WELL **PALAZZUOLO 1**

SPECIFICA CONCESSIONE: RICERCHE IDROCARBURI
APPENNINO SETTENTRIONALE

Permit: Firenzuola
Rig: Ensoe 800 / Saipa Op. Dr. Co.
Elevation Rotary table: 503.6 m. a.s.l.
Spudding date: Sept., 6, 1988
Completion of drilling: Oct. 20, 1988
Completion date: /
Total depth: 2500 m
Status: Temporarily suspended on Nov. 12, 1988

Sandstone
Marl
Shale
Limestone

Unconformity
Fault
Core dips

SHOWS
Weak oil shows
Strong oil shows
Weak (+ N/A water)
Strong (+ N/A water)
Oil shows
Oil show (+water)
Oil and gas shows
Oil and gas show
Heavy oil show
Bitumen show
Salt water show
Fresh water show

PROVEN RESERVOIR
Interval with gas
Interval with oil
Interval with salt water
Interval with fresh water
Perforations (Interval No.)
Bridge plugs
Drilled through

Location: on the Paretaio-Firenzuola road, about 10 km NW of Pietramala village
Coordinates: Lat. 44°07'17" N - Long. 0°56'26" W
Ground elevation a.s.l.: 485.5 m.
K.B. a.s.l.: 504 m.

INDEX MAP TO
Scale 1:100.000 - Polyconic projection

Casing
Shoe
Cement plug
Cement plug (drilled)
Casing perforation
Mud loss
D.S.T.
D.S.T. (tested)

Report "Palazzuolo" Final report Rome, Nov. 1988

Geologist: G. SPADONI
Micropaleontologist: M. PELLIZZON

SCALE 1:1000

CHRONOSTRATIGRAPHY
SERIES
STAGES
SUBSTAGES
MEMBERS

LITHOLOGIC DESCRIPTION
LITHOLOGIC COMPOSITION
DITCH SAMPLES
Carbonate
Detrital

DRILLING TIME and/or PENETRATION RATE
WOB
RPM
HOOKLOAD
TORQUE
PUMP PRESSURE
MUD PROPERTIES
WEIGHT
VISCOSITY
FILTRATE
CHLORIDES
CALCIMETRY
GAS ANALYSIS
MUD GAS
TOTAL GAS
CHROMATOGRAPHY
C1 C2 C3 C4 C5

SPONTANEOUS POTENTIAL
RESISTIVITY
16 Ohm
64 Ohm
LATEROLOG
SHALLOW RESISTIVITY
MICROLOG
CALIPER
GAMMA RAY
API

MARNOSO — ARENACEA

T.D. 2500 m.

CASING: 13" 3/8 - 72 m.
9" 5/8 - 1124 m.
5" 1/2 - 2499 m. (perforated casing)

MUD: Bentonite - Polymer
Density: 9.1 - 10.3 lb/gal.
Viscosity: 40 - 60 sec.
Filtrate: 5 - 6 cc/30 min.
Cake: 1 - 2 mm.
Chlorides: 1000 - 1500 p.p.m.
Calcimetry: 10 - 20 %
Solids: 10 - 15 %
Sand: 0.5 - 1 %
pH: 9 - 10

GAS: Background: 0.1 - 0.2 %
Connection: 0.2 - 0.4 %
Trip: 0.4 - 0.6 %
Max. recorded: 0.6 % at 1200 m.
Gas composition: methane