

BENCH MARK GEOLOGICAL SERVICES

HYDROCARBON
WILLIAMS RECEIVED

MAR 27 1990

OIL CON. DIV
DIST. 3

OPERATOR Blackwood and Nichols

WELL NE Blanco Unit 410

FIELD

LOCATION sec 9 T31N R7W

CO. STATE San Juan Co., New Mexico

ELEVATION KB 6668 ft GL 6655 ft

SPUD DATE

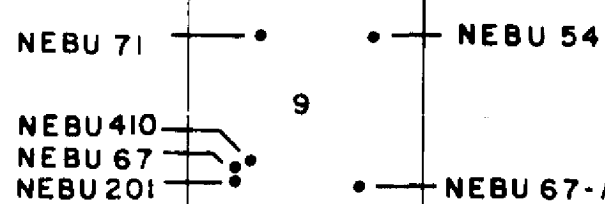
INTERVAL LOGGED 3186 - 3540 ft

DATE LOGGED 3/10 - 3/11/90

LOGGING GEOLOGISTS Dan Wyckoff, Ron Horton, Randy Loney

INSTRUMENTATION FID chromatograph and total gas detector

WELL LOCATION



LEGEND--GAS CURVES

TOTAL GAS	T
METHANE	1
ETHANE	2
PROPANE	3
ISO & N-BUTANE	4
OIL INDICATOR	$\frac{C_1 + C_2}{C_1}$ 0

HYDROCARBON ANALYSIS

TOTAL GAS			Reported in Units	
10	100	1000	10	100
GAS CHROMATOGRAPHY			Reported in PPM	
100	1000	10000	100	1000
OIL INDICATOR			Dimension Less	
0.01	0.1	1.0	0.01	0.1

7 inch casing set at 3186 ft.

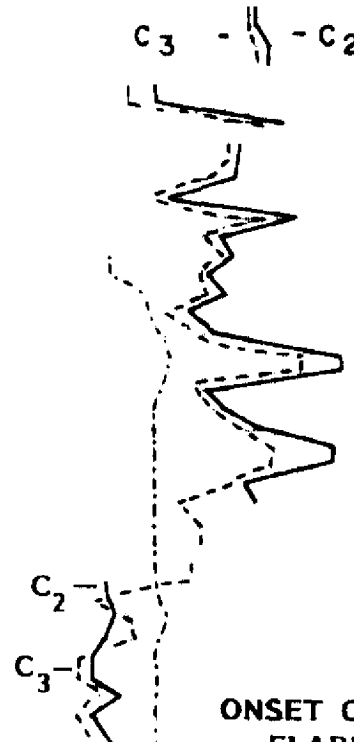
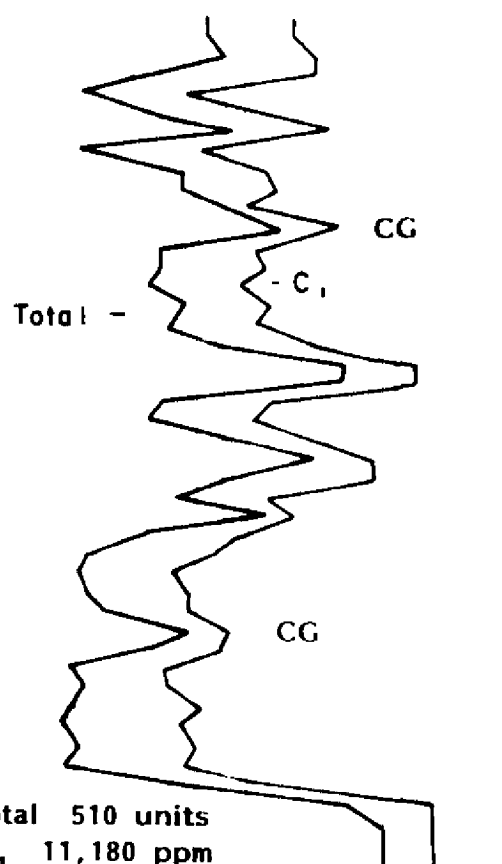
5 ft. sample interval.
Drilling with fresh water.

Depth of Coal Intervals
(# of canistered samples)

100 units total gas = 1% methane.

10	100	1000 units
100	1000	10,000 ppm

heavies	100	1000 ppm
CO ₂	1000	10,000 ppm



ONSET OF
FLARED GAS-
3266-68
3270-76

carbon dioxide

total 1200 units
C₁ 33,020 ppm

total 292 units
C₁ 15,130 ppm

3354-67
(2 cans)

3388-90

3409-12
(1 can)

3510-11

3522-23

3537-38.5

Sh lt gy, some gygn, platy, occ carb laminations, firm, gen non calc

Sh med-v dk brn, brn-blk, sub platy, sub waxy, occ sub resinous, firm mod carb w/ coaly lam

Coal black, platy-sub fissile-some blocky, 10-15% vit, mod carb, tr calc veins, tr pyr

Ss med gy brn, vf-f gr, sub ang, poor srt, mod fri, some carb material, very arg-silty in part, calc cement w/ wh calc clyst, NS

Coal black w/ some brn blk, gen sub blocky resinous-sub vit luster, 10% vit banding, mod-very carb, some tan clyst resinous material in upper part, gen poor quality coal

Coal black & brn blk, sub platy-sub blocky, mod-very carb, very little vit material, grading to coaly Sh

Ss med gy-brn, gen f gr, sub ang, fair srt, mod fri, some scattered carb grs, sli calc, argillac. in part, NS

Sh med-dk brn, gen sub platy, firm, mod carb w/ coaly laminae, occ silty in part

Ss lt gy-erm, f-occ m gr, sb rd, fair srt, mod calc, carb grs, NS

Coal pred black, fair blocky texture w/ rare conch frac, gen massive sub vit w/ 10-20% vit striations, little carb material, tr pyrite, tr amber resin, overall fair-good quality coal

Sh med-very dk brn, sub platy-sub blocky, v carb-interbedded w/ blk, gen vit coaly lam and lenses, silty ip

Coal pred black, fair blocky texture, 25% vit material, sli carb-interbedded w/ very dk brn blk coaly Sh, fair quality coal

T/ P.C. Tongue 3429'

Ss lt gy, gy wh S&P, f gr, sub ang-sub rd, mod well sorted, sample disagg, sli calc, fros w/ occ clr grs w/ overgrowths, carb-coaly grs glauc grs, NF, NC

Ss cream to lt gy S&P gen as above, fair srt, sub ang, disagg, carb & glauc grs, sli calc-some clay cement, NS

Sh black to v dk brn-blk, sub platy-occ sub blocky, mod firm, earthy-sub resinous luster, very carb w/ coaly laminae, occ grading to coal

Coal black, gradational from above Sh, gen vit, blocky w/ conch frac, some lt brn resinous clyst material

Coal pred black w/ some brn blk, gen blk texture w/ conch frac, 40% vit, interbedded w/ very carb Sh & Sltst

T/ Main P.C. 3539'

TD sample- Ss cream- lt gy S&P, f gr, well sorted, sub rd, qtz overgrowths, carb & glauc grs, sil & clay cement, NF, NC

ABBREVIATIONS

CO --- Circulate Out
CG --- Connection Gas
CB --- Core Bit
DC --- Depth Correction
DS --- Directional Survey
DS1 --- 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
◇ --- Oolitic
P --- Pyritic
Λ --- Siliceous

RATE OF PENETRATION

Min. Ft.

6.25" STC FDT
Jets: 3 22s

2.5 5 7.5 10

WOB 8
RPM 100
PP 900-1100

TD 3541 ft.

LITHOLOGY OBSERVED

%

DS

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