argillized parts of mafic rocks. Azurite and chrysocolla occur in parts of the gossans in the central part of the prospect.

The results of time-domain IP survey show that the resistivities of the zone extended below gossans are similar to those of the surrounding non-mineralized zone, and the chargeabilities are lower than those of the surrounding silicified zones. The size of mineralized zones expected to occur below gossans is estimated to be small.

Blind mineralized zones can not be expected below the extensively silicified zone which occurs around gossans because the chargeabilities of the zones below silicified zones are similar to those of surface outcrops.

High chargeability anomalies are identified at the southern margin of the zone. These anomalies are located adjoining to the silicified zone. The shape on cross sections, chargeabilities and resistivities of these anomalies indicate that these anomalies are characterized by the dissemination of sulphide minerals. The above characteristics and the mineralizations observed on the surface suggest that these anomalies may indicate the existence of disseminated sulphide minerals.

(4) Masköy Prospect in the Dikmendag Zone

The mineralization is composed of limonite network/veinlet and pyrite dissemination. The host rock of the mineralization is basalt. These features in the Masköy mineralized zone is similar to those of the mineralized zones in the Küre zone

A silicified zone is close by this mineralized zone and dacite further. This silicification, then, may be interpreted to be caused by the dacite intrusion. Any evidences which suggest the intrusion to invite this silicification, however, is not found, as any silicification and/or mineralization is absent around the other dacite bodies in the Dikmendag zone

We will only give a possibility that this mineralization is similar to the Cyprus-type mineralization, because field data are not enough to discuss it further.

4-2 Conclusions

< Küre Zone >

In the first phase survey, the conducted works were; compilation of available geological and geophysical information, geological survey, and geophysical survey comprising CSAMT and IP.

In the second phase, four holes totaling 1,003.55m in length were drilled in the promising areas of the Kure zone, which were delineated by the geological and geophysical surveys during the previous year. Also two holes were electrically logged.

In the third phase, drilling exploration comprising four holes totaling 953.70m in length continued.

Following conclusions are obtained as the results of the above works.

- (1) The geology of the zone consists of pre-Jurassic ultramafic rocks, Jurassic basalt, sedimentary rocks of the Kure Formation, grayish white fossiliferous limestone of the Lower Cretaceous Karadana Formation, pale brown and white marl of the Upper Cretaceous Çağlayan Formation, talus deposits and intrusive diorite and dacite.
- (2) The major part of the zone is occupied by the Jurassic Kure Formation. The basalt is composed of pillow lava, hyaloclastite, and massive basalt. Sedimentary facies of the Kure Formation is composed of angularly fragmentated greywacke and tectonically sheared/argillized black shale. The matrix consists of pelitic materials.

Basalt and brecciated sediments of the Kure Formation are interpreted as a constituent of melange.

(3) The geologic structure of this zone is characterized by many faults. They are divided into two systems; N-S and E-W. The former system is crosscut by the latter. The surface elongation of the intrusive bodies is harmonious with the strike of the faults in the vicinity and with the boundary between sediments and basalt of the Küre Formation.

Basalt is distributed extending to N-S and NNW-SSE direction with imbricate structure.

- (4) The known ore deposits are the Cyprus-type deposits. The new ore deposits of the same type are expected to occur in the zone. They occur at the boundary between hyaloclastite and black shale of the Kure Formation and also within hyaloclastite. They consist of massive ore, brecciated ore, network ore and disseminated ore.
- (5) Ore deposits together with footwall mineralized zone and hanging-wall pelitic rock are considered to be dislocated by the tectonic movements.
- (6) Drilling in this study resulted in locating a massive ore with the drilled length 75 cm long and 4% Cu grade at the area to the southwest of the Bakibaba Deposit. The location and depth of ore correspond a weakly low resistivity zone defined by CSAMT. The characteristic of ore is similar to that of the known ore deposits. The potential of the Cyprus-type was confirmed by the drilling.
- (7) Drilling at the northern extension of Zemberekler mineralized zone results in finding a mineralized zone. The zone which is located in the N-S and NNW-SSE extensions from the Zemberekler mineralized zone with low resistivity anomalies, are promising for future exploration.
- (8) In the low resistivity zone to the south of Asiköy Deposit, it was anticipated that massive orebodies would occur in the shallow parts due to displacement by a fault. The results of the survey in the second and this phase indicate that this low resistivity zone represents pelitic rocks and fault fractured zone. Therefore, it is considered that the possibility of the existence of massive orebodies of the scale of Asiköy is low.

(9) Vein network and dissemination occur over the orebody at Bakibaba Deposit. Overturned structure is inferred in the surrounding area. The main orebody of Kızılsu Deposit is believed to be the vein network in the footwall side of the orebody.

On the basis of the above evidence, it is concluded that the gossan which is exposed between Bakibaba and Kızılsu Deposits is most probably the altered prod-

ucts in the footwall side of the mineralized zone.

(10) On the basis of the results of drilling survey done in the past two years, the low resistivity anomalies by CSAMT are considered to indicate zones dominated by pelitic rocks and/or fractured zones aside from some ore deposits. From the results of physical properties measurement in the first and third phase, it have been proved that massive ore, sulfide network, black shale and some sand-stone cause low resistivity anomalies. Therefore, the suitable method for the exploration in this zone is the IP survey. As the size of known massive orebodies is small except Asiköy Deposit, It is necessary to conduct such IP survey that has the line and station allocation of short distances.

< Taşköprü Zone >

In the first phase survey, the conducted works were; compilation of available

geological and geophysical information, and geological survey.

In fiscal 1993, geophysical survey (IP, 21 line-km) was carried out at Cunur and Cozoglu of the Taskopru zone since these were concluded to be promising by geological survey during the first year.

Following conclusions are obtained as the results of the above works.

- (1) The geology of the zone consists of Devrekani metamorphics, Çangal Metaophiolite, Kayadibi Formation, Muzrup Formation, Kızacik Formation, Alaçam Formation and Çayköy Formation in ascending order.
- (2) Mineralization occurs in Cozoglu, Cunur, Alayurek, Boyalı, Musabozarmut, Sey Yayla, Kepez and East of Cunur.
- (3) The geology around Cozoglu prospect is composed mainly of the Çangal Meta-ophiolite, the Kızacik Formation, and the Alaçam Formation. The meta-ophiolite consists of pelitic schist, massive metabasalt and green schist. The Kizacik Formation consists of grayish white limestone and the Alaçam Formation of quartz arenite and black mudstone.

There are two openings of old adits, a large amount of slag and waste dumps on the surface. They are distributed in the Cangal meta-ophiolite.

The mineralized zone observed in outcrops in this prospect is only a weak

dissemination of pyrite.

The results of geophysical survey in the second phase show that high charge-ability anomalies are distributed from the above zones which are covered by slags and waste dumps to the eastern part of this prospect. The shape of these anomalies on cross sections and the geology may indicate that bedded cupriferous pyrite deposits probably occur within these zones.

(4) The geology around the Cunur prospect is the Cangal Meta-ophiolite consisting of pelitic schist, massive basalt, and green schist. The mineralized

zone in this prospect is composed of eight lenses and bedded gossans in green schist. The gossans consist of quartz-limonite-pyrite network and limonite dissemination in the silicified and argillized parts of mafic rocks.

The results of time-domain IP survey show that resistivities of the zone extended below gossans are similar to those of the surrounding non-mineralized zone, and chargeabilities are lower than those of the surrounding silicified zones. The size of mineralized zones expected to occur below gossans is estimated to be small.

Blind mineralized zones may not be expected below the extensively silicified zone which occurs around gossans, because chargeabilities of the zones below silicified zone are similar to those of surface outcrops.

High chargeability anomalies are identified at the southern margin of the zone. These anomalies are located adjoining to the silicified zone. The shape on cross sections, chargeabilities, resistivities of these anomalies and geology suggest that these anomalies may indicate the existence of disseminated sulphide minerals.

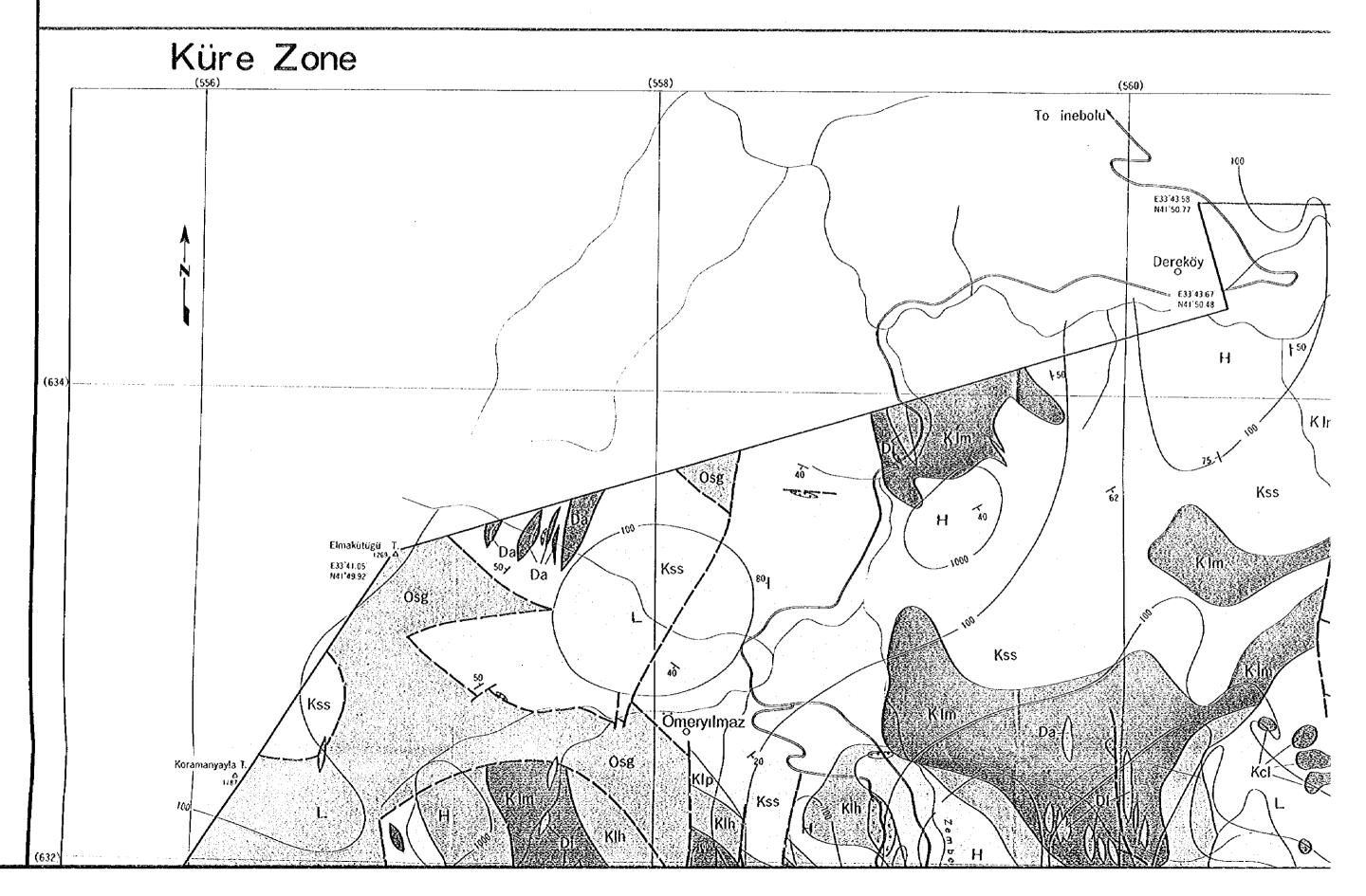
< Dikmendaĝ Zone >

In the first phase survey, the conducted works were; compilation of available geological and geophysical information, and geological survey.

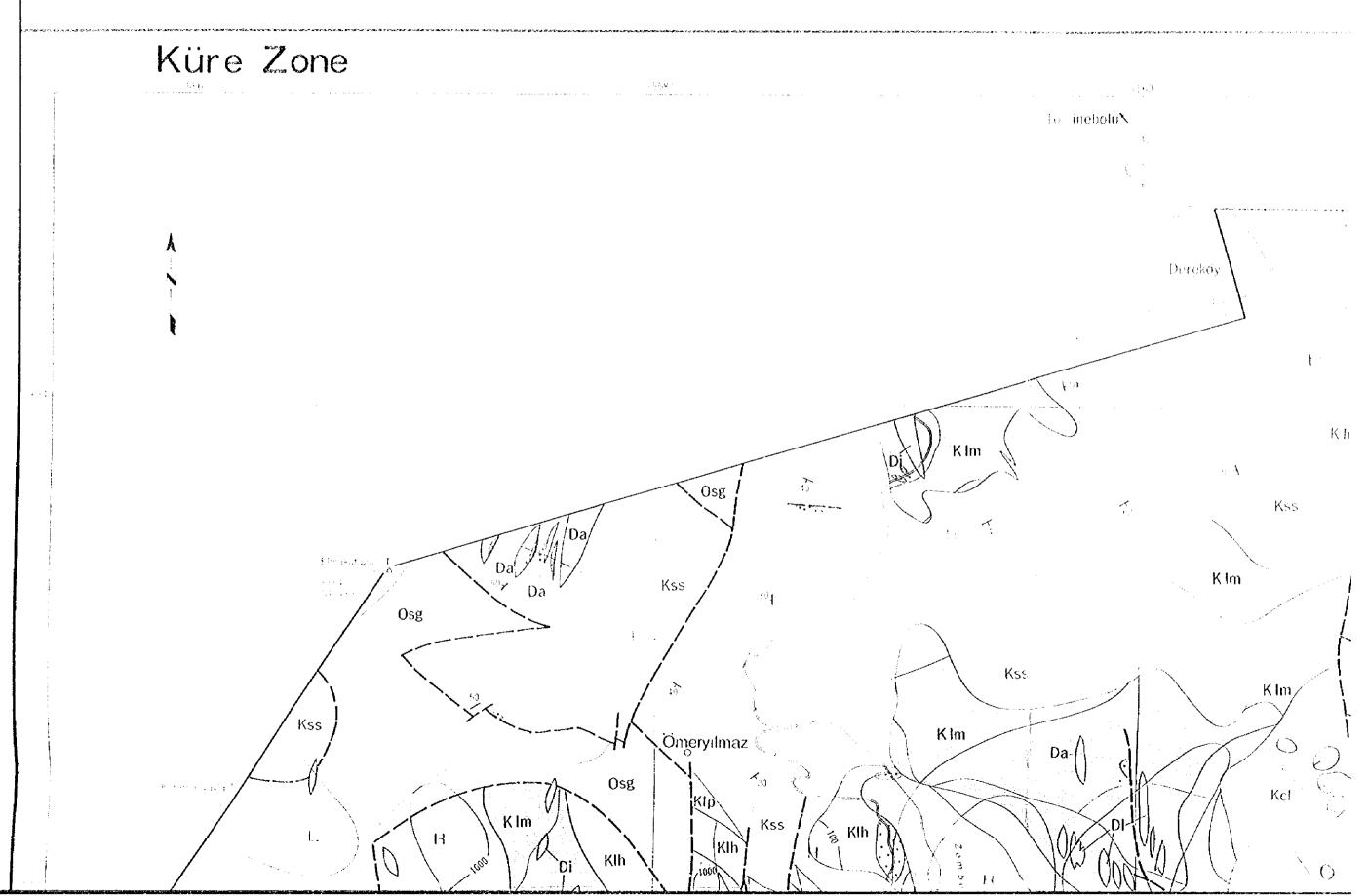
Following conclusions are obtained as the results of the above works.

- (1) The geology of the zone consists of Küre Formation of Lias, Köstekciler Formation of Lower Cretaceous, Satiköy Formation of Upper Cretaceous and, intrusive dacite and diorite.
- (2) Maskoy mineralized zone consists of limonite network and pyrite dissemination over an area of 300x50m. The host rock is basalt and it is silicified to dark gray in the pyrite disseminated part of the zone. Dacite occurs in the vicinity, but it is fresh without evidences of alteration. There is not enough geological data to discuss whether this mineralization is Cyprus-type because surface manifestation of the mineralization is weak.

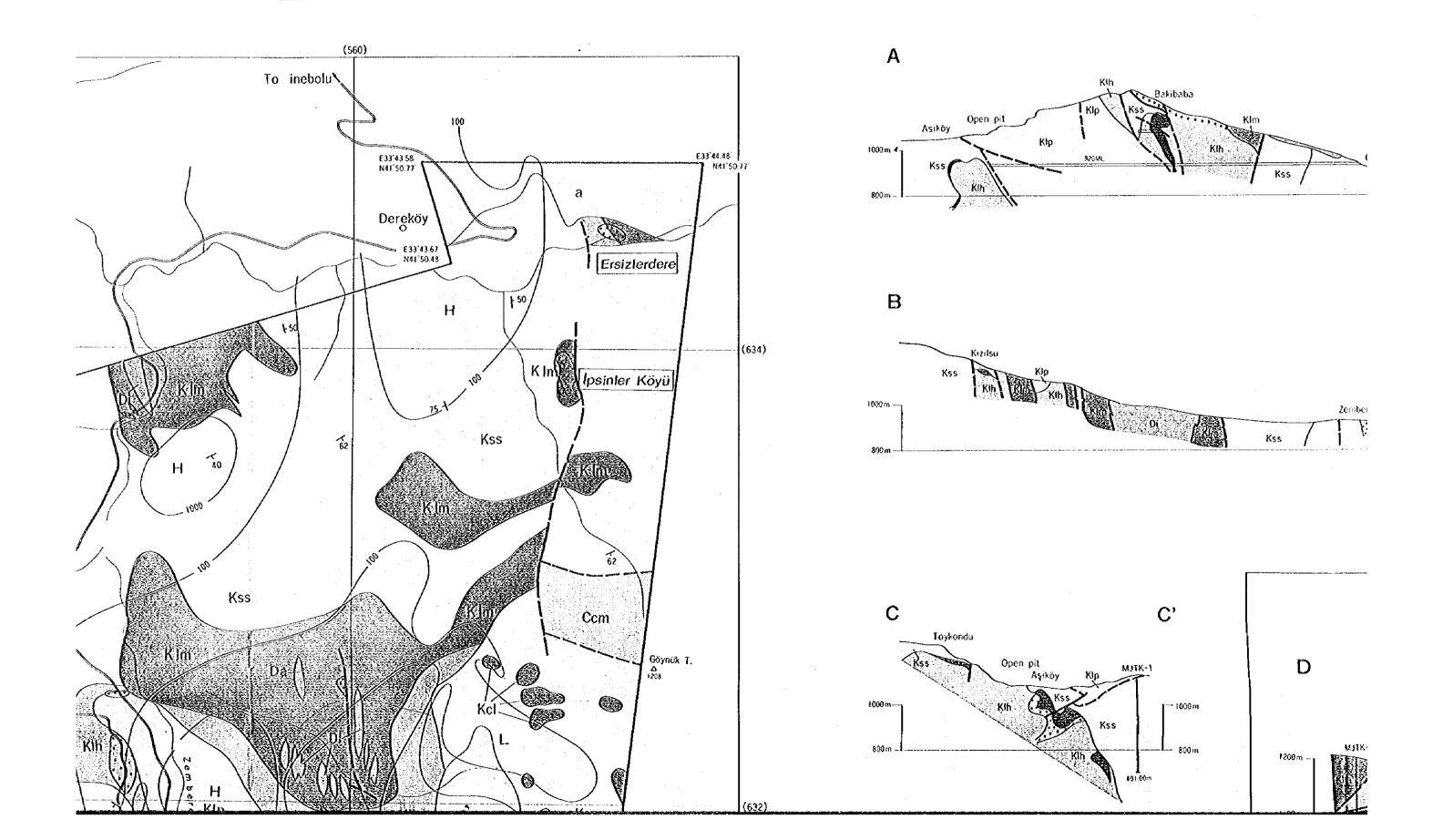
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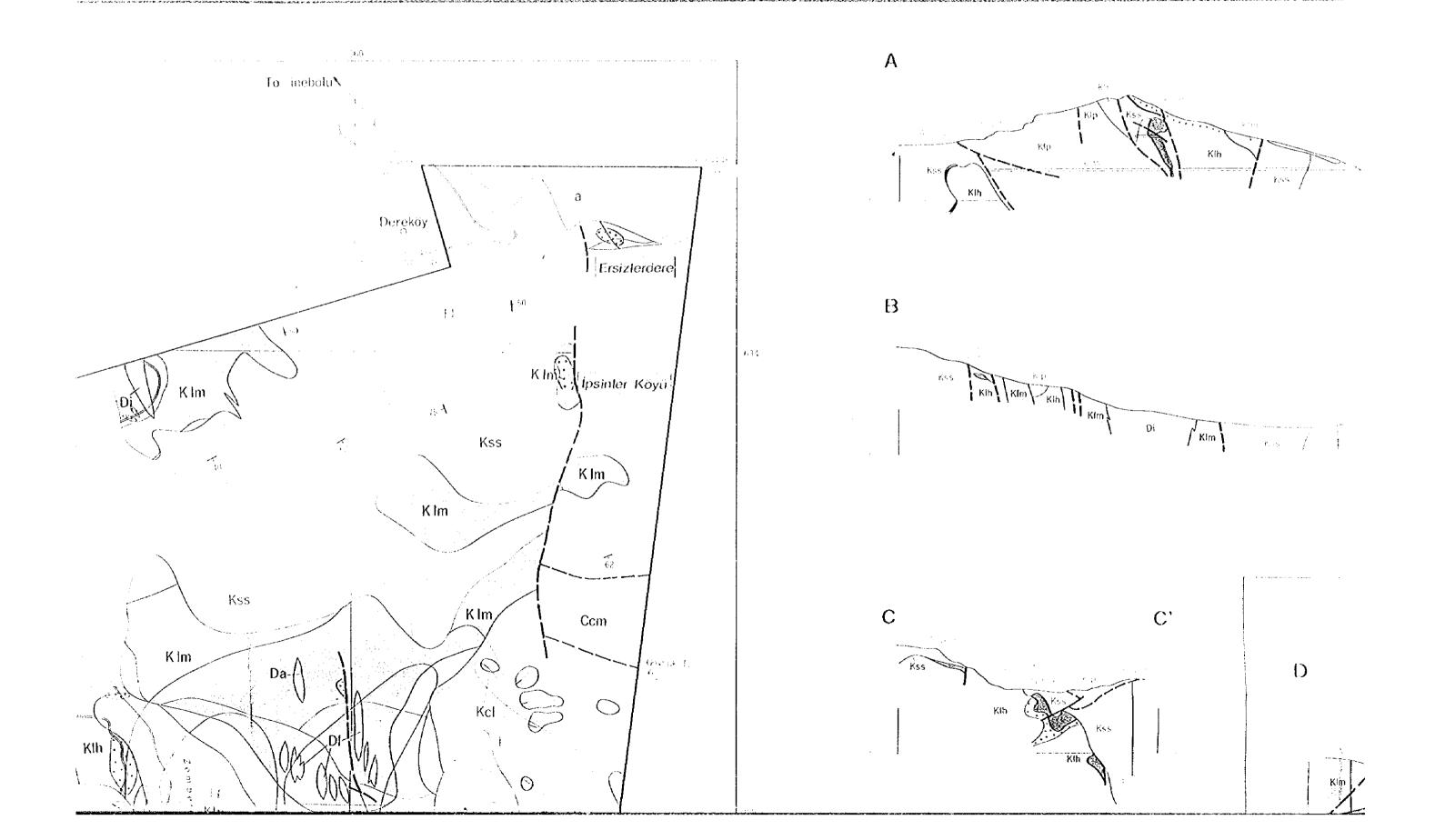
GEOLOGY AND ORE DEPOSITS O



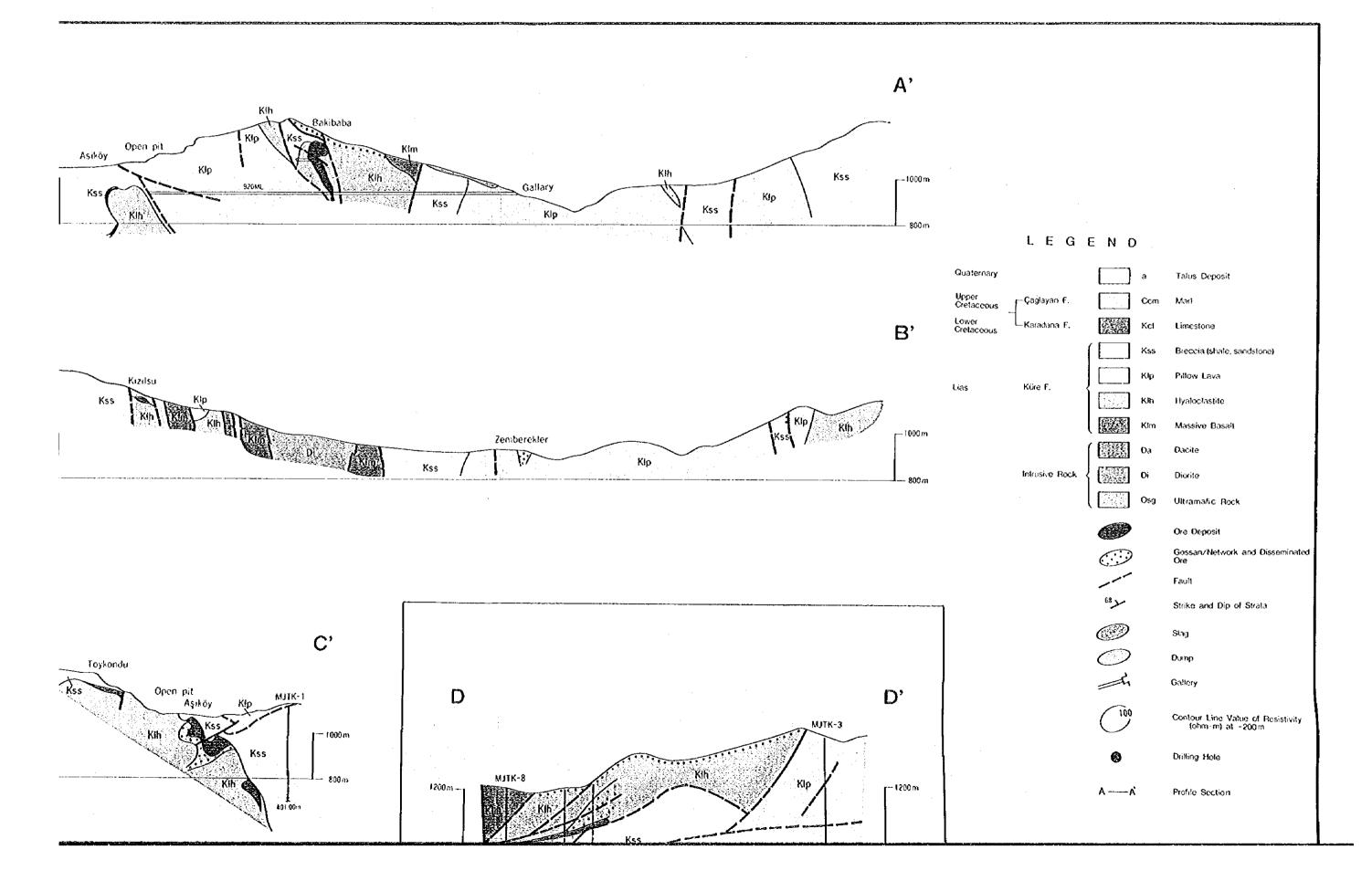
ORE DEPOSITS OF THE KÜRE AREA, THE REPUBLI



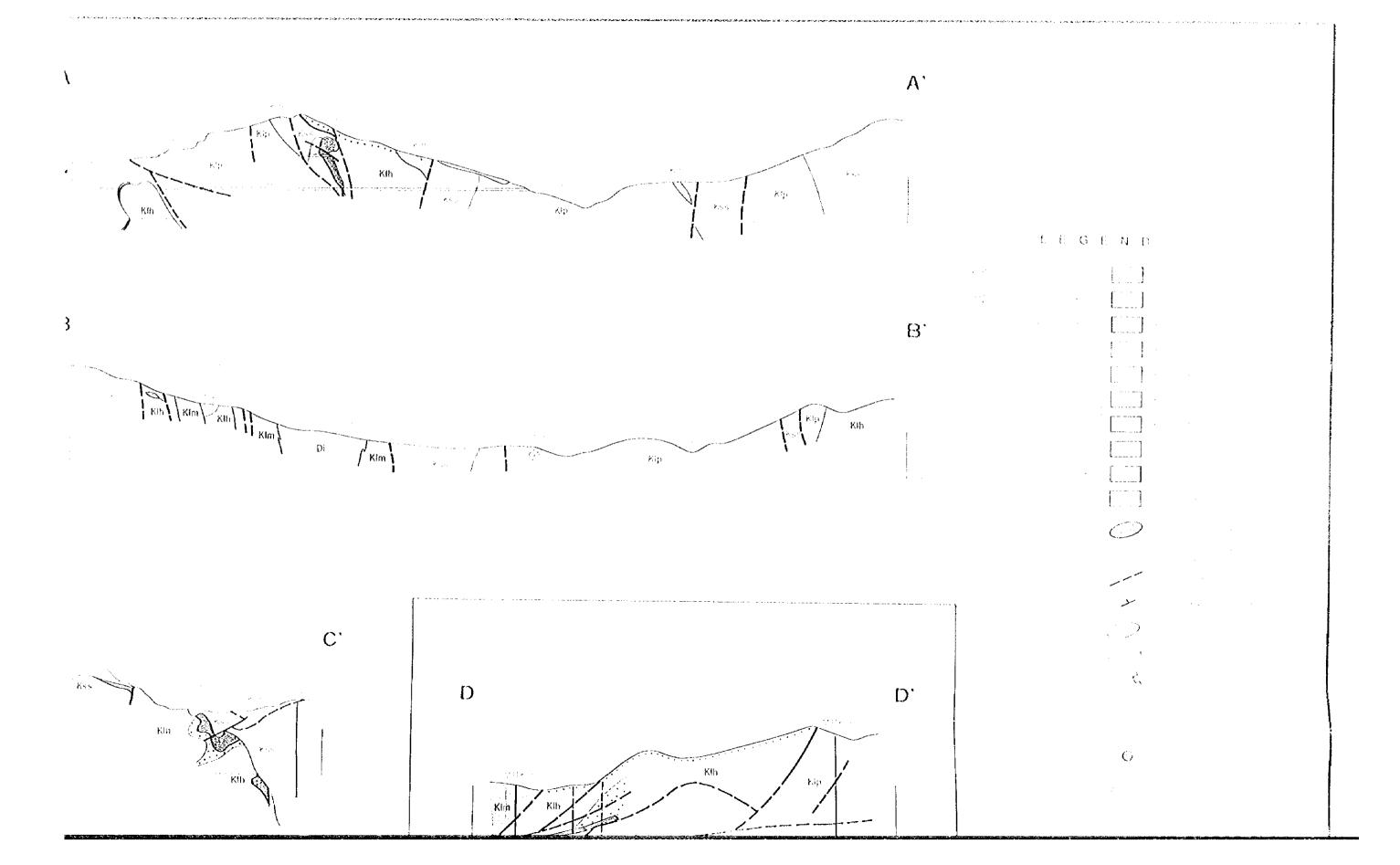
ORE DEPOSITS OF THE KÜRE AREA, THE REPUBLI



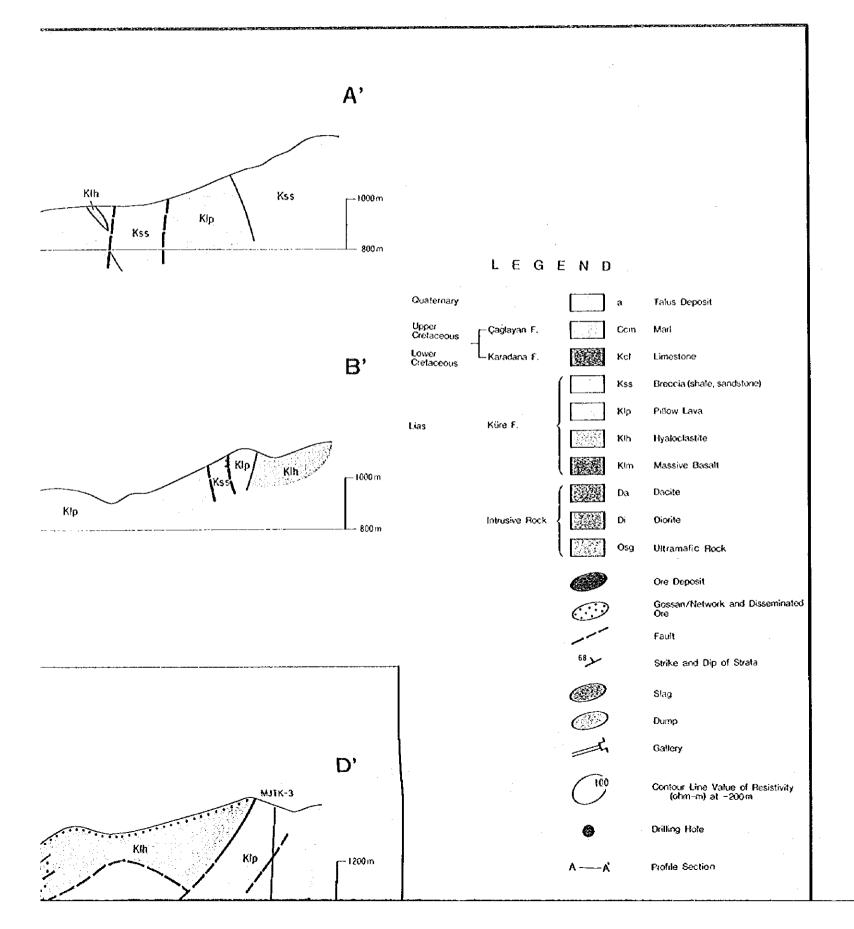
REA, THE REPUBLIC OF TURKEY



REA, THE REDUBLIC OF TURKEY



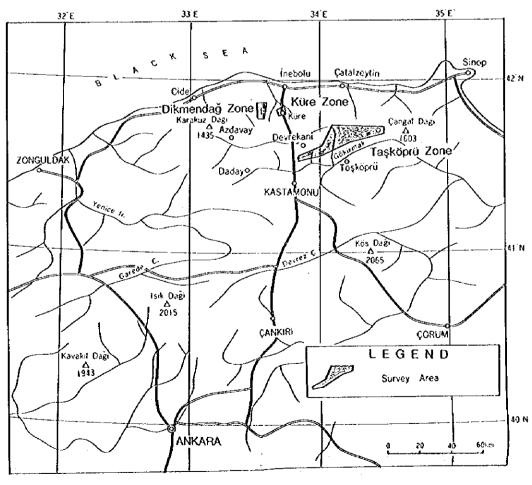
TURKEY



THE COOPERATIVE MINERAL EXPLORATION BY JICA/MMAJ-ETIBANK, 1992-1994

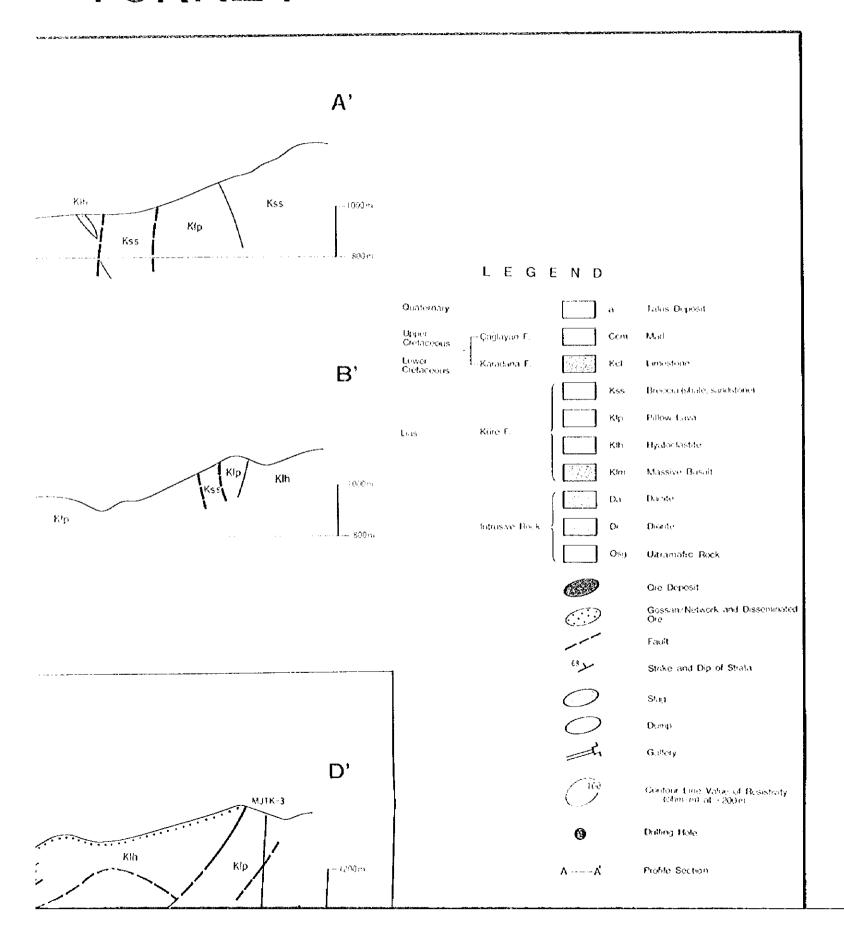
Index Map





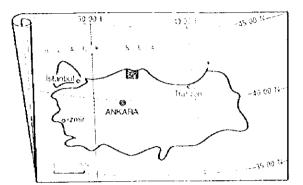
Members of the Survey Team

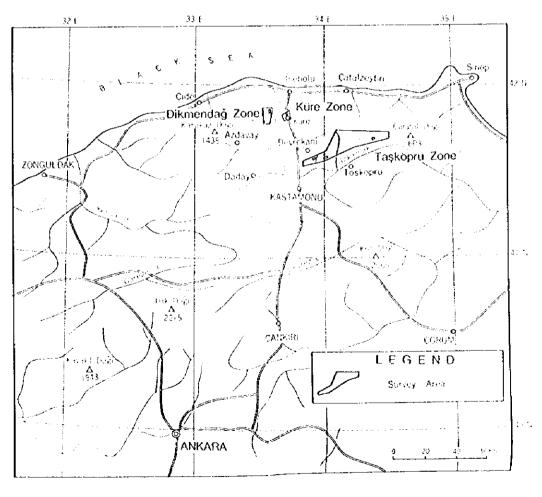
101 TURKEY



THE COOPERATIVE MINERAL EXPLORATION BY JICA/MMAJ-ETIBANK, 1992-1994

Index Map



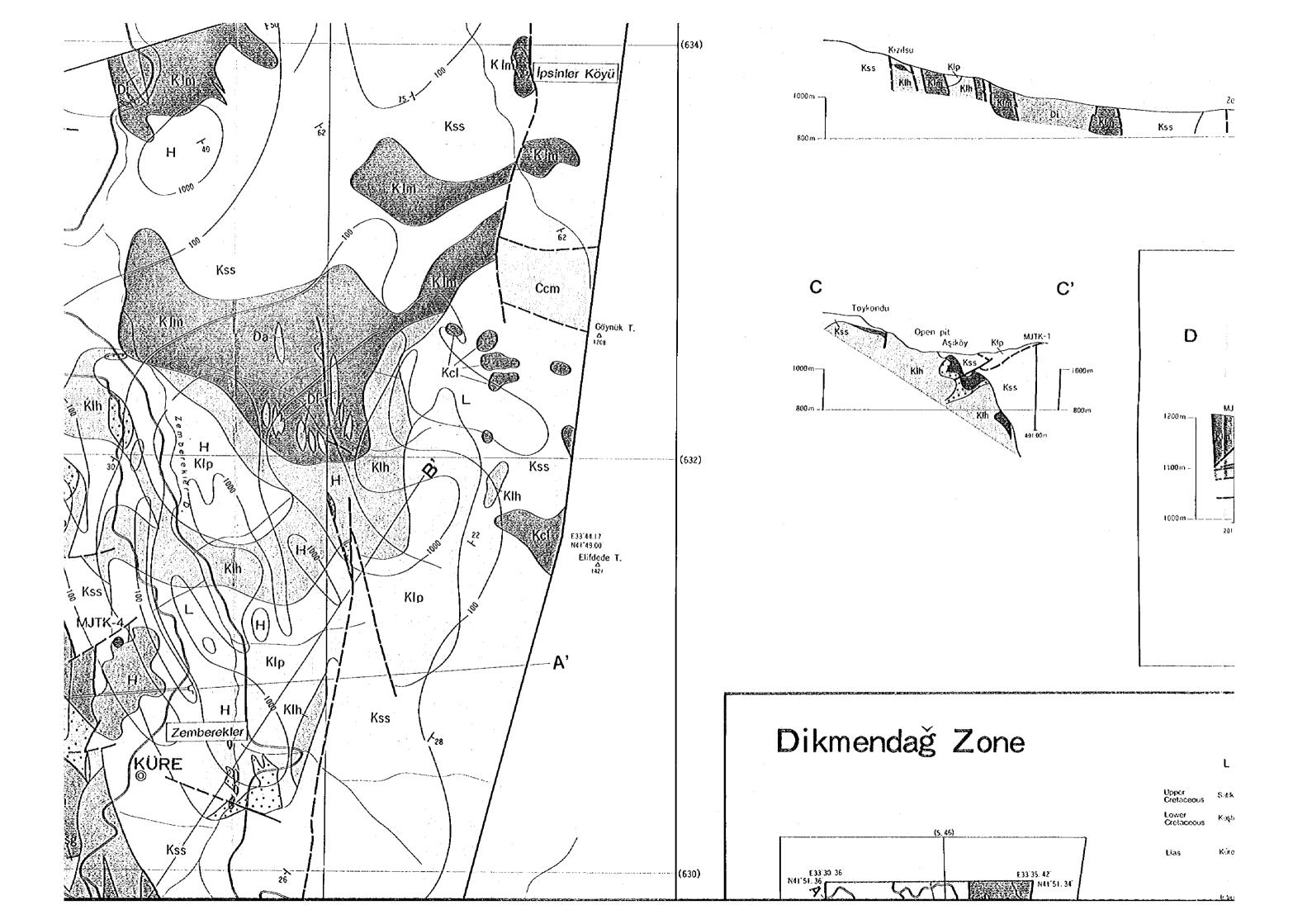


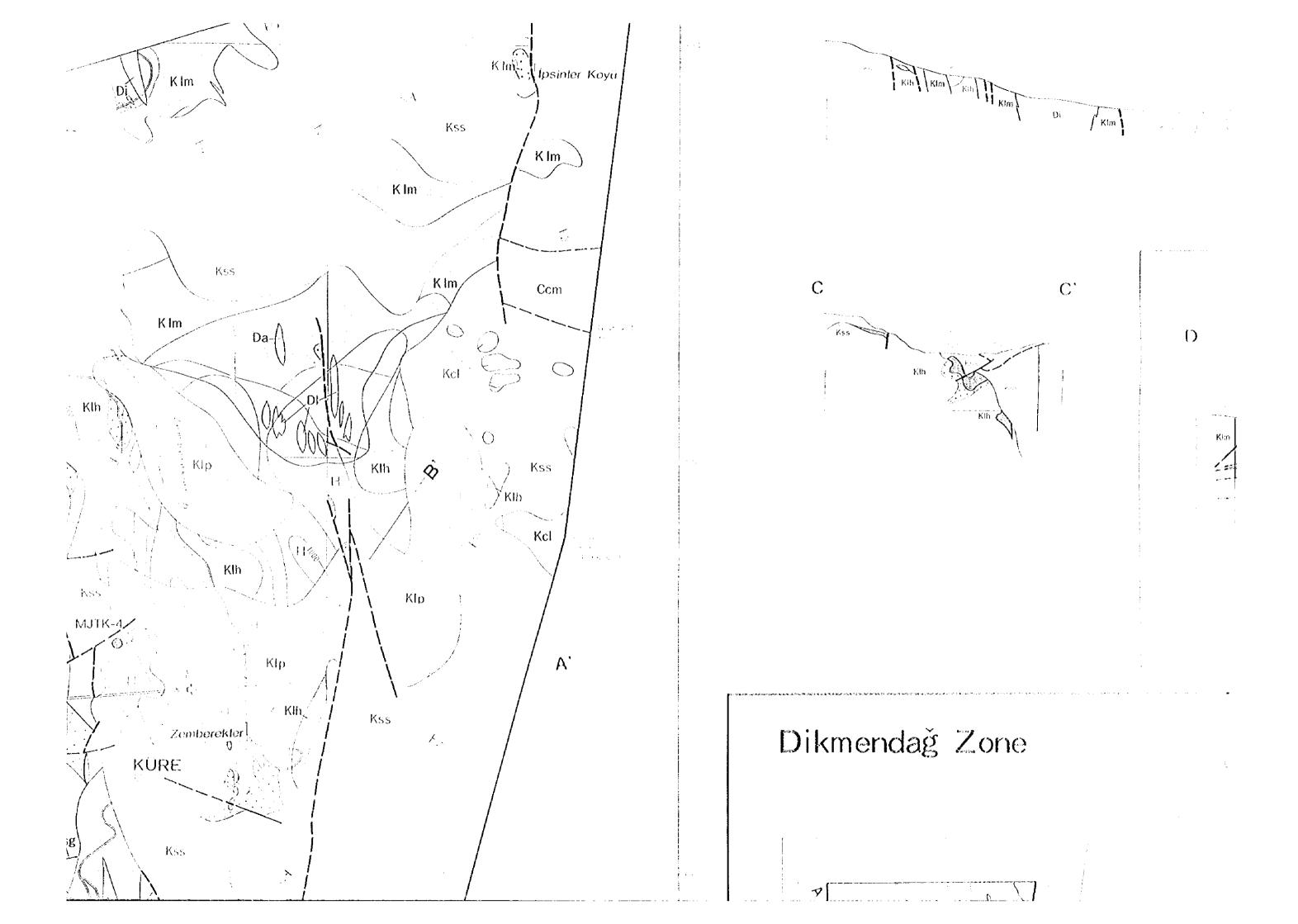
Members of the Survey Team

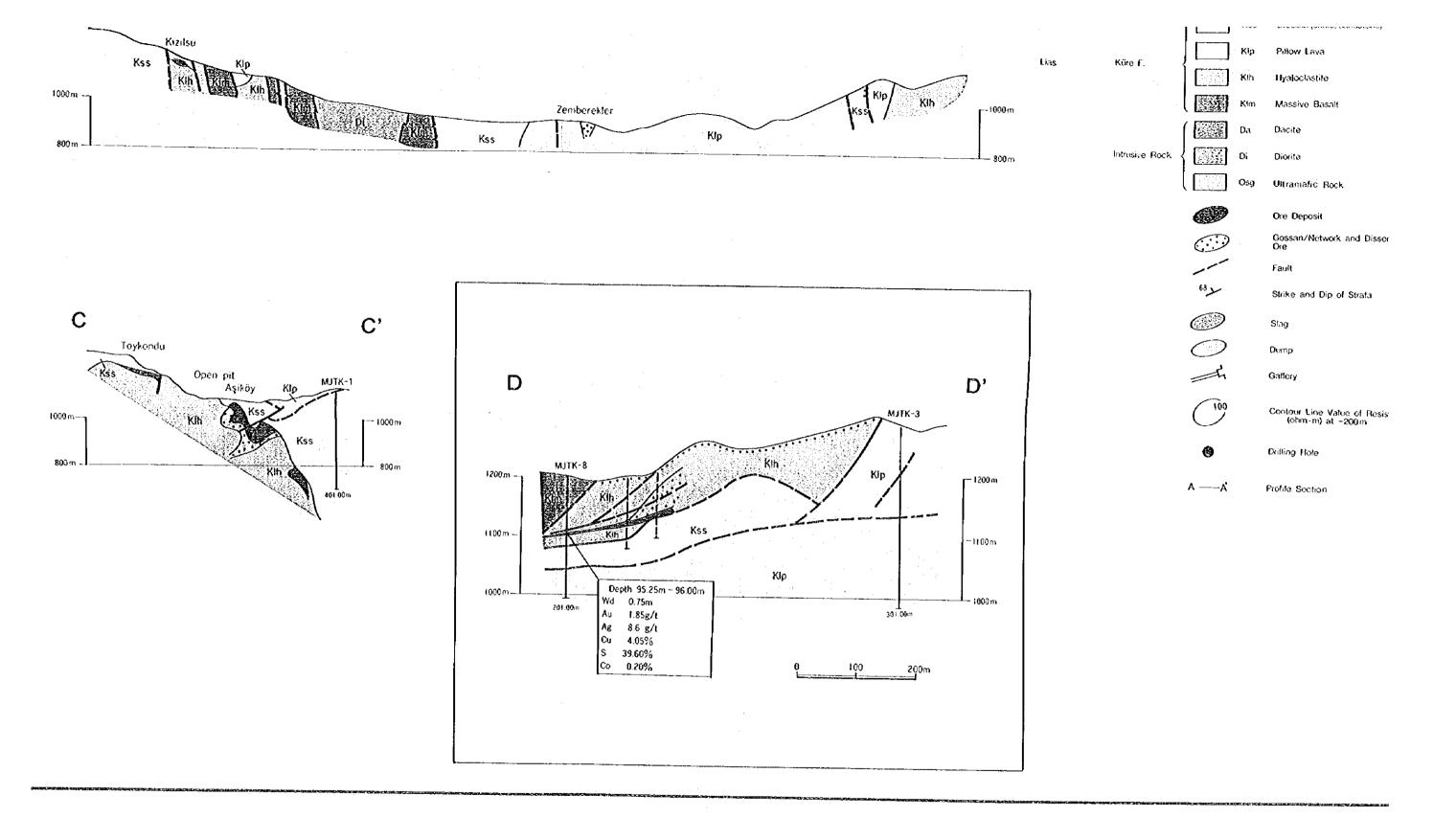
Phase 1 1 Metal Mining Acency of Japan 1











Dikmendağ Zone

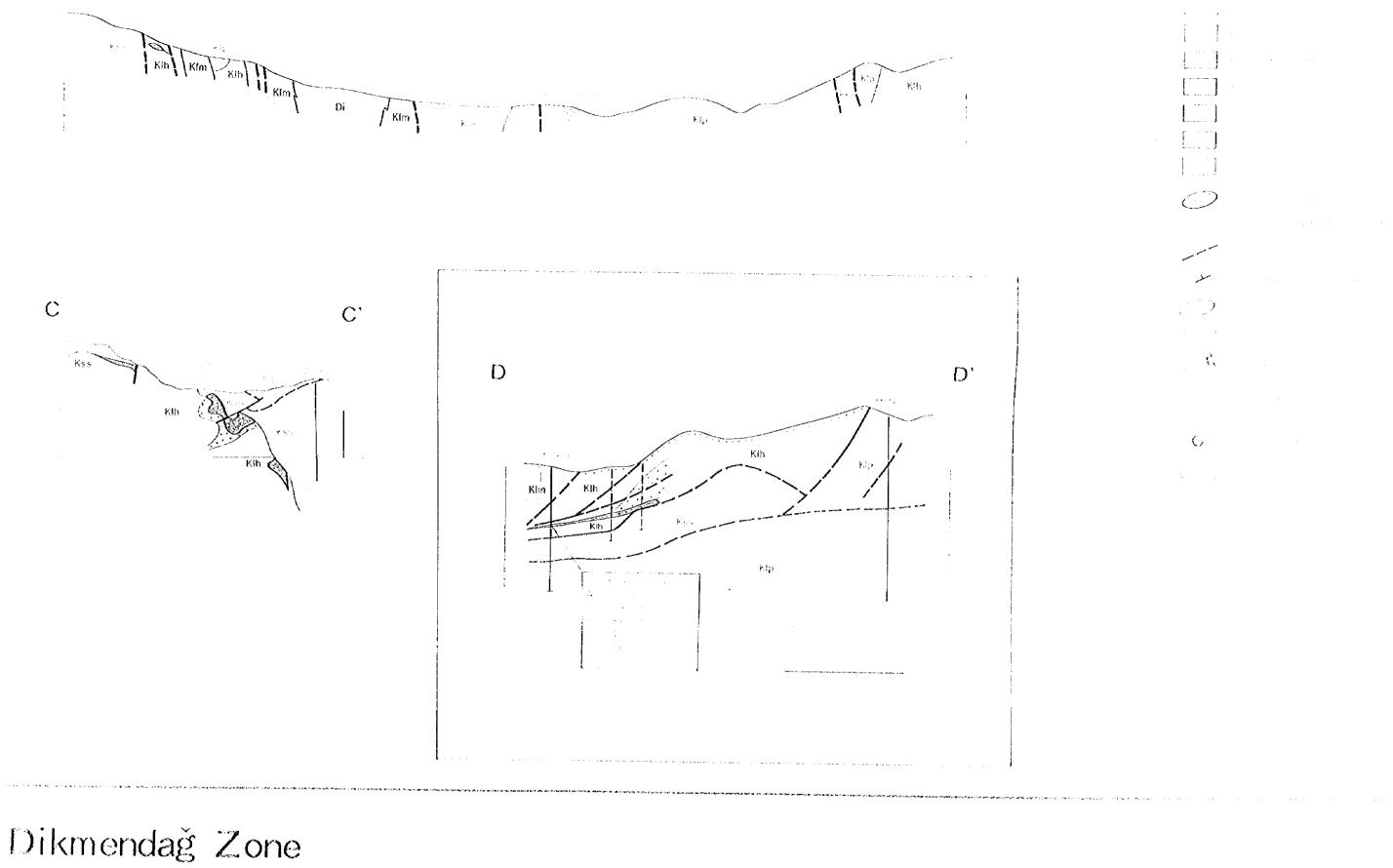
E 33'35. 42'

E33'30, 36 N41'51, 36'

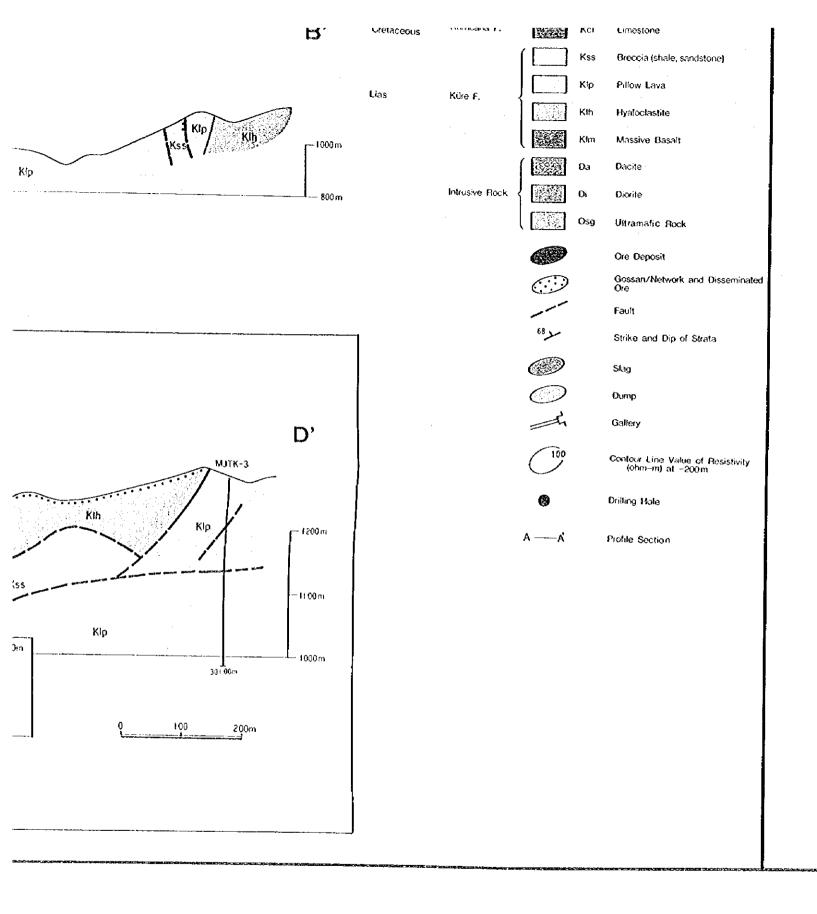
Upper Cretaceous Satikoy F. Cos Sandstone and mudstone Lower Cretaceous Köştekciter F. Kcl Limestone Lias Küre F. Klis Breccia (shate, sandstone) Klib Basic rock Cd Dacite

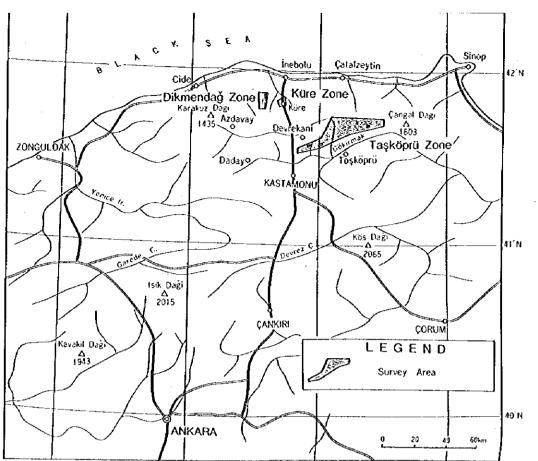
LEGEND

Masköy Prospect



Masköy Prospect





Members of the Survey Team

Phase 1 [Metal Mining Agency of Japan] Takafumi TSUJIMOTO (Coordinator Geophysicist) Kazuko MATSUMOTO (Coordinator) Nobuyuki OKAMOTO (Coordinator Geologist) [Turkish Members] Ahmet UNSAL (ET/BANK) Coordinator Latif YlĞİT (ETIBANK) Geologist Necmettin ÇELİK (ETIBANK) Geologist Mürsel ÖZTÜRK (Küre Mine) Geologist Tayfun AKKUŞ (ETIBANK) Geophysicist Orhan ERSÖZ (ETiBANK) Geophysicist [Japanese Members] Hisashi MiZUMOTO (NED) Team leader Yoneharu MATANO (NEO) Geologist Kengi SATO (NED) Geologist Kazuyasu SUGAWARA (NED) Geologist Masao YOSHIZAWA (NED) Geophysicist Ikuo TAKAHASHi (NED) Geophysicist Shinichi SUGIYAMA (NEO) Geophysicis!

Phase 2 [Metal Mining Agency of Japan]
Atsuhiko MiNOWA (Coordinator Geologist)
Nobuyuki OKAMOTO (Coordinator Geologist)
[Turkish Members]
Ahmet ÜNSAL (ETIBANK) Coordinator
Necmettin CELİK (ETIBANK) Coordinator
Sadık KELEŞOĞLU (ETIBANK) Drilling Engineer
Cemalettin SOLAK (ETIBANK) Ass. Manager
Ahmet TÜNCER (ETIBANK) Chief Driller
Tayfun AKKUŞ (ETIBANK) Geophysicist

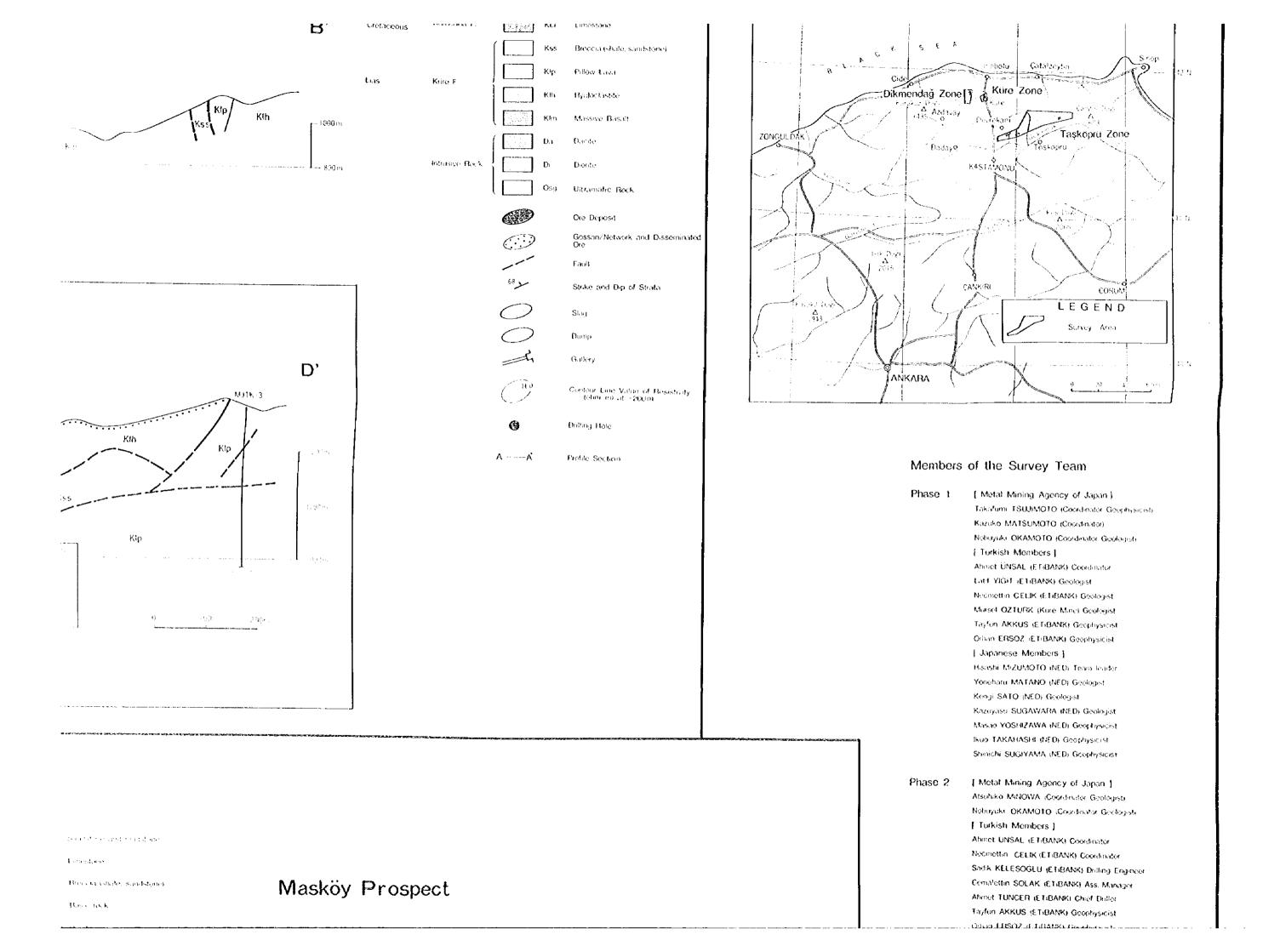
Sandstone and mudstone

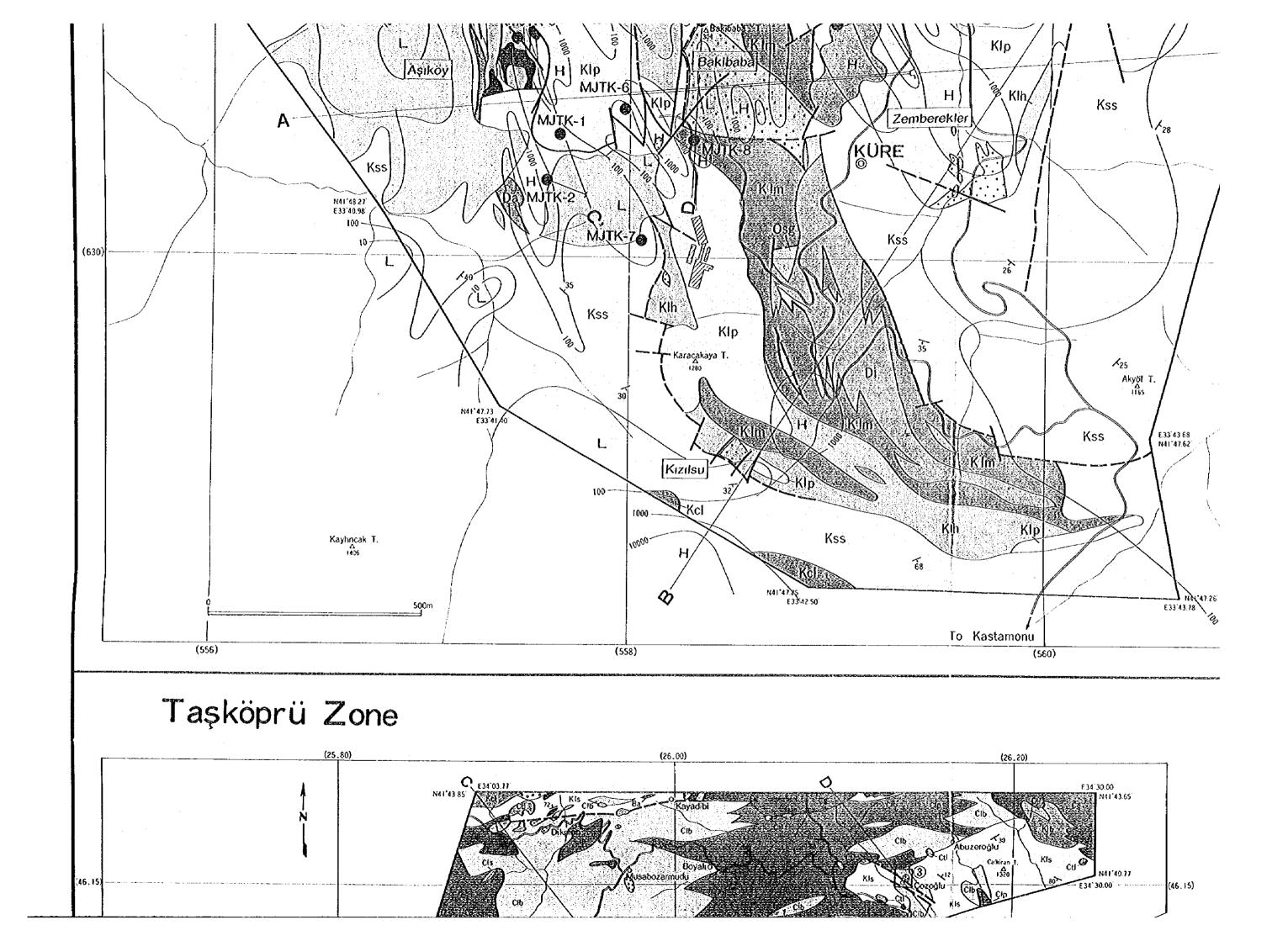
Limestone

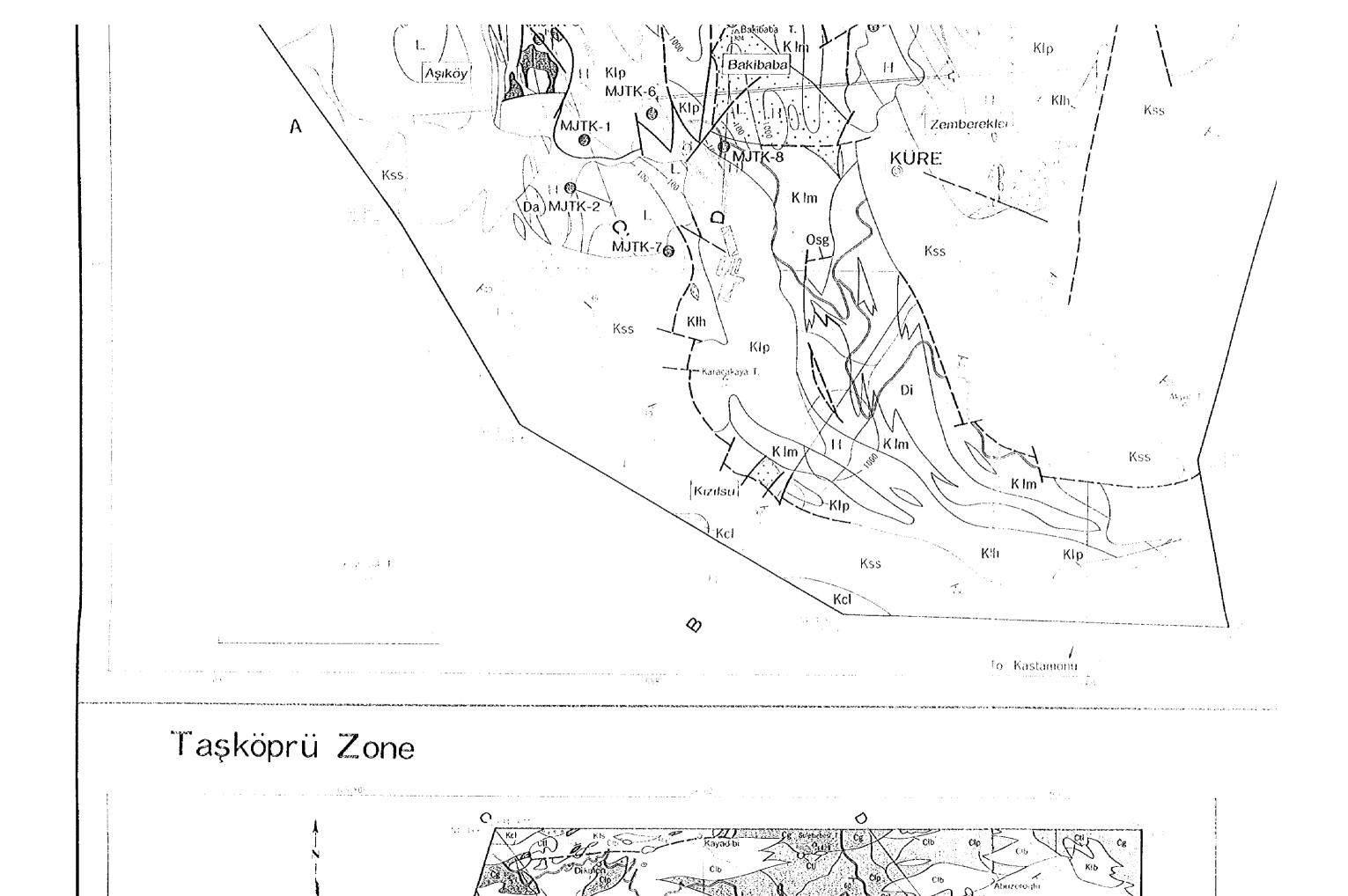
Breccia (shale, sandstone)

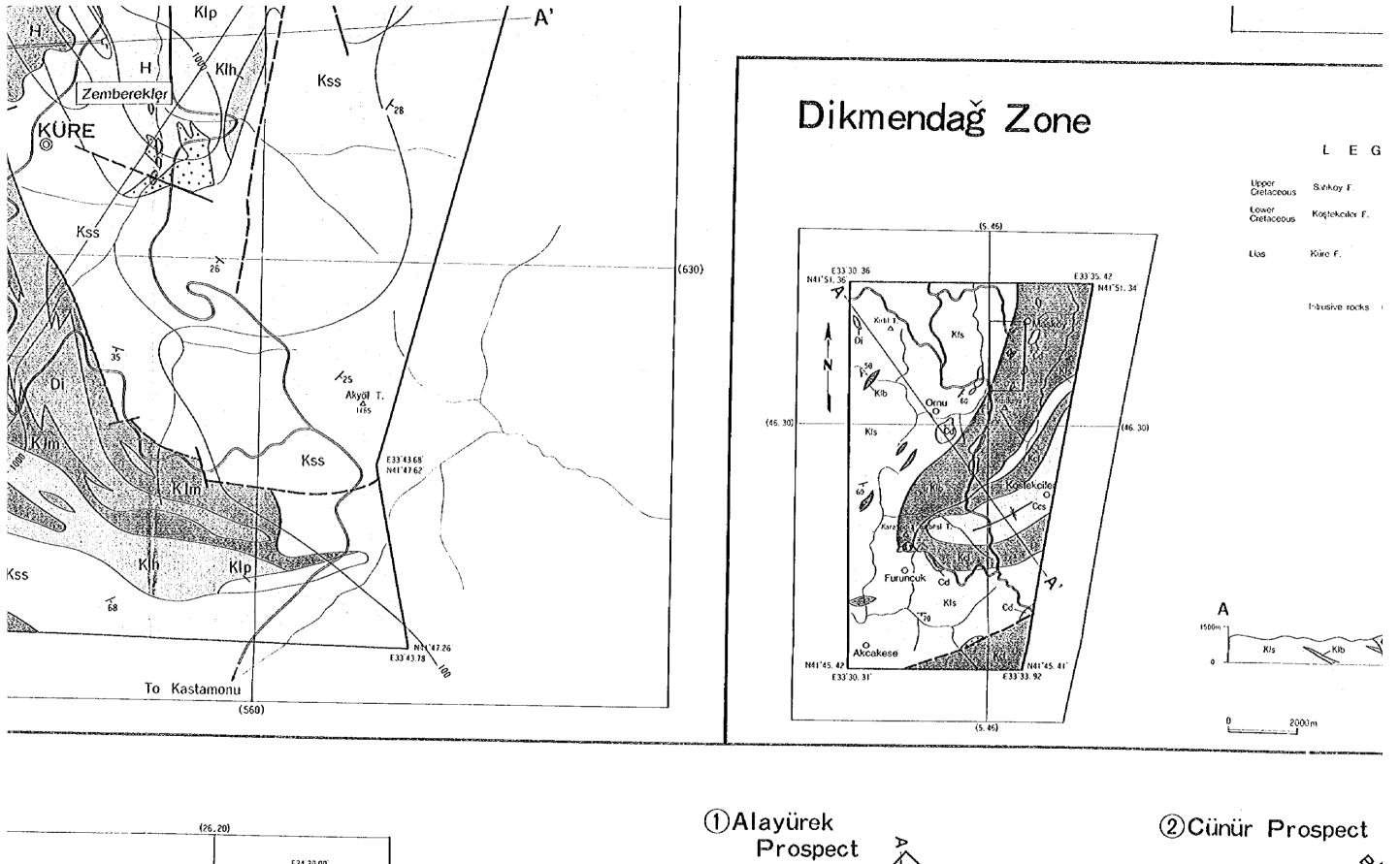
Basic rock

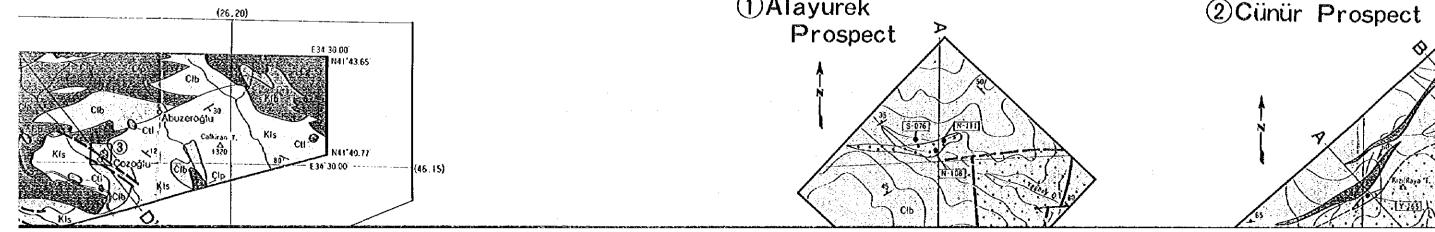
Masköy Prospect

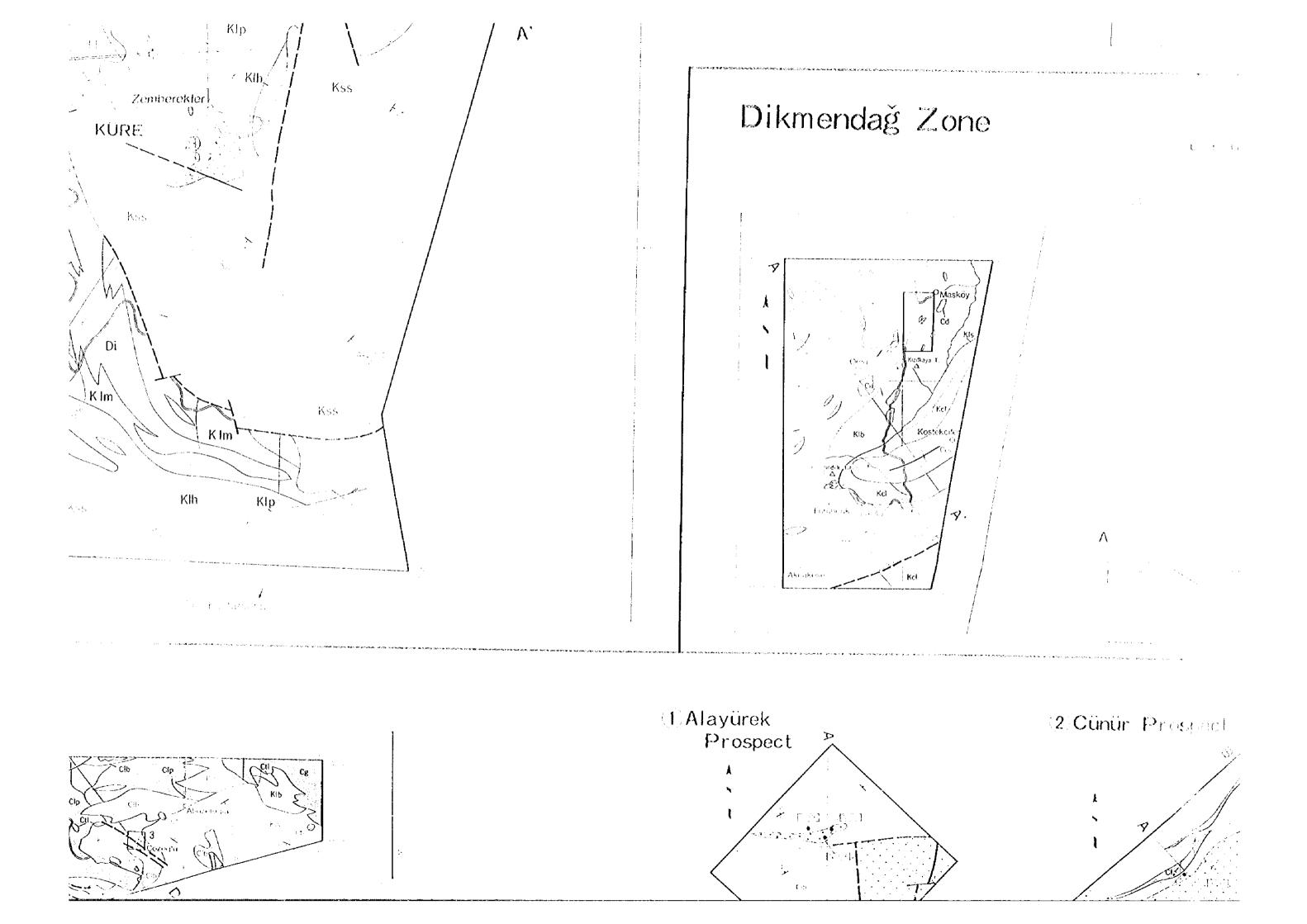












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Sandstone and mudstone

Breccia (shate, sandstone)

Basic reck

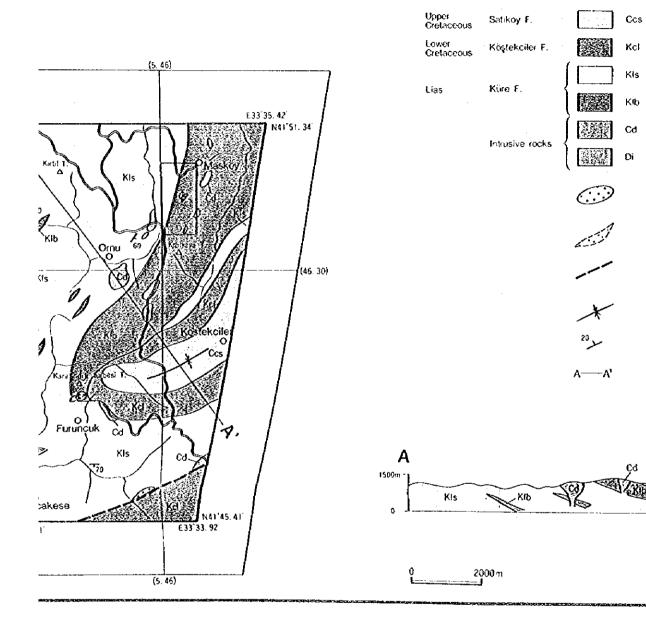
Mineralized Zone

Silicified Zone

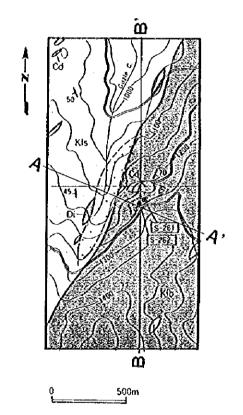
Probable fault

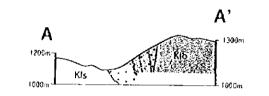
Strike and dip

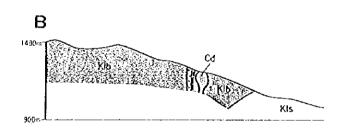
Profile section



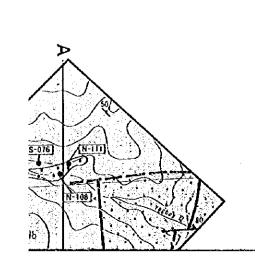
Masköy Prospect

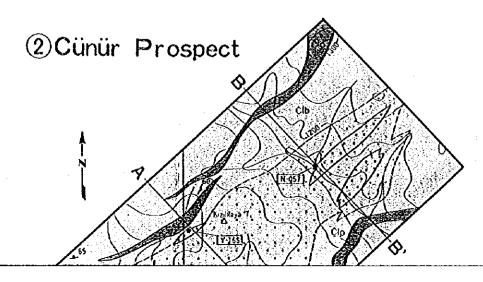


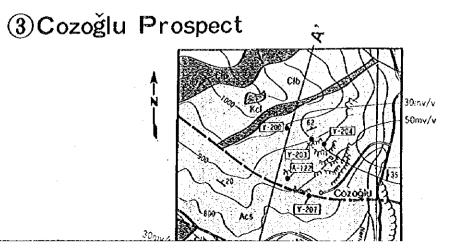




Sample No.	Sample Name	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(ºo)	C
S-261	Argillized Rock	< 0.1	< 5	< 0.01	< 0.01	0.01	3
S-262	Sificitied Rock	< 0.1	< 5	< 0.01	0.01	0.01	







- s. Sandstone and mudstone
- 1 Limestone
- s Breccia (shate, sandstone)
- b Basic rock
- I Dacite

Diorite

Mineralized Zone

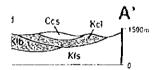
Siticified Zone

Probable fault

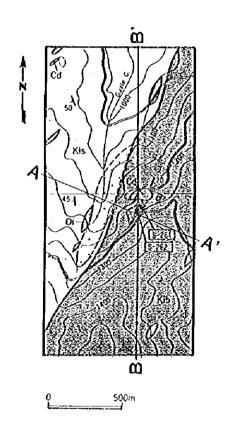
Syncline axis

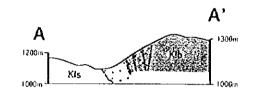
Strike and dip

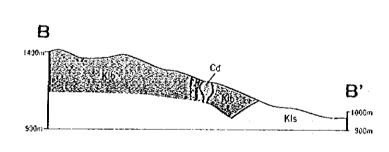
Profile section



Masköy Prospect







	Sample No.	Sample Name	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(%)	Co(%)	s (%)
i	\$-261	Argillized Rock	< 0.1	< 5	< 0.01	< 0.01	0.01	<0.006	3.58
	S-262	Silicified Rock	< 0.1	< 5	< 0.01	0.01	0.01	< 0.006	4.46

Yoneharu MATANO (NED) Geologist Kengi SATO (NED) Geologist Kazuyasu SUGAWARA (NED) Geologist Masao YOSHIZAWA (NEO) Geophysicist Ikuo TAKAHASHI (NED) Geophysicist Shinichi SUGIYAMA (NED) Geophysicist

[Metal Mining Agency of Japan] Atsuhiko MiNOWA (Coordinator Geologist) Nobuyuki OKAMOTO (Coordinator Geologist) [Turkish Members] Ahmet ÜNSAL (ETiBANK) Coordinator Necmettin CELIK (ETIBANK) Coordinator Sadik KELEŞOĞLU (ET:BANK) Drilling Engineer Cemalettin SOLAK (ET-BANK) Ass. Manager Ahmet TÜNCER (ET/BANK) Chief Driller Tayfun AKKUŞ (ETiBANK) Geophysicist Orhan ERSÖZ (ETiBANK) Geophysicist [Japanese Members] Yoneharu MATANO (NEO) Team teader Saichi ISHI (NEO) Orilling Engineer Itsuki HATAZAWA (NED) Drilling Engineer Tadateru SUGIBUCHI (NED) Drilling Engineer Soji KANNARI (NED) Drilling Engineer Mitsuo NOMURA (NED) Driffing Engineer Koichi TAMURA (NED) Drilling Engineer Masao YOSHIZAWA (NED) Geophysicist Ikuo TAKAHASHI (NED) Geophysicist

[Metal Mining Agency of Japan]
Takahisa YAMAMOTO (Coordinator Geologist)
Yoshiaki IGARASHI (Coordinator Mining Engineer)
[Turkish Members]
Necmettin ÇELİK (ETIBANK) Coordinator
Sadik KELEŞOĞLU (ETIBANK) Drilting Engineer
Cemalettin SOLAK (ETIBANK) Ass. Manager
[Japanese Members]
Yoneharu MATANO (NED) Team Leader
Saichi ISHII (NED) Drilting Engineer
Yoshio SASAKI (NED) Drilting Engineer
Tadateru SUGIBUCHI (NED) Drilting Engineer
Mitsuo SASAKI (NED) Drilting Engineer
Mitsuo NOMURA (NED) Drilting Engineer
Hiromasa INABE (NED) Drilting Engineer

Norikiyo SUGIURA (NED) Geophysicist

LEGEND

Phase 3

Phase 2



③Cozoğlu Prospect

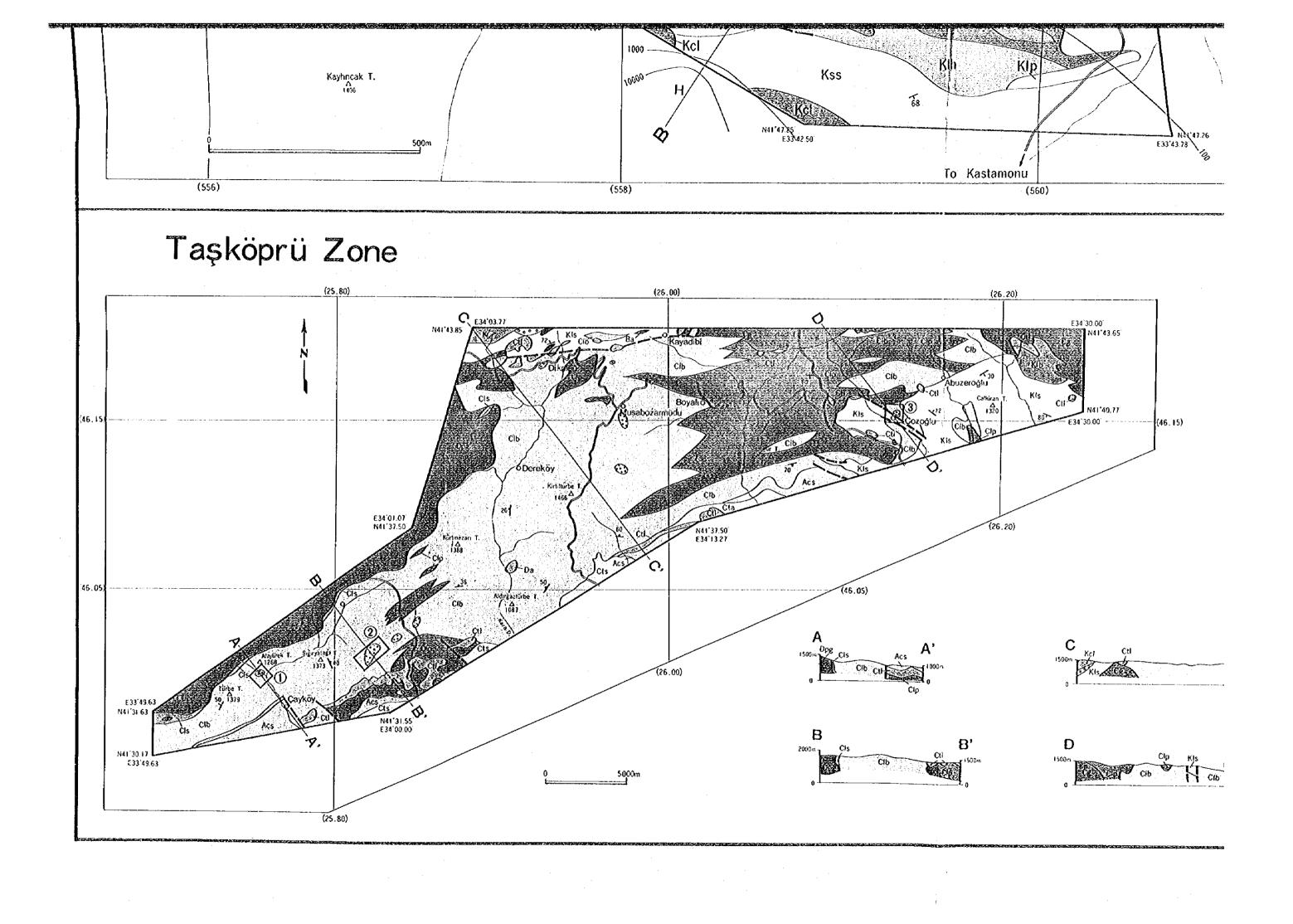
Ctl Limestone Tertiary Çayköy F. Cta Andesite Cts Sandstone Upper Acs Sandstone, mudstone, mark Alaçam F. Cretaceous Kızacik F. Kcl Limestone Cretaceous Malm Muzrup F. Mmc Conglomerate Kts Sandstone, shale Lias Kayadibi F.

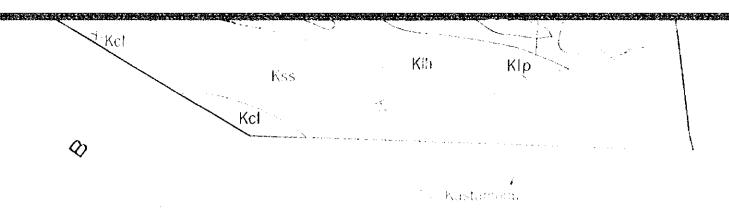
Kib Basic rock

Marin Strategick (AWA) Section (1997) Control State Assets the Control of Control of Control $(\mathcal{O}_{\mathcal{A}}) = \mathcal{O}_{\mathcal{A}}(\mathcal{O}_{\mathcal{A}}) = (\mathbf{i} \circ \mathbf{j} \circ \mathbf{i} \circ \mathbf{j} \circ \mathbf{i} \circ \mathbf{j} \circ \mathbf{i} \circ \mathbf{j} \circ \mathbf{i})$ Philipe 2 COMMON NAME OF BUILDING As a contract with the same of Section of the sectio STATE OF STREET $|\Delta v| = (1 + 1)^{2} |A V_{ij}| + (1 + 2)^{2} |a|$ A CAMP AND A BOND OF SHEET Partie Brade Charles and Edge Attaches the Court Court and the control of th Masköy Prospect According to the transfer of the same $\mathcal{F}_{i} = \mathcal{F}_{i}^{i} (\mathbf{x}, \mathbf{x}, \mathbf{y}) + \mathbf{A}_{i} + \mathcal{F}_{i}^{i} (\mathbf{x}, \mathbf{y}) + \mathbf{A}_{i} + \mathbf{A}_{i}^{i} (\mathbf{x}, \mathbf{y}) + \mathbf{A}_{i}^{i} (\mathbf{x$ And the State of t State of the House er en Mariata e Nacional de la compa Α, and the state of the state of the state of $\label{eq:constraints} \mathcal{A}(\mathcal{A}, \mathcal{A}, Phase 3 The thousand the $(x_{i})^{-1/2} = (x_{i})^{-1/2} = (x_{$ В $(\Delta + \Delta + \lambda) = (-\lambda + 1) + (-\lambda + 1) + (-\lambda + 1)$ Contract to the State of the St В, er kirkur i mille kirkur görre kerker i müller . For particular, the figure $(-\infty, \pm 1)$ Mitable NASARE TREETINGS TO FIRE PORCE THE WINDOWS AND DESCRIPTION Harrist PARK OFF Driving Francisco LEGEND 3 Cozoğlu Prospect

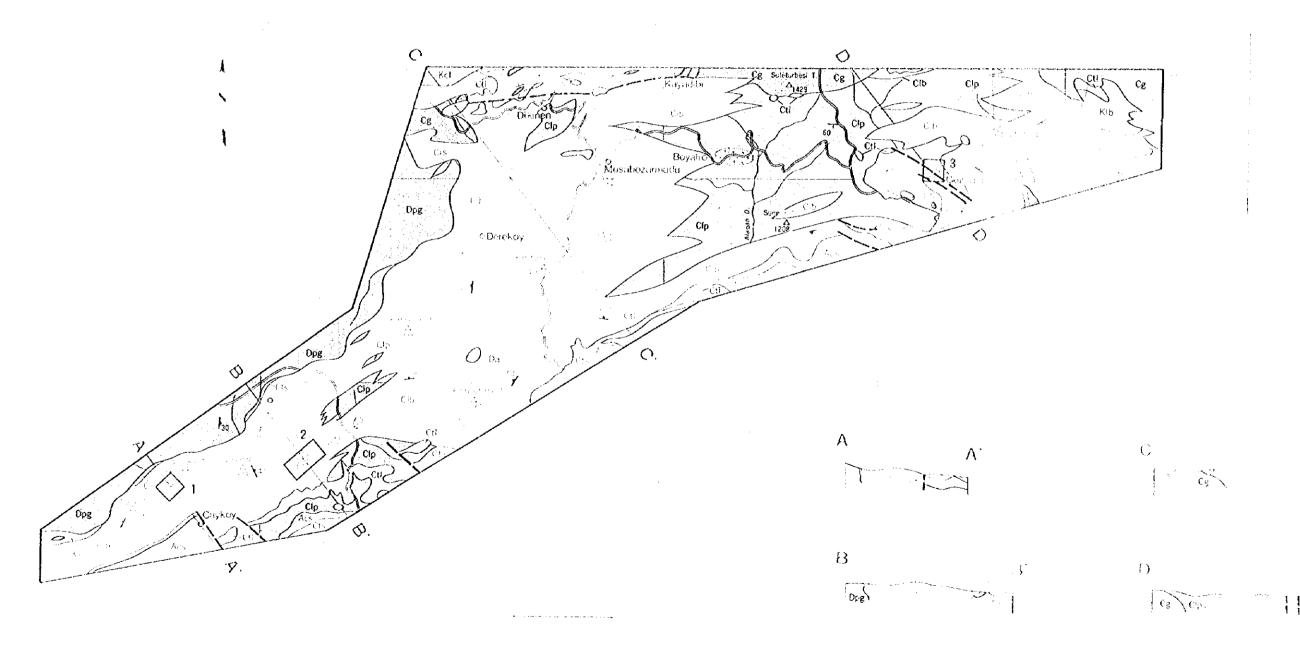
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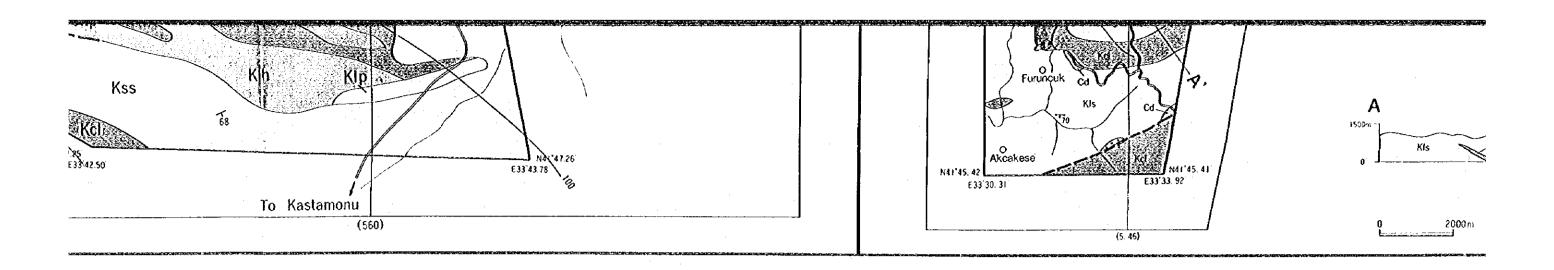
Burney Commission (1985)

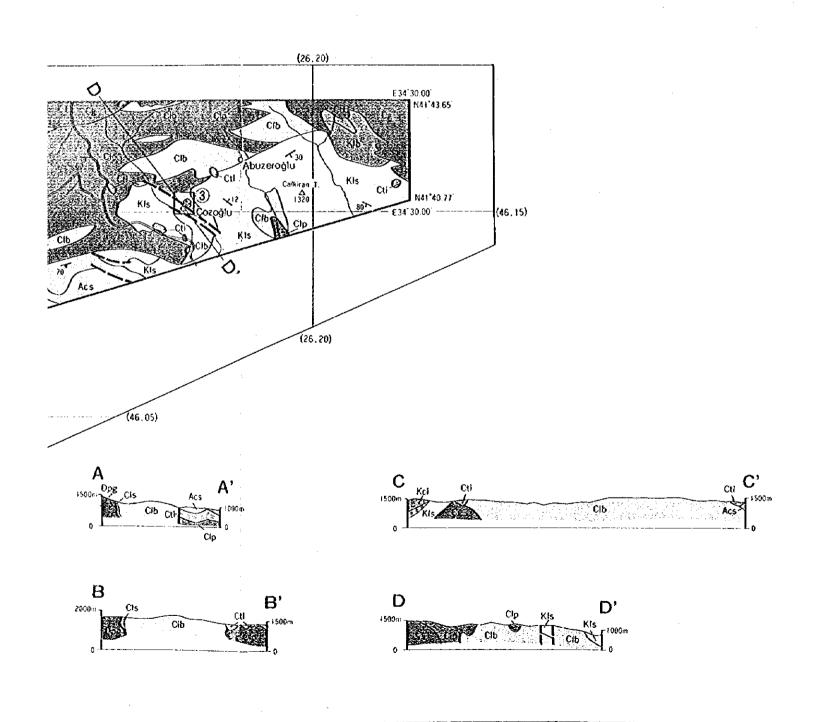


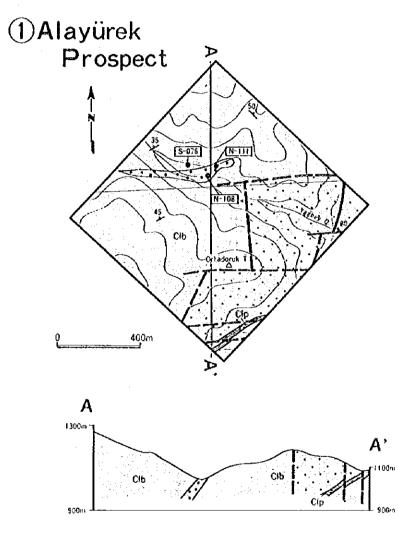


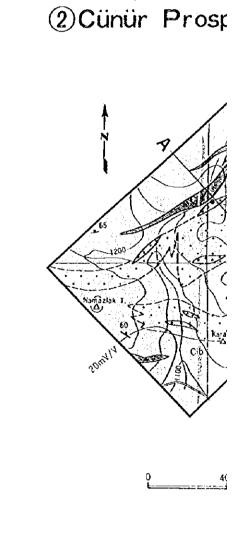
Taşköprü Zone





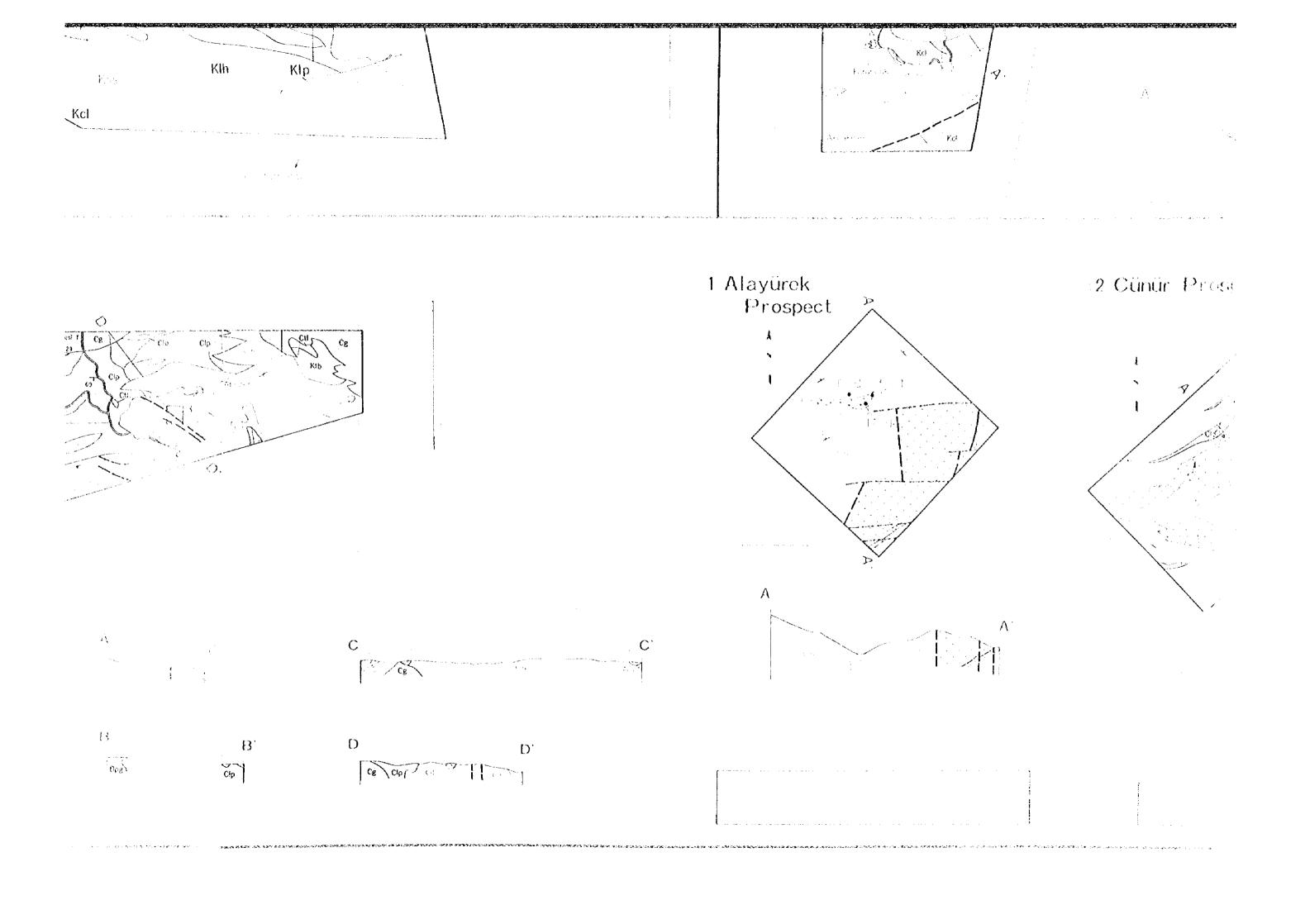


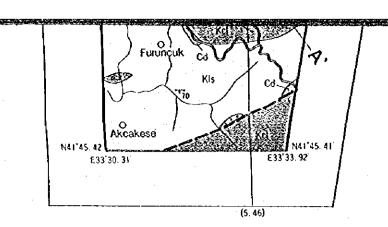


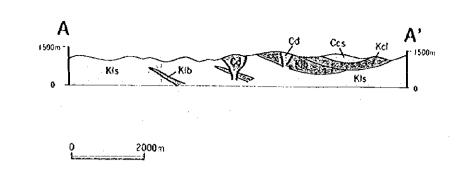


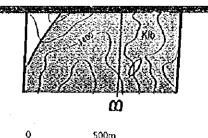
Sample No.	Sample Name	Au(g/t)	Ag(g/t)	Cu(%)	₽ 5(%)	Za (%)	Co (%)	s (%)
N-108	Sificified Rock	0.2	< 5	0.91	< 0.01	0.03	< 0.006	12.81
N-(E)	Sitiefied Rock	1.5	100	0.17	0.39	0.03	< 0.006	1.75
S-076	Stag	<0.1	15	1.02	0.04	1.56	< 0.006	1.39

Sample No.	Sample Name	Ai
N-057	Pyrite Vein	
Y-165	Green Schist	<.(



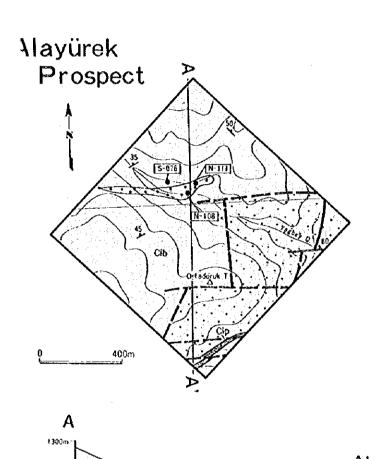


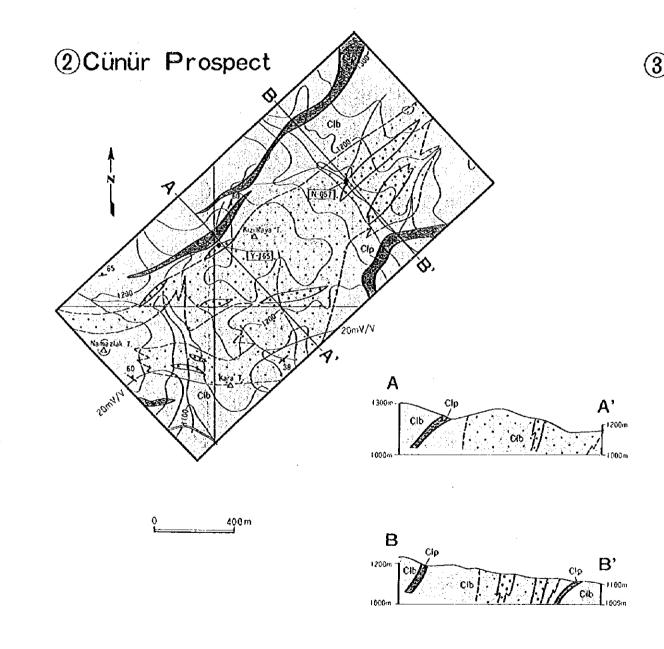




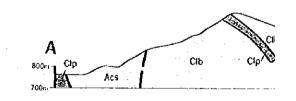


	Sample No.	Sample Name	Au(g/t)	Ag(g/
	S-261	Argillized Rock	< 0.1	< 5
,	S-262	Silicified Rock	1.0>	< 5





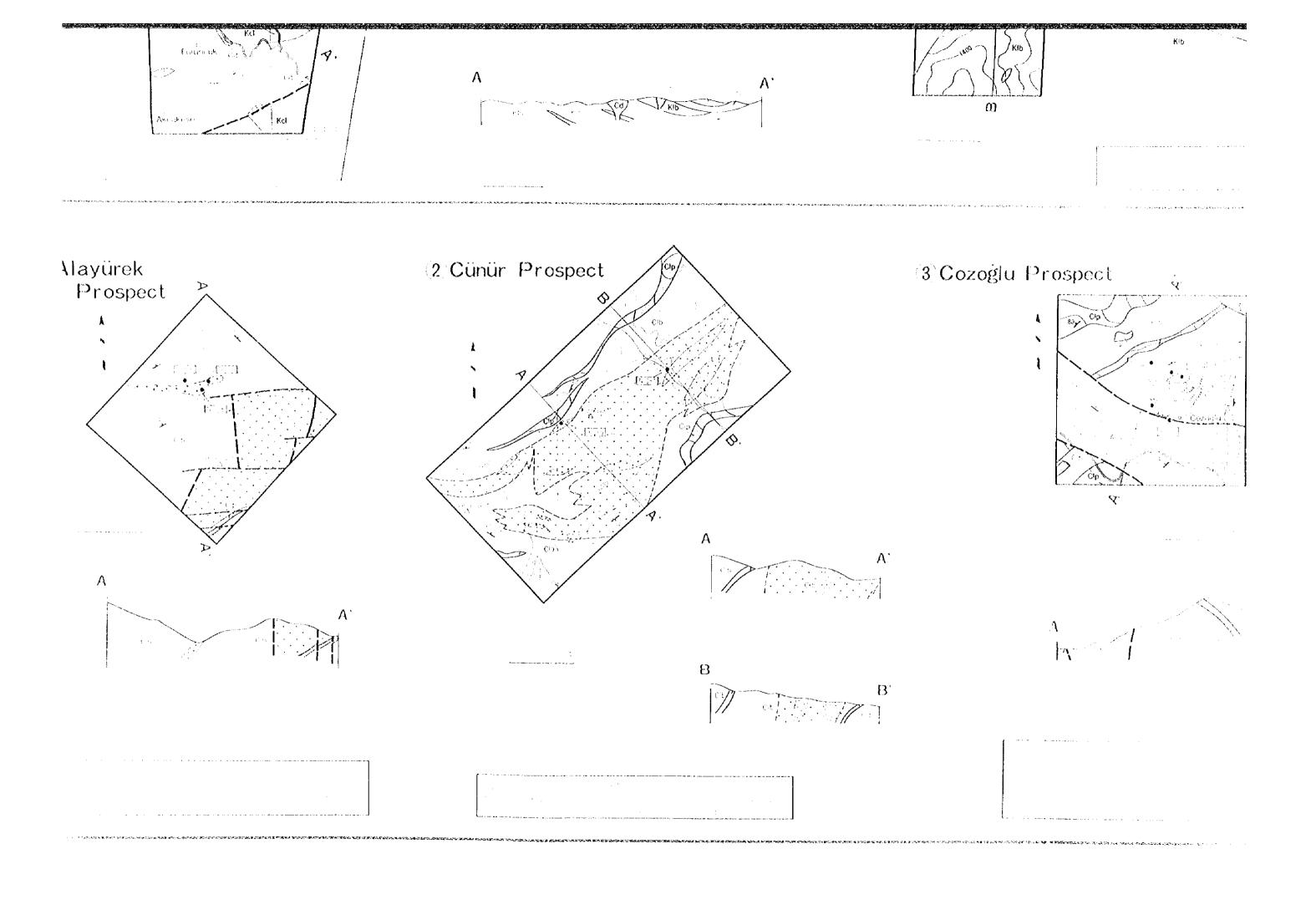
③Cozoğlu	Prospect	Ŷ
	30mv/s Cib Somv/s	Clb (52 1/204) (7/203)
		0 40

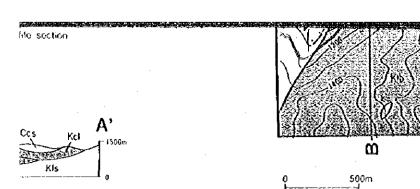


ample No.	Sample Name	Aufg/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn (%)	Co (%)	s (%)
4-108	Silicitied Rock	0.2	< 5	0.91	< 0.01	0.03	< 0.006	12.81
4-114	Sificified Rock	1.5	100	0.17	0.39	0.03	< 0.006	1.75
3-076	Slag	<0.€	15	1.02	0.04	1.56	< 0.006	1.39

Sample No.	Sample Name	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(%)	Co(%)	S (%)
N-051	Pyrite Vein	1.9	115	0.30	0.10	0.15	< 0.006	49.26
Y-165	Green Schist	<0.1		4.31	< 0.01	1.44	0.010	0.29

Sample No.	Sample Name	Au(g/t)	Ag(g/t)	C⊓(%)	₽ 6(% 0)	2 n(°
A-122	Slag	< 0.1	< 5	1.19	0.07	0.1
Y-200	Quartz Vein	<0.1	5	2.50	< 0.01	0.
Y-203	Green Schist	1.0 >	5	0.91	< 0.61	0.
Y-204	Slag	< 0.1	\$	4.81	< 0.01	6.(
Y-207	Slag	<0.1	5	1.05	< 0.01	0.





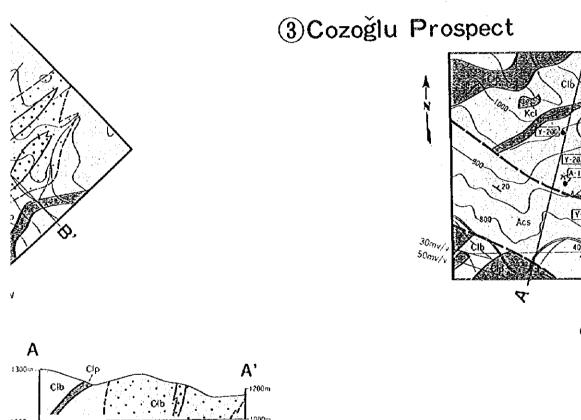
Zn(%) 0.45 1.44



Sample No.	Sample Name	Aufg/t)	Ag(g/t)	Cu(%)	Pb(%)	Zu(%)	Co(%)	S (%)
\$-261	Argillized Rock	<0.1	< 5	< 0.01	< 0.01	0.01	< 0.006	3.58
S-262	Salicified Rock	< 0.1	< 5	< 0.01	0.01	0.01	< 0.006	4.46

[Turkish Members]
Necmettin ÇELİK (ETIBANK) Coordinator
Sadik KELEŞOĞLÜ (ETIBANK) Dritting Engineer
Cemalettin SOLAK (ETIBANK) Ass. Manager
[Japanese Members]
Yoneharu MATANO (NED) Team Leader
Saichi ISHII (NED) Dritting Engineer
Yoshio SASAKI (NED) Dritting Engineer
Tadateru SÜĞIBÜCHİ (NED) Dritting Engineer
Mitsuo SASAKI (NED) Dritting Engineer
Mitsuo NOMURA (NED) Dritting Engineer
Hiromasa INABE (NED) Dritting Engineer

LEGEND



		/		√1,000t
Δ			E CO	b
_{800mm} C/p	\mathcal{A}	Cib	Clb/	`
700 a	Acs .			

		Sample No.	Sample Name	Au(g/t)	Ag(g/t)	Cu(%)	Pb(%)	Zn(%)	Co(%)	s (%)
		A-122	Ştag	<0.1	< 5	1.19	0.07	0.19	0.176	0.35
		Y-200	Quartz Vein	<0.1	S	2.50	<0.01	0.75	0.010	0.18
Co(°a)	S (°4)	Y-203	Green Schist	< 0.1	5	0.91	<0.01	0.16	0.010	1.22
	49.26	Y-204	Stag	< 0.1	5	4.81	< 0.01	0.01	< 0.006	0.49
0.006	0.29	Y-207	Stag	< 0.1	5	1.05	< 0.01	0.18	0.110	0.83
0.010	0.29						~			

			Cti	Limestone
Tertiary	Çayköy F.		Cta	Andesite
			Cts	Sandstone
Upper Cretaceous	Alaçam F.	18 28	Acs	Sandstone, mudstone, mari
Lower Cretaceous	Kızaçik F.	74	Kcl	Limestone
Malm	Muzrup F.	000	Mmc	Conglomerate
Lias.	Kayadibi F.		Kls	Sandstone, shale
2-03			КІЬ	Basic rock
			Clp	Pelitic schist
Pre-Lias	Çangal Metaophiorites		Clb	Metabasic rock
			Cls	Serpentinite
Paleozoic	Devrekani Metomorphic		Dpg	Gneiss
			Da	Dacite
	Intrusive rocks		Cg	Granitoid
			B a	Basalt
				Mineralized Zone
		256		Silicified Zone
		50inv'v		Contour Line Value of Chargeabild at 100m below surface
				Sampling point
				Fault
				Strike and dip of strata
		Y		Strike and dip of schistosity
		Α	A'	Profile section

