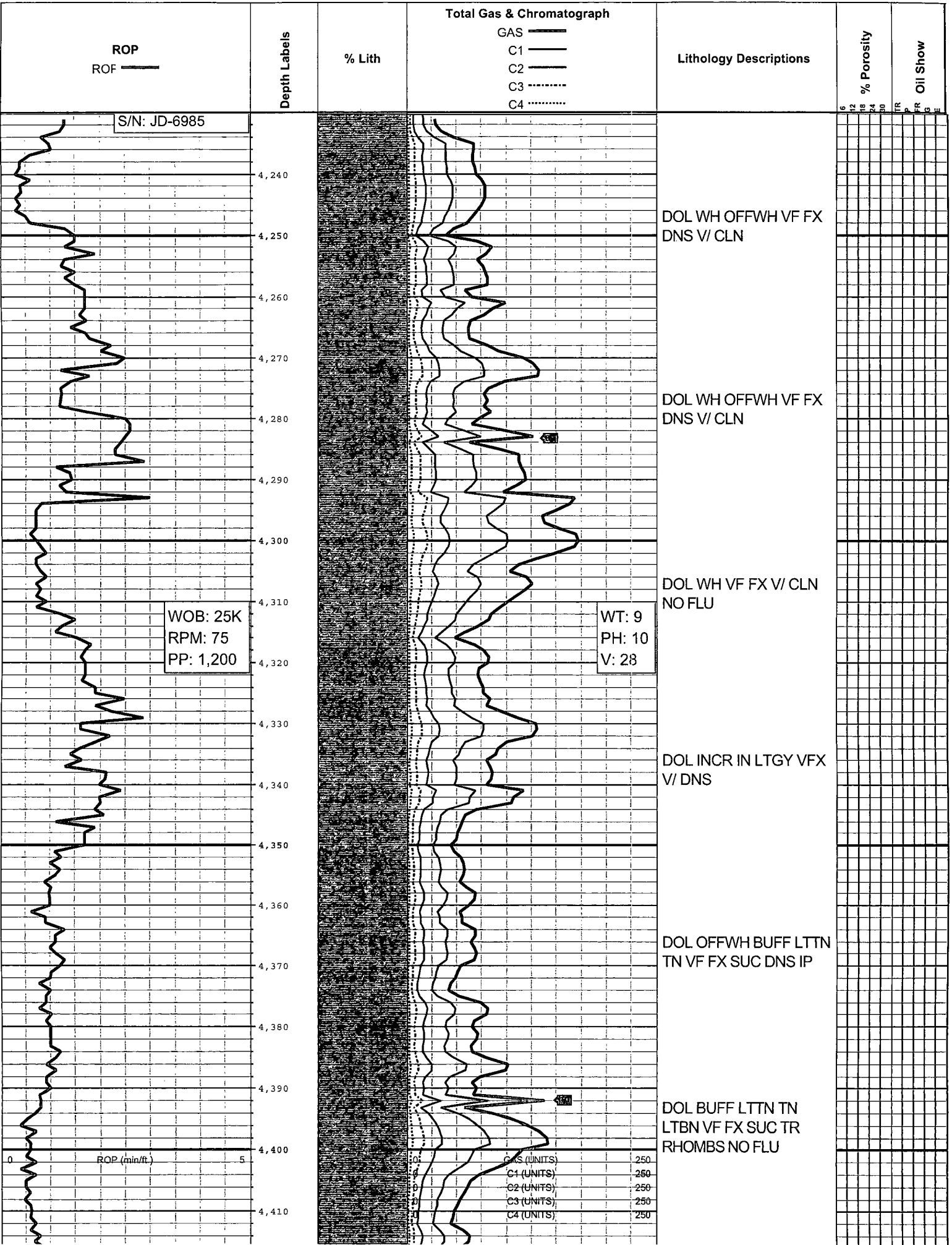
- BOUNDSTONE
- CHALKY
- CRYPTOXLN

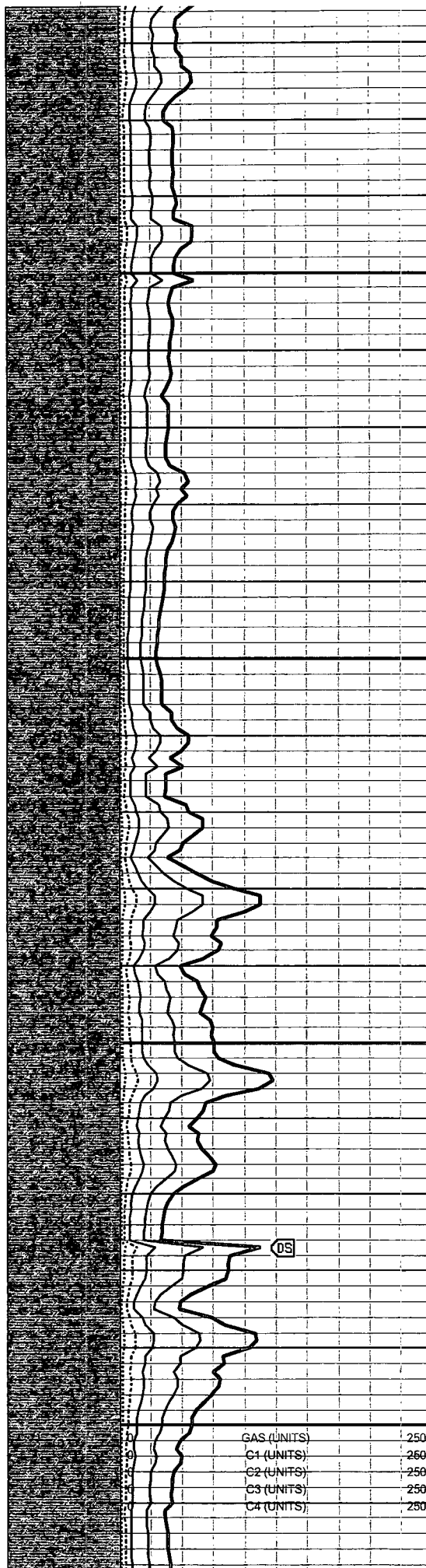
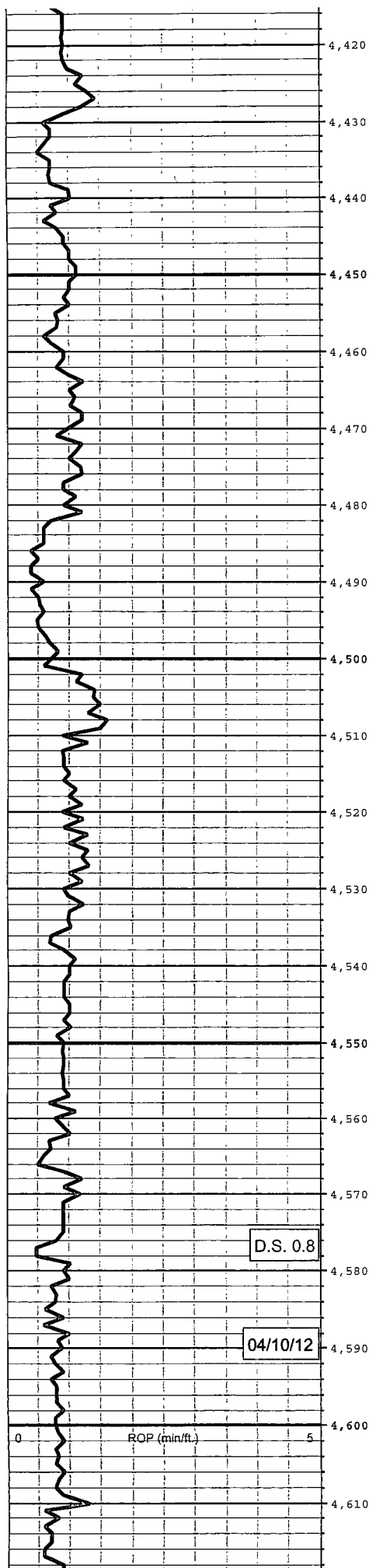
E EARTHY

- FINELYXLN
- GRAINSTONE
- L LITHOGRAPHIC
- MX MICROXLN
- MUDSTONE
- PACKSTONE
- WACKESTONE

Sorting

- MODERATE
- POOR
- W WELL





DOL OFFWH BUFF LTTN
TN LTBN VF FX SUC DNS
IP

DOL BUFF LTTN TN
LTBN IP VF FX DNS SUC
IP

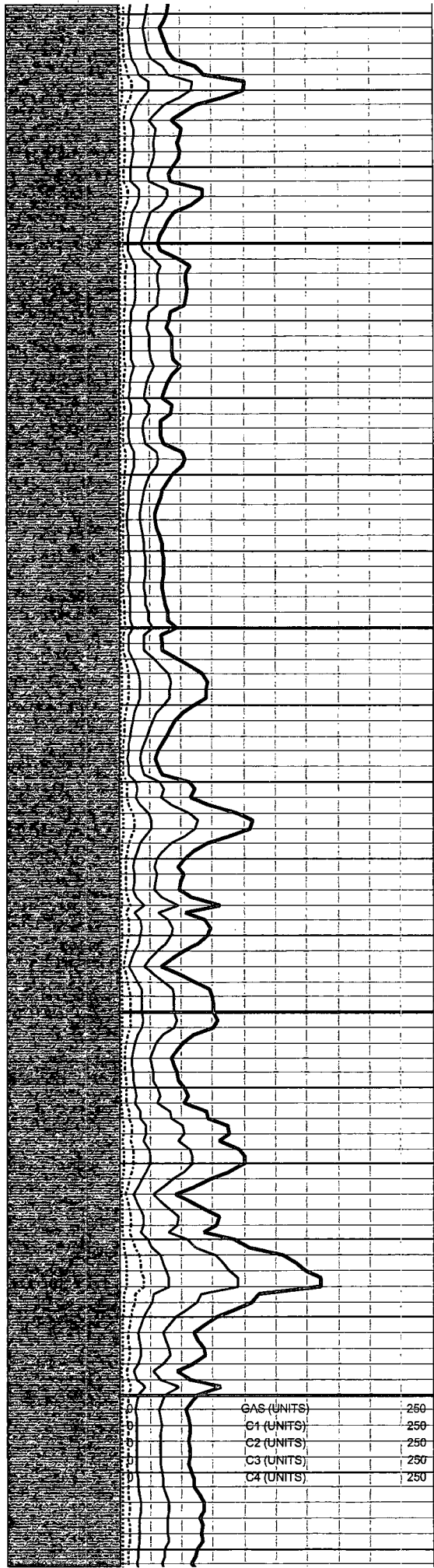
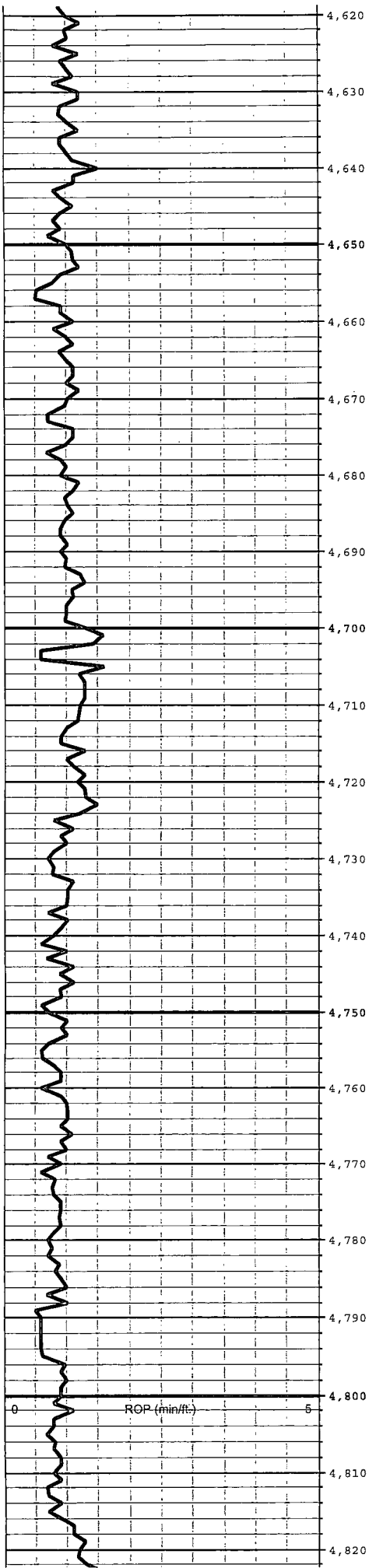
DOL OFFWH BUFF TN
VFX SUC TR GN FLU NO
CUTS

DOL OFFWH BUFF LTTN
TN VF FX SUC DNS IP

DOL BUFF TN LTBN VF
FX DNS SUC IP TR GN
FLU NO CUTS

DOL BUFF LTTN TN VF
FX SUC DNS IP TR
YEL/GN FLU NO WET
CUT SL TR DRY CUT

DOL OFFWH BUFF LTTN
TN LTBN IP VF FX DNS
SUC IP NO FLU



DOL BUFF LTTN TN VF
FX DNS SUC IP

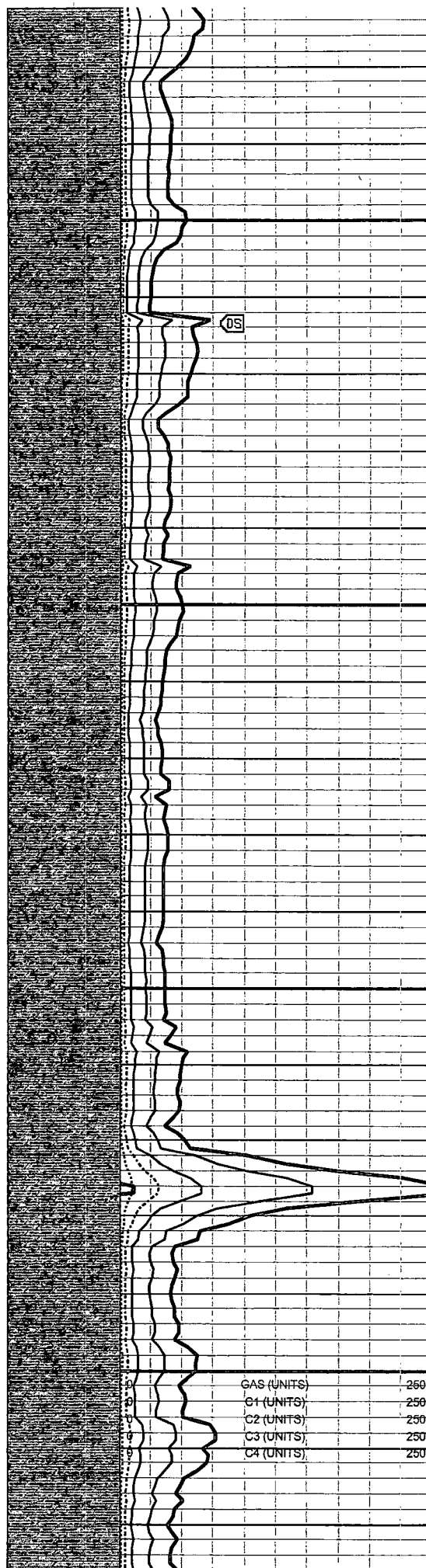
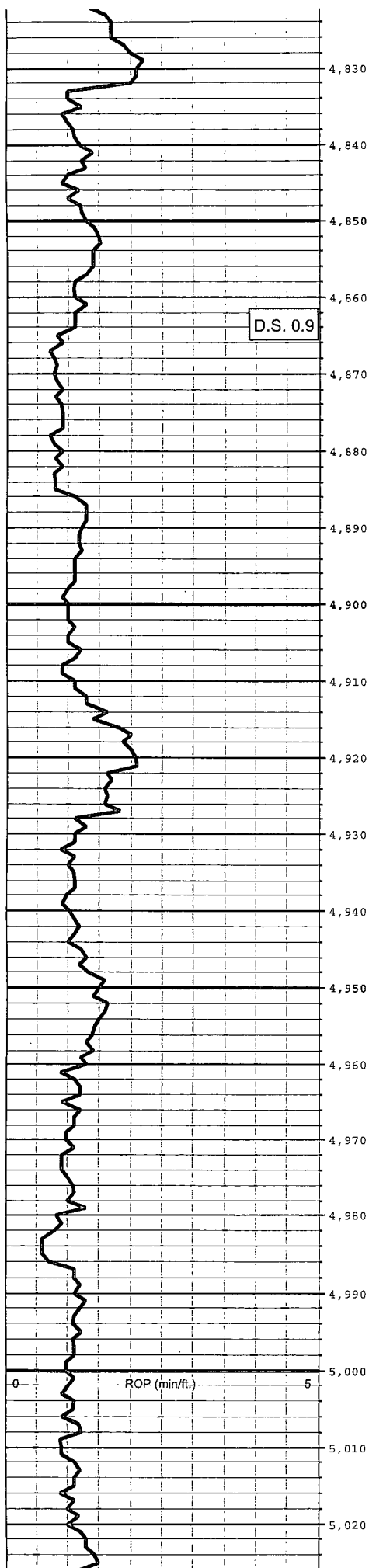
DOL BUFF LTTN TN
LTGY VFX DNS TR SUC

DOL OFFWH BUFF LTTN
TN LTGY VFX DNS

DOL OFFWH BUFF LTTN
TN VF FX SUC DNS IP TR
GN FLU NO CUTS

DOL BUFF LTTN TN VF
FX DNS SUC IP

DOL OFFWH BUFF LTTN
TN VF FX SUC DNS IP TR
YEL/GN FLU NO CUTS



DOL INCR IN LTGY GY
VFX V/ DNS

DOL OFFWH BUFF TN
LTGY GY VFX DNS NO
FLU

DOL OFFWH BUFF LTTN
TN LTGY VF FX DNS SUC
IP

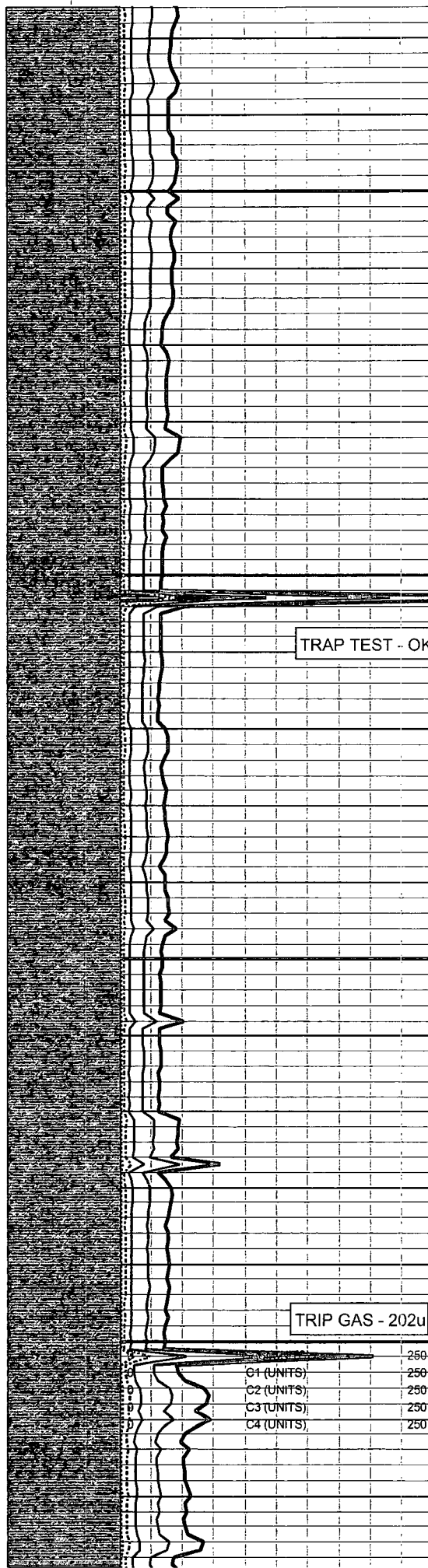
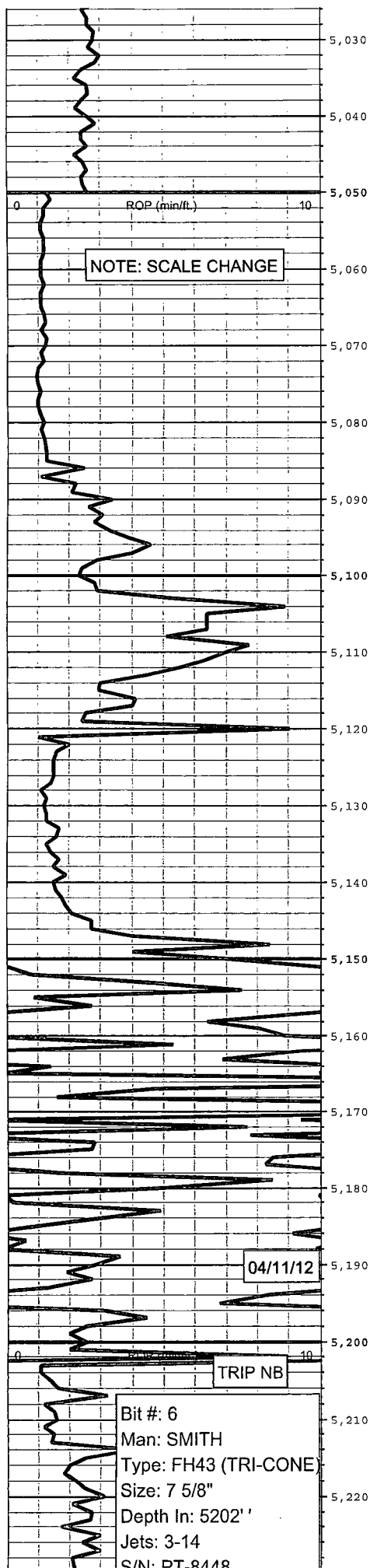
DOL BUFF LTTN TN
LTBN VFX DNS SL SUC IP

DOL OFFWH BUFF TN
LTBN BN VFX V/ DNS

DOL OFFWH BUFF TN
LTBN BN VFX DNS TR HL
FRACS FILLED W/ CALC

DOL INCR IN WH
OFFWH LTGY VF FX DNS
IP SUC IP FR WH MNRL
FLU NO CUTS SL ODOR

DOL OFFWH BUFF TN
LTBN VF FX DNS SUC IP



DOL BUFF TN LTBN
LTGY VF FX DNS TR SUC

DOL OFFWH BUFF TN
LTBN LTGY IP VFX SUC
DNS IP

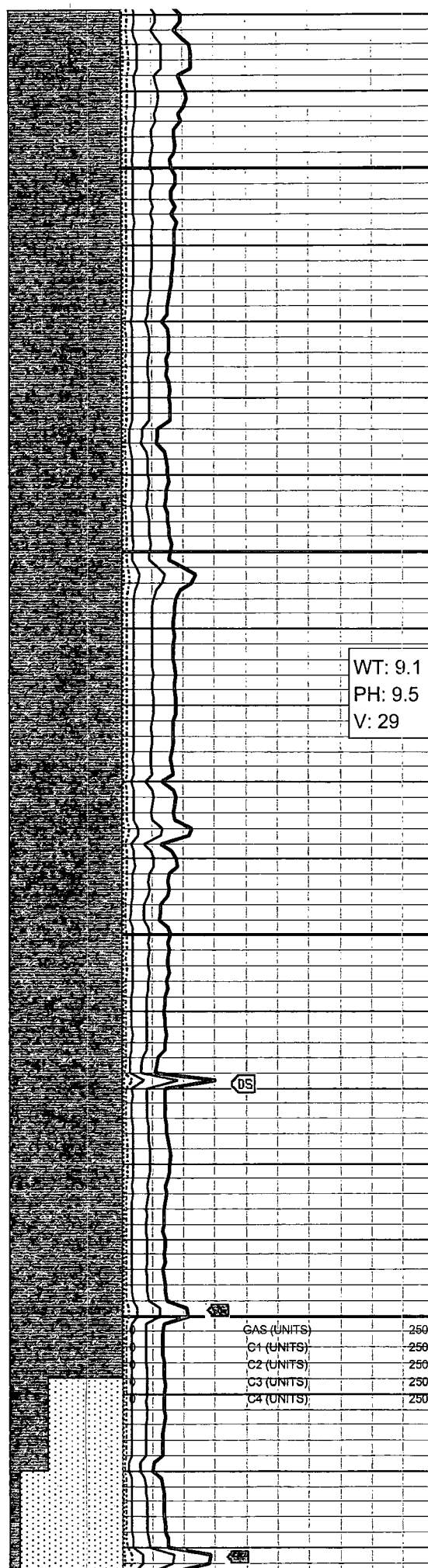
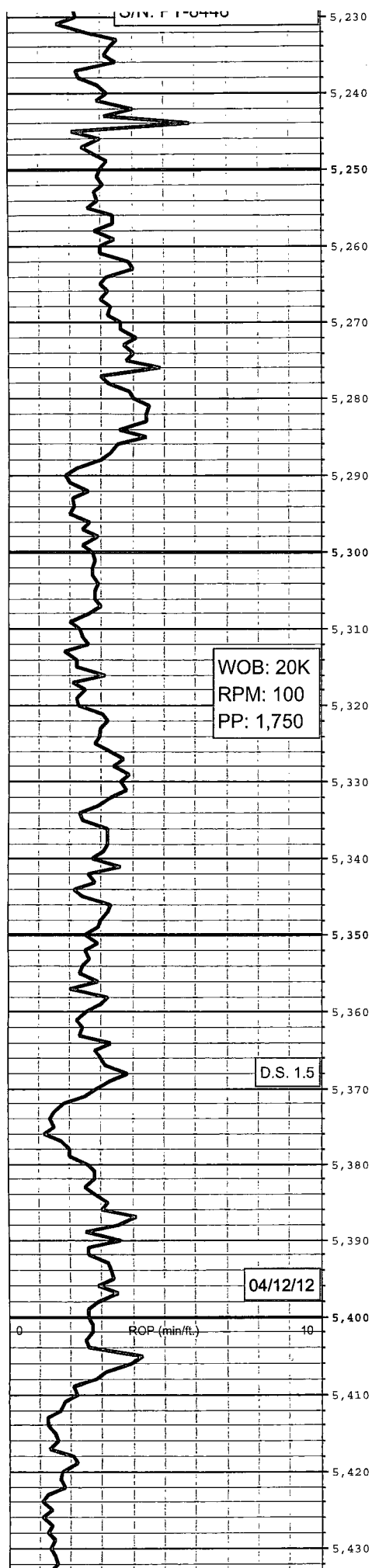
DOL BUFF TN LTBN BN
LTGY GY VFX V/ DNS HD
TR FRACS FILLED W/
SEC PYR SL SUC IP

DOL BUFF TN LTBN VF
FX SUC DNS IP

DOL TN LTBN BN DKBN
SL TRNSL V/ DNS HD
SUC

DOL BUFF TN LTBN BN
VF FX DNS SUC

DOL BUFF LTTN TN
LTBN SL TRNSL VF FX
DNS SUC



DOL OFFWH BUFF LTTN
TN VF FX DNS SUC

DOL OFFWH BUFF TN VF
FX SUC DNS IP

DOL BUFF TN LTBN IP
VF FX DNS IP SUC IP

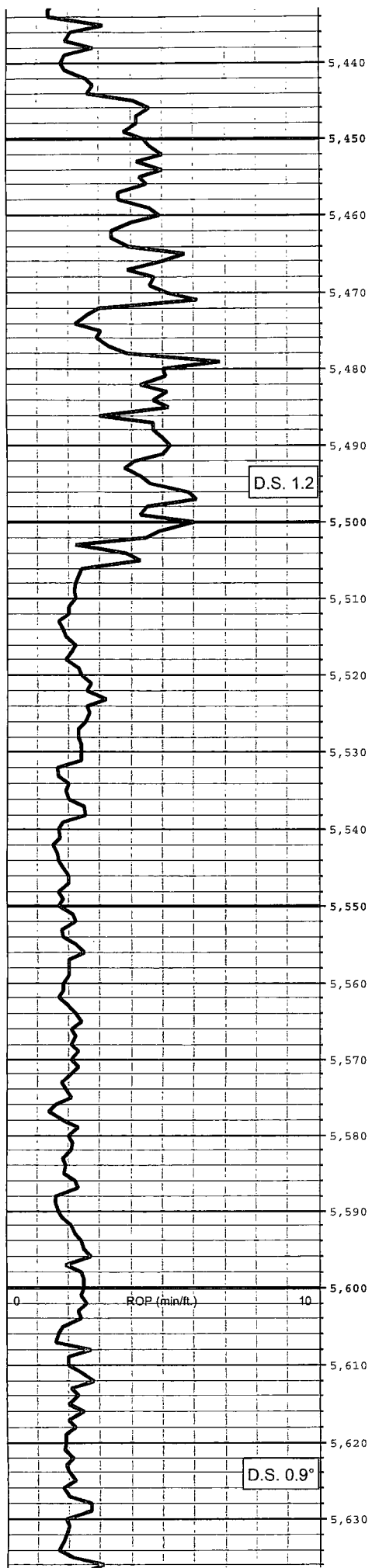
DOL OFFWH BUFF TN
LTBN VF FX DNS SUC

DOL BUFF TN VF FX DNS
SUC IP NO FLU

DOL BUFF LTTN TN
LTBN IP VF FX DNS SUC
IP

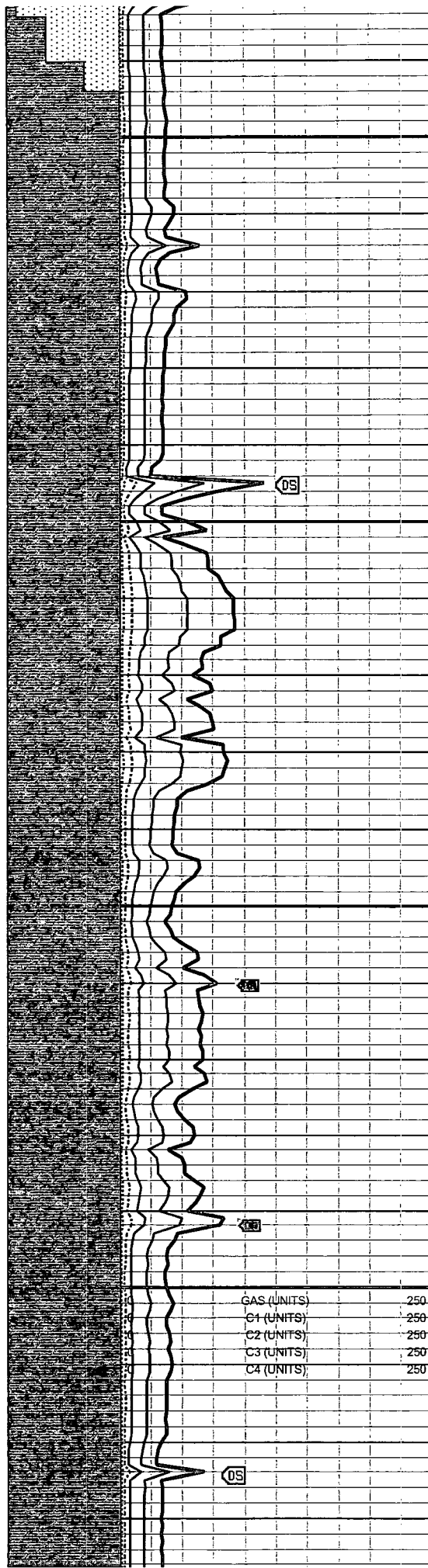
CHT TR CLR BN OP

SS CLR QTZ VF-FG
PRED UNCONS SM LSLY
CONS SB-ANG SB-RND
MOD TO WELL SRTD



D.S. 1.2

D.S. 0.9°



DOL OFFWH BUFF TN VF
FX SUC

DOL INCR IN WH
OFFWH SL TRNSL VFX
V/ DNS

DOL WH OFFWH BUFF
VFX DNS SL SUC IP CLN

DOL WH OFFWH SL
TRNSL VF FX DNS SL
SUC LMY GRDS TO
DOL'C LS

DOL WH OFFWH BUFF
VFX DNS SL SUC

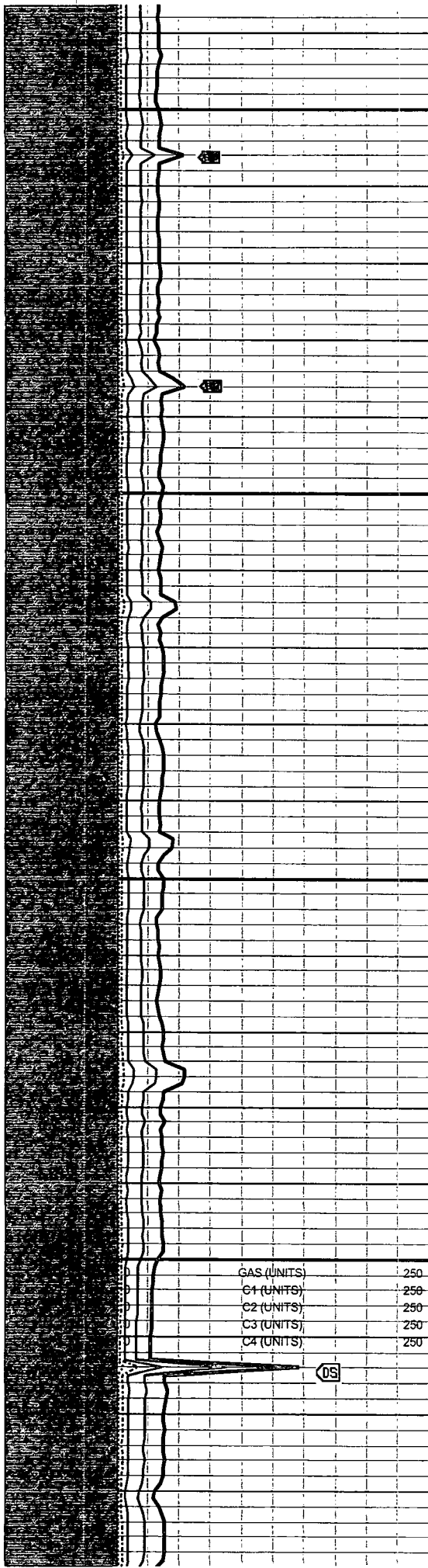
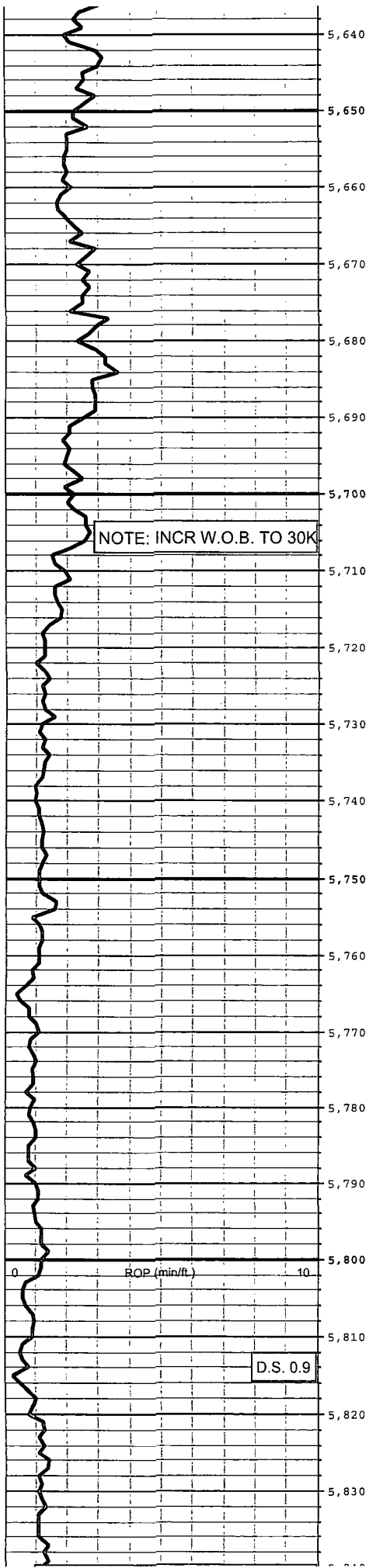
DOL OFFWH BUFF VFX
DNS SL SUC IP SL LMY

DOL OFFWH BUFF SL
TRNSL VF FX DNS SUC IP

DOL OFFWH BUFF LTTN
TN VF FX DNS SUC IP

DOL OFFWH BUFF LTTN
TN VF FX DNS SUC IP

GAS (UNITS)	250
C1 (UNITS)	250
C2 (UNITS)	250
C3 (UNITS)	250
C4 (UNITS)	250



DOL OFFWH BUFF LTTN
TN VF FX DNS SUC

DOL BUFF TN LTTN BN
DKBN VF FX V/ DNS SUC
SIL IP LMY GRDS TO
DOL'C LS

DOL OFFWH BUFF LTTN
TN VF FX SUC DNS IP

DOL OFFWH BUFF LTTN
VF FX V/ SUC TR VUGS
DNS IP TR WH/YEL FLU
NO CUTS

DOL OFFWH BUFF VF FX
AREN DNS IP SUC IP

DOL BUFF LTTN VF FX
AREN DNS IP

DOL BUFF TRNSL VF FX
V/ AREN DNS IP

DOL BUFF LTTN VF FX

Let $\alpha \in \mathbb{R}$