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OIL CON. DIV.
DIST. 3

BENCH MARK GEOLOGICAL SERVICES

HYDROCARBON WELL LOG

OPERATOR BLACKWOOD AND NICHOLS
WELL NE Blanco Unit 426 FIELD Basin Fruitland Coal
LOCATION sec 6 [redacted] CO./STATE San Juan Co., New Mexico
ELEVATION KB 6433 ft. GL 6419' (ungrd) SPUD DATE
INTERVAL LOGGED 3031 - 3350 ft. DATE LOGGED 5/23/90
LOGGING GEOLOGISTS Randy Laney, Mike Mixter
INSTRUMENTATION FID Chromatograph and Total Gas Detector, Infrared CO_2 Detector
WELL LOCATION

NEBU 426
6

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
- WI — Water Loss
- WOB — Weight on Bit
- Wt — Density Of Drill Fluid

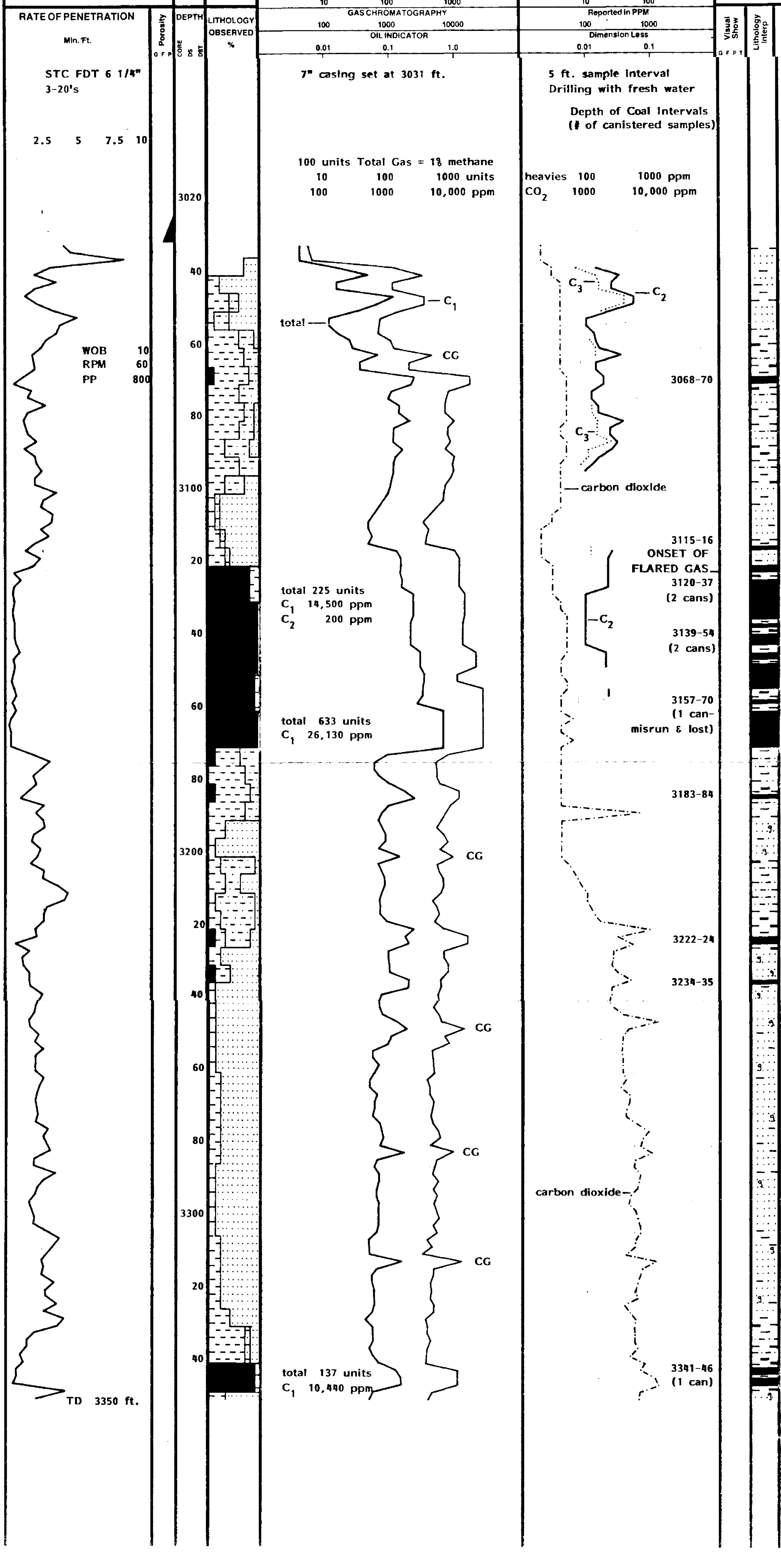
LITHOLOGY MODIFIERS

- // — Anhydritic
- B — Bentonitic
- ⊥ — Calcareous
- ■ — Carbonaceous, Coaly
- ⊥ — Dolomitic
- F — Fossiliferous
- N — Glauconitic
- ɸ — Oolitic
- P — Pyritic
- Λ — Siliceous

Cgl
Ss
Sltst
Sh
Coal
Cht
Salt
Anhy
Dol
Ls
Igneous
Meta
Tuff
No Sample NS

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



Lithology Descriptions and Remarks

Ss med gy brn,pred vf gr,sub ang,fair srt, disagg,mostly fros,v calc cement,NS

Sh med brn,lt-m gy, some blk brn,platy-sb platy,firm,sub waxy-earthy,non calc,non-sli carb,intbd w/ blk v carb,sub vit Coal

Sltst med brn,gy tan, sub blocky-sub platy, firm,very sli calc, occ coaly paper thin lam,sandy in part

Ss tan to brn gy,vf-f gr,sub rd-sub ang, fair srt,fros,disagg, carb grs,v calc,NS

Coal black & brn blk, platy to sub blocky esp in lower portion, pred sub vit to res-very little carb mat., mod argill & carb,some pyr nodules,some gy secondary calc in fracs,very rare resin, poor quality coal

Coal black-some brn blk,pred sub blocky, gen sub vit w/ only 10% vit material,mod carb,more pyr than above,more sec calc in cleats & fracs-also singly term qtz xl clusters,better coal than above-still only fair quality

Ss lt brn gy S&P,vf gr,sub ang w/ qtz over-growths,w srt,sli calc,glauc grs,abnt lt brn bitum residue, NC,reworked P.C. Ss

Sh brn blk, sub plty res-sub vit,firm,int-bd w/ blk sub vit,sub blocky, carb coal

Ss gen as above,vf gr,w srt,sli calc, glauc grs,reworked PC

T/ P.C. Tongue 3236'

Ss very lt gy wh S&P, larger grain size than above-pred f gr,sub ang w/ some qtz over-growths,sli more fros, disagg,sli calc,glauc & carb-coaly grs,no intgran residue,NF,NC

Ss very lt gy to wh S&P,pred as above, sli more qtz overgrowths,f gr,clr & fros qtz grs,glauc & carb grs,NF,NC

Ss lt gy wh S&P,f gr, sub ang-some sub rd, pred fors qtz grs, disagg,sli calc,glauc & carb grs,NF,NC

Sh v dk blk brn,sub blky-sub plty,res-sub vit w/ grainy text, extremely carb,coaly in part,silty in part

Coal blk & brn blk, sub blky-blky,res to sub vit w/ 30% vit, mod carb,some pyr,abnt amber resin,fair qual. coal-best of well

T/ Main P.C. 3348'

TD sample- Ss med gy wh S&P,f gr,sub rd, fros,w srt,sli calc, glauc & carb grs,NS