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PROGRAMMA DEI LAVORI E RELAZIONE TECNICA

Permesse denominate "POLICENTRI" su terraferma.

Il permesso di ricerca convenzionalmente denominato

"POLICENTRI" richieste dai BLUE STAR PETROLEUMS LIMITED,

CANADIAN INDUSTRIAL GAS AND OIL LTD., ULSTER PETRO-

LEUMS LTD., ENSIGN OILS LIMITED, PAYTO OILS LIMITED,

CHANCELLOR CONSULTANTS LTD., CITIZENS PIPELINE

TED, SUNLITE OIL COMPANY LIMITED, BARLOW BROS. LTD.,

LINCOLN MCKAY DEVELOPMENT COMPANY LTD., ha una esten-

sione di ettari 12.480 ed è situata a nord e ad est

della città di Vasto. Il limite orientale dell'area

richiesta è costituito dal mare adriatico.

CARATTERISTICHE GEOLOGICHE

L'area è già stata oggetto di esplorazioni gravimetri-

che, sismiche e di molte perforazioni in profondità

a carattere esplorative. Non sono stati trovati idre-

carburi in quantità di interesse commerciale. Uno degli

scopi della ricerca è di riesaminare i precedenti dati

disponibili di natura geofisica e geologica per rinve-

nire idrocarburi liquidi e/o gassosi in posizione strut-

urale favorevole o in sacche stratigrafiche a fianco

di strutture nel Pliocene. Buone prospettive esistono

anche nel sedimento Cretaceo dove attività di perfora-

zione sarà avviata per confermare le possibilità esi-

stenti in questo settore.

Programma di marcia dei lavori alla data del D.L. 15 FEB. 1971 relativo al permesso di ricerca per idrocarburi liquidi e gassosi.



"POLICENTRI"
testato a BLUE STAR
Petroleum
IL DIRETTORE
AZ. MIN. per gli IDROCARBURI
[Signature]

PROGRAMMA DI ESPLORAZIONE

Essendo i dati geofisici ~~già~~ già in possesso delle sottoscfitte società, il lavoro sismico iniziale sarà diretto psecipamente al completamento di un dettaglio 'digital' studio sismico con oggetto le tendenze strutturali già confermate.

Particolareggiata ricerca sismica sarà condotta per una lunghezza di circa 100 Km. con una spesa di circa Lit. 32.500.000= in canfermità delle norme in vigore concernenti le ricerche sismiche e con obbligo di indennizzà verso i proprietari terrieri.

Secondo l'esito ed i risultati ottenati dalle ricerche sismiche, non oltre il secondo o terzo anno dalla data di concessione del permesso, verrà perforato un primo pozzo esplorative di 2500 o 3200 metri nel quadro di un programma che ne prevede tre; se i risultati delle perforazioni saranno stati positivi, i tre pozzi saranno perforati ad una distanza di 18 mesi l'uno dall'altre.

Le perforazioni interesseranno totalmente lo strato di Pliocene, Cretaceo e parte del Giurassico.

Tutta la produzione di idrocarburi sarà soggetta alla regolamentazione in vigore in Italia.

Roma, 22 AGO. 1969

BLUE STAR PETROLUEMS LIMITED

L. A. J. Kelly

CANADIAN INDUSTRIAL GAS AND OIL LTD.

L. A. J. Kelly

ULSTER PETROLEUMS LTD.

L. A. J. Kelly

ENSIGN OILS LIMITED

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PEYTO OILS LIMITED

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CHANCELLOR CONSULTANTS LTD.

L. A. J. Kelly

CITIZENS PIPELINE LIMITED

L. A. J. Kelly

SUNLITE OIL COMPANY LIMITED

L. A. J. Kelly

BARLOW BROS LTD.

L. A. J. Kelly

LINCOLN MCKAY DEVELOPMENT COMPANY LTD.

L. A. J. Kelly

BLUE STAR PETROLEUMS
LIMITED

"POLLUTRI" PERMIT

PRELIMINARY GEOLOGICAL
REPORT

ROME - MARCH, 1971.

ENCLOSURES

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INTRODUCTION

The Pollutri Permit which was issued to Blue Star on the 15th of February, 1971, consists of 12,480 hectares; 29,953 acres.

Some previous seismic work was carried out by AGIP and Montecatini on this area. Several gas fields are located near the Permit, therefore, the subsurface control is sufficient to outline the gas prospects of the area and if the previous seismic data is obtained, a location could be selected without any or a very small amount of new seismic work.

All well data is available on or near the Permit with the exception of the Villalforsina No. 1, 2 and 3. This data will be released by AGIP if their seismic data is purchased.

A well is recommended to a depth of 2,000 meters to test the Miocene within 1 mile of the Villalforsina No. 1 gas Well. Gas production is expected from the Miocene and/or the Pliocene.

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REGIONAL GEOLOGY AND STRATIGRAPHY

The Pollutri Permit is located in the Southern part of Abruzzi Basin. This peri-Appenine basin is filled with Pliocene clastic sediments and parallels the Appenine Mountains.

In the area of the Pollutri Permit the pre-Pliocene limestone substratum is topped by a thin layer of Miocene calcarenites, often reefoidal in character averaging seventy to a hundred meters in thickness and lying unconformably on thousands of meters of porous carbonates of Cretaceous Jurassic and Triassic age.

A thin bed of Pliocene shales cover the Miocene calcarenite and acts as an excellent cap rock for accumulation of oil and gas underneath. The Pliocene and quaternary sediments are represented by several shale and sand sequences. Above the lower shale beds, a sequence of Lower - Middle - Pliocene sands follows which is gas bearing at San Salvo field, South of the Permit.

On the Southern border of the Permit two Wells, the Cassalbordino No. 1 and No.2 found small amount of oil in the Cretaceous limestone sequence, which is interrupted by several shale interbeds. The oil is 2,500 feet below the top of the Cretaceous under the third shale break.

STRUCTURES OF THE REPORT AREA

On the area of the Pollutri Permit normal faults break the carbonate substratum into a Horst Graben system. The faults die out into the Pliocene shales.

The most promising structural feature in the Permit area is a NW - SE trending normal fault. The fault downthrown to the North-East controls or at least affects the distribution of Lower - Middle - Pliocene sands. These sands are the main producing horizons in the nearby Cupello - Latella - San Salvo gas fields.

The second closed structure is located on the Northeastern portion of the Permit area.

EXPLORATION COMMITMENTS

Blue Star is committed to carry out seismic and geological exploration with an expense of \$40,000 during the first eighteen months life of the Permit and spud a well before the end of the third year (February 15, 1974).

It is anticipated that the re-interpretation of AGIP's seismic will be sufficient to select a location. This material is offered for \$200 per km.

A well to 2,000 meters in depth will cost approximately \$100,000 and if gas is found, completion will bring the cost up to \$180,000 - \$200,000.

OIL AND GAS PROSPECTS

On the Permit area oil has been found in non-commercial quantities in Cretaceous limestones.

The Miocene limestone is gas producing South and North from the Permit. The nearest well, only 1/2 mile from the Permit, the Villalforsina Well produces 700,000 to 1,000,000 cu. ft. per day from Miocene.

The Pliocene sands are the main reservoirs in the San Salvo gas field. The Scerni No. 1 Well, only 3/4 mile from the Permit, produces 1.4 MMcf gas per day.

The most promising area for gas accumulation is the trend between Scerni and Villalforsina. Both Miocene and Pliocene is expected to be gas bearing.

The structure in the Northeastern area, near to the Adriatic Coast is a Miocene Pliocene wildcat prospect.

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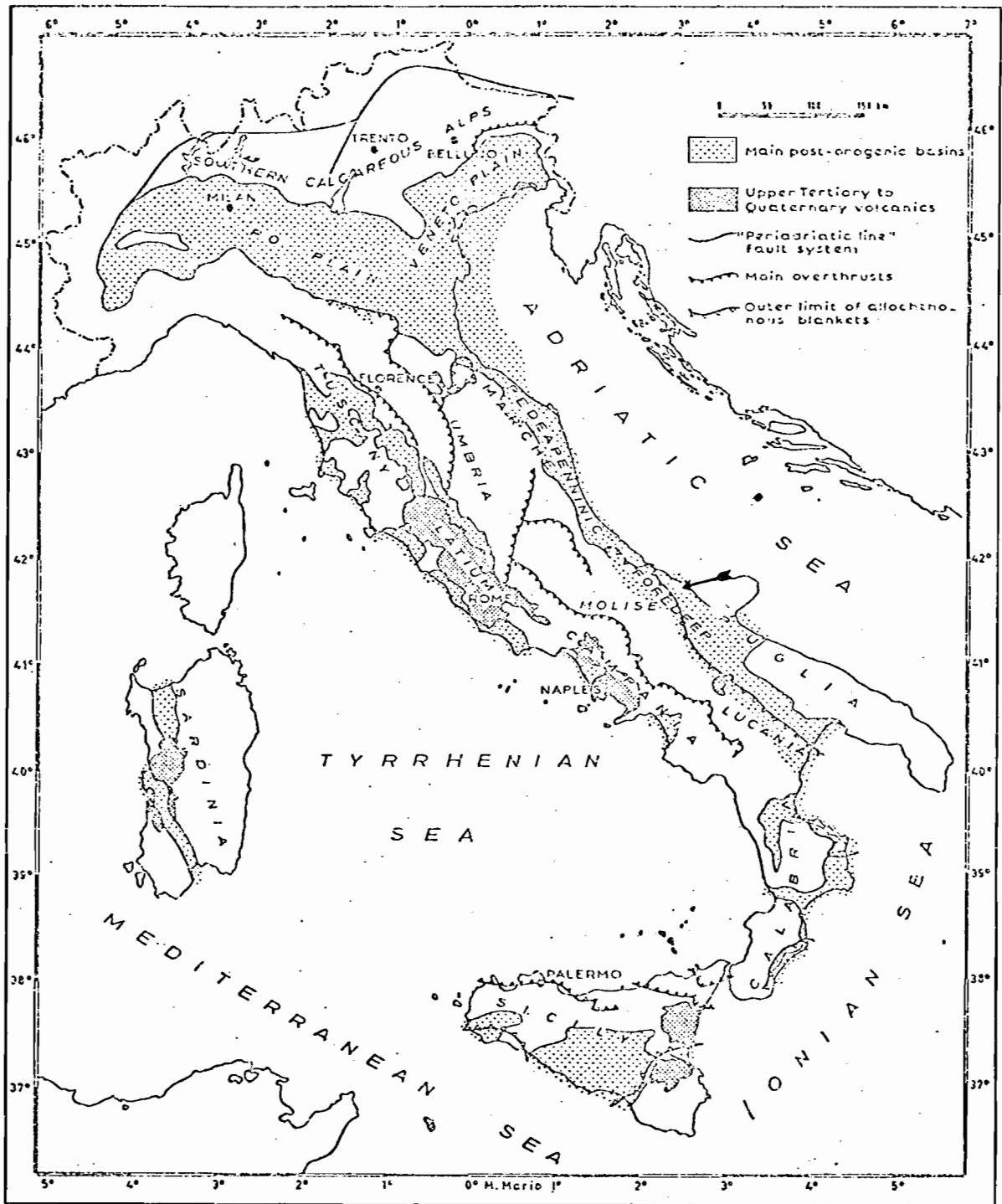
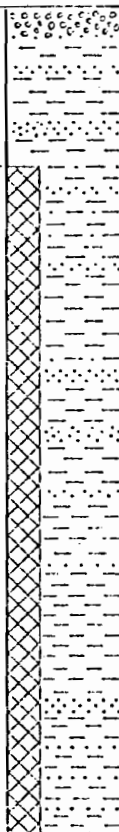
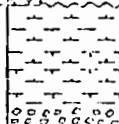
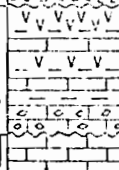
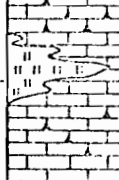



Figure 2. Tectonic outline of Italy. From Pieri, 1969.

Thickness (meters)	LITHOLOGICAL DESCRIPTION	LITHOLOGY	AGE
1800	Claystone, sandy claystone, sand, gravel. <i>Globorotalia crassula</i> <i>Globigerina inflata</i> <i>Orbulina</i> <i>Anomalinella helicina</i> <i>Anomalinella ornata</i> <i>Hyalinella balthica</i> <i>Globigerinae</i> <i>Orbulinae</i> <i>Cassidulinae</i> <i>Eulimnidae</i> <i>Elphidium</i> <i>Ammonia</i>		QUATERNARY PLIOCENE and QUATERNARY middle-upper
205	Marl, basal breccia <i>Globorotalia puncticulata</i> <i>Globigerinae</i> <i>Globigerinoides</i> <i>Cibicides italicus</i> <i>Vulvulina perforata</i>		lower PLIOC.
270	Limestone breccia, limestone (Biosparrodite, Biosparite) marl, gypsum, Bryozoa, Miogypsinae, Lepidocyclinae, Lithothamnion, Globosquaridinae, Globorotalia, Mollusca, Ostracoda		MIOC.
450	Limestone, cherty lst. (Biomicrite, Micrite) basaltic tuff. Nummulites, Alveolinae, Gysso-cyclinae, Globorotalia, Globigerinae		EOCENE
	Limestone (Intramicroite, Biomicrite) Dolomitic lst. Dolomite. Rudistae, Cucullinae, Discyclinae, Orbulinae, Globotruncanae, Globigerinae		CRETAC.

INTERVAL OF OCCURRENCE OF THE ALLCATHOUS COMPLEX

Figure 4. Composite geologic column in the Marche-Abruzzi and Molise-Bradano basins; from Carissimo, 1963.

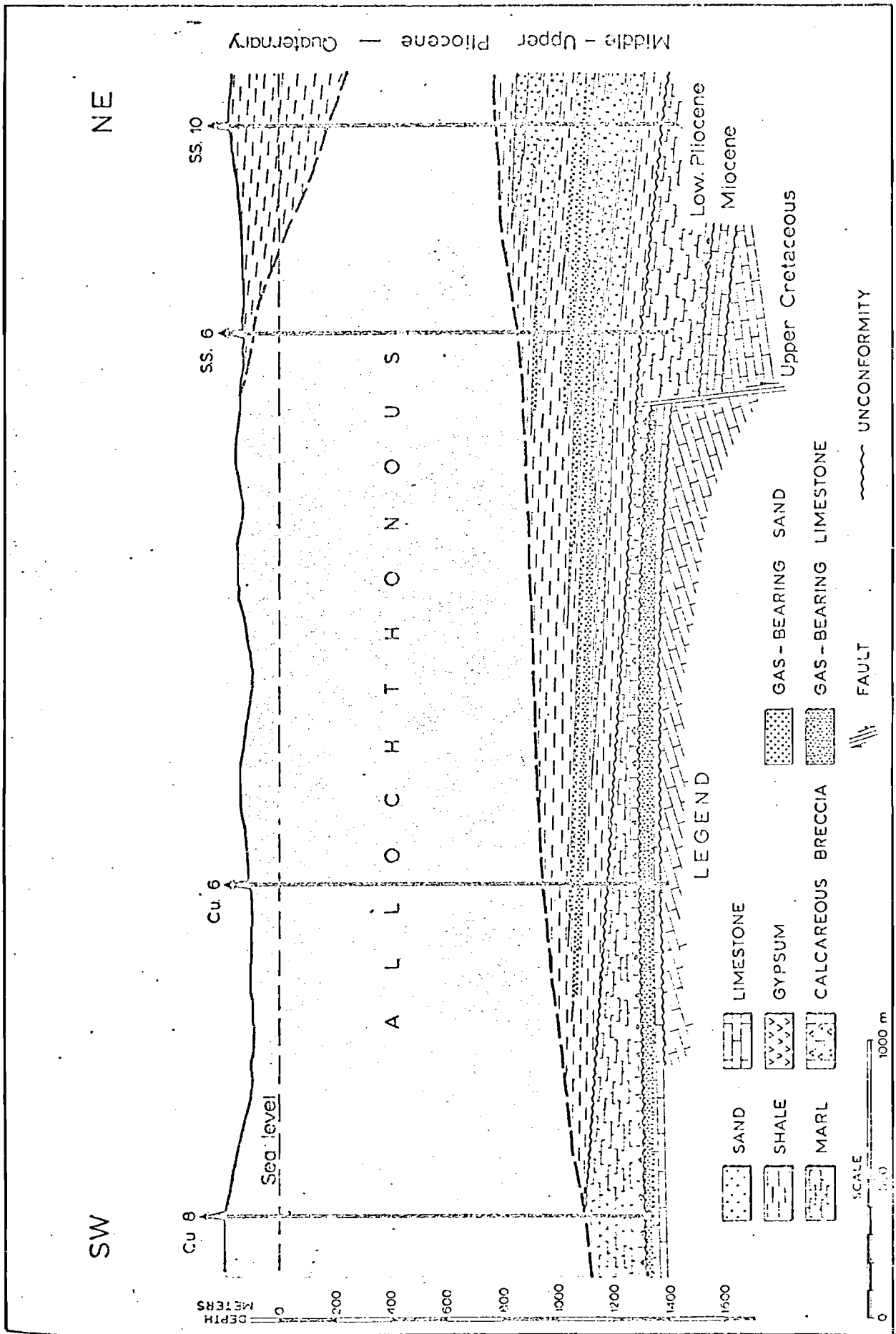


Figure 5. Cross section of the Cupello-San Salvo gas field in the Marche-Abruzzi basin; from Carissimo, 1963.

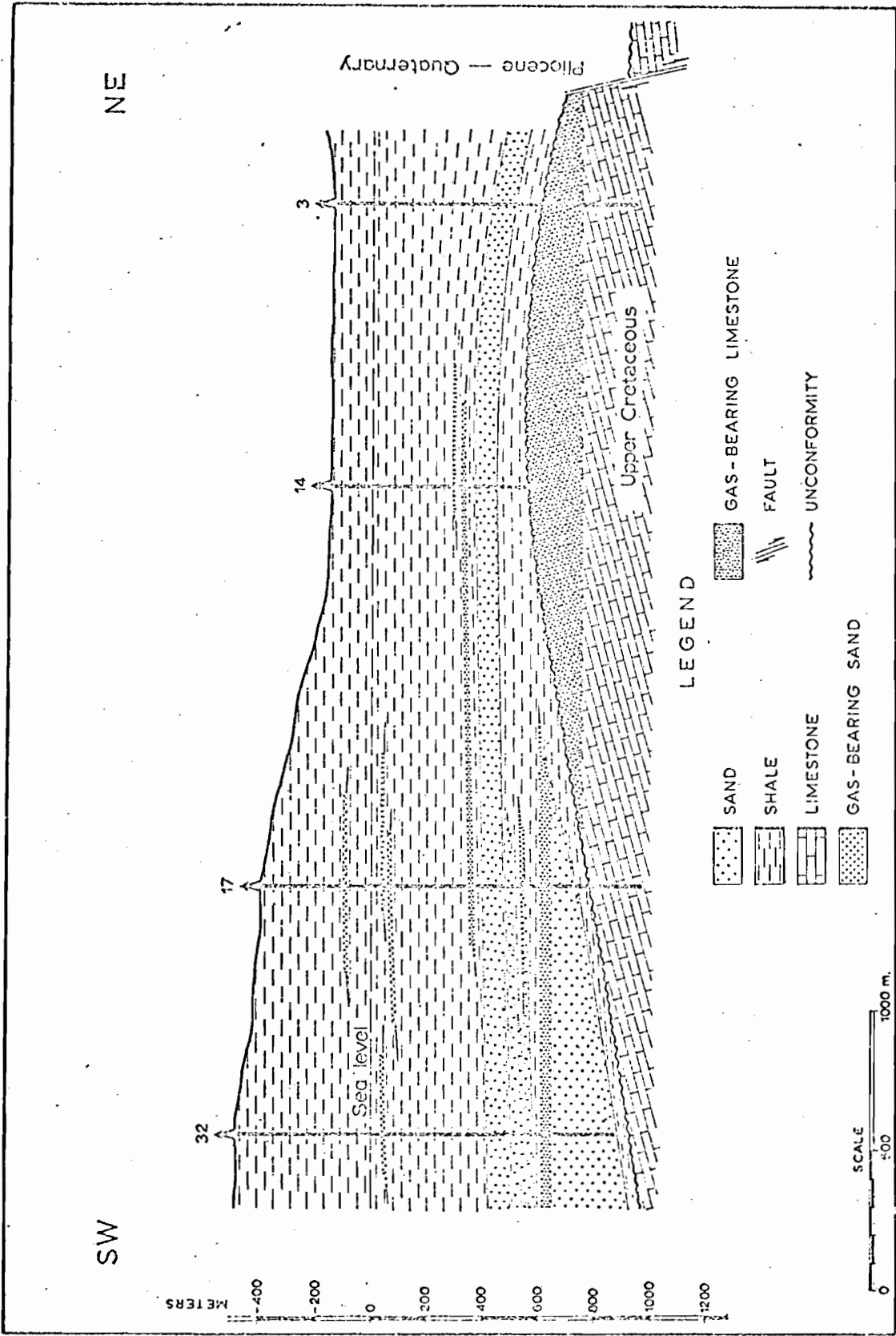
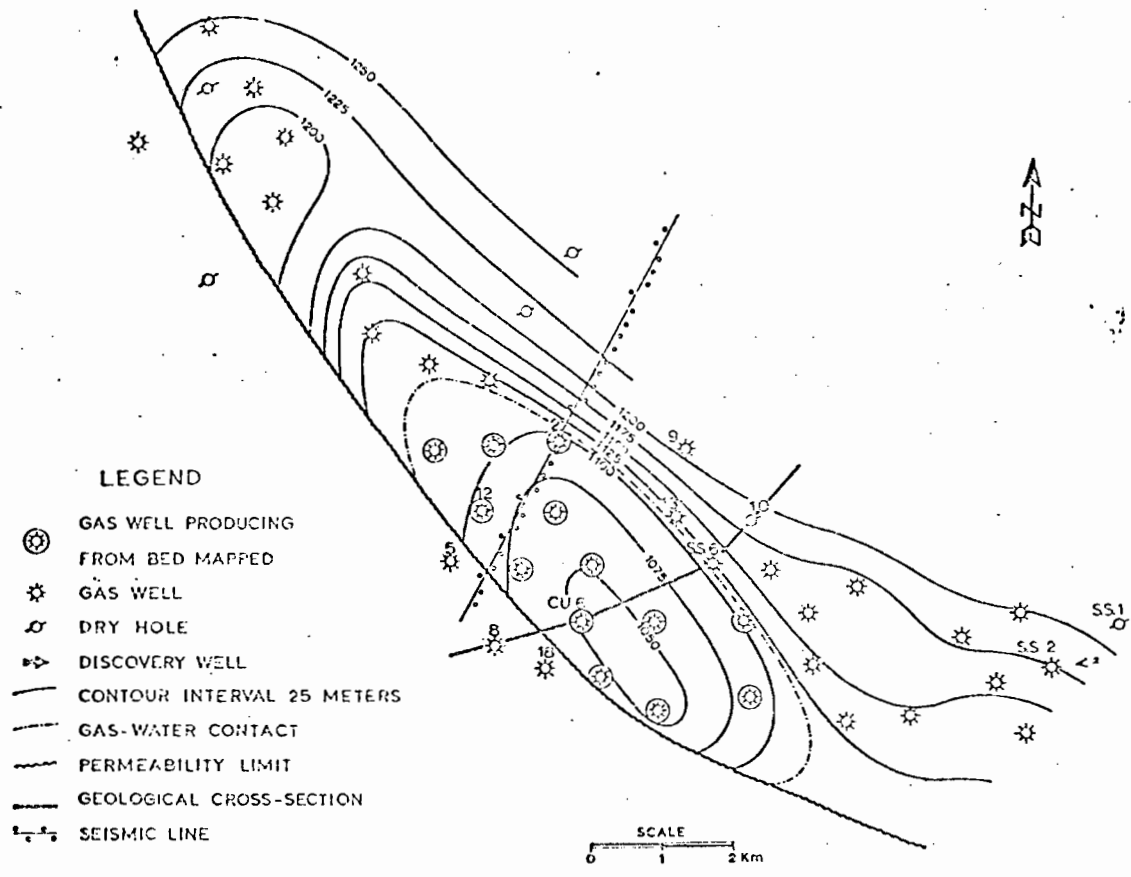
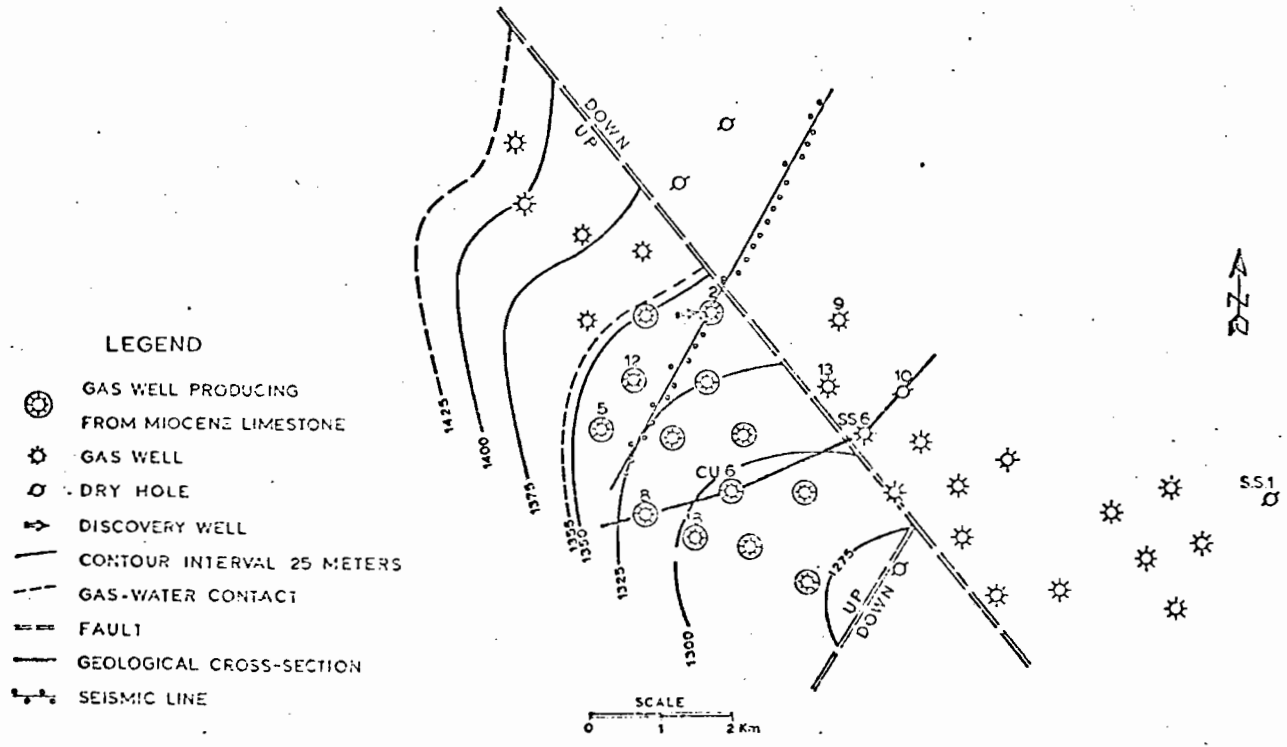


Figure 6. Cross section of the Grottole-Ferrandina gas field in the Molise-Bradano basin.



Cupello-S. Salvo Field: Upper-Middle Pliocene Horizon



Cupello Field: Top of Miocene Limestone

Figure 7 . Structure of the Cupello-San Salvo gas field; from Carissimo, 1963

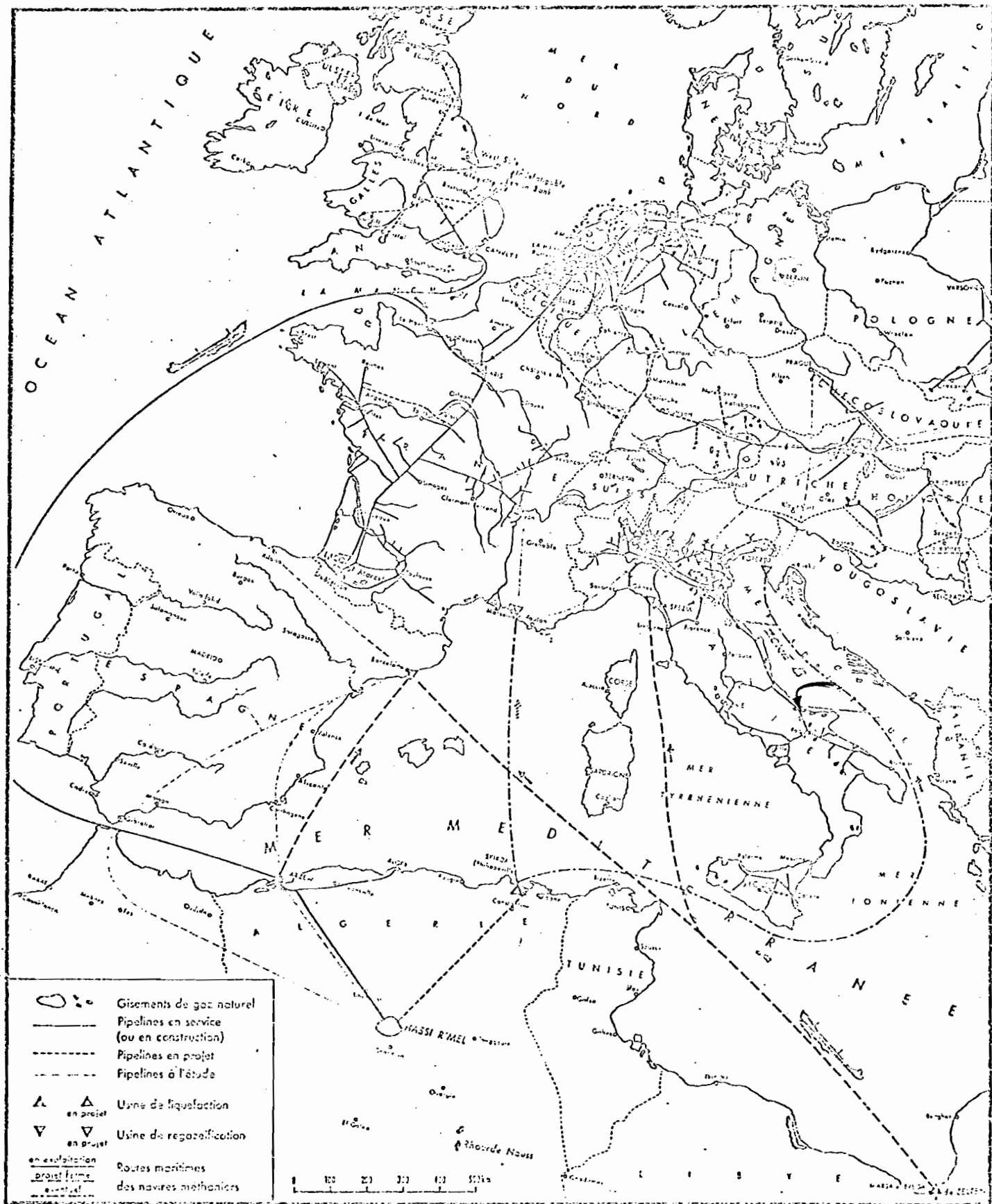


Figure 9. Gas supply lines in Europe. From *Attività de l'Industria Petrolifera 1967/*

DELTA OVERSEAS DRILLING CO.

VIA CARDUCCI. 4 - 00187 ROMA

SOCIETÀ PER AZIONI
CAPITALE SOC. L. 150.000.000
C. C. I. A. - ROMA 195296
TRIBUNALE - ROMA 124/1056

December 17, 1970

TELEFONI 478.103 - 470.082

IND. TELEGRAFICO: DELTA ROMA

BLUE STAR PETROLEUMS LIMITED
Via Marche 84
ROMA

Dear Sirs:

We refer to your kind request of December 3, 1970 and the conversation we had in your office regarding the well your company has planned to drill within the first half of 1971.

As we have told you there are no problems at all as to the availability of a drilling rig. In fact we own three rigs with a depth range of 6000 - 9000 feet and one of them will certainly be free at any moment. The availability of one rig instead of another may eventually cause a lower or higher mobilization and demobilization cost, which cannot be foreseen at this early stage, and in the forecast of expenses an average moving distance has been taken into consideration.

The forecast has been prepared on the following information:

- the well will be located in the Pollutri permit, at West of Casalbordino village
- foreseen stratigraphy:
 - Olistostroma (from surface to approx. m. 1200)
 - Pliocene
 - Miocene
- casing program:
 - 12-1/4" bit and 9-5/8" casing at m. 250 approx.
 - 8-1/2" bit and 6-5/8" (or 5-1/2") eventual production casing at T.D. of about m. 2000

We have also considered the two cases of dry well and productive well and they have given us the following results:

- A) Dry well - Total cost Lire 60.000.000 including:
- 1 - Road and location preparing
 - 2 - Rig mobilization and demobilization

- 3 - Rig rental based on present average daywork rates
 - 4 - Water
 - 5 - Fuel
 - 6 - Mud
 - 7 - Rockbits
 - 8 - Casing flange
 - 9 - m. 256 9-5/8" casing
 - 10 - Cement and casing cementing (Halliburton)
 - 11 - Two open hole DST (Halliburton)
 - 12 - Electric logs (IES, Laterolog and Microlog Caliper - Schlumberger)
- B) Completion - Total cost Lire 40.000.000 including:

- 1 - Rig rental
- 2 - Water
- 3 - Fuel
- 4 - Well head equipment
- 5 - m. 2000 6-5/8" casing
- 6 - Cement and casing cementing (Halliburton)
- 7 - Schlumberger (CBL and Shooting)
- 8 - Production testing (Halliburton)
- 9 - Production packer and tubing

We have tried to make an estimated cost as much exact as possible but in particular the road and location preparing and the formation drillability largely influence the costs and may cause considerable variations to the prevision of expenses.

We will be happy to grant you with any additional information you may require and will look forward to your news on the matter.

Yours very truly,

DELTA OVERSEAS DRILLING CO.



Ing. V. Di Cocco

VDC/am