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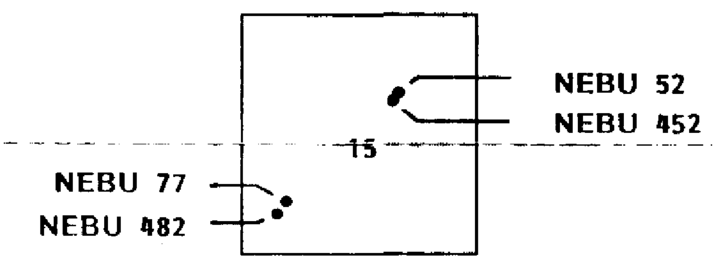
OIL CON. DIV.
DIST. 3

BENCH MARK GEOLOGICAL SERVICES

HYDROCARBON WELL LOG

OPERATOR BLACKWOOD AND NICHOLS
WELL NE Blanco Unit 482
FIELD Basin Fruitland Coal
LOCATION sec 15 [redacted] R7W
CO./STATE San Juan Co., New Mexico
ELEVATION KB 6548 ft. GL 6534 ft.
SPUD DATE
INTERVAL LOGGED 3116 - 3422 ft.
DATE LOGGED 4/11 thru 4/12/90
LOGGING GEOLOGISTS Randy Laney, Mike Mixter
INSTRUMENTATION FID Chromatograph and Total Gas Detector, Infrared CO_2 Detector
WELL LOCATION

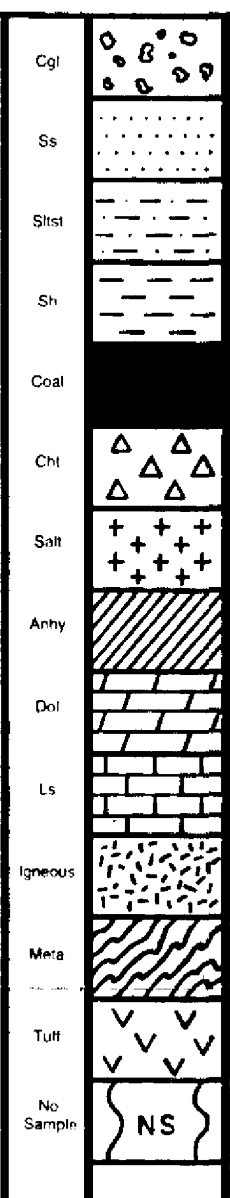


ABBREVIATIONS

CO — Circulate Out
CG — Connection Gas
CB — Core Bit
DC — Depth Correction
DS — Directional Survey
DST — Drill Stem Test
DTG — Down Time Gas
FC — Filter Cake
LAT — Logged After Trip
NB — New Bit
NDR — No Data Recorded
NR — No Returns
PP — Pump Pressure
RPM — Rotary Speed
SPM — Pump Strokes
TG — Trip Gas
TGR — Trip Gas Recycle
Vis — Viscosity
Wl — Water Loss
WOB — Weight on Bit
Wt — Density Of Drill Fluid

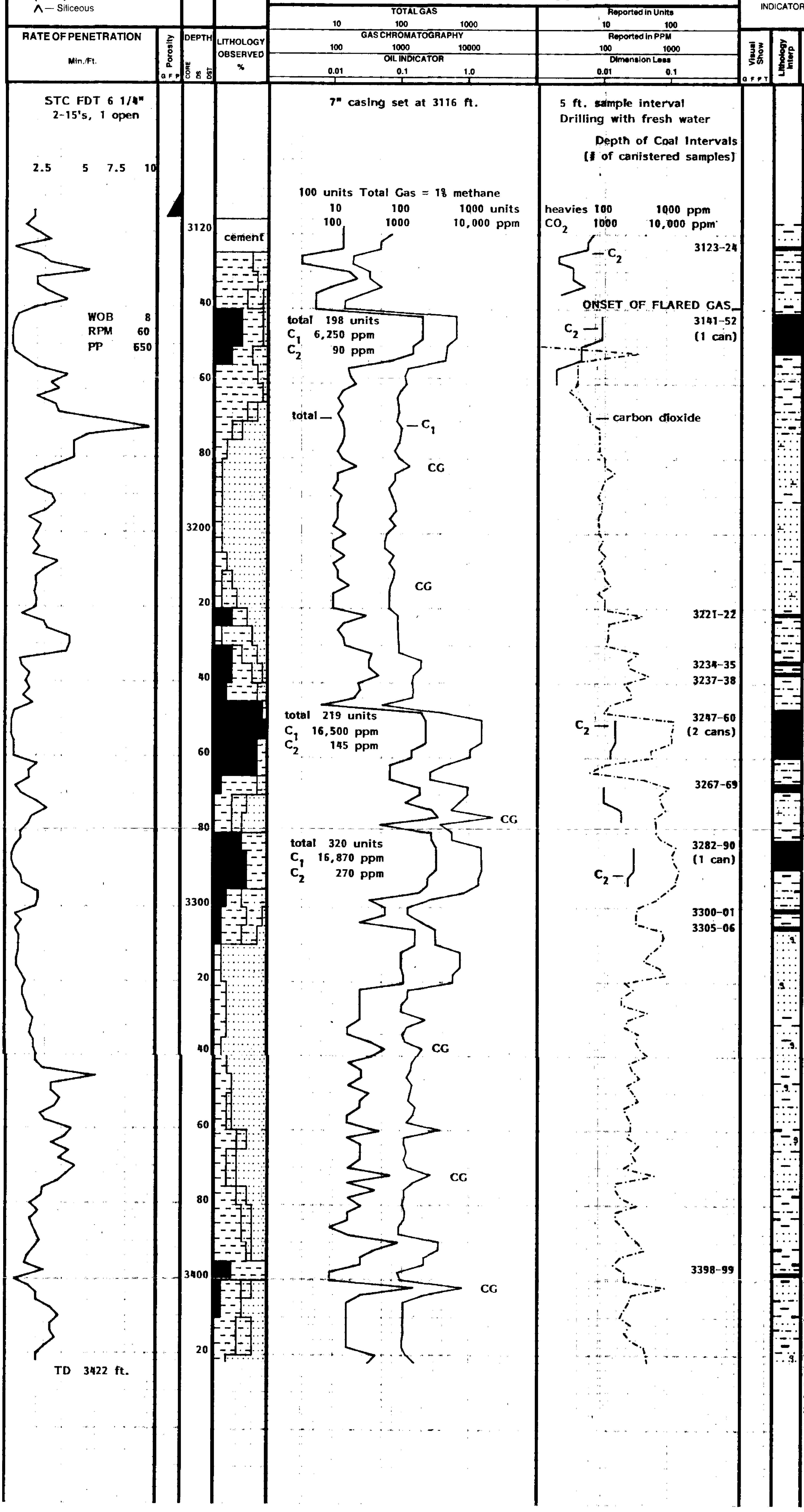
LITHOLOGY MODIFIERS

// — Anhydritic
B — Bentonitic
⊥ — Calcareous
▬ — Carbonaceous, Coaly
⊥ — Dolomitic
F — Fossiliferous
∿ — Glauconitic
ȸ — Oolitic
P — Pyritic
Λ — Siliceous



LEGEND—GAS CURVES		
TOTAL GAS		T
METHANE		1
ETHANE		2
PROPANE		3
ISO & N-BUTANE		4
OIL INDICATOR	$\frac{C_3 + C_4}{C_1}$	0

HYDROCARBON ANALYSIS



Sh lt gy,some gn gy, sub blocky,firm,mod silty,non calc,gen non carb,intbd w/ blk vit coal

Coal black to gy blk, pred sub blocky,gen sub vit-vit material is finely dispersed & laminated,mod-very argillac & carb,tr resin, gen poor quality coal

Sh v dk brn,sub plty earthy-sub res,v carb, scattered pyr,silty

Ss lt-med gy,pred f gr,sub ang,mod well srt,smpl disagg,clr-sli fros qtz grs,mod calc cmt,occ gn grs (chlorite?),NF,NC

Ss med gy,gen f-occ med gr,fair srt,smpl disagg,clr-sli fros qtz,less calc than above,becoming more silty,NS

Sltst med brn,sub blky-blky,firm to hd,v sli calc,gen non carb, sandy in part,intbd w/ thin black vit coal, blocky w/ conch frac.

Coal black,sub blocky-blky,v rr conch frac, vit material as finely banded to striated, pred sub vit,poor cleating,sme carb mat. tr pyr,overall fair quality coal

Sh m brn,sub blky,frm non calc,not v carb, mod -v silty & sandy

Coal black & brn blk, sub blky-blky,20% vit, occ conch frac,sme carb & argill,tr resin mod pyr,fair quality coal,best of well

T/ P.C. Tongue 3307'

Ss lt gy-wh S&P,pred f gr,mod well sorted, smpl disagg,v sli calc glauc & carb-coaly grs tr brn dd intergran residue at top,NF,NC

Ss lt-med gy wh S&P, f gr,sub ang-sub rd, mod w srt,sli more fros than above,glauc & carb grs,no intgran residue,NF,NC

Sh med-dk brn,some brn blk,sub plty-sub blky,mod sft,earthy, v carb-silty,occ coaly laminae

Sltst med-dk brn,sub blocky,frim,mod carb w/ some coaly grains,

Sh & Coal Sh is very dk blk-brn,sub blocky-sub platy,very carb w/ dispersed coaly material,coal is blk, blocky,pred vit,intbd w/ very carb Sh

T/ Main P.C. 3419'

T.D. sample- Ss med brn gy S&P,pred f gr, sub ang,fair srt,smpl disagg,glauc & carb grs,mod abnt brn dd intgran residue,NF,NC