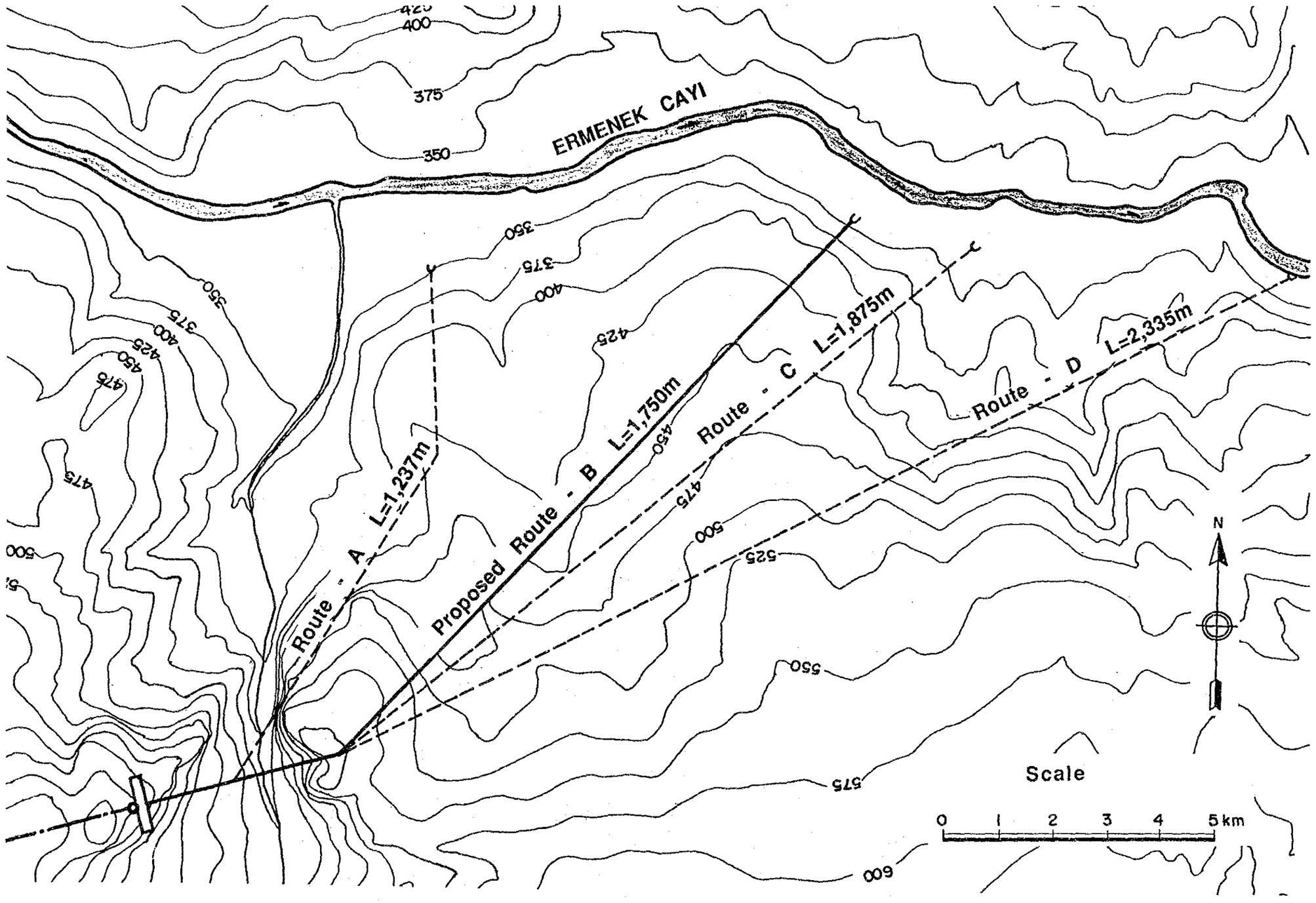
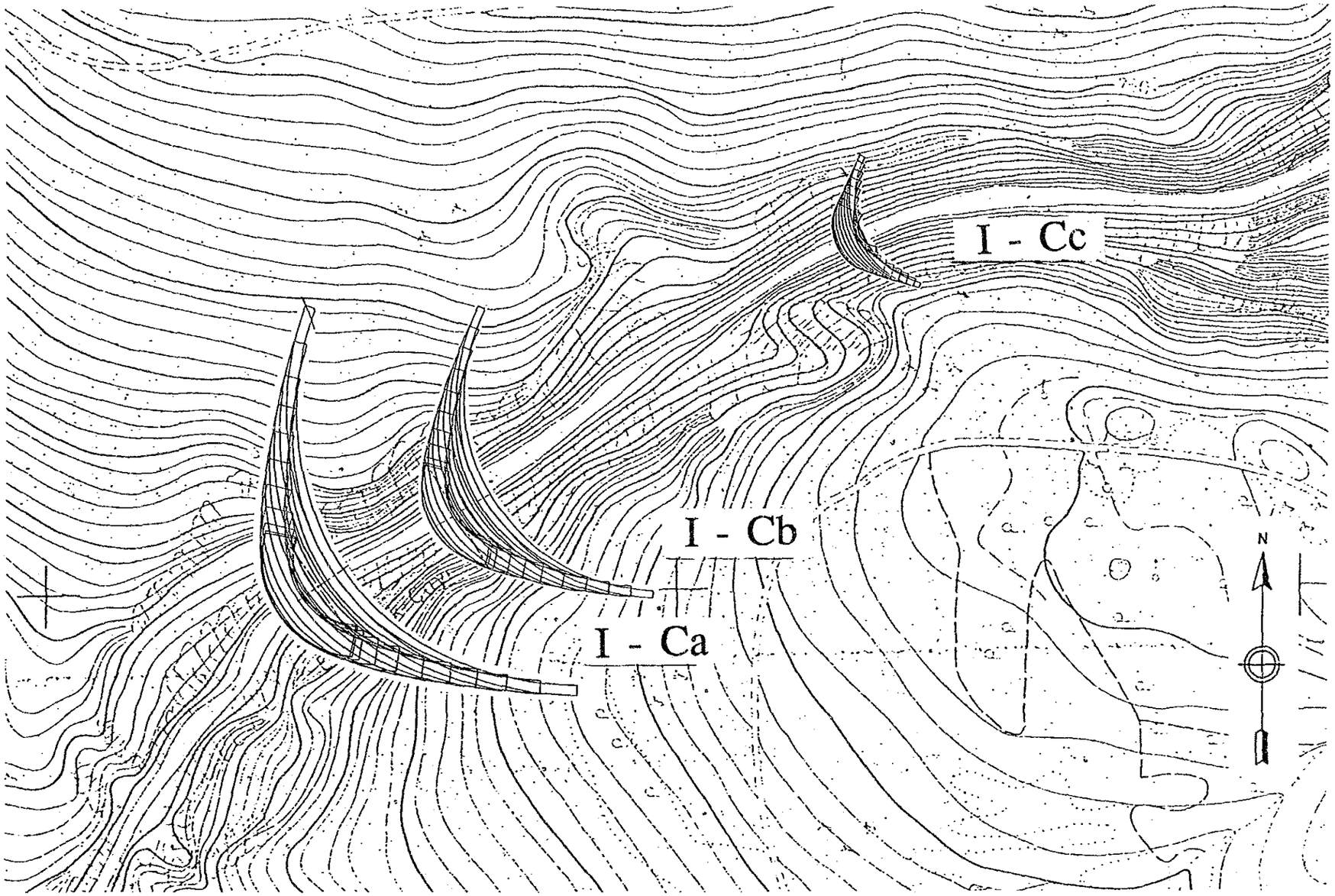
PLATE NO.



	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE A 33 放水路トンネルの代替ルートと放水口の位置

PLATE NO.

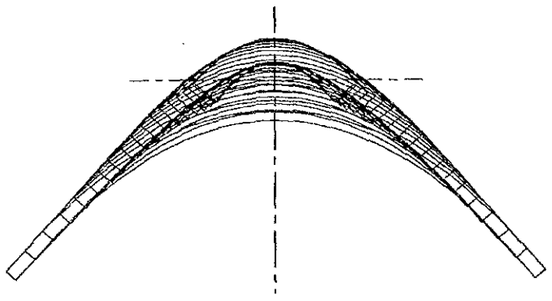


Note: All the 3 dams shown are for the same crest elevation of 660 m.

	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE A 34 ギョルメル峡谷内の代替ダム軸位置図

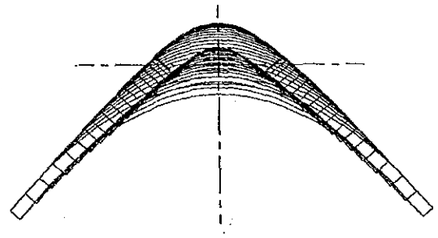
PLATE NO.

I-Ca Axis



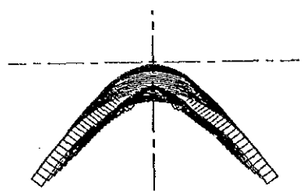
Dam Crest El.670m

I-Cb Axis

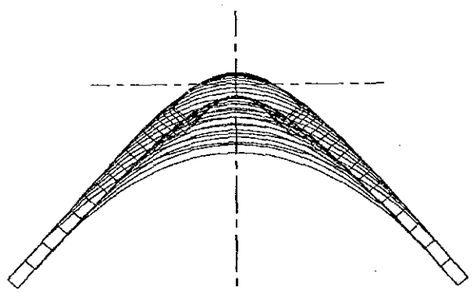


Dam Crest El.670m

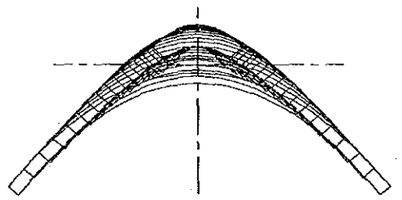
I-Cc Axis



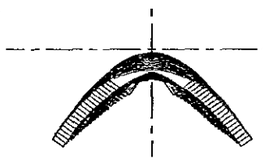
Dam Crest El.700m



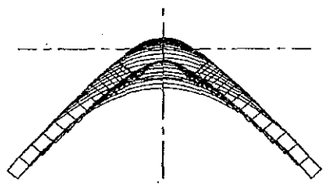
Dam Crest El.660



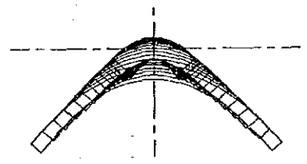
Dam Crest El.660



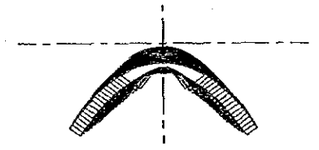
Dam Crest El.680



Dam Crest El.640



Dam Crest El.640

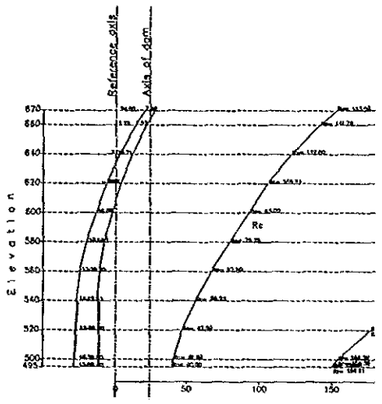


Dam Crest El.660

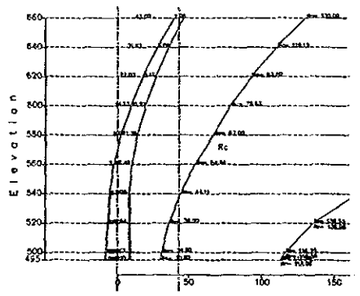
	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE A 35 代替アーチダム平面

PLATE NO.

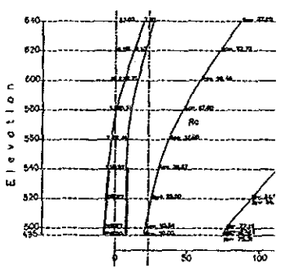
I-Ca Axis



Dam Crest El.670m

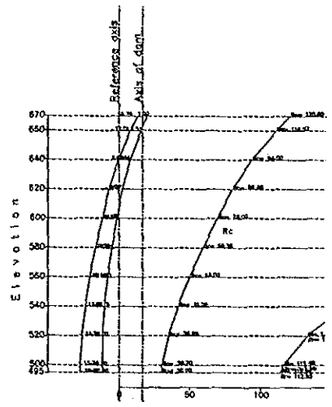


Dam Crest El.660

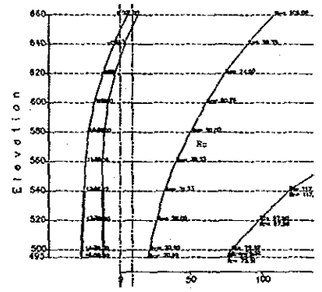


Dam Crest El.640

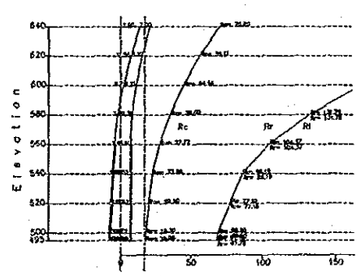
I-Cb Axis



Dam Crest El.670m

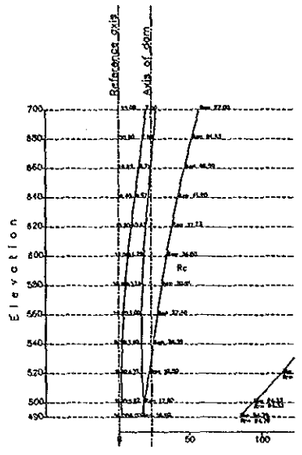


Dam Crest El.660

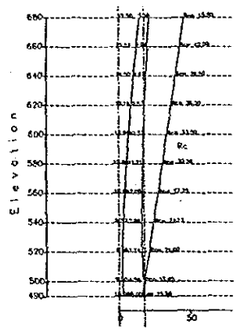


Dam Crest El.640

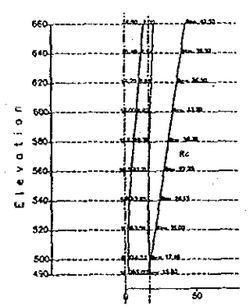
I-Cc Axis



Dam Crest El.700m



Dam Crest El.680

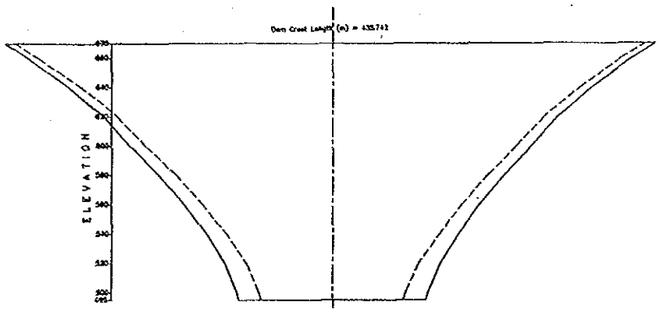


Dam Crest El.660

	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE A 36 代替アーチダムクラウン 片持バリ

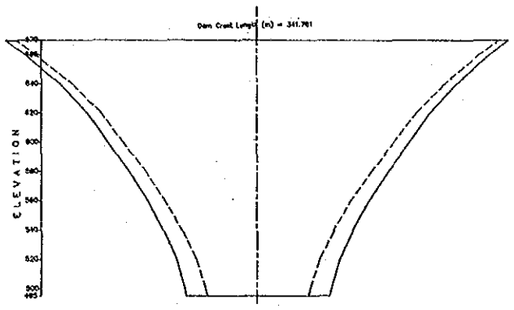
PLATE NO.

I-Ca Axis



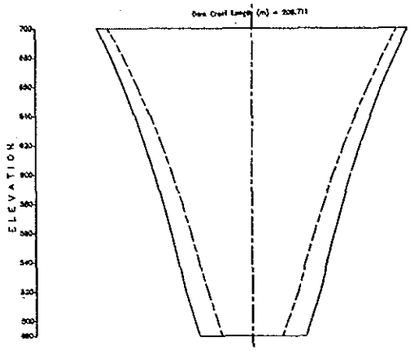
Dam Crest El.670m

I-Cb Axis

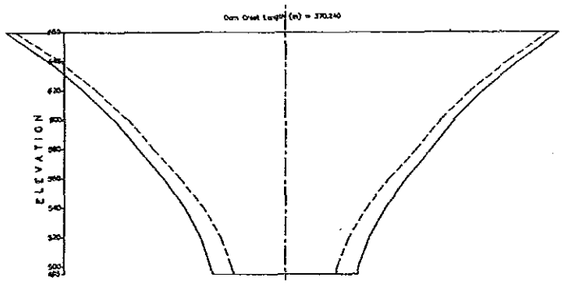


Dam Crest El.670m

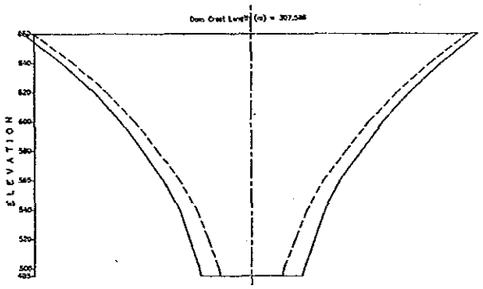
I-Cc Axis



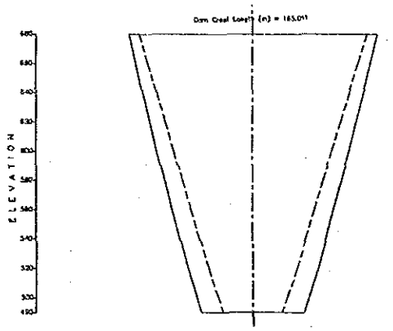
Dam Crest El.700m



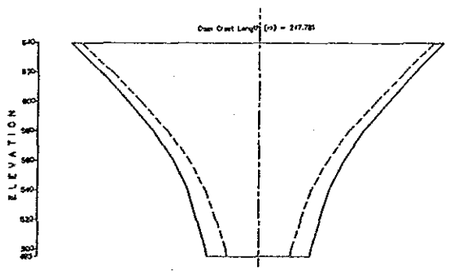
Dam Crest El.660



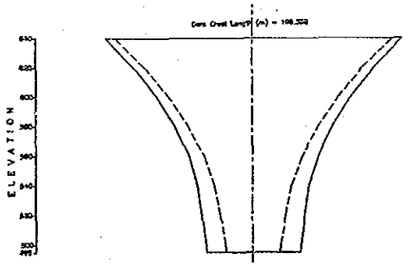
Dam Crest El.660



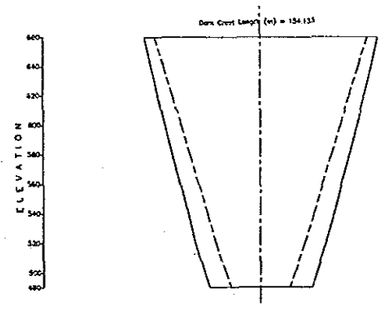
Dam Crest El.680



Dam Crest El.640



Dam Crest El.640



Dam Crest El.660

	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE A 37 代替アーチダム展開図

PLATE NO.

LEGEND
- Intake weir
- Waterway
- Power station
- XXX Approximate elevation (m)

N

Gökdere S
1,125
Gökdere HPP
İkizarası
1,045
GÖKSUÇ
1,010
Dumlugöze HPP
1,005
Berem HPP
Berem Çayı
1,115
BEREN
900
GÖKSU ÇAYI
ÇUKURBAĞ
1500
1250
1000
750
500
KOÇAŞEL
ÇEVREKAVAK
(mençek)
TEPEBAŞI
(Holimiye)
GÖKTEPE
Fariske Çayı
1,025
GÜNDER
Günder HPP
Günder Çayı
705
705
Darıan HPP
675
Ermenek Reservoir HWL.=675m
Nadire Spring
(El.700)
Kapız Spring
(El.680)
YEŞILKÖY

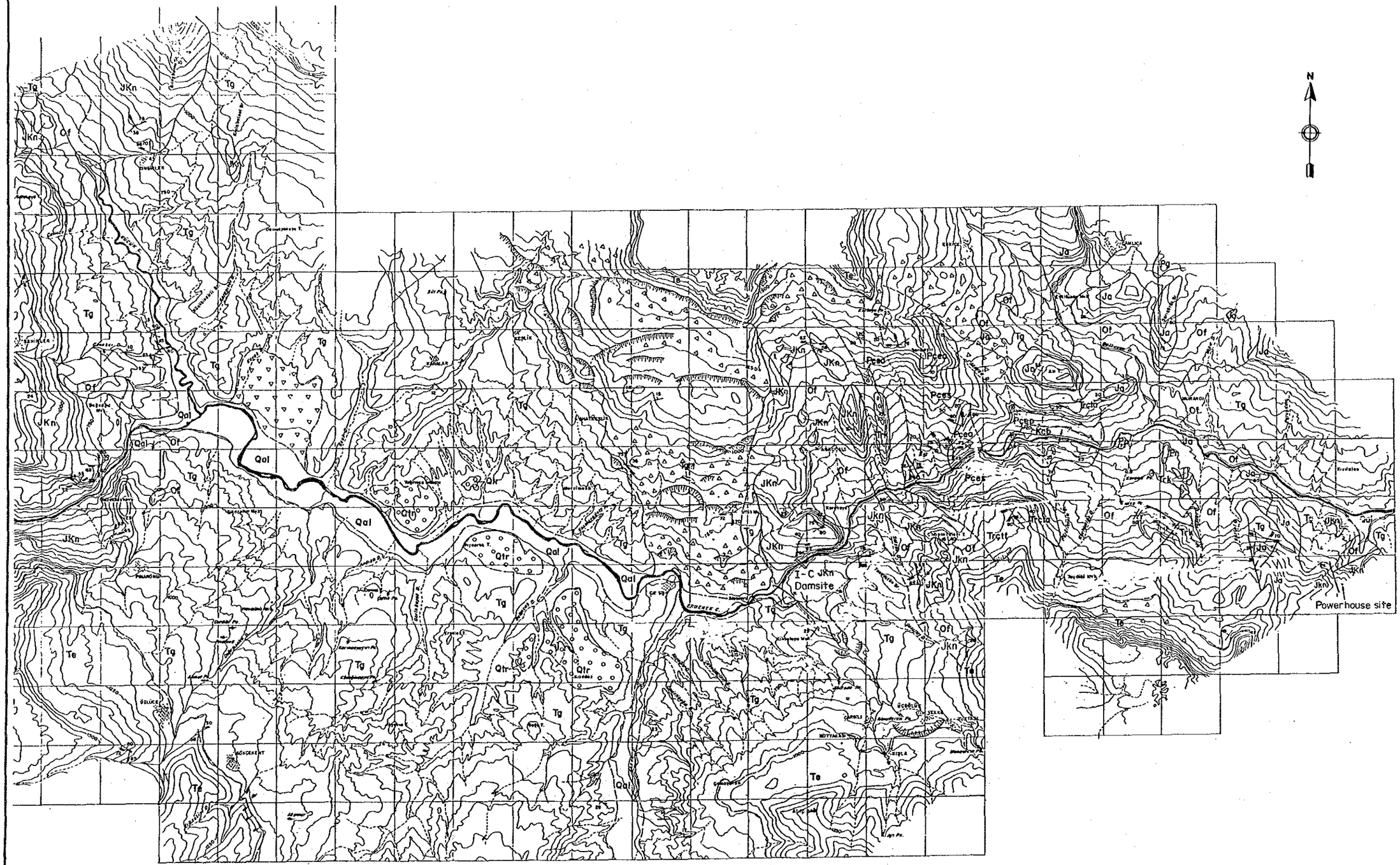
SCALE 0 5km

	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE A 38 エルマネック川上流部の開発試案

パート3

地質図面集

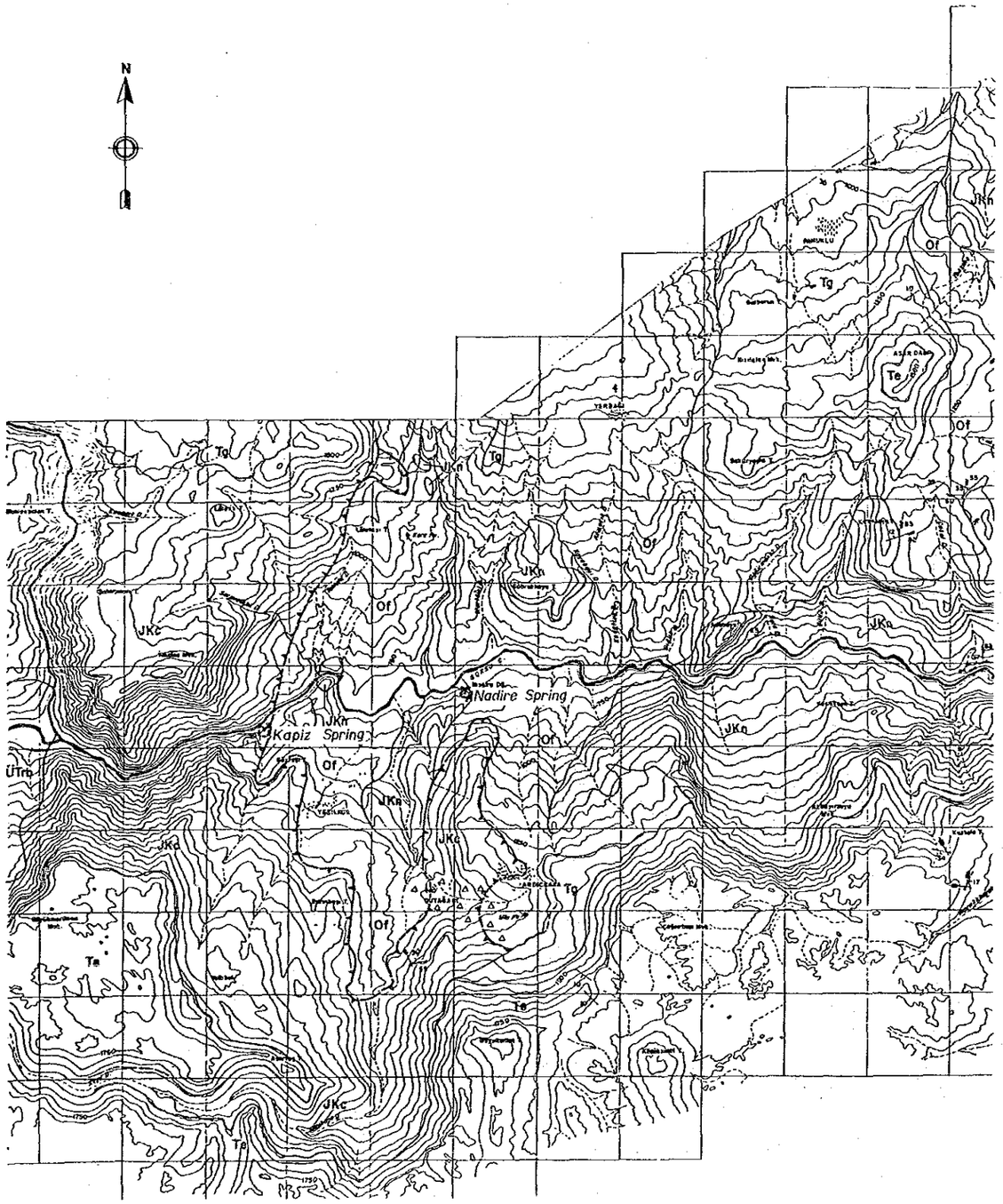
PLATE NO.



SCALE 0 2,500m

	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 1 貯水池予定地域の地質図 (1/2)

PLATE NO.



SCALE 0 2,500m

GEOLOGY OF THE PROJECT AREA

QUATERNARY	ALLUVIUM	Qal	Qalr	River bed deposit
			Qalt	Talus deposit
	DILUVIUM	Qtr	Qtrt	Terrace deposit
TERTIARY	MIDDLE MIOCENE	Te		ERMENEK FORMATION (Mainly chalky limestone.)
	LOWER MIOCENE	Tg		GÖRMEL FORMATION (Marl, sandstone, conglomerate, limestone.)
CRETACEOUS	UPPER CRETACEOUS	Ofm		ERMENEK OPHIOLITIC MELANGE (Matrix layers and limestone blocks.)
	LOWER CRETACEOUS	Jkc		CİHANDERE FORMATION (Limestone.)
JURASSIC				ALADAĞ GROUP
TRIASSIC	UPPER TRIASSIC	Ütrb		BALCILAR FORMATION (Limestone.)

ERMENEK OPHIOLITIC MELANGE

CRETACEOUS	UPPER CRETACEOUS	Of	MATRIX OF MELANGE (Schist, sandstone, conglomerate, diabace, serpentinized peridotite, gabbro, etc.)
JURASSIC		Jkn	NADİRE FORMATION
		Ja	AZITEPE FORMATION
TRIASSIC	UPPER TRIASSIC	Trk	KÜKÜRCE FORMATION
		Trçtt	TAŞDİBİ MEMBER (TAHTACHI FORMATION, ÇİMENE GROUP)
		Trçta	ARDIÇLI MEMBER (TAHTACHI FORMATION, ÇİMENE GROUP)
PERMIAN		Pçes	SARIBAYIR MEMBER (ESKİCE FORMATION, ÇİMENE GROUP)
		Pçea	AKARCA MEMBER (ESKİCE FORMATION, ÇİMENE GROUP)
		Pçep	PÜRELİCENİN MEMBER (ESKİCE FORMATION, ÇİMENE GROUP)
		Pg	GÖKÇESEKİ FORMATION
		Pn	NİSA FORMATION
CARBONIFEROUS		Kçb	BALKUSAN FORMATION

Blocks (Mostly limestone.)

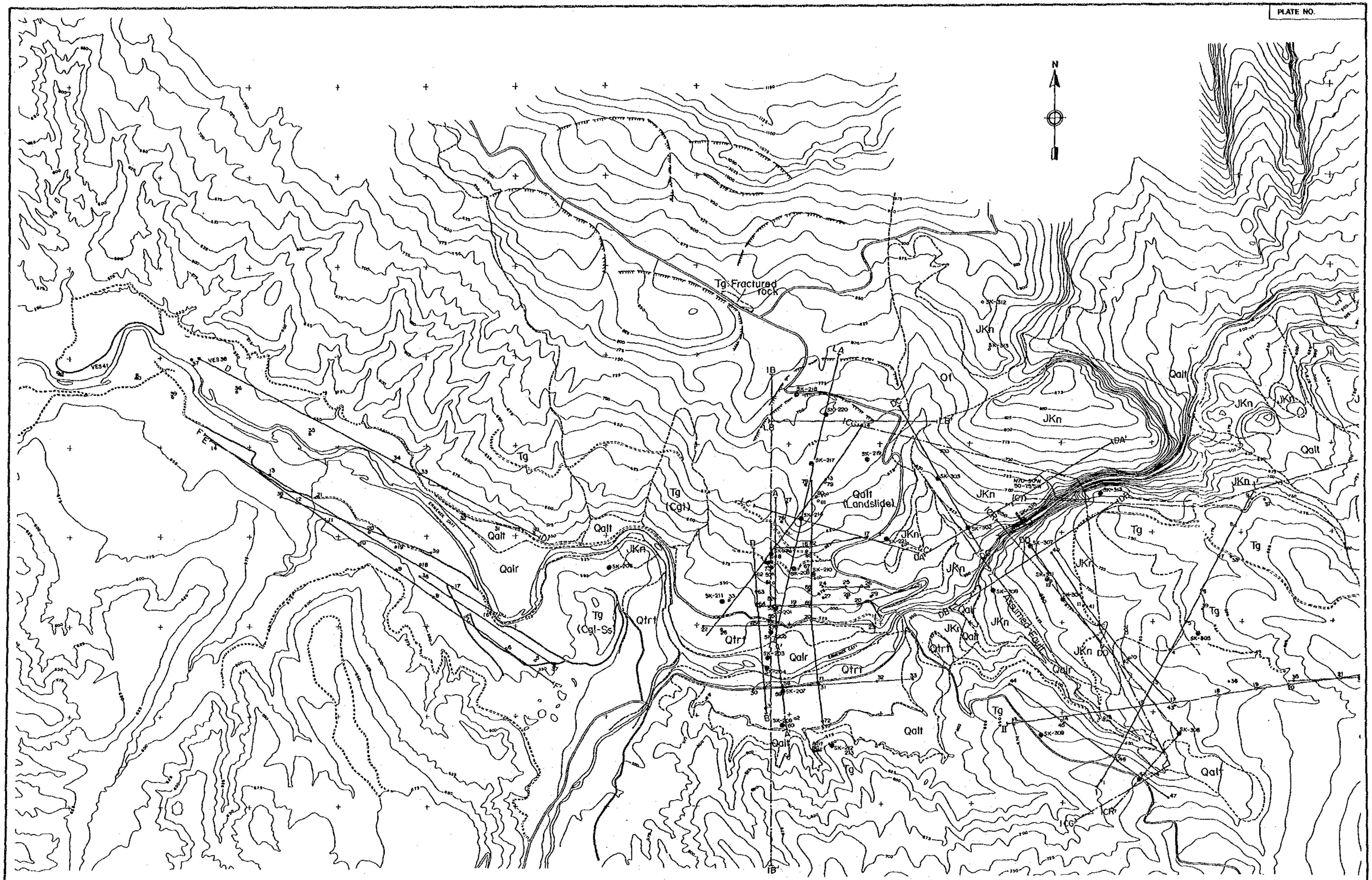
THE REPUBLIC OF TURKEY
ELEKTRİK İŞLERİ ETÜD İDARESİ
GENEL MÜDÜRLÜGÜ

ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE G1
貯水池予定地域の地質図
(2/2)

PLATE NO.



SCALE 0 10km

Note: See next page for details around dam sites.

THE REPUBLIC OF TURKEY
ELEKTRİK İŞLERİ ETÜD İDARESİ
GENEL MÜDÜRLÜĞÜ

ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE G2
計画地域の地質および調査位置図（1／4）

PLATE NO.

Groundwater Level in Bore Hole (EL.m)

Hole No.	Jun.9 '90	Sep.1 '90
SK-304	505.53	504.00
SK-306	508.57	506.84
SK-308	506.12	505.80
SK-314	507.98↓	504.98
SK-315	—	504.54

↓: 506.58m after 10 days.

SCALE 0 500m

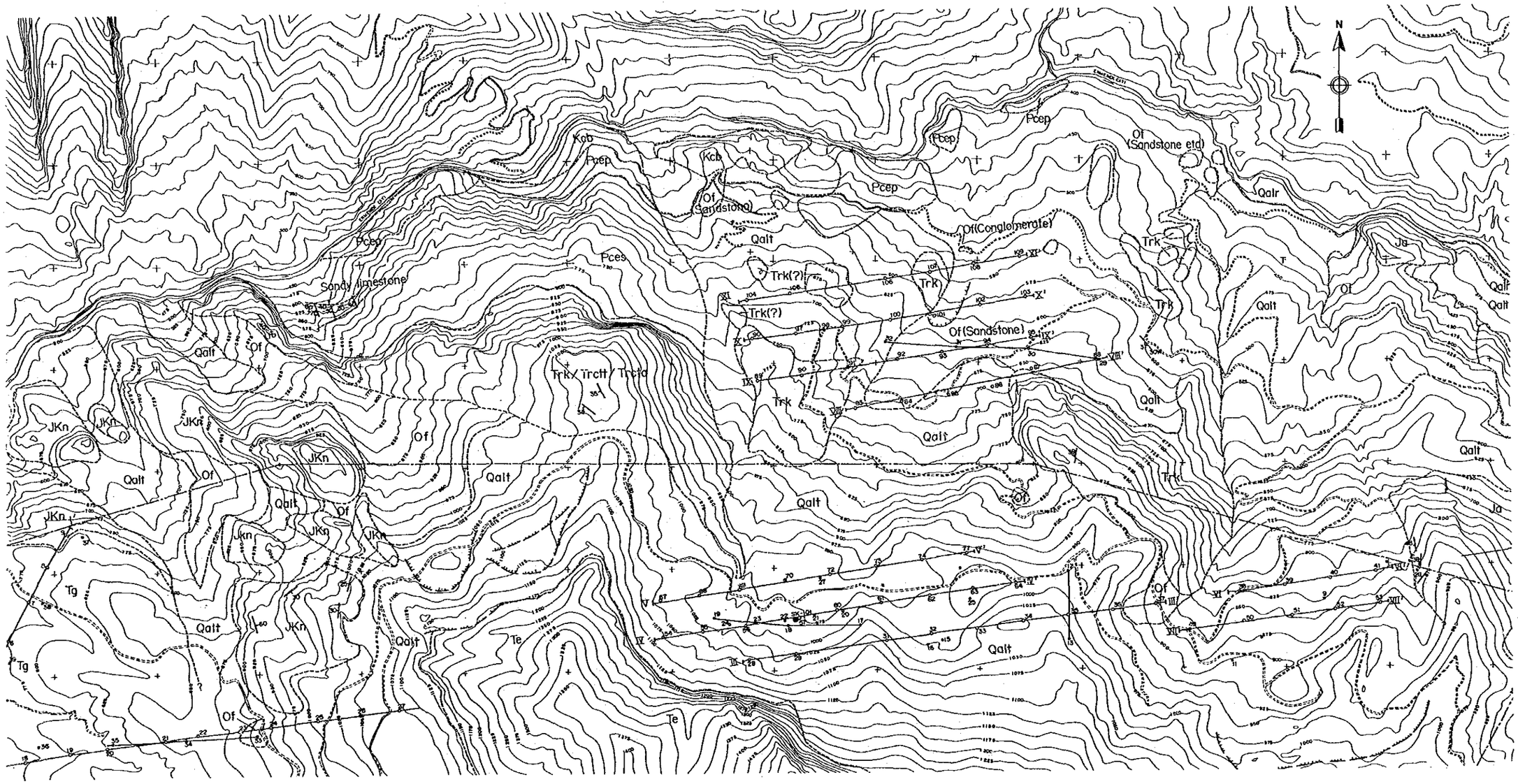
THE REPUBLIC OF TURKEY
ELEKTRİK İŞLERİ ETÜD İDARESİ
GENEL MÜDÜRLÜGÜ

ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

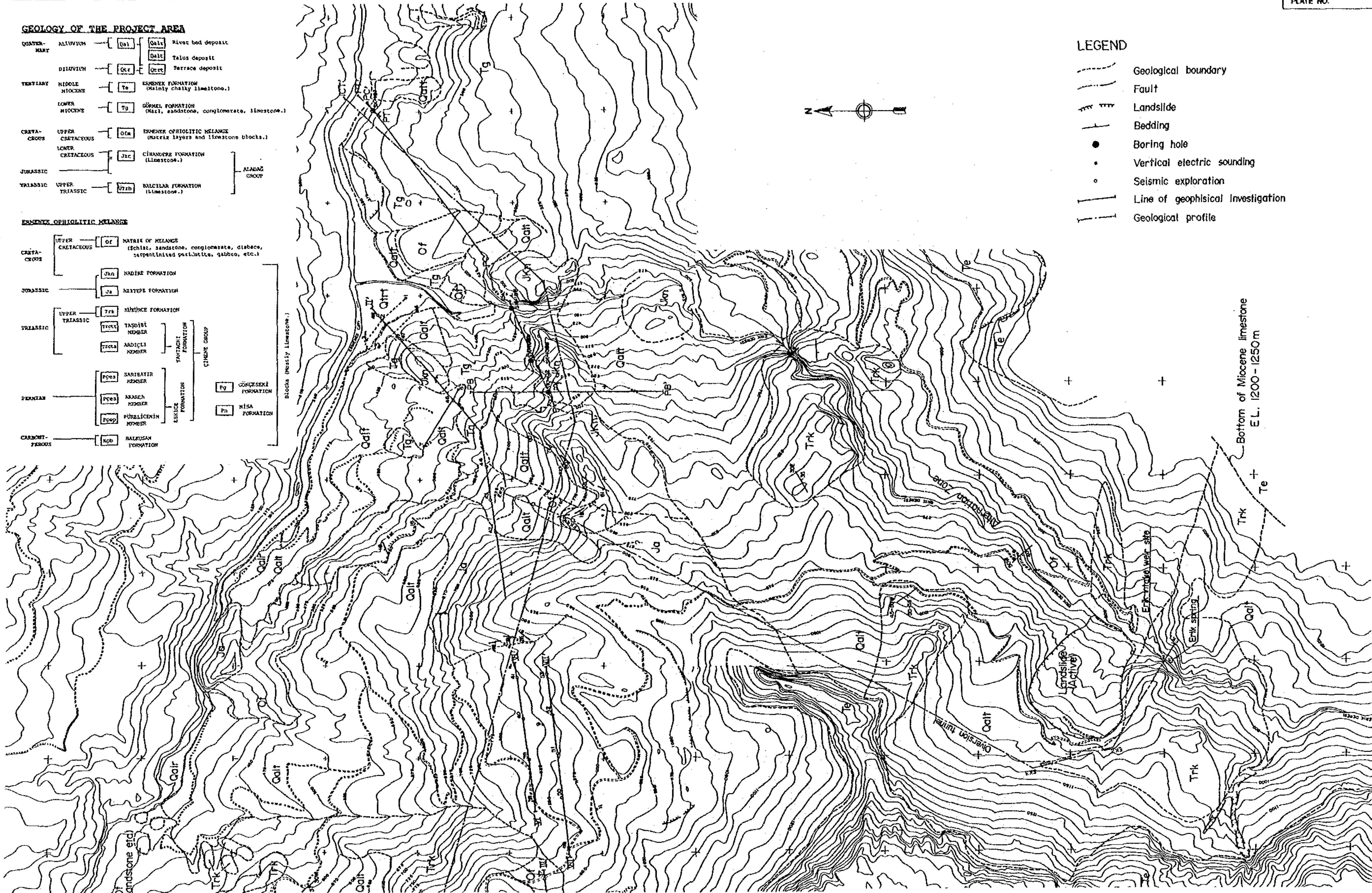
TITLE G 2
計画地域の地質および調査位置図 (2／4)

PLATE NO.



SCALE 0 10km

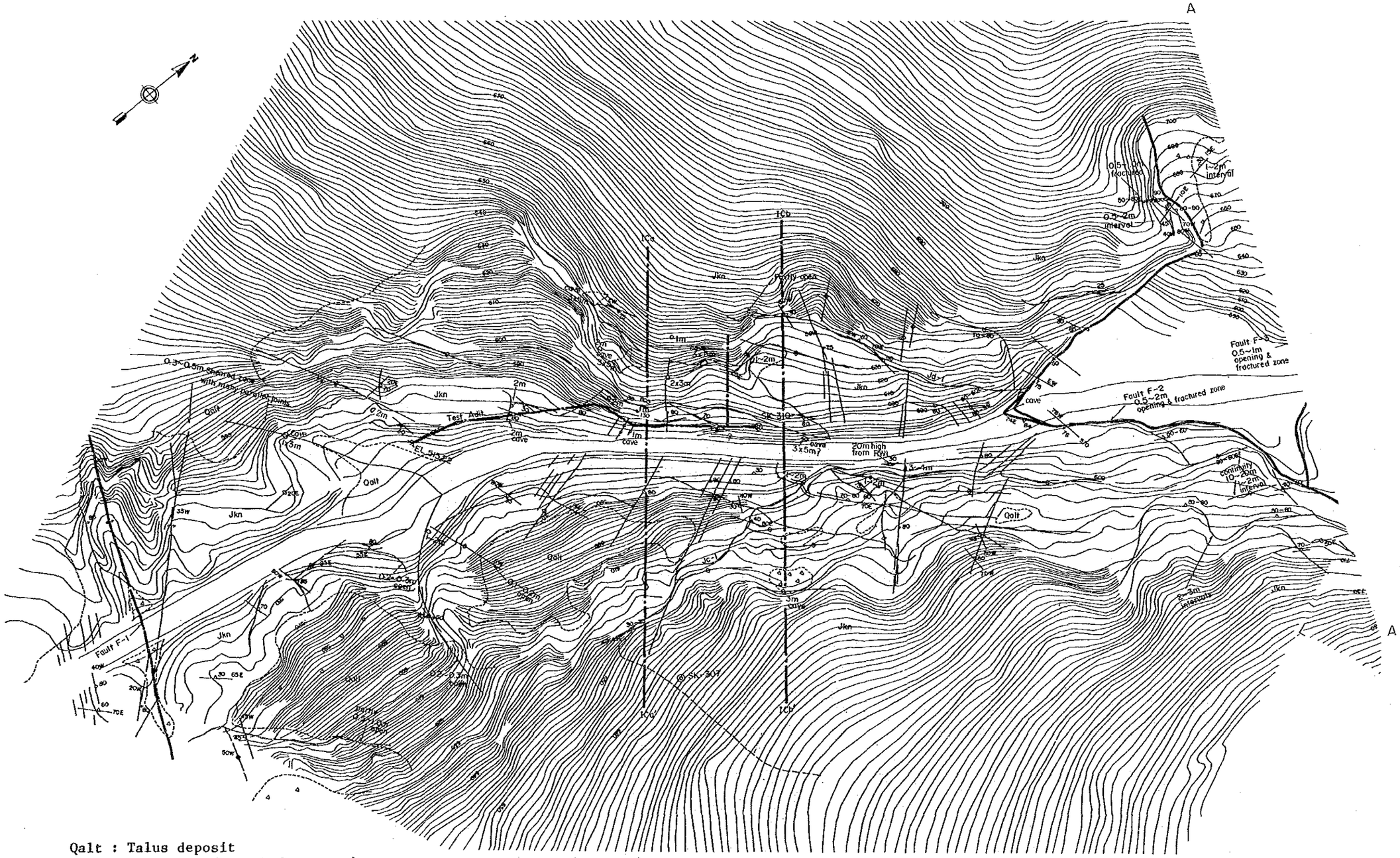
	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 2 計画地域の地質および調査位置図（3／4）



SCALE 0 10km

THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 2 計画地域の地質および調査位置図（4／4）

PLATE NO.

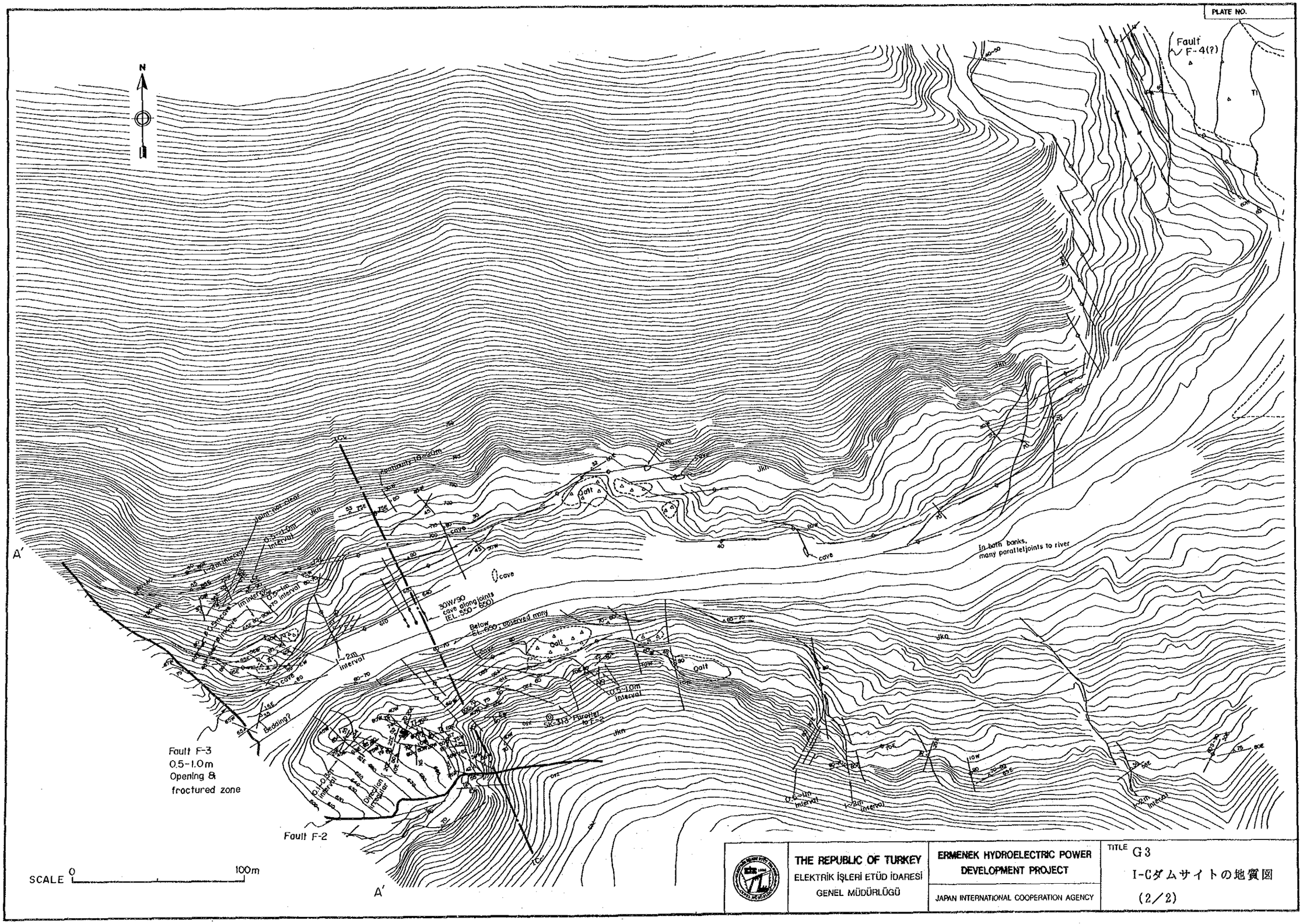


Qalt : Talus deposit
Jkn : Limestone (Nadire formation)
: Joint, dip and strike
: Geological boundary

SCALE 0 100m

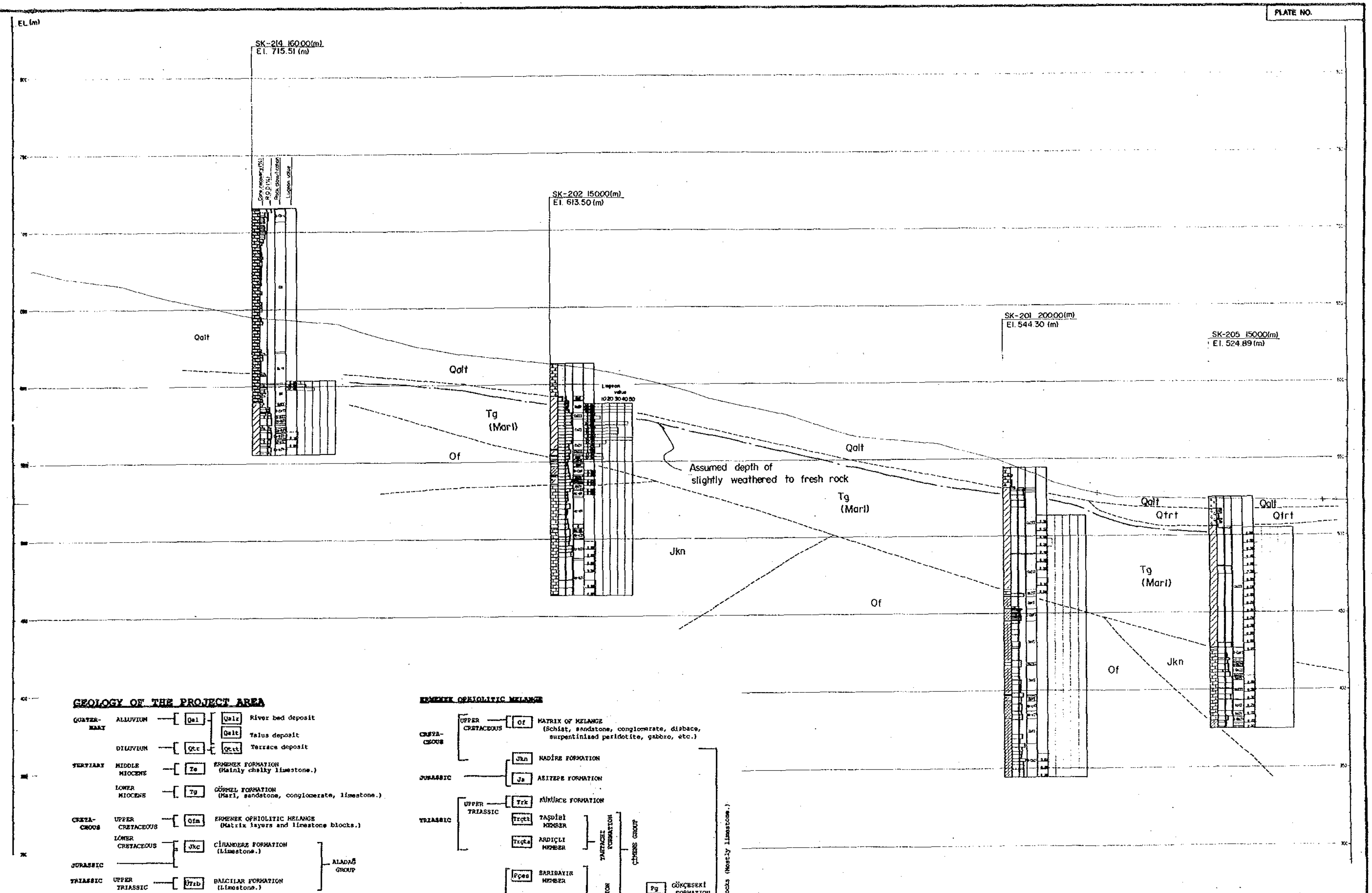
	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 3 I-Cダムサイトの地質図 (1/2)

PLATE NO.



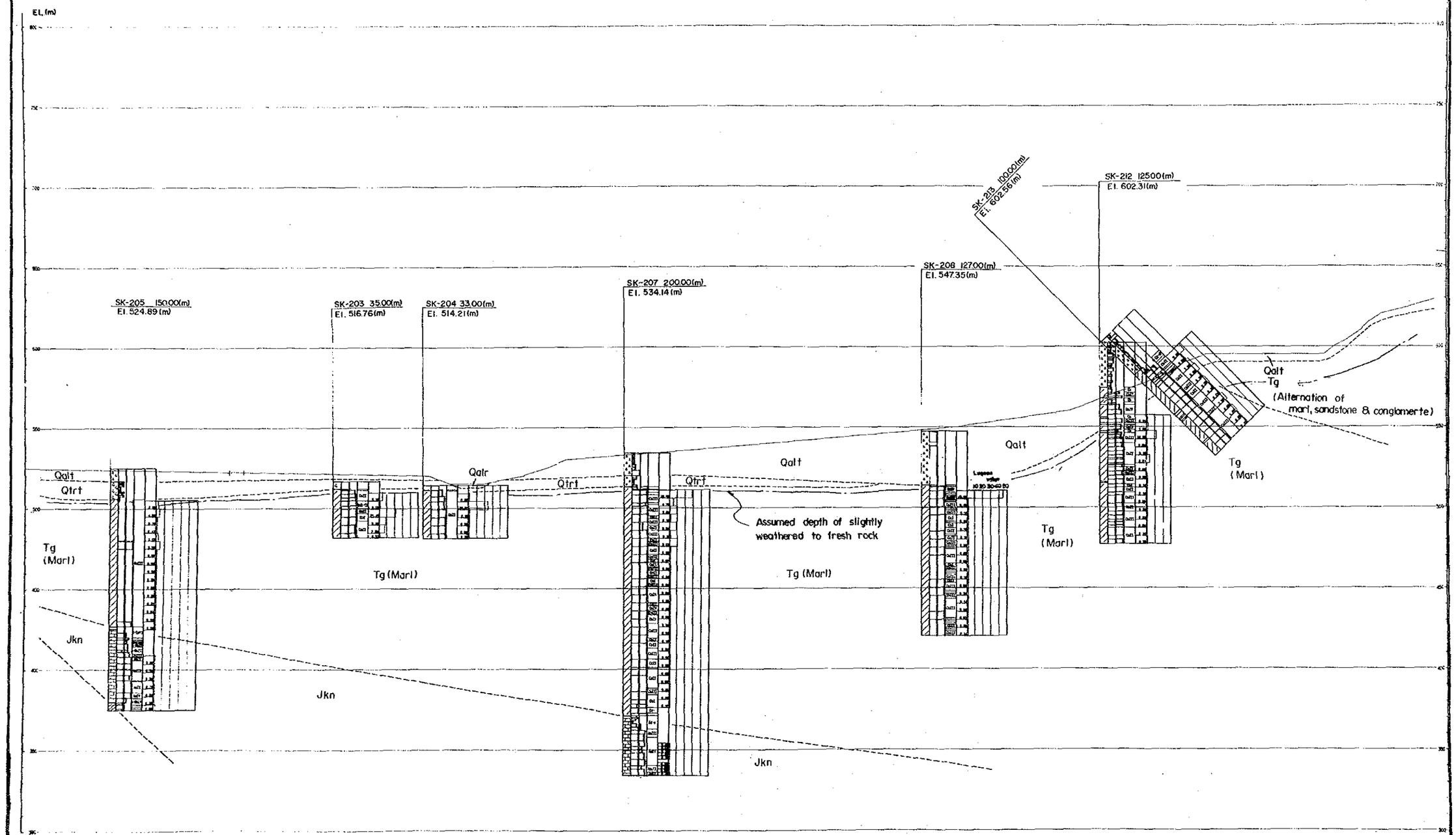
	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 3 I-Cダムサイトの地質図 (2/2)

PLATE NO.



THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 4 I-Bダムサイトの地質断面図 （セクションIB-IB'）（1／2）

PLATE NO.



	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜĞÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 4 I-Bダムサイトの地質断面図 （セクションIB-IB'）（2／2）

ICa

ICa'

EL. (m)

800

750

700

650

600

550

500

450

400

350

300

SK-307 220.20(m)
El. 663.85(m)

SK-310 169.75(m)
El. 520.00(m)

Core recovery(%)
RQD(%)
Rock classification
Lugeon value

P=0
P=0
P=0
P=0
P=0

JC-1

JC
JC
JC
Jb

Karstic limestne

Test adit GI-A

30-40E/20-35E

70W/65N

60
35-40E/-65N

Low pervious limestone

Ophiolitic rock

Boundary between karstic limestone and low pervious limestone

Boundary between low pervious limestome and ophiolitic rock

P=0 : Gauge pressure =0

SCALE 0 100m

THE REPUBLIC OF TURKEY
ELEKTRİK İŞLERİ ETÜD İDARESİ
GENEL MÜDÜRLÜĞÜ

ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE
G5
I-Caダムサイトの地質断面図
(セクションICa-ICa')

PLATE NO.

ICb — ICb'

EL(m)

800
750
700
650
600
550
500
450
400
350
300

SK-307 220.20(m)
El. 663.85 (m)

SK-310 169.75(m)
El. 520.00(m)

Core recovery (%)
L.Q.D (%)
Rock classification
Lugeon value

Lugeon
10 20 30 40 50

P=0
P=0
P=0
P=0
P=0

Ja-1
Jb
Jb
Jc
Jc-1
Jc
Jb
Jc

Karstic limestone

Test adit GI-A

30 40E/
20 35E

10W/65N

35 40E
/60 65N

Low pervious limestone

Ophiolitic rock

Boundary between karstic limestone and low pervious limestone

Boundary between low pervious limestome and ophiolitic rock

P=0 : Gauge pressure =0

SCALE 0 100m

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DEVELOPMENT PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE
G 6
I-Cbダムサイトの地質断面図
(セクションICb-ICb')

PLATE NO.

ICc — ICc'

SK-313 425.00(m)
El. 729.65(m)

EL.(m)

Seismic exploration line
DA
0.3~0.5km/s
1.8~2.0
3.8~3.9
5.0

Seismic exploration line
DB
0.3~0.5km/s
1.8~2.0
3.8~3.9
5.0

Core recovery(%)
RQD(%)
Rock classification
Lugeon value

Lugeon
10 20 30 40 50

P=0

Je

Jf

Jg

Karstic limestone

Low pervious limestone

Fault F-2
N70-90°E/50-75°SW

Boundary between karstic limestone and low pervious limestone

Boundary between low pervious limestome and ophiolitic rock

P=0 : Gauge pressure =0

SCALE 0 100m

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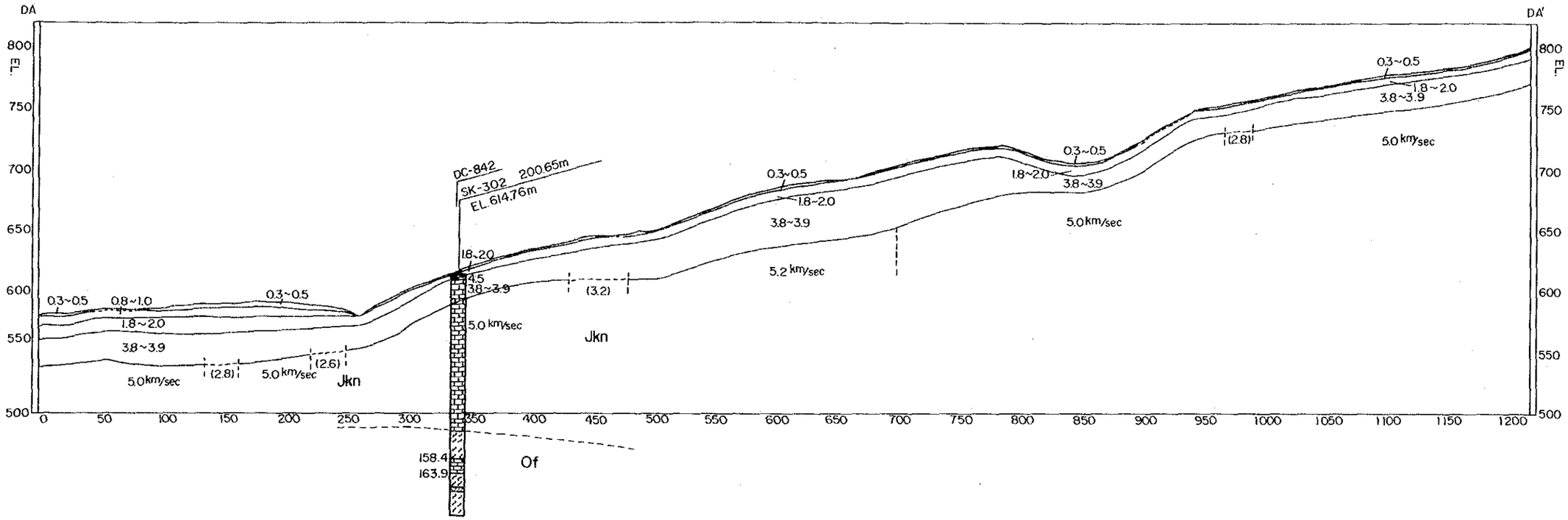
JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE
G 7
I-Cc ダムサイトの地質断面図
(セクション ICc-ICc')

PLATE NO.

PLATE NO.

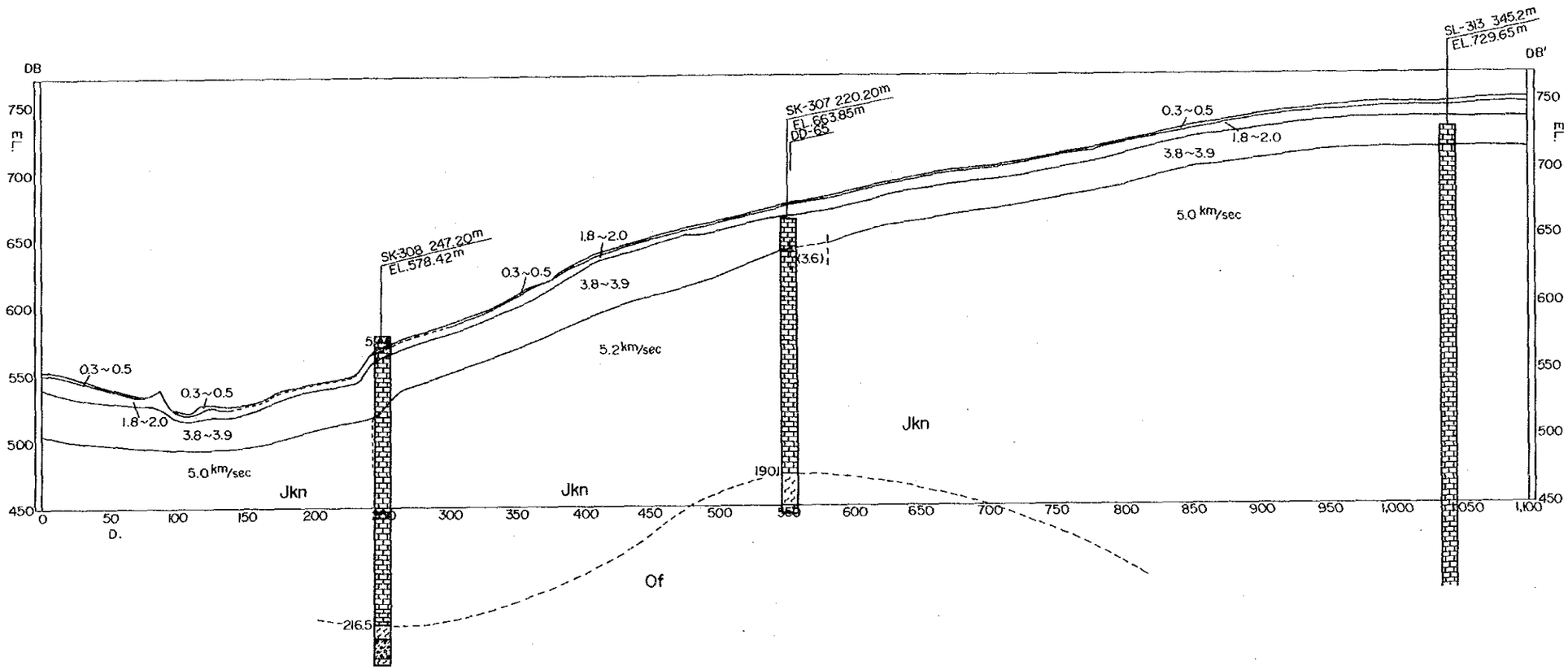


LEGEND

Qalt	:	Talus deposit
Tg	:	Gormel formation Marl, conglomerate, sandstone, etc.
Jkn	:	Nadire formation (Block of Ermenek Ophiolitic Melange) Limestone
Of	:	Matrix of Ermenek Ophiolitic Melange Schist, Sandstone, etc.
1.8~2.0 / 3.8~3.9	:	Seismic velocity (km/sec) and its boundary
----------	:	Geological boundary

	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 8 物理探査測線ＤＡの地質断面図

PLATE NO.

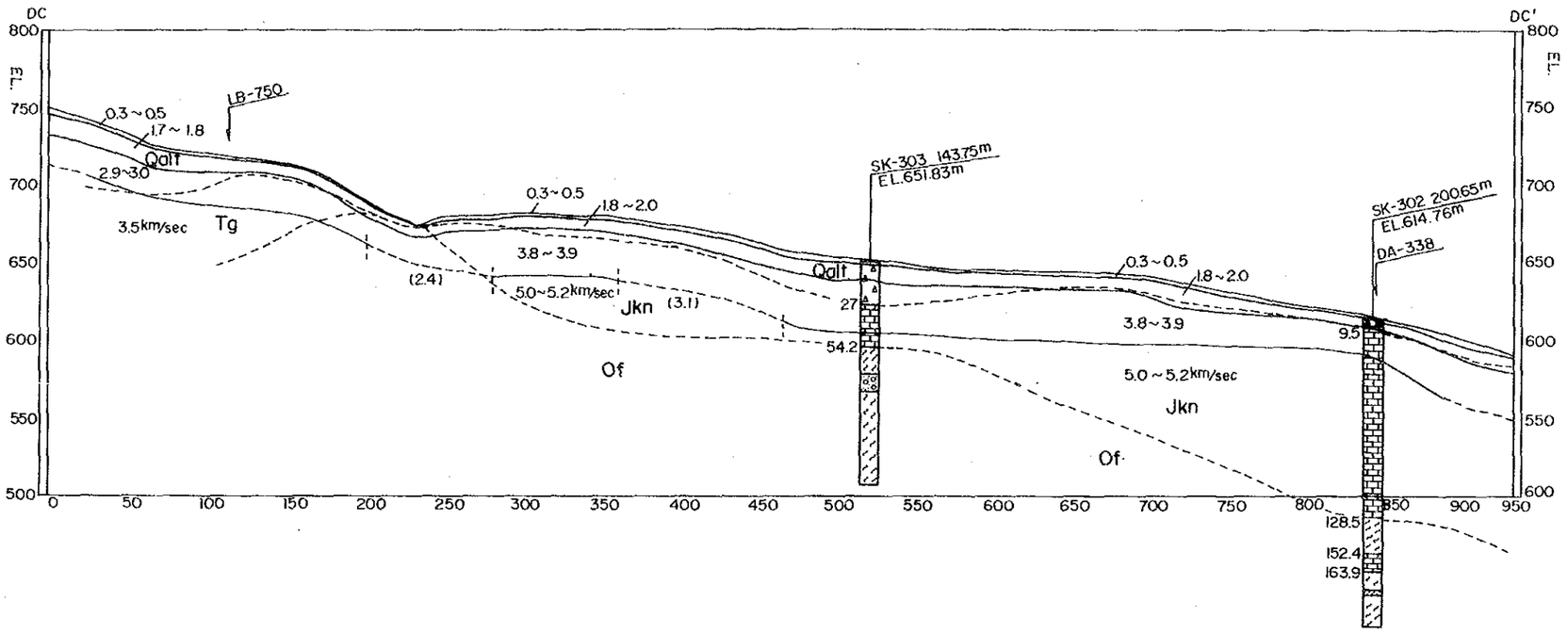


LEGEND

Qalt	:	Talus deposit
Tg	:	Gormel formation Marl, conglomerate, sandstone, etc.
Jkn	:	Nadire formation (Block of Ermenek Ophiolitic Melange) Limestone
Of	:	Matrix of Ermenek Ophiolitic Melange Schist, Sandstone, etc.
1.8~2.0 / 3.8~3.9	:	Seismic velocity (km/sec) and its boundary
----------	:	Geological boundary

	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G θ 物理探査測線ＤＢの地質断面図

PLATE NO.

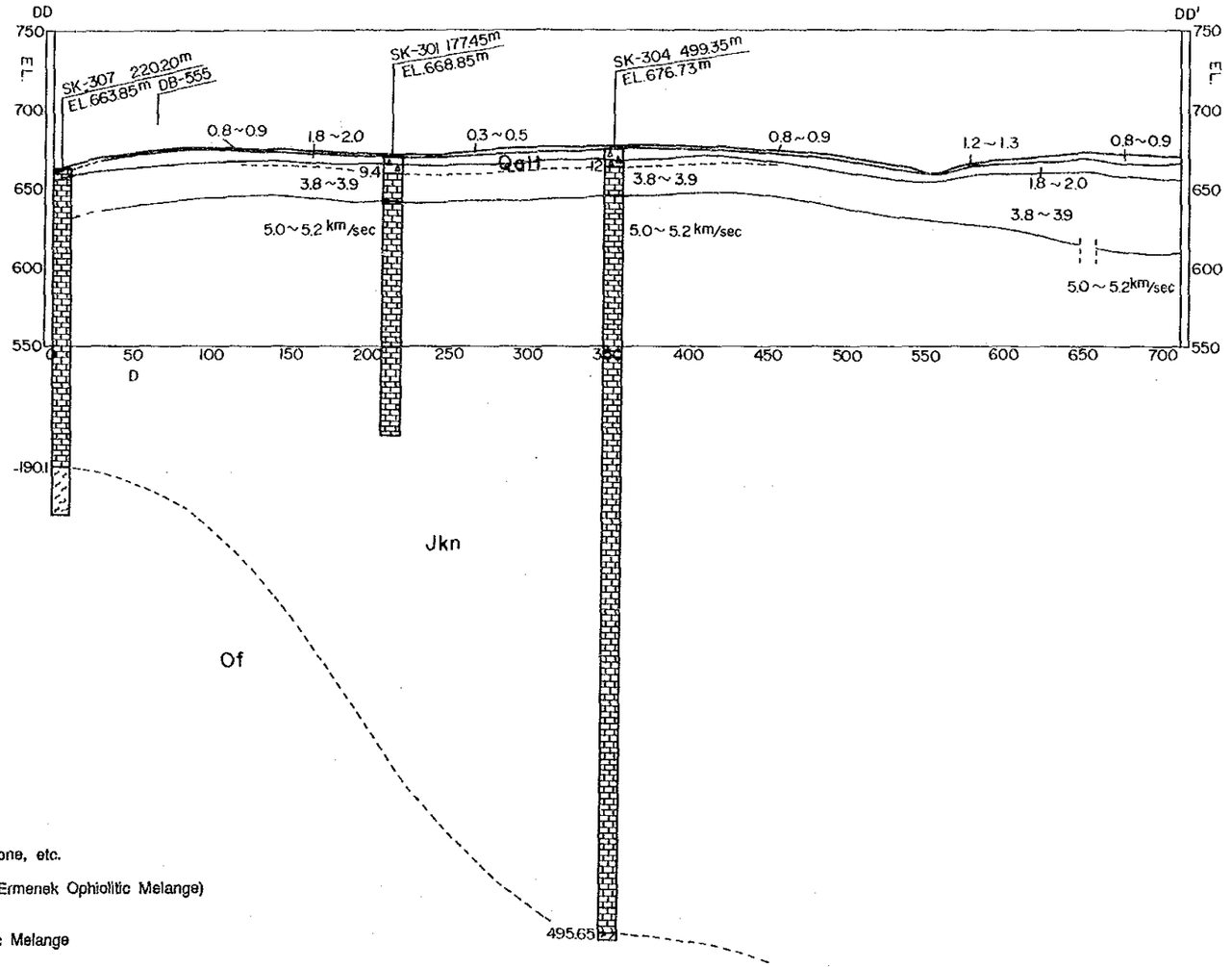


LEGEND

Qalt	:	Talus deposit
Tg	:	Gormel formation Marl, conglomerate, sandstone, etc.
Jkn	:	Nadire formation (Block of Ermenek Ophiolitic Melange) Limestone
Of	:	Matrix of Ermenek Ophiolitic Melange Schist, Sandstone, etc.
1.8~2.0 / 3.8~3.9	:	Seismic velocity (km/sec) and its boundary
----------	:	Geological boundary

	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 10 物理探査測線ＤＣの地質断面図

PLATE NO.

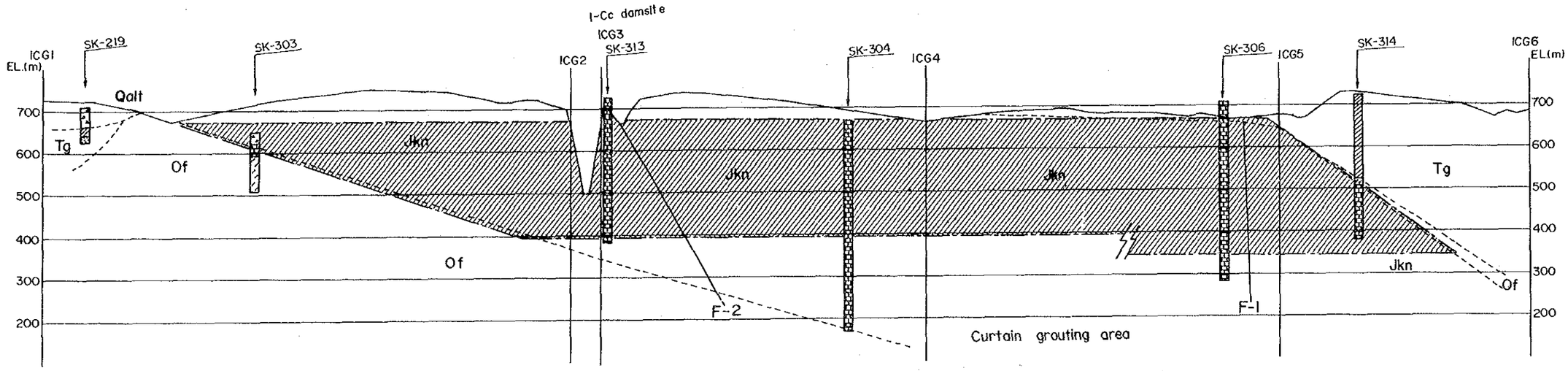


LEGEND

Qalt	:	Talus deposit
Tg	:	Gormel formation Marl, conglomerate, sandstone, etc.
Jkn	:	Nadire formation (Block of Ermenek Ophiolitic Melange) Limestone
Of	:	Matrix of Ermenek Ophiolitic Melange Schist, Sandstone, etc.
1.8~2.0 / 3.8~3.9	:	Seismic velocity (km/sec) and its boundary
----------	:	Geological boundary

	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 11 物理探査測線ＤＤの地質断面図

PLATE NO.



GEOLOGY OF THE PROJECT AREA

QUATERNARY	ALLUVIUM	Qal	Qalr	River bed deposit
			Qalt	Talus deposit
	DILUVIUM	Qtr	Qtrt	Terrace deposit
TERTIARY	MIDDLE MIOCENE	To		ERMENEK FORMATION (Mainly chalky limestone.)
	LOWER MIOCENE	Tg		GÖRMEL FORMATION (Marl, sandstone, conglomerate, limestone.)
CRETACEOUS	UPPER CRETACEOUS	Ofm		ERMENEK OPHIOLITIC MELANGE (Matrix layers and limestone blocks.)
	LOWER CRETACEOUS	Jkc		CİHANDERE FORMATION (Limestone.) — ALADAĞ GROUP
JURASSIC				
TRIASSIC	UPPER TRIASSIC	Ütrb		BALCILAR FORMATION (Limestone.) — ALADAĞ GROUP

ERMENEK OPHIOLITIC MELANGE

CRETACEOUS	UPPER CRETACEOUS	Of		MATRIX OF MELANGE (Schist, sandstone, conglomerate, diabase, surpentinized peridotite, gabbro, etc.)
JURASSIC		Jkn		NADİRE FORMATION
		Ja		AZİTEPE FORMATION
TRIASSIC	UPPER TRIASSIC	Ttk		KÜKÜRCE FORMATION
		Trşkt		TAŞDİBİ MEMBER — TAHTACIK FORMATION — ÇİMENE GROUP
		Trşka		ARDIÇLI MEMBER — TAHTACIK FORMATION — ÇİMENE GROUP
PERMIAN		Pçes		SARIBAYIR MEMBER — ESENTUS FORMATION — ÇİMENE GROUP
		Pçea		AKARCA MEMBER — ESENTUS FORMATION — ÇİMENE GROUP
		Pçep		PÜRELİCENİN MEMBER — ESENTUS FORMATION — ÇİMENE GROUP
			Pg	GÖKÇESEKİ FORMATION — ÇİMENE GROUP
			Pn	HİSA FORMATION — ÇİMENE GROUP
CARBONIFEROUS		Kçb		BALKUSAN FORMATION

Blocks (Mostly limestone.)

SCALE 0 — 500m

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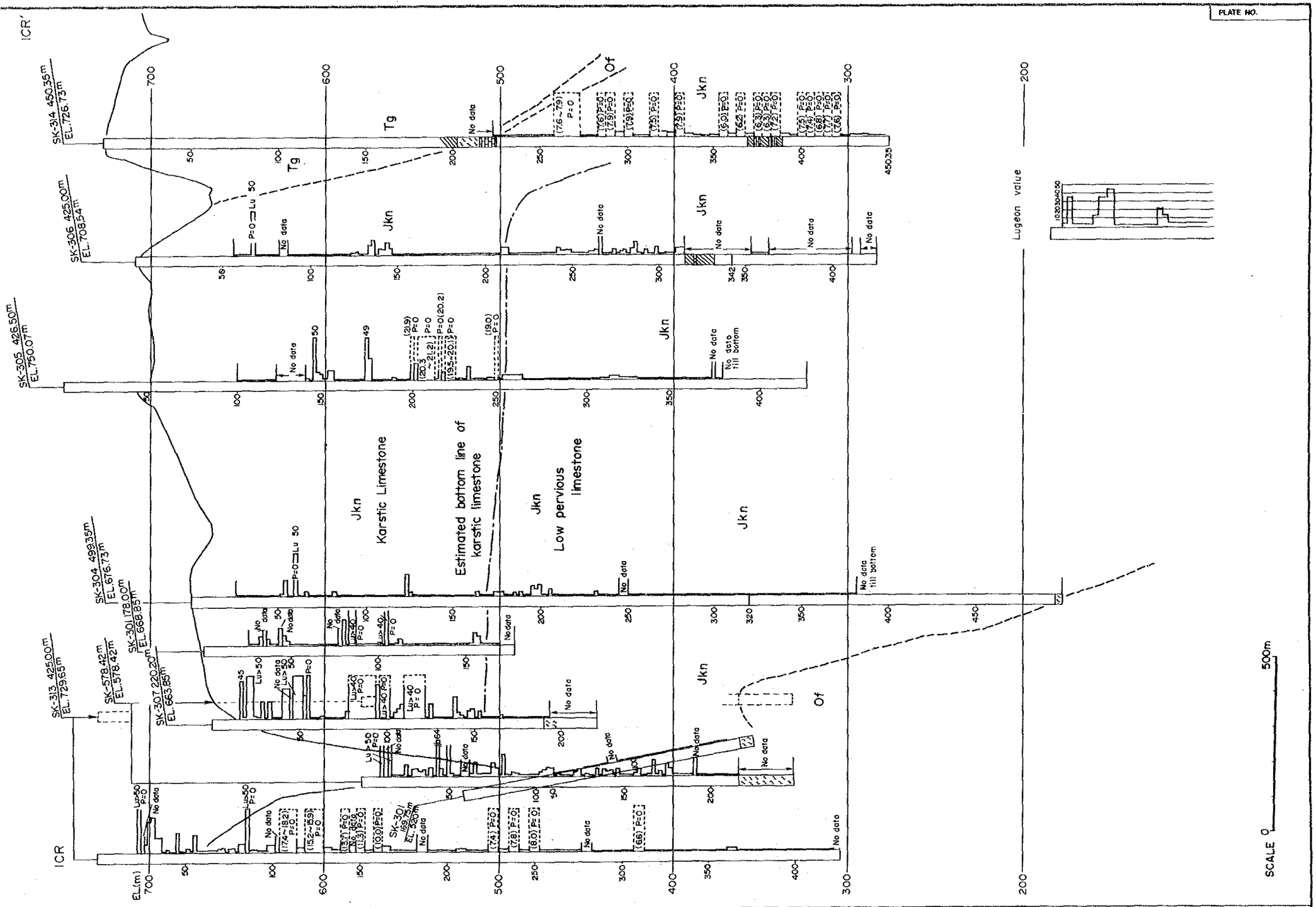
ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE G 12

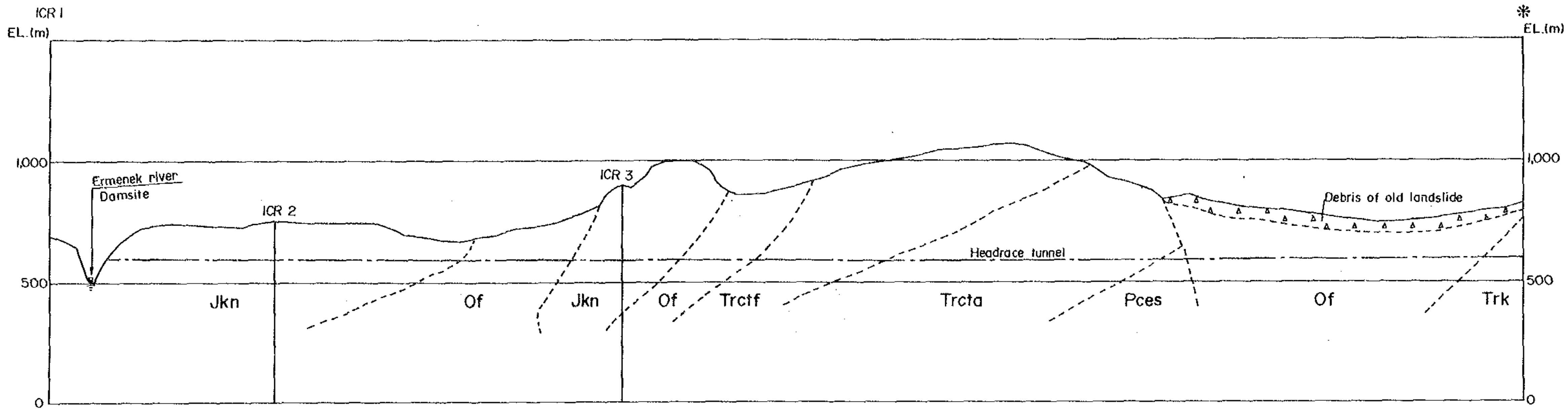
I-Ccダムサイトのグラウトカーテン沿いの地質断面図

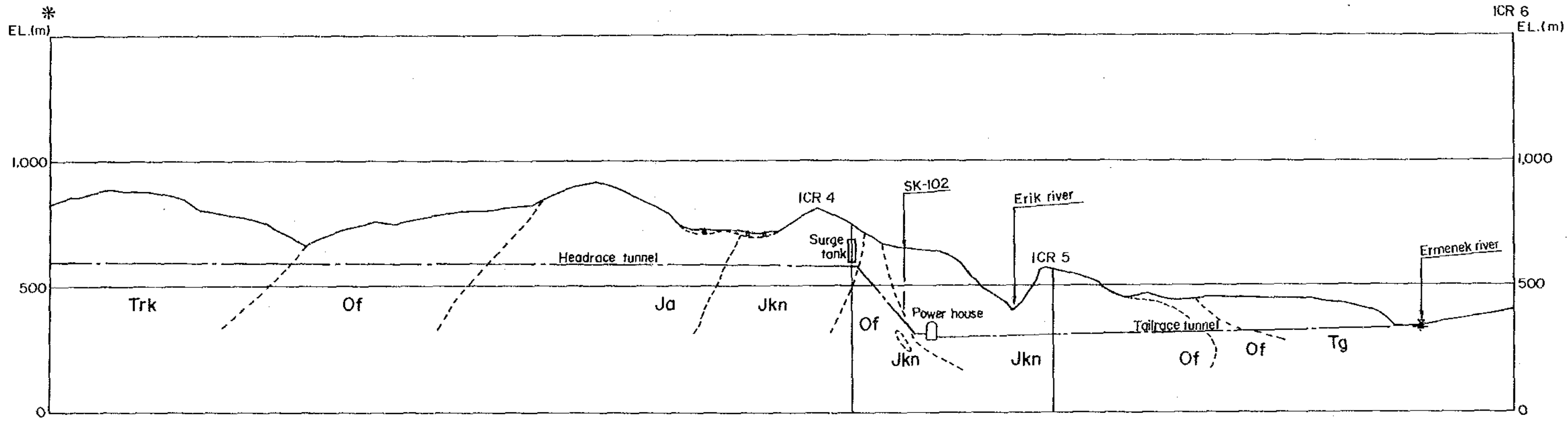
PLATE NO.



	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 13 I-Cダムサイト右岸の透水性

PLATE NO.





GEOLOGY OF THE PROJECT AREA

- QUATERNARY
  - ALLUVIUM — [Qal]
    - [Qalr] River bed deposit
    - [Qalt] Talus deposit
  - DILUVIUM — [Qtr]
    - [Qtrt] Terrace deposit
- TERTIARY
  - MIDDLE MIOCENE — [Te] ERMENEK FORMATION (Mainly chalky limestone.)
  - LOWER MIOCENE — [Tg] GÖRMEL FORMATION (Marl, sandstone, conglomerate, limestone.)
- CRETACEOUS
  - UPPER CRETACEOUS — [Ofm] ERMENEK OPHIOLITIC MELANGE (Matrix layers and limestone blocks.)
  - LOWER CRETACEOUS — [Jkc] CİHANDERE FORMATION (Limestone.) — ALADAĞ GROUP
- JURASSIC — (Jkc)
- TRIASSIC
  - UPPER TRIASSIC — [ÜTrb] BALCILAR FORMATION (Limestone.) — ALADAĞ GROUP

SCALE 0 — 1,000m

ERMENEK OPHIOLITIC MELANGE

- CRETACEOUS
  - UPPER CRETACEOUS — [Of] MATRIX OF MELANGE (Schist, sandstone, conglomerate, diabace, surpentinized peridotite, gabbro, etc.)

Blocks (Mostly limestone.):

- JURASSIC
  - [Jkn] NADİRE FORMATION
  - [Ja] AZITEPE FORMATION
- TRIASSIC
  - UPPER TRIASSIC — [Trk] KÜKÜRCE FORMATION
  - [Trctt] TAŞDİBİ MEMBER — TAHTACHI FORMATION — ÇİMENE GROUP
  - [Trçta] ARDIÇLI MEMBER — TAHTACHI FORMATION — ÇİMENE GROUP
- PERMIAN
  - [Pçes] SARIBAYIR MEMBER — ESKİCE FORMATION — ÇİMENE GROUP
  - [Pçea] AKARCA MEMBER — ESKİCE FORMATION — ÇİMENE GROUP
  - [Pçep] FÜRELİCENİN MEMBER — ESKİCE FORMATION — ÇİMENE GROUP
  - [Pg] GÖKÇESEKİ FORMATION
  - [Pn] NİSA FORMATION
- CARBONIFEROUS — [Kcb] BALKUŞAN FORMATION

THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 14 導水路トンネルルートの地質縦断（セクションICR1-ICR6）

PLATE NO.

PP

PP'

EL.(m)

650

600

550

500

450

400

350

300

250

SK-102 3416.0m
EL. 615.25m

SK-108 b 201.20m
EL. 484.19m
70° from horizontal
toward south

SK-106 9000m
EL. 369.55m

Erik river

HARDNESS
WEATHERING
JOINT FREQUENCY

Jkn

Of

100

200

300

50

100

150

200

50

SK-106: At depth 186.70m (EL. 182.85m), penetrated into matrix layers of Melange. (Sep. 1990)

Jkn : Limestone (Nadire formation)

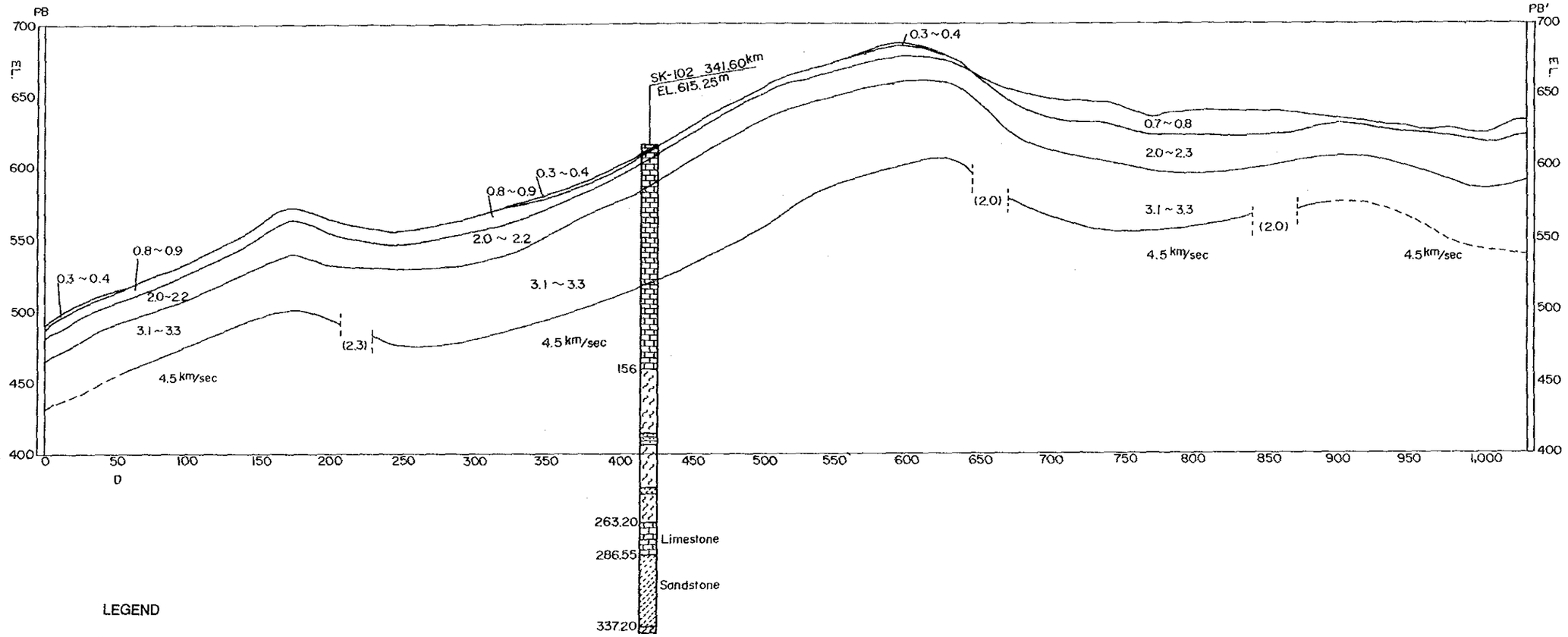
Of : Matrix layers of Melange

Geological boundary

SCALE 0 200m

	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 15 発電所地域の地質断面図 (セクションPP-PP')

PLATE NO.

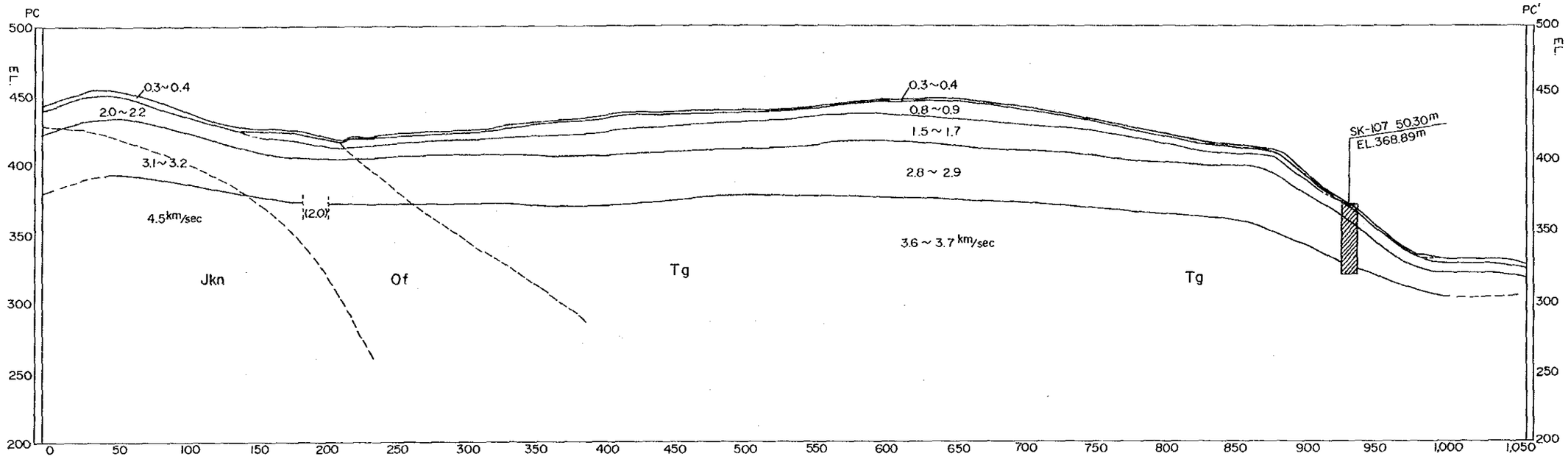


LEGEND

Qalt	:	Talus deposit
Tg	:	Gormel formation Marl, conglomerate, sandstone, etc.
Jkn	:	Nadire formation (Block of Ermenek Ophiolitic Melange) Limestone
Of	:	Matrix of Ermenek Ophiolitic Melange Schist, Sandstone, etc.
1.8~2.0 / 3.8~3.9	:	Seismic velocity (km/sec) and its boundary
----------	:	Geological boundary

	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 16 物理探査測線ＰＢの地質断面図

PLATE NO.

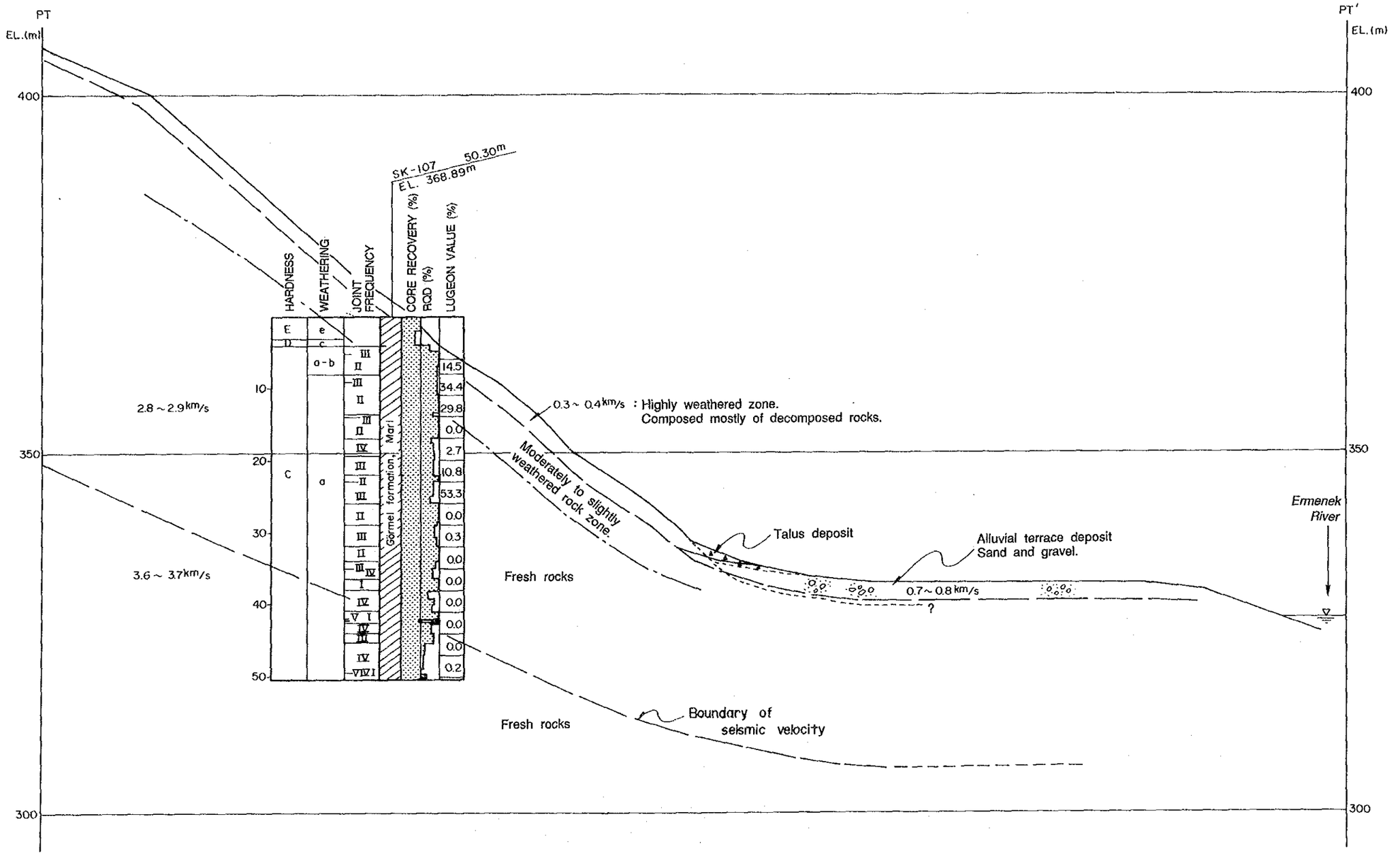


LEGEND

Qalt	:	Talus deposit
Tg	:	Gormel formation Marl, conglomerate, sandstone, etc.
Jkn	:	Nadire formation (Block of Ermenek Ophiolitic Melange) Limestone
Of	:	Matrix of Ermenek Ophiolitic Melange Schist, Sandstone, etc.
1.8~2.0 / 3.8~3.9	:	Seismic velocity (km/sec) and its boundary
----------	:	Geological boundary

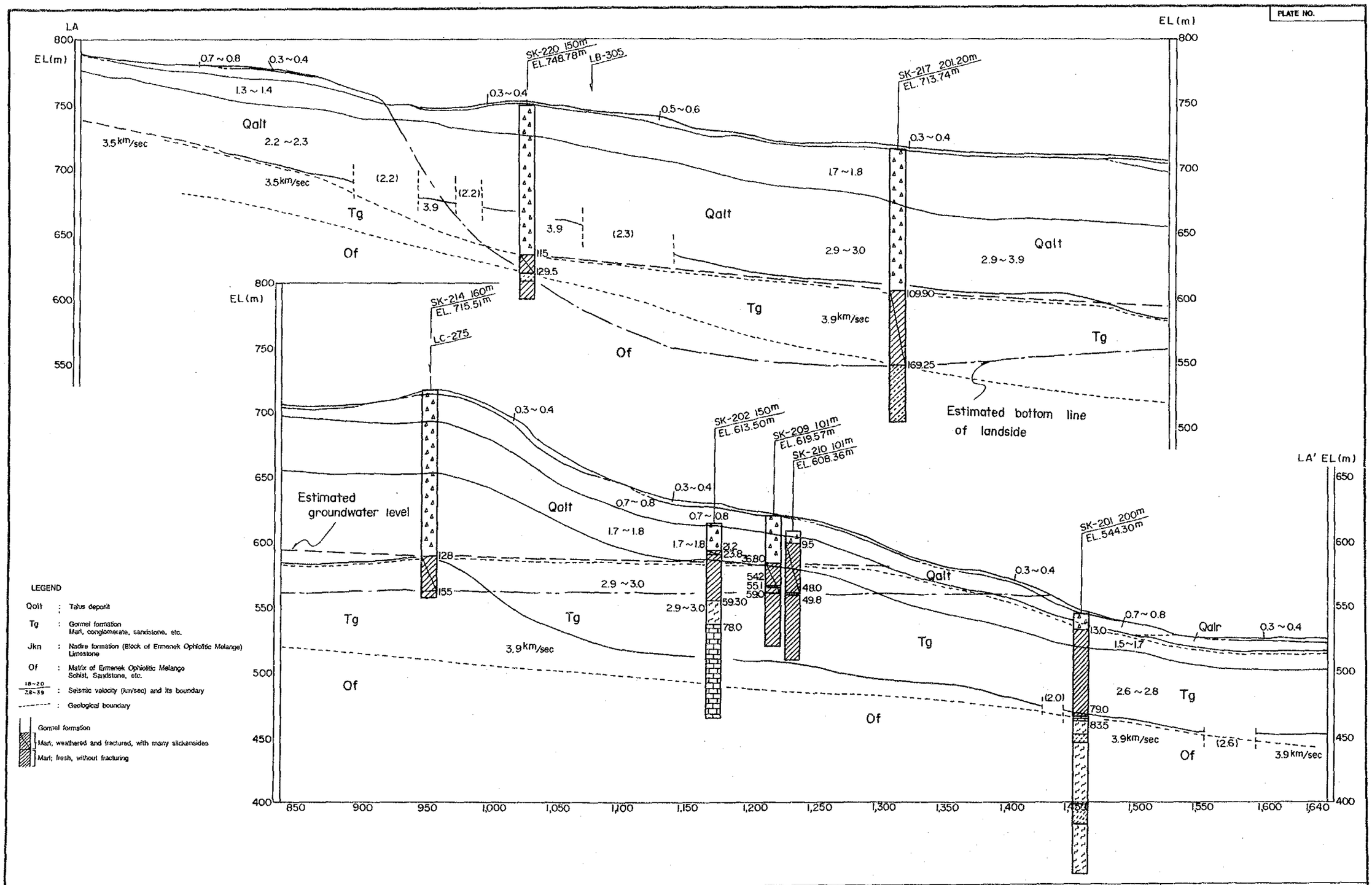
	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 17 物理探査測線ＰＣの地質断面図

PLATE NO.



	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY	TITLE G 18 放水口の地質断面図 （セクションPT-PT'）

PLATE NO.



LEGEND

Qalt	:	Talus deposit
Tg	:	Gormel formation Marl, conglomerate, sandstone, etc.
Jkn	:	Nadire formation (Block of Ermenek Ophiolitic Melange) Limestone
Of	:	Matrix of Ermenek Ophiolitic Melange Schist, Sandstone, etc.
1.8~2.0 / 2.8~3.9	:	Seismic velocity (km/sec) and its boundary
------	:	Geological boundary

Gormel formation
- Marl; weathered and fractured, with many slickensides
- Marl; fresh, without fracturing

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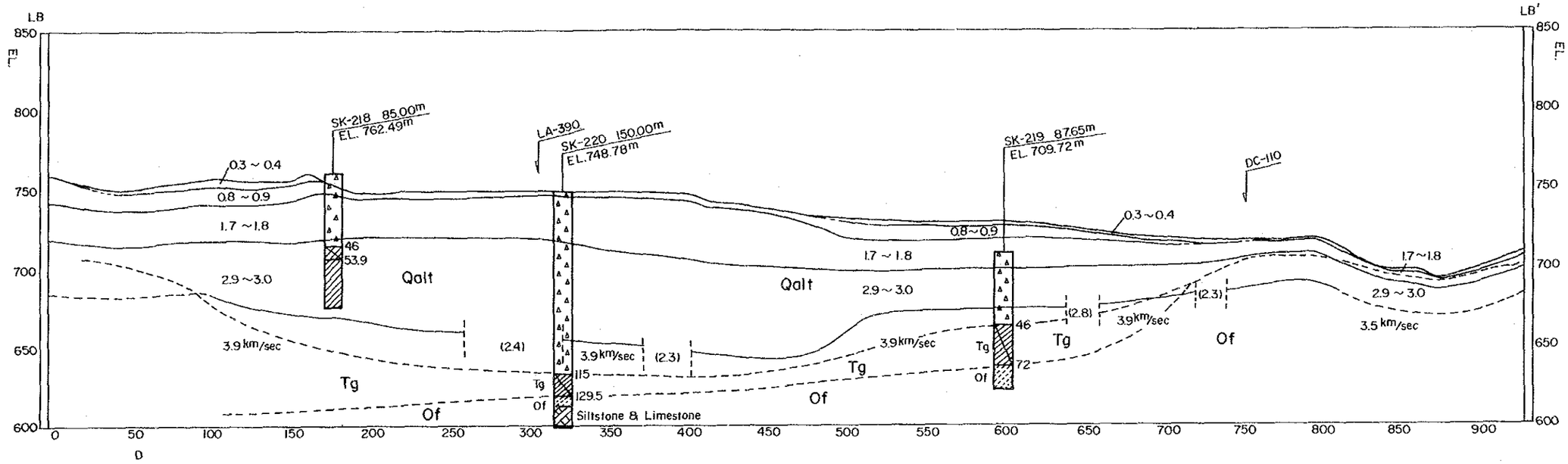
ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE G 19
地すべり地の地質断面図
(物理探査測線ＬＡ)

PLATE NO.



LEGEND

Qalt	:	Talus deposit
Tg	:	Gormel formation Marl, conglomerate, sandstone, etc.
Jkn	:	Nadire formation (Block of Ermenek Ophiolitic Melange) Limestone
Of	:	Matrix of Ermenek Ophiolitic Melange Schist, Sandstone, etc.
1.8~2.0 / 3.8~3.9	:	Seismic velocity (km/sec) and its boundary
----------	:	Geological boundary

Gormel formation
Marl; weathered and fractured, with many slickensides
Marl; fresh, without fracturing

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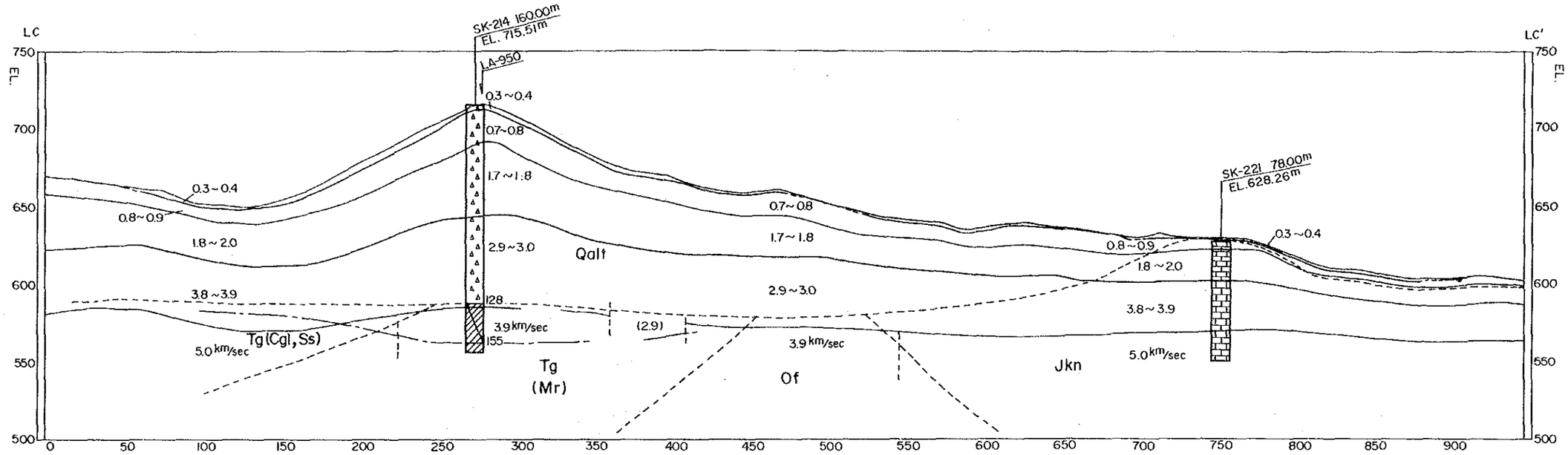
JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE G 20

地すべり地の地質断面図
（物理探査測線ＬＢ）

PLATE NO.



Cgl : Conglomerate
Ss : Sandston
Mr : Marl

LEGEND

Qalt	:	Talus deposit
Tg	:	Gormel formation Marl, conglomerate, sandstone, etc.
Jkn	:	Nadire formation (Block of Ermenek Ophiolitic Melange) Limestone
Of	:	Matrix of Ermenek Ophiolitic Melange Schist, Sandstone, etc.
1.8~2.0 / 3.8~3.9	:	Seismic velocity (km/sec) and its boundary
----------	:	Geological boundary

THE REPUBLIC OF TURKEY
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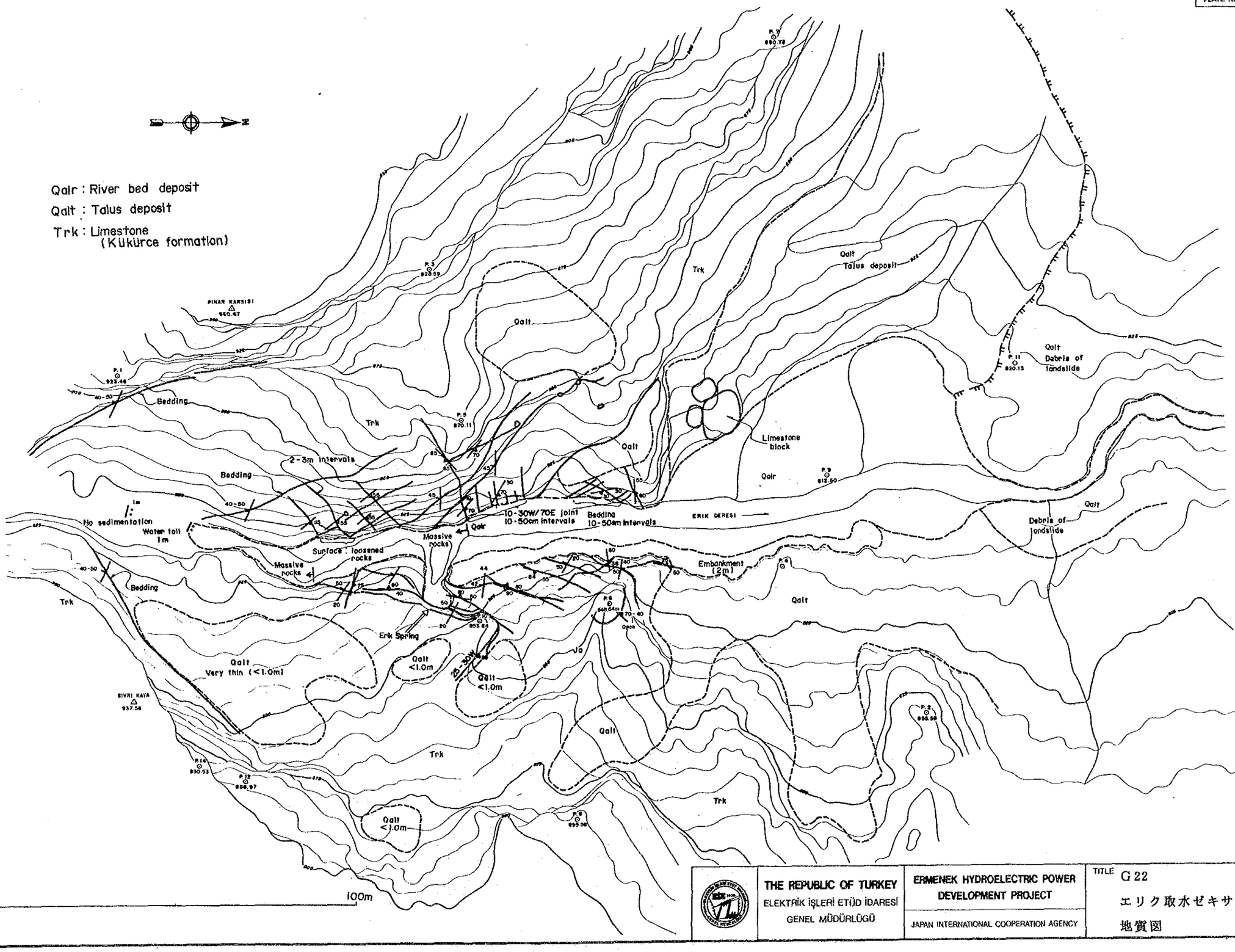
GENEL MÜDÜRLÜĞÜ

ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT
JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE G 21
地すべり地の地質断面図
(物理探査測線ＬＣ)

PLATE NO.



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GENEL MÜDÜRLÜGÜ

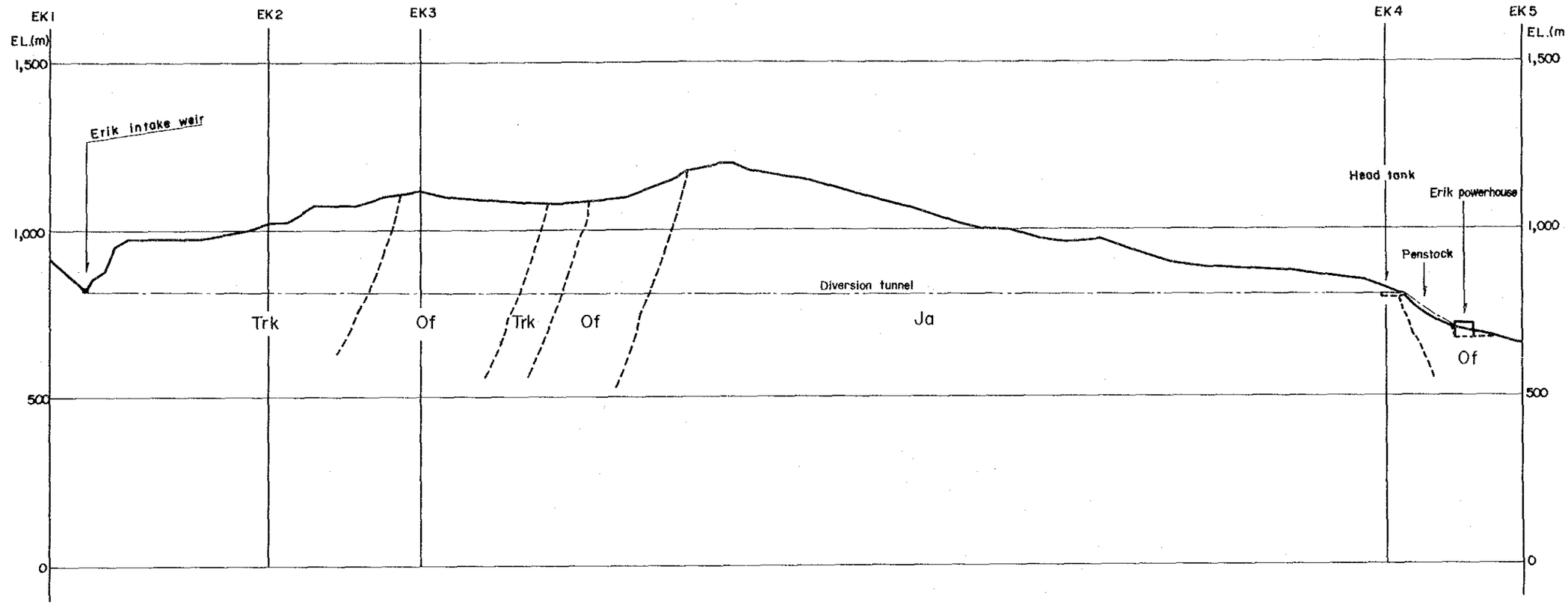
ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE G 22

エリク取水ゼキサイトの地質図

PLATE NO.



GEOLOGY OF THE PROJECT AREA

QUATERNARY	ALLUVIUM	Qal	Qalr	River bed deposit
			Qalt	Talus deposit
	DILUVIUM	Qtr	Qtrt	Terrace deposit
TERTIARY	MIDDLE MIOCENE	Te		ERMENEK FORMATION (Mainly chalky limestone.)
	LOWER MIOCENE	Tg		GÖRMEL FORMATION (Marl, sandstone, conglomerate, limestone.)
CRETACEOUS	UPPER CRETACEOUS	Ofm		ERMENEK OPHIOLITIC MELANGE (Matrix layers and limestone blocks.)
	LOWER CRETACEOUS	Jkc		CİHANDERE FORMATION (Limestone.)
JURASSIC				ALADAĞ GROUP
TRIASSIC	UPPER TRIASSIC	Trkb		BALCILAR FORMATION (Limestone.)

ERMENEK OPHIOLITIC MELANGE

CRETACEOUS	UPPER CRETACEOUS	Of	MATRIX OF MELANGE (Schist, sandstone, conglomerate, diabase, serpentinized peridotite, gabbro, etc.)
JURASSIC		Jkn	NADİRE FORMATION
		Ja	AZİTEPE FORMATION
TRIASSIC	UPPER TRIASSIC	Trk	KÜKÜRCE FORMATION
		Trçtt	TAŞDİBİ MEMBER — TARTACHİ FORMATION — ÇİMENE GROUP
		Trçta	ARDIÇLI MEMBER — TARTACHİ FORMATION — ÇİMENE GROUP
PERMIAN		Pçes	SARIBAYIR MEMBER — ESKİÇE FORMATION — ÇİMENE GROUP
		Pçea	AKARCA MEMBER — ESKİÇE FORMATION — ÇİMENE GROUP
		Pçep	PÜRELİCENİN MEMBER — ESKİÇE FORMATION — ÇİMENE GROUP
CARBONIFEROUS		Kçb	BALKUSAN FORMATION
		Pg	GÖKÇESEKİ FORMATION
		Pn	NİSA FORMATION

Blocks (Mostly limestone.)

THE REPUBLIC OF TURKEY
ELEKTRİK İŞLERİ ETÜD İDARESİ
GENEL MÜDÜRLÜGÜ

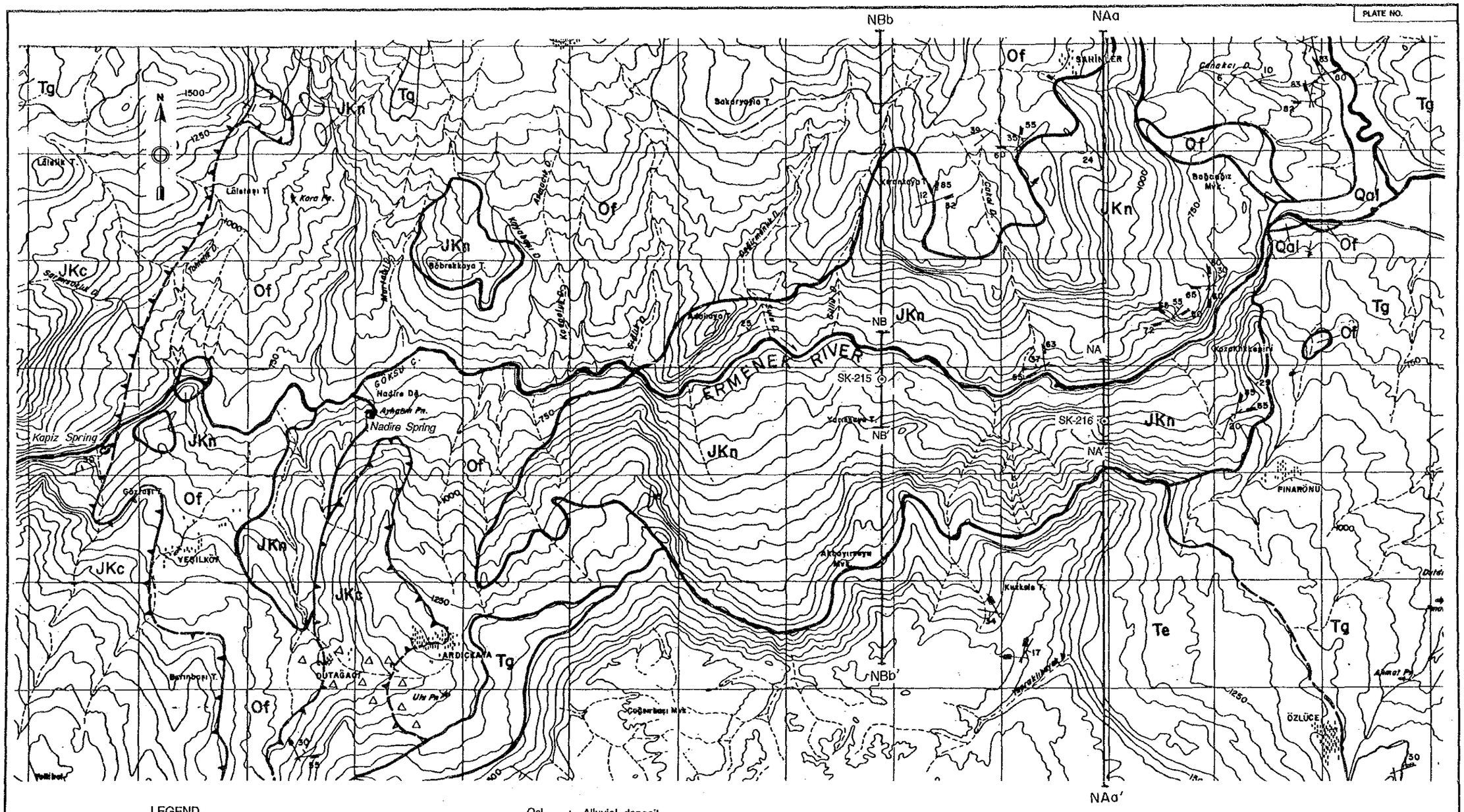
ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE G 23

エリク導水トンネルの地質縦断図

PLATE NO.



LEGEND

- Spring
- Borehole
- Geological profile (NA — NA)
- Thrust fault
- Geological boundary

Qal	:	Alluvial deposit	
Te	:	Ermenek formation (Chalky limestone)	Tertiary
Tg	:	Gormel formation (Marl, etc.)	
Of	:	Matrix of Ophiolitic Melange	Cretaceous
Jkn	:	Limestone block of Ophiolitic Melange (Nadire Formation)	
Jkc	:	Cretaceous limestone (Cihandere Foration)	

SCALE 0 — 1,000m

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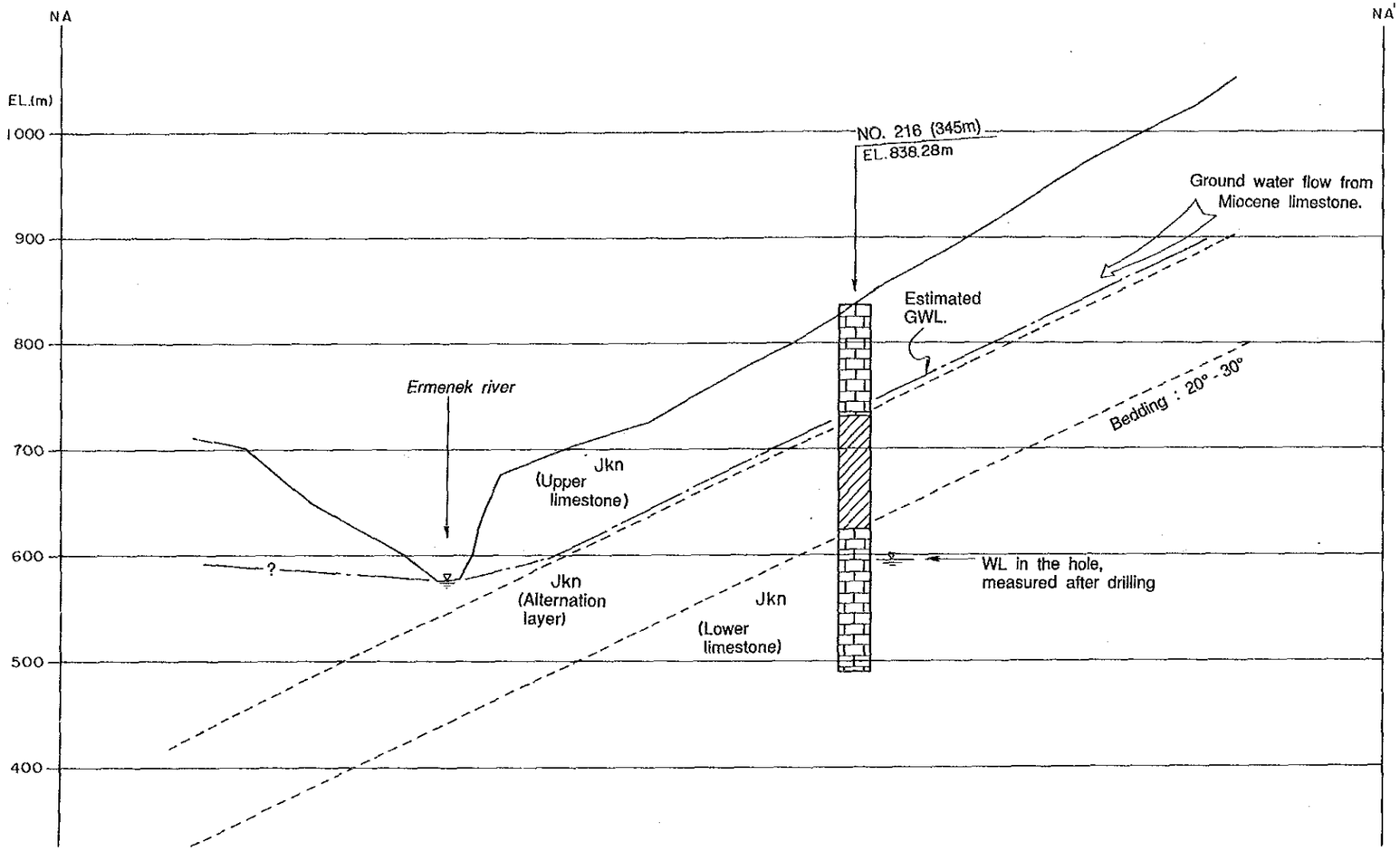
GENEL MÜDÜRLÜĞÜ

ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE
G 24
エルマネック貯水池上流端部の地質図

PLATE NO.



SECTION NA-NA'

GEOLOGY OF THE PROJECT AREA

QUATERNARY	ALLUVIUM	Qal	Qalr	River bed deposit
			Qalt	Talus deposit
	DILUVIUM	Qtr	Qtrt	Terrace deposit
TERTIARY	MIDDLE MIOCENE	Te		ERMENEK FORMATION (Mainly chalky limestone.)
	LOWER MIOCENE	Tg		GÖRMEL FORMATION (Marl, sandstone, conglomerate, limestone.)
CRETACEOUS	UPPER CRETACEOUS	Ofm		ERMENEK OPHIOLITIC MELANGE (Matrix layers and limestone blocks.)
	LOWER CRETACEOUS	Jkc		CİHANDERE FORMATION (Limestone.) — ALADAĞ GROUP
JURASSIC				
TRIASSIC	UPPER TRIASSIC	UTrb		BALÇILAR FORMATION (Limestone.) — ALADAĞ GROUP

ERMENEK OPHIOLITIC MELANGE

CRETACEOUS	UPPER CRETACEOUS	Or	MATRIX OF MELANGE (Schist, sandstone, conglomerate, disbace, serpentinized peridotite, gabbro, etc.)
		Jkn	NADİRE FORMATION
JURASSIC		Ja	AZİTEPE FORMATION
TRIASSIC	UPPER TRIASSIC	Trk	KÜKÜRCE FORMATION
		Trçtt	TAŞDİBİ MEMBER — TAŞTANCI FORMATION — ÇİMENE GROUP
		Trçta	ARDIÇLI MEMBER — TAŞTANCI FORMATION — ÇİMENE GROUP
PERMIAN		Pçes	SARIBAYIR MEMBER
		Pçea	AKARCA MEMBER — ESKİCE FORMATION — ÇİMENE GROUP
		Pçep	PÜRELİCENİN MEMBER — ESKİCE FORMATION — ÇİMENE GROUP
		Pg	GÖKÇESEKİ FORMATION
		Pn	NİSA FORMATION
CARBONIFEROUS		Kçb	BALKUSAN FORMATION

Blocks (Mostly Limestone.)

Jkn
- Upper limestone : High pervious layer, with many openings. Mostly weathered.
- Alternation layer : Mainly clayey silt, and partly sandstone and limestone. Reddish brown ~ gray. Impervious layer.
- Lower limestone : Low pervious layer. Fresh rocks.

SCALE 0 — 500m

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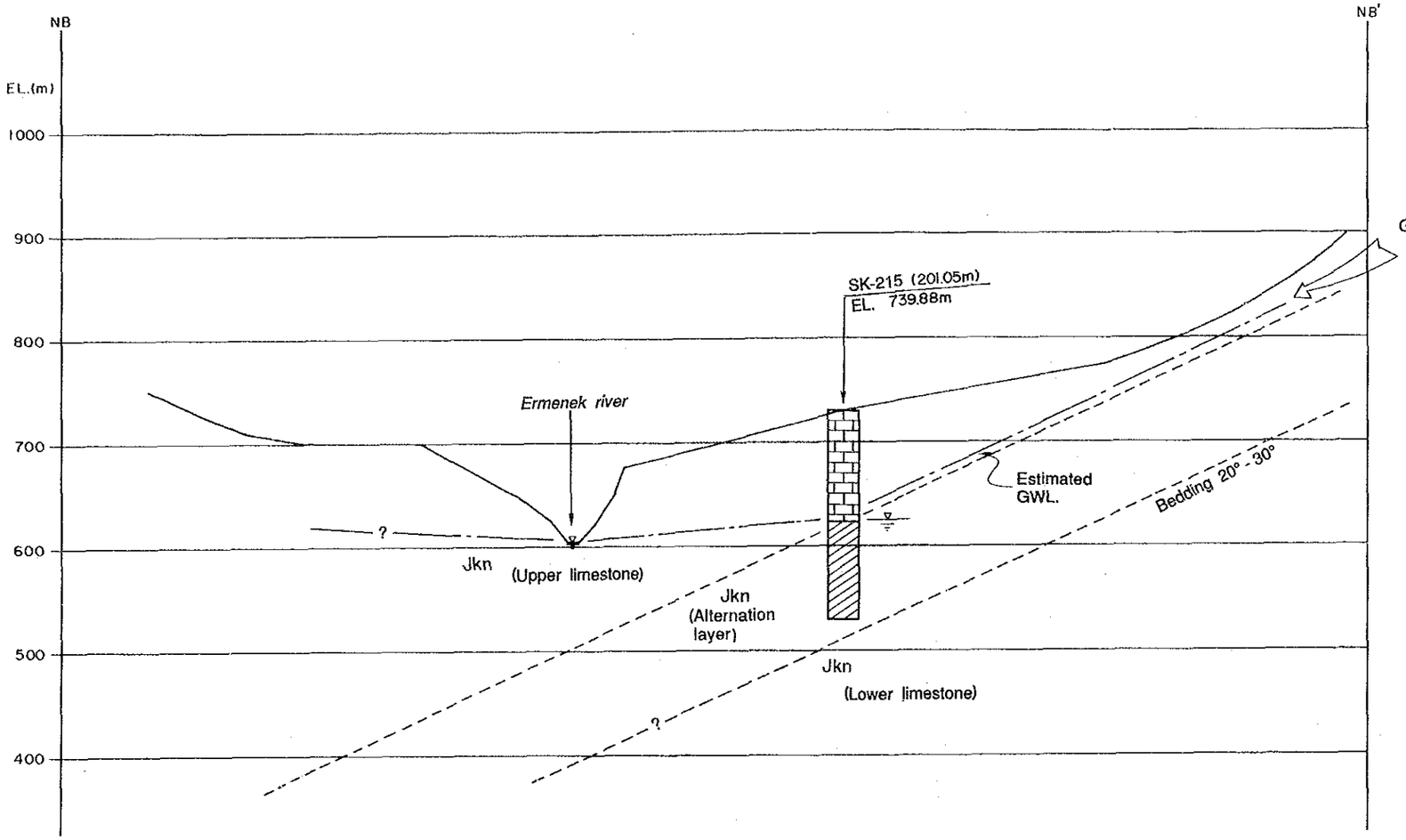
ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE
G 25
エルマネック貯水池上流端部の地質断面図（1／3）

PLATE NO.



SECTION NB - NB'

SCALE 0 500m

GEOLOGY OF THE PROJECT AREA

QUATERNARY	ALLUVIUM	Qal	Qalr	River bed deposit
			Qalt	Talus deposit
	DILUVIUM	Qtr	Qtrt	Terrace deposit
TERTIARY	MIDDLE MIOCENE	Te		ERMENEK FORMATION (Mainly chalky limestone.)
	LOWER MIOCENE	Tg		GÖKNEL FORMATION (Marl, sandstone, conglomerate, limestone.)
CRETACEOUS	UPPER CRETACEOUS	Ofm		ERMENEK OPHIOLITIC MELANGE (Matrix layers and limestone blocks.)
	LOWER CRETACEOUS	Jkc		CİHANDERE FORMATION (Limestone.) — ALADAĞ GROUP
JURASSIC				
TRIASSIC	UPPER TRIASSIC	ÜTrb		BALCILAR FORMATION (Limestone.) — ALADAĞ GROUP

ERMENEK OPHIOLITIC MELANGE

CRETACEOUS	UPPER CRETACEOUS	Of		MATRIX OF MELANGE (Schist, sandstone, conglomerate, disbace, serpentinized peridotite, gabbro, etc.)
JURASSIC		Jkn		NADİRE FORMATION
		Ja		AZITEPE FORMATION
TRIASSIC	UPPER TRIASSIC	Trk		KÜKÜRCE FORMATION
		Trçtt		TAŞDİBİ MEMBER — TAHTACHI FORMATION — ÇİMENE GROUP
		Trçta		ARDIÇLI MEMBER — TAHTACHI FORMATION — ÇİMENE GROUP
PERMIAN		Pçes		SARIBAYIR MEMBER — ESKİCE FORMATION — ÇİMENE GROUP
		Pçea		AKARCA MEMBER — ESKİCE FORMATION — ÇİMENE GROUP
		Pçep		PÜRELİCENİN MEMBER — ESKİCE FORMATION — ÇİMENE GROUP
		Pg		GÖKÇESEKİ FORMATION — ÇİMENE GROUP
		Pn		NİSA FORMATION — ÇİMENE GROUP
CARBONIFEROUS		Kçb		BALKUSAN FORMATION

Blocks (Mostly limestone.)

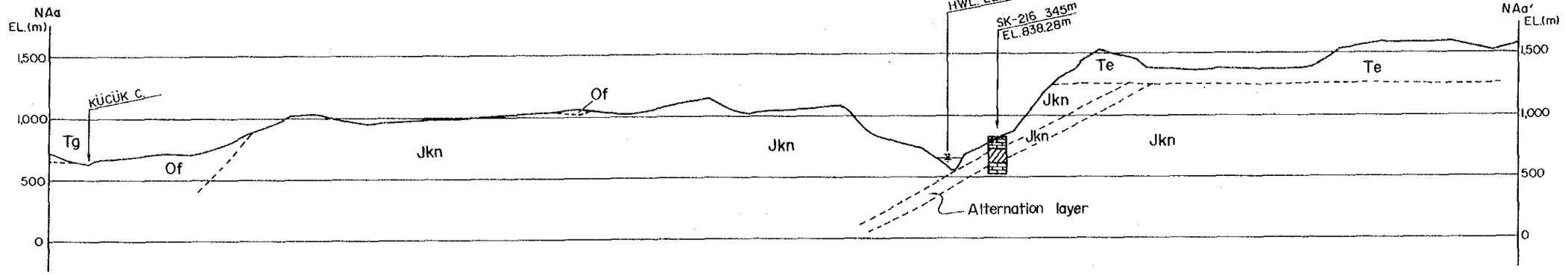
THE REPUBLIC OF TURKEY
ELEKTRİK İŞLERİ ETÜD İDARESİ
GENEL MÜDÜRLÜGÜ

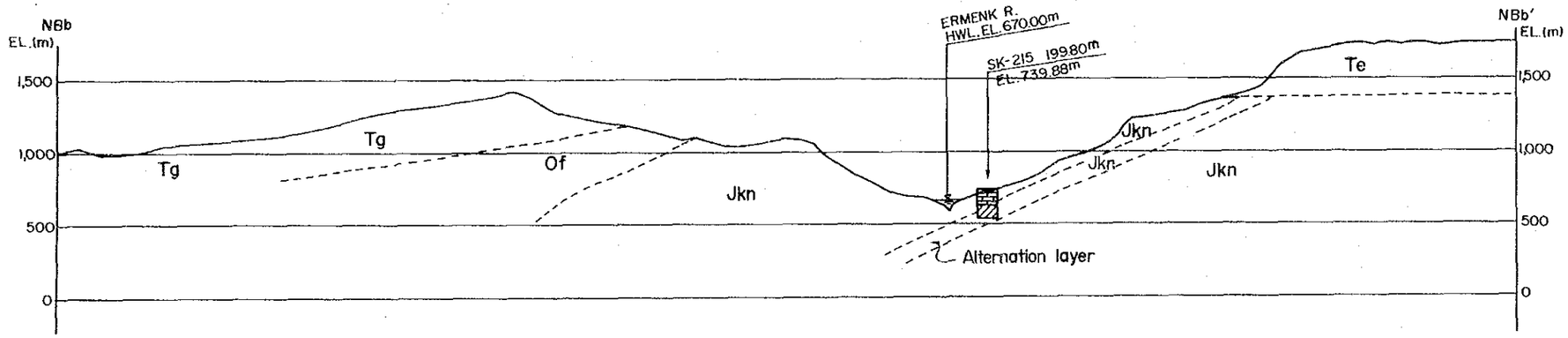
ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

TITLE
G 25
エルマネック貯水池上流端部の地質断面図（2／3）

PLATE NO.





GEOLOGY OF THE PROJECT AREA

QUATERNARY	ALLUVIUM	Qal	Qalr	River bed deposit
			Qalt	Talus deposit
	DILUVIUM	Qtr	Qtrt	Terrace deposit
TERTIARY	MIDDLE MIOCENE	Te		ERMENEK FORMATION (Mainly chalky limestone.)
	LOWER MIOCENE	Tg		GÖRMEL FORMATION (Marl, sandstone, conglomerate, limestone.)
CRETACEOUS	UPPER CRETACEOUS	Ofm		ERMENEK OPHIOLITIC MELANGE (Matrix layers and limestone blocks.)
JURASSIC / TRIASSIC	LOWER CRETACEOUS / JURASSIC	Jkc		CİHANDERE FORMATION (Limestone.) — ALADAĞ GROUP
TRIASSIC	UPPER TRIASSIC	ÜTrb		BALCILAR FORMATION (Limestone.) — ALADAĞ GROUP

SCALE 0 — 2km

ERMENEK OPHIOLITIC MELANGE

CRETACEOUS	UPPER CRETACEOUS	Of	MATRIX OF MELANGE (Schist, sandstone, conglomerate, diabase, serpentinized peridotite, gabbro, etc.)
JURASSIC		Jkn	NADİRE FORMATION
		Ja	AZITEPE FORMATION
TRIASSIC	UPPER TRIASSIC	Trk	KÜKÜRCE FORMATION
		Trçtt	TAŞDİBİ MEMBER — TAHTACI FORMATION — ÇİMENE GROUP
		Trçta	ARDIÇLI MEMBER — TAHTACI FORMATION — ÇİMENE GROUP
PERMIAN		Pçes	SARIBAYIR MEMBER — EŞKİCE FORMATION — ÇİMENE GROUP
		Pçea	AKARCA MEMBER — EŞKİCE FORMATION — ÇİMENE GROUP
		Pçep	PÜRELİCENİN MEMBER — EŞKİCE FORMATION — ÇİMENE GROUP
		Pg	GÖKÇESEKİ FORMATION
		Pn	NİSA FORMATION
CARBONIFEROUS		Kçb	BALKUSAN FORMATION

blocks (Mostly limestone.)

	THE REPUBLIC OF TURKEY ELEKTRİK İŞLERİ ETÜD İDARESİ GENEL MÜDÜRLÜGÜ	ERMENEK HYDROELECTRIC POWER DEVELOPMENT PROJECT	TITLE G 25 エルマネック貯水池上流端部の地質断面図 (3／3)
		JAPAN INTERNATIONAL COOPERATION AGENCY	