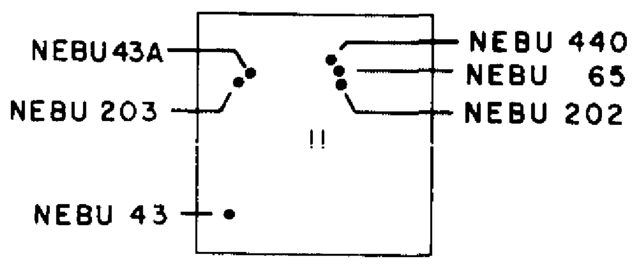
BENCH MARK
GEOLOGICAL SERVICES

HYDROCARBON WELL LOG

RECEIVED
JAN 12 1990
OIL CON. DIV
DIST. 3

OPERATOR Blackwood and Nichols
WELL NE Blanco Unit 440
FIELD
LOCATION sec 11 T31N R7W
CO./STATE San Juan Co., New Mexico
ELEVATION KB 6534 ft. GL 6520 ft.
SPUD DATE
INTERVAL LOGGED 3060 - 3403 ft.
DATE LOGGED 1/9/90
LOGGING GEOLOGISTS Randy Laney, Dan Wyckoff
INSTRUMENTATION FID chromatograph and total gas detector, infrared CO_2 detector
WELL LOCATION

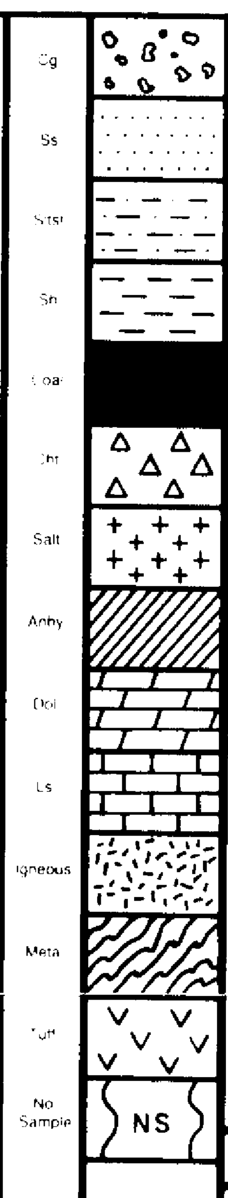


ABBREVIATIONS

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

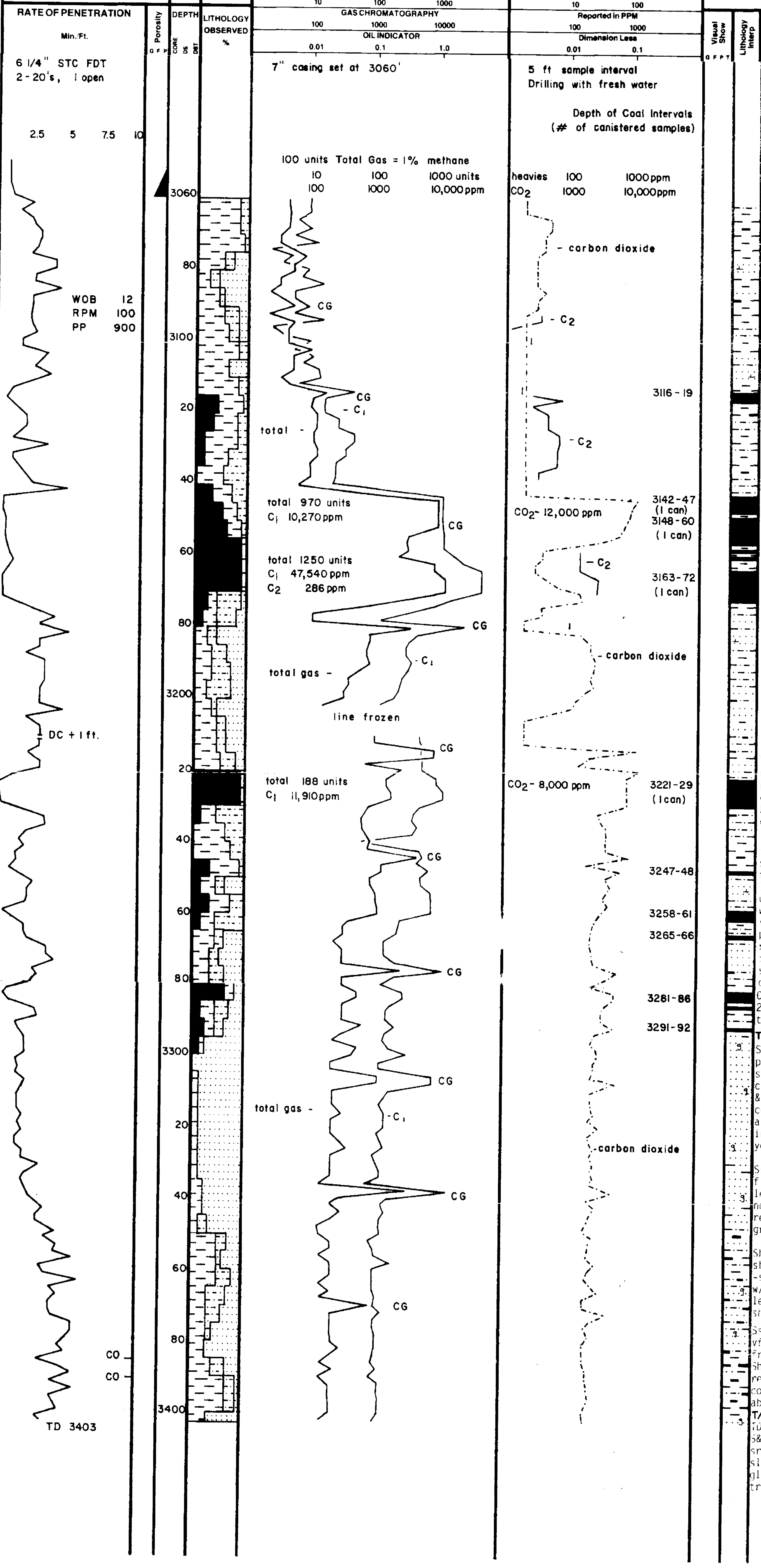
LITHOLOGY MODIFIERS

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



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

HYDROCARBON ANALYSIS



Lithology Descriptions and Remarks

Sh lt-m gy brn, plty-sb plty, frm, earthy-sli sb wxy, gen non carb-some scattered paper thin coaly laminae

Ss lt gy-cream, pred f gr, fros, fair-poor srt, mod fri-smpl disagg, some carb grs, v calc w/ wh calc clyst grdg to siltst in part
NS

Coal blk & brn blk, v plty-occ fissile, 10-20% vit-remainder sb vit-res, vit coal as thin bands & streaks, mod carb

Sh dk brn-blk, sb plty frm, non calc, mod-v carb w/ thin coaly laminae

Coal pred black, upper part sb blky-good blky text to base, v little vit in upper part-30-40% vit in base, upper part mod-v carb-much less carb in base, base contains dk orng-brn opaque resin, calcar. veins & stringers, best coal at base

Ss m gy wh, pred f gr, sb ang, p srt, fros, calc cmt, some carb grs tight, NS

Sltst m-dk gy brn, sb blky, frm, sli-occ mod carb, sandy in part, sli calc, occ paper thin carb-blk vit coaly laminae

Coal blk, blky-sb blky, 40-50% vit luster gen massive w/ no carb breaks, no resin, fair-good quality coal, best in well

Sh v dk brn blk-blk, sb plty-occ sb blky, frm, w/ thin coaly laminae, v carb

Coal pred blk, sb blky w/ grainy text, 10% vit luster, carb in part, mod abnt amber resin, poor quality

Ss lt gy, f-occ m gr, sb ang, some carb grs, calc & sil cmt, tt, NS

Coal blk, blky-sb blky 20-30% vit-less carb than above, less resin

T/ P.C. Tongue 3294'

Ss lt brn-clr S&P, pred f gr, fair-mod srt sb ang, majority clear, calc & sil cmt, glauc & carb grs w/ fine coaly intgran material also brn dd bitum resd in very top part, pale yel-gold flor, NC

Ss lt gy wh S&P, pred f gr, w srt, sb ang, sli less calc, smpl disagg, no coaly-bitum intgran residue, glauc & carb grs, NF, NC

Sh blk brn, v dk brn, sb plty-sb blky, earthy-sb vit, v carb & coaly w/ some blk vit coaly lenses-grading to shaley coal in part

Ss m gy wh, brn gy, vf-f gr, mod argill., p-fr srt, reworked P.C. Ss

Sh v dk brn-blk, sb res-sb vit, v carb w/ coaly lam & lenses, abnt orng opaque resin

T/ Main P.C. 3400'

TD Sample- Ss gy wh S&P, pred f gr, gen p srt, sb ang, sli fros, sli calc, smpl disagg, glauc & carb-coaly grs tr bitum residue, NF, NC