1-3 Geologic Investigation

A geological reconnaissance was carried out for the entire Shebenik Area in the first Year Campaign of the current Project, a semi-detailed geological investigation, for the central part of the Shebenik Ultramafic Complex (Central Shebenik District) in the second Year Campaign.

1-3-1 Geological Reconnaissance

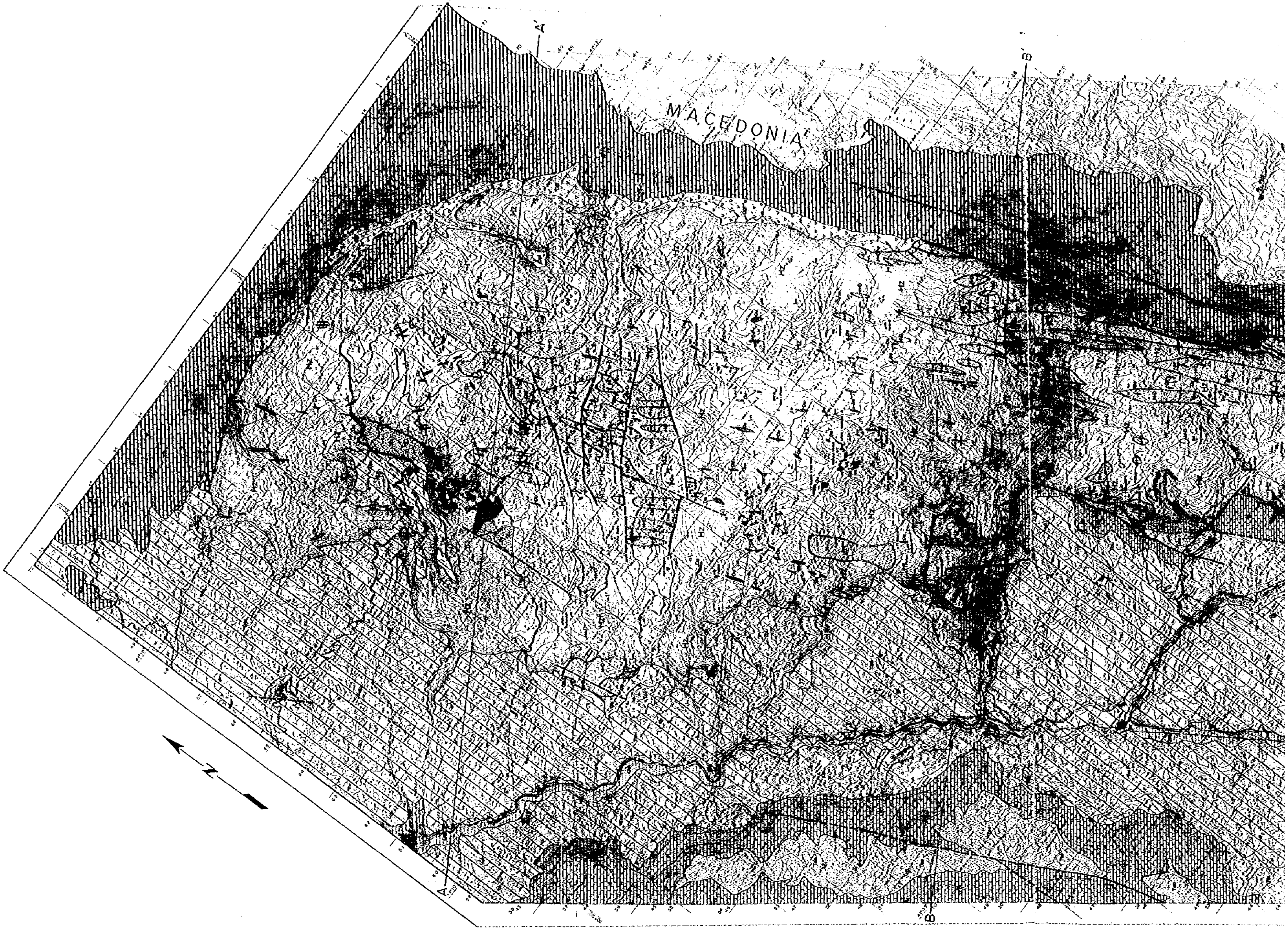
The geology of the Shebenik Area comprises the lower Triassic to lower Jurassic systems of the neighboring Mirdita Zone consisting mainly of limestone, the Shebenik-Pogradec Ultramafic Complex occupying the major part of the Area, and the unconformably overlying Cretaceous, Tertiary and Quaternary systems. The description of these systems and the Complex is summarized below. The geological plan and the schematic stratigraphic section are shown in Figures 2-1-4 and 2-1-5 respectively.

(1) Lower Triassic to Lower Jurassic Systems (Mirdita Belt)

These systems distribute in the eastern to northern margin of the Project Area along the international border to Macedonia, and comprise, in the stratigraphically ascending order, schistose rocks such as pelitic and amphibole schist, sedimentary rocks including argillite and reddish chert, volcano-sedimentary rocks accompanying diabase and basalt, limestone interbedded with volcanic and sedimentary rocks, and a thick sequence of limestone. These rocks of the Mirdita Belt contact with the Shebenik Ultramafic Complex bounded by a zone of steeply dipping faults or melanges. The fault-melange zone, having widths of several hundreds of meters in places, contains highly foliated serpentinite derived from ultramafic rocks, pelitic and amphibole schist, limestone, argillite and so forth which are broken into irregular blocks.

(2) Shebenik-Pogradec Ultramafic Complex

The Ultramafic Complex can be divided into the Shebenik Complex to the north of the low land developed in the vicinity of Perrenjas, and the Pogradec Complex to the south. Both Complexes consist mainly of harzburgite with subordinate dunite, accompanying minor lherzolite, pyroxinite and gabbro in part. Harzburgite, dunite and lherzolite are mostly serpentinized to variable degrees. Their fresh outcrops are observed only in the northernmost part of the Shebenik Complex and in the southeastern edge of the Pogradec Complex, and seem to represent the lowermost facies of the Complexes. While occurrences of lherzolite, pyroxenite and gabbro are very rare within the Pogradec Complex, lherzolite, often intruded by pyroxinite micro-dikes and gabbro dikes or sheets, occurs in the northwestern part of the Shebenik Complex and seems to indicate the uppermost facies. Most dunite dikes and sheets are conformable in


MACEDONIA
A
A'
B
B'
N

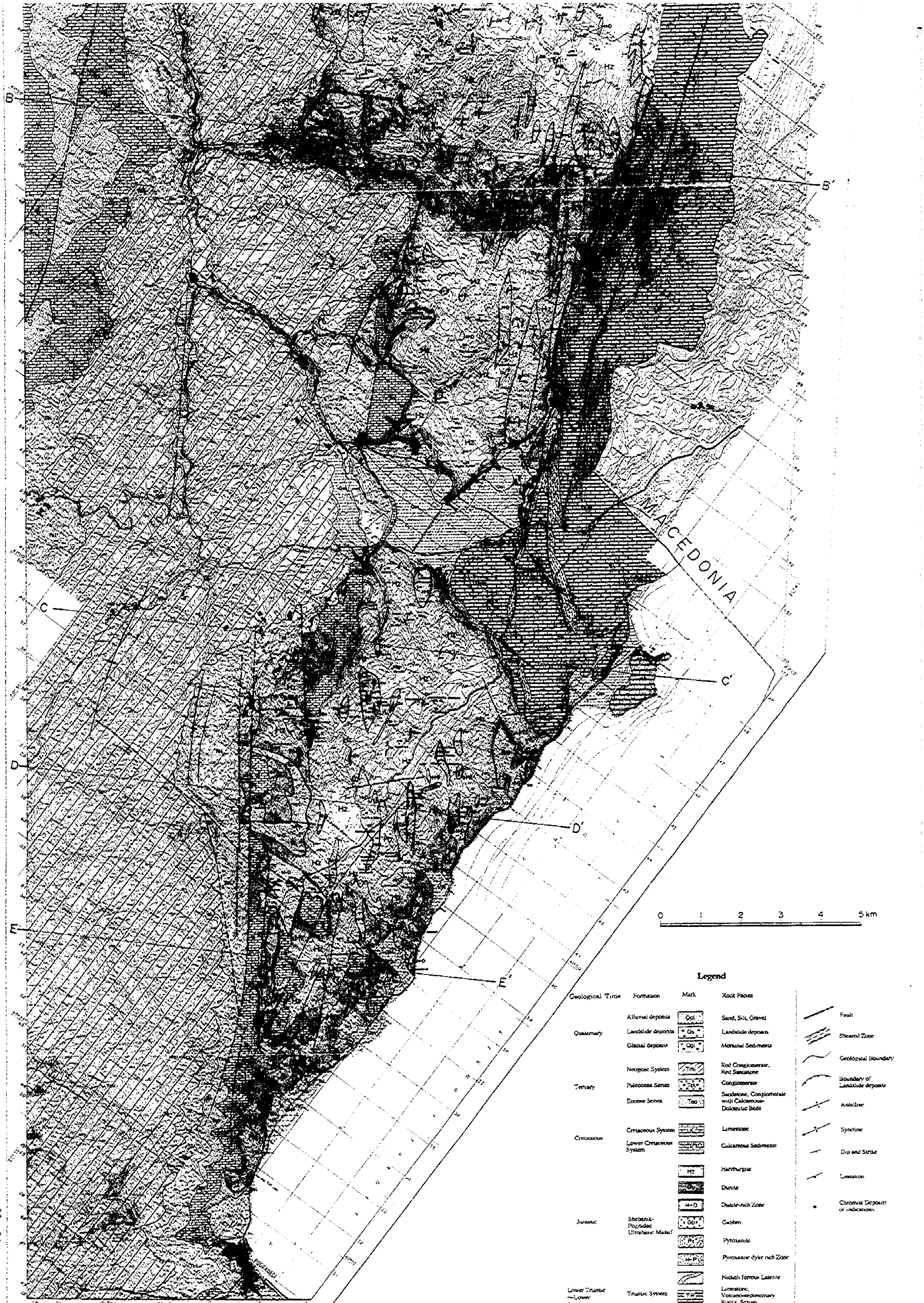


Figure 2-1-4 Geological map of the survey area

Geological map of the survey area

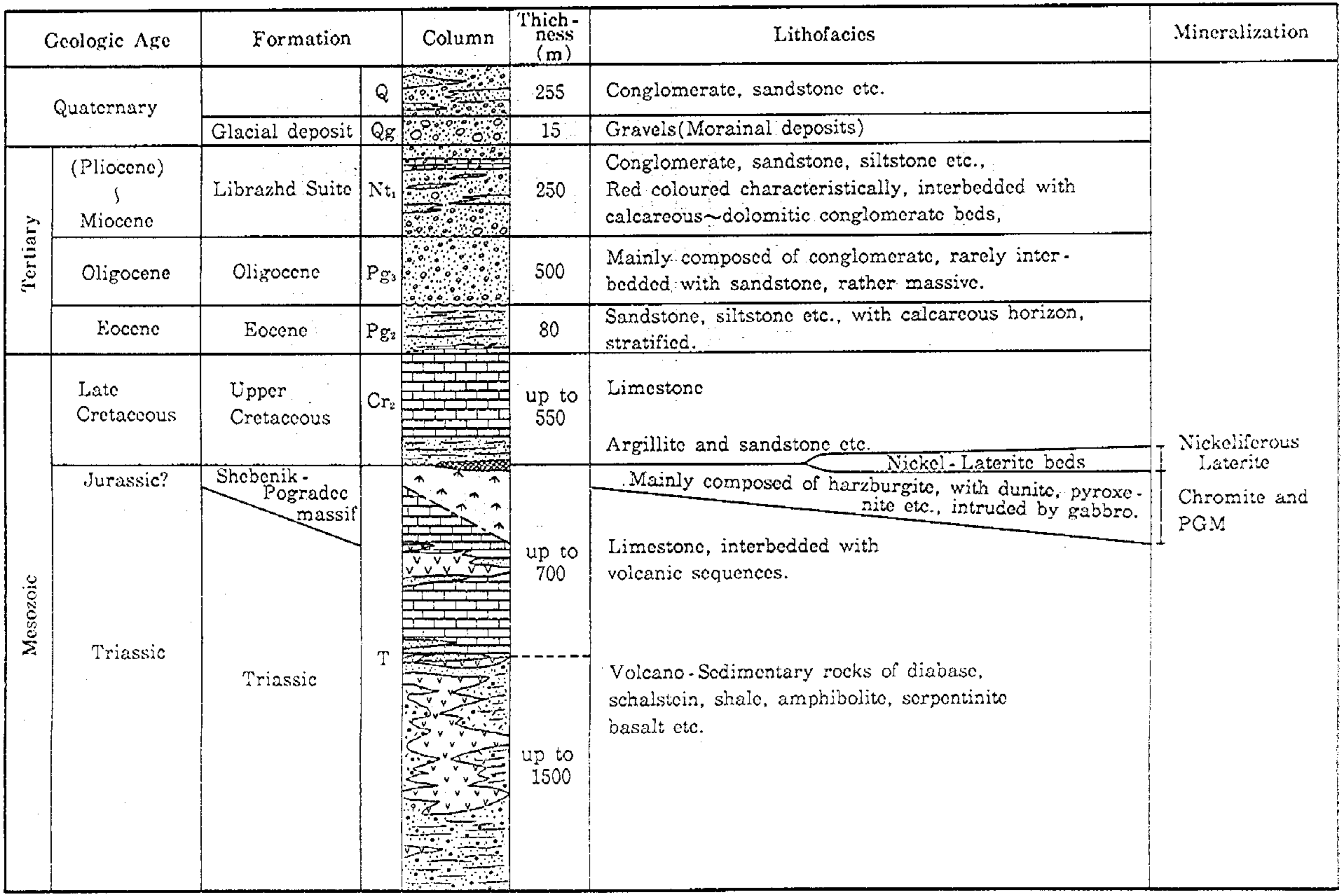


Figure 2-1-5 Schematic geologic column of the survey area

their attitudes with the arrangement of orthopyroxene crystals in surrounding harzburgite, and often alternate with or form parallel bands or layers within harzburgite. Irregular veins and dikes of dunite, unrelated to the harzburgite structure, are also observed and sometimes crisscross each other, running in two or three different directions. Dunite dikes and sheets ubiquitously distribute in the entire Shebenik-Pogradec Complex. They gradually transform into surrounding harzburgite with transition zones of several to several tens of centimeters. The contacts of layered or banded dunite with harzburgite are relatively clear with transition zones of only several millimeters.

The chromium ore deposits in the Project Area occur as chromespinel concentrations in forms of disseminations, bands or masses in dunite. Therefore, distribution of dunite is one of the important keys for the chromium ore deposit exploration.

(3) Cretaceous System

The system distributes in the southern part of the Shebenik Complex, along the western margin of the Pogradec Complex and on the steep slope along the Shkumbin River to the south of Librazhd. In the former two locations, it consists of limestone unconformablly overlying the Ultramafic Complexes. In the third location, a thick sequence of limestone and flysch mainly comprising terrigenous clastic sediments unconformably overlie ultramafic rocks of the Western Belt. The limestone in the former locations unconformably overlies lateritized ultramafic rocks in most part but has fault contacts with them in part. That in the southern part of the Pogradec Complex is interpreted to form an anticline with an axis running in the NNW-SSE direction, parallel to the overall structure of the Complex. That in the southern part of the Shebenik Complex is composed of several blocks with a monoclinal structure dipping to the west.

(4) Tertiary System

The system is distributed in a wide area along the Shkumbin River from the southeast of Librazhd to Pogradec. It is divided into stratified sandstone of Eocene, massive conglomerate of Oligocene and reddish sandstone-conglomerate alternation of Neogene Tertiary.

The Eocene sandstone is well stratified, light yellowish gray to gray in color and fine to medium in grain size. It is interbedded with calcareous to dolomitic conglomerates in part and accompanies conglomerates in its lower part. The Oligocene conglomerate contains a large amount of poorly sorted pebbles, with diameters of several millimeters to 10cm, derived from Triassic rocks, Cretaceous limestone, ultramafic rocks and so forth. It appears massive as a whole with local development of weak stratification and is highly consolidated. The Neogene sandstone-conglomerate alternation ubiquitously contains an appreciable amount of iron-oxides, and presents characteristically red to reddish brown color in its appearance. It is well consolidated and includes a large amount of various fragments, such as limestone, sedimentary rocks and ultramafic rocks, of considerably variable sizes from granules to cobbles.

The Tertiary system forms a syncline with an axis running in the NW-SE direction, nearly parallel to the Shkumbin River. The northeastern limb of the syncline dips 10 to 20 degrees monoclinically to the southwest and the southwestern limb, to the northeast.

(5) Quaternary System

The Quaternary system comprises glacial, high-terrace, landslide and alluvial sediments. The glacial sediments are situated at the bottom of a cirque above the elevation of 1400m and contain abundant ill-sorted angular fragments of ultramafic rocks with sizes of several to several tens of centimeters. They are relatively well consolidated and reach several tens of meters in their thickness. The landslide sediments are widely distributed at the foot of steep hills along the Shkumbin River and contain fragments of Cretaceous limestone.

1-3-2 Tectonic History

The Project Area have undergone severe tectogenesis and metamorphism of the Hercynian orogeny and particularly of the subsequent Alpine orogeny having initiated in Mesozoic, and have been subjected to complete reformation of its geologic structure in the event of collision of the Eurasian and the African Plates and of closure of the Palaeo-Mediterranean Sea in Jurassic. The tectonic history of the Area can be summarized as follows;

Flysch type sediments deposited in the sea (Palaeo-Mediterranean Sea) between the Eurasian and the African Plate during Triassic to Jurassic periods. The Shebenik-Pogradec Ultramafic Complex was a part of the oceanic crust in this period. The two Plates progressively moved towards each other and finally collided against each other in Jurassic period, which resulted in closure of the Sea. The collision initiated a severe tectogenesis and metamorphism, called the Alpine Orogeny, in Jurassic period. The tectogenesis brought about a number of remarkable faults and folds, trending in the NW-SE direction, within the lower Triassic to lower Jurassic systems of the Mirdita Belt, and thrust the Shebenik-Pogradec Ultramafic Complex over the Mirdita Belt. A zone of tectonic melange, comprising mixture of schists, phyllite, serpentinite, limestone and so forth, was formed along the thrust between the Complex and the Mirdita Belt. During Cretaceous, transgression prevailed the region extensively and sedimented marine sequences consisting mainly of limestone. The region emerged again above sea in late Cretaceous to early Tertiary, as the Alpine Orogeny advanced to the subsequent stage accompanied by regional regression. The Alban Inner Zone continued up-rifting during the period of Tertiary, which formed a number of NNW-SSE trending ranges and depressions with development of faults and folds running in the same direction. Molasse type sediments were deposited in these intermontane depressions in this period. The Shebenik-Pogradec Ultramafic Complex was up-lifted to its maximum level by the beginning of Neogene. After the deposition of the Neogene sequences, the erosion overtook the up-rifting of the entire region.

The Shebenik-Pogradec Ultramafic Complex, which is extremely variable in its facies and contains a number of chromium and lateritic nickel ore deposits, is implied to be a part of the oceanic crust up-rifted by the Alpine Orogeny in Mesozoic and to be exposed on the surface by erosion afterward. Chromium ore deposits have been formed in the course of emplacement of ultramafic rocks in the oceanic crust and their up-thrusting over the continental crust, while lateritic nickel ore deposits have been formed by weathering processes after exposure of the ultramafic rocks on the surface and are preserved from erosion by overlying sedimentary sequences of Cretaceous to Eocene.

1-3-3 Chromium Ore Deposit

Although chromium ore deposits and indications occur in the entire Ultramafic Complex except in the northeastern part of the Shebenik Complex, a majority of them are located in the southwestern part of the Shebenik Complex and in the Pogradec Complex. All of these deposits and indications are of a podiform type one hosted by harzburgite, comprising concentrations of chromespinel { $(Mg,Fe)O(Al,Cr)_2O_3$ } together with such gangues as olivine, pyroxenes and serpentine. The concentrations, called chromium ore body and synonymously with chromitite, occur in various forms such as masses, nodules, layers, bands and dissemination. Chromitite is always included in dunite bodies. However, there are a number of dunite bodies which contain no chromitite. It is empirically known that arrangement of chromespinel generally coincides with dips of ore bodies, which is one of the important keys for efficient chromium ore deposit exploration. Chromium ore bodies are often dislocated by numerous faults with their displacement, generally ranging from several to several tens of meters, exceeding 100m in extreme cases. These faults adversely affect the chromium ore deposit exploration in the Project Area.

Sizes of individual ore bodies generally range from 0.0n to 2m in thickness, from nx10 to nx100m in strike length and from nx10 to nx100m in dip length. The ore bodies which have been exploited to date, are mostly 1 to 1.5m in their thickness. Dunite envelopes, that contain chromitite, have thickness of 0.n to nx10m, in general. The chromium ore bodies, being mined at the present time, consist mainly of massive ores with Cr_2O_3 grade of 25 to 30% or better. Margins of massive ores usually grade into disseminated ores.

The Katjel ore deposit, the largest in the Project Area, has a strike length of 350m, a dip length of 300m and an average thickness of 2m. The ore deposit is principally a folded layered body and is broken into a number of small blocks by cross-cutting faults with displacement of several to several tens of meters. It strikes in the N30° W direction, being conformable with the structure of the host harzburgite, and plunges to the south southeast with an inclination of approximately 25 degrees.

The Katjel ore body, being conformable with the structure of the host rocks, is a type of concordant chromitite. There are also ore bodies of discordant type of chromitite. Examples are; the Pishkash-4 which is a lenticular ore body continuing for about 150m to the down-dip with a width of about 25m and an average thickness of 1.2m, the Menik ore deposits comprising two crosscutting ore bodies trending in the NNE-SSW and WNW-ESE directions and the No.49 indication which forms a cylindrical ore body within a dunite pipe with a diameter of several to ten meters.

1-3-4 Semi-detailed Geologic Investigation (Central Shebenik)

Ultramafic rocks of the Shebenik-Pogradec Complex, Cretaceous limestone and Tertiary terrestrial deposits are distributed in the area for the semi-detailed geological investigation. The ultramafic rocks consist mainly of harzburgite with subordinate dunite and occupy the major part of the investigated area, while the Cretaceous and Tertiary systems are distributed unconformably overlying the ultramafic rocks in the southwestern corner. The geological map of the area is shown in Figure 2-1-6.

(1) Shebenik Ultramafic Complex

The ultramafic rocks comprise harzburgite and subordinate dunite, containing chromitite in part and intruded by small dikes of gabbro and pyroxinite in places. They are divided into the lower massive dunite-harzburgite suite (MDHS) and the upper dunite-harzburgite with remarkable layering suite (DHSRL), according to their dunite proportion to harzburgite, the relationship between dunite and harzburgite and other modes of occurrence. The lower suite (MDHS) contains dunite lenses in massive harzburgite and is subdivided into Harzburgite-1, which consists principally of harzburgite, and the dunite-rich zone, which contains a number of dunite lenses sometimes with sizable dimensions. The upper suite (DHSRL) comprises harzburgite interbedded with thin layers of dunite and is subdivided into Harzburgite-2, which consists principally of harzburgite, and the dunite-harzburgite layer, which contains a number of thin dunite layers within harzburgite. Their modes of occurrence and distribution are described below.

1) Massive Dunite-Harzburgite Suite (MDHS)

・ Harzburgite-1 (Hz1)

This sub-suite is distributed in the central to western part of the investigated area and consists of massive harzburgite rarely containing dunite lenses with thickness of less than 1m to several meters. The attitudes of the lenses are considerably variable.

・ Dunite Rich Zone

This sub-suite occurs mainly in the central to western part and is particularly abundant near the contact to DHSRL, that is, in the upper part of MDHS. The dimension of a single distribution ranges from 100m×200m to 800m×1500m. It comprises massive harzburgite containing abundant dunite lenses with thickness of several to several tens of meters and various dimensions. The attitudes of the lenses are variable. The dunite lenses often includes chromespinel concentrations of appreciable sizes in massive or disseminated forms. The dunite has a irregular or gradual contact with the surrounding harzburgite in general, and intermediate facies are developed near the contact. This intermediate facies appears to be more common in association with dunite containing chromespinel concentrations.

2) Dunite-Harzburgite Suite with Remarkable Layering (DHSRL)

・ Harzburgite-2 (Hz2)

This sub-suite is distributed in the northeastern part of the investigated area and consists of harzburgite rarely intercalated with thin dunite layers of several to several tens of centimeters. The dunite layers have clear contacts with harzburgite. They uniformly strike in the N20-40° W direction and dip 60-80° to NE.

・ Dunite-Harzburgite Layer (Du)

This sub-suite is distributed in the northeastern part and consists of harzburgite intercalated with a number of dunite layers. The thickness of dunite layers ranges from several centimeters to several meters. They have clear contacts with harzburgite and indicate considerable continuity. Even thin layers with thickness of several centimeters can be traced for a fair distance. Their attitudes are conformable with the regional structure of the ultramafic complex in the Shebenik Area, and uniformly indicate strikes of N20-40° W and dips of 60-80° to NE.

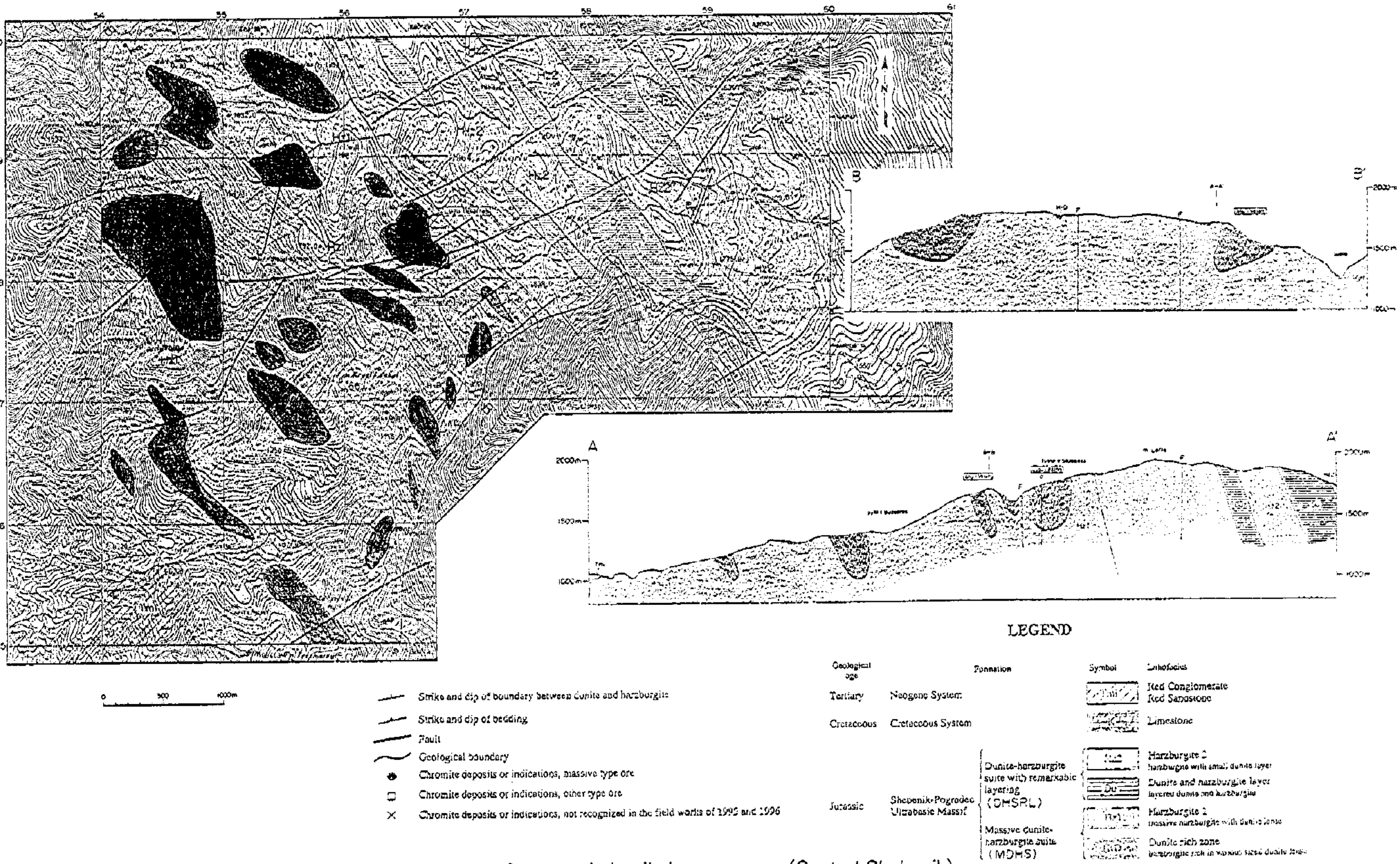


Figure 2-1-6 Geological map of the semi-detailed survey area (Central Shebenik)

(2) Cretaceous System

The Cretaceous system is distributed in the southwestern corner of the investigated area and essentially comprises limestone unconformably overlying the Shebenik-Pogradec Ultramafic Complex.

(3) Neogene System

The Neogene system is distributed also in the southwestern corner of the area. It comprises alternation of reddish sandstone, siltstone and conglomerate, and unconformably overlies the Cretaceous system and the Ultramafic Complex. A reddish weathered zone is observed in the uppermost part of the Ultramafic Complex which is directly overlain by an alternation of red sandstone and siltstone. The conglomerate is poorly sorted and contains pebbles and cobbles of limestone and ultramafic rocks. The strata strike in the WNW-ESE to NW-SE direction and dip 10° to 20° to south.

(4) Chromium Mineralization

Within the investigated area, indications for relatively sizable ore bodies of Lugu i Batres and Ahu i Vetem are located in the dunite rich zone of MDHS in the vicinity of the contact to DHSRL. Their dimensions considerably vary from several to several tens of centimeters to more than 10m in length with thickness of 1 to 2m. The structure of dunite containing chromitite is either concordant or discordant with the regional structure of the Ultramafic Complex.

1-4 Geophysical Survey

Geophysical survey (ground magnetic survey) was carried out in the four selected target areas, the two areas (Pishkash and Kotodesh) in the first Year Campaign and the other two areas (Katjel and Central Shebenik) in the second Year Campaign (Figure 1-1-1).

1-4-1 Survey Procedure

(1) Setting of Survey Lines

Taking account of the geological structure and the topographic conditions of each target area, the survey lines were set in the N60° E direction in the three target areas, Pishkash, Kotodesh and Katjel, and in the E-W direction in Central Shebenik. The lines were spaced at 100m with a measuring point interval of 20m, in principle, for all the four areas. Where magnetic anomalies were identified in total magnetic intensity, an in-fill point was set between the two original measurement points so as to take measurements at an interval of 10m.

In Kotodesh, the two survey lines (1km long each) crossing the Katjel Ore Deposit were extended westwards beyond the planned survey limit in order to verify the relationship between the known ore deposit and magnetic features. In Katjel, four survey lines were added, running in the N30° W direction, perpendicular to the main survey lines. Further, measurements were taken at an interval of 5m along three survey lines crossing chromitite outcrops in order to specify magnetic features over mineralized outcrops.

(2) Measuring Procedure

Total magnetic intensity was measured at least twice at every measuring point along all survey lines. Two or more measurements at each measuring point were averaged to determine the total magnetic intensity at the point. Diurnal variation of geomagnetism and magnetic turbulence were observed every 5 minutes at a fixed observation station in every survey area for correction of measurements. No significant magnetic turbulence was observed during the period of the field operation. Together with the measurement of the total magnetic intensity, magnetic susceptibility of outcrops was measured on site, and orientated rock samples were collected for laboratory measurement of natural remnant magnetization and magnetic susceptibility.

The instruments used for the above measurements are as follows;

- total magnetic intensity: proton magnetometer, Scintrex MP-2, Canadian Made
- magnetic susceptibility: susceptibility meters,
  for on-site measurement, Kappameter KT-5, Czechoslovakian Made
  for laboratory measurement, Bartington SM-2, British Made
- natural remnant magnetization:
  spinner magnetometer, Natsuhara SMM-85, Japanese Made
  AC demagnetizer, Natsuhara DEM-8601, Japanese Made

(3) Data Processing and Analysis

Diurnal correction was made for all measurements in each survey area, by comparing the observed diurnal magnetic variation at the fixed observation station with the average of the total magnetic intensity measured on the first day of the magnetic survey in the relevant area. A total magnetic intensity map for each area was prepared, using the corrected measurements. These data were further processed with reduced-to-the-pole, upward low-pass filtering and upward continuation filtering analyses in order to outline various kinds of magnetic anomalies. The total magnetic intensity and processed data were also analyzed on profiles.

The reduced-to-the-pole analysis produces magnetic anomalies directly above causative bodies, which makes it possible to directly correlate magnetic features with geology and geological structure. The upward low-pass filtering is used to remove effect of short wavelength magnetic signatures caused by shallow causative bodies. The upward continuation filtering is to soothe out near-surface effects and to analyze changes in magnetic signatures of causative bodies with respect to their depths. The profile analyses have been made in two ways; one is to determine the model, which produces the best fitting magnetic profile to the measured magnetic profile, from a number of assumed models consisting of various sets of causative bodies (curve-fitting analysis), and the other, to estimate the optimum model using the total magnetic intensity data (inversion analysis).

1-4-2 Result of Data Analysis

(1) Pishkash (Figure 2-1-7)

Total magnetic intensity distribution mostly trend in the N-S direction in the area, though high magnetic anomalies trending in NW-SE are also observed in the northern and southeastern parts of the area. Furthermore, "a group of anomalies" where small-scale high magnetic anomalies are distributed together is located in the northwestern part of the area and a pair of high and low magnetic anomalies whose shape is an arc is located near Guri Pishkash in the southern part.

The estimated magnetic susceptibility widely varies from $1 \sim 10 \times 10^{-3}$ SI at "a group of anomalies" in the northwestern part. Two major directions of magnetization are observed in −80° and 39° . This fact suggests that the zone has been broken into a number of blocks in its geological structure. As a number of chromium ore bodies and indications, including Pishkash-5, are located in this zone, the geological block structure may be related to the chromium mineralization.

The magnetic susceptibility widely varies from $2 \sim 28 \times 10^{-3}$ SI near Guri Pishkash. Although no chromium ore body and indication, other than the Guri Pishkash, has been identified in this zone, the magnetic intensity distribution may be related to the geological structure taking account of the similarity in their magnetic susceptibility distribution pattern with that of the short wavelength anomalies in the northwestern zone. The magnetic anomaly PM-5, located to the south of Guri Pishkash, is a characteristic anomaly trending in the N-S direction. The natural remnant magnetization of its neighboring rocks is nearly parallel to the trend of the anomaly, and is deviated by 90 degrees from that of the present.

(2) Kotodesh (Figure 2-1-8)

This area can be divided into two zones according to the distribution pattern of total magnetic intensity; the magnetic high anomaly zone in the eastern half and the magnetic low anomaly zone in the western half.

In the eastern half, high magnetic anomalies trending in the NW-SE direction are identified at three localities without showing any notable variation in the magnetic susceptibility distribution and may reflect highly magnetic bodies at shallow depth.

In the northwestern part of the western half, a lot of small-scale high and low magnetic anomalies are located and a number of chromium ore indications have been identified. This "group of anomalies" shows a remarkable variation in the magnetic susceptibility and may indicate the geological block structure related to the chromium mineralization in the same case as Pishkash.

A pair of distinct high magnetic anomaly in the southwestern side and low magnetic anomaly in the northeastern side has been detected directly above the Katjel ore deposit along the two extended lines crossing the ore deposit. The Katjel ore deposit is located in the boundary between high and low anomaly.

(3) Katjel (Figure 2-1-9)

The total magnetic intensity distribution can be divided into two zones; high magnetic anomaly zone in western side and low magnetic anomaly zone in eastern side. The boundary between these two anomalies trends in the NW-SE direction and is very clear. According to the result that the magnetic structures in some depths are determined by the filtering analysis, the magnetic lineaments trend dominantly in the N30° W direction, being harmonious with the regional geological structure, at the shallower part in the western half zone and in the N40° W direction at the deeper part. On the other hand, the magnetic lineaments at any depths in the eastern half zone trend in the N60° E direction. Therefore, it is implied that a geologic discontinuity may exist between the two zones.

The Katjel ore deposit, trending in the NW-SE direction, has an easterly dip which is very steep to sub-vertical at the west end and gradually becomes gentle eastwards. The west end of the ore deposit is located between the high and the low magnetic anomalies, with the latter being to the east of the former, while its eastern and deeper parts with a gentle dip are situated in the center of a broad magnetic low. The measurement on chromitite outcrops has indicated that chromitite and dunite envelopes are clearly associated with a magnetic low though the low is very subtle.

Chromium ore deposits and dunite envelopes appear to have a certain relationship with low magnetic anomalies that are possibly caused by inversely magnetized rocks or rock masses.

(4) Central Shebenik (Figure 2-1-10)

The total magnetic intensity distribution trend in the N15° E direction in

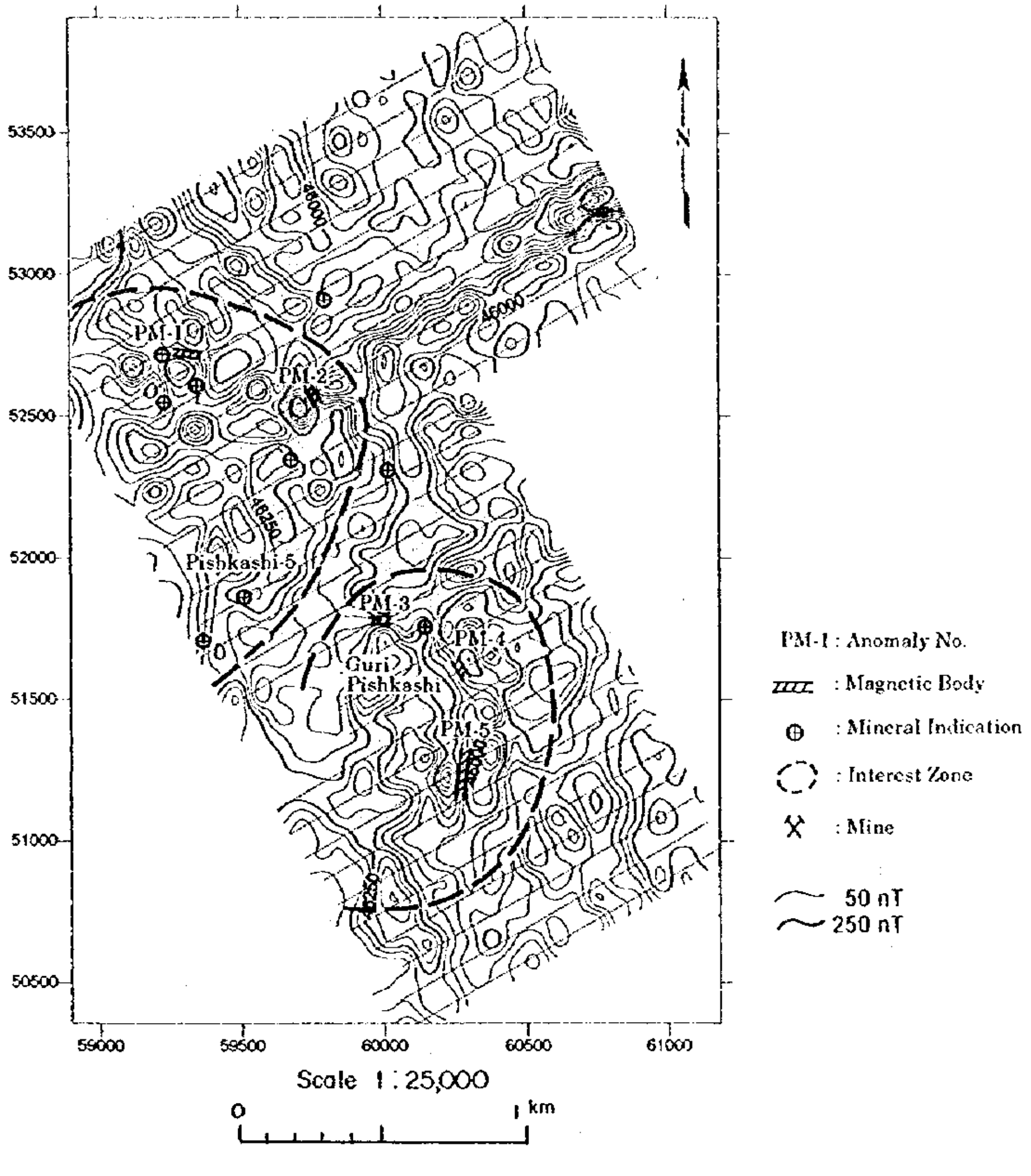


Figure 2-1-7 Interpretation map of magnetic survey in Pishkash area

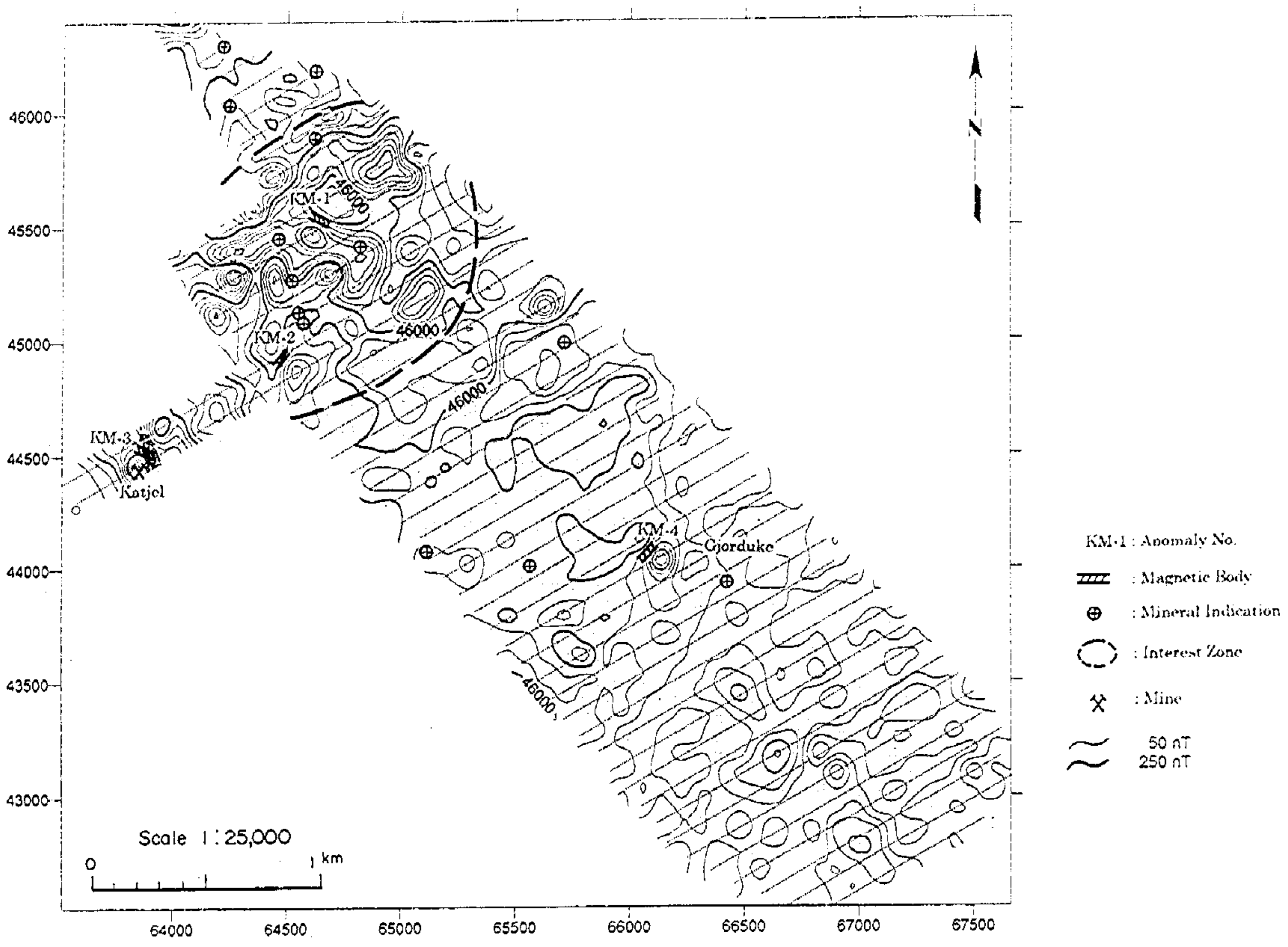


Figure 2-1-8 Interpretation map of magnetic survey in Kotodesh area

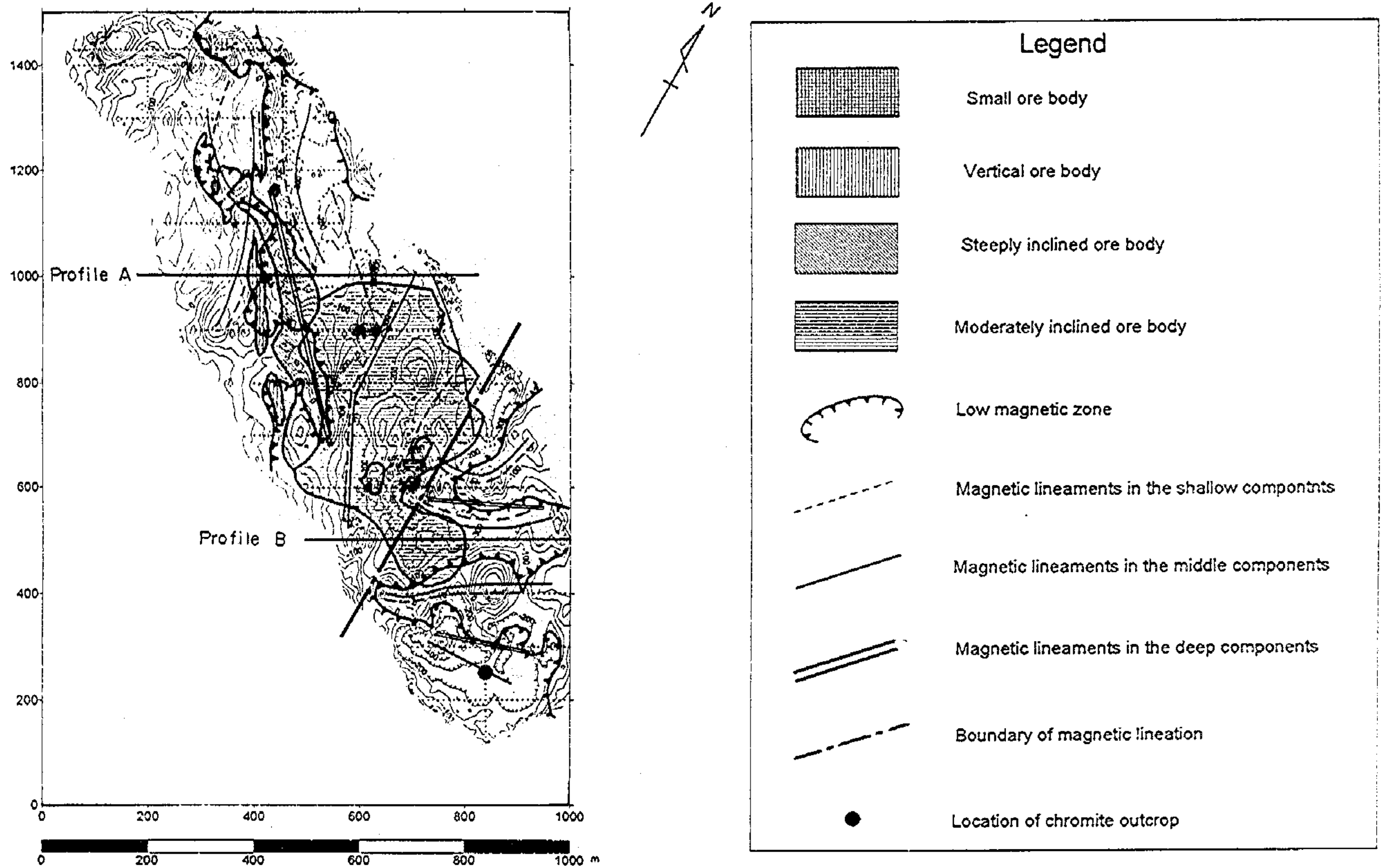


Figure 2-1-9 Interpretation map of magnetic survey in Kadjel area

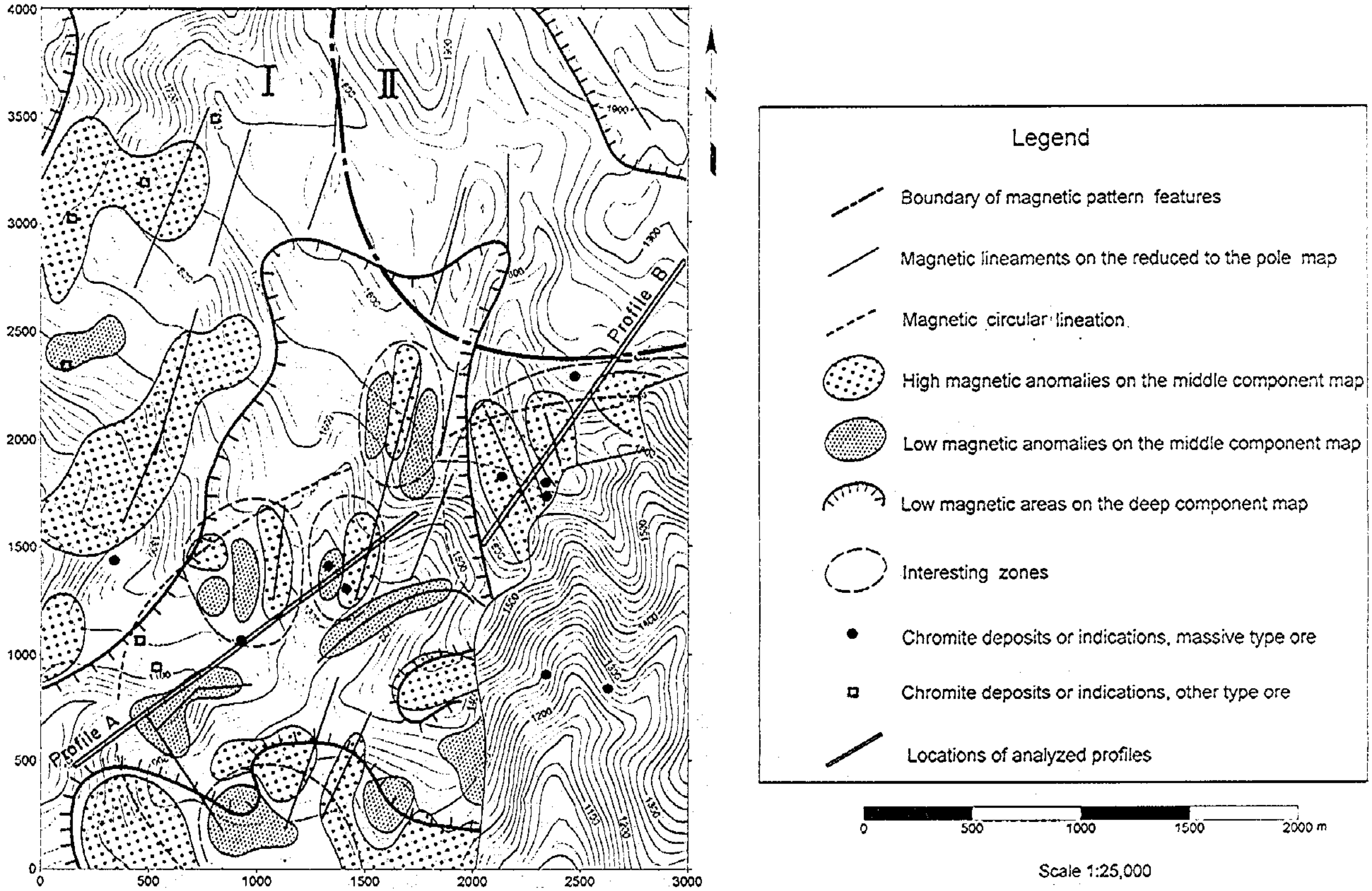


Figure 2-1-10 Interpretation map of magnetic survey in Central Shebenik area

general, though those in the northeastern corner indicate the N30° W direction, which is harmonious with the regional structure of the Ultramafic Complex.

Magnetic susceptibility of rocks in this area considerably fluctuates depending on rock types. Inverse magnetization has been indicated in many dunite samples, as the result of measurement of natural remnant magnetization. A number of harzburgite samples have also indicated neither inverse magnetization directions nor those considerably deviated from the present magnetization. Therefore, magnetic anomalies are considered to mainly reflect differences in magnetic susceptibility and magnetization of rock masses.

According to the result of the upward continuation filtering analysis, 14 high and 10 low magnetic anomalies of medium depths are recognized. As the results of magnetic survey in Katjel and of the measurement for natural remnant magnetization, chromium ore deposit is presumed to exist in the dunite envelope with a reverse magnetic intensity. Of these, 4 pairs of high and low magnetic anomalies may be most prospective.

1-5 Drilling Exploration

The drilling exploration was carried out in a total of the 13 selected target areas (Figure 1-1-1); 8 in the second Year Campaign (Bregu i Pishes, Fusha e Madhe, Gjorduke, Qarri i Zi, Shesh Bush No.1, Pishkash South, Murriq and Mbi Skroske), and 6 in the third Year Campaign (Ahu i Vetem, Lugu i Batres, Buzgare, Pishkash-5, Bregu i Pishes and Hija e Zeze). The result is summarized in Table 2-1-1.

Wire line drilling was a principal method employed, with conventional drilling having been adopted in places.

The total amount of the drilling work of the two year operations is 34 holes with the aggregated length of 3,708.4m. Of the 34 holes, 12 holes have intersected chromium ores; 2 holes in Bregu i Pishes (MJAS-1, MJAS-2), 2 holes in Qarri i Zi (MJAS-8, MJAS-9), 5 holes in Ahu i Vetem (MJAS-23~27), 1 hole in Lugu i Batres (MJAS-28) and 2 holes in Hija e Zeze (MJAS-36, MJAS-37). Chromitite intersections and their Cr_2O_3 grades are summarized in Table 2-1-2 and 2-1-3 respectively. The hole average grades, indicated in the right-end column in the Table 2-1-3, are estimated by averaging the assay results (indicated in the column to the left) with weight of relevant assay run lengths.

The target areas where the drilling exploration was carried out belong to the Central Shebenik, Southern Shebenik and Northern Pogradec districts. The result of each district is described below.

Table 2-1-1 Result of drilling exploration

Target area	No. of hole	Coordinates X	Coordinates Y	Elevation (m)	Depth (m)	Inclination (°)	Direction	Chromitite	Core recovery (%)
Bregu i Pishes	MJAS-1	67,132.14	43,300.49	1,141.32	80.0	-43	S60°W	exist	82.6
	MJAS-2	67,122.11	43,334.64	1,141.46	80.0	-45	S60°W	exist	88.8
	MJAS-3	67,121.57	43,370.25	1,135.48	130.9	-40	S60°W	none	90.6
Fusha e Madhe	MJAS-4	66,160.17	44,045.42	1,119.44	191.5	-45	N50°W	none	86.0
Gjorduke	MJAS-6	66,544.17	43,874.42	1,304.85	170.1	-60	S70°W	none	99.2
	MJAS-7	66,549.14	43,908.08	1,303.65	167.3	-49	S70°W	none	95.5
Qarri i Zi	MJAS-8	55,361.02	53,816.78	644.87	87.5	-40	N60°E	exist	80.6
	MJAS-9	55,363.60	53,820.16	644.68	101.6	-51	N60°E	exist	85.6
	MJAS-10	55,376.77	53,792.23	627.18	101.1	-46	N60°E	none	93.2
Shesh Bush No.1	MJAS-12	65,753.80	43,084.68	1,202.04	100.6	-40	S60°W	none	100
	MJAS-13	65,763.09	43,043.35	1,199.60	100.0	-43	S60°W	none	100
	MJAS-14	65,771.81	43,001.98	1,199.76	100.8	-40	S60°W	none	100
Pishkash South	MJAS-15	60,139.78	51,301.59	959.19	209.5	-45	E	none	99.9
	MJAS-16	60,198.17	51,182.74	885.63	211.8	-60	E	none	100
Murriq	MJAS-18	64,515.89	45,310.19	714.35	100.0	-30	N	none	90.1
	MJAS-19	64,564.52	45,310.46	719.74	100.0	-30	N	none	94.5
Mbi Skroske	MJAS-20	59,286.67	52,620.93	1,041.81	100.2	-55	N54°E	none	96.6
	MJAS-21	59,266.00	52,624.19	1,039.03	100.6	-55	N30°E	none	91.4
	MJAS-22	59,163.75	52,718.30	1,080.12	100.0	-63	S10°W	none	100
Ahu i Vetem	MJAS-23	57,824.16	56,350.25	1,717.15	140.0	-71	S78°W	exist	96.8
	MJAS-24	57,824.16	56,350.25	1,717.15	130.0	-73	N78°E	exist	97.7
	MJAS-25	57,847.17	56,306.94	1,718.25	130.0	-61	N78°E	exist	98.5
	MJAS-26	57,853.11	56,327.78	1,711.85	130.0	-59	N78°E	exist	97.7
	MJAS-27	57,878.45	56,314.37	1,718.51	150.0	-74	N78°E	exist	96.7
Lugu i Batres	MJAS-28	58,292.63	56,435.11	1,781.57	60.0	-40	N16°E	exist	96.7
	MJAS-29	58,301.84	56,395.93	1,776.68	70.0	-50	N16°E	none	95.0
Buzugare	MJAS-30	57,074.24	54,799.44	1,190.30	40.0	-40	N45°E	none	97.5
	MJAS-31	57,093.04	54,788.73	1,187.21	50.0	-40	N45°E	none	92.0
Pishkash-5	MJAS-32	52,446.34	59,680.67	1,243.50	125.0	-60	S80°W	none	97.6
	MJAS-33	52,446.34	59,680.67	1,243.50	110.0	-68	S80°W	none	99.0
Bregu i Pishes	MJAS-34	43,344.10	67,079.83	1,139.25	80.0	-40	S60°W	none	84.1
	MJAS-35	43,386.83	67,070.70	1,137.72	80.0	-43	S60°W	none	71.1
Hija e Zeze	MJAS-36	41,451.43	67,663.52	1,182.94	50.0	-40	S60°W	exist	95.3
	MJAS-37	41,474.24	67,651.39	1,185.64	60.0	-40	S60°W	exist	92.0

Table 2-1-2 Distribution of chromitite intersected

Target area	No. of hole	Depth (m)	Depth of chromite Top (m)	Depth of chromite Bottom(m)	Thickness (m)	Ore type	Cr_2O_3 (%)
Bregu i Pishes	MJAS-1	80.0	41.70	42.73	1.03	Disseminated	34.46
	MJAS-2	80.0	59.00	59.25	0.25	Disseminated	38.60
			60.05	60.90	0.85	Massive	49.70
Qarri i Zi	MJAS-8	87.5	4.85	5.32	0.47	Disseminated	39.61
			9.75	10.00	0.25	Disseminated	24.30
			28.76	28.81	0.05	Disseminated	—
			43.30	43.85	0.55	Disseminated	21.70
			48.80	49.25	0.45	Disseminated	26.70
	MJAS-9	101.6	3.60	4.51	0.91	Disseminated	23.48
			4.93	5.00	0.07	Disseminated	—
			6.97	7.47	0.50	Disseminated	27.10
			9.30	9.32	0.02	Disseminated	—
			11.17	11.19	0.02	Disseminated	—
			21.75	21.80	0.05	Disseminated	—
			25.60	25.65	0.05	Disseminated	—
			26.20	26.23	0.03	Disseminated	—
			36.30	36.32	0.02	Disseminated	—
Ahu i Vetem	MJAS-23	140.0	119.30	122.05	2.75	Disseminated-band	26.10
	MJAS-24	130.0	100.20	101.00	0.80	Disseminated-band	14.95
			101.30	102.95	1.65	Disseminated-band	15.61
	MJAS-25	130.0	4.90	4.91	0.01	Band	—
			113.90	115.00	1.10	Disseminated-band	19.39
			115.15	115.65	0.50	Disseminated-band	16.21
	MJAS-26	130.0	10.85	10.90	0.05	Massive	35.41
			113.90	118.50	4.60	Disseminated-band	17.42
	MJAS-27	150.0	116.85	118.83	1.98	Disseminated-band	21.51
Lugu i Batres	MJAS-28	60.0	9.50	9.80	0.30	Massive	39.75
Hija e Zeze	MJAS-36	50.0	43.00	44.10	1.10	Massive	36.41
	MJAS-37	60.0	41.50	41.70	0.20	Massive	41.62

Table 2-1-3 Cr_2O_3 content of chromitite

No. of hole	Sample No.	Cr_2O_3 (%)	Depth of chromitite		Core length (m)	Thickness (m)	Average Cr_2O_3 (%)
			Top (m)	Bottom (m)			
MJAS-1	1-C-1	36.70	41.70	42.10	0.40	1.03	34.46
	1-C-2	34.40	42.10	42.30	0.20		
	1-C-3	32.40	42.30	42.73	0.43		
MJAS-2	2-C-1	38.60	59.00	59.25	0.25	0.25	38.60
	2-C-2	49.70	60.05	60.90	0.85	0.85	49.70
MJAS-8	8-C-1	40.50	4.85	5.11	0.26	0.31	39.61
	8-C-2	33.40	5.19	5.21	0.02		
	8-C-3	36.00	5.29	5.32	0.03		
	8-C-4	24.30	9.75	10.00	0.25	0.25	24.30
	8-C-5	21.70	43.30	43.85	0.55	0.55	21.70
	8-C-6	26.70	48.80	49.25	0.45	0.45	26.70
MJAS-9	9-C-1	25.60	3.67	3.87	0.20	0.84	23.48
	9-C-2	23.00	3.87	4.13	0.26		
	9-C-3	22.70	4.13	4.51	0.38		
	9-C-4	27.10	6.97	7.47	0.50	0.50	27.10
MJAS-23	23-C-1	30.38	119.30	119.90	0.60	2.75	26.10
	23-C-2	16.07	119.90	120.55	0.65		
	23-C-3	24.10	120.65	121.60	1.05		
	23-C-4	39.53	121.60	122.05	0.45		
MJAS-24	24-C-1	13.40	100.20	100.55	0.35	0.80	14.95
	24-C-2	16.16	100.55	101.00	0.45		
	24-C-3	16.66	101.30	101.85	0.55	1.65	15.61
	24-C-4	14.16	101.85	102.25	0.40		
	24-C-5	18.47	102.25	102.65	0.40		
	24-C-6	11.82	102.65	102.95	0.30		
MJAS-25	25-C-1	8.64	113.90	114.20	0.30	1.10	19.39
	25-C-2	23.42	114.20	115.00	0.80		
	25-C-3	16.21	115.15	115.65	0.50	0.50	16.21
MJAS-26	26-C-1	35.41	10.85	10.90	0.05	0.05	35.41
	26-C-2	18.78	113.90	114.80	0.90	4.60	17.42
	26-C-3	15.73	114.80	115.90	1.10		
	26-C-4	15.41	115.90	116.50	0.60		
	26-C-5	24.41	116.50	117.10	0.60		
	26-C-6	15.73	117.10	118.50	1.40		
MJAS-27	27-C-1	24.01	116.85	117.65	0.80	1.98	21.51
	27-C-2	18.08	117.65	118.55	0.90		
	27-C-3	25.37	118.55	118.83	0.28		
MJAS-28	28-C-1	39.75	9.50	9.80	0.30	0.30	39.75
MJAS-36	36-C-1	26.94	43.00	43.40	0.40	1.10	36.41
	36-C-2	43.85	43.40	44.00	0.60		
	36-C-3	29.63	44.00	44.10	0.10		
MJAS-37	37-C-1	41.62	41.50	41.70	0.20	0.20	41.62

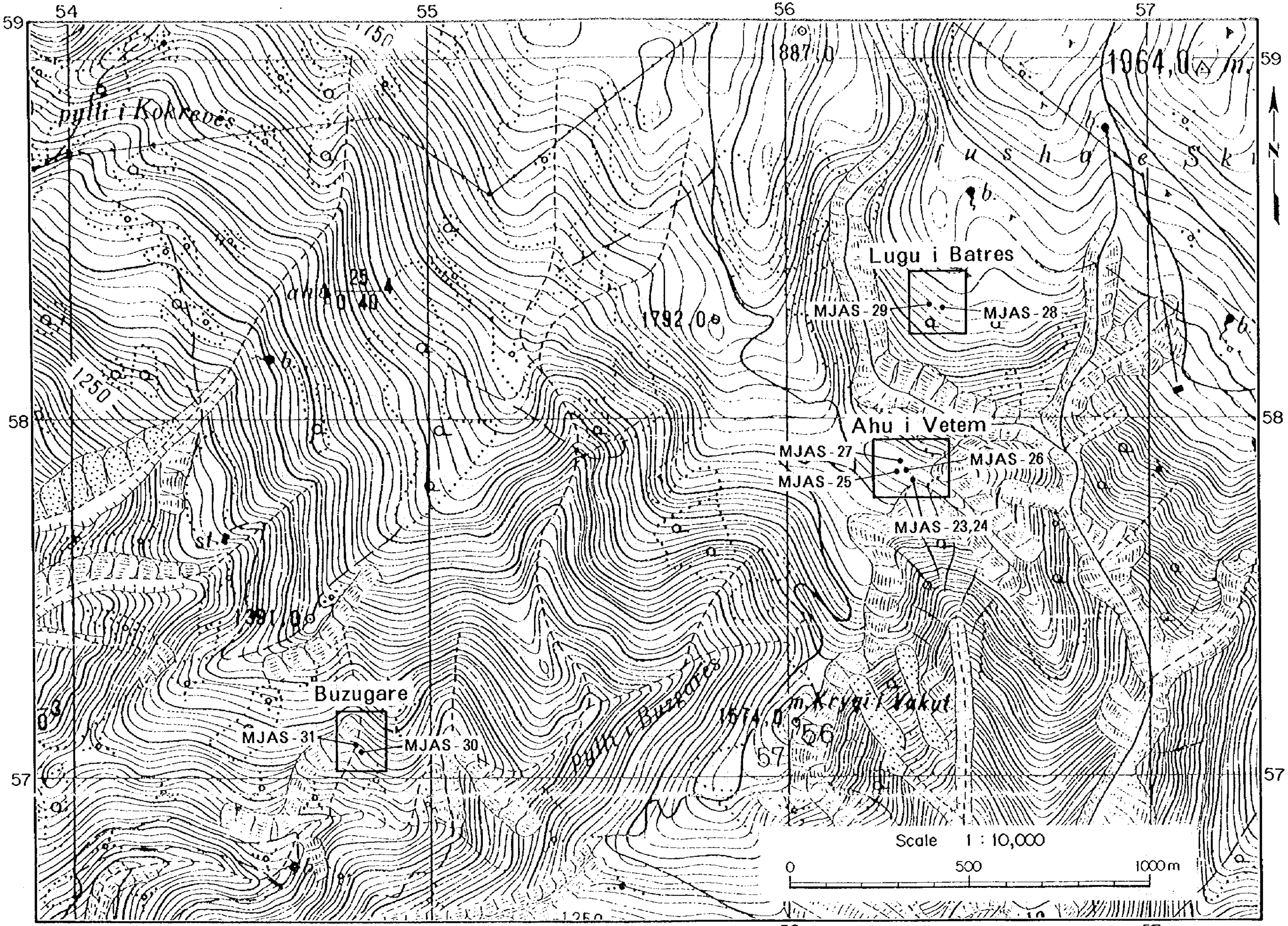


Figure 2-1-11 Location map of drilling survey in Central Shebenik District