

D 1672

COMPAGNIA PETROLIFERA ITALIANA

FIELD OPERATION REPORT

MONTESILVANO CONCESSION

APRIL 04th - MAY 13th 1977.

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1. INTRODUCTION

In pursuance of the contract dated 1st March 1977, the Compagnia Petrolifera Italiana (C.P.I.) has entrusted the Compagnie Générale de Géophysique (C.G.G.) with the execution of a seismic reflection survey, having obtained an authorisation to prospect from MONTESILVANO (Provinces of PESCARA and CHIETI).

Work has been carried out by party number 127 35 07 based on the PESCARA area and led by Monsieur AYOT.

The profiles included in the programme are called MS and are numbered from 01 to 10.

The present report gives an account of how the work was carried out.

Note: Data were processed by C.G.G. (data processing contract C.P.I. - C.G.G.)

2.1. Geographical Setting (see Fig. 1)

The survey sites are WNW and SSE of Pescara, an area bordering on the Adriatic Coast; it is a hilly region, the hills becoming fairly pronounced as one goes inland; three rivers flow through the area, practically at right angles to the coast: the Alento, the Pescara and the Saline.

The maximum altitude picked out on the profiles is of the order of 217m. Some of the profiles continue as far as the beach.

Outside the large built-up area of Pescara can be found various different types of housing:

- large modern houses and blocks of flats near the beach
- isolated houses of recent construction, situated in the hills or along the main roads, surrounded by gardens and orchards
- old houses and blocks of flats grouped into villages on the high ground (Montesilvano Colle, Spoltore)

Region of little properties divided into small holdings and used for mixed crop farming (cereals, beans, peas, fodder, crops, fruit trees, olives) numerous and extensive vineyards; stock farming (sheep and goats) on the steep slopes.

2.2 Programme (see Fig. 1)

89,600 line kilometres over 10 profiles in order to obtain a theoretical 24 fold coverage. It is expected that one of the deepest objectives of the survey, the Miocene limestone, will be found at 3 sec. TWT.

3. OPERATION

3.1. Camp

The office and the garage were situated at Pescara, Via Fosso Cavone 13/2, in premises hired from the LAVANDERIA DI STEFANO. No secondary camp was necessary; return journey time was never more than one hour.

Accommodation facilities at Pescara were satisfactory for the staff.

3.2. History

Permitting and topographic work started on 18.3.77 and finished on 17.5.77.

The first lay out took place on 4.4.77 and the final pick up on 16.5.77.

3.3. Methods of Operation

Normal for an operation of the vibroseis type. Main equipment:

- 3 vibrators and 1 spare vibrator
- 1 SN 338 A laboratory + TIGER III
- 1 workshop for mechanical repairs and maintenance
- 1 permitting and topography crew
- 1 team of office workers

the profile being surveyed, was given to the various crews in order to facilitate their movements.

3.6.2. Lay Out

Carried out in order to obtain a 24 fold coverage; the barycentre of the VP being situated in the middle of the barycentres of two consecutive traces, the VP bore the number of the previous trace. Interval between traces: 50 m.

Difficulties were many and various: steep slopes, deeply embedded rivers, road works, including some on motorways, water and gas mains, electricity and telephone cables; numerous scattered houses (see Fig. 4). About 20% of the VP were not vibrated because of these difficulties and with an eye to security regulations.

The rectilinear lay out required by the multifold coverage was generally respected except on the profiles MS03 and MS09, for which partial use was made of a Slalom line processing.

3.6.3. Survey

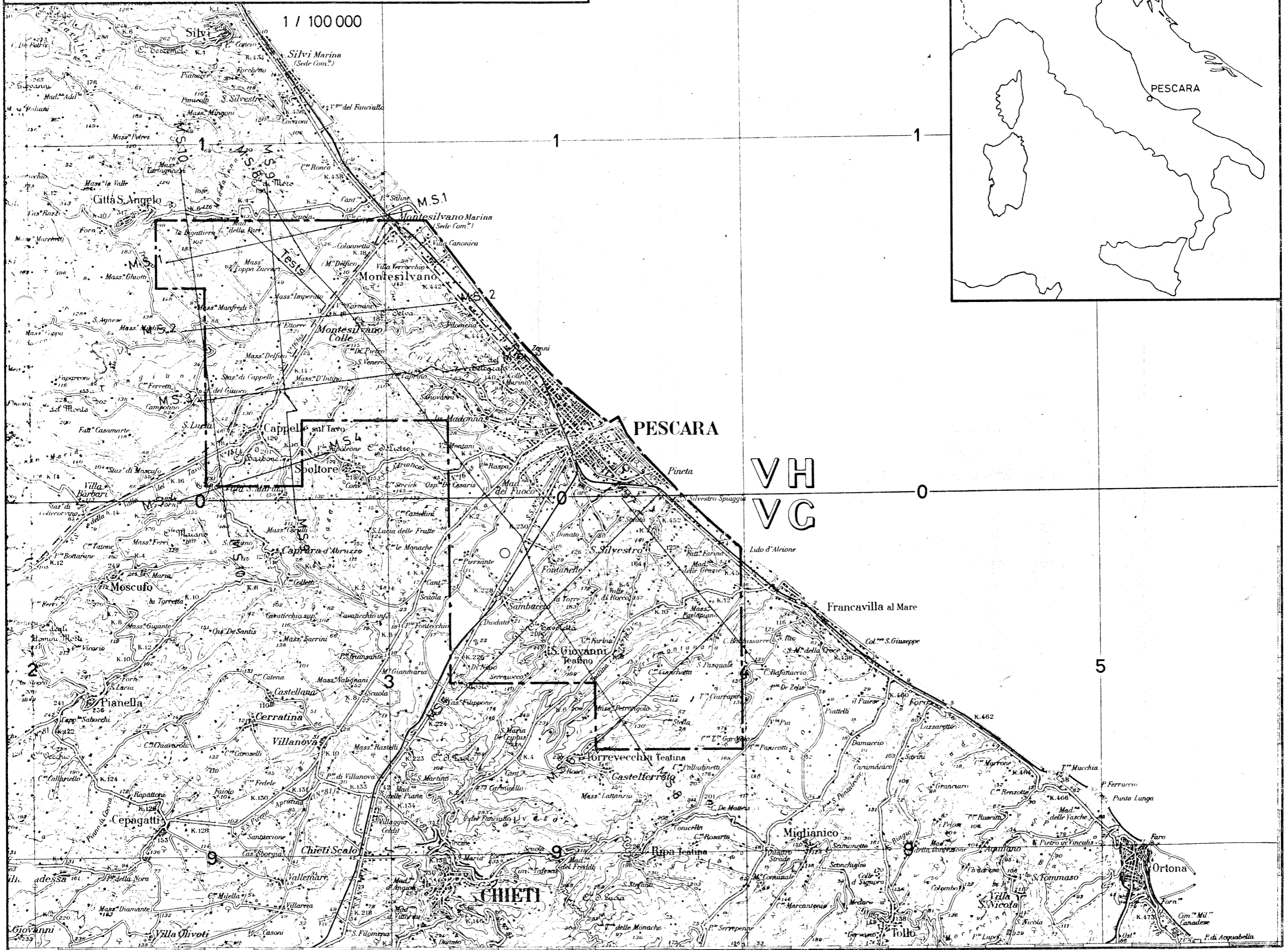
- Elevation: taken with a WILD To Theodolite with ties to the various reference points.
- Planimetry: measurements taken with a WILD To theodolite and tied to stations read from the map, scale of 1/25000.

3.6.4. Documents Provided










- List of coordinates and elevations of the traces; also including the offsets and elevations of the VP.
- Intersections of profiles on a scale of 1/1000
- Final survey location map to the scale of 1/25000 (see Pl. 1)
- Plotting of profiles on IGM maps; scale 1/25000 (field maps) (Pl. 2)
































Fig. 1

SURVEY LOCATION MAP



WEATHER CONDITIONS

	FINE
	HAZ OR CLOUDY OR UNSETTLED
	FOGGY
	FOGGY (or evening)
	STEADY RAIN
	SHOWERS
	THUNDER STORM
	WIND
	SNOW

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
																														

JANUARY

FEBRUARY

MARCH

APRIL

MAY

JUNE

JULY

AUGUST

SEPTEMBER

OCTOBER

NOVEMBER

DECEMBER

3.7. RECORDING

3.7.1. Equipment used

- 1 SN 338 A 48 traces, 21 tracks, digital recording instrument.
- 1 TIGRE III computer controlled field processor
- 3600 SM 4U 10Hz geophones
- 100 traces of cable.
- 4 MERTZ VSH 10 buggy mounted vibrators

3.7.2. Exploitation parameters

- Spread
 - Trace
 - Vibration station
- } see fig. 5
- Sweep: during 9 sec from 12 up to 48 Hz
 - Record length after correlation 6 sec.
 - Filters: low cut: 10 Hz, high cut: 62.5 Hz
Notch filter: ON
 - Sample rate: 4 ms
 - Multifold coverage: see stacking diagram (PI 3)

3.7.3. Equipment tests and maintenance

- Recording instrument and field processor: daily tests for visual check and monthly tests processed in Many Processing Center.
- Geophones: tested daily in turn with a shaker
- Cables: tested daily in turn for leakage and cover damage.

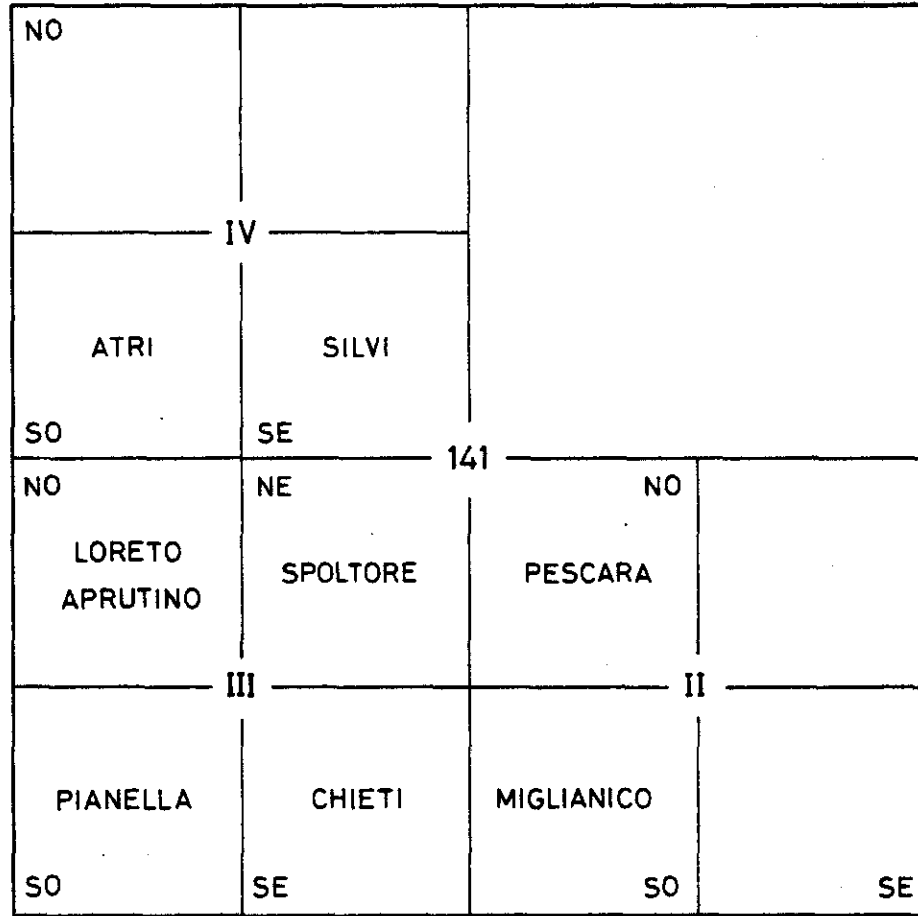
3.8. STATISTICS

- Coverage: 24 fold * tests
- Working days: 27+1*
- Total VS: 1722
- Laid-out Km: 89.600
- Daily out put: 3.320 Km for 10 hrs/day

Fig. 3

TOPOGRAPHIC SURVEY

MAP ASSEMBLING SCHEME



MAPS USED








- IGM maps, series M 891, scale: 1 / 25 000 :
- 141 II SO Miglianico
 - 141 II NO Pescara
 - 141 III NE Spoltore
 - 141 III SE Chieti
 - 141 III SO Pianella
 - 141 III NO Loreto Aprutino
 - 141 IV SE Silvi
 - 141 IV SO Atri
- IGM map, series M 691, scale: 1 / 100 000 :
- 141 Pescara

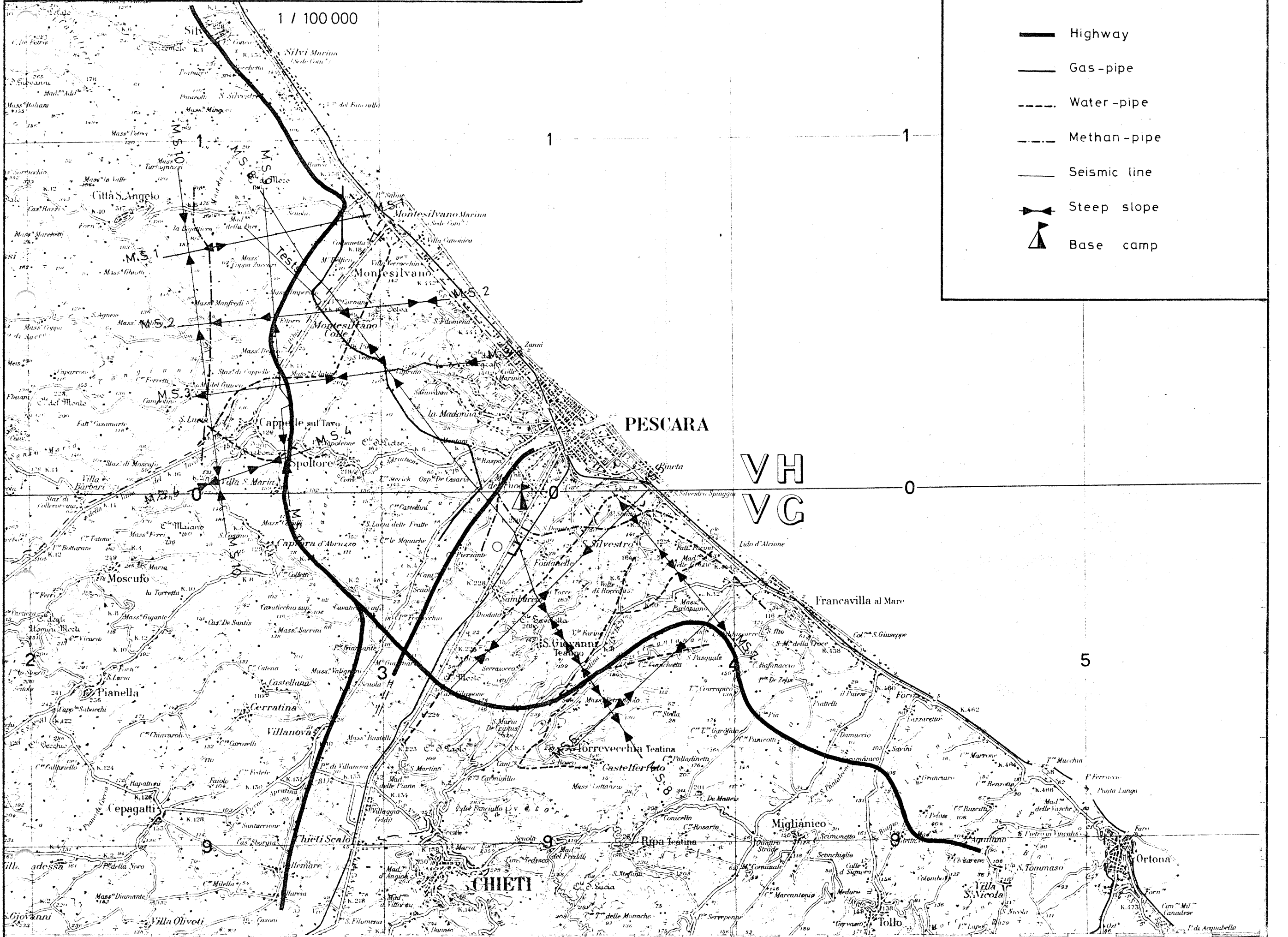
Fig. 4

VIABILITY

4

LEGEND

-  Highway
-  Gas-pipe
-  Water-pipe
-  Methan-pipe
-  Seismic line
-  Steep slope
-  Base camp



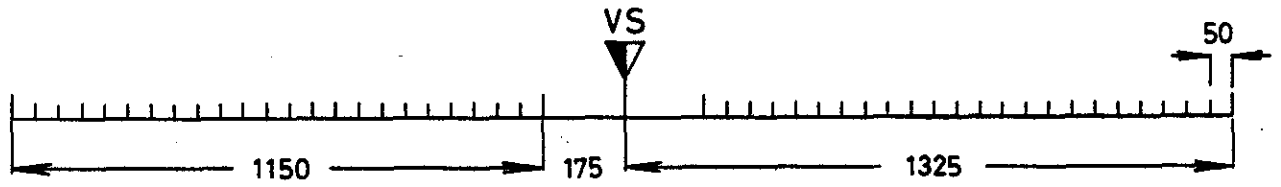
VH
VC

5

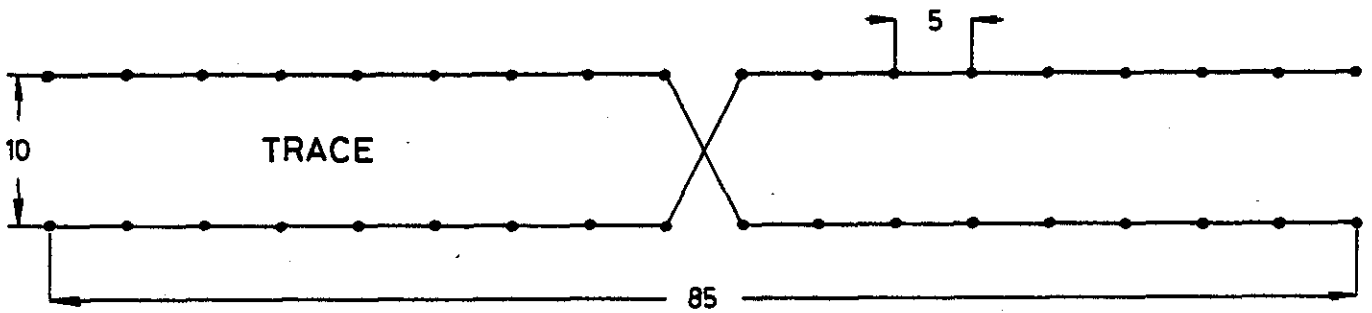
Fig. 5

FIELD PARAMETERS

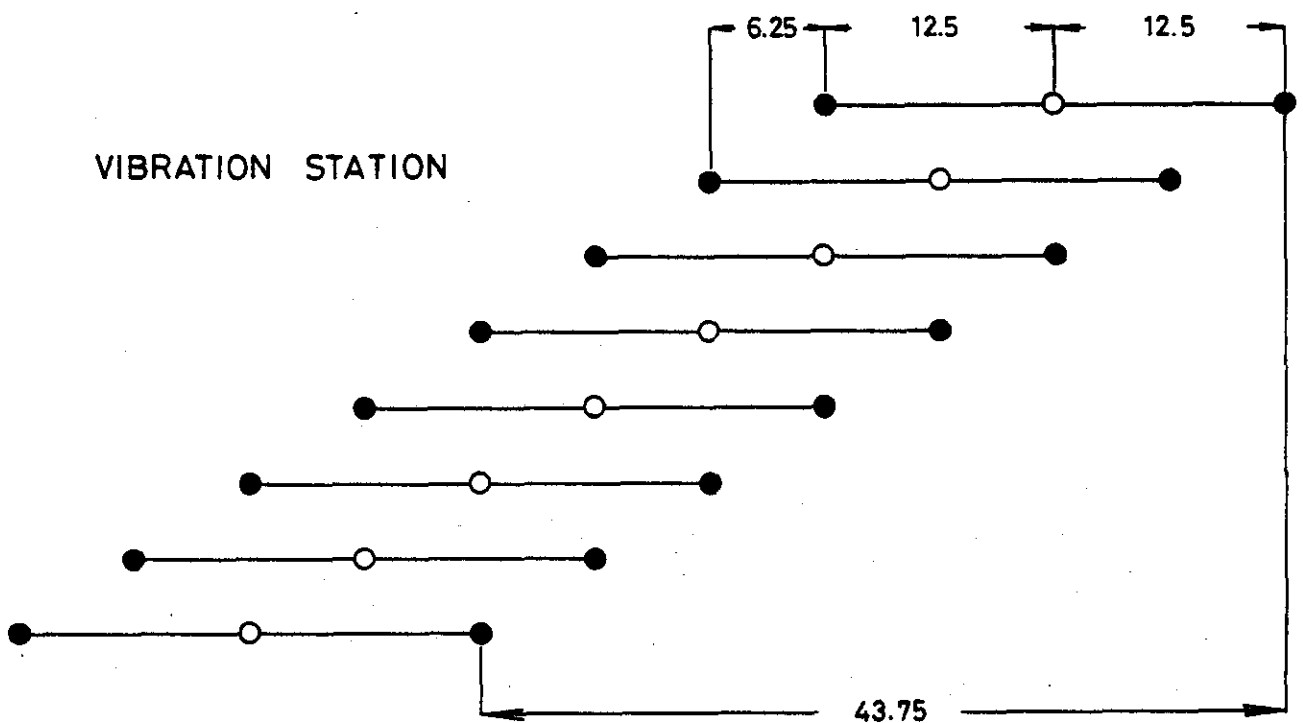
SPREAD



All distances in metres



VIBRATION STATION



3.4. Living and working conditions

3.4.1. Supplies: at Pescara itself

3.4.2. Air communications: airports at Pescara and Rome

3.4.3. Auxiliary personnel: approximately half the auxiliary personnel came from France with the party. The other half were taken on locally through the Ufficio Provinciale del Lavoro e della Mano d'Opera (Sezione Collocamento Comunale)

3.4.4. Weather conditions: These are summarised on plate 2. The period of cold, dull weather was over by about the middle of April and was followed by a period of good, increasingly hot, weather.

The lack of rain made it easier to move the all purpose vehicles.

3.5. Permitting

This was carried out by one C.G.G. permit man. His task was made more difficult, on the hand, by the number of properties and their division into small holdings and, on the other, by the obligation in theory not to use the Slalom line method. Apart from a few land owners who obstinately refused to let the crews through their property (profile MS9), the people and the local authorities were quite understanding.

Considering the time of year the work was taking place, the damage caused by the crews passing through can be considered slight.

3.6. TOPOGRAPHY

3.6.1. Documents used

- maps from Istituto Geografico Militare, international ellipsoid, orientation Roma; M. Mario (1940) Gauss-Boaga projection, sectors of 6°, reduction of the coordinates with a coefficient of 0.9996.

(see fig. 3 for the list of IGM maps and the index map)

- a copy of the IGM map, scale 1/25000, with a plotting of

4. CORRECTIONS - QUALITY OF RESULTS

- Datum plane: Om (sea level)
- Altimetric corrections with $V_c = 2000$ m/s (see Pl 4)
- Processing sequence written down on cross-section headings.

5. TESTS

At the start of the survey, on 04/04/1977, a test session was held in the northern part of the concession (see fig. 1) in order to fix up the exploitation parameters.

The field operations and the results were described in a test report already handed over to C.P.I.

CONCLUSION

Ten lines have been recorded in 24 fold coverage on the Montesilvano concession which represents 86,35 Km. of profile.

The average production reaches 51 vibration stations daily.

Thats means 3,20 Km. of profile.

The quality of the field results has allowed to obtain god final data in our processing center.