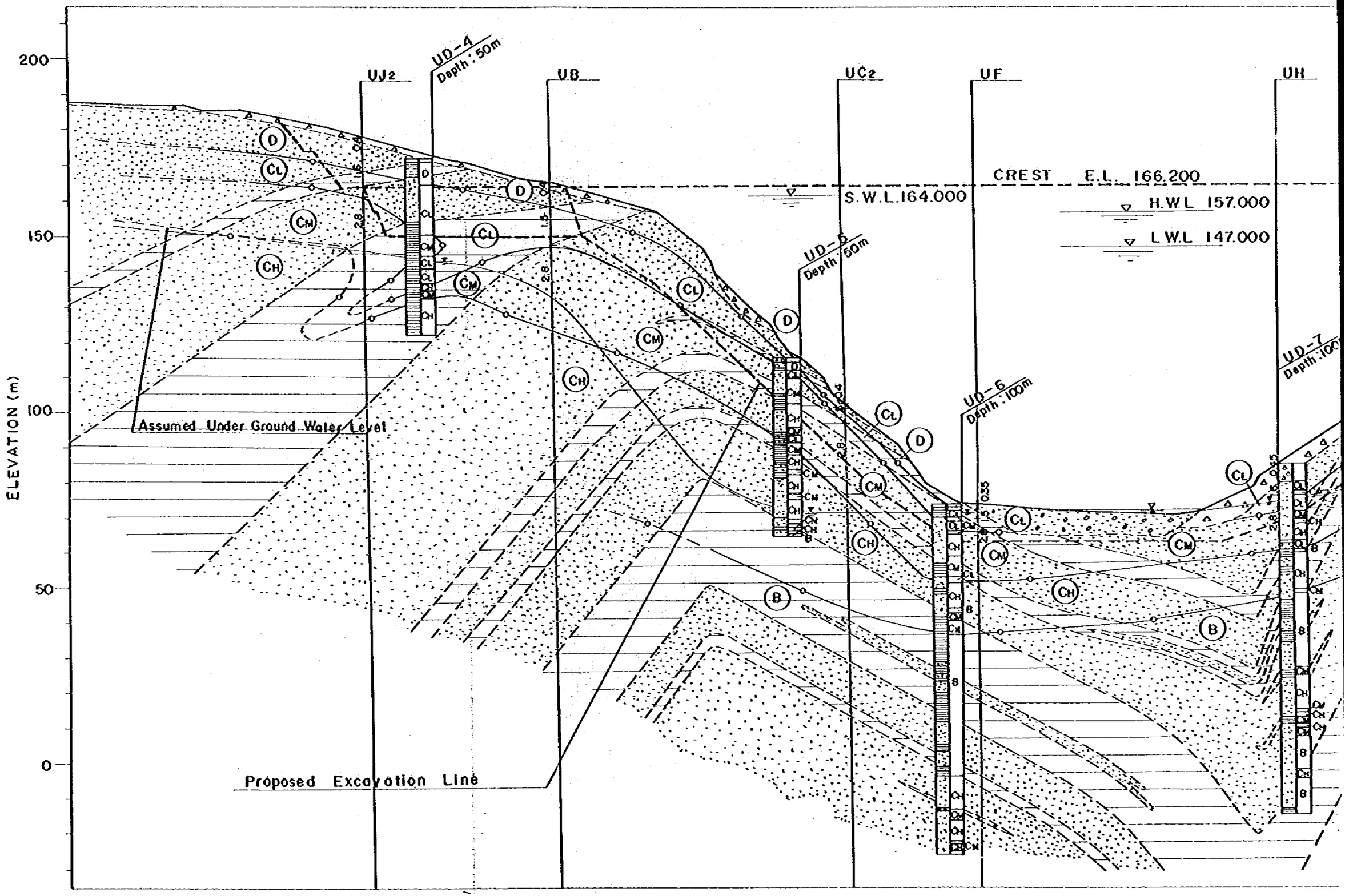
8 ENGINEERING GEOLOGY ASSESSMENT

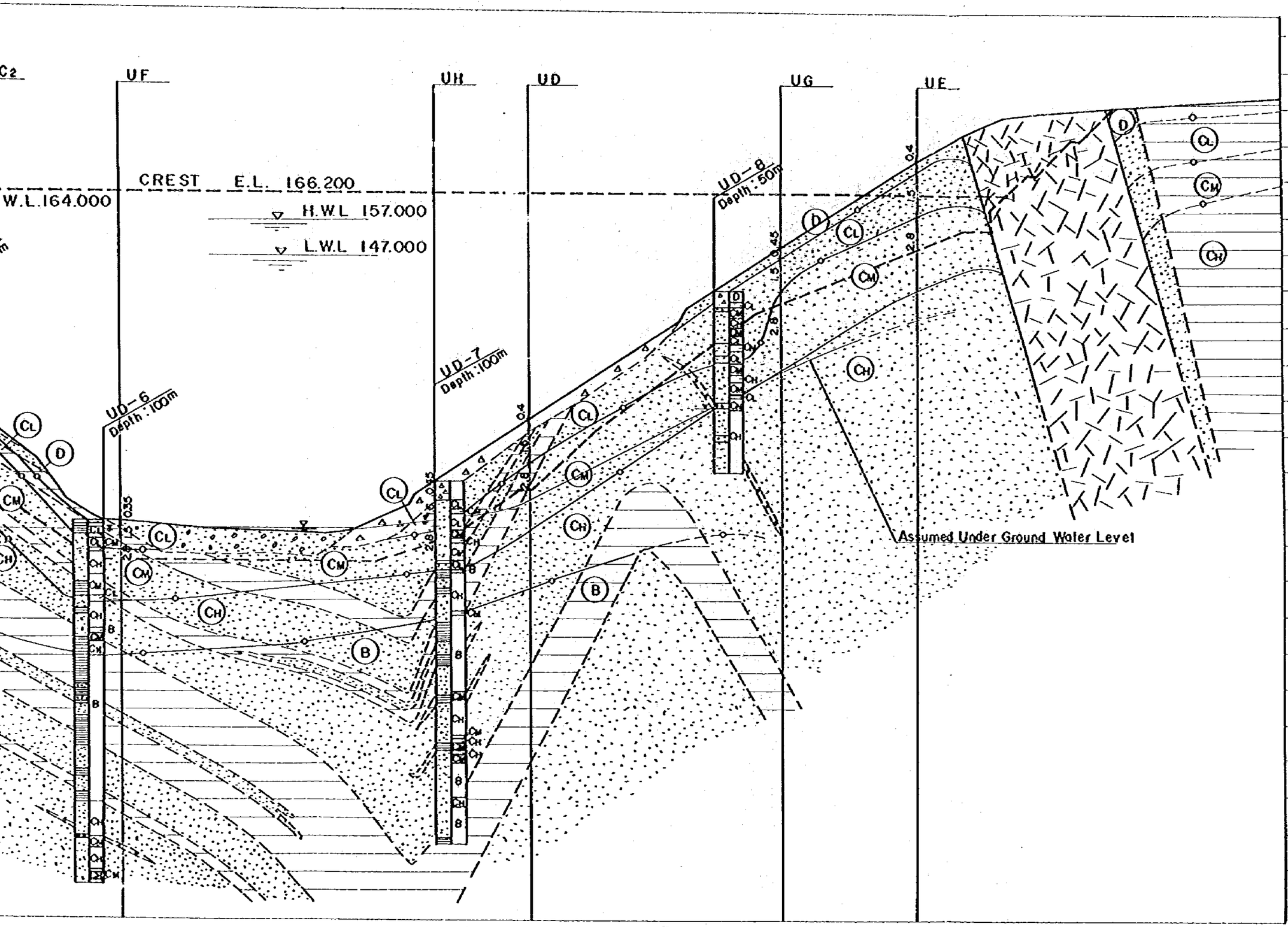
Fig. 8.1 GEOLOGICAL PROFILE OF UPPER TEKAI DAM

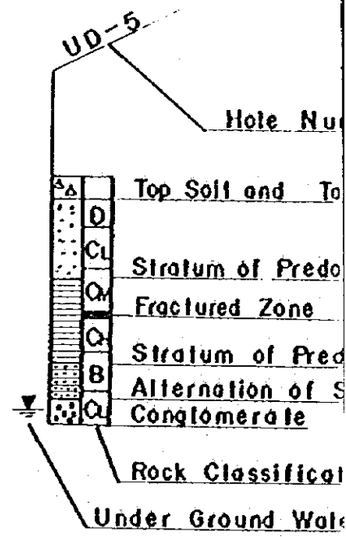
Scale 1 : 1,000

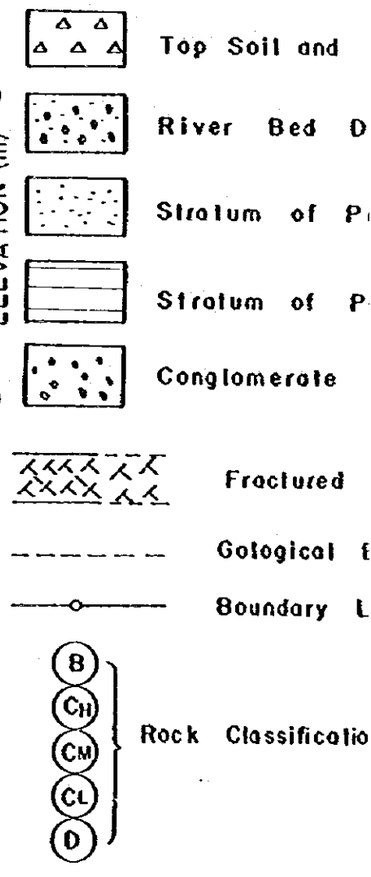


CAL PROFILE OF UPPER TEKAI DAM SITE

Scale 1 : 1,000







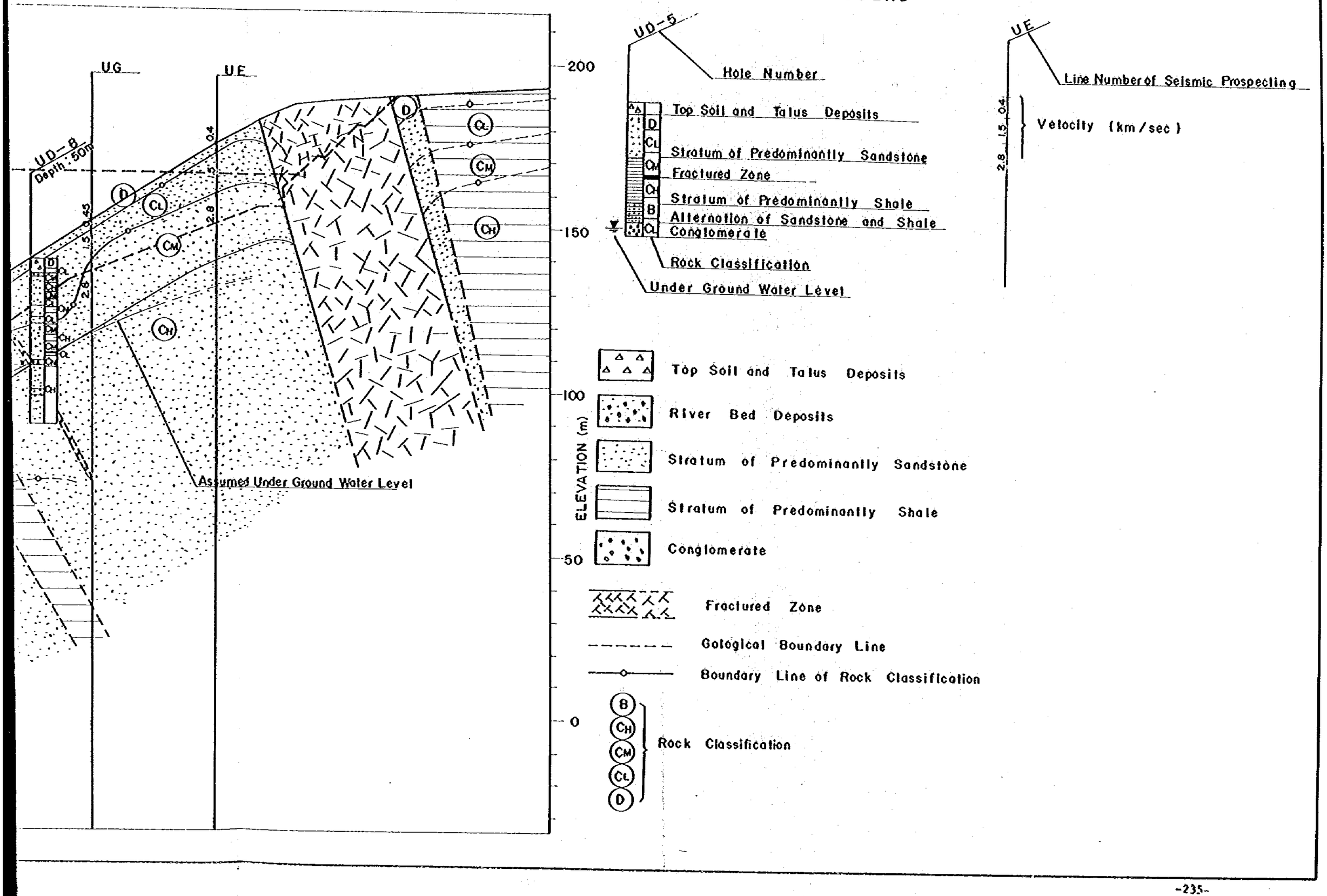
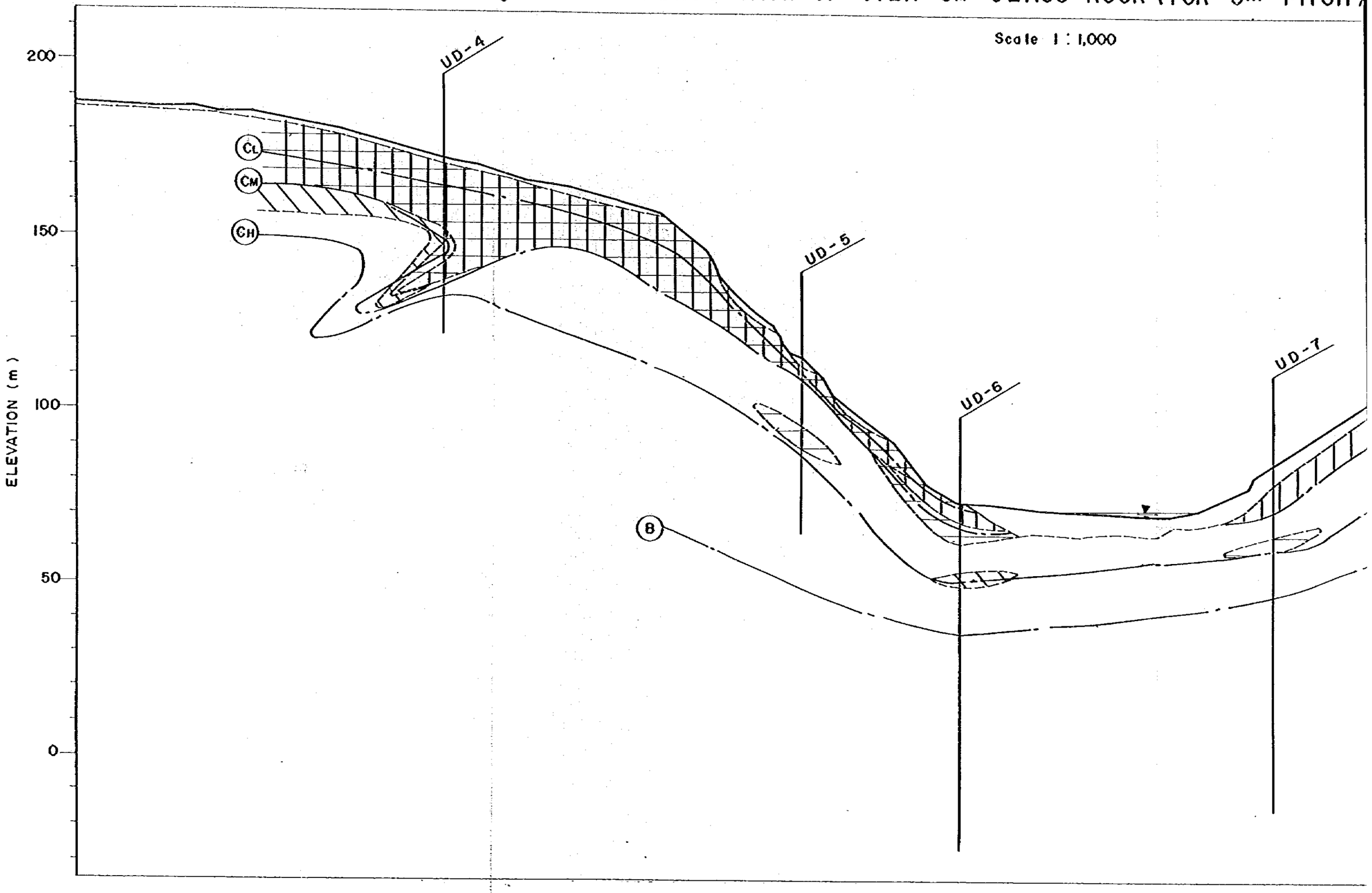
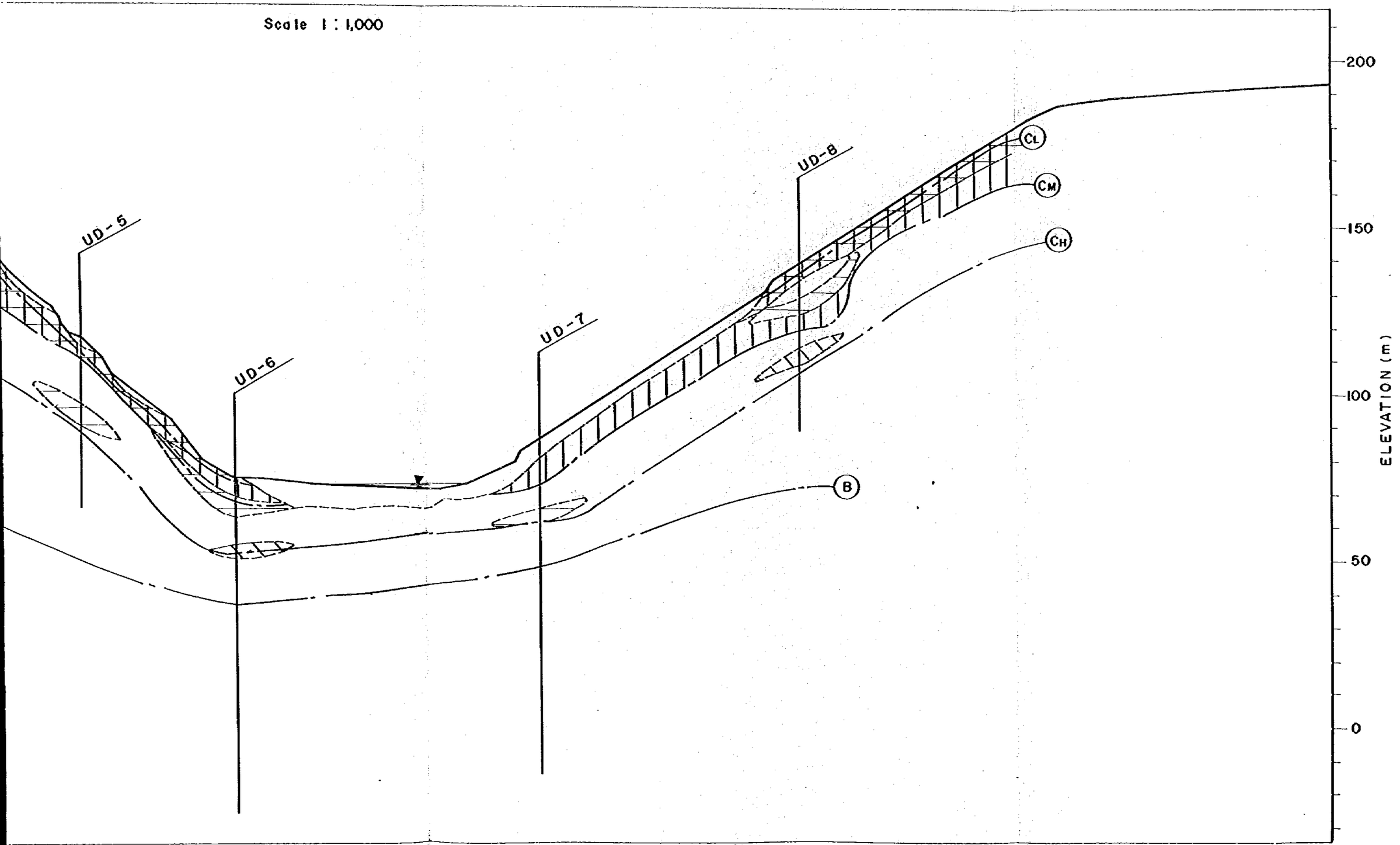

UG
UE
UD-8
Depth 50m
Assumed Under Ground Water Level
200
150
100
50
0
ELEVATION (m)
LEGEND
UD-5
Hole Number
Top Soil and Talus Deposits
Stratum of Predominantly Sandstone
Fractured Zone
Stratum of Predominantly Shale
Alternation of Sandstone and Shale
Conglomerate
Rock Classification
Under Ground Water Level
UE
Line Number of Seismic Prospecting
Velocity (km/sec)
Top Soil and Talus Deposits
River Bed Deposits
Stratum of Predominantly Sandstone
Stratum of Predominantly Shale
Conglomerate
Fractured Zone
Gological Boundary Line
Boundary Line of Rock Classification
Rock Classification

Fig. 8.2 PERCENTAGE OF OVER CM CLASS ROCK (FOR 5m PITCH)



NTAGE OF OVER CM CLASS ROCK (FOR 5m PITCH), UPPER TEKAI DAM SITE

Scale 1 : 1,000



n PITCH) , UPPER TEKAI DAM SITE

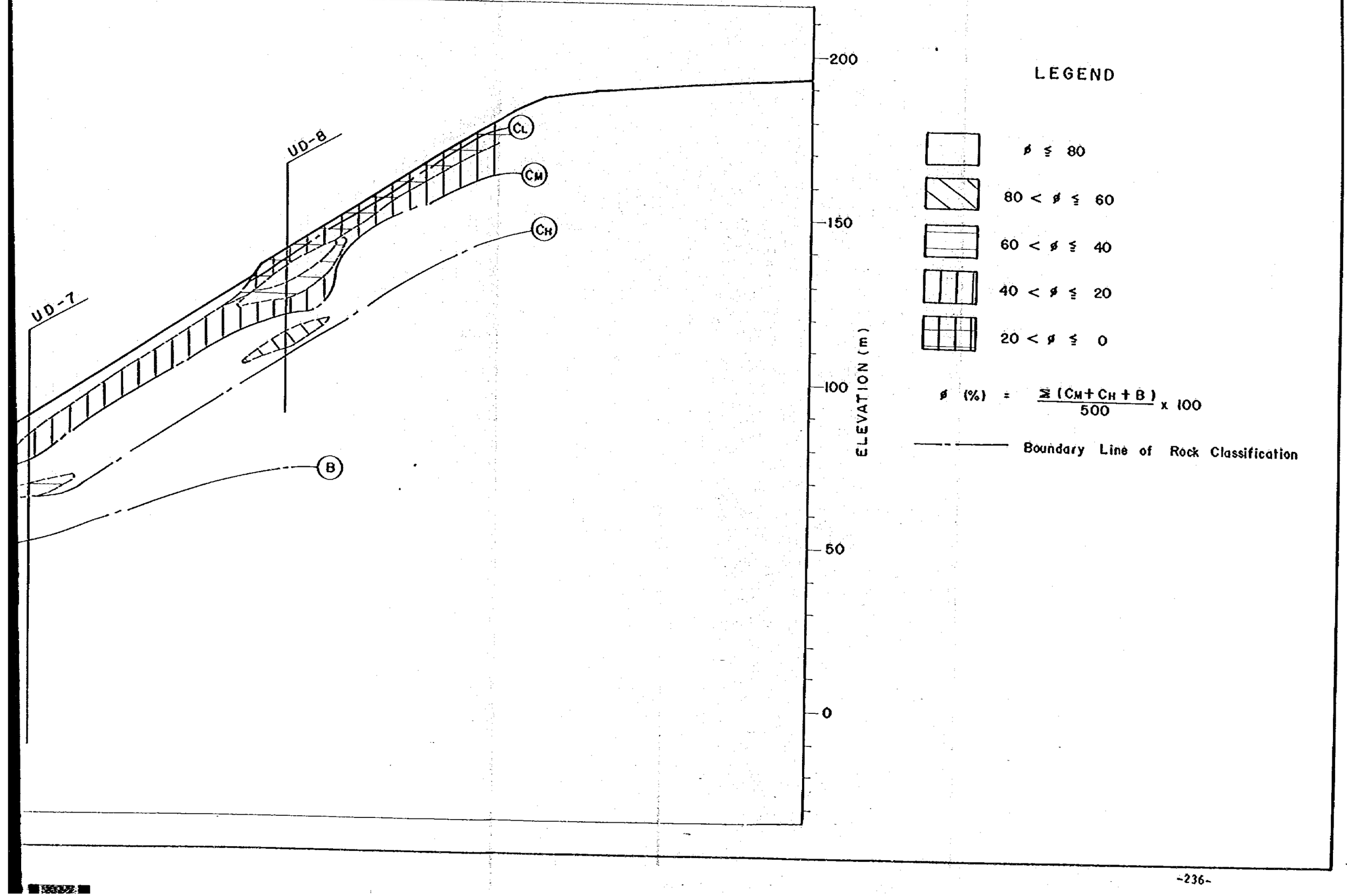
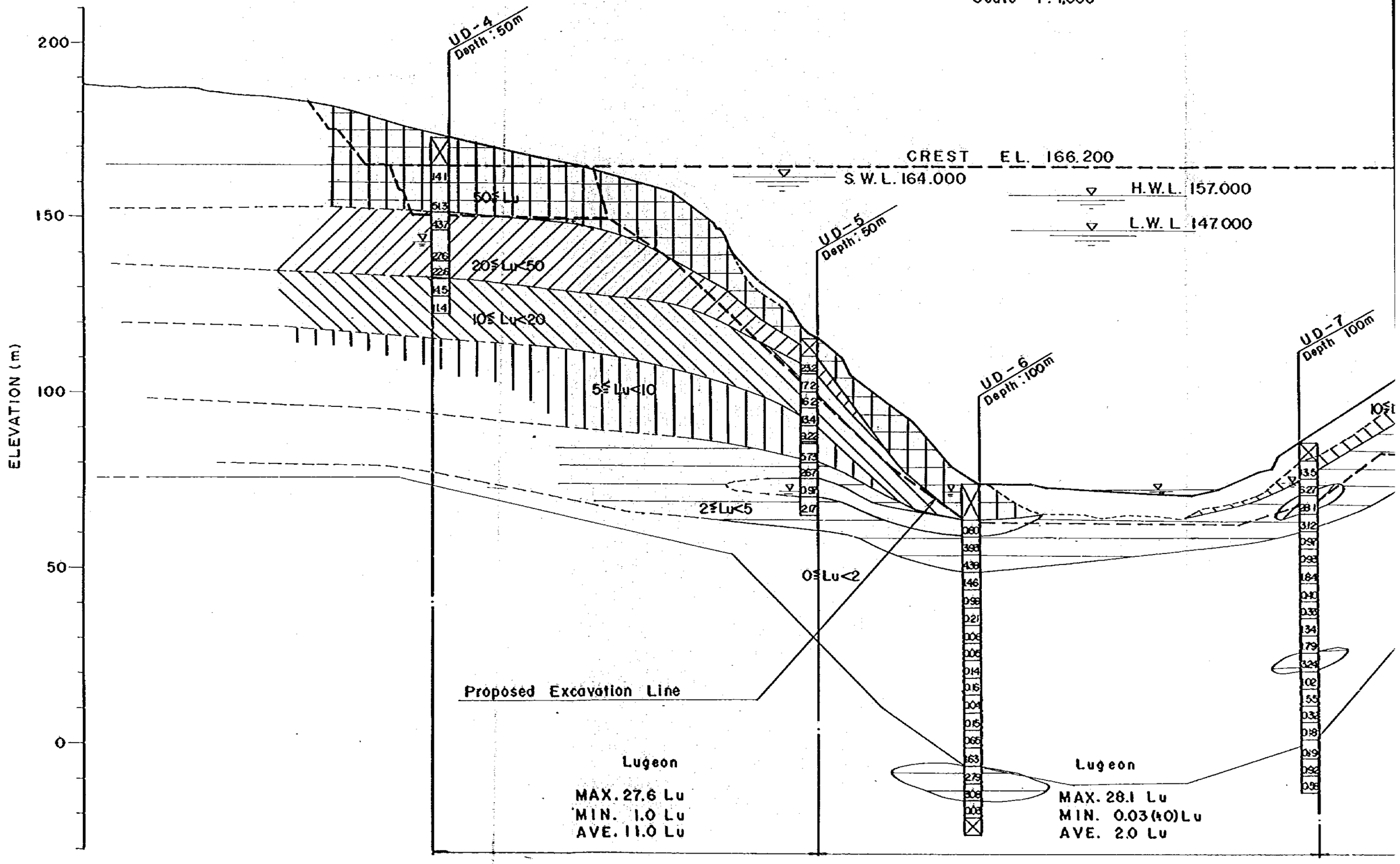


Fig. 8.3 LUGEON MAP OF UPPER TEKAI DAM SITE

Scale 1 : 1,000



ER TEKAI DAM SITE

000

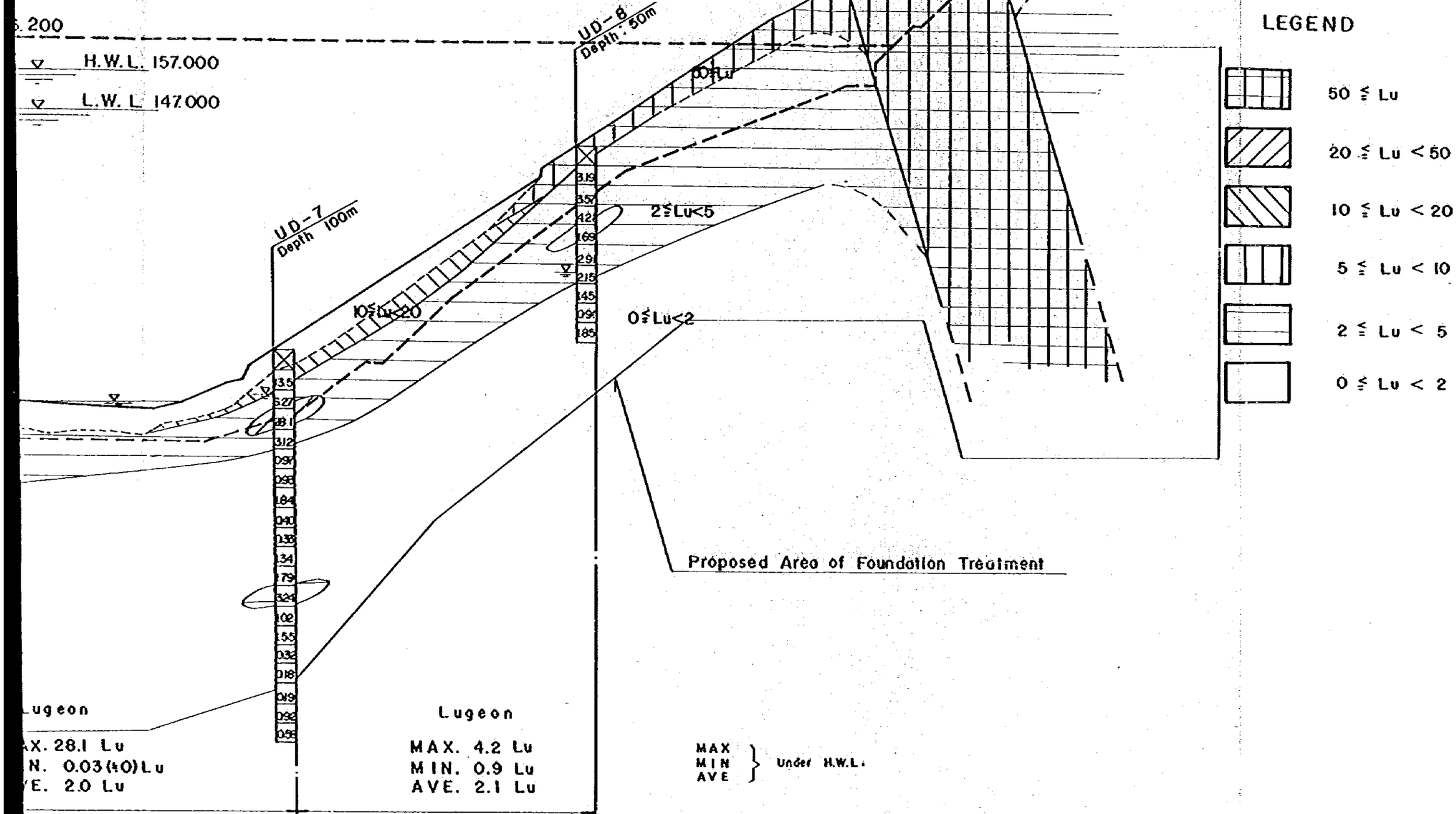
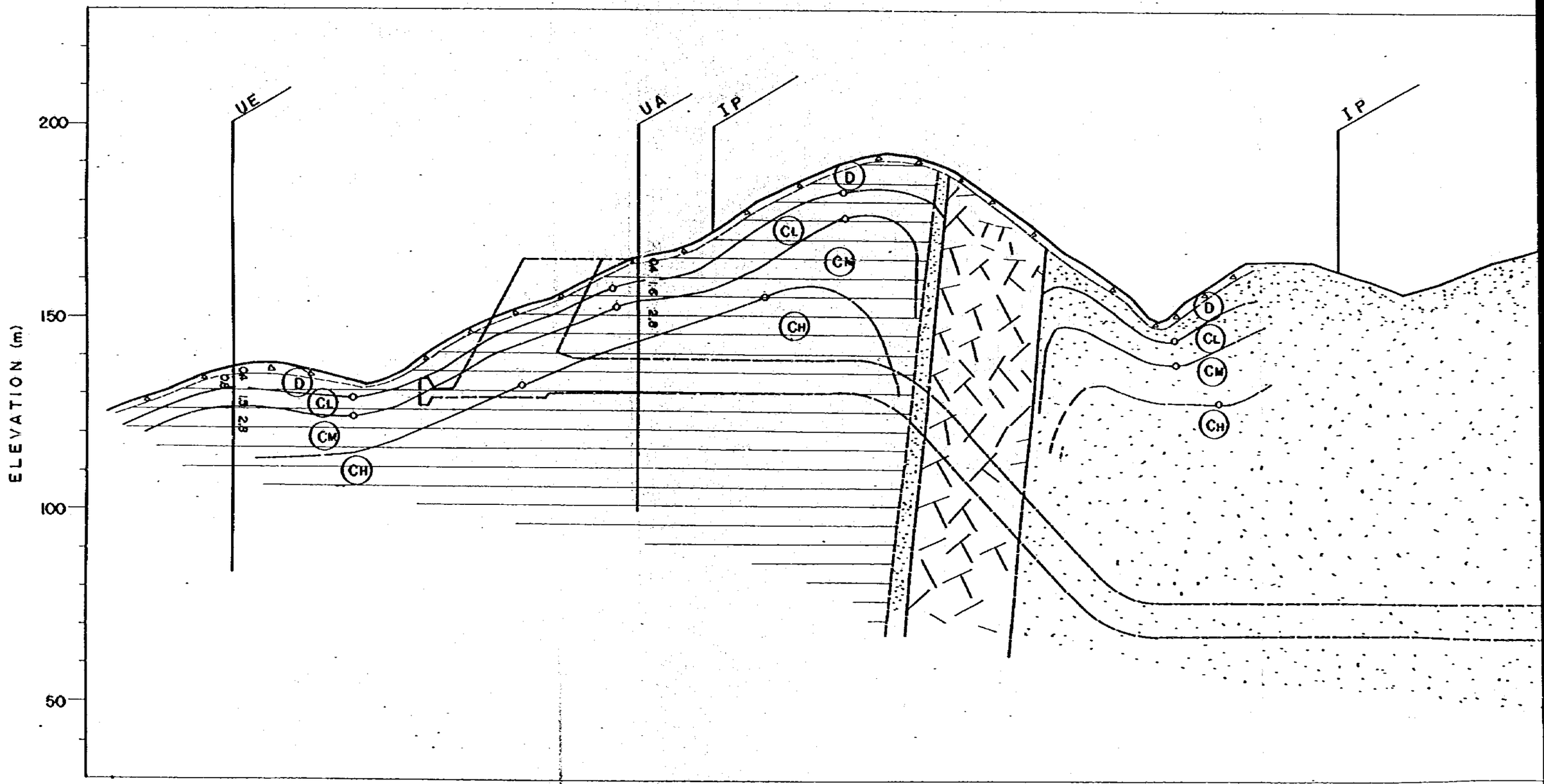


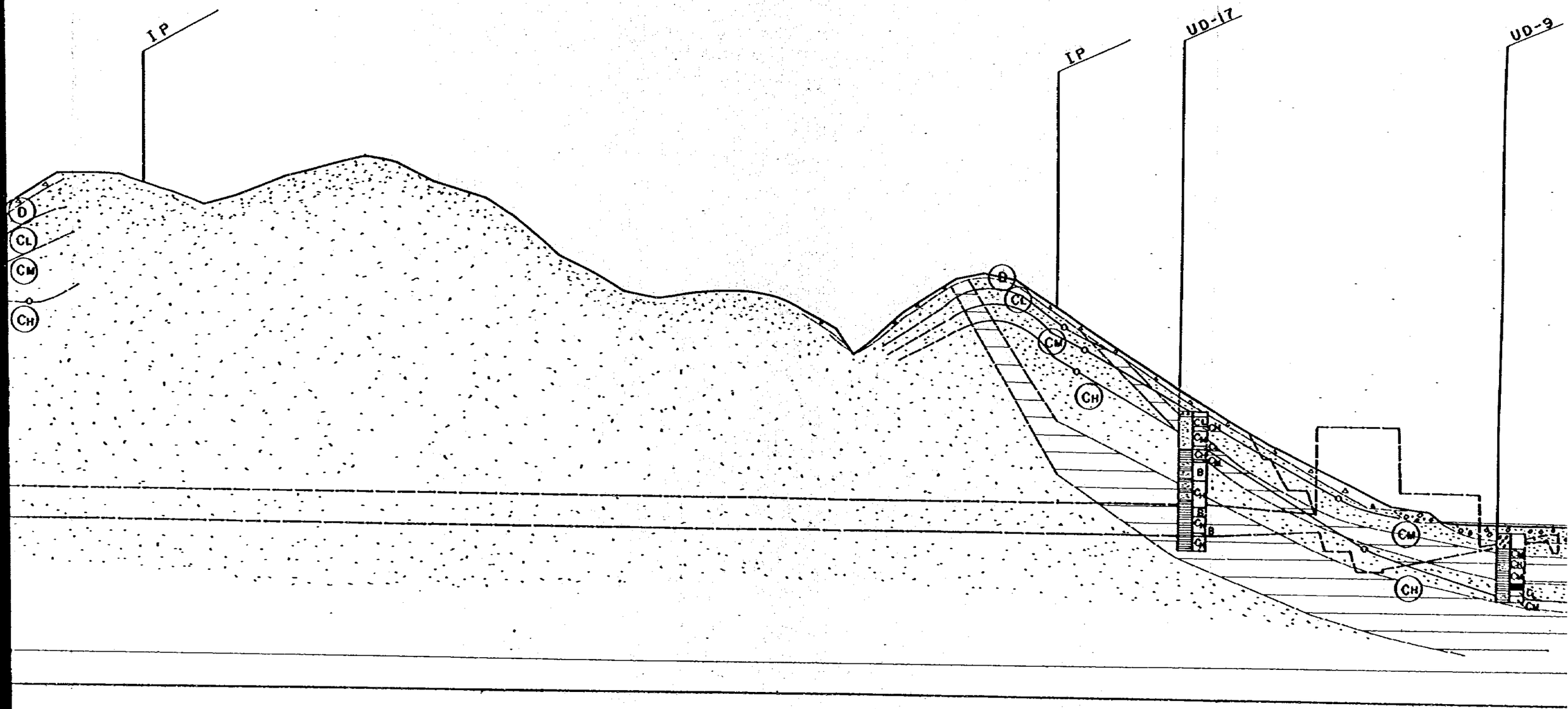
Fig. 8.4 GEOLOGICAL PROFILE OF C-C SECTIO

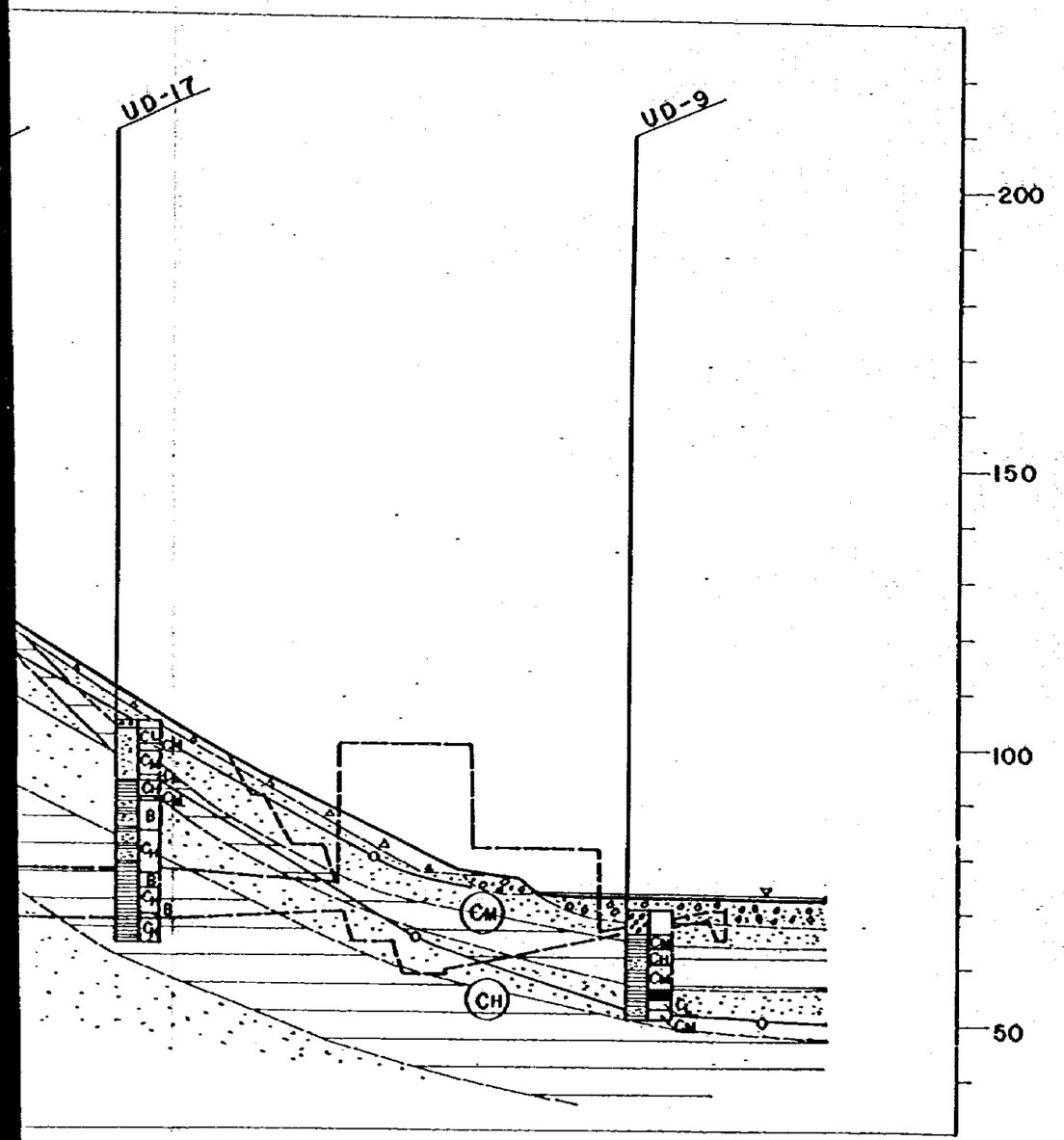
Scale 1 : 1,000



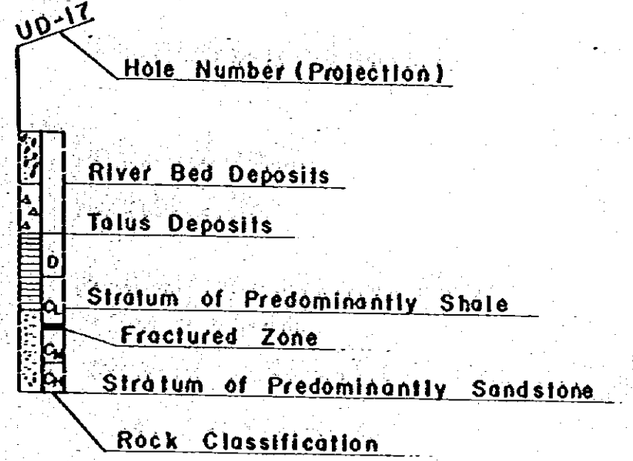
FILE OF C-C SECTION (PENSTOCK AND POWER STATION)

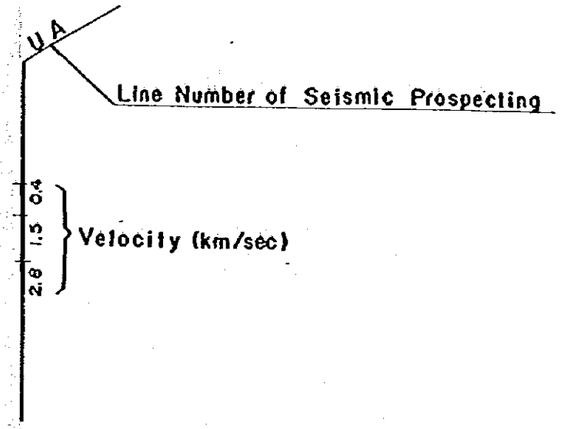
Scale 1:1,000





LEGEND





River Bed Deposits

Talus Deposits

Terrace Deposits

Stratum of Predominantly Shale

Stratum of Predominantly Sandstone

Fractured Zone

Geological Boundary Line

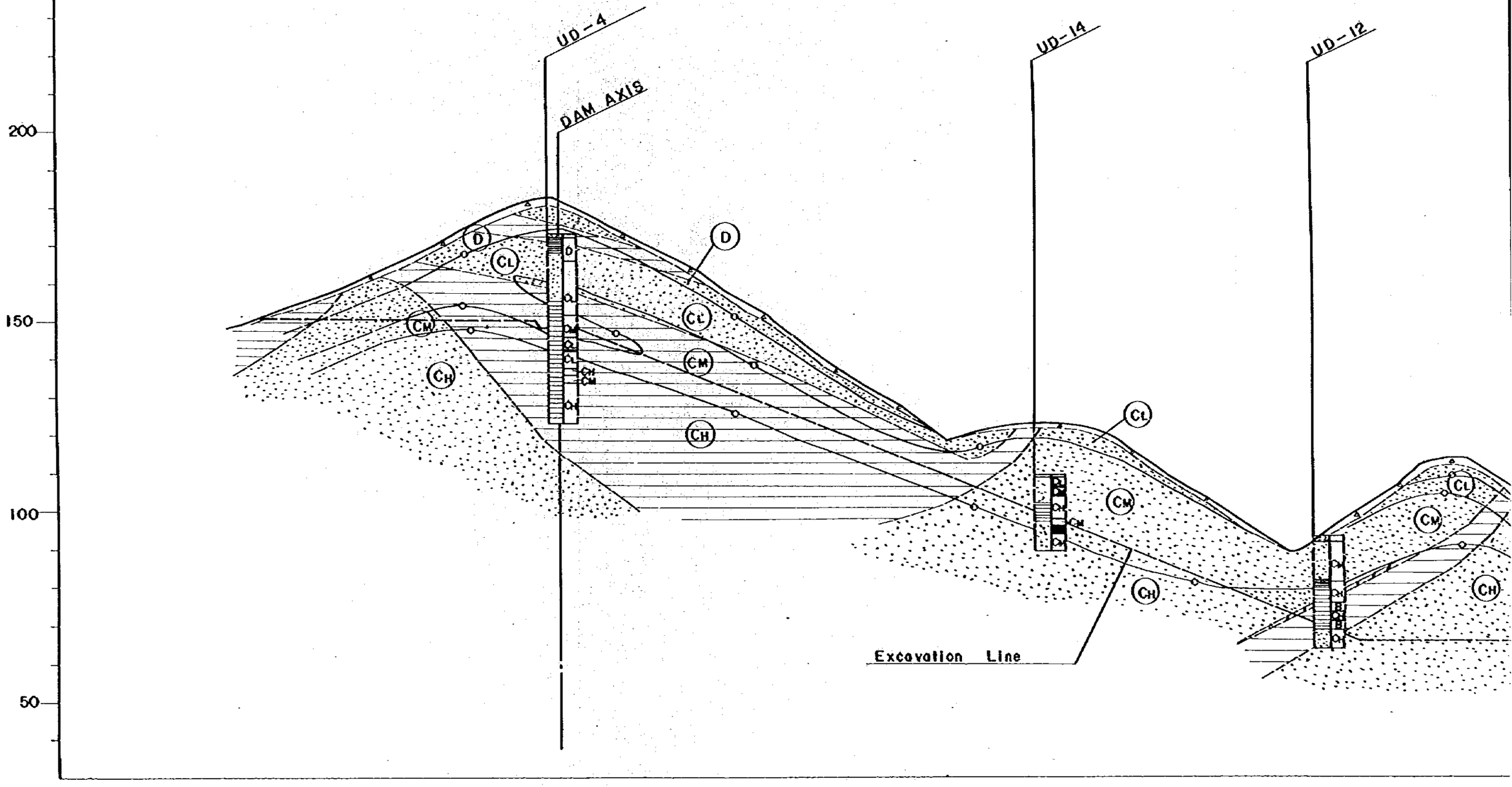
Boundary Line of Rock Classification

D
CL
CM
CH

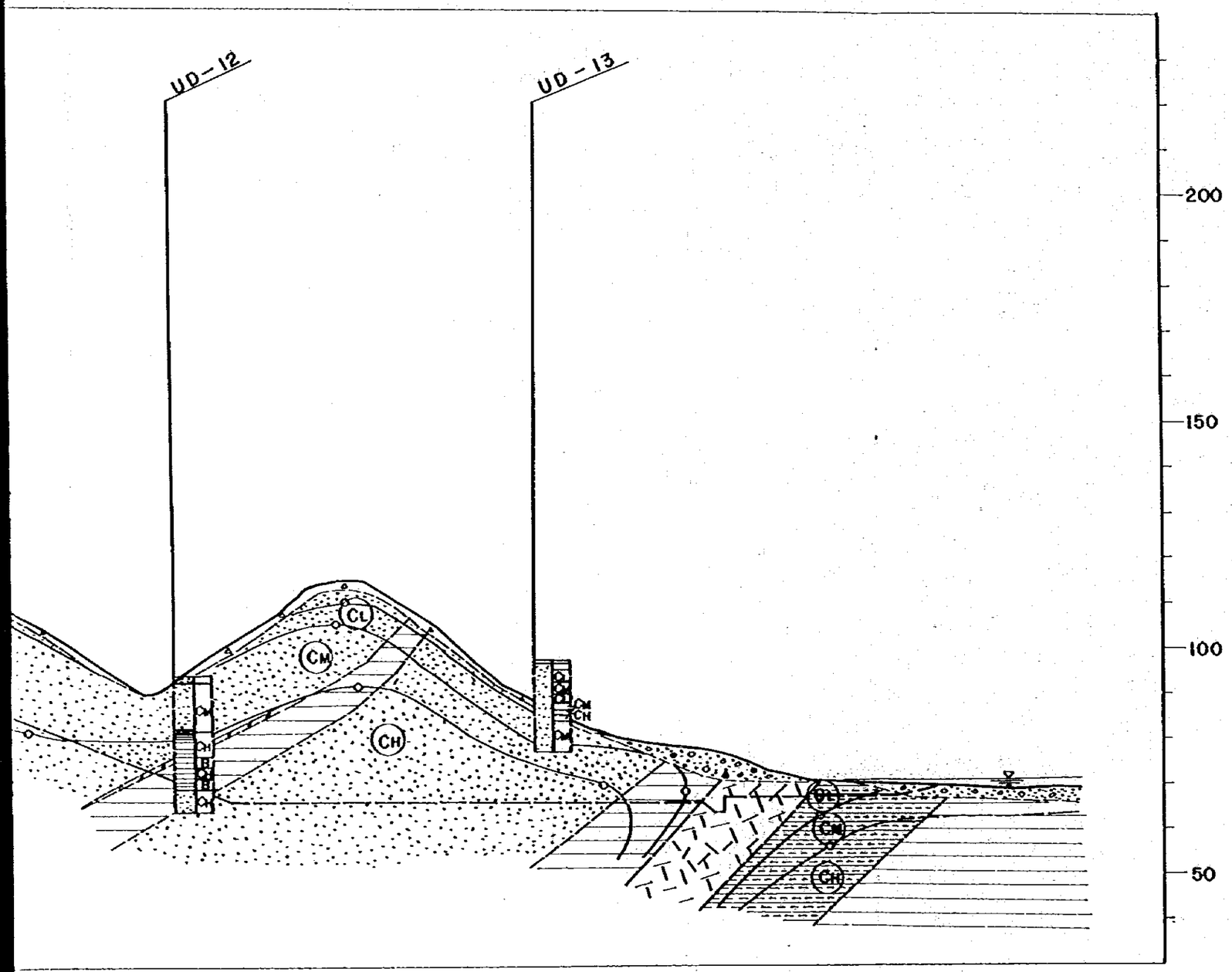
Rock Classification

Fig. 8.5 GEOLOGICAL PROFILE OF B - B SECTION (SPILLWAY

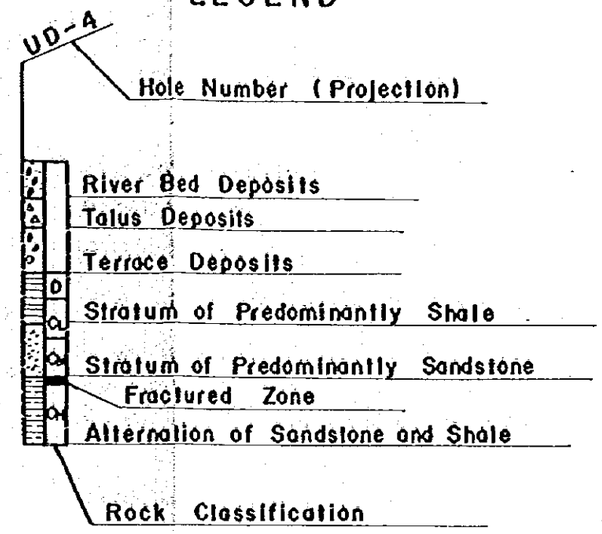
Scale 1:1,000

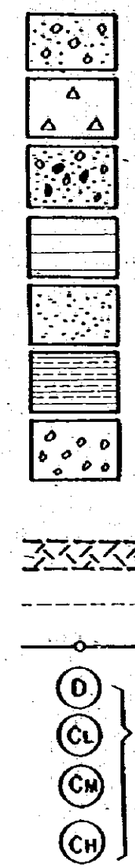


SECTION (SPILLWAY)



LEGEND





River Bed Deposits

Talus Deposits

Terrace Deposits

Stratum of Predominantly Shale

Stratum of Predominantly Sandstone

Alternation of Sandstone and Shale

Conglomerate

Fractured Zone

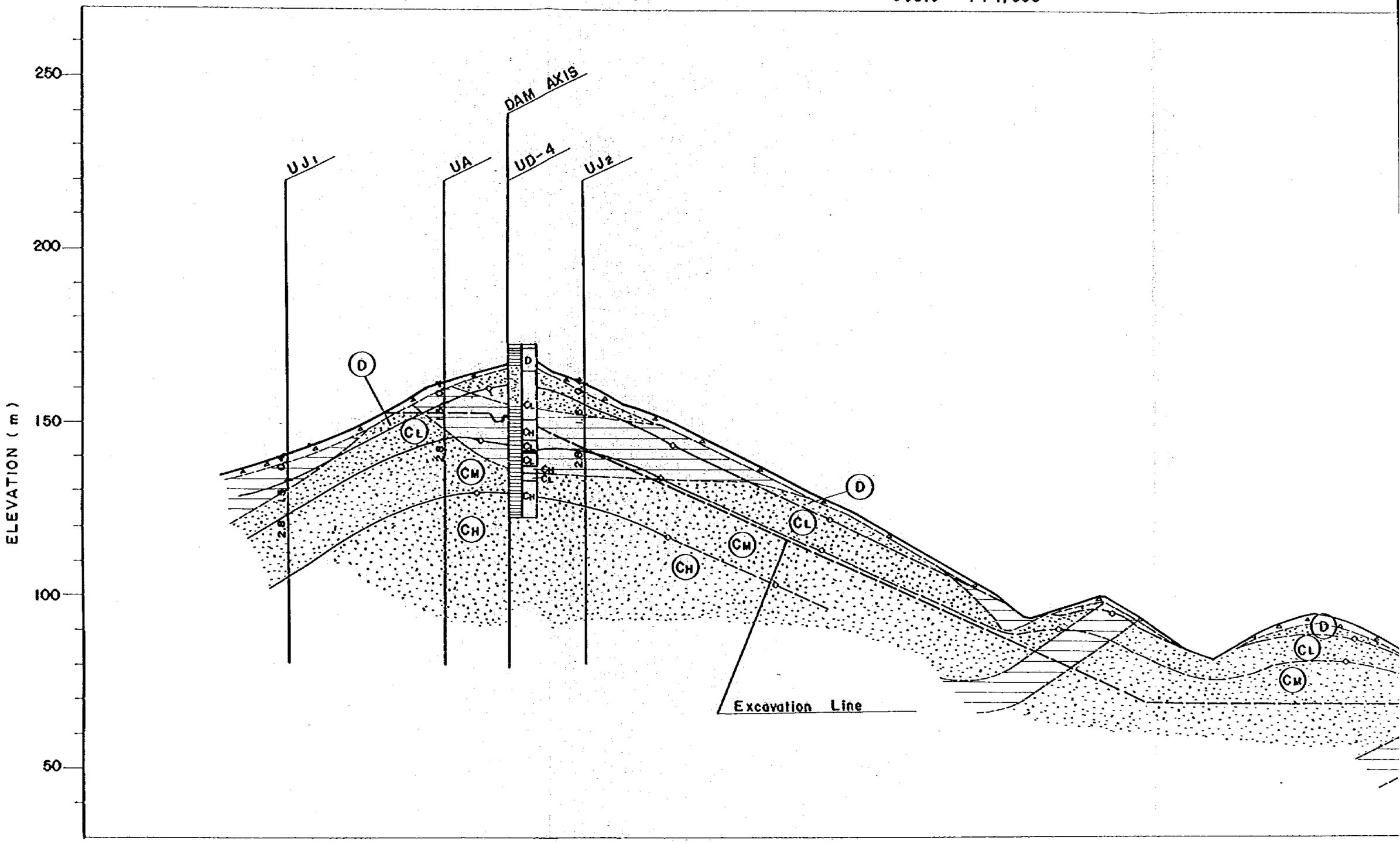
Geological Boundary Line

Boundary Line of Rock Classification

D, CL, CM, CH — Rock Classification

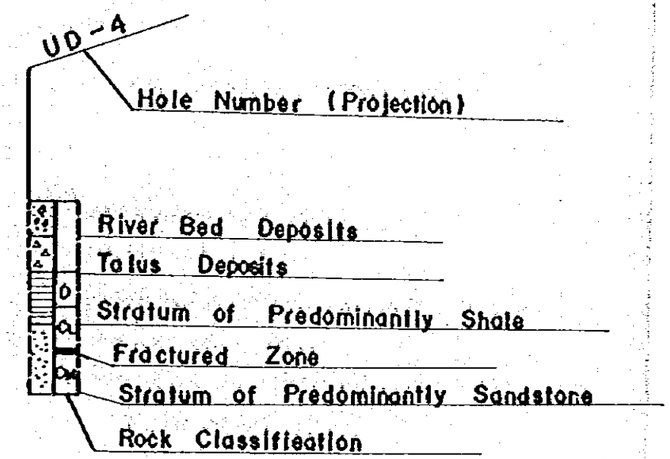
Fig. 8.6 GEOLOGICAL PROFILE OF G - G SECTION (ALTERNATIVE SPILLWAY)

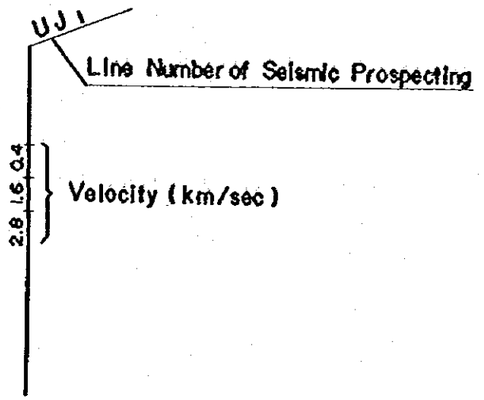
Scale 1 : 1,000

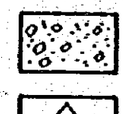


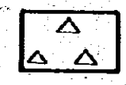
NATIVE SPILLWAY)

LEGEND






River Bed Deposits

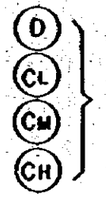

Talus Deposits


Stratum of Predominantly Shale


Stratum of Predominantly Sandstone

Geological Boundary Line

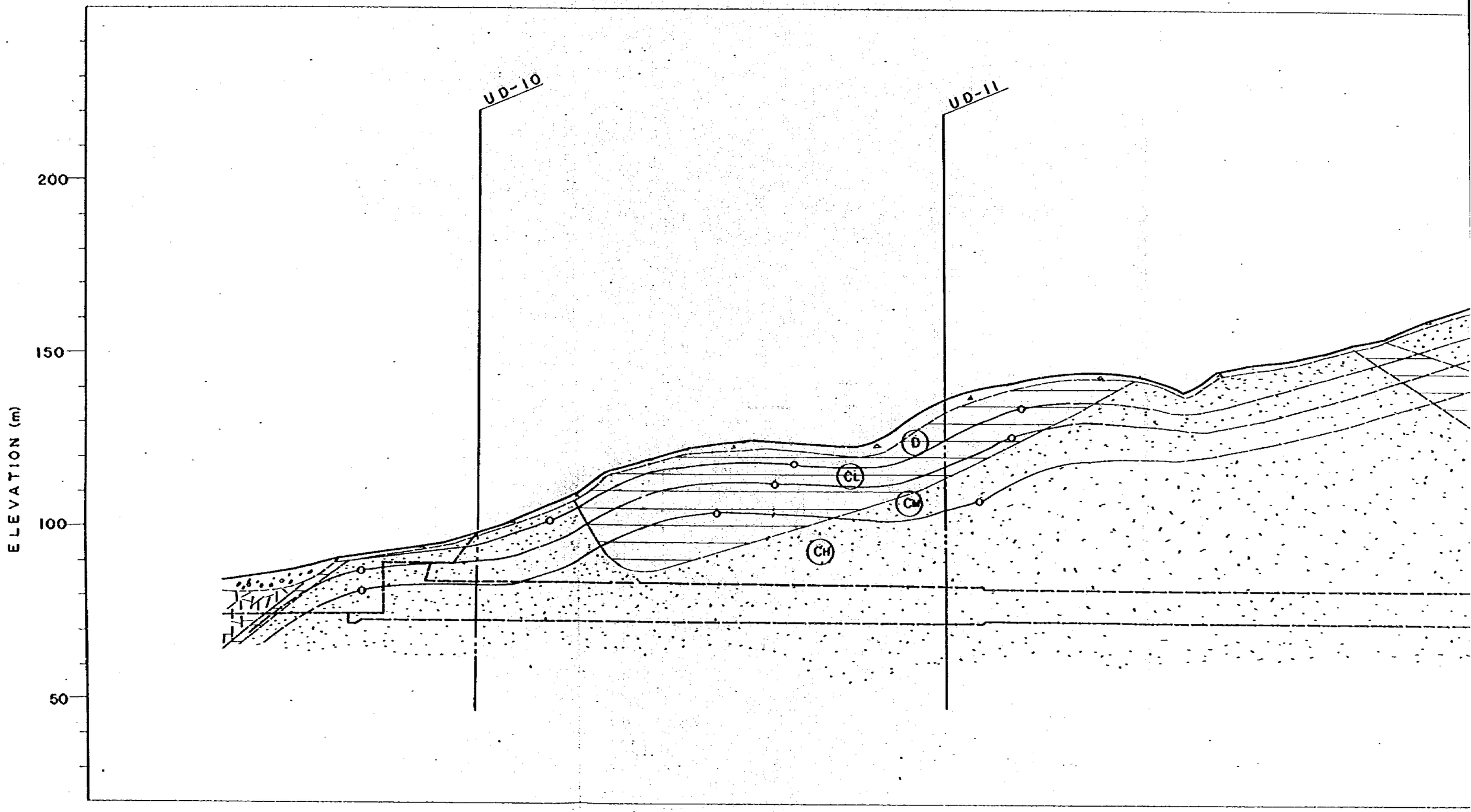
Boundary Line of Rock Classification



Rock Classification

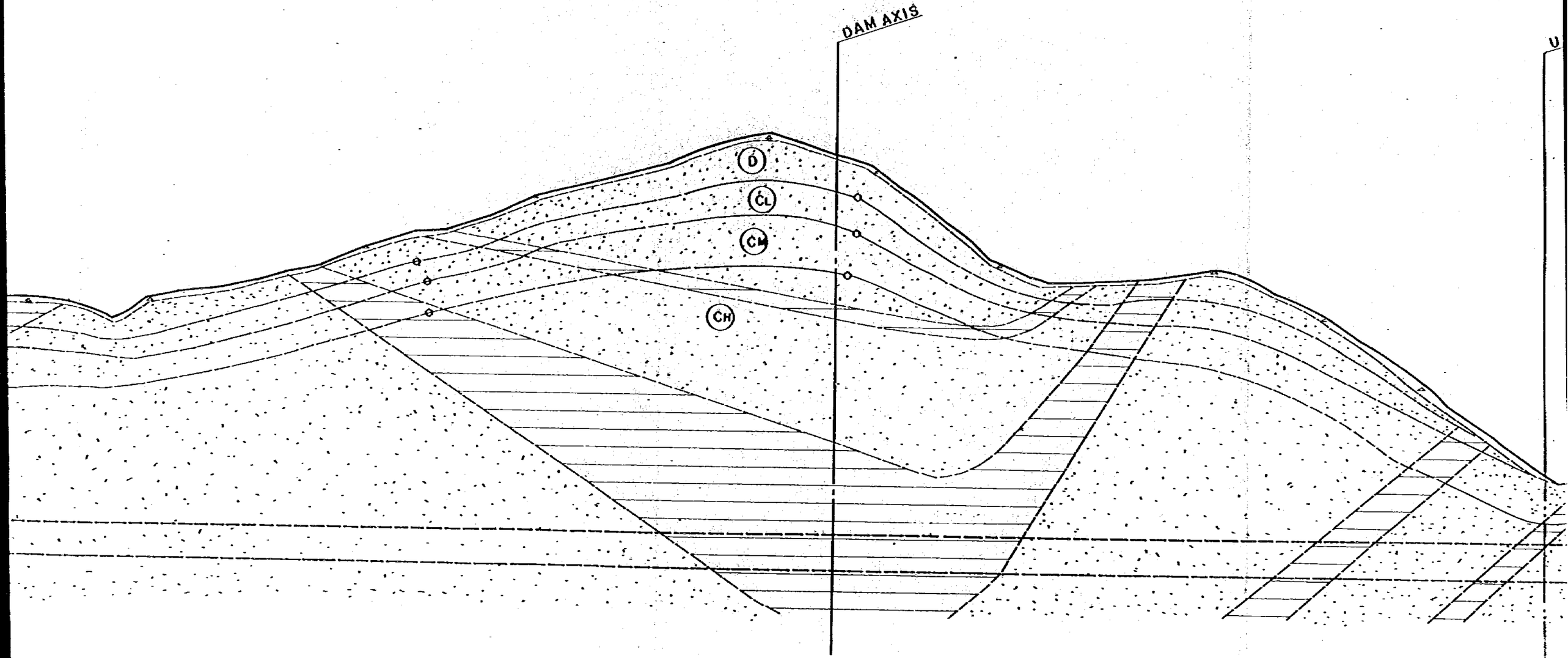
Fig. 8.7 GEOLOGICAL PROF

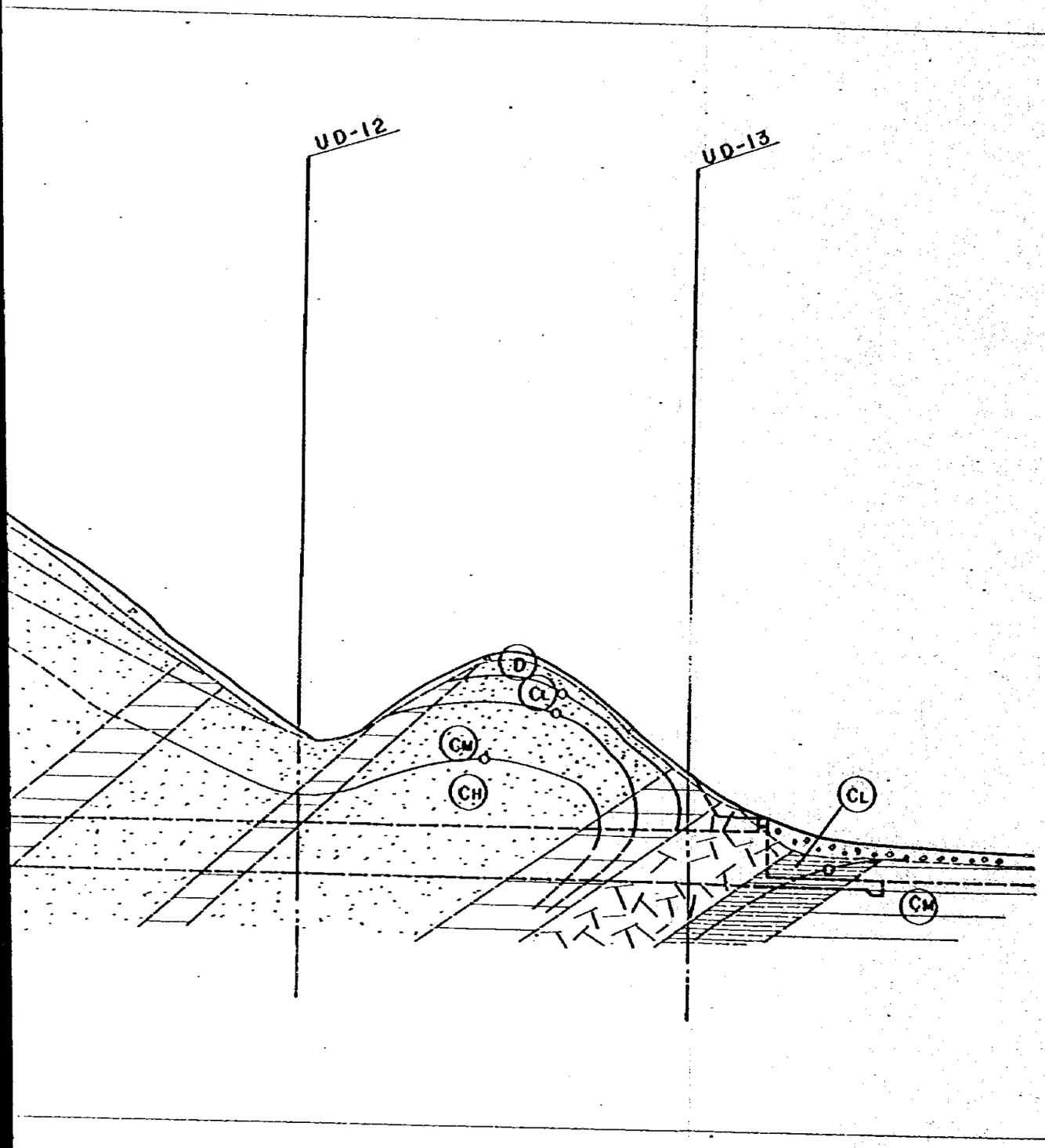
Scale



8.7 GEOLOGICAL PROFILE OF D-D SECTION (DIVERSION TUNNEL)

Scale 1:1,000





LEGEND

UD-12 Hole Number (Projection)

Talus Deposits

Terrace Deposits

Stratum of Predominantly Shale

Stratum of Predominantly Sandstone

Alterenation of Sandstone and Shale

Fractured Zone

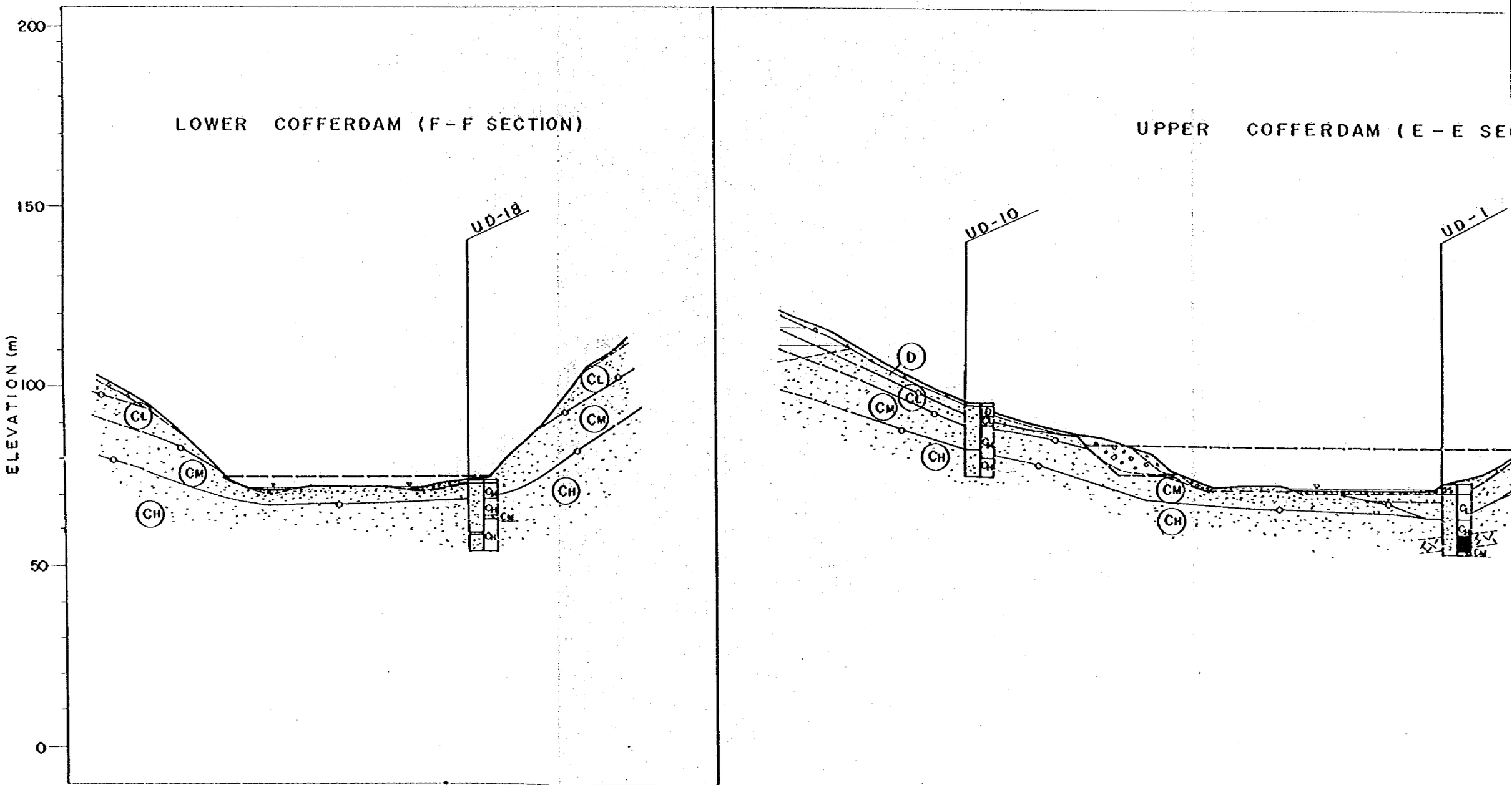
Geological Boundary Line

Boundary Line of Rock Classification

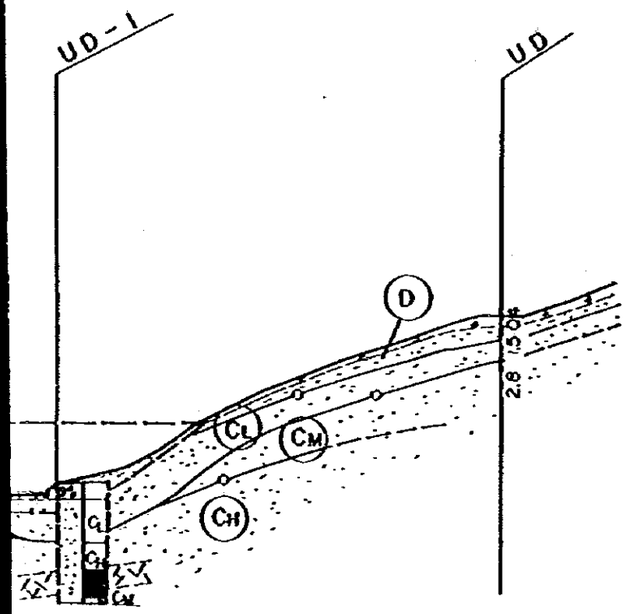
D, CL, CM, CH Rock Classification

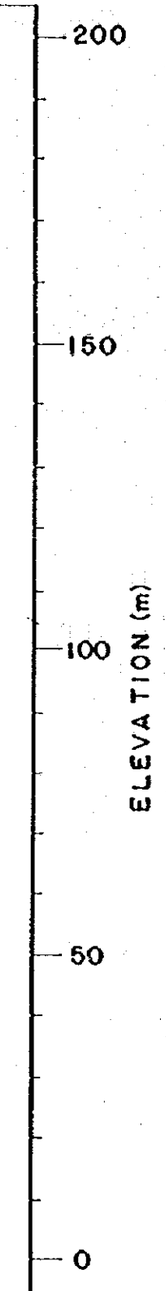
Fig. 8.8 GEOLOGICAL PROFILE OF COFFERDAM

Scale 1 : 1000

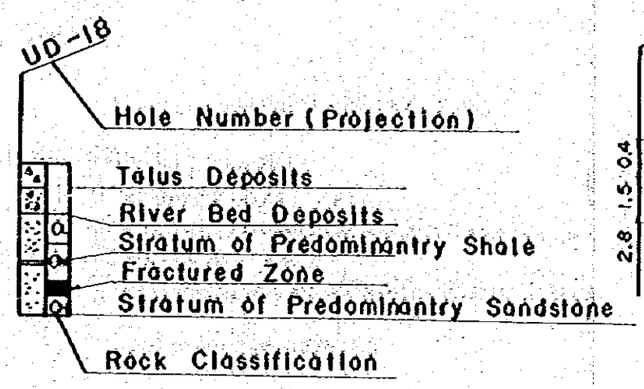


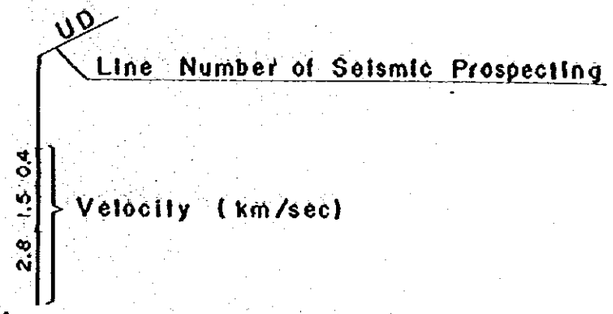
E - E SECTION)





LEGEND

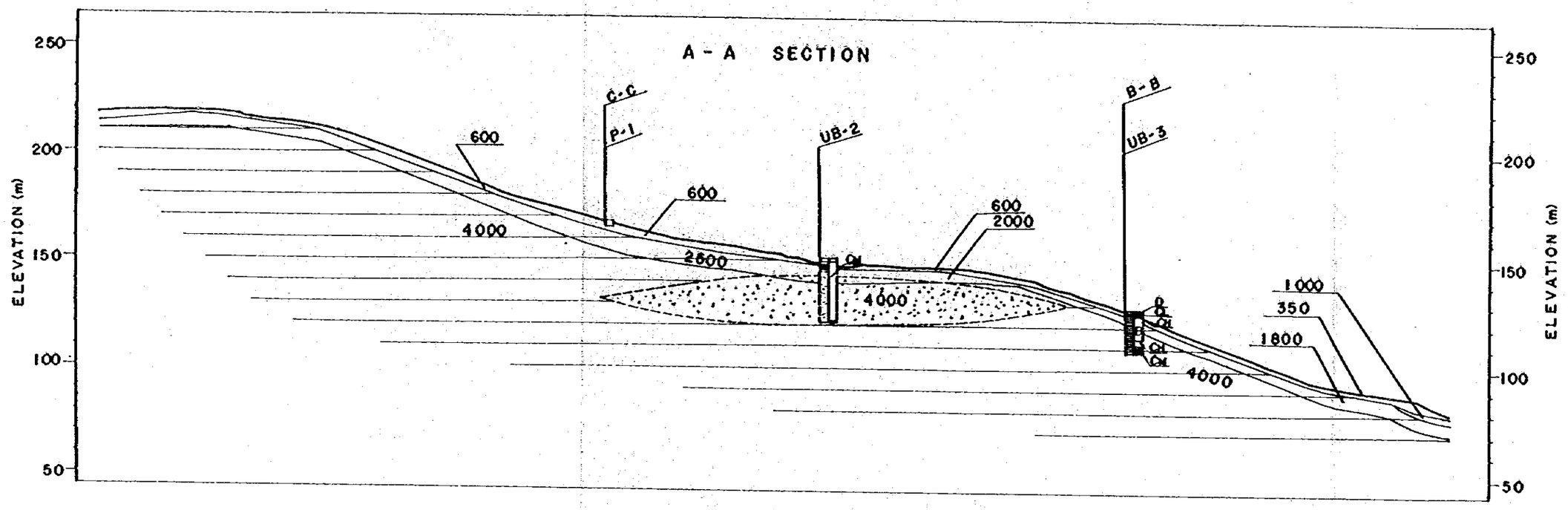




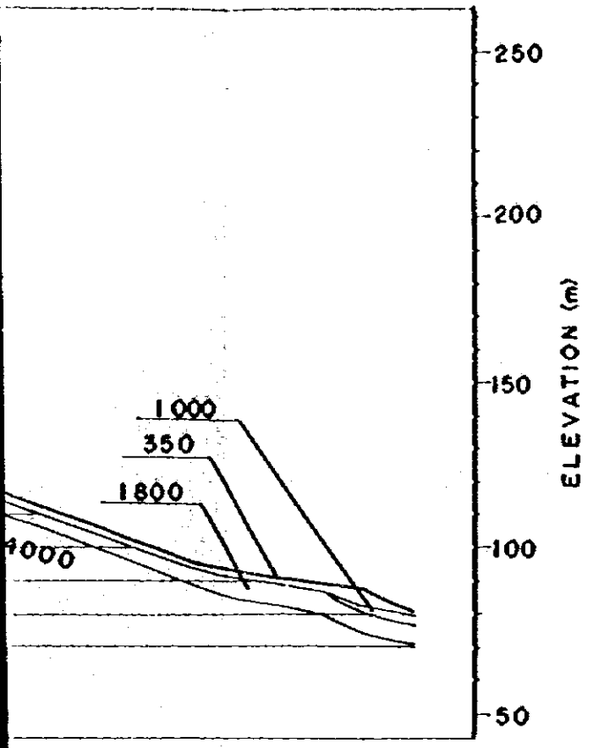
- Talus Deposits
- River Bed Deposits
- Terrace Deposits
- Stratum of Predominantly Shale
- Stratum of Predominantly Sandstone
- Fractured Zone
- Geological Boundary Line
- Boundary Line of Rock Classification
- Rock Classification (D, CL, CM, CH)

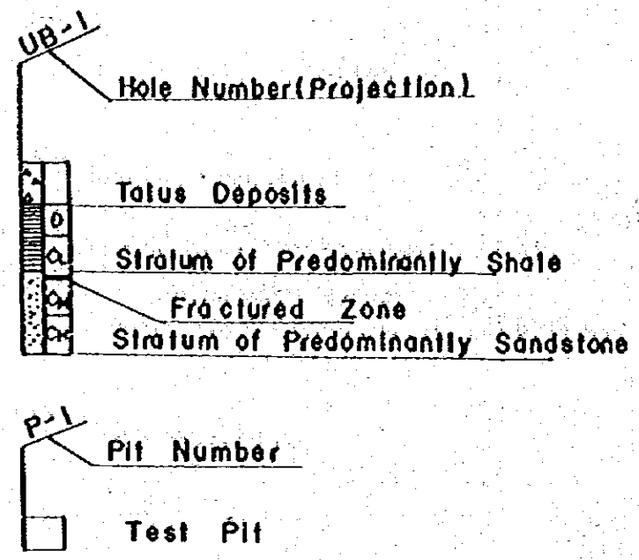
Fig. 8.9 GEOLOGICAL PROFILE OF UPPER TEKAI BORROW AREA (SITE A)

Scale 1 : 2000



EA)





Top Soil, Talus Deposits and Highly Weathered Rock (Lower Velocity Layer)

Stratum of Predominantly Shale

Stratum of Predominantly Sandstone

Geological Boundary Line

Boundary Line of Velocity

400
1500
2000
4500
} Velocity (m/sec)

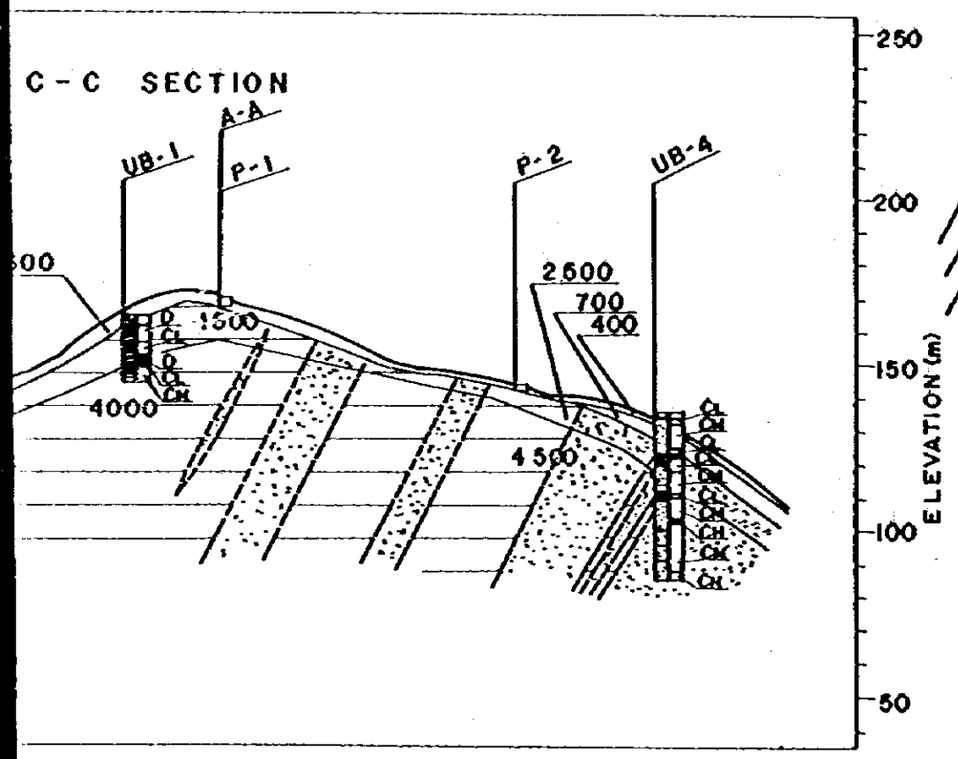
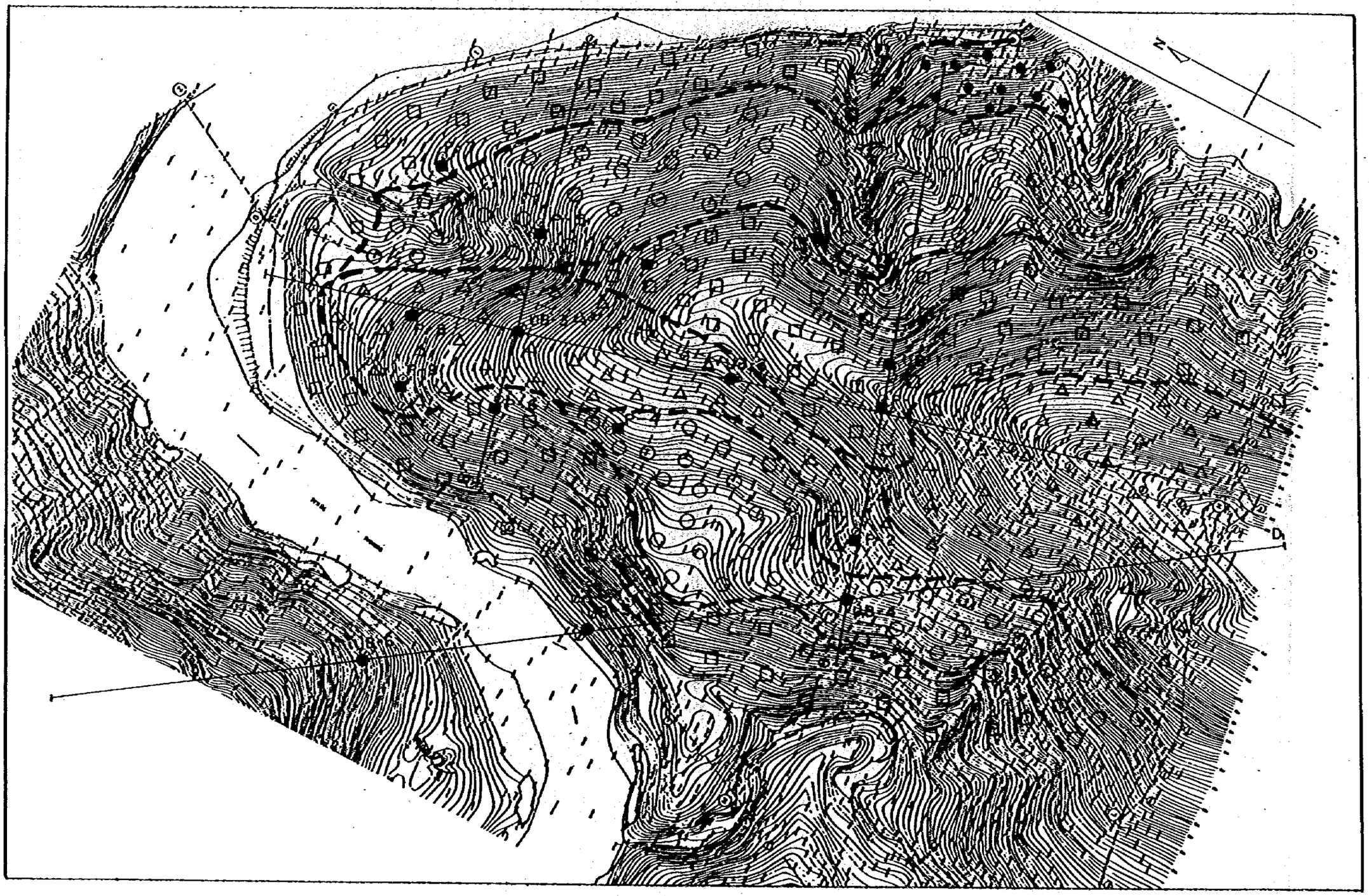


Fig. 8.10 Isopach Map of Weathered zone of Upper Tekai Borrow Area (site B)



8.10 Isopach Map of Weathered zone of Upper Tekai Borrow Area (site B)

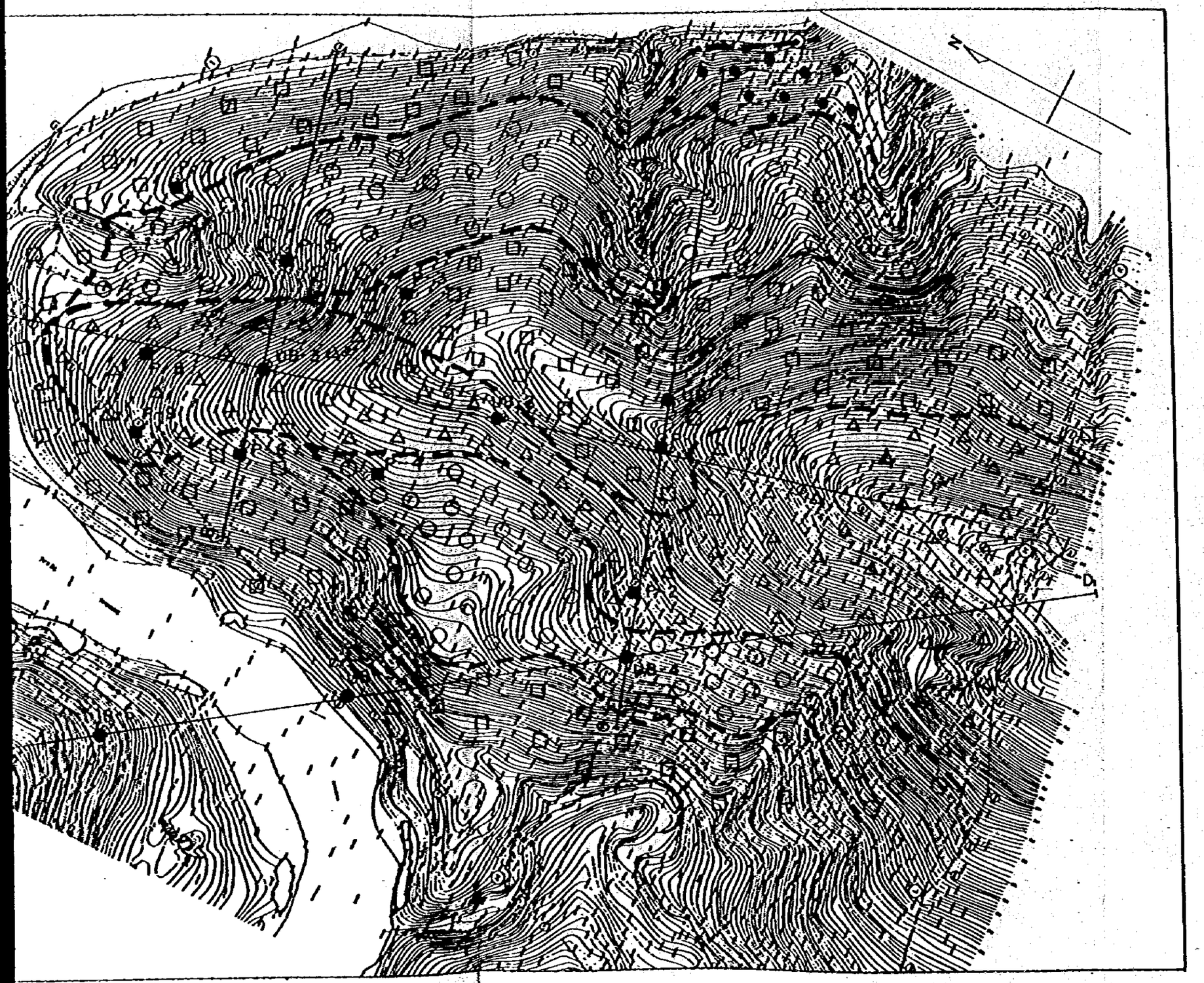
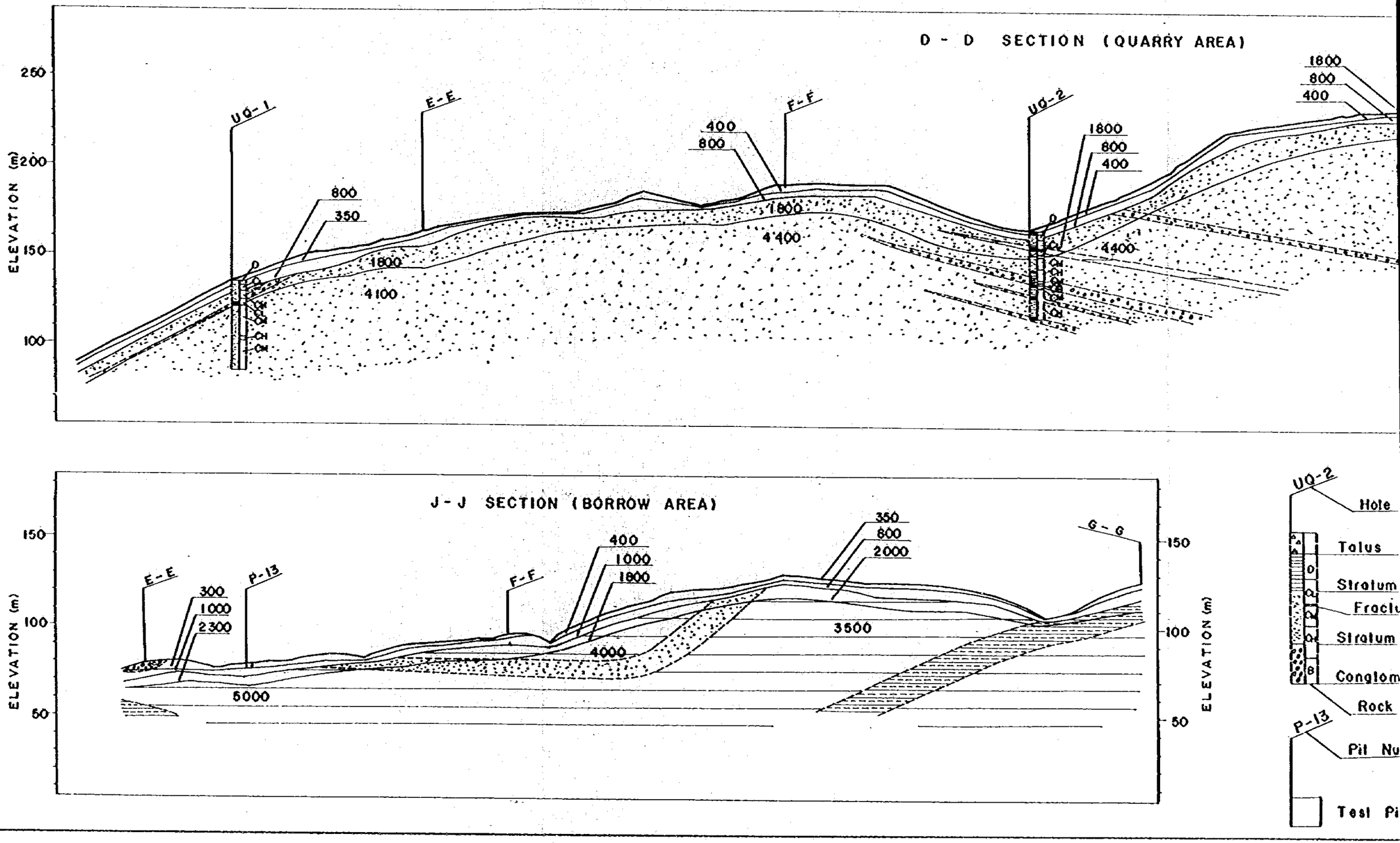


Fig. 8.11.1 GEOLOGICAL PROFILE OF UPPER TEKAI QUARRY AND BORROW ARE

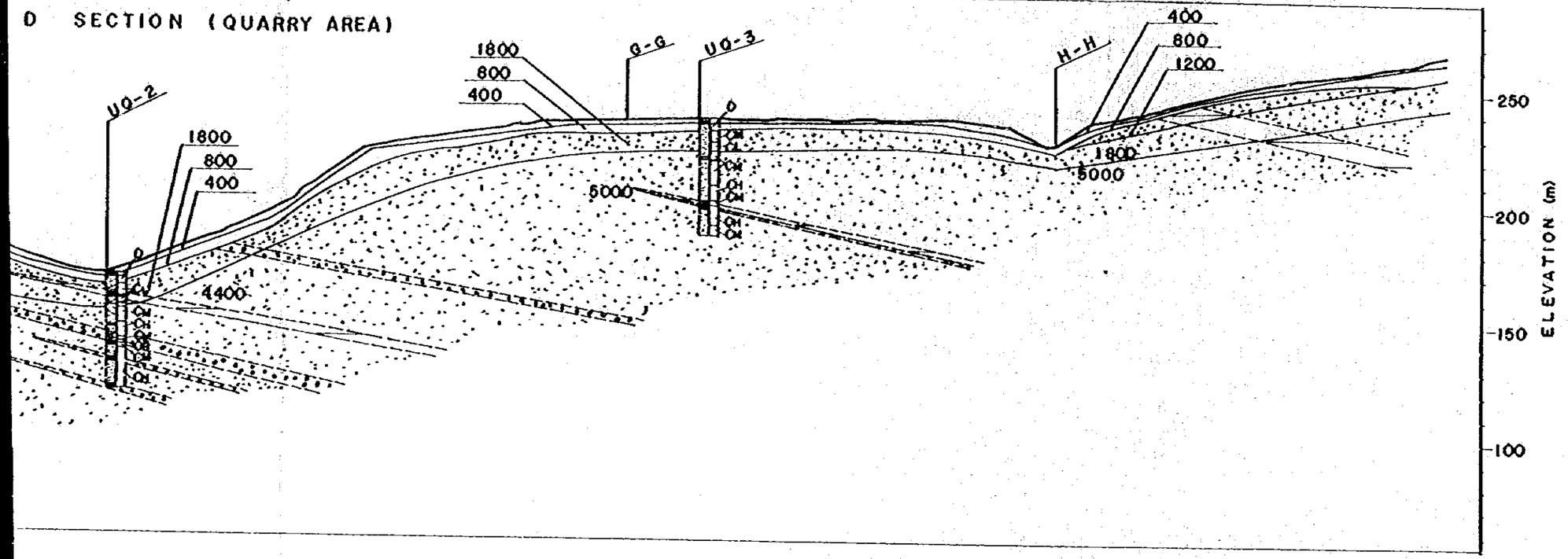
Scale 1: 2000

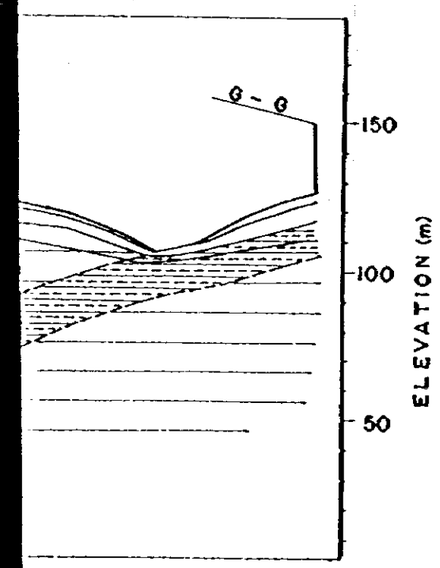


UPPER TEKAI QUARRY AND BORROW AREA (SITE B)

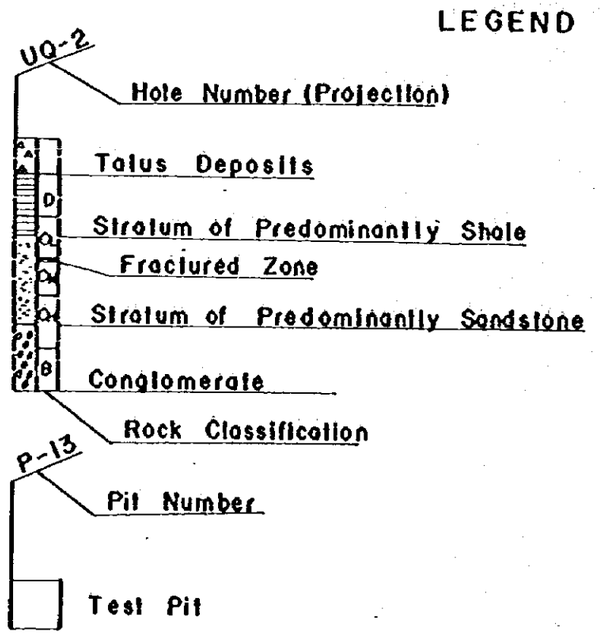
· 2000

D SECTION (QUARRY AREA)





LEGEND



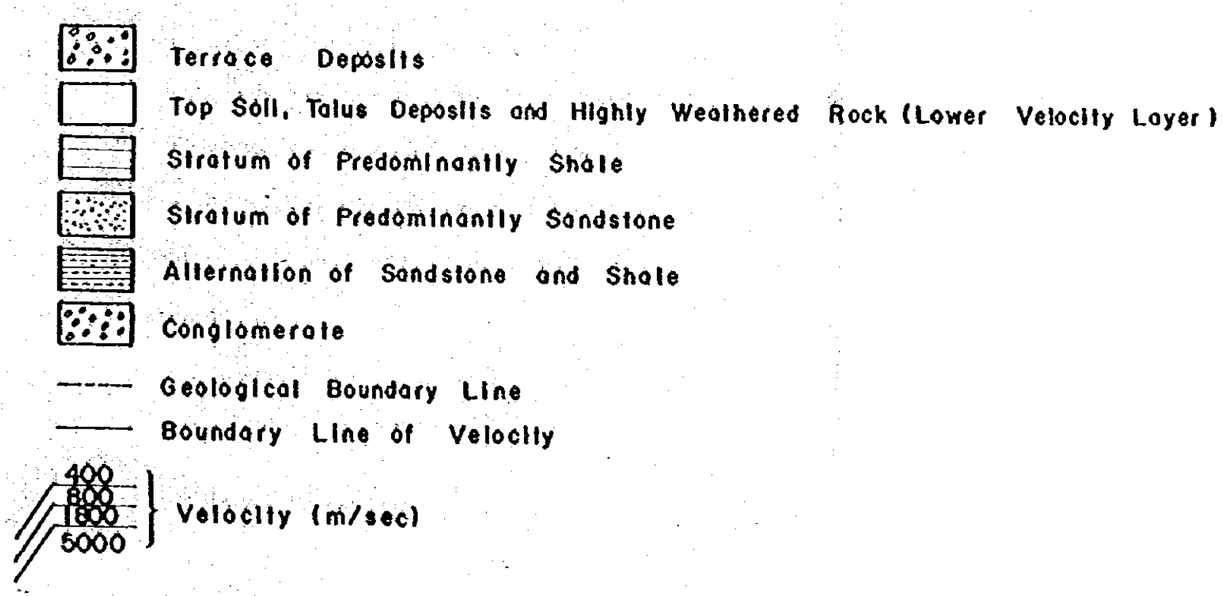
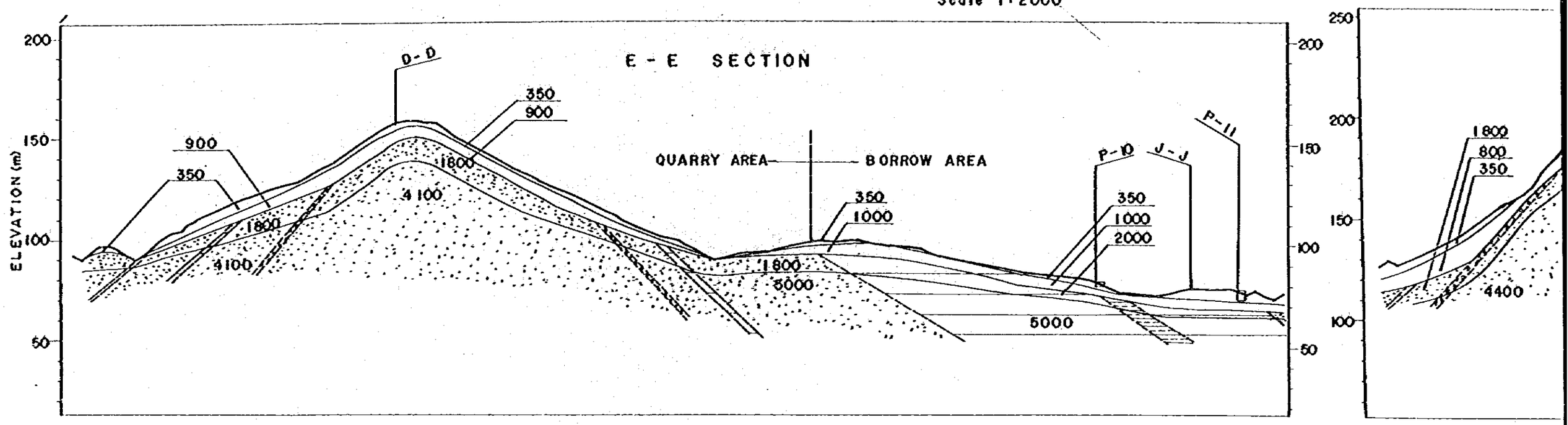
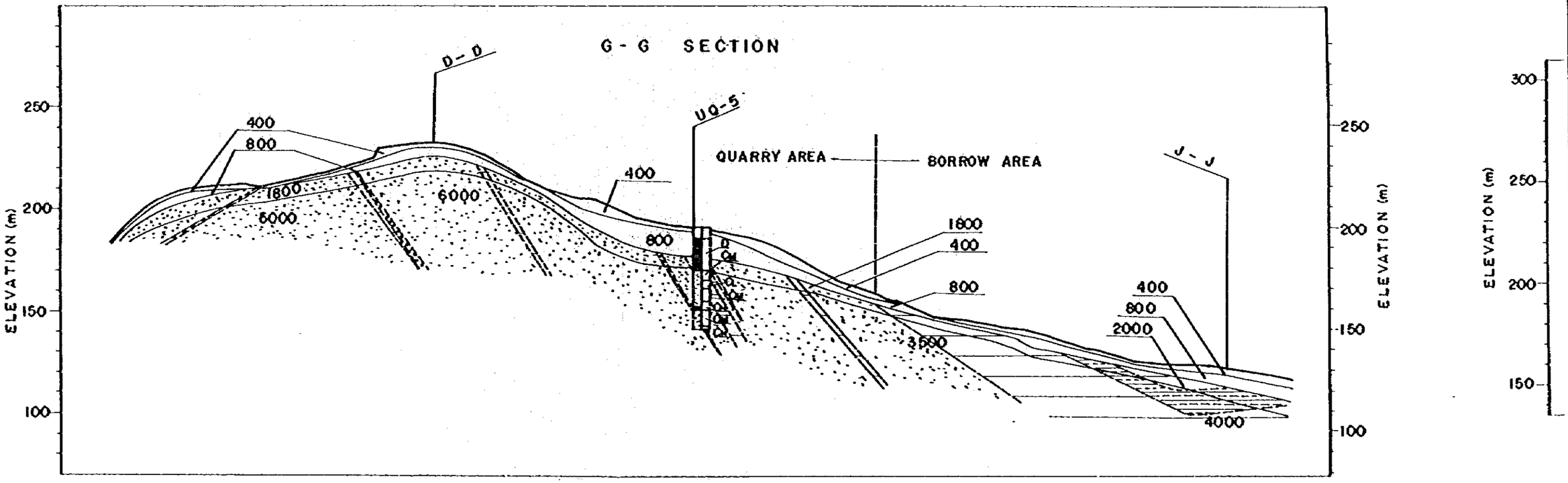


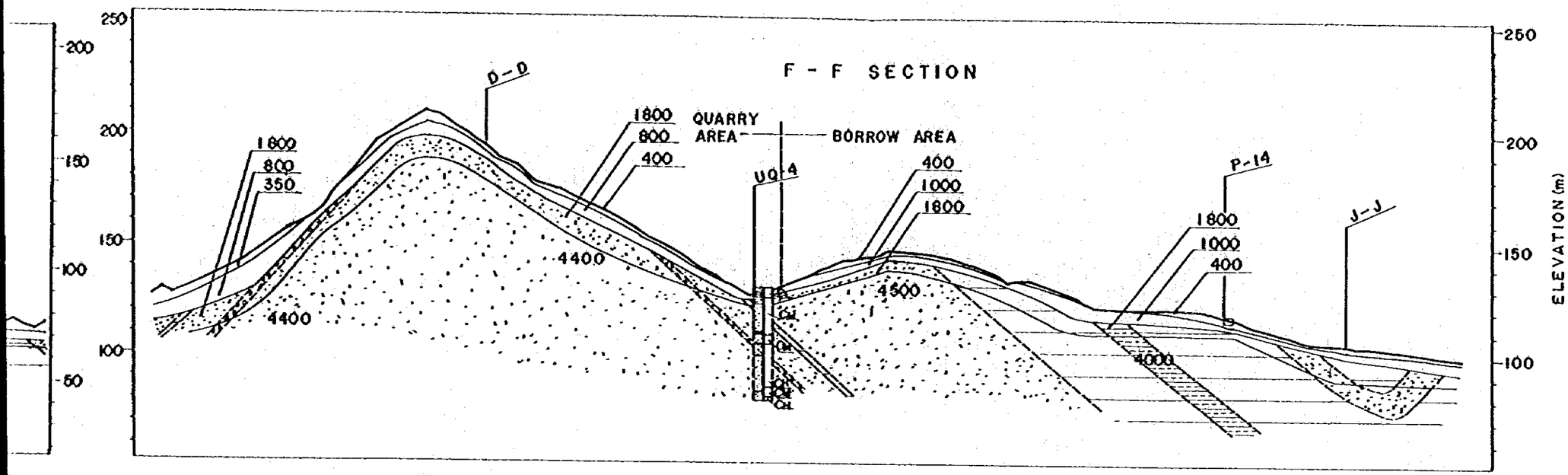
Fig.8.11.2 GEOLOGICAL PROFILE OF UPPER TEKAI QUARRY AND BORROW ARE

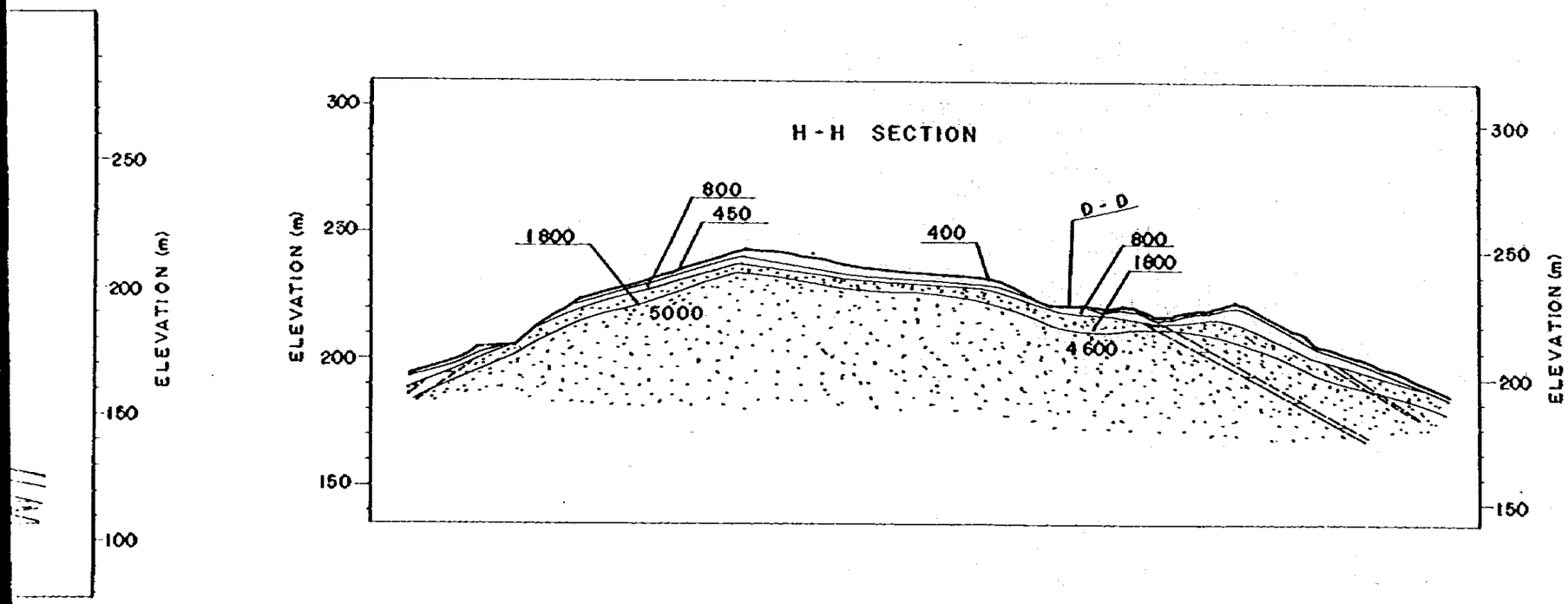
Scale 1:2000

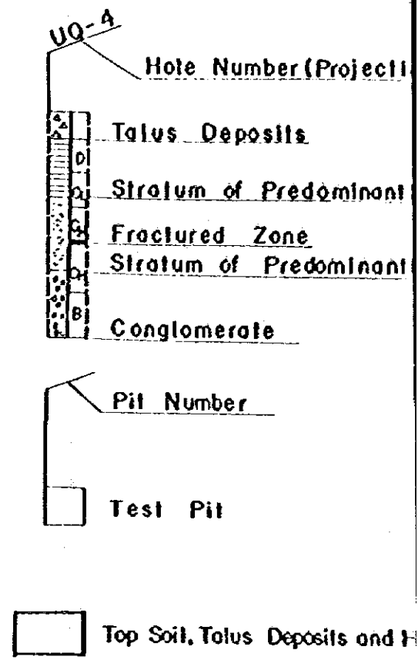


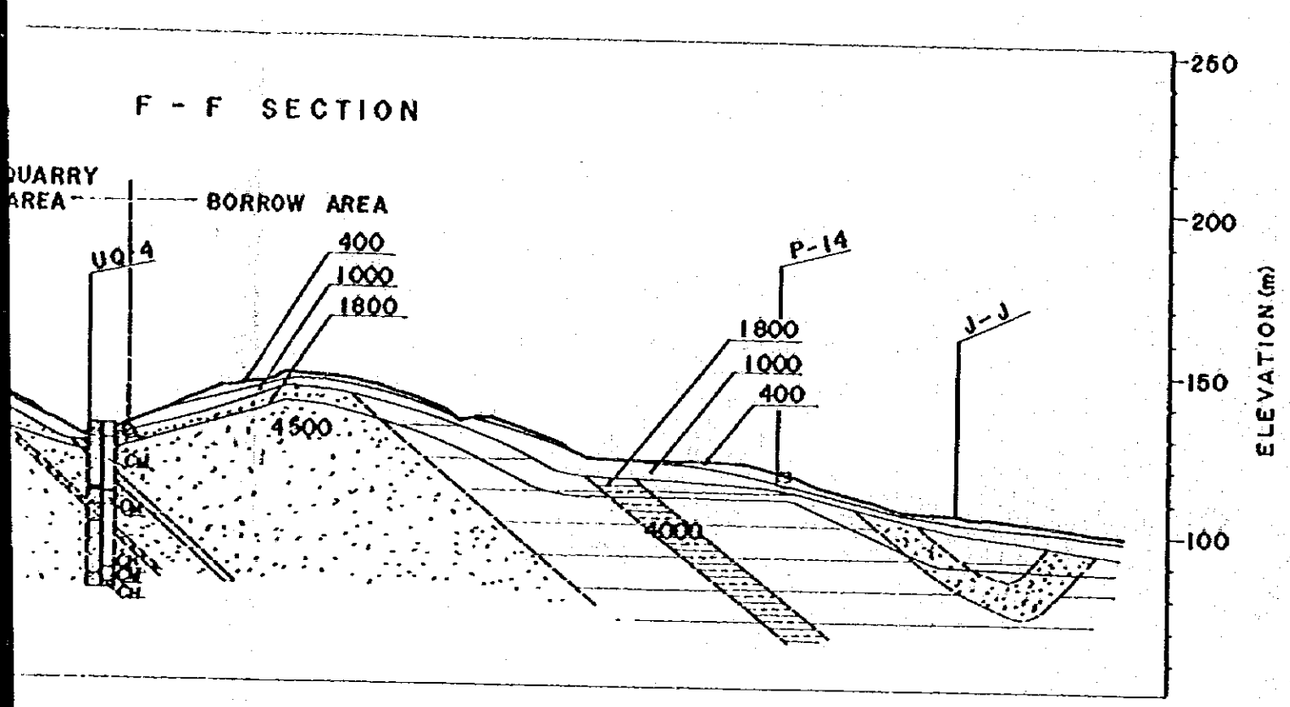


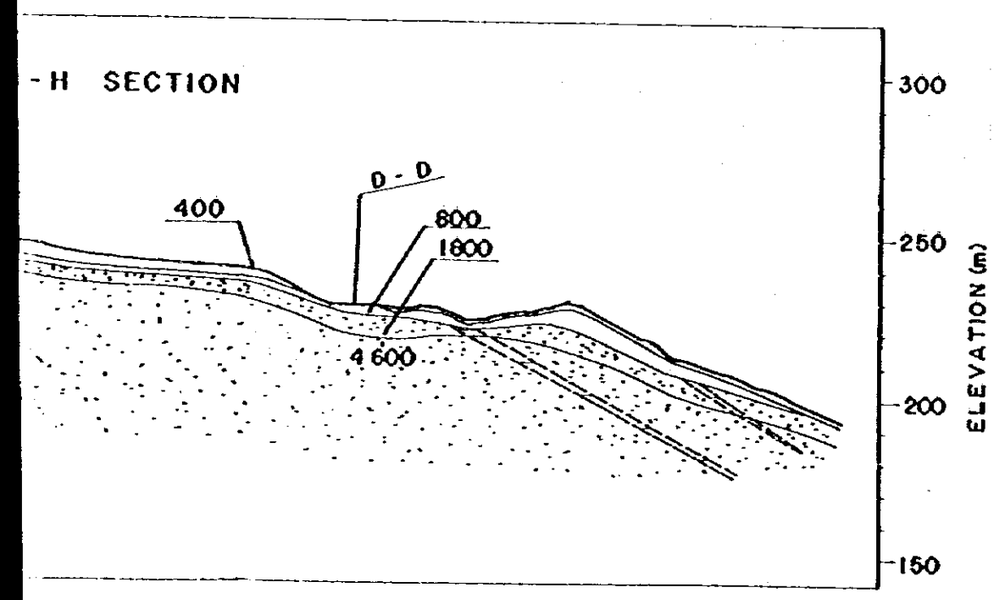
JARRY AND BORROW AREA (SITE B)








F - F SECTION
QUARRY AREA
BORROW AREA
UQ-4
400
1000
1800
4500
P-14
1800
1000
400
4000
J-J
250
200
150
100
ELEVATION (m)


-H SECTION
D - D
400
800
1800
4600
300
250
200
150
ELEVATION (m)

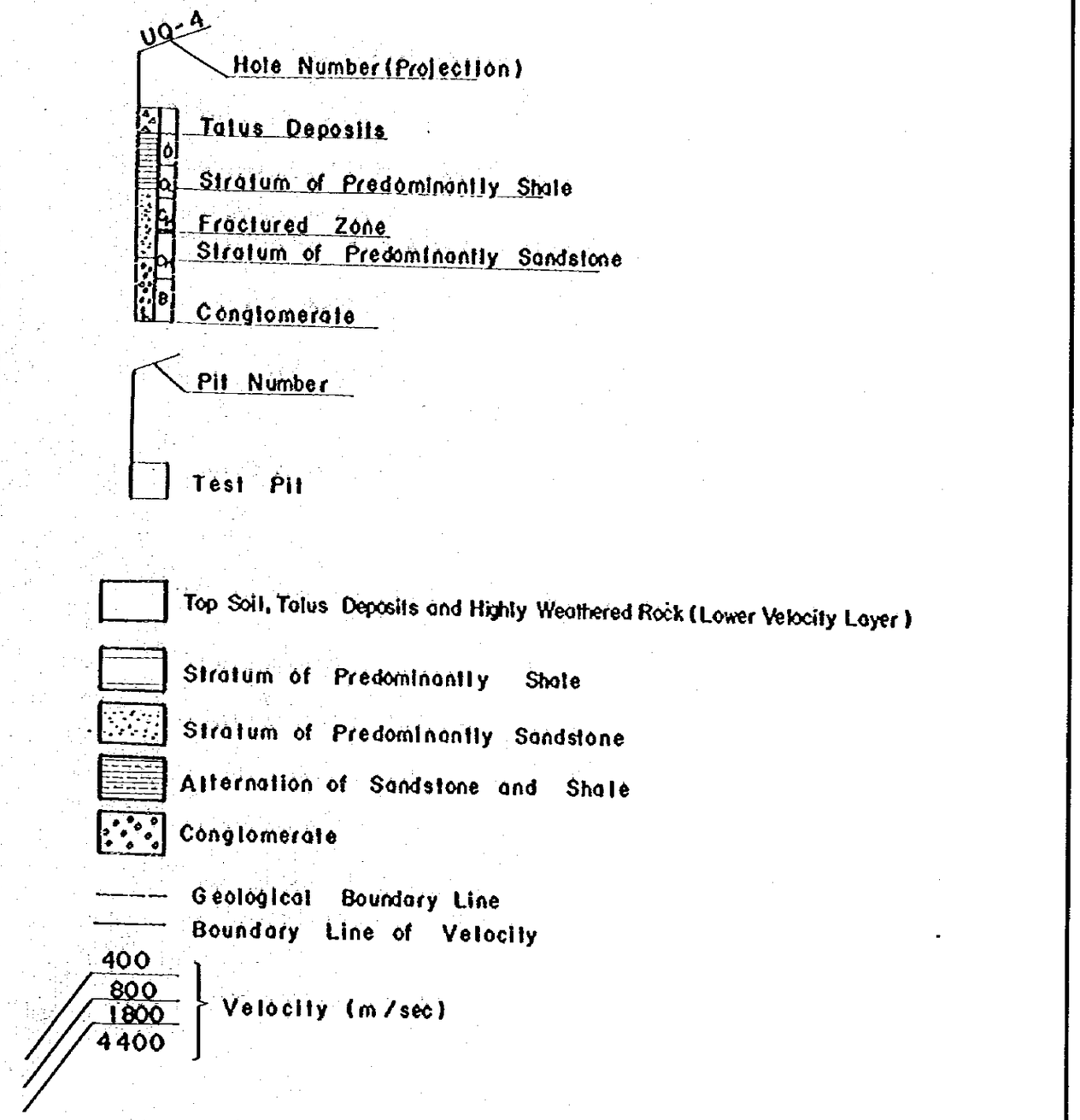
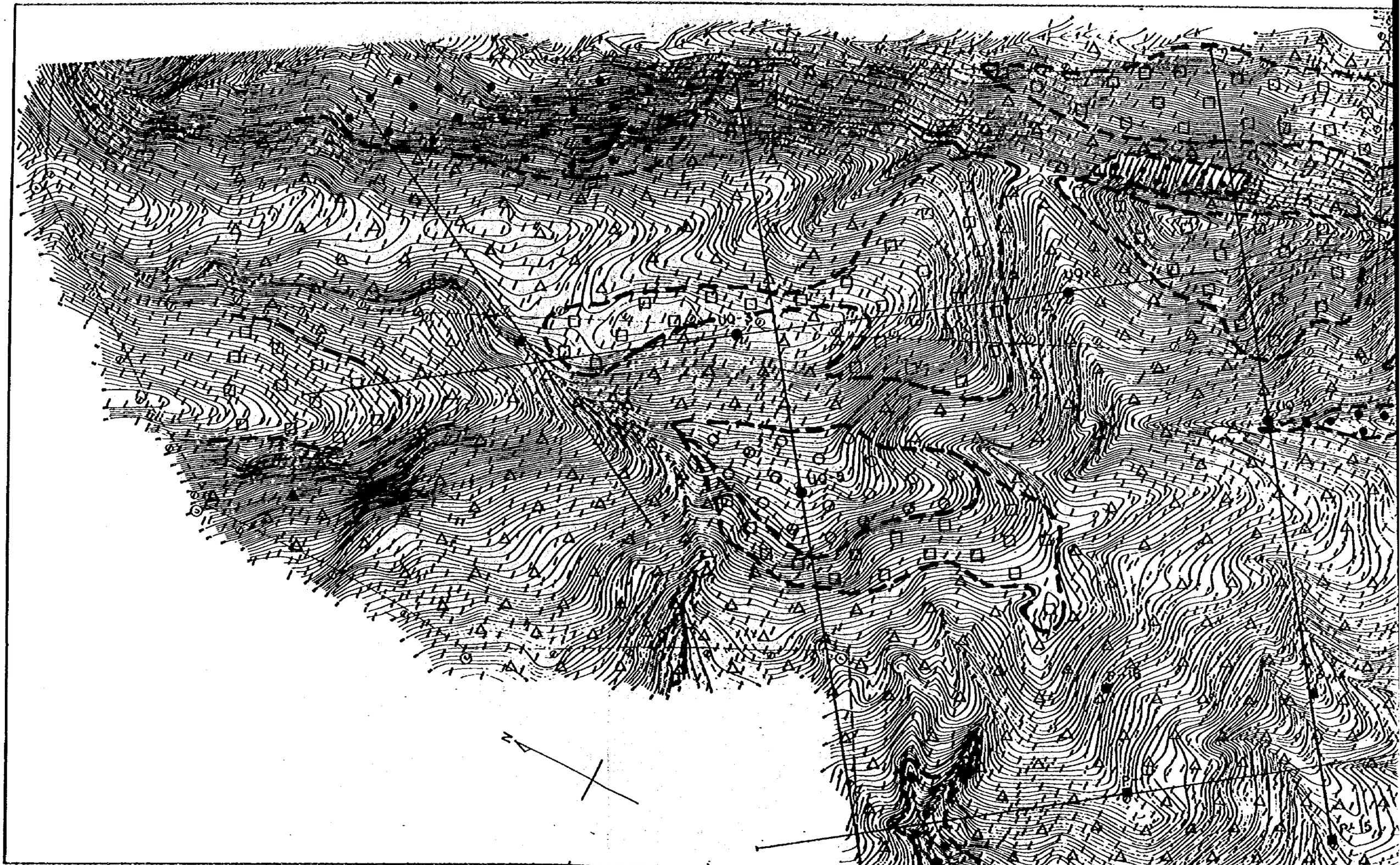
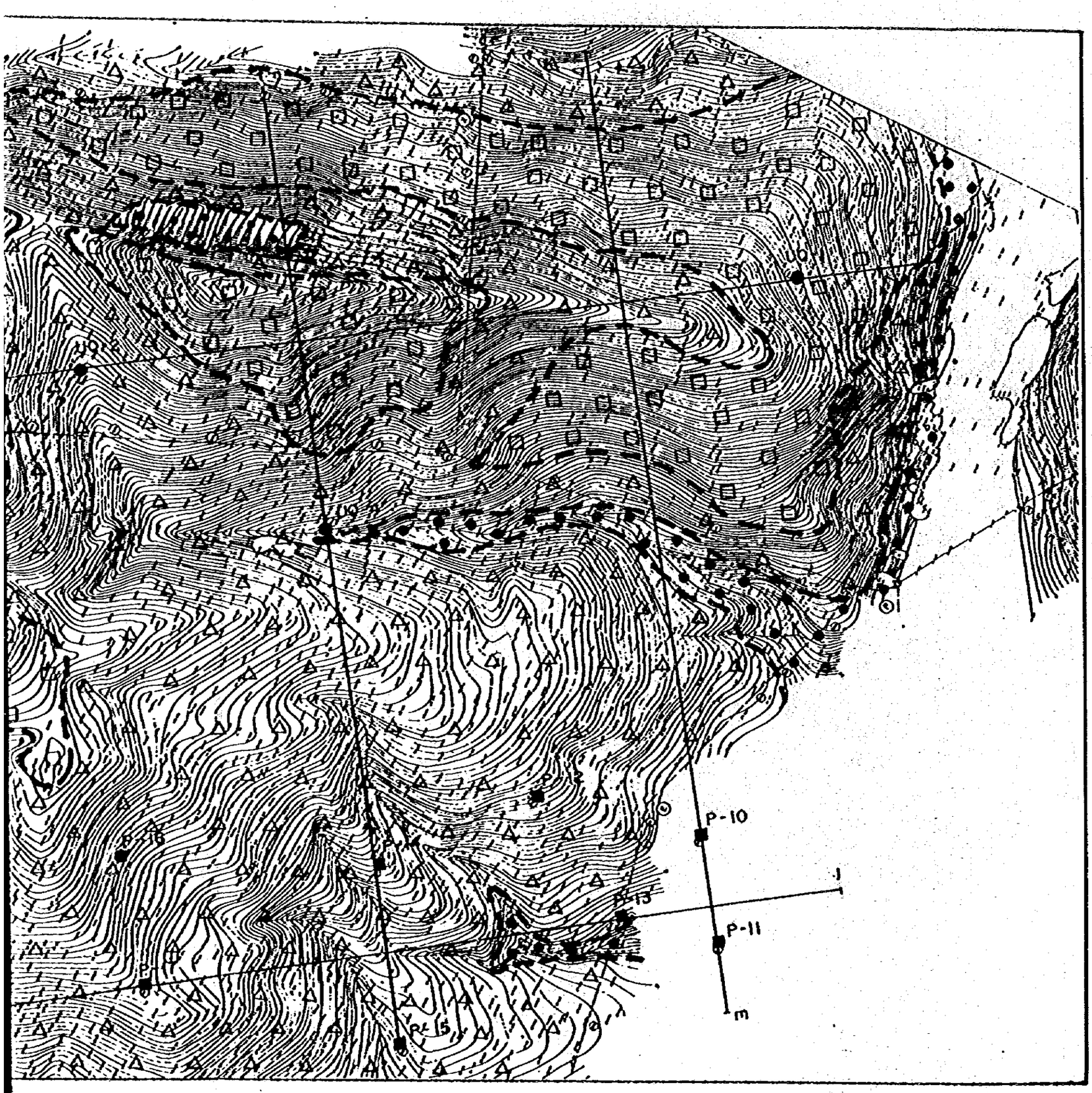

UQ-4
Hole Number (Projection)
Talus Deposits
Stratum of Predominantly Shale
Fractured Zone
Stratum of Predominantly Sandstone
Conglomerate
Pit Number
Test Pit
Top Soil, Talus Deposits and Highly Weathered Rock (Lower Velocity Layer)
Stratum of Predominantly Shale
Stratum of Predominantly Sandstone
Alternation of Sandstone and Shale
Conglomerate
Geological Boundary Line
Boundary Line of Velocity
400
800
1800
4400
Velocity (m/sec)

Fig. 8.12 Isopach Map of Weathered zone of Upper Tokai Quarry and Borrow Area (site B)



Quarry and Borrow Area (site B)



LEGEND

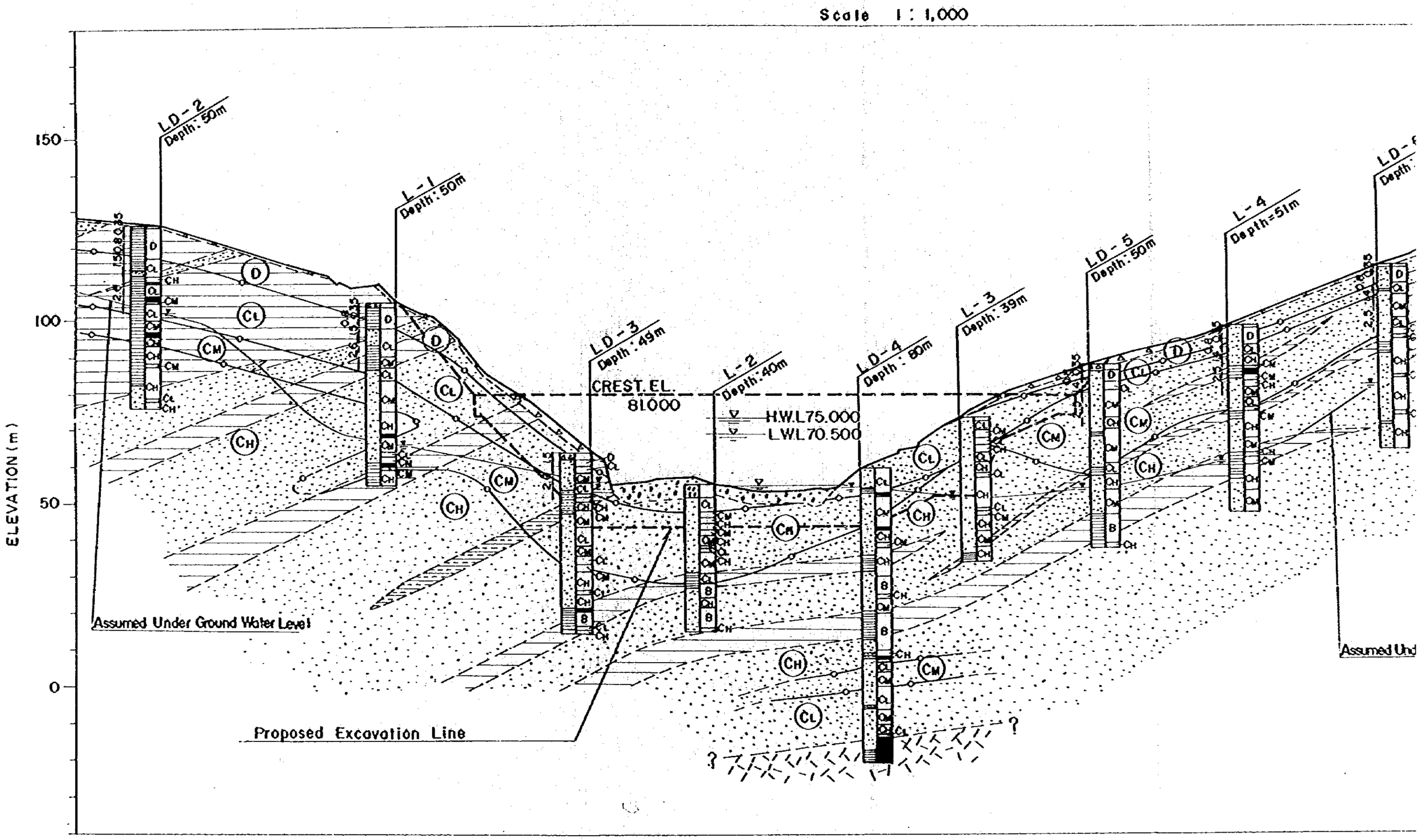
● UQ-1~UQ-5	Drilling point and hole No. Carried out in 1982
■ P-10~P-17	Test pitting point and pit No. Carried out in 1982
I ~ J	Seismic prospecting line Carried out in 1982

Scale 1: 2500
0 50 100m

Thickness of Weathered Zone

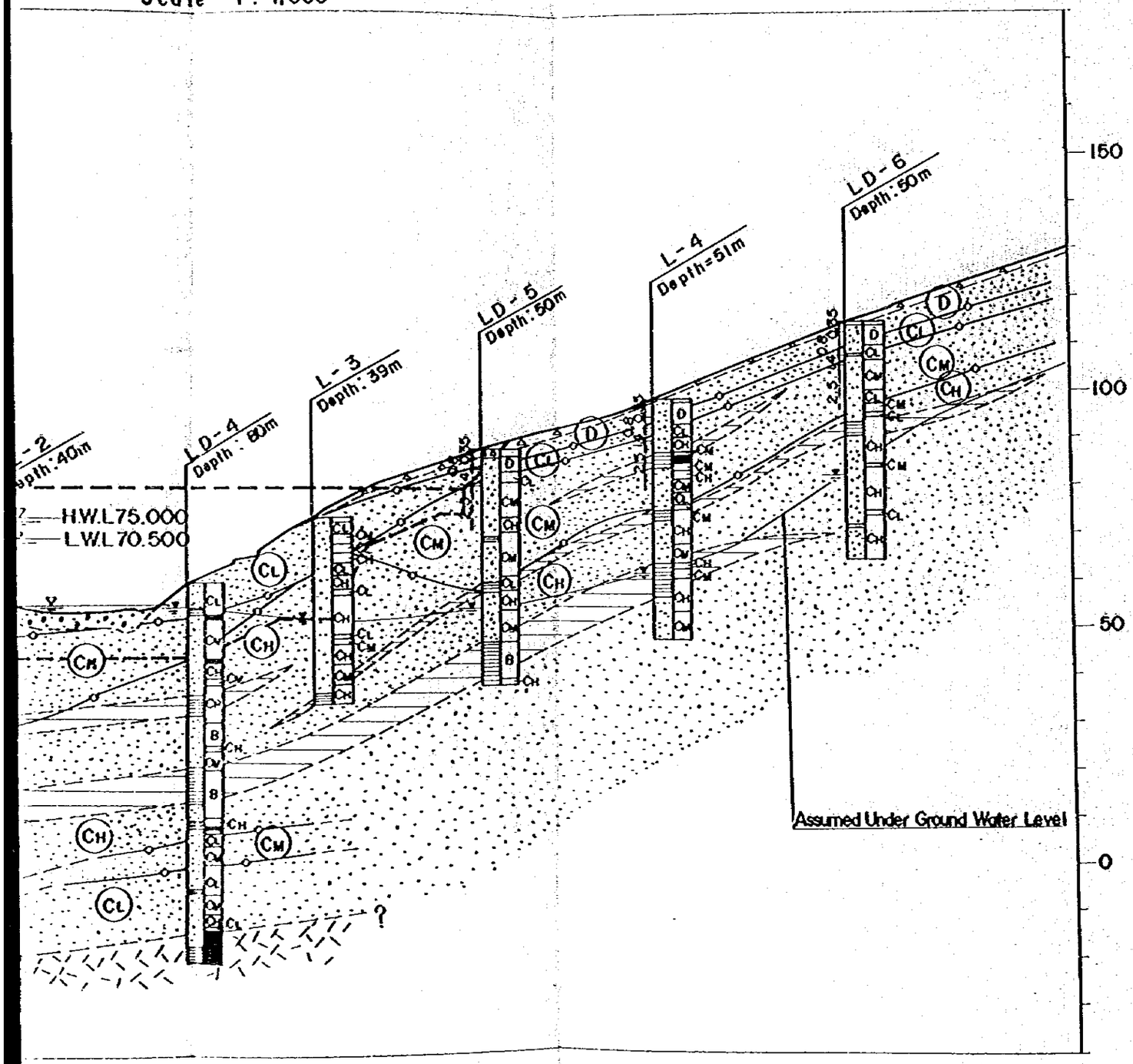
	$0 \leqq T < 4$ (m)
	$4 \leqq T < 8$ (m)
	$8 \leqq T < 12$ (m)
	$12 \leqq T < 16$ (m)

Fig. 8.13 GEOLOGICAL PROFILE OF LOWER TEKAI DAM SITE

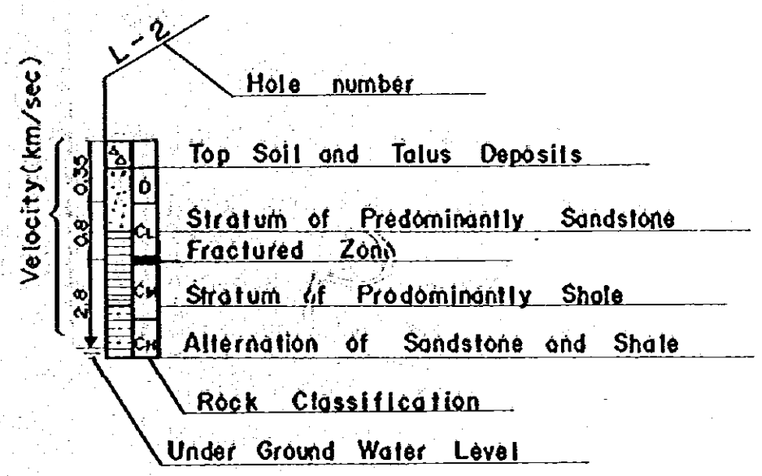


OFILE OF LOWER TEKAI DAM SITE

Scale 1 : 1,000



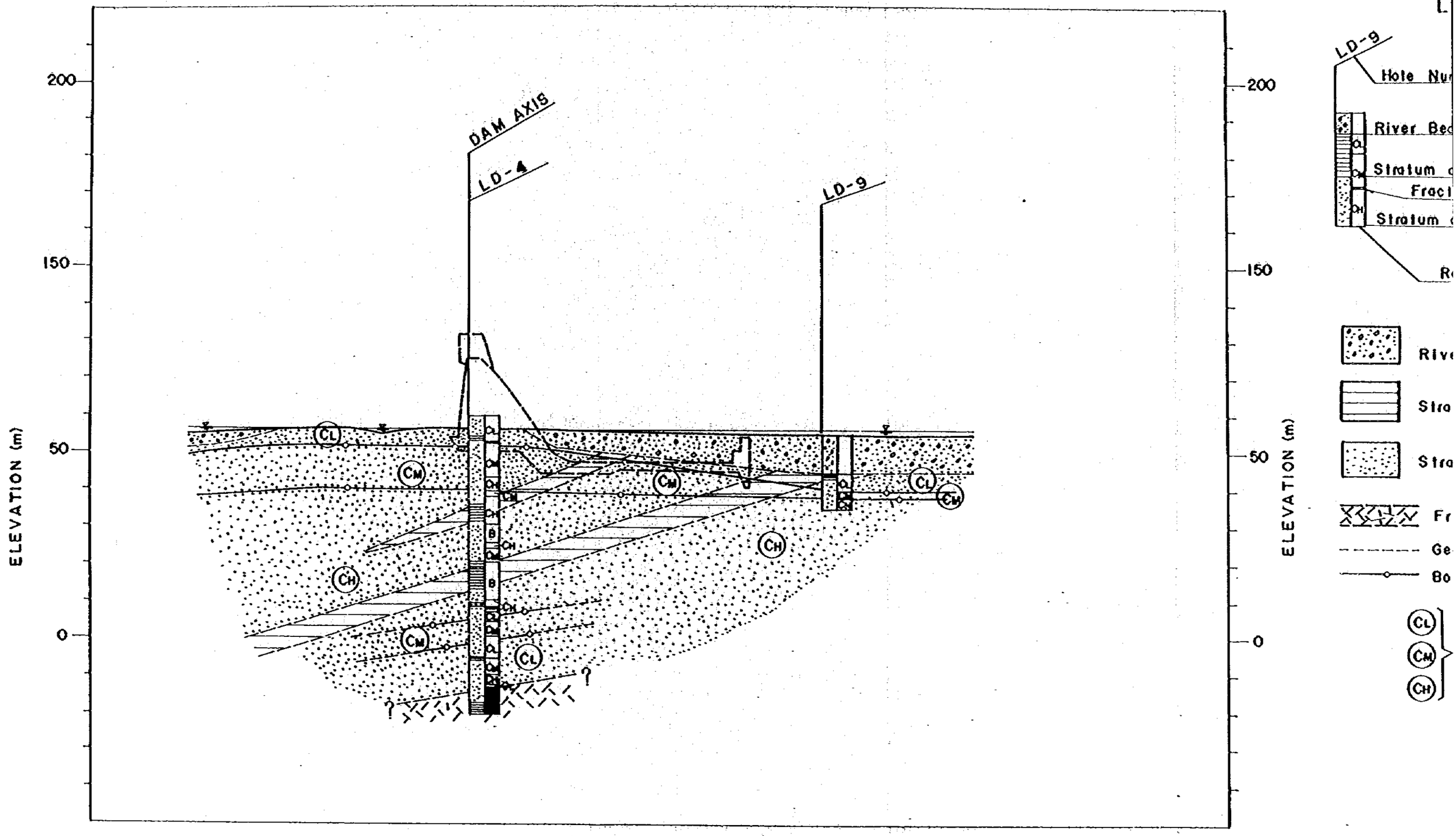
LEGEND



- Top Soil and Talus Deposit
- River Bed Deposits
- Stratum of Predminantly Sandstone
- Stratum of Predominantly Shale
- Alternation of Sandstone and Shale
- Fractured Zone
- Geological Boundary Line
- Boundary Line of Rock Classification

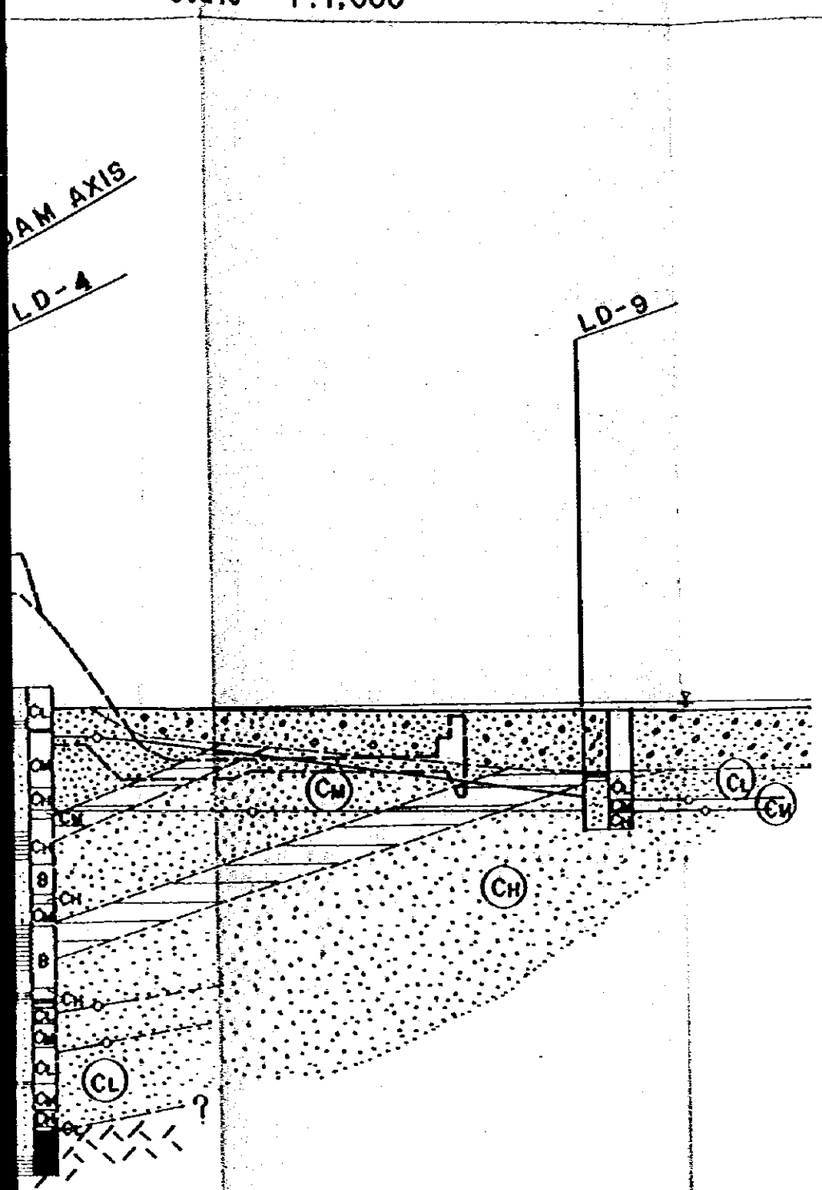
Fig. 8.14 GEOLOGICAL PROFILE OF B-B SECTION (OVERFLOW SECTION)

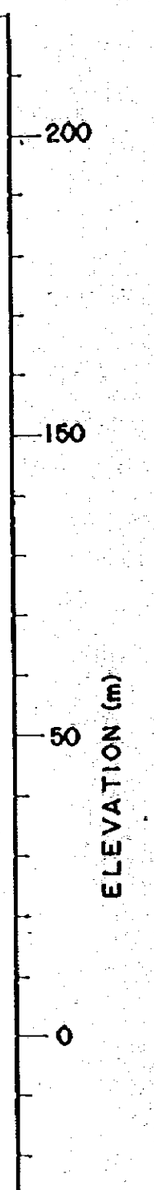
Scale 1:1,000



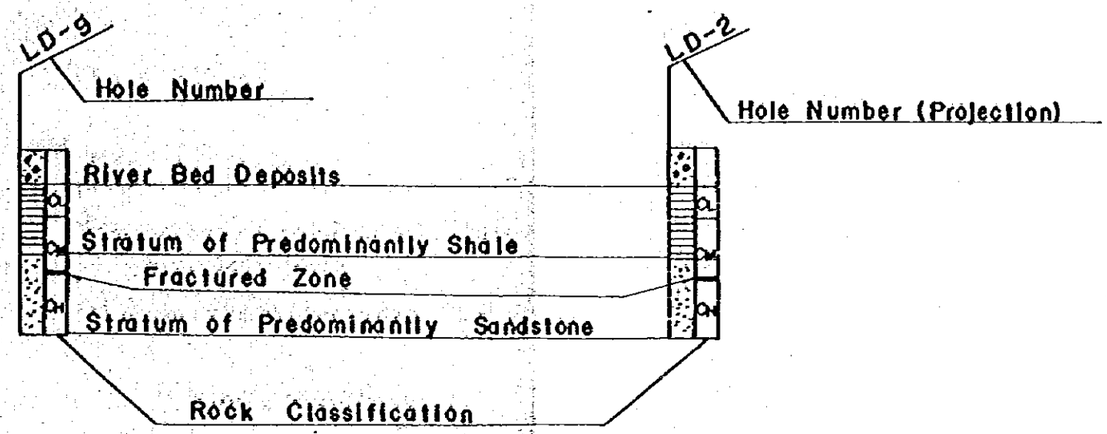
CAL PROFILE OF B-B SECTION (OVERFLOW SECTION)

Scale 1:1,000





LEGEND



River Bed Deposits

Stratum of Predominantly Shale

Stratum of Predominantly Sandstone

Fractured Zone

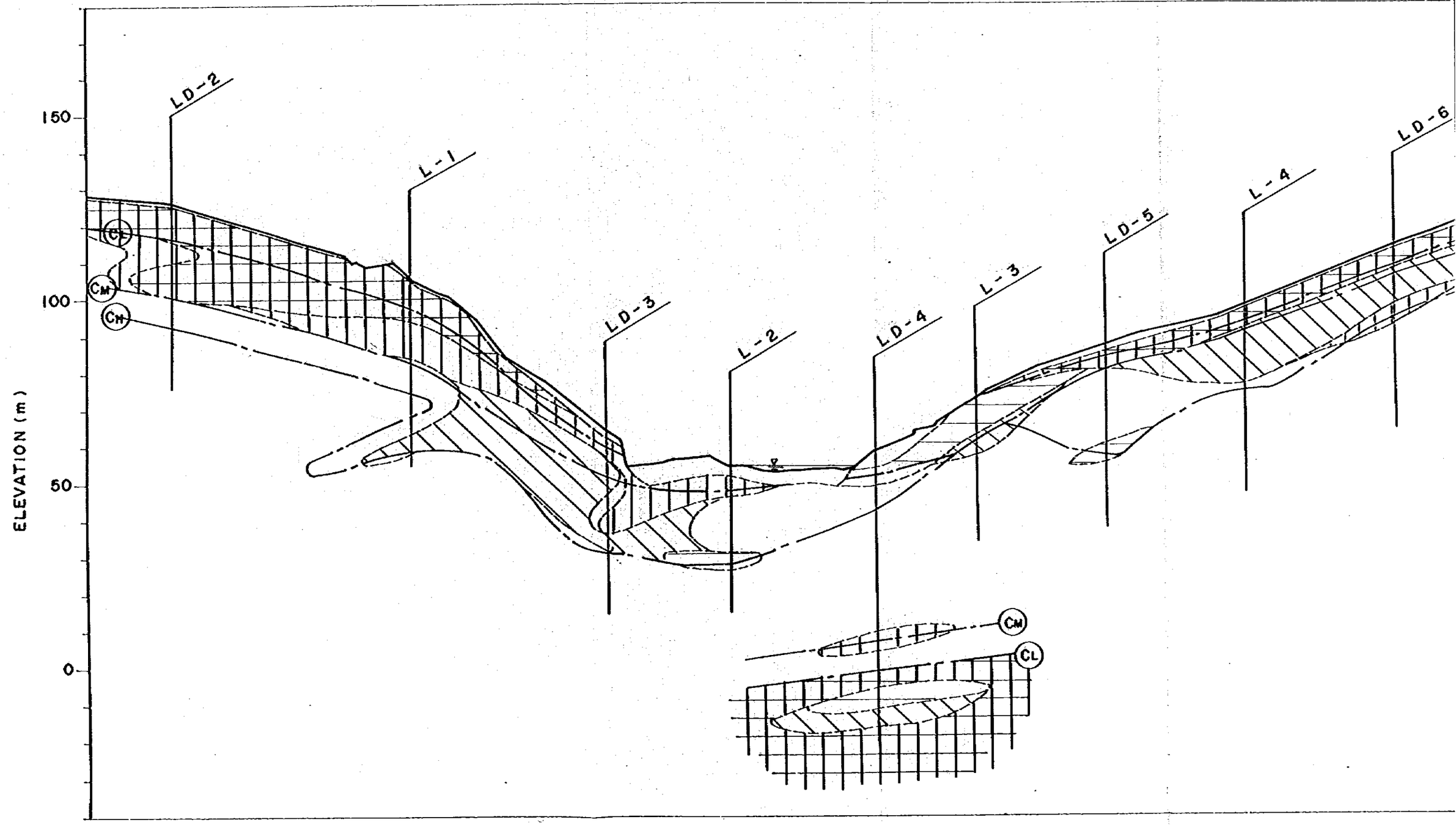
Geological Boundary Line

Boundry Line of Rock Classification

CL, CM, CH — Rock Classification

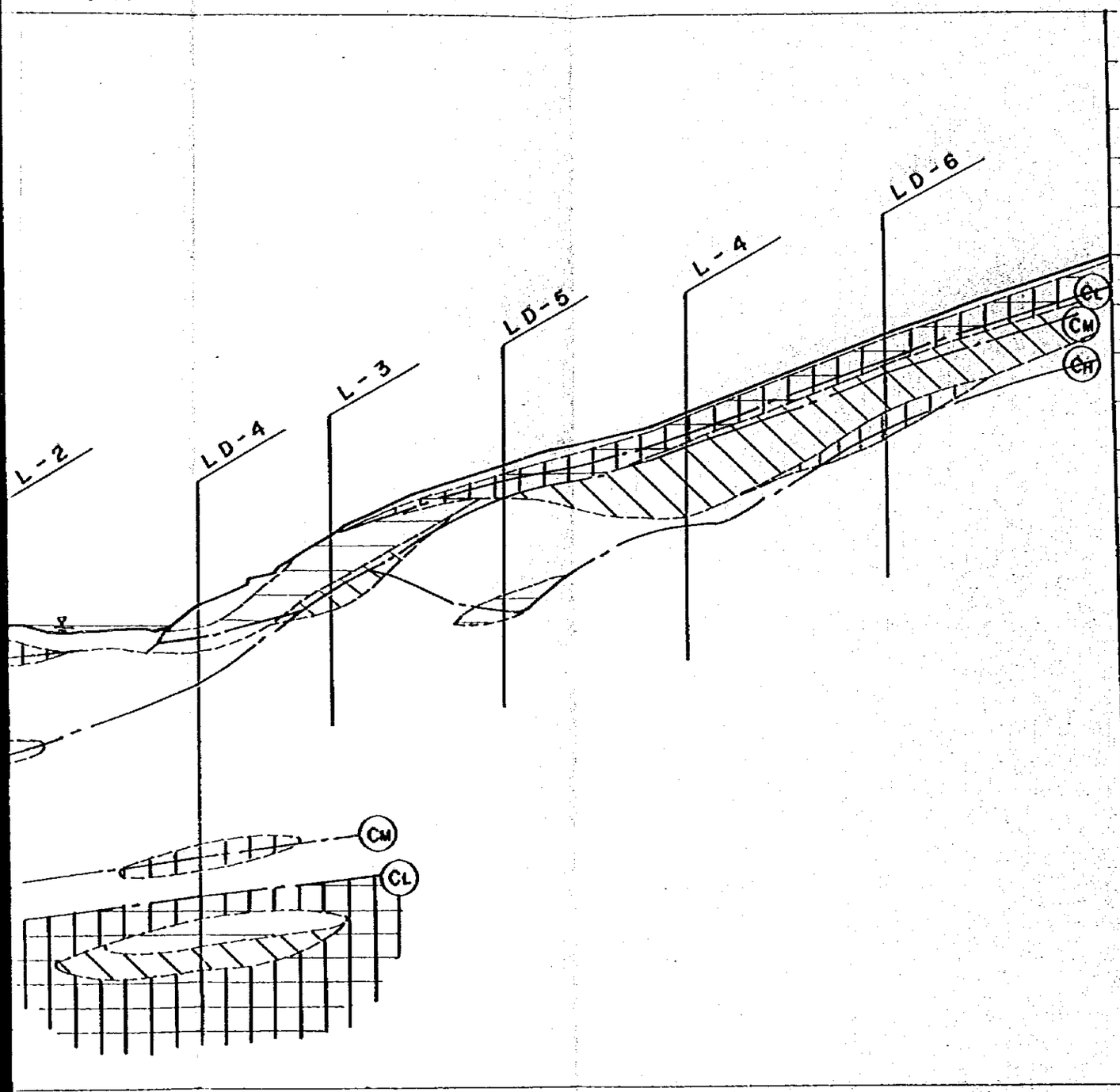
Fig. 8.15 PERCENTAGE OF OVER C_M CLASS ROCK (FOR 5m PITCH), LOWER TEKAI DAM SITE

Scale 1 : 1,000



ASS ROCK (FOR 5m PITCH), LOWER TEKAI DAM SITE

le 1 : 1,000



LEGEND

$\phi \leqq 80$

$80 < \phi \leqq 60$

$60 < \phi \leqq 40$

$40 < \phi \leqq 20$

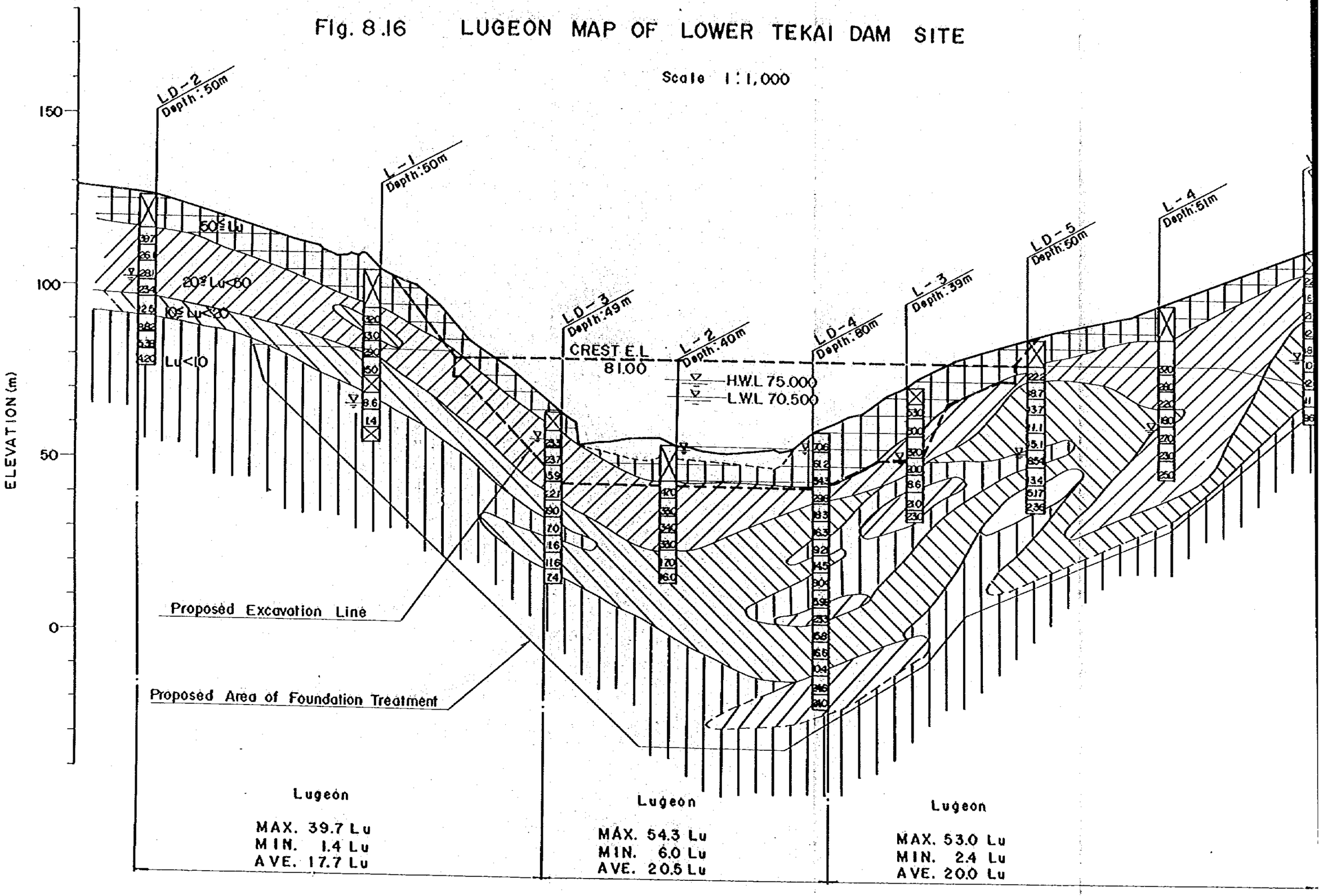
$20 < \phi \leqq 0$

$$\phi\ (\%) = \frac{\Sigma (C_M + C_H + B)}{500} \times 100$$

——·—— Boundary Line of Rock Classification

Fig. 8.16 LUGEON MAP OF LOWER TEKAI DAM SITE

Scale 1 : 1,000



UGEON MAP OF LOWER TEKAI DAM SITE

Scale 1:1,000

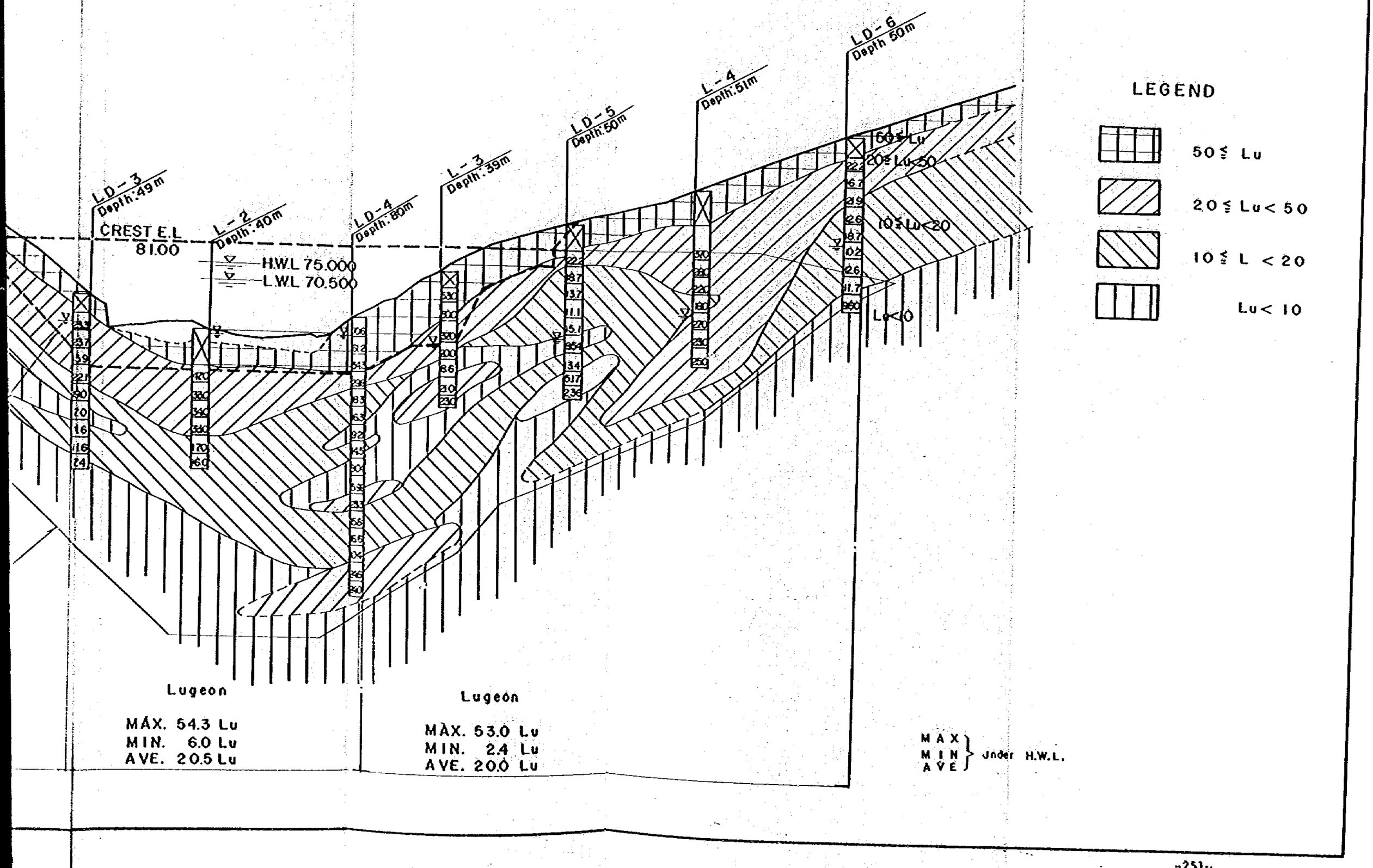
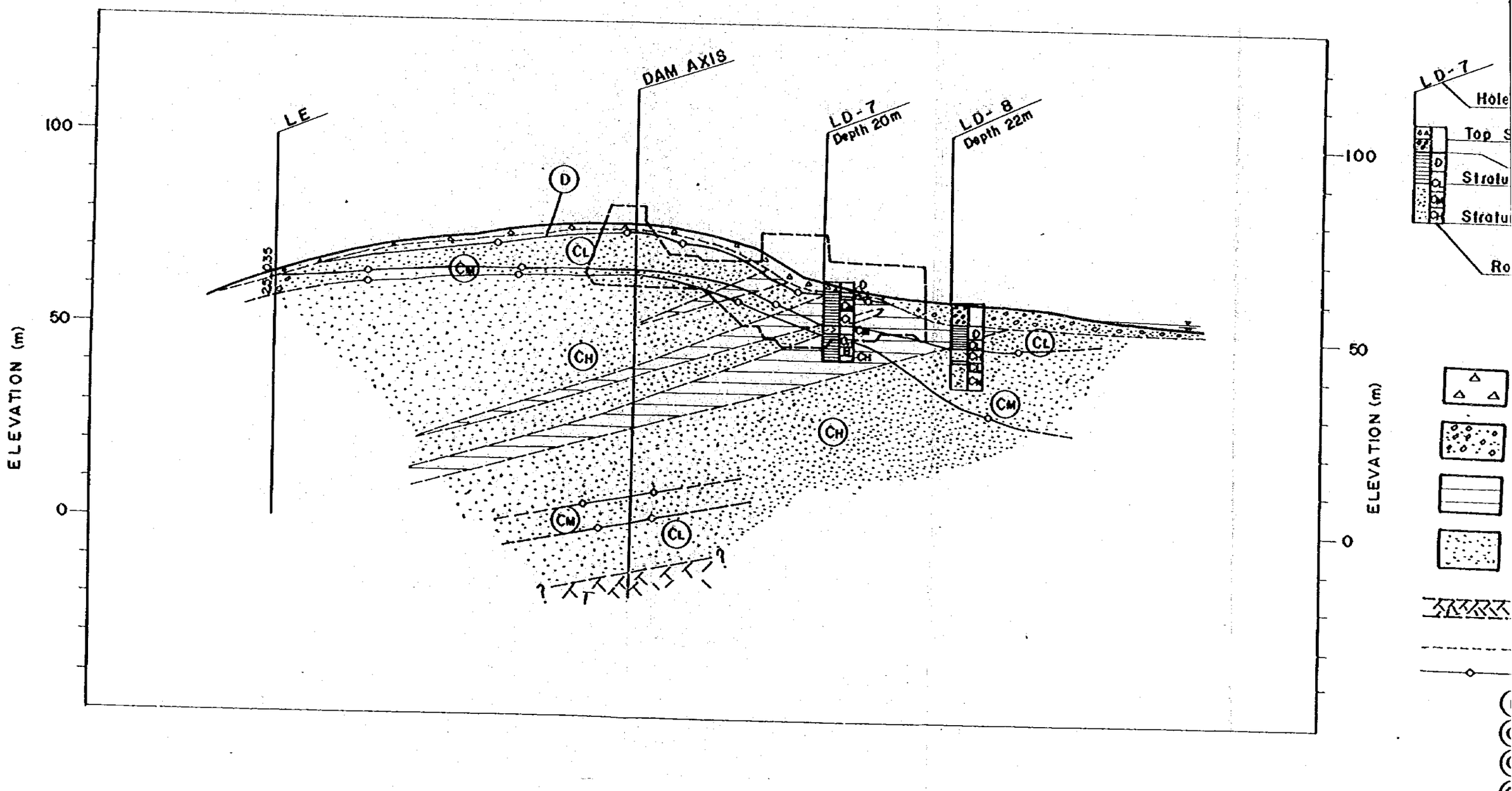


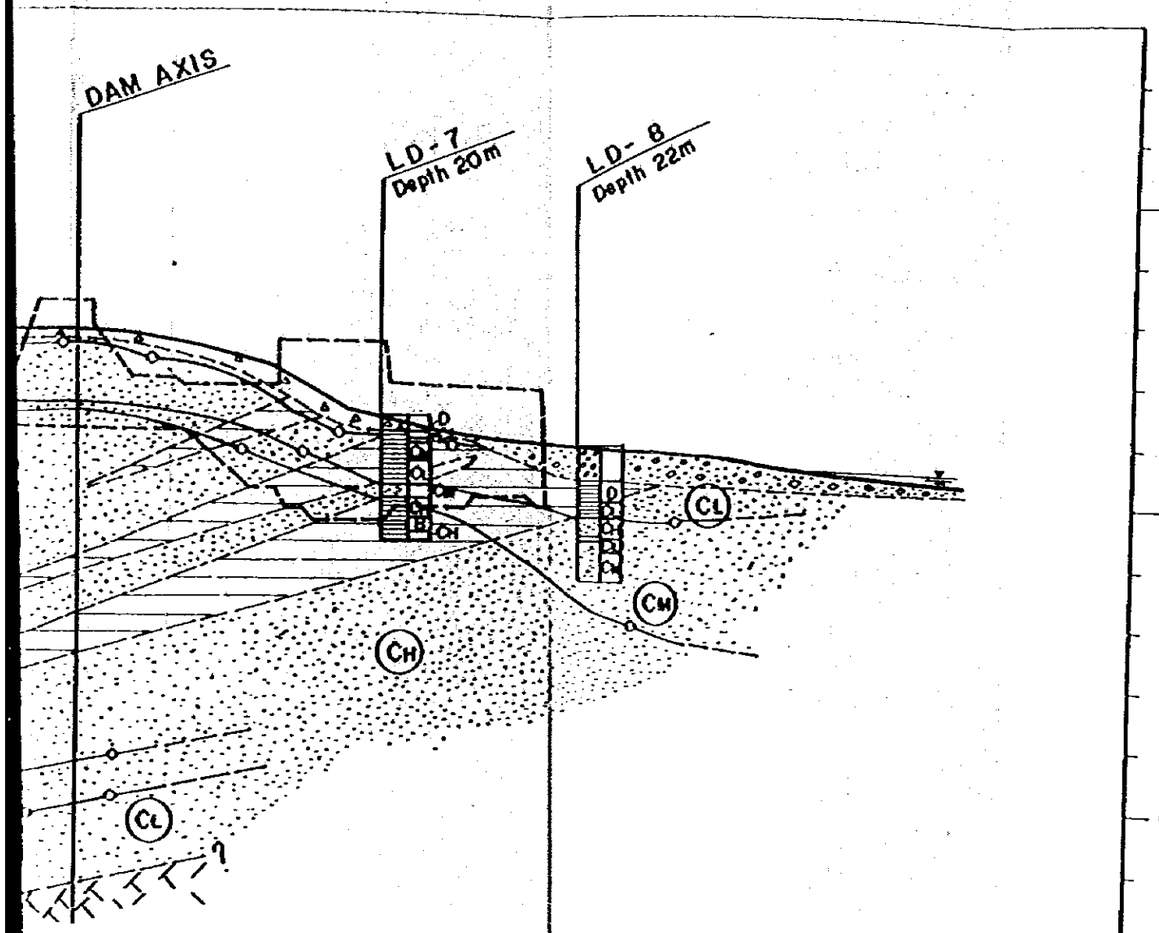
Fig. 8.17 GEOLOGICAL PROFILE OF C-C SECTION (POWER STATION)

Scale 1:1,000

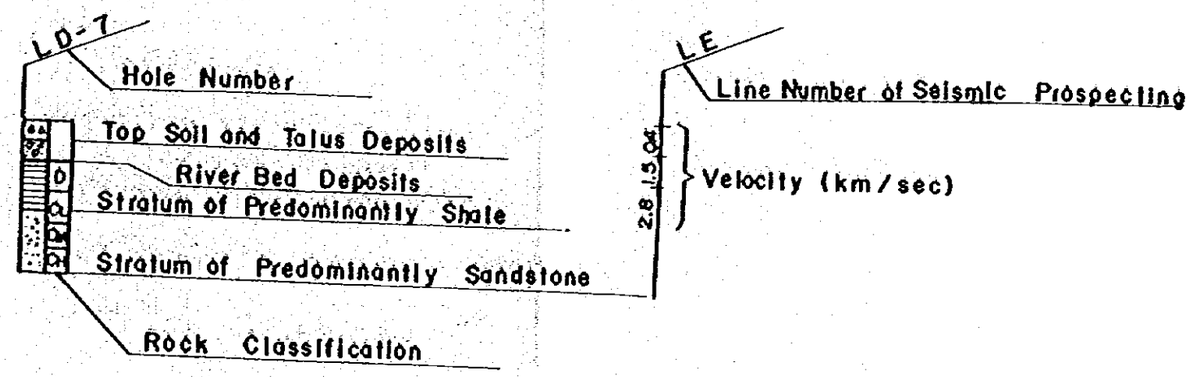


OFILE OF C-C SECTION (POWER STATION)

Scale 1:1,000



LEGEND



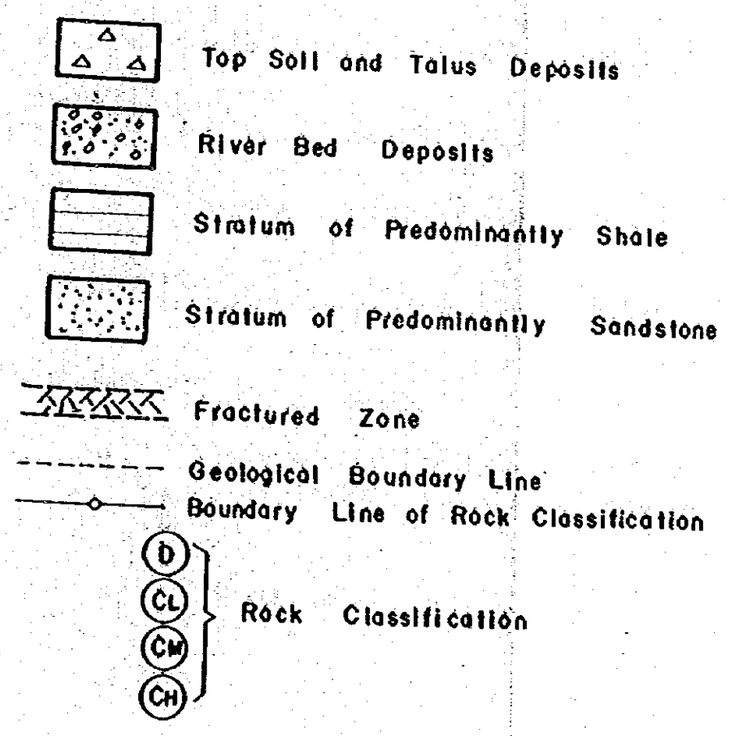
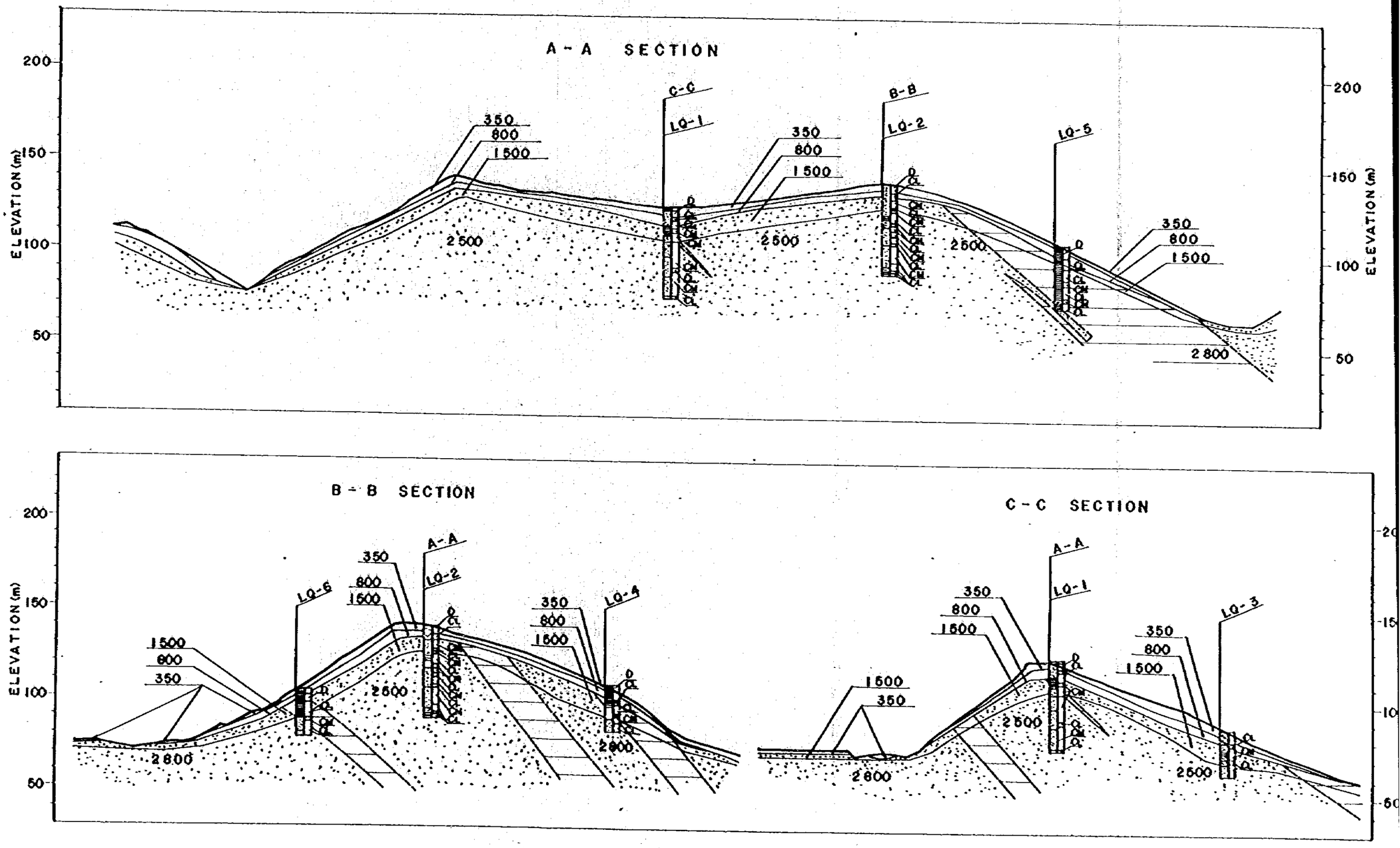
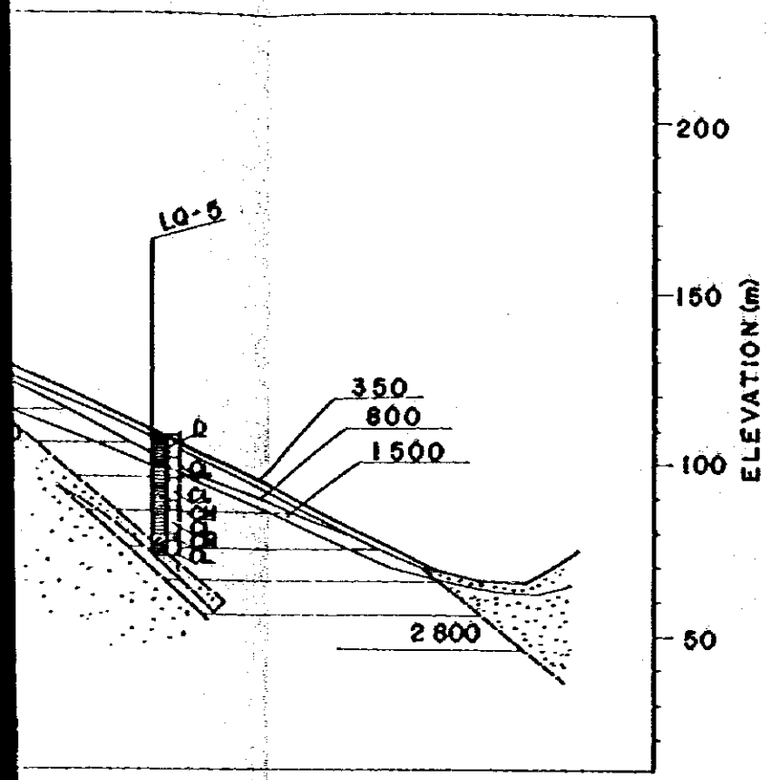


Fig. 8.18 GEOLOGICAL PROFILE OF LOWER TEKAI QUARRY AREA (SITEC)

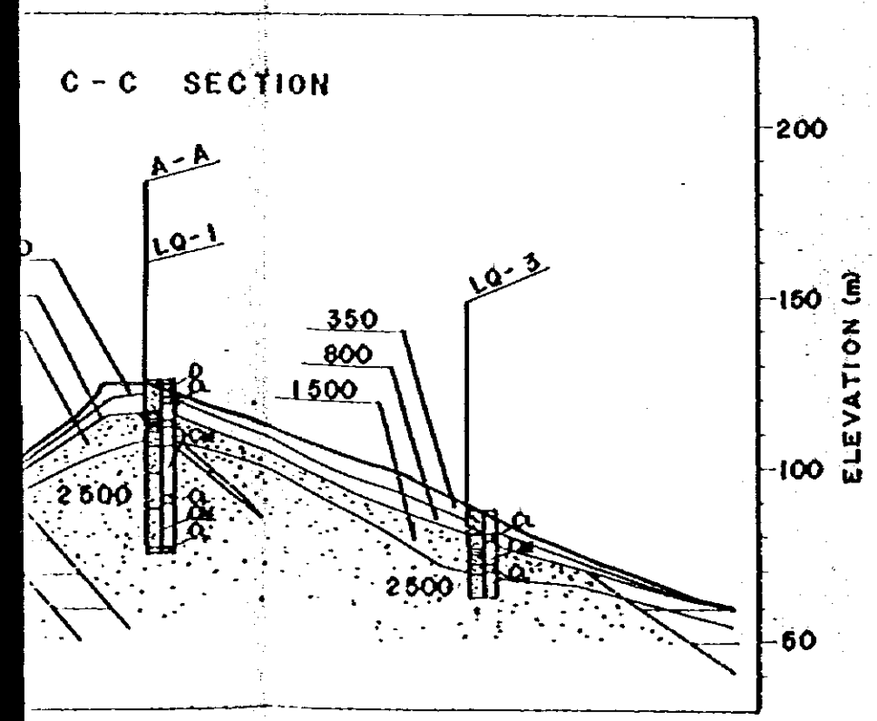
Scale 1:2000



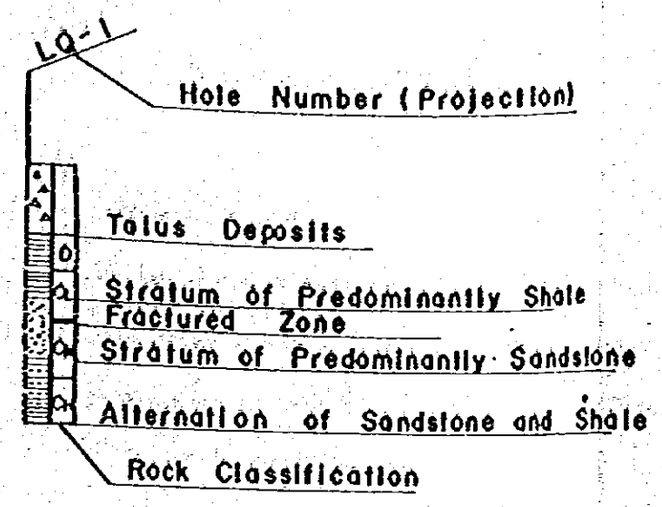
(EC)



C - C SECTION



LEGEND



Top Soil, Talus Deposits and Highly Weathered Rock (Lower Velocity Layer)

Stratum of Predominantly Shale

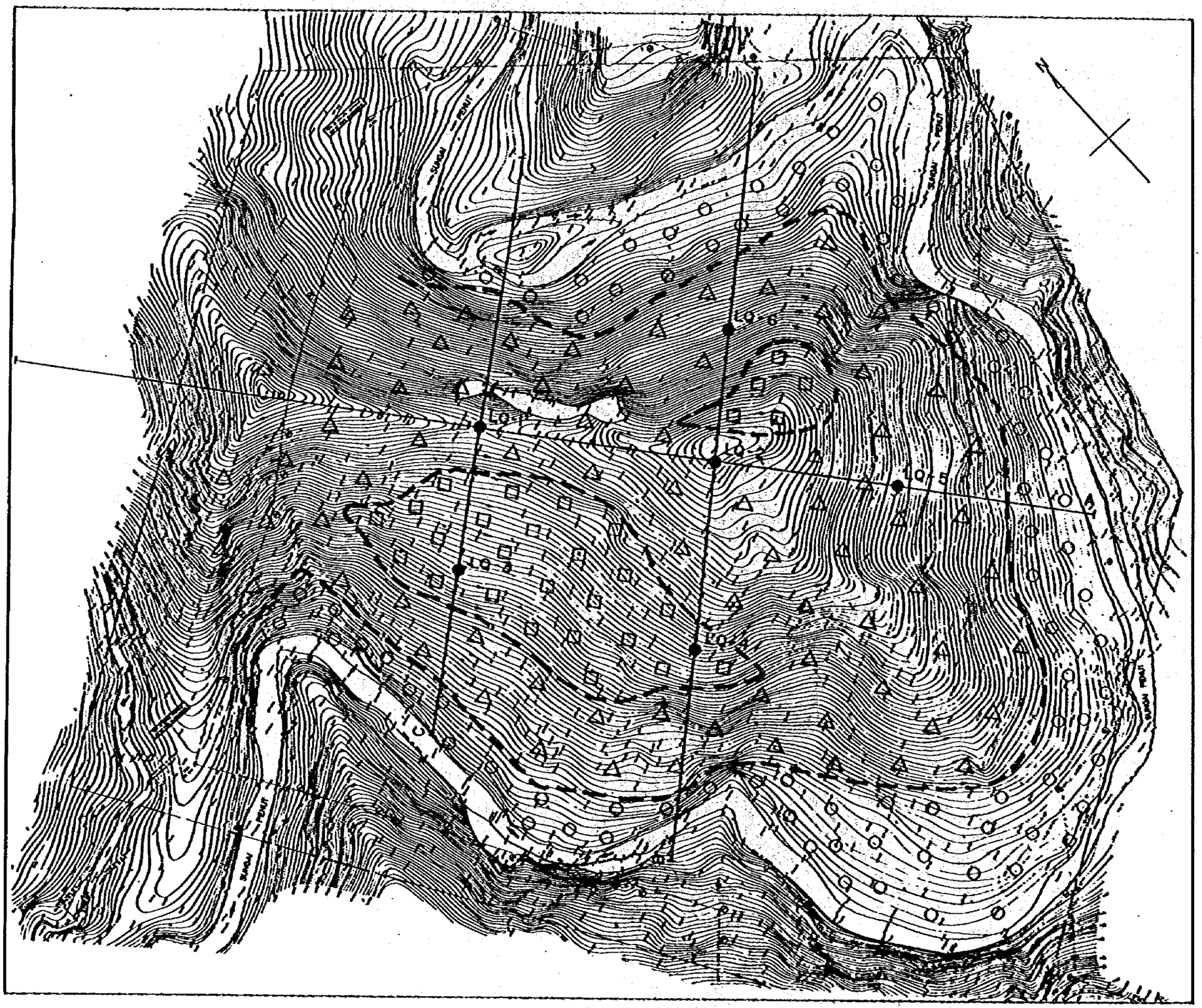
Stratum of Predominantly Sandstone

Geological Boundary Line

Boundary Line of Velocity

350
800
1500
2500
} Velocity (m/sec)

Fig. 8.19. Isopach Map of Weathered zone of Lower Tekal Quarry Area (site C)



LEGEND

● LQ-1~LQ-6 Drilling point and hole No. Carried out in 1982

A~C Seismic prospecting line Carried out in 1982

Scale 1: 2000
0 50 100m

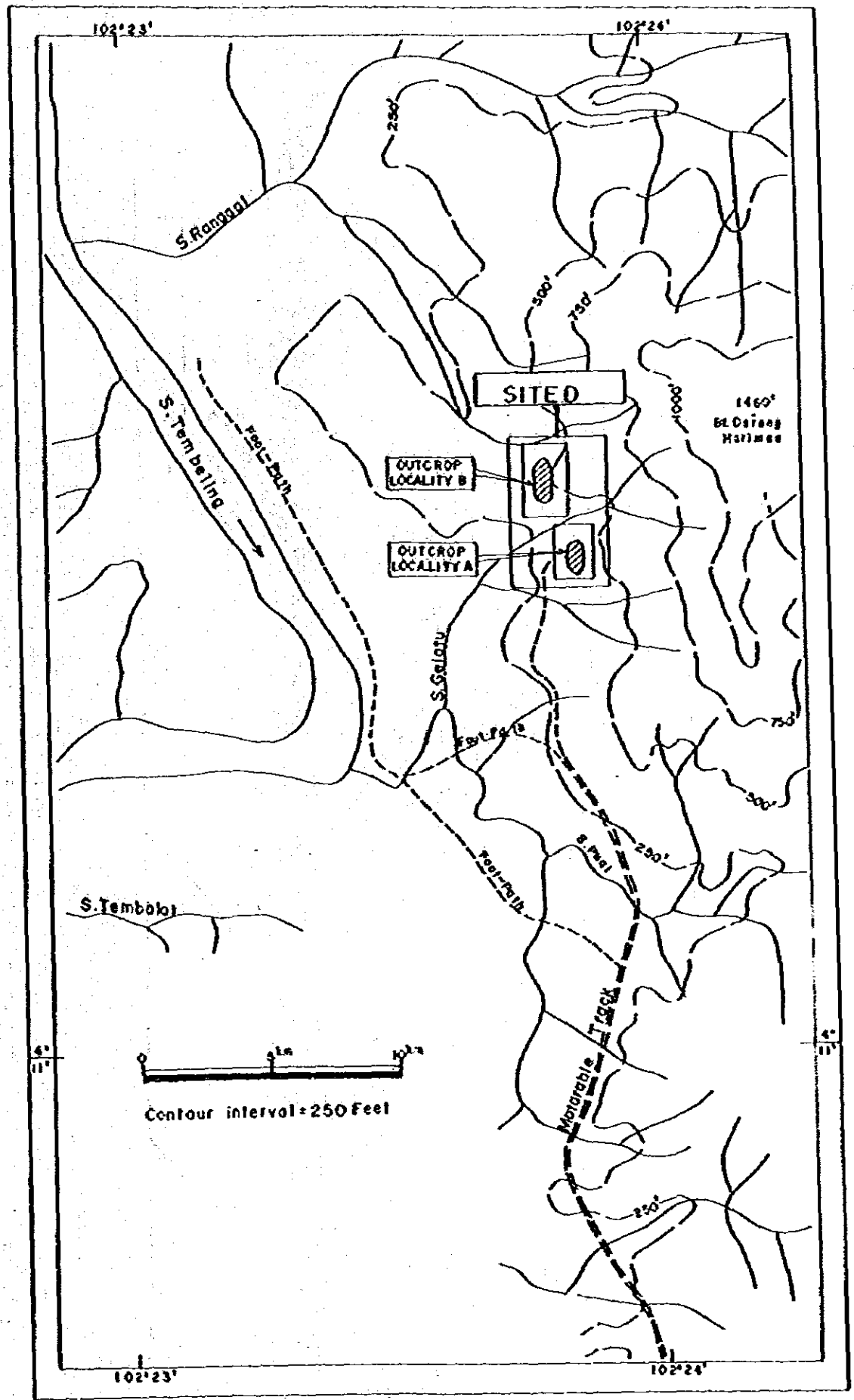
Thickness of Weathered Zone

○ $0 \leqq T < 4$ (m)

△ $4 \leqq T < 8$ (m)

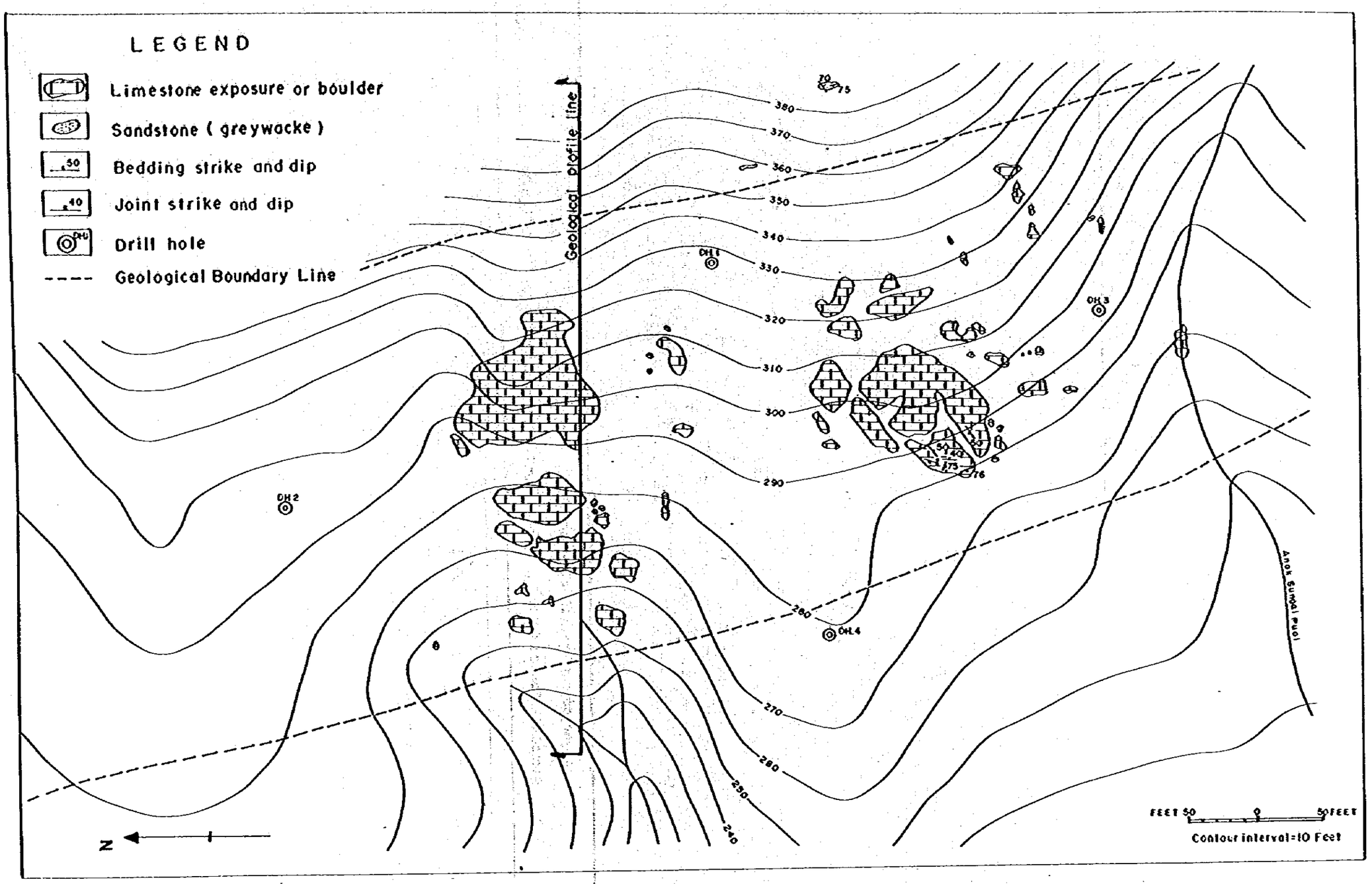
□ $8 \leqq T < 12$ (m)

Fig.8.20 LOCATION MAP OF LOWER TEKAI QUARRY AREA (SITE D)
(ALTERNATIVE QUARRY SITE)



From "Geological Investigation for Proposed Quarry Site, near. KG. LUBUK PAYONG, Jerantut, Pahang" the Geological Survey of Malaysia, 1974.

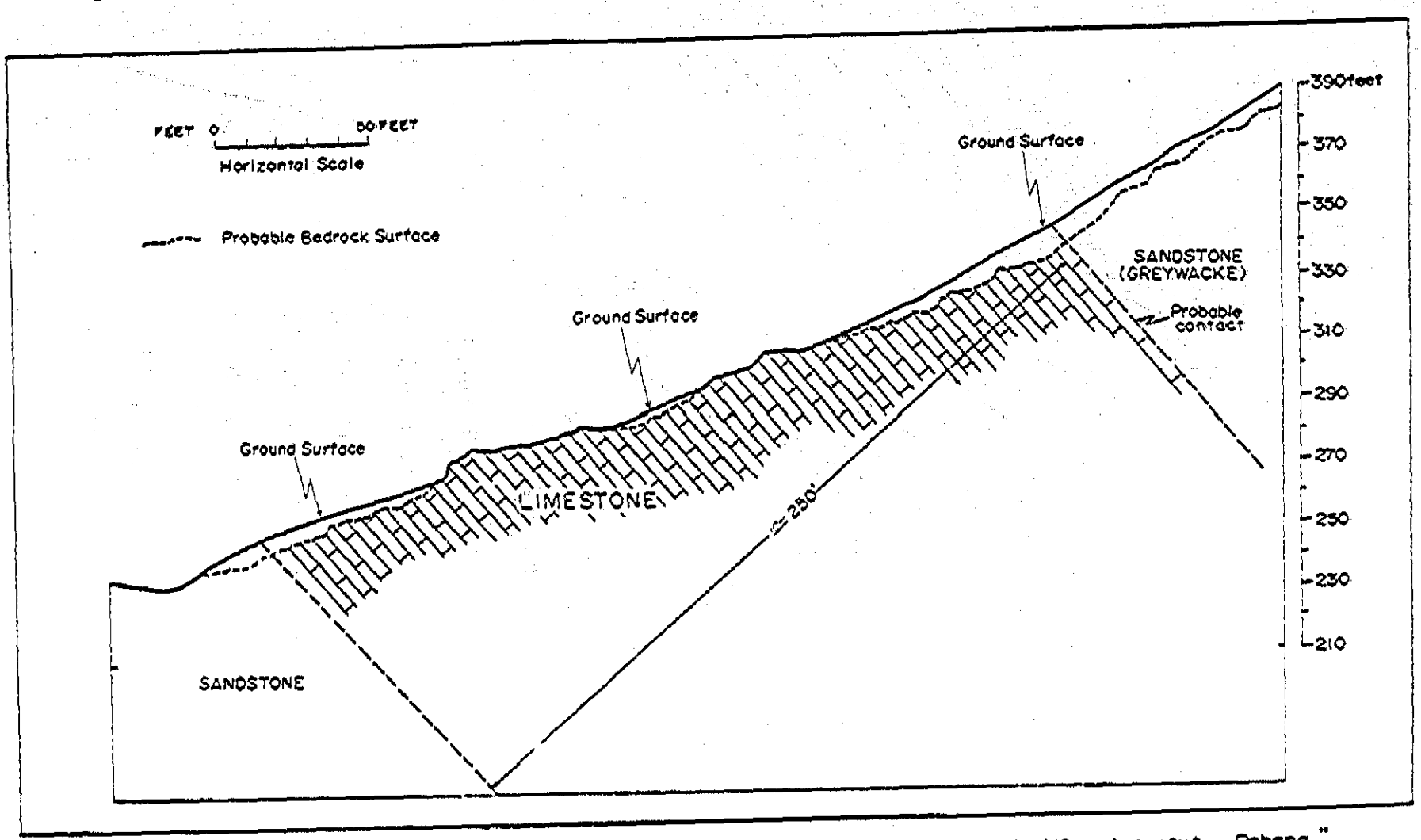
Fig. 8.21 PLAN OF OUTCROP LOCALITY A



From "Geological Investigation for Proposed Quarry Site, near. KG. LUBUK PAYONG, Jerantut, Pahang"

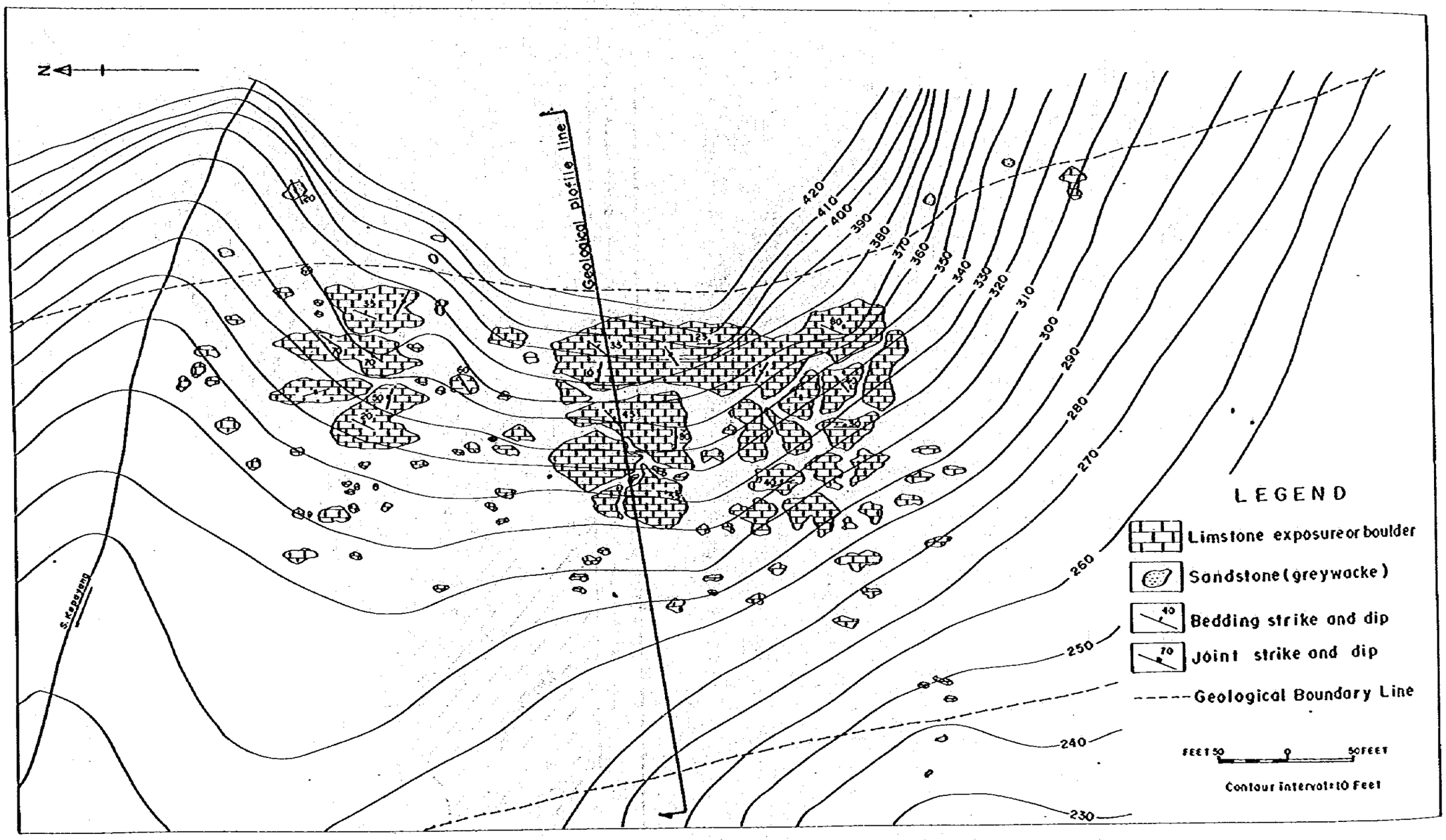
the Geological Survey of Malaysia, 1974.

Fig.8.22 GIOLOGICAL PROFILE OF OUTCROP LOCALITY A



From " Geological Investigation for Proposed Quarry Site, near. KG. LUBUK PAYONG, Jerantut, Pahang "
the Geological Survey of Malaysia, 1974.

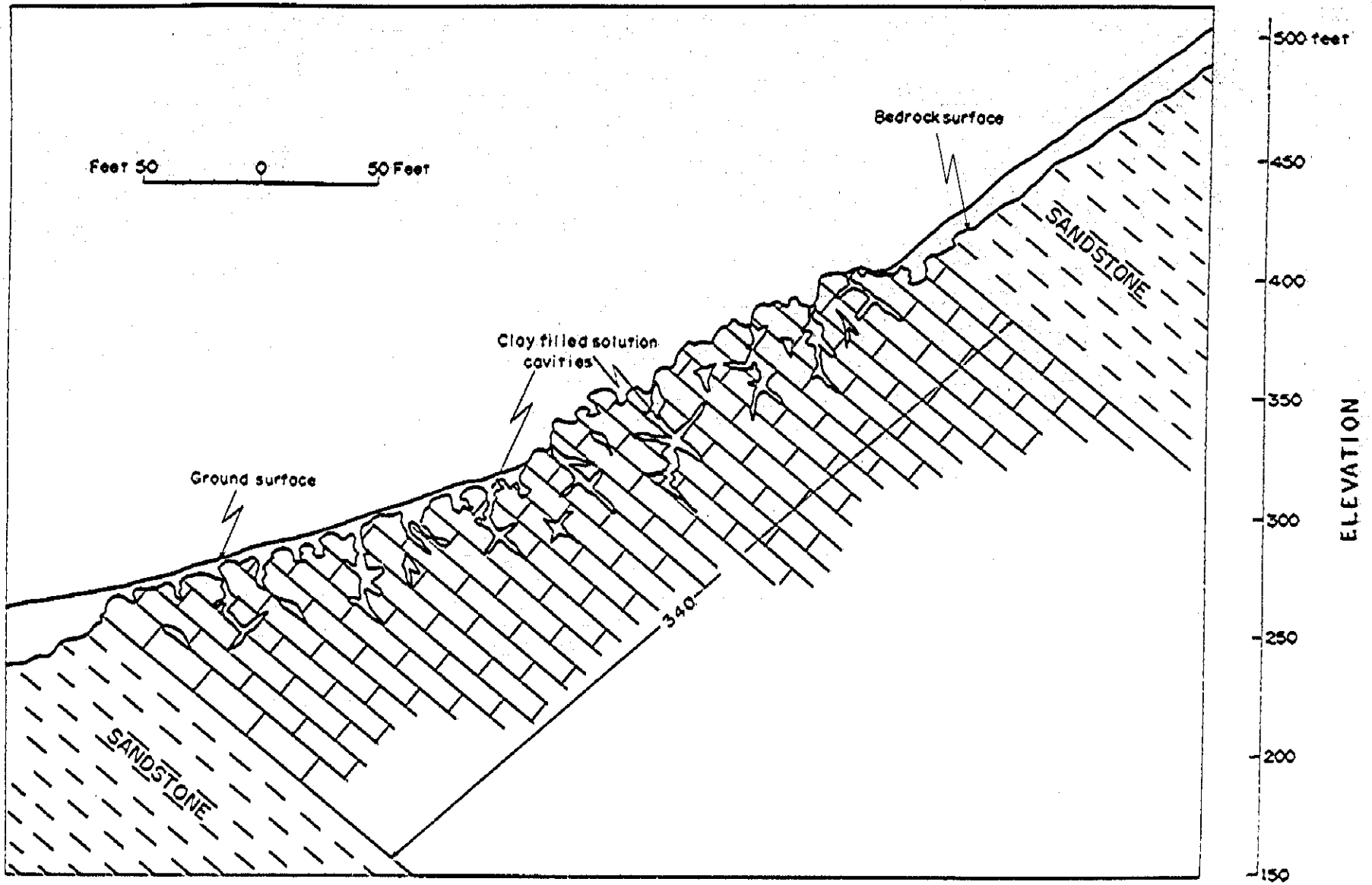
Fig. 8.23 PLAN OF OUTCROP LOCALITY B



From "Geological Investigation for Proposed Quarry Site, near. KG. LUBUK PAYONG, Jerantut, Pahang"

the Geological Survey of Malaysia, 1974.

Fig. 8.24 GIOLOGICAL PROFILE OF OUTCROP LOCALITY B



From " Geological Investigation for Proposed Quarry Site, near. KG. LUBUK PAYONG, Jerantut, Pahang "
the Geological Survey of Malaysia, 1974.