

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
 WI — Density Of Drill Fluid

LITHOLOGY MODIFIERS

// — Anhydritic
 B — Bentonitic
 + — Calcareous
 ■ — Carbonaceous, Coaly
 - — Dolomitic
 F — Fossiliferous
 ~ — Glauconitic
 ◇ — Oolitic
 P — Pyritic
 A — Siliceous

BENCH MARK

GEOLOGICAL SERVICES

HYDROCARBON

WELL LOG

JAN 6 4 1990

OIL CON. DIV.
DIST. 3OPERATOR Blackwood and NicholsWELL NE Blanco Unit 458

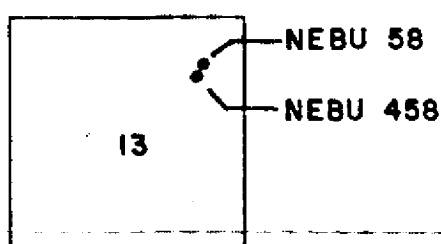
FIELD

LOCATION sec 13 T31N R7WCO./STATE San Juan Co., New MexicoELEVATION KB 6519' est GL 6505' ungraded

SPUD DATE

INTERVAL LOGGED 3068' - 3441'DATE LOGGED 12/13 - 12/14/89LOGGING GEOLOGISTS Randy Laney, Dan WyckoffINSTRUMENTATION FID chromatograph and total gas detector, infrared CO₂ detector

WELL LOCATION



LEGEND—GAS CURVES

TOTAL GAS	T
METHANE	1
ETHANE	2
PROPANE	3
ISO & N-BUTANE	4
OIL INDICATOR	C ₁ + C ₂
	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

RATE OF PENETRATION

Min./Ft.

6 1/4" Sec S33L
2-18's, 1-20WOB 8K
RPM 90
PP 1800DC +4 rig
geolograph
malfunctioning

DC +3

DC +4

DC +10 - Disconnect
rig geolograph. Using
manual system.

DC +2

DC +2

DC +4

TD 3441'

DEPTH

LITHOLOGY OBSERVED

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7" casing set at 3068'

100 units Total Gas = 1% methane
10 100 1000 units
100 1000 10,000 ppm

total 78 u
 C₁ 2950 ppm
 C₂ 330 ppm
 C₃ 217 ppm

total 121 units
 C₁ 6020 ppm
 C₂ 107 ppm

total 172 units
 C₁ 7054 ppm
 C₂ 107 ppm

total 51 units
 C₁ 2920 ppm

total 172 units
 C₁ 7054 ppm
 C₂ 107 ppm

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 C₂ 107 ppm

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 C₂ 107 ppm

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

total 78 u
 C₁ 2950 ppm
 C₂ 330 ppm
 C₃ 217 ppm

total 121 units
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