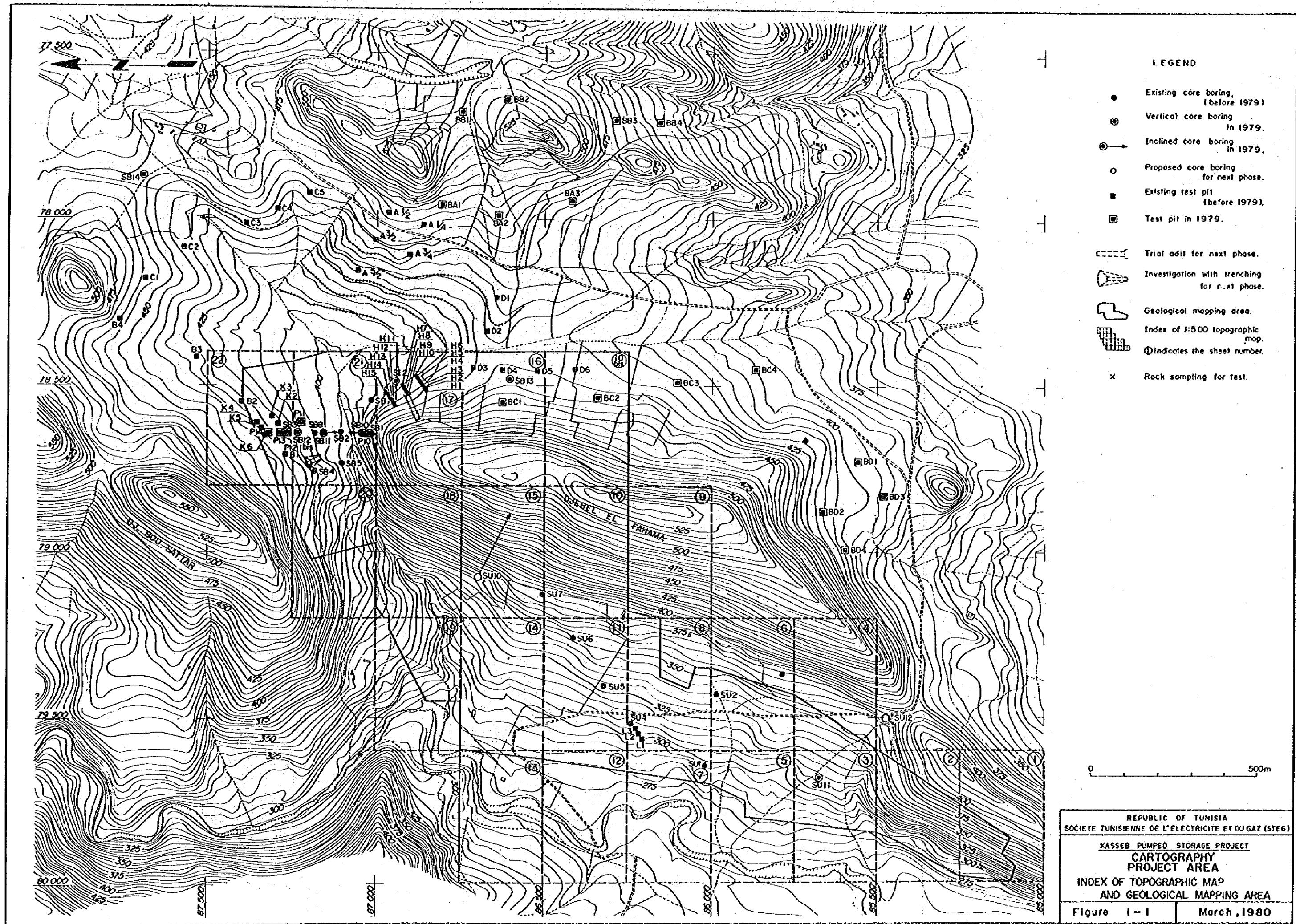
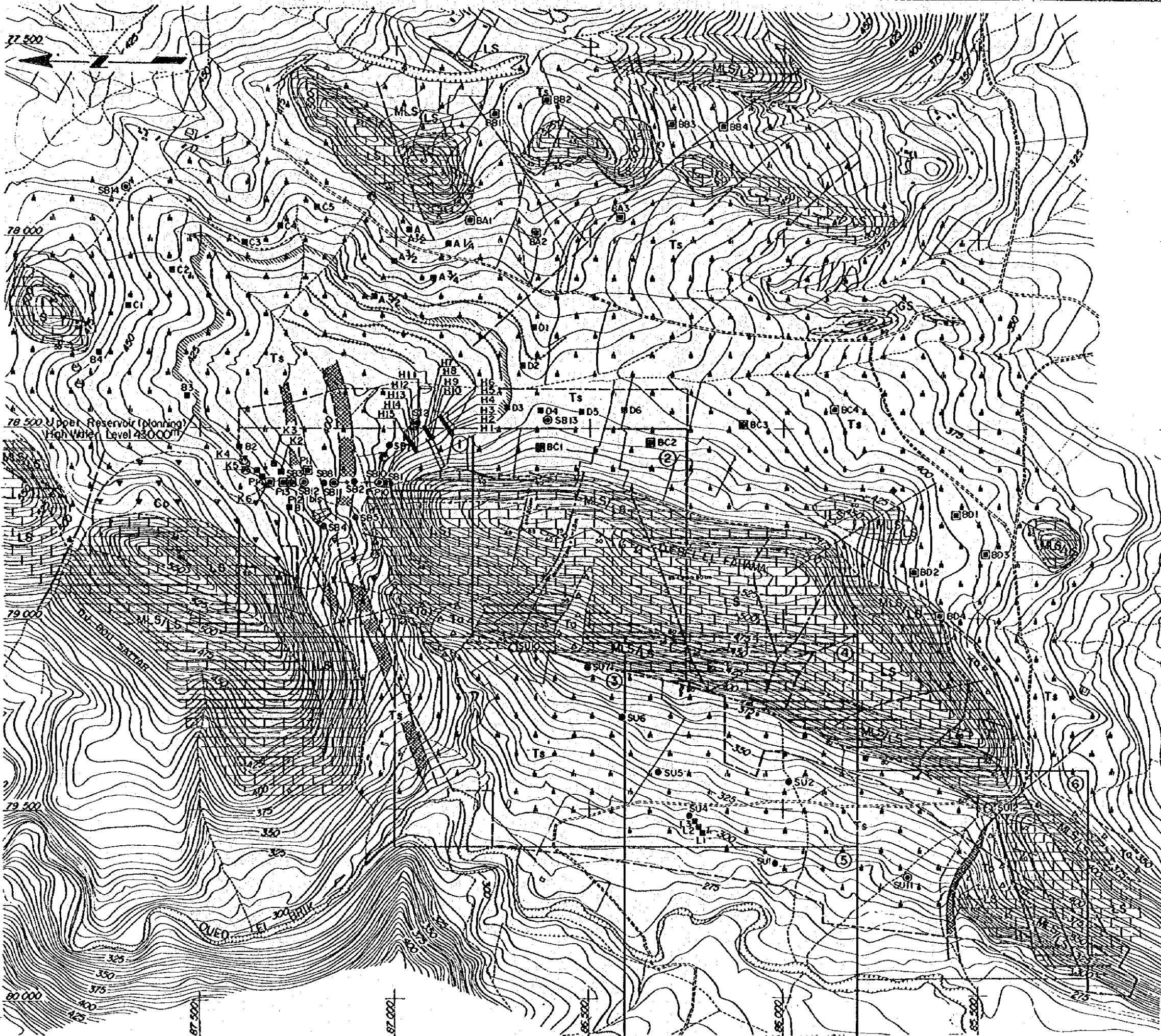


CARTES GEOLOGIQUES

- Figure 1-1 **CARTOGRAPHY, PROJECT AREA, INDEX OF TOPOGRAPHIC MAP AND GEOLOGICAL MAPPING AREA**
- Figure 1-2 **GEOLOGY AND CONSTRUCTION MATERIALS, PROJECT AREA, LOCATION OF INVESTIGATION WORK**
- Figure 1-3 **GEOLOGY, SITE INVESTIGATION -DAMSITE-, GEOLOGIC PLAN (SHEET NO. 1 OF 6)**
- Figure 1-4 **GEOLOGY, SITE INVESTIGATION, GEOLOGIC PLAN (SHEET NO. 2 OF 6)**
- Figure 1-5 **GEOLOGY, SITE INVESTIGATION, GEOLOGIC PLAN (SHEET NO. 3 OF 6)**
- Figure 1-6 **GEOLOGY, SITE INVESTIGATION, GEOLOGIC PLAN (SHEET NO. 4 OF 6)**
- Figure 1-7 **GEOLOGY, SITE INVESTIGATION, GEOLOGIC PLAN (SHEET NO. 5 OF 6)**
- Figure 1-8 **GEOLOGY, SITE INVESTIGATION, GEOLOGIC PLAN (SHEET NO. 6 OF 6)**
- Figure 1-9 **GEOLOGY, DAMSITE, GEOLOGIC SECTION**
- Figure 1-10 **GEOLOGY, DAMSITE, DETAILED SECTION A-A AND, LOG OF CORE BORING AND TEST PIT**
- Figure 1-11 **GEOLOGY, RESERVOIR AREA, LOCATION OF INVESTIGATION WORK AND LOG OF CORE BORING**





LEGEND

Topsoil ;. Mainly forming
or gross land

Talus deposit and scree

Calcareous breccia deposit.
Debris cemented with
calcareous material.

LIMESTONE; Partially
interbedded with marl

LIMESTONE.
Alternation of calcareous
MARLSTONE and **LIME-
STONE**.

STONE.

Strike and dip of bed:
Measured in field.

Strike and dip of bed; Observed by aerial photograph.

Geologic contact.

Foul confirmed; its direction and width of shear.

Fault interpreted with aerial photograph.

Probable short-term

Spring. Seepage.

**Existing core boring,
(before 1979).**

in 1979.

**Proposed core boring
for next phase.**

Test pit in 1979.

Trial edit for next phase.

for next phase.

Index of site geologic plans.
① indicates the sheet.

number.

geologic data in this plan were those of Geologic plan (Fig.5.21) in Report of Kasreb Project made

v., 1978.

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—
—
—

REPUBLIC OF TUNISIA

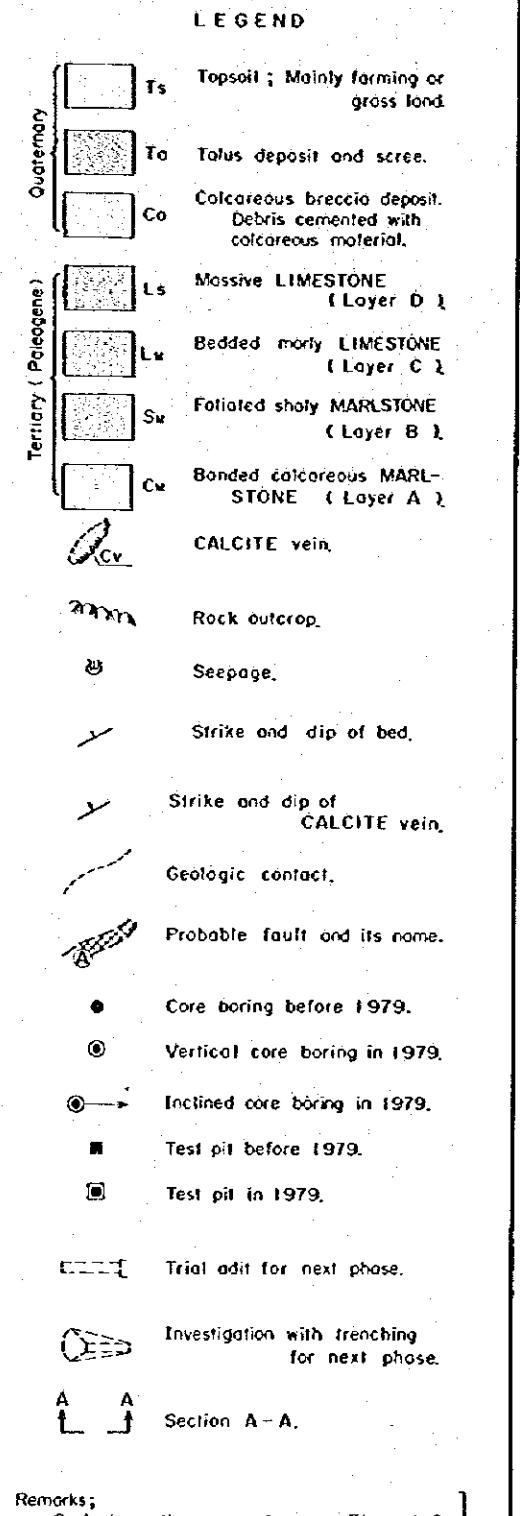
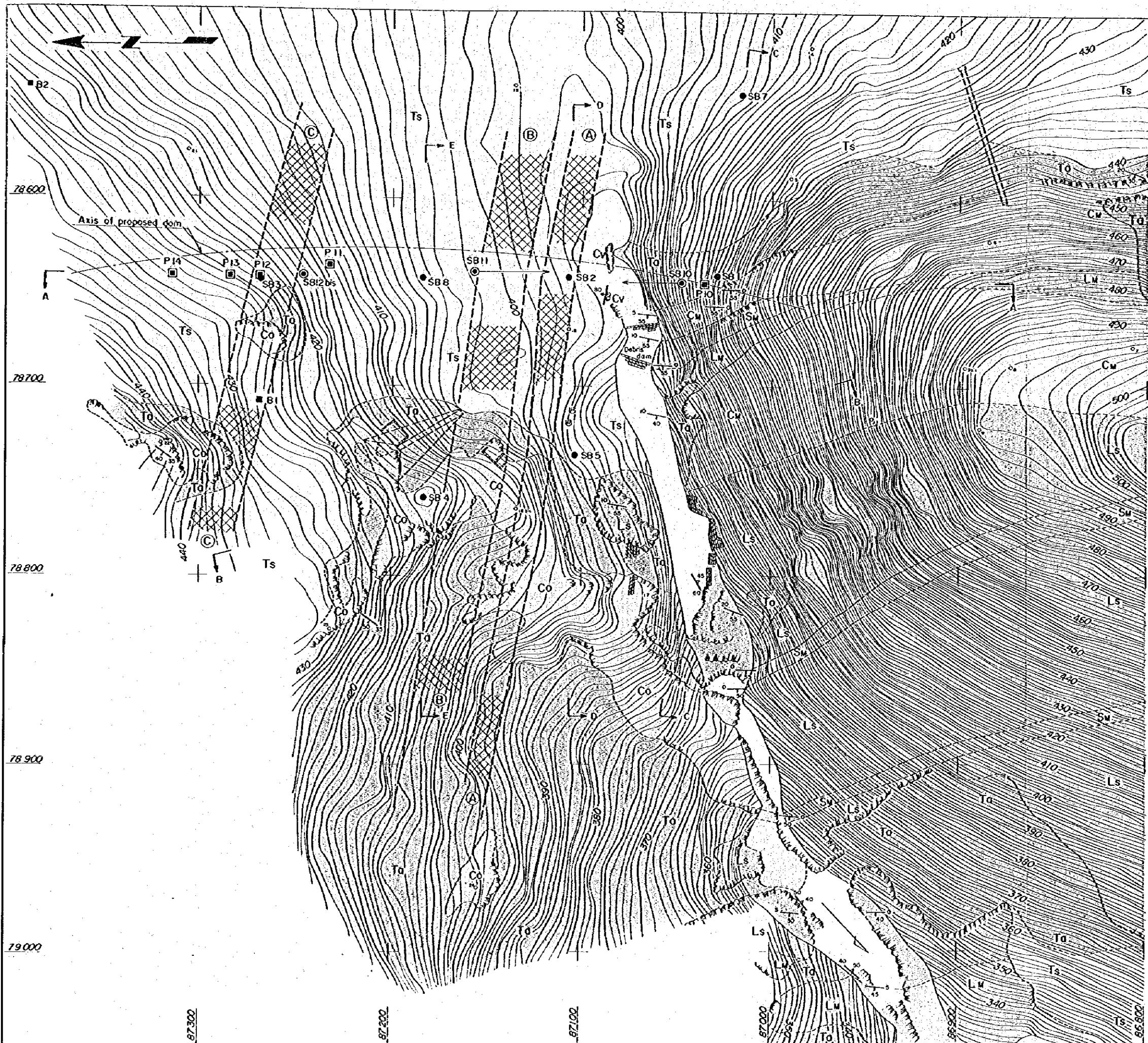
É DE L'ÉLECTRICITÉ ET DU GAZ (S)

UMPED STORAGE PROJECT

CONSTRUCTION MATERIALS PROJECT AREA

OF INVESTIGATION WORK

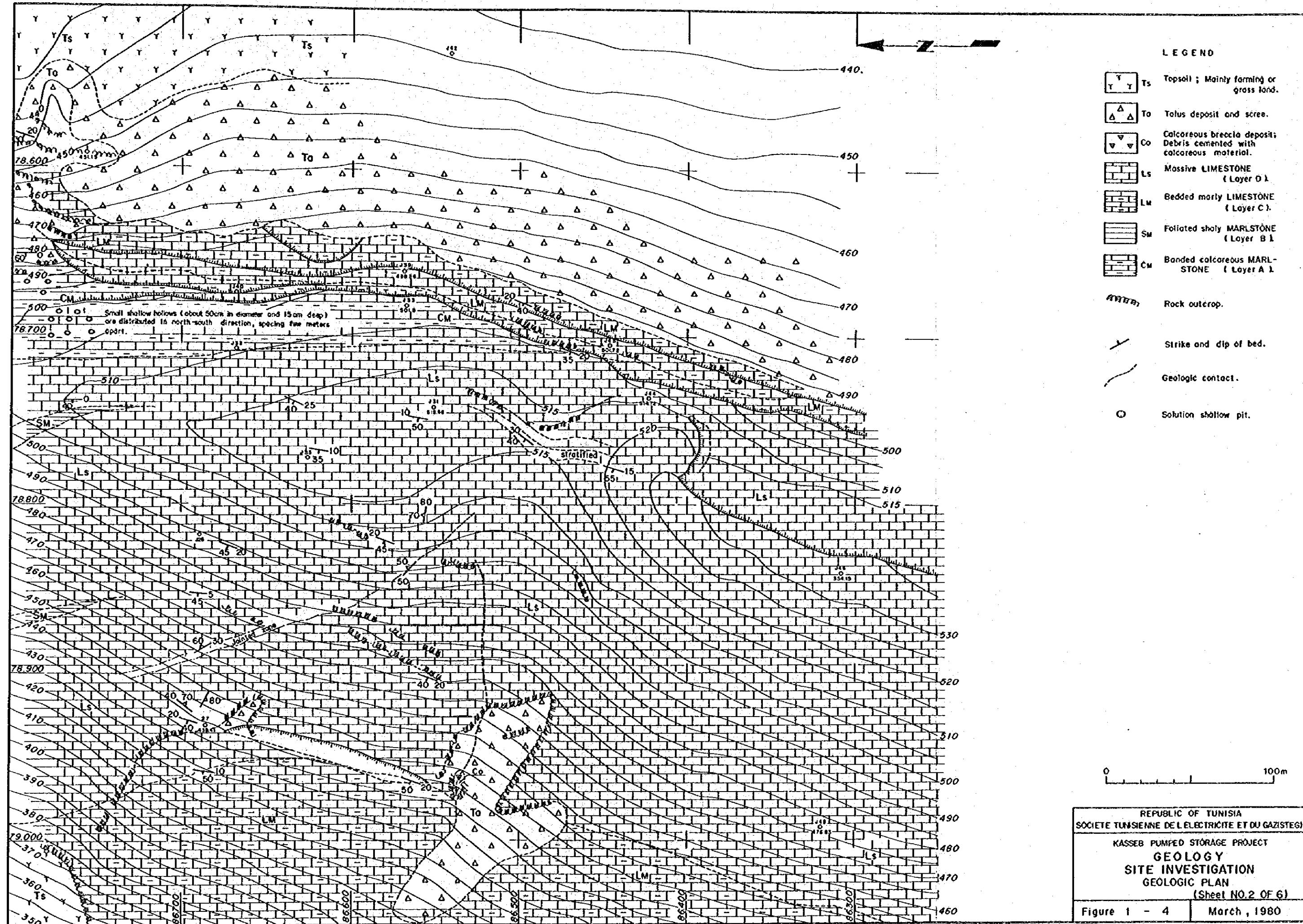
2 | March, 1980

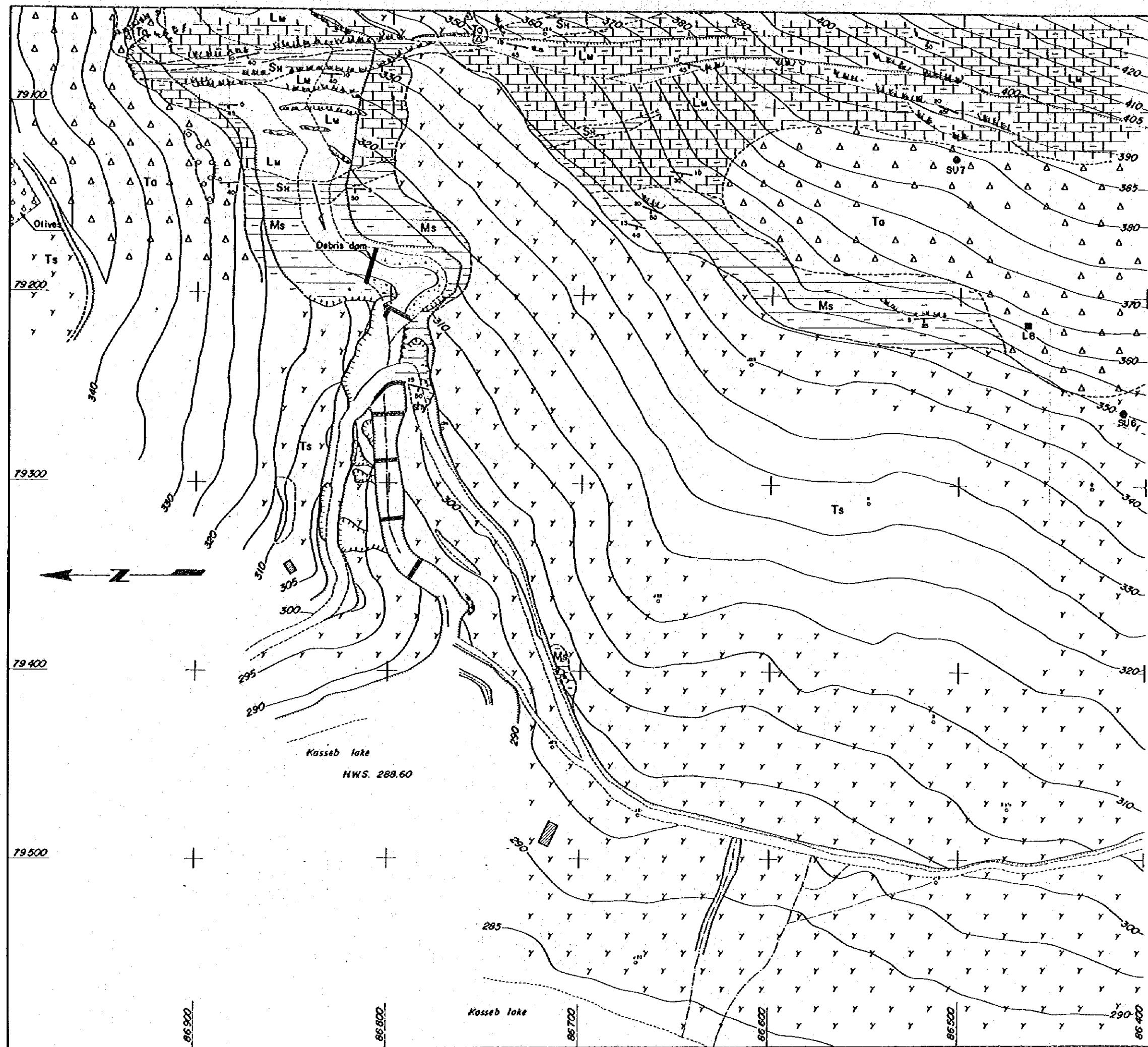


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KASSEB PUMPED STORAGE PROJECT
GEOLOGY
SITE INVESTIGATION
GEOLOGIC PLAN — DAM SITE —
(Sheet NO.1 OF 6)

Figure I - 3

March , 1980

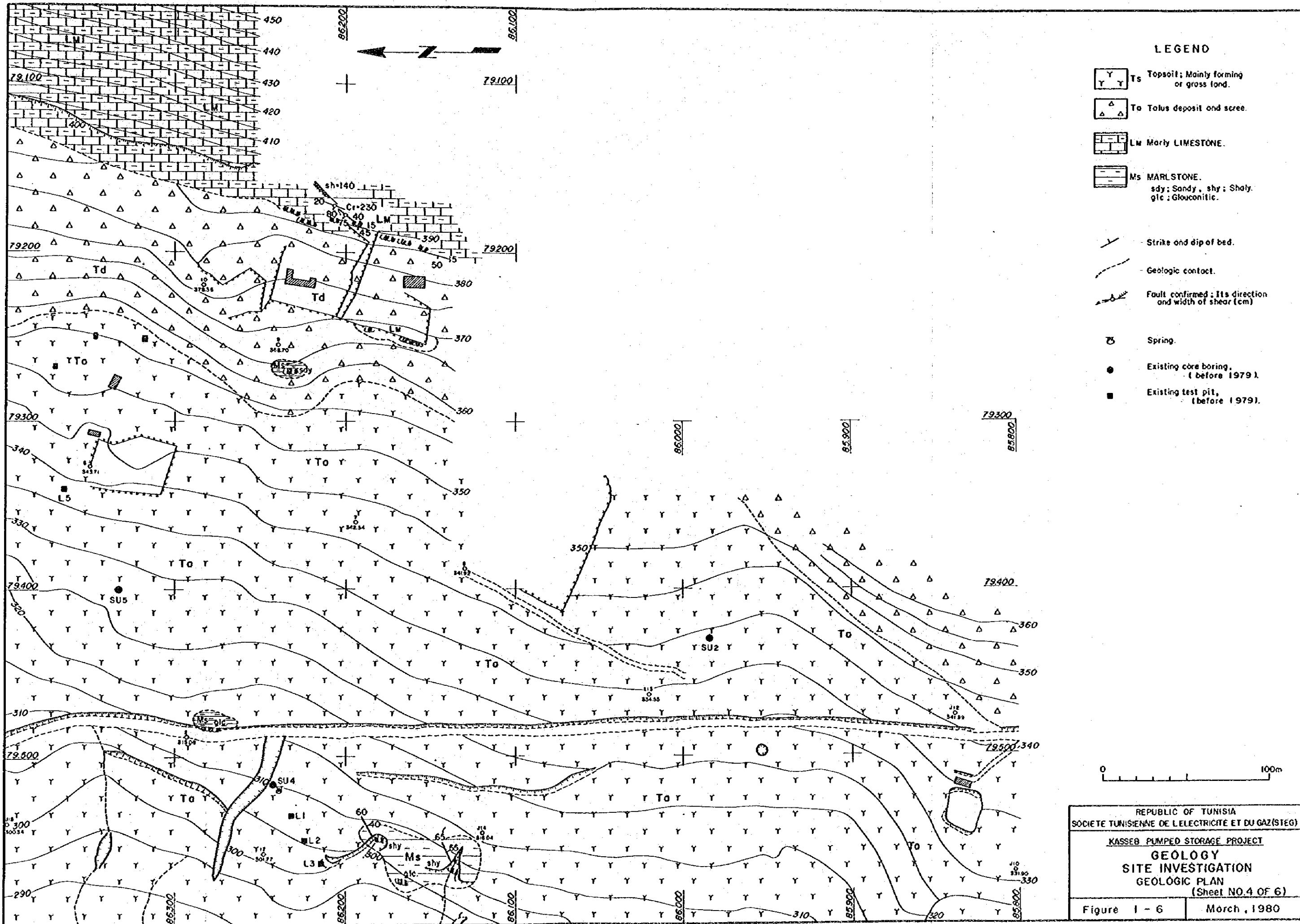


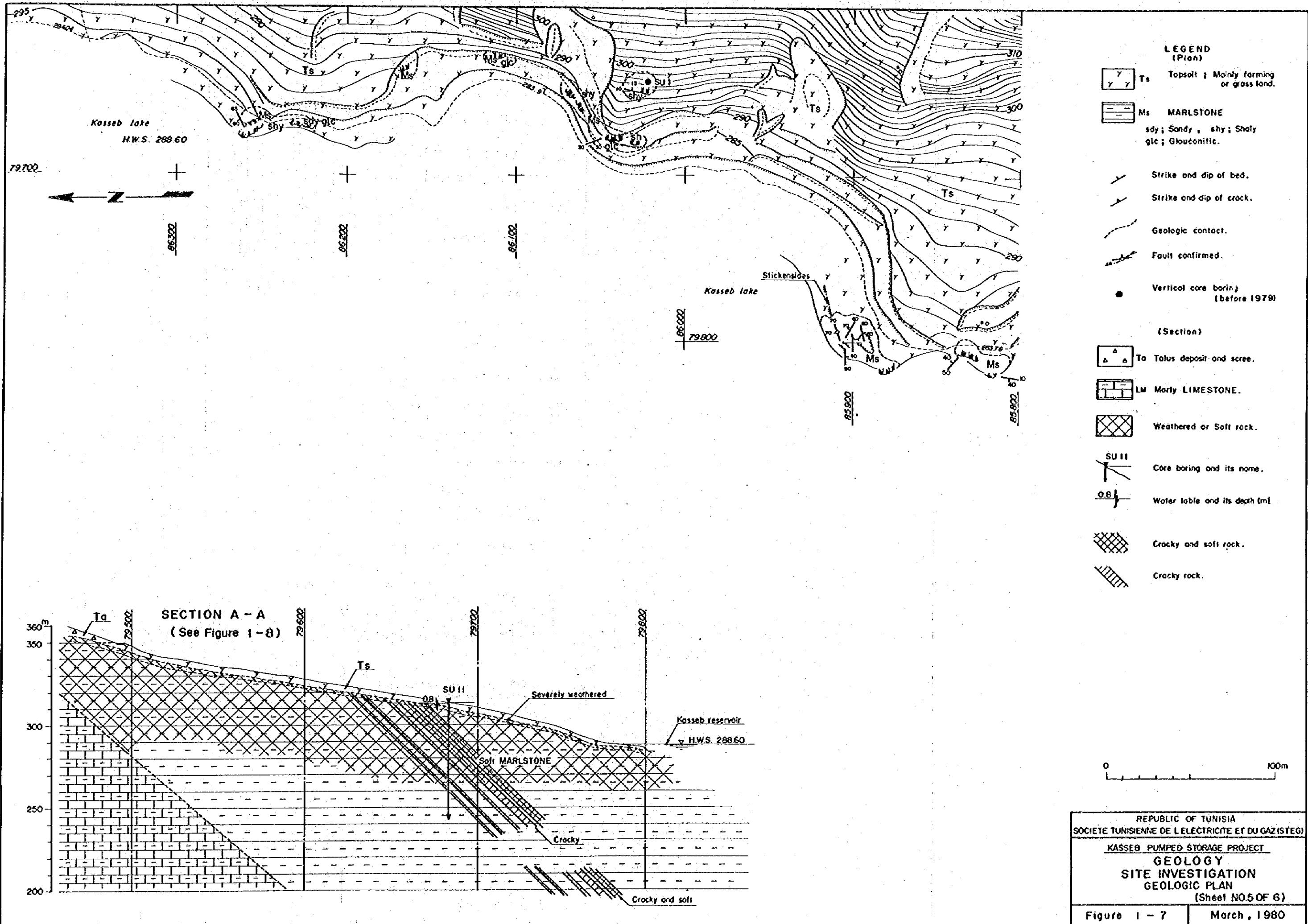


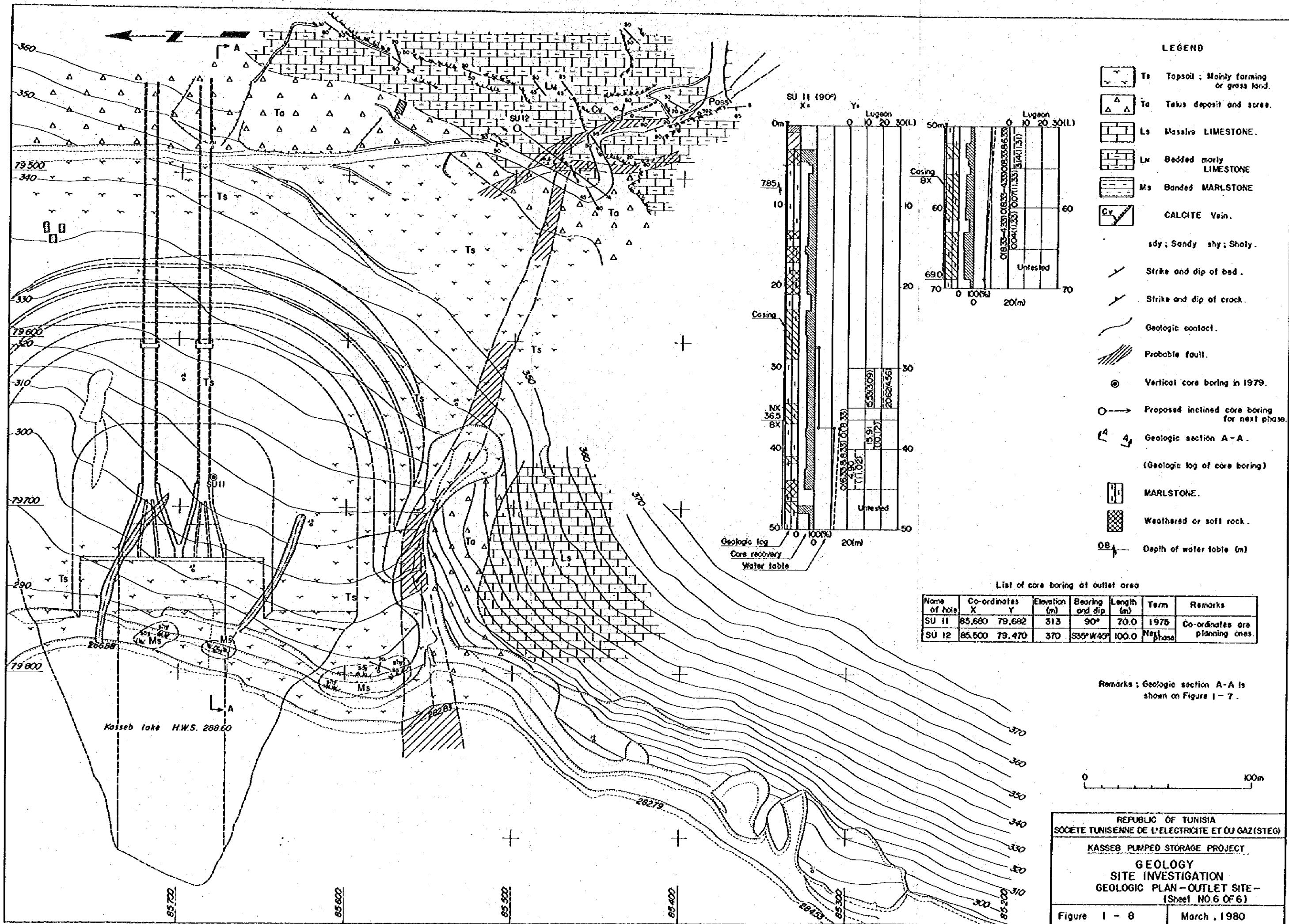
LEGEND

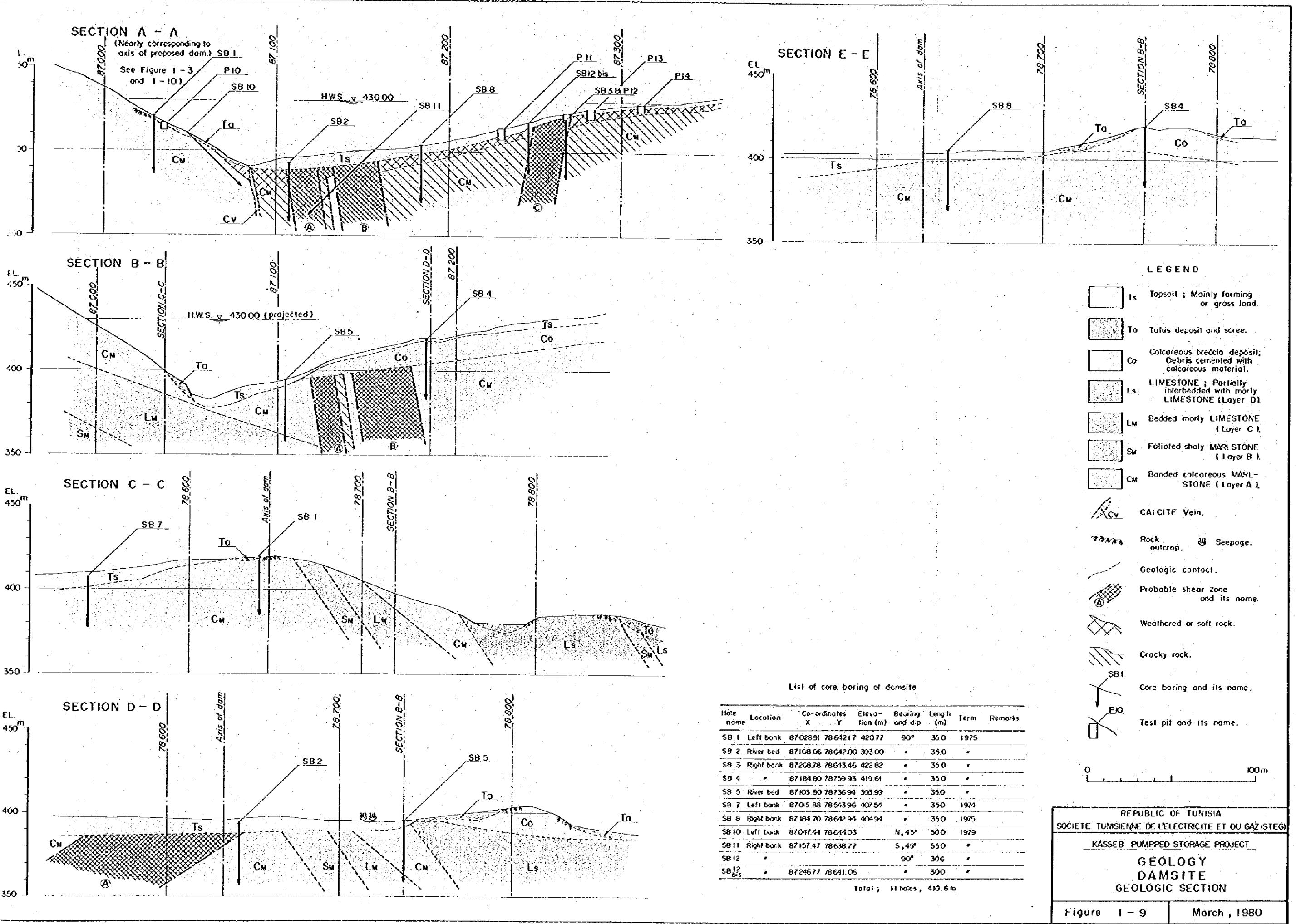
	Ts Topsoil : Mainly farming or grass land.
	To Talus deposit and scree.
	Lw Bedded marly LIMESTONE.
	Ms Bedded MARLSTONE.
	Sh SHALE.
	shy Shaly
	Strike and dip of bed.
	Geologic contact.
	Rock outcrop.
	Landslides or earth flow.
	Existing core boring (before 1979)
	Existing test pit (before 1979)

REPUBLIC OF TUNISIA SOCIETE TUNISIENNE DE L' ELECTRICITE ET DU GAZ (STEG)	
KASSEB PUMPED STORAGE PROJECT	
GEOLOGY SITE INVESTIGATION GEOLOGIC PLAN (Sheet N°3 OF 6)	
Figure 1 - 5	March, 1980



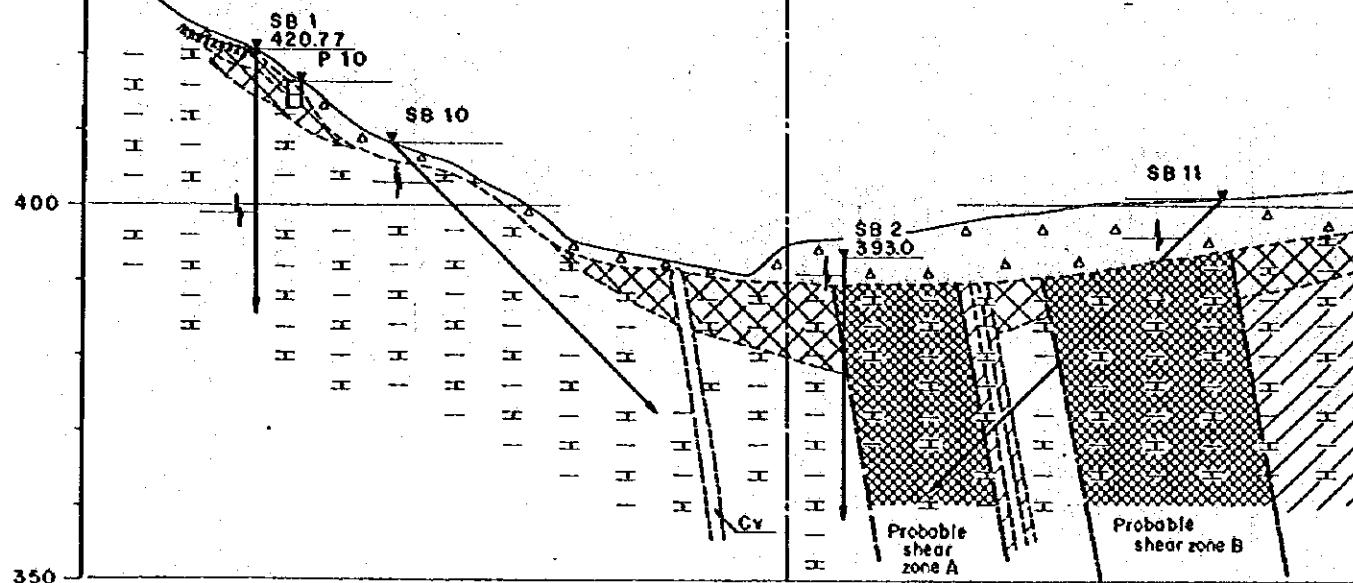






SECTION A-A (See Figure 1 - 3 and 1 - 9)

EL.
430m



LEGEND

(Geologic section)

Overburden; Topsoil and residual soil, Clayey silt with debris in part.

MARLSTONE; Calcareous.

CALCITE vein.

Weathered or soft rock.

Cracky rock.

Geologic contact.

Shear zone.

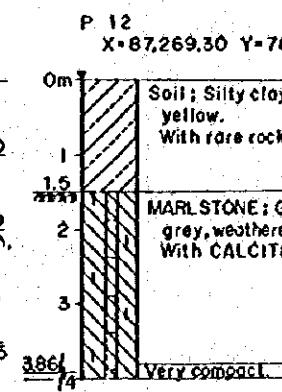
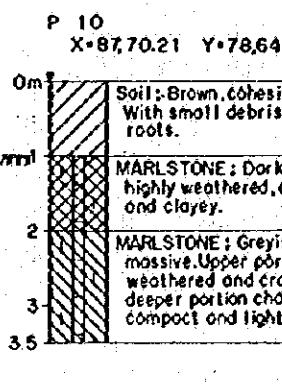
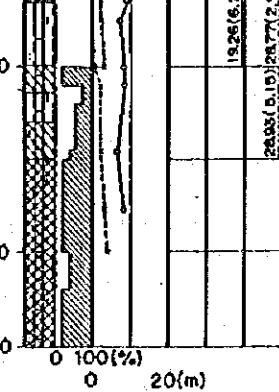
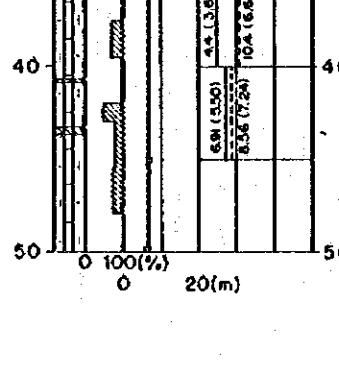
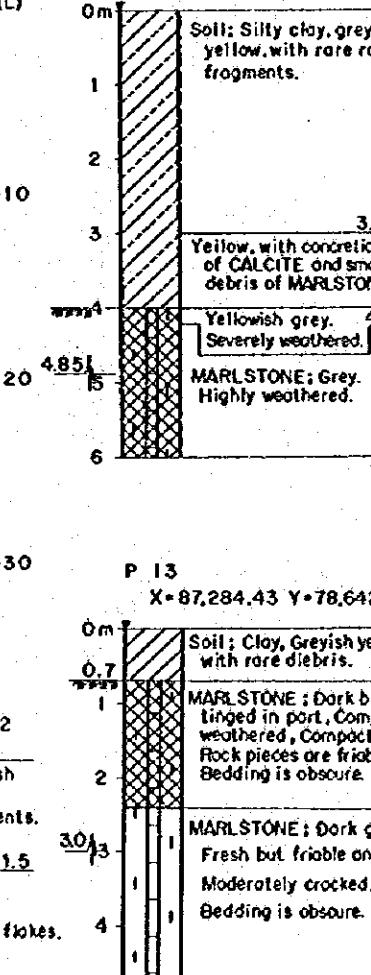
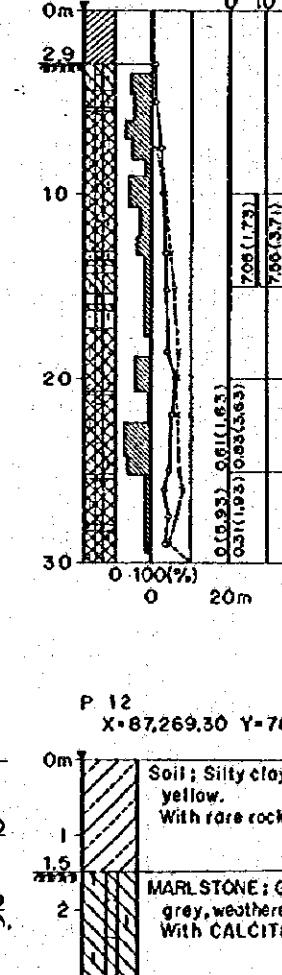
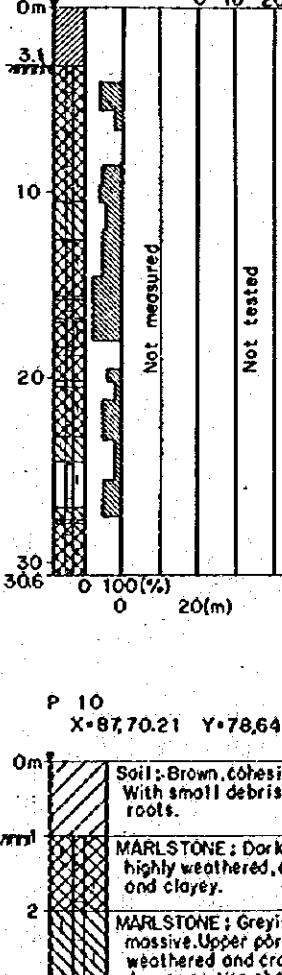
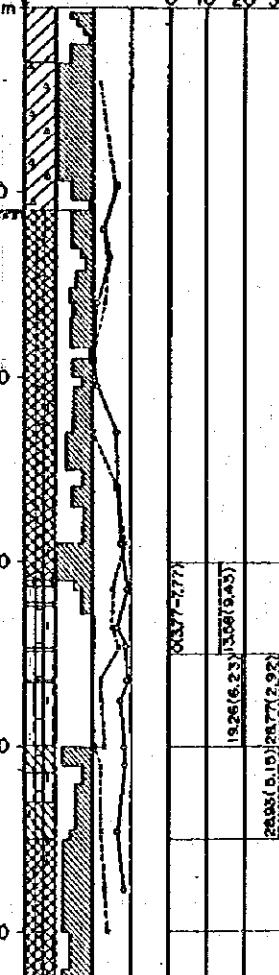
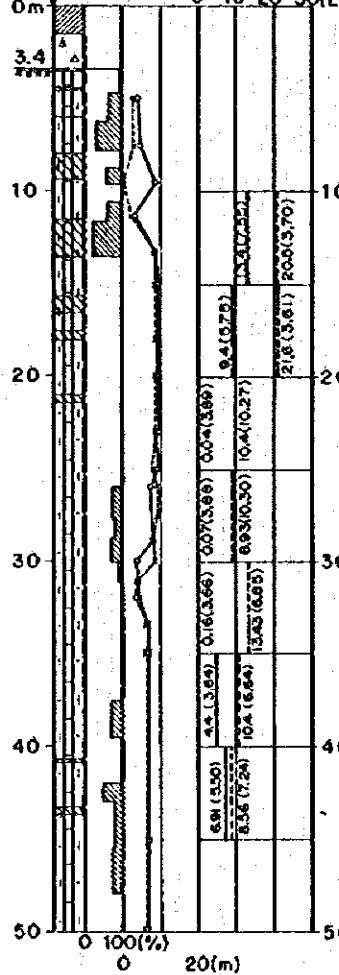
SB 10 (N. 45°)
X=87,047.44 Y=78,644.03
Lugon
0 10 20 30(L)

SB 11 (S. 45°)
X=87,157.47 Y=78,638.77
Lugon
0 10 20 30(L)

SB 12 (90°)
Y= lugon
0 10 20 30(L)

SB 12 (90°)
X=87,246.77 Y=78,641.06
Lugon
0 10 20 30(L)

P 11
X=87,233.11 Y=78,636.61



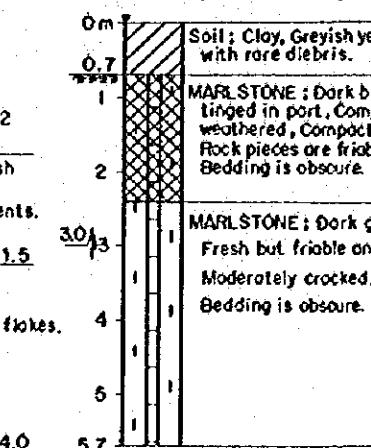
LEGEND (Continued)

Hole name, its direction and co-ordinates
Elevation(m) SB 12 bis (90°)
Depth X=87,246.77 Y=78,641.06
Rock surface Lugon
0m 0 10 20 30(L)
Core recovery (%) 0 100%
Water table in hole 0 20(m)
Max value and its (pressure in kg/cm²)
Min. value and its (pressure in kg/cm²)

Remarks: The logs of core boring SB 1, SB 2
SB 3 and SB 8 are contained in Feasibility
Report (Fig-5.3) made by JICA, Nov., 1978.

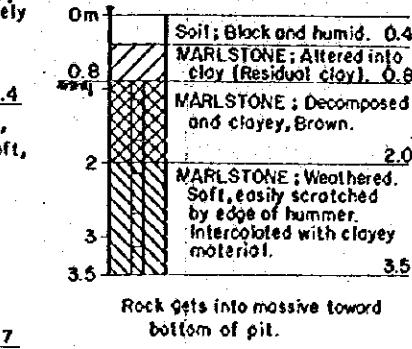
P 13

X=87,284.43 Y=78,642.43



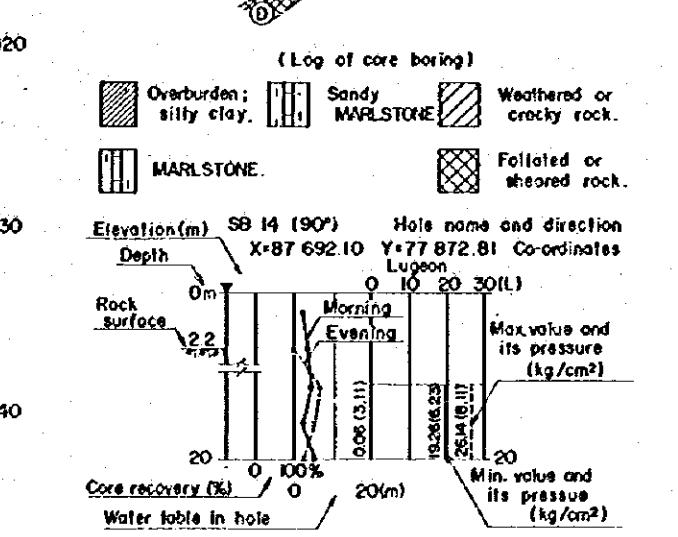
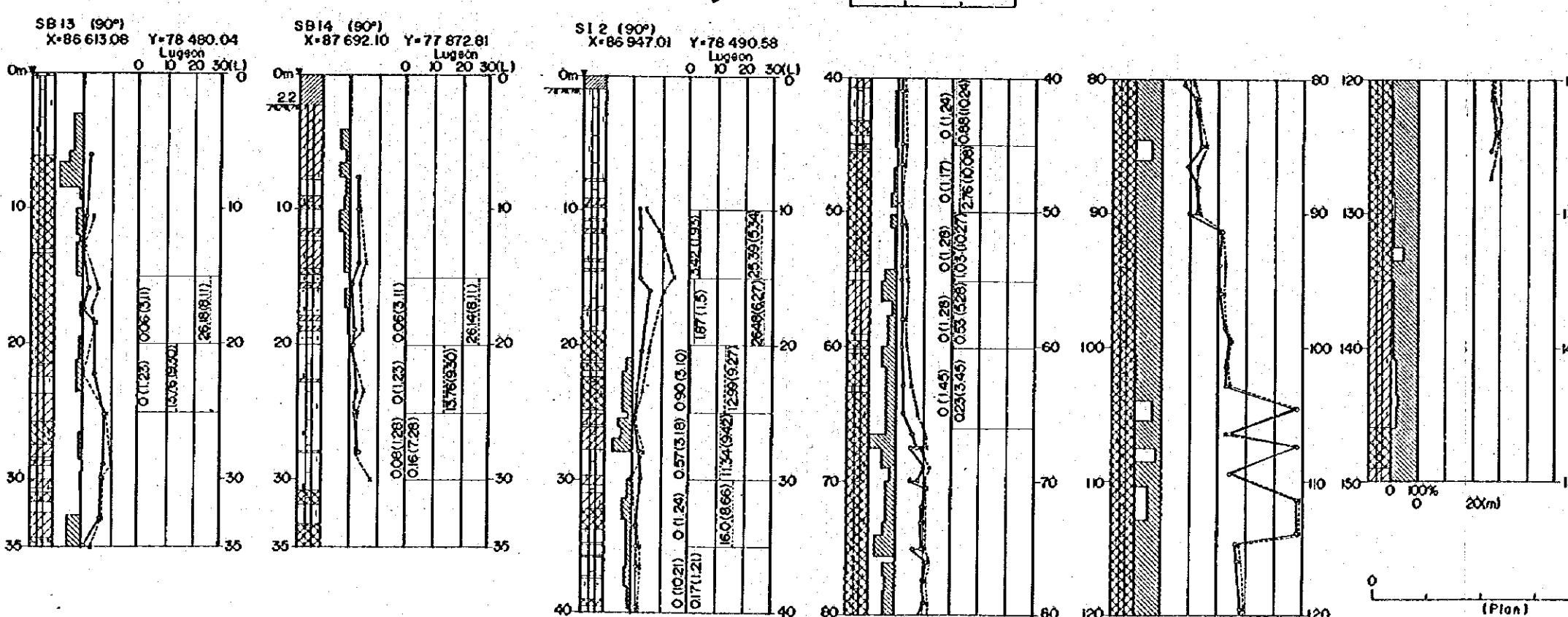
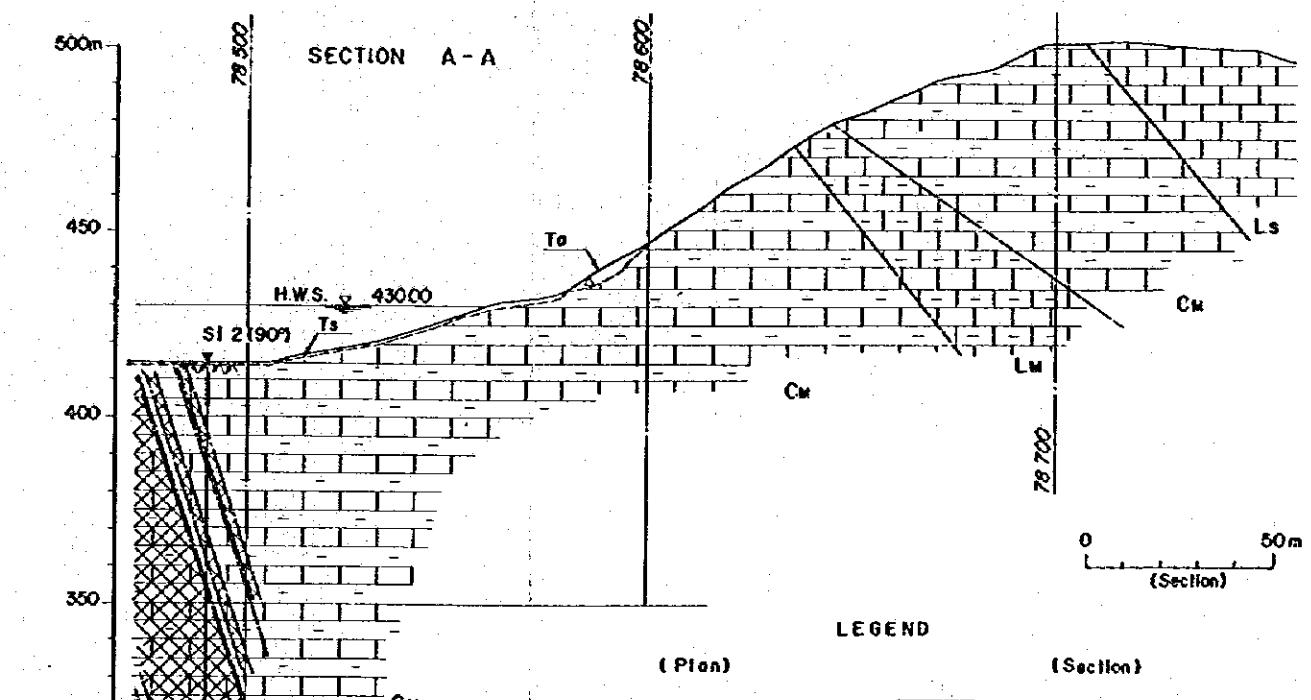
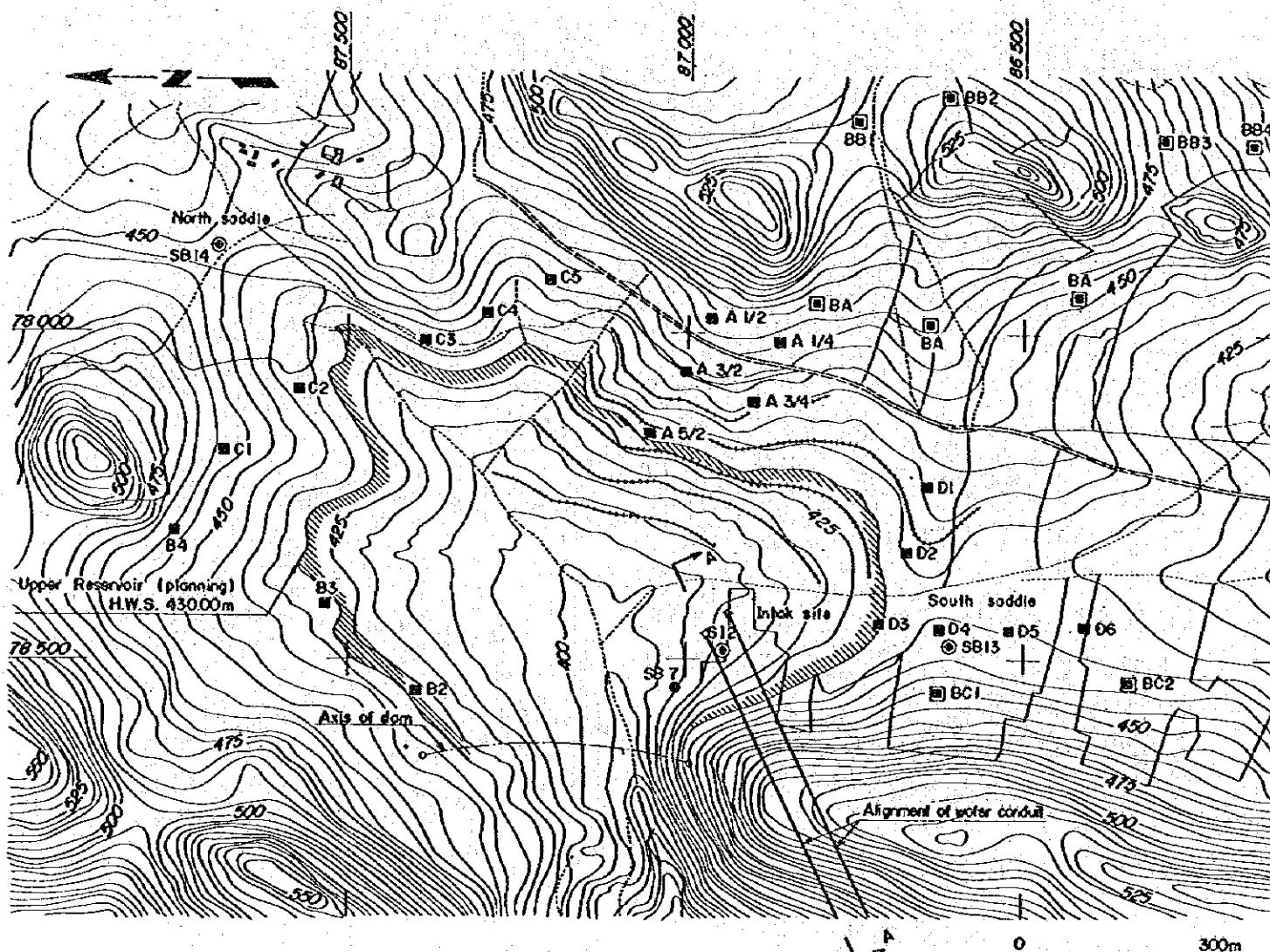
P 14

X=87,314.25 Y=78,642.14



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SOCIETE TUNISIENNE DE L ELECTRICITE ET DUGAZ(STEG)
KASSEB PUMPED STORAGE PROJECT
GEOLOGY DAMSITE
DETAILED SECTION A-A AND LOG
OF CORE BORING AND TEST PIT

LOCATION OF INVESTIGATION WORK IN UPPER RESERVOIR AREA AND ITS VICINITY



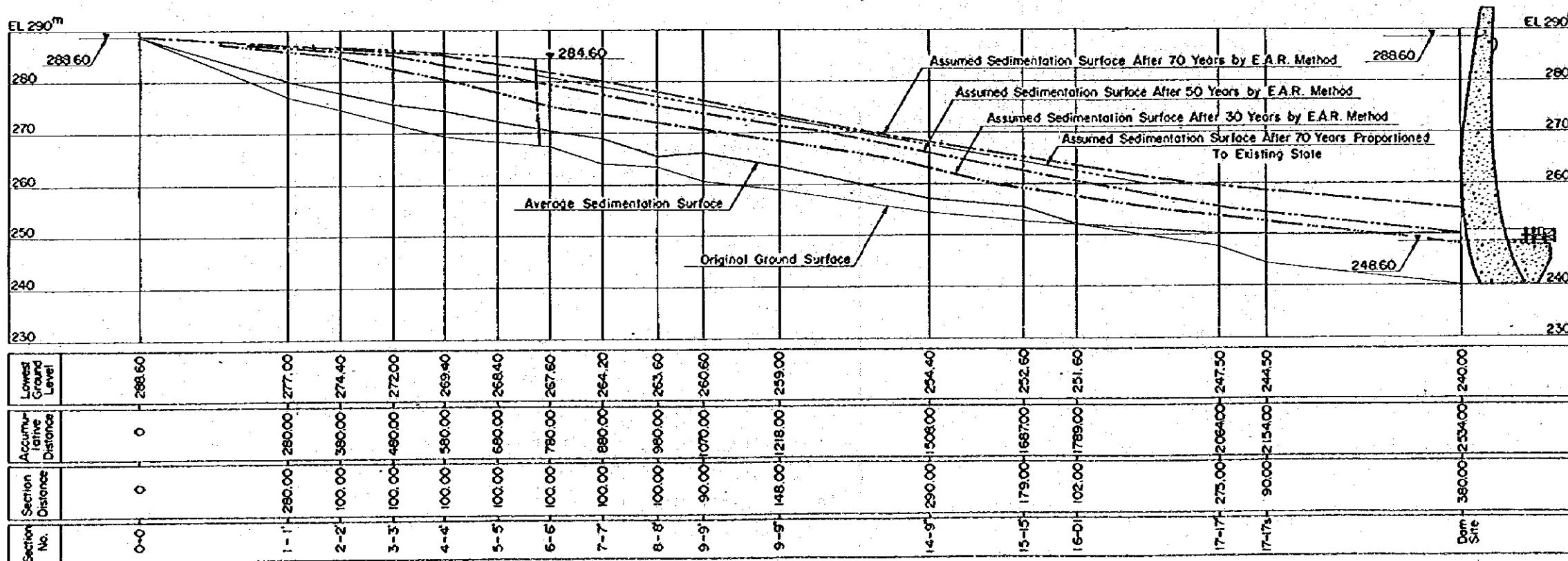
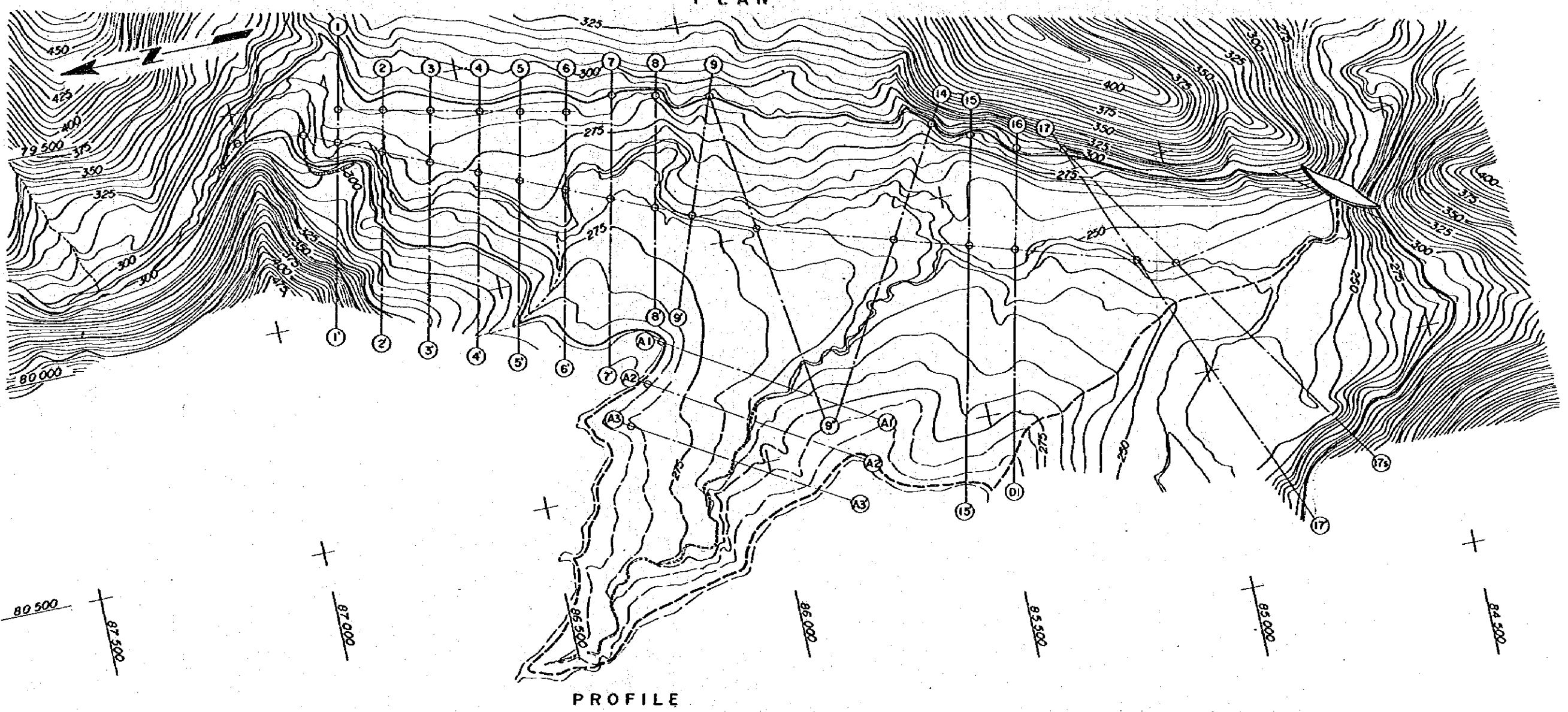
REPUBLIC OF TUNISIA
SOCIETE TUNISIENNE DE L'ELECTRICITE ET DU GAZ (STEG)
KASSEB PUMPED STORAGE PROJECT
GEOLOGY
RESERVOIR AREA
LOCATION OF INVESTIGATION WORK
AND LOG OF CORE BORING

PROFILS D'ENVASEMENT

**Figure 3-1 STUDY OF SEDIMENTATION (1-3)
OUED EL BRIK, KASSEB RESERVOIR**

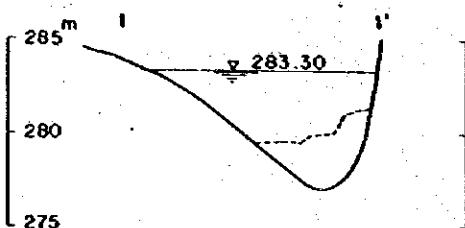
**Figure 3-2 STUDY OF SEDIMENTATION (2-3)
OUED EL BRIK, KASSEB RESERVOIR**

**Figure 3-3 STUDY OF SEDIMENTATION (3-3)
OUED EL BRIK, KASSEB RESERVOIR**

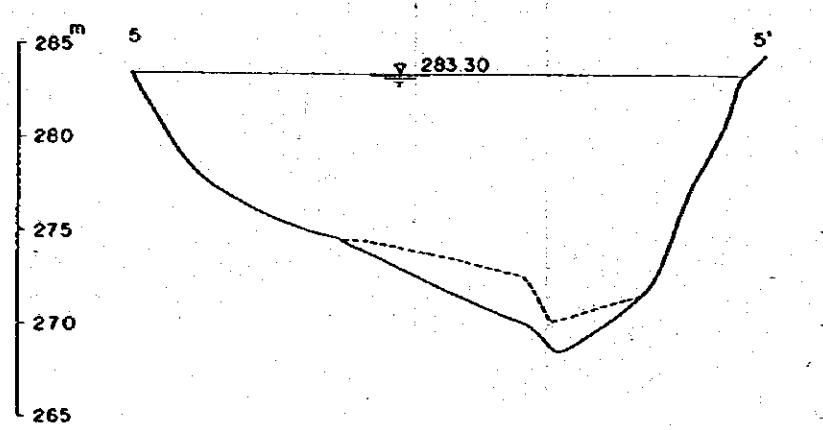


REPUBLIC OF TUNISIA
SOCIETE TUNISIENNE DE L'ÉLECTRICITÉ ET DU GAZ (STEG)
KASSEB PUMPED STORAGE PROJECT
STUDY OF SEDIMENTATION (3-3)
Oued el Brik, Kasseb Reservoir
Figure 3 - 1 March , 1980

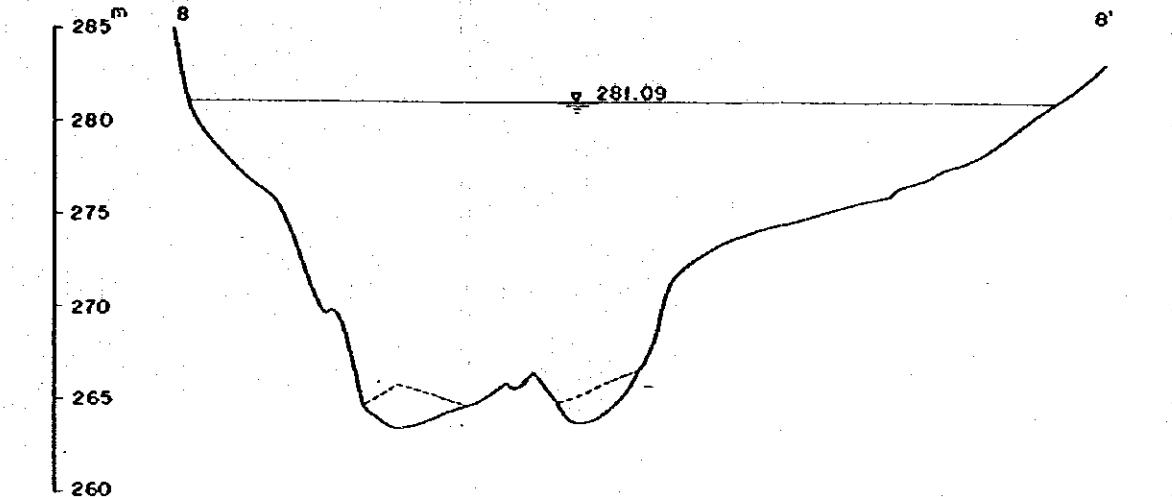
SECTION 1 - 1'



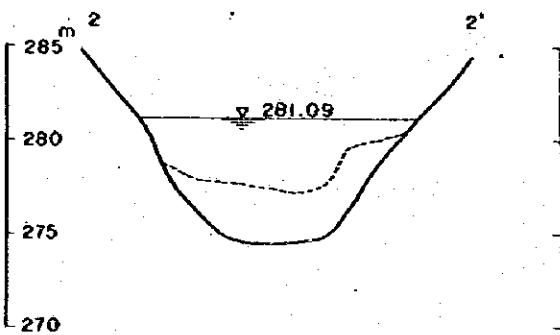
SECTION 5 - 5'



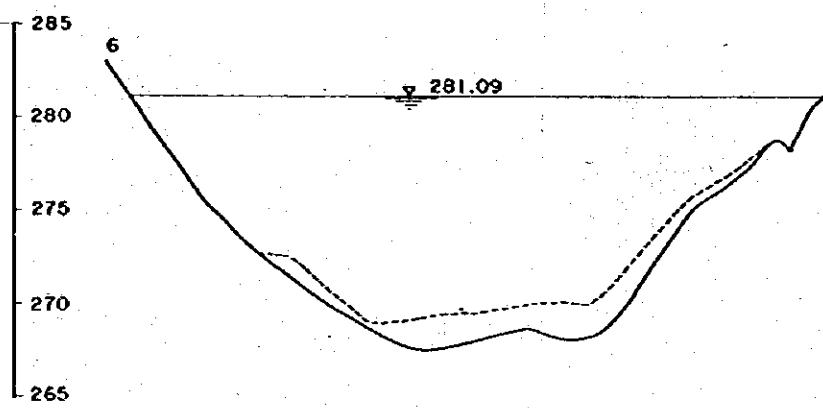
SECTION 8 - 8'



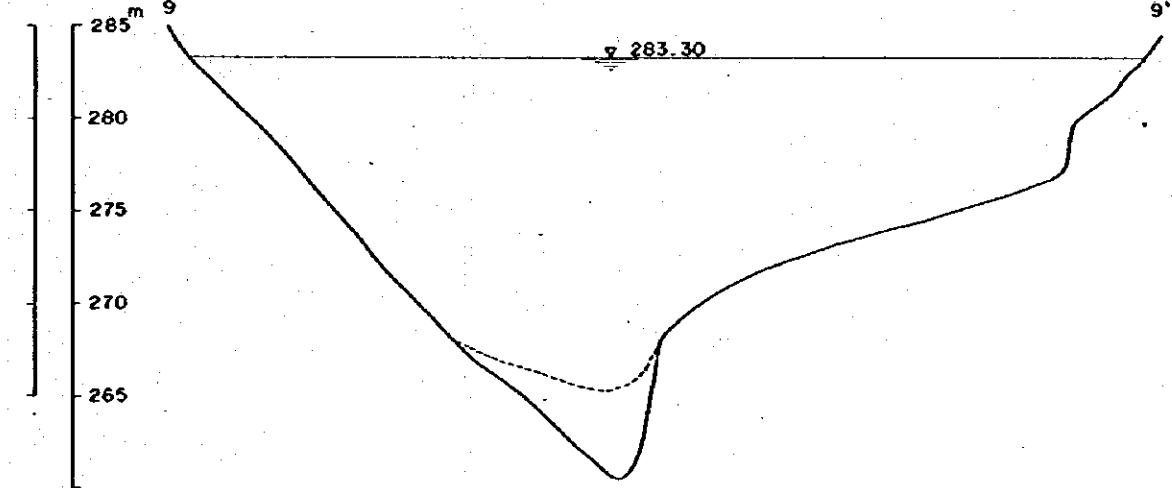
SECTION 2 - 2'



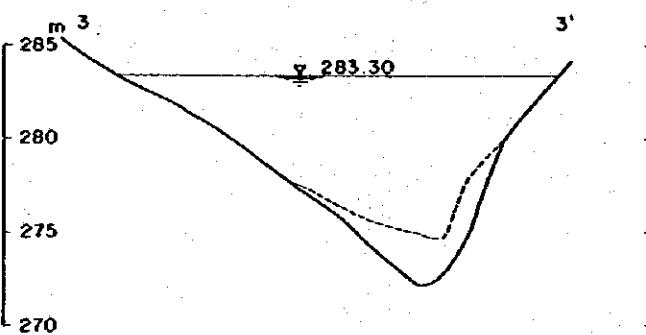
SECTION 6 - 6'



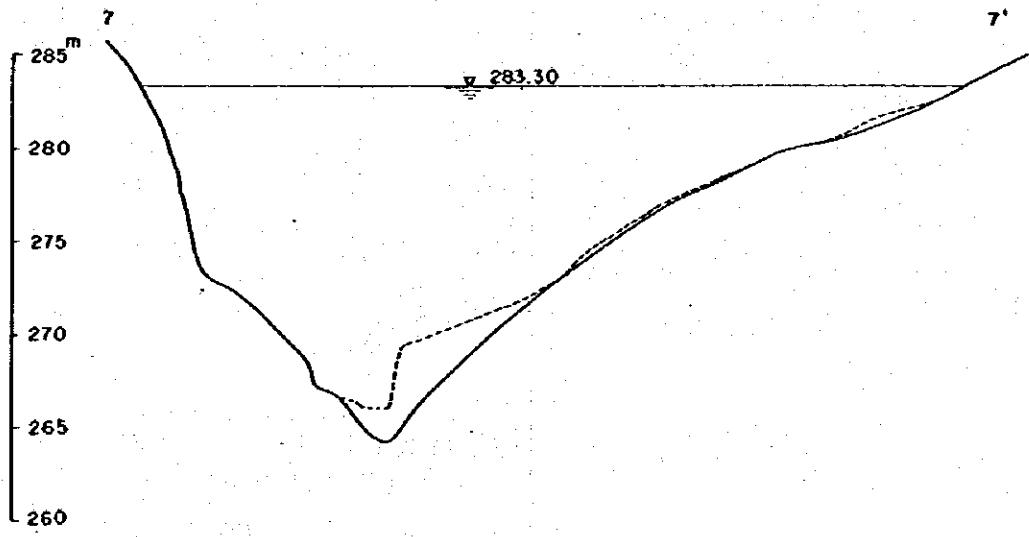
SECTION 9 - 9'



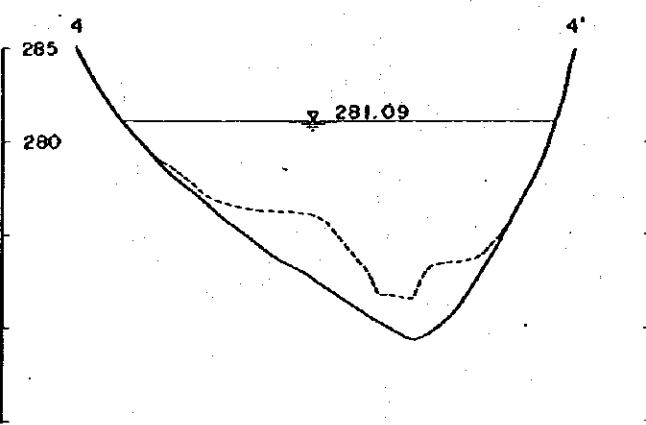
SECTION 3 - 3'



SECTION 7 - 7'



SECTION 4 - 4'

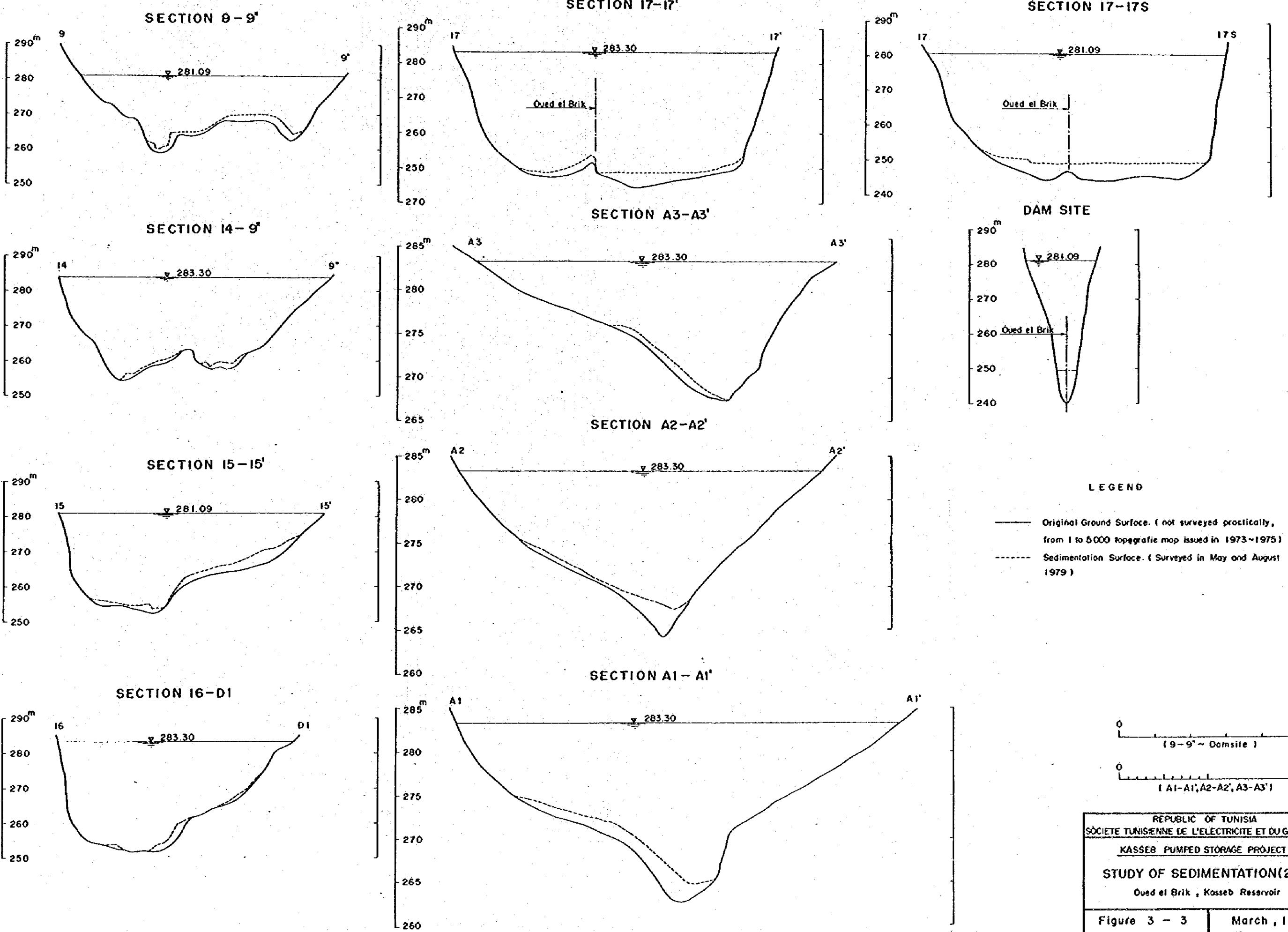


LEGEND

- Original Ground Surface. (not surveyed practically, from 1 to 5000 topographic map issued in 1973~1975)
- - - Sedimentation Surface. (Surveyed in May and August 1979)

0 200m

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SOCIETE TUNISIENNE DE L'ELECTRICITE ET DU GAZ (STEG)
KASSEB PUMPED STORAGE PROJECT
STUDY OF SEDIMENTATION(1-3)
Oued el Brik , Kasseb Reservoir
Figure 3 - 2
March , 1980



DESSINS DES OUVRAGES DE GENIE CIVIL

**Figure 4-1 DAM AND DIVERSION (OUTLET)
(DRAWDOWN – 15 m)**

**Figure 4-2 PLAN
(DRAWDOWN – 15 m)**

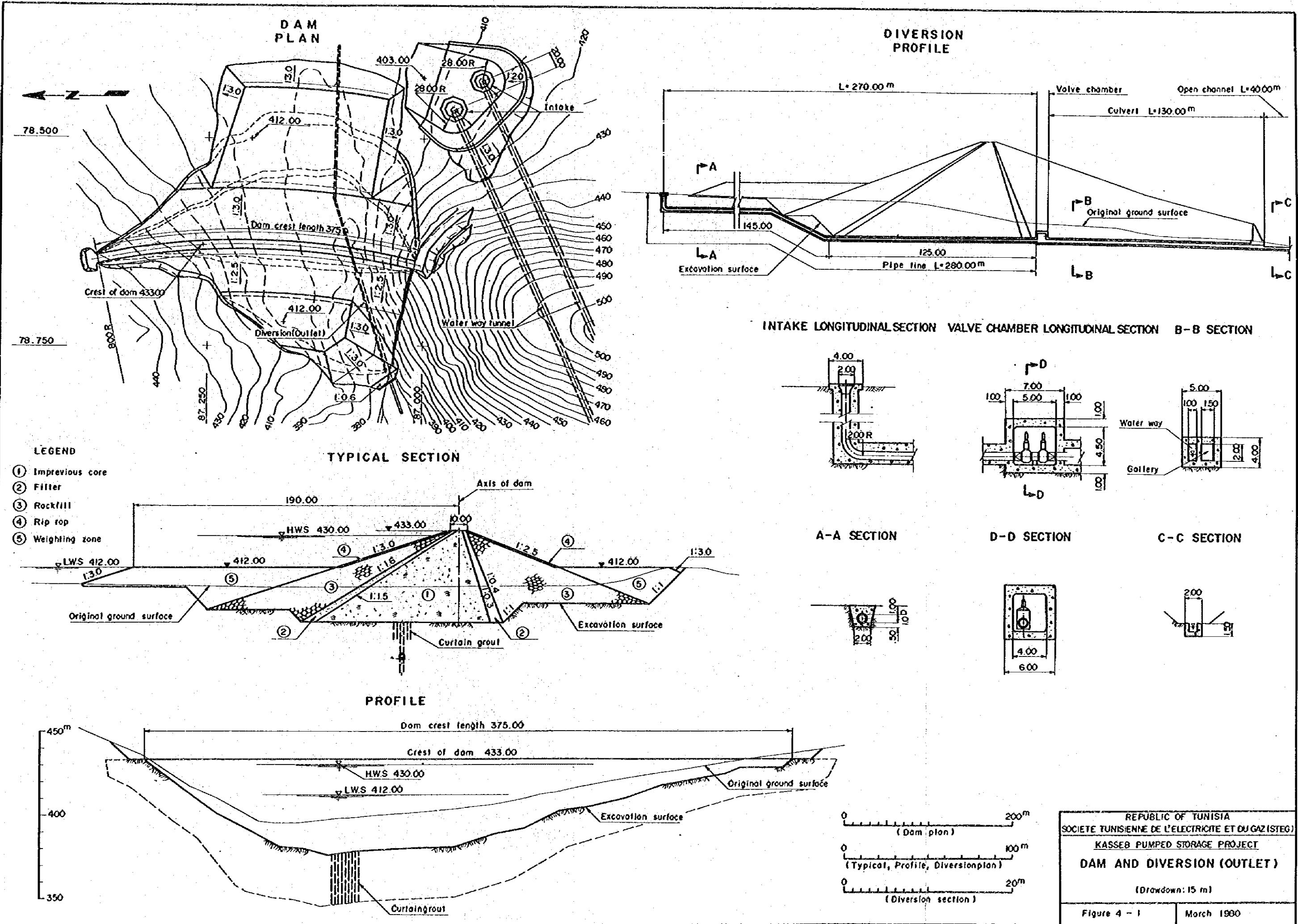
**Figure 4-3 WATERWAY TUNNELS
(DRAWDOWN – 15 m)**

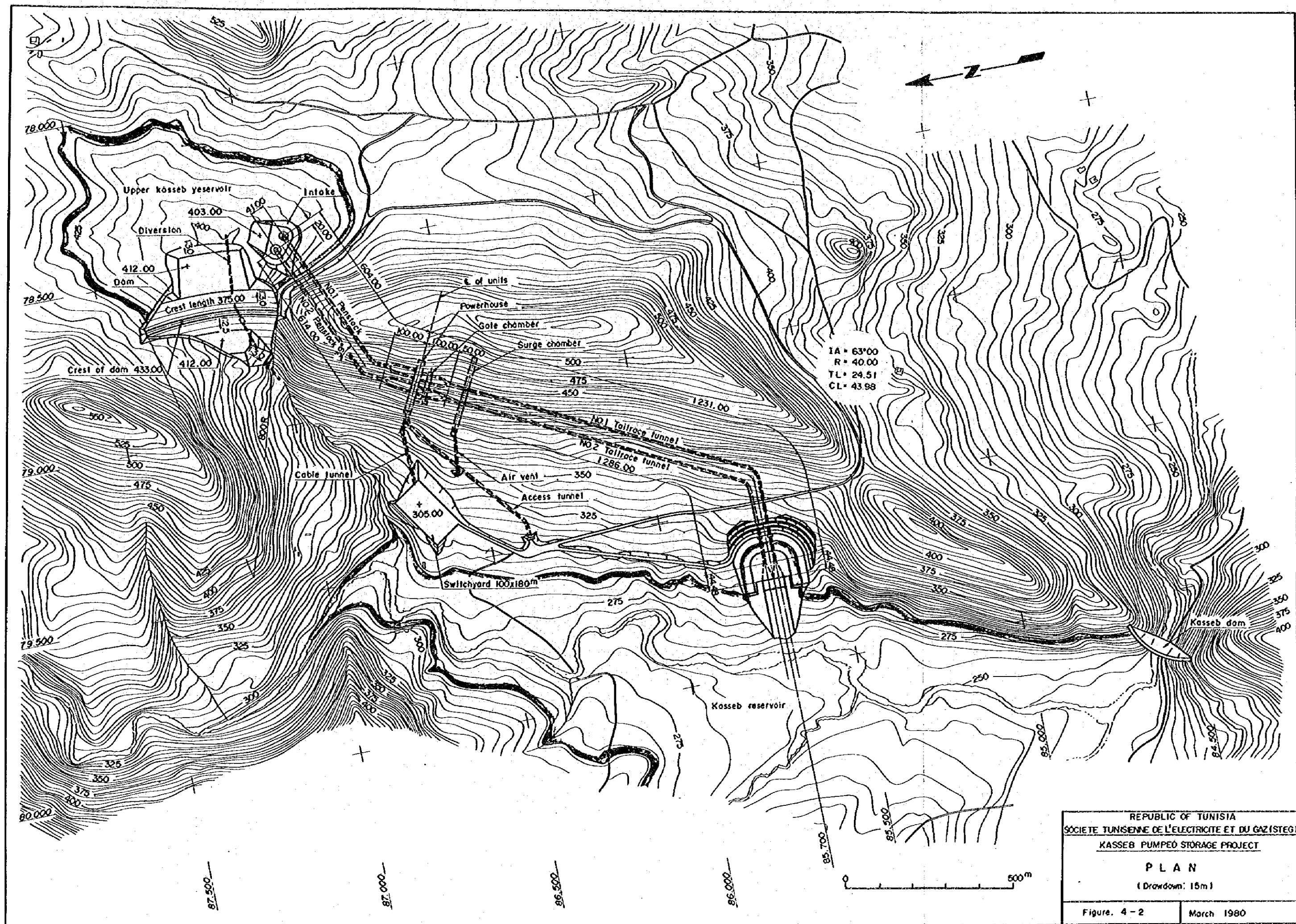
**Figure 4-4 INTAKE AND OUTLET
(DRAWDOWN – 15 m)**

**Figure 4-5 POWER HOUSE (1-3)
(DRAWDOWN – 15 m)**

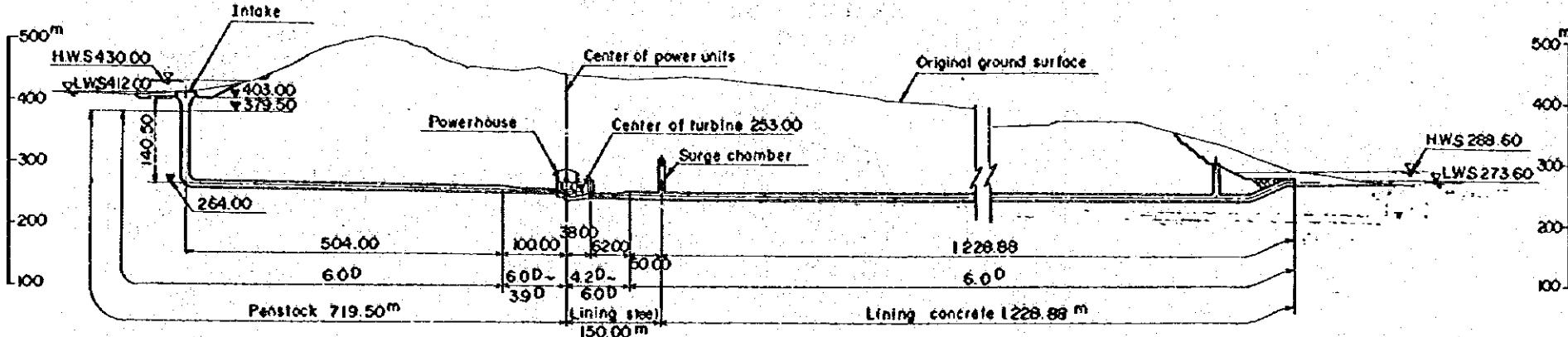
**Figure 4-6 POWER HOUSE (2-3)
(DRAWDOWN – 15 m)**

**Figure 4-7 POWER HOUSE (3-3)
(DRAWDOWN – 15 m)**

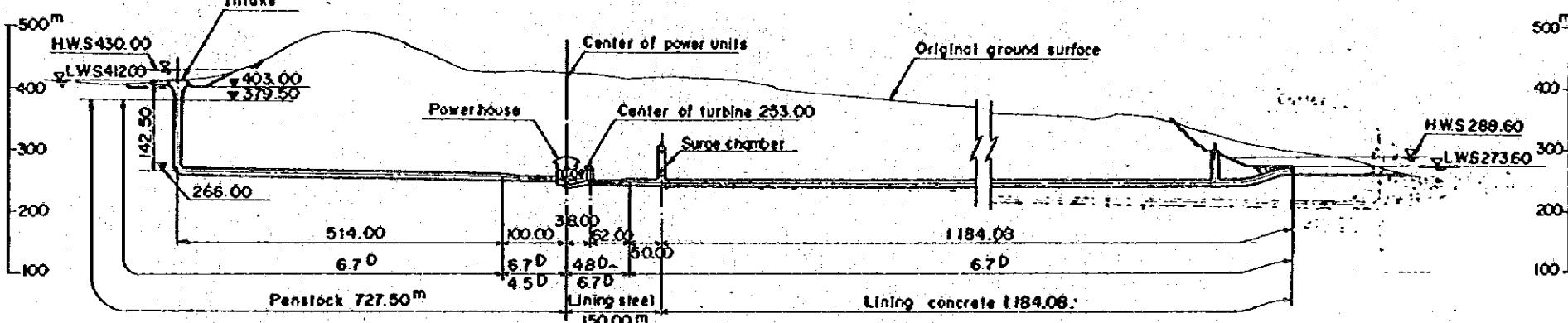




NO.1 WATERWAY TUNNEL LONGITUDINAL SECTION

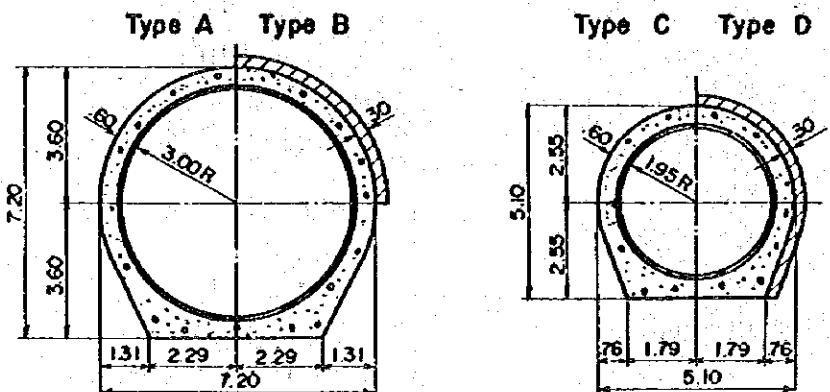


NO.2 WATERWAY TUNNEL LONGITUDINAL SECTION

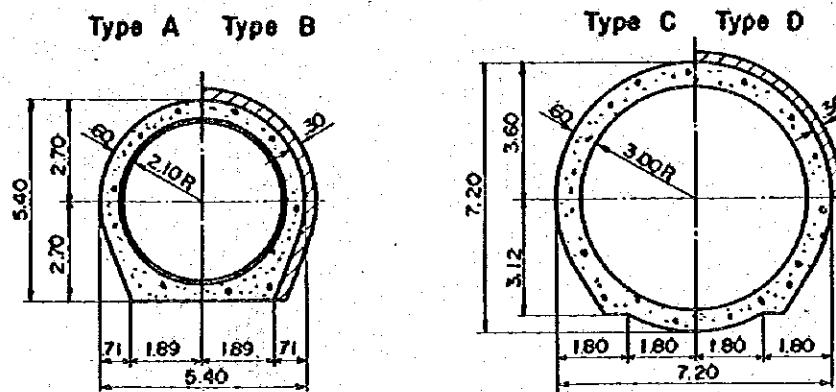


WATERWAY TUNNEL TYPICAL SECTION

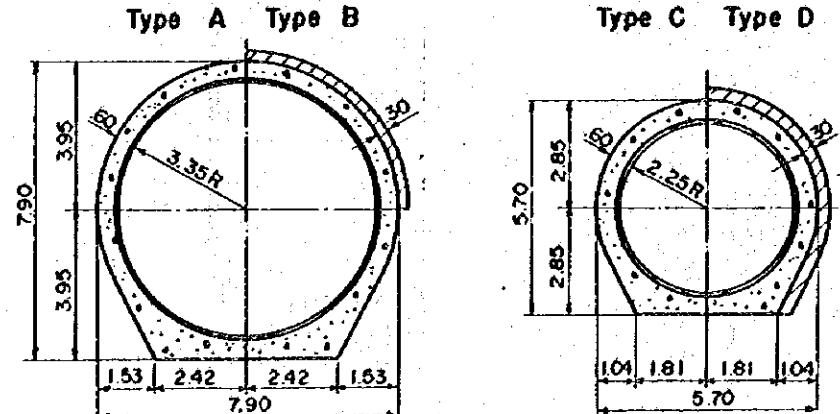
NO.1 PENSTOCK



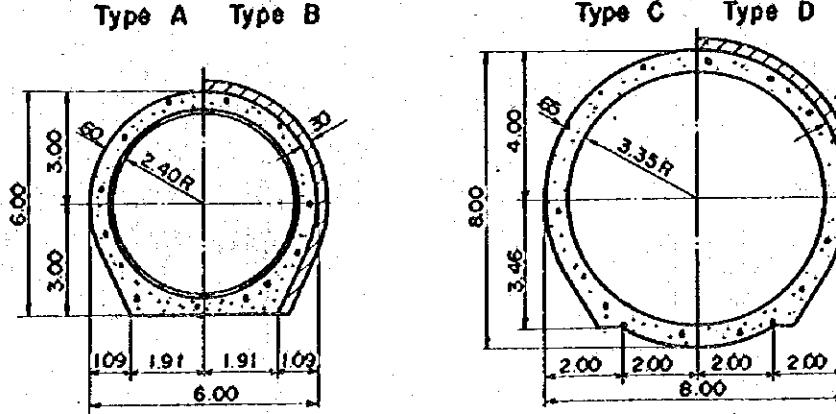
NO.1 TAILRACE TUNNEL



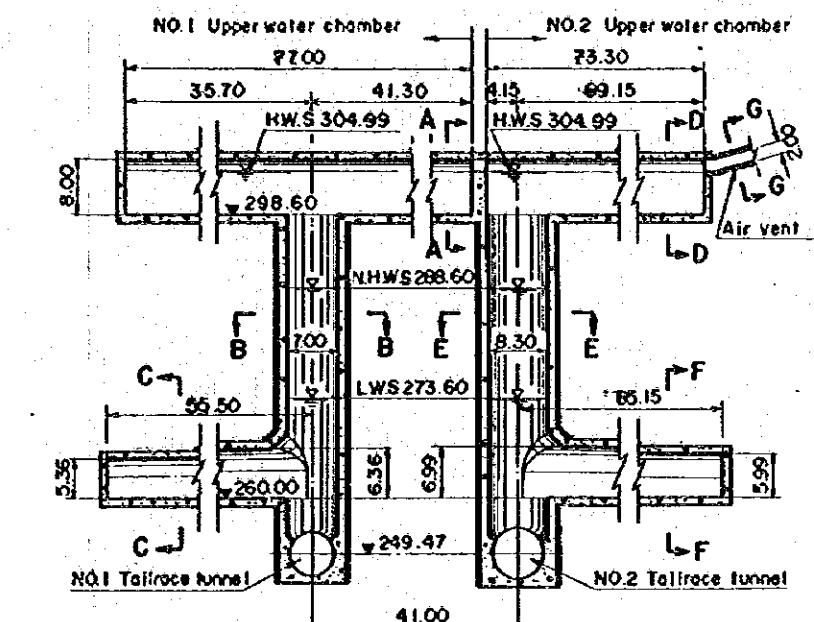
NO.2 PENSTOCK



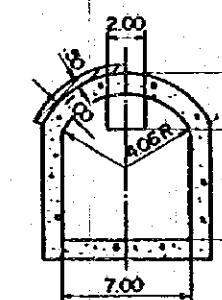
NO.2 TAILRACE TUNNEL



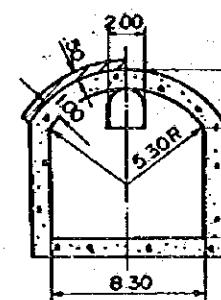
SURGE CHAMBER



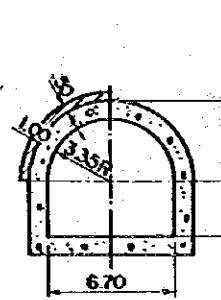
A-A SECTION



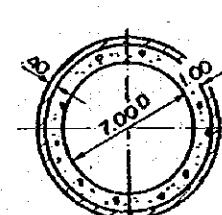
D-D SECTION



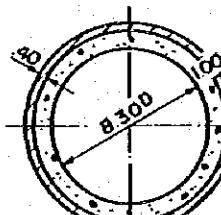
F-F SECTION



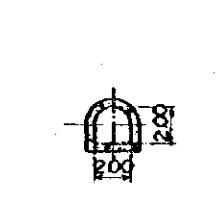
B-B SECTION



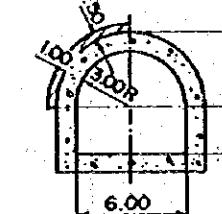
E-E SECTION



G-G SECTION

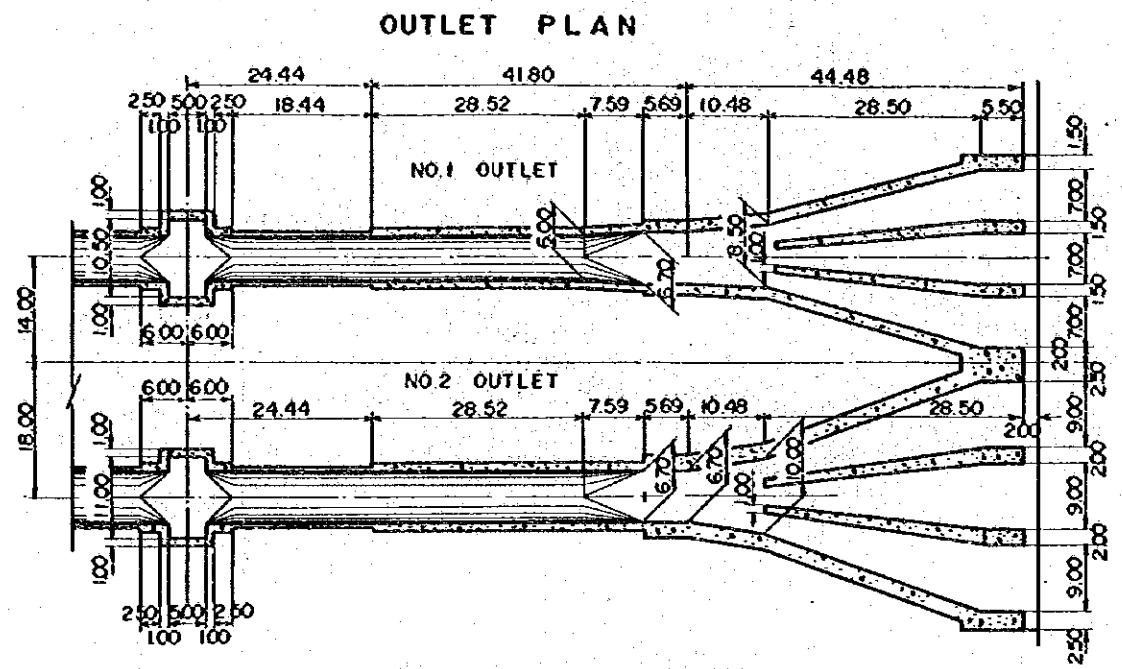


C-C SECTION

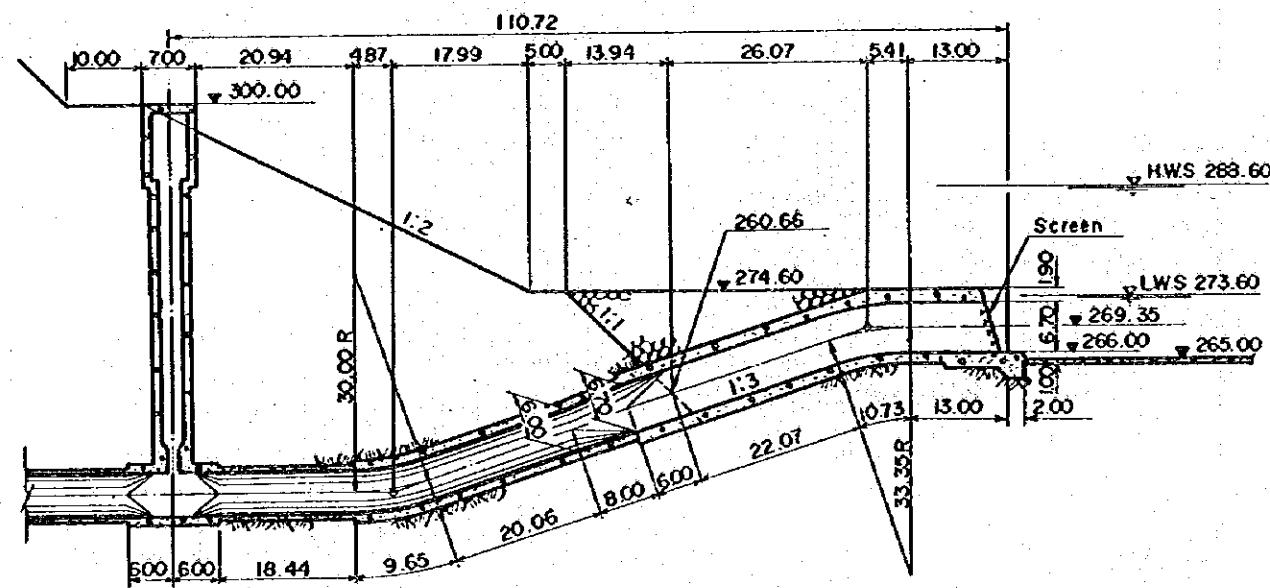


500m
Waterway tunnel
10m
Typical section
50m
Surge chamber
20m
(A-A ~ G-G section)

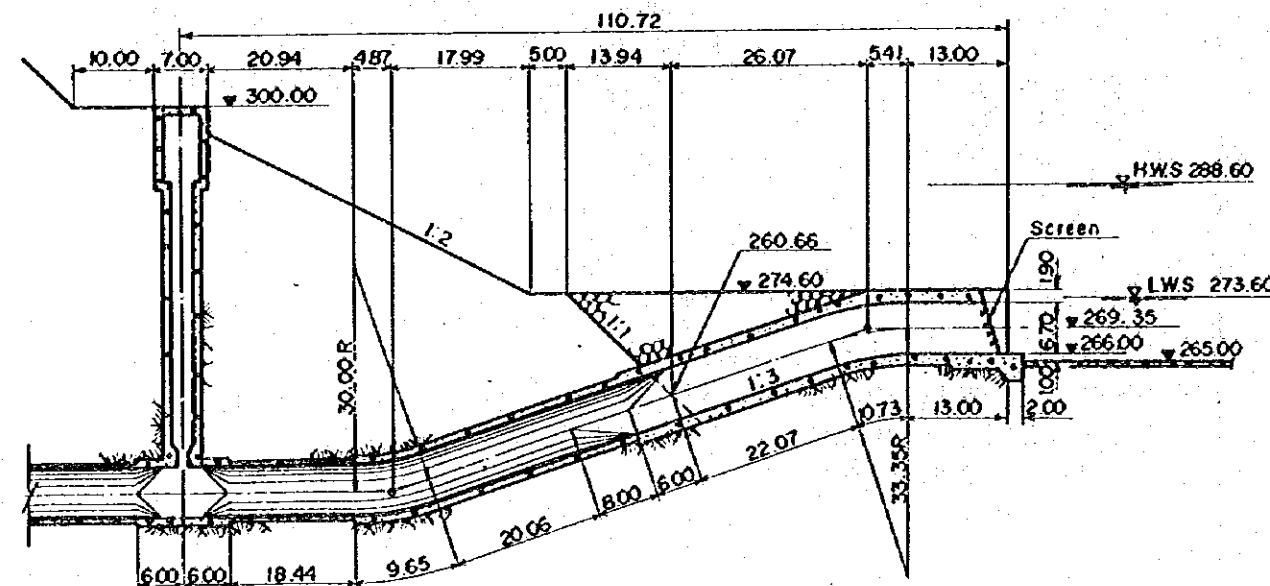
REPUBLIC OF TUNISIA
SOCIETE TUNISIENNE DE L'ÉLECTRICITÉ ET DU GAZ (STEG)
KASSEB PUMPED STORAGE PROJECT
WATERWAY TUNNEL AND SURGE CHAMBER
(Drawdown; 15 m)
Figures. 4 - 3 March 1980



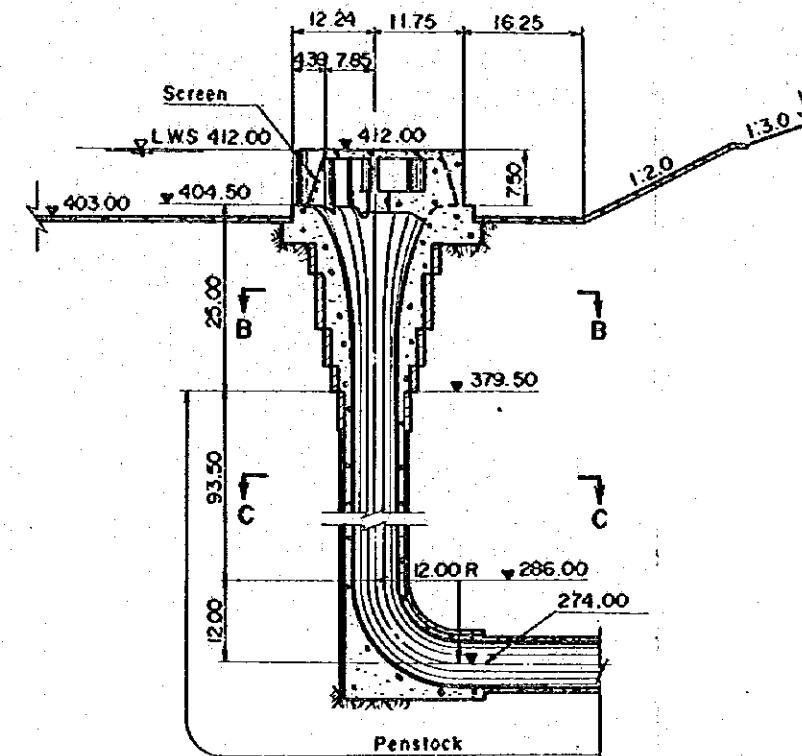
NO.1 OUTLET LONGITUDINAL SECTION



NO. 2 OUTLET LONGITUDINAL SECTION

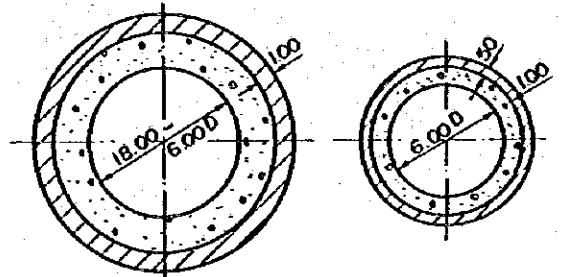


A-A SECTION

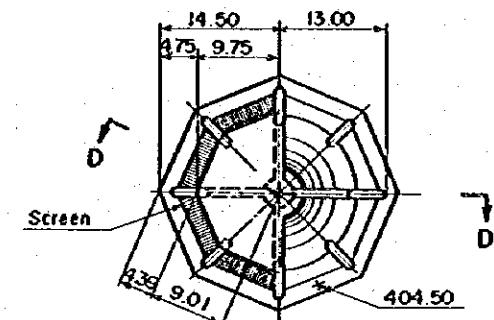


B-B SECTION

C-C SECTION

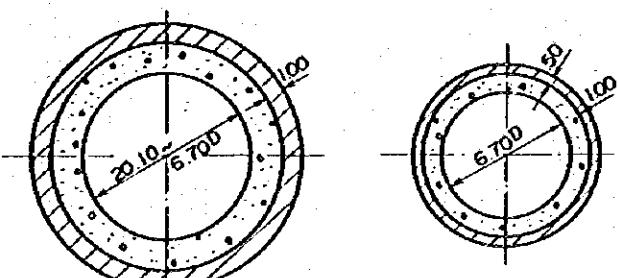


NO. 2 INTAKE PLAN



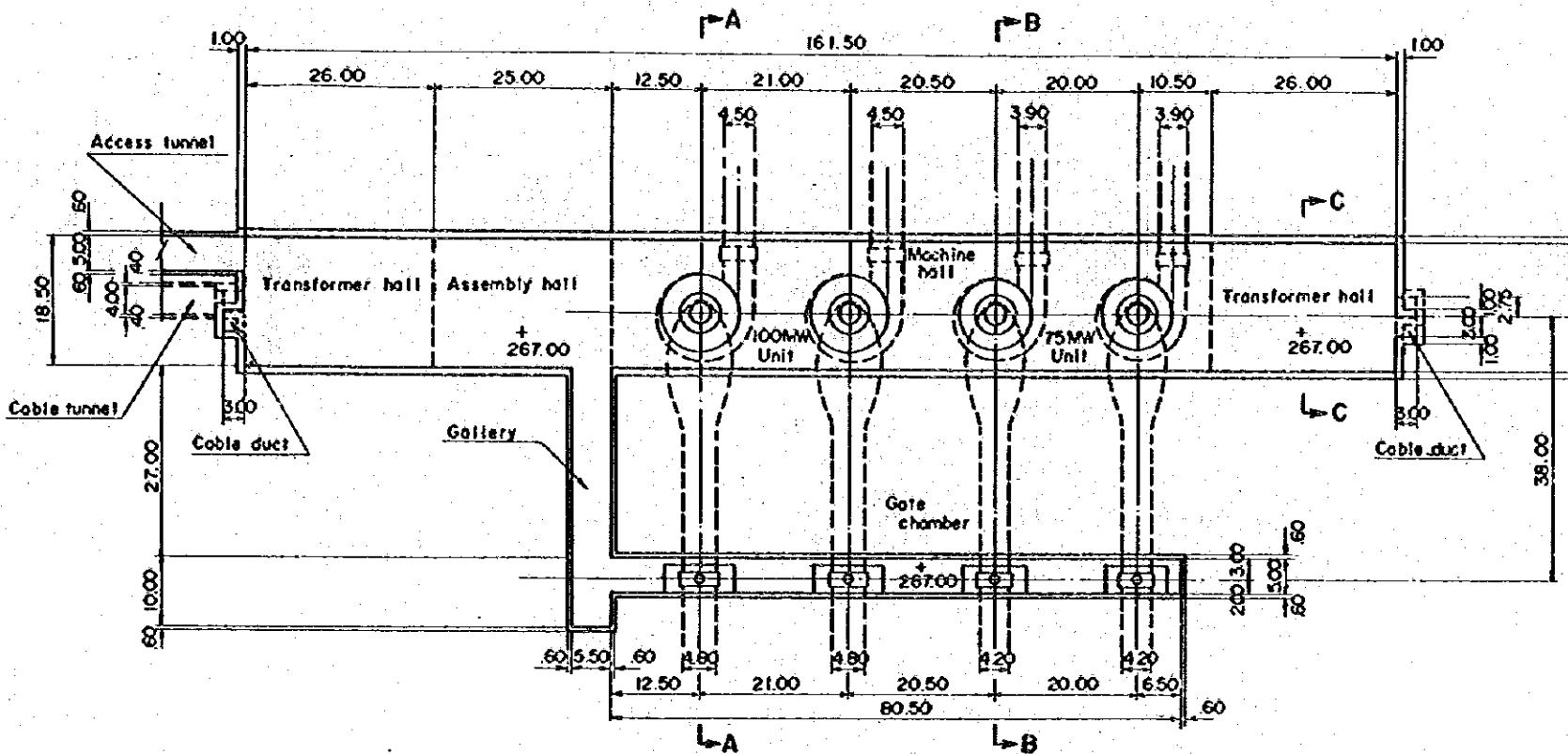
E-E SECTION

F-F SECTION

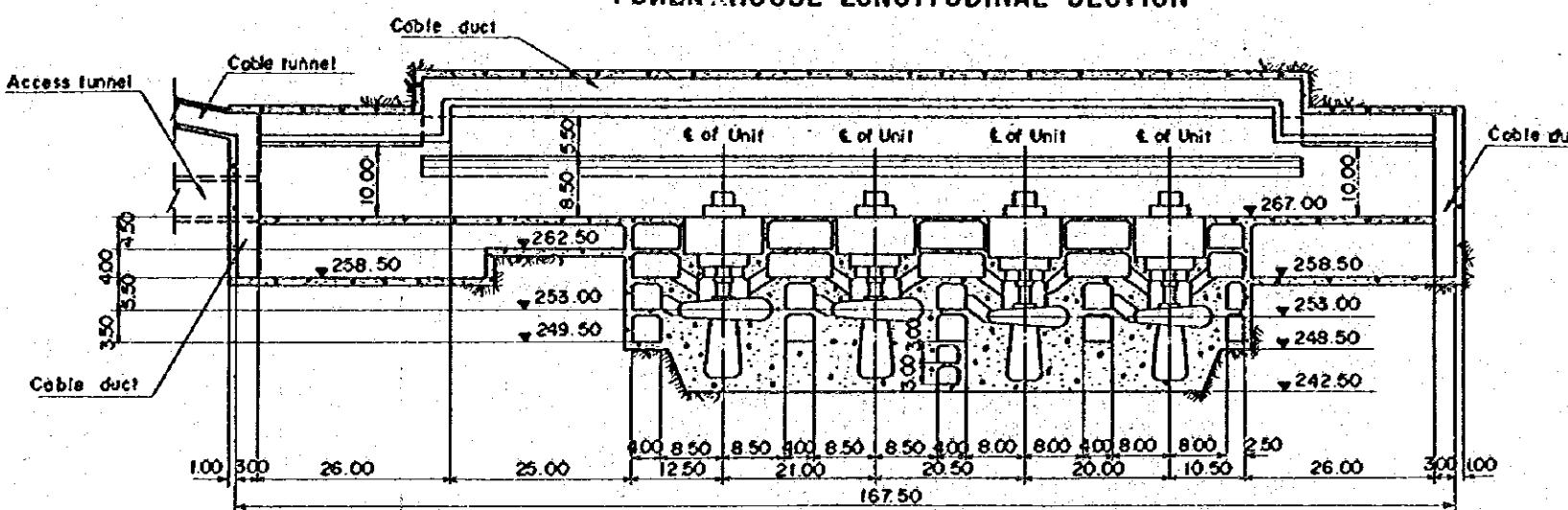


REPUBLIC OF TUNISIA
SOCIETE TUNISIENNE DE L'ÉLECTRICITÉ ET DU GAZ (STEG)
KASSEB PUMPED STORAGE PROJECT
INTAKE AND OUTLET
 (Drawdown: 15 m)

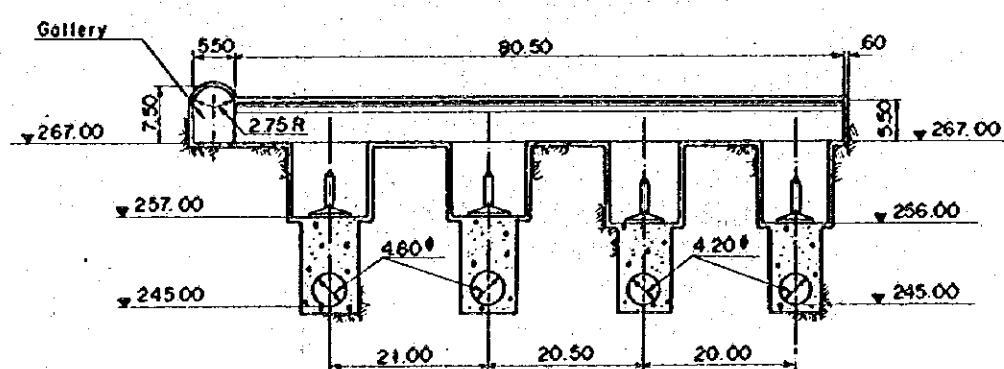
POWERPLANT PLAN



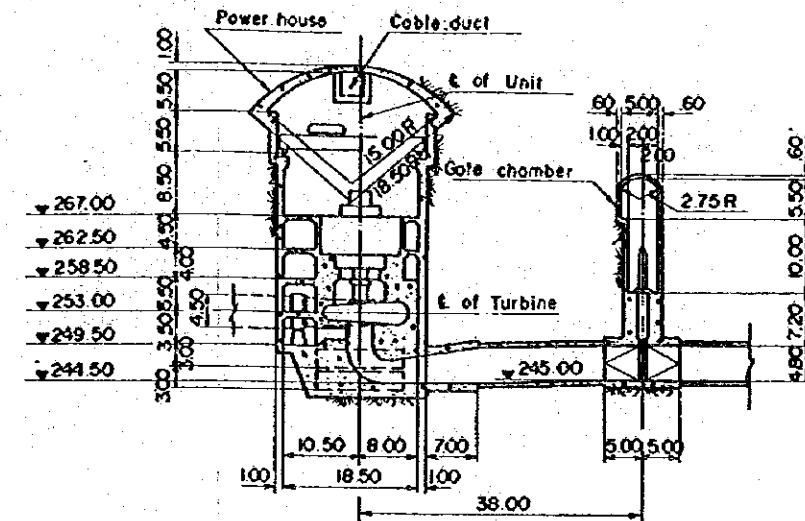
POWERHOUSE LONGITUDINAL SECTION



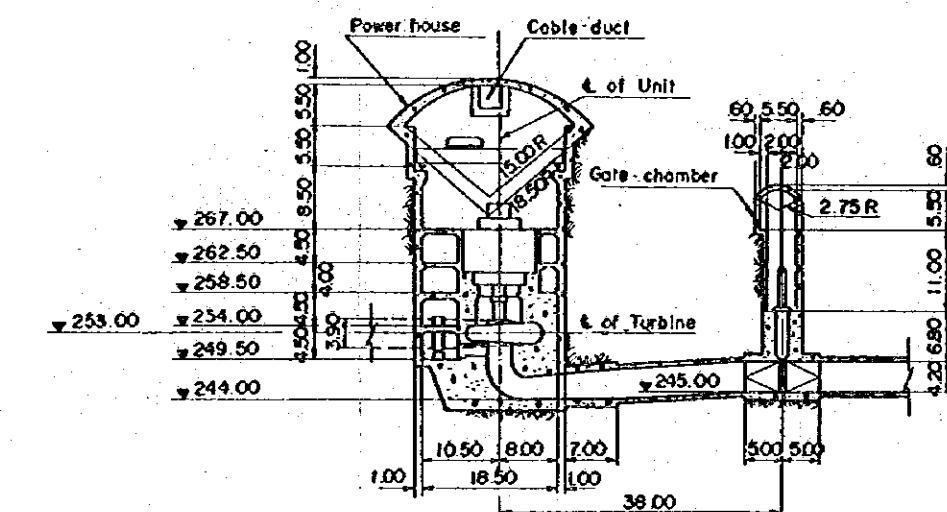
GATE CHAMBER LONGITUDINAL SECTION



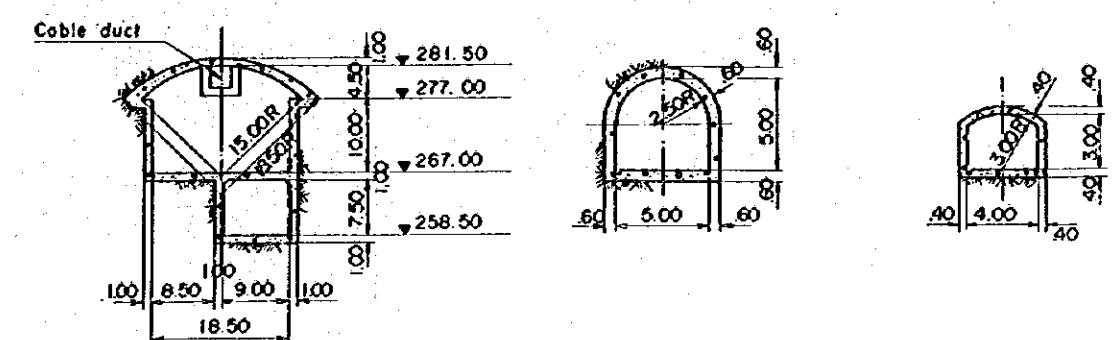
A-A SECTION (100mm SIDE)



B-B SECTION (75^{MW} SIDE)



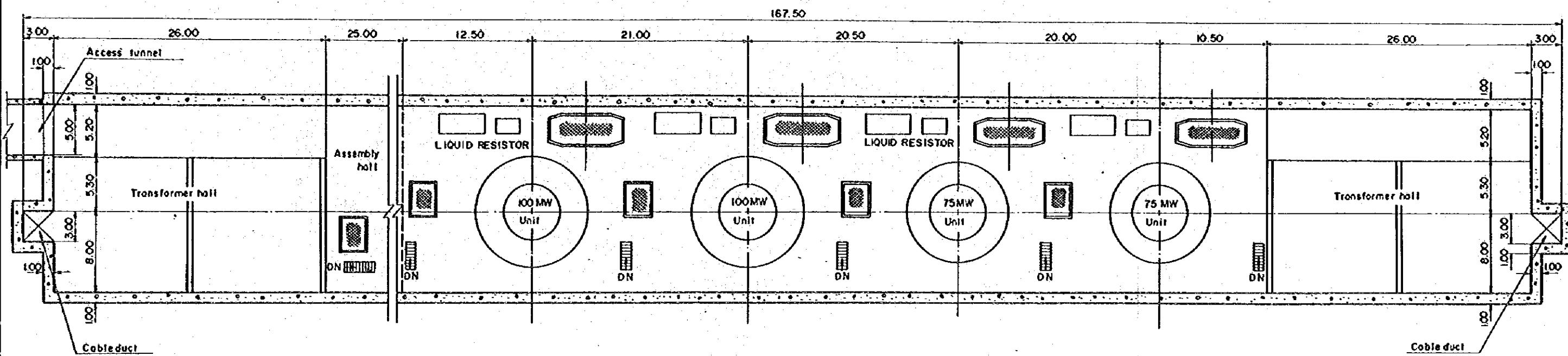
TRANSFORMER HALL(C-C) SECTION ACCESS TUNNEL SECTION CABLE TUNNEL SECTION



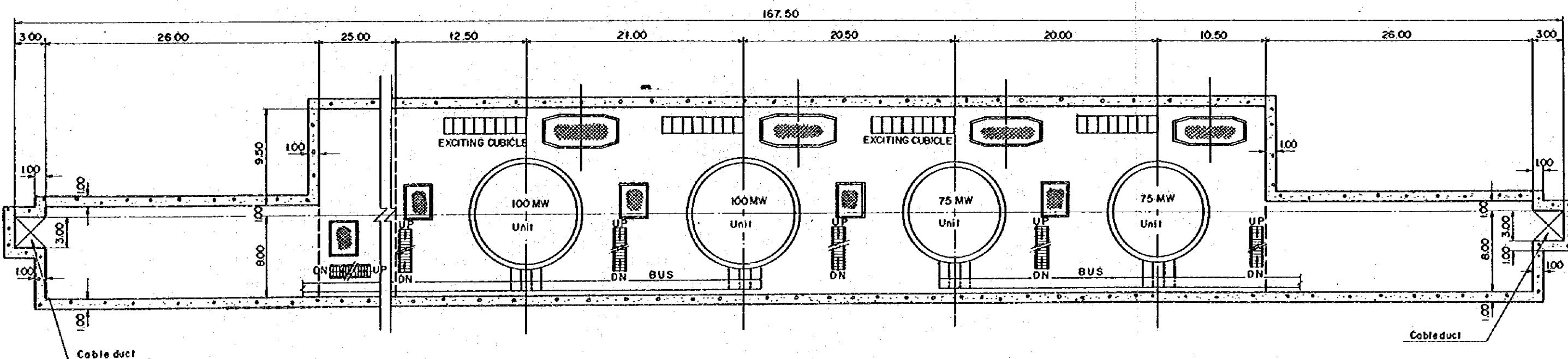
REPUBLIC OF TUNISIA
SOCIETE TUNISIENNE DE L'ÉLECTRICITÉ ET DU GAZ (STEG)
KASSEB PUMPED STORAGE PROJECT
POWER HOUSE (1-3)
 - (Drowdown ,15m)

 Figure. 4 - 5 March 1980

EL. 267.00



EL. 262.50



REPUBLIC OF TUNISIA
SOCIETE TUNISIENNE DE L'ÉLECTRICITÉ ET DU GAZ (STEG)
KASSEB PUMPED STORAGE PROJECT
POWER HOUSE (2-3)
(Drowdown ,15m)
Figure- 4 - 6 March 1980

