

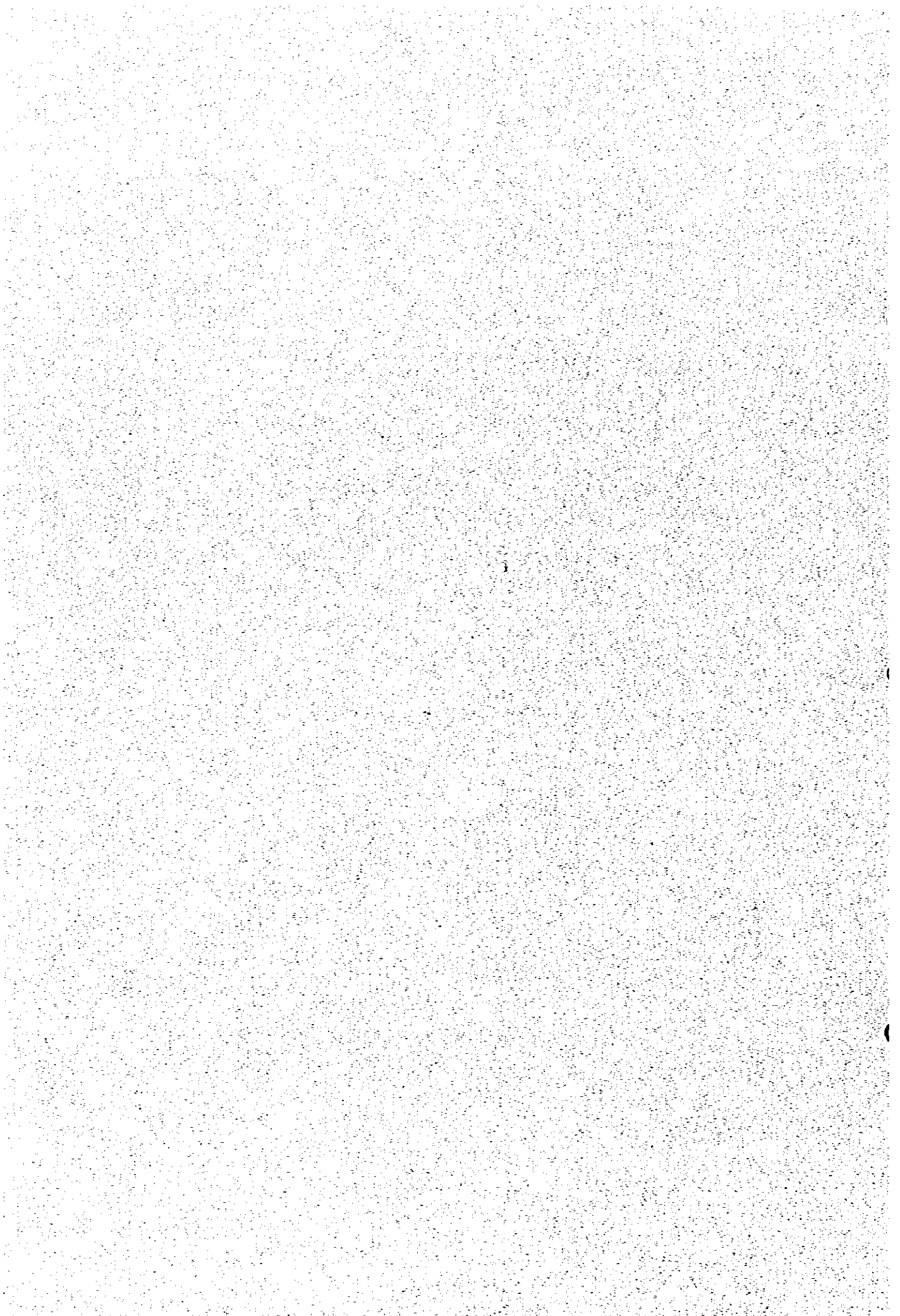
APPENDICES

卷一
卷二
卷三
卷四
卷五
卷六
卷七
卷八
卷九
卷十

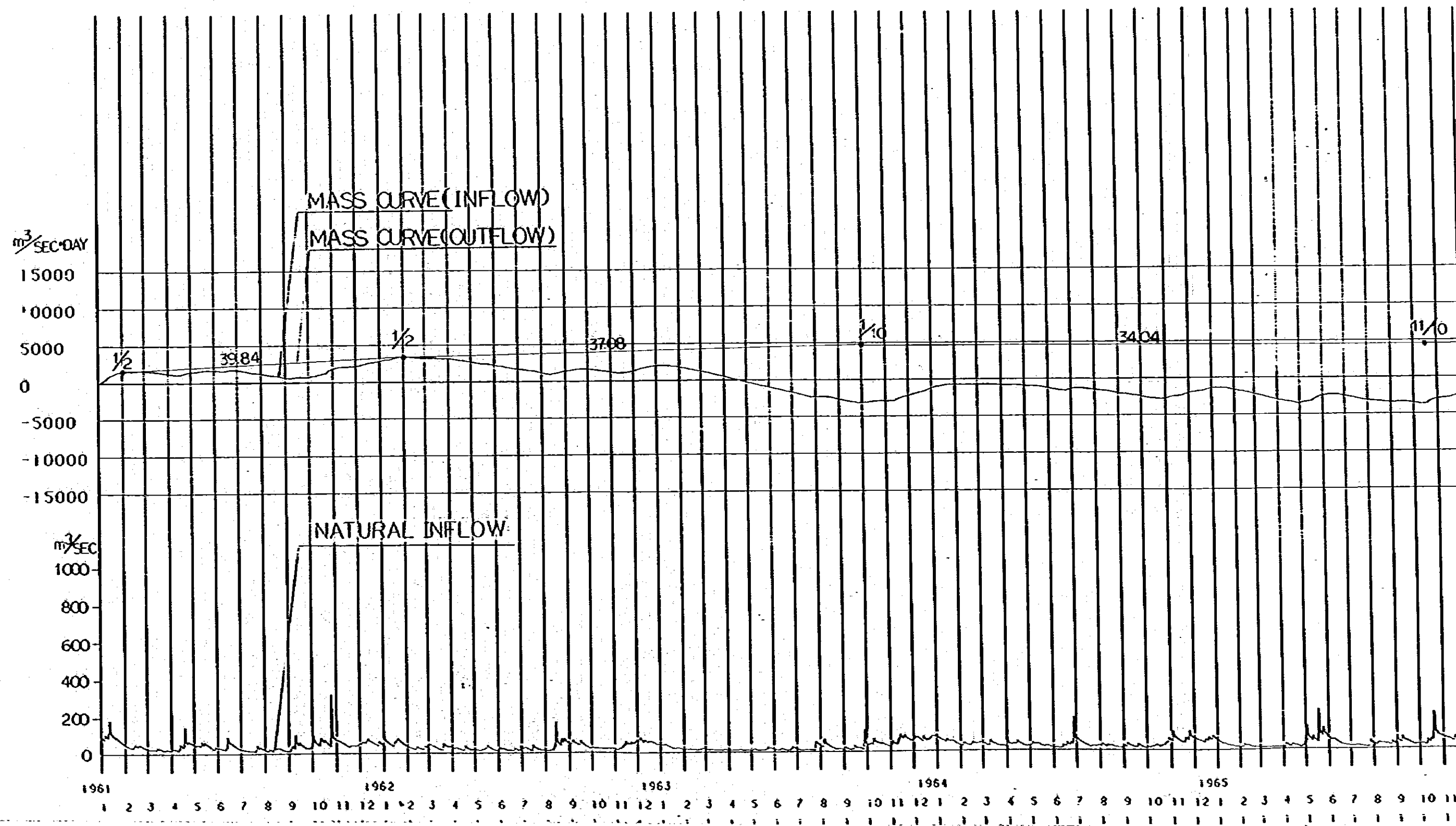


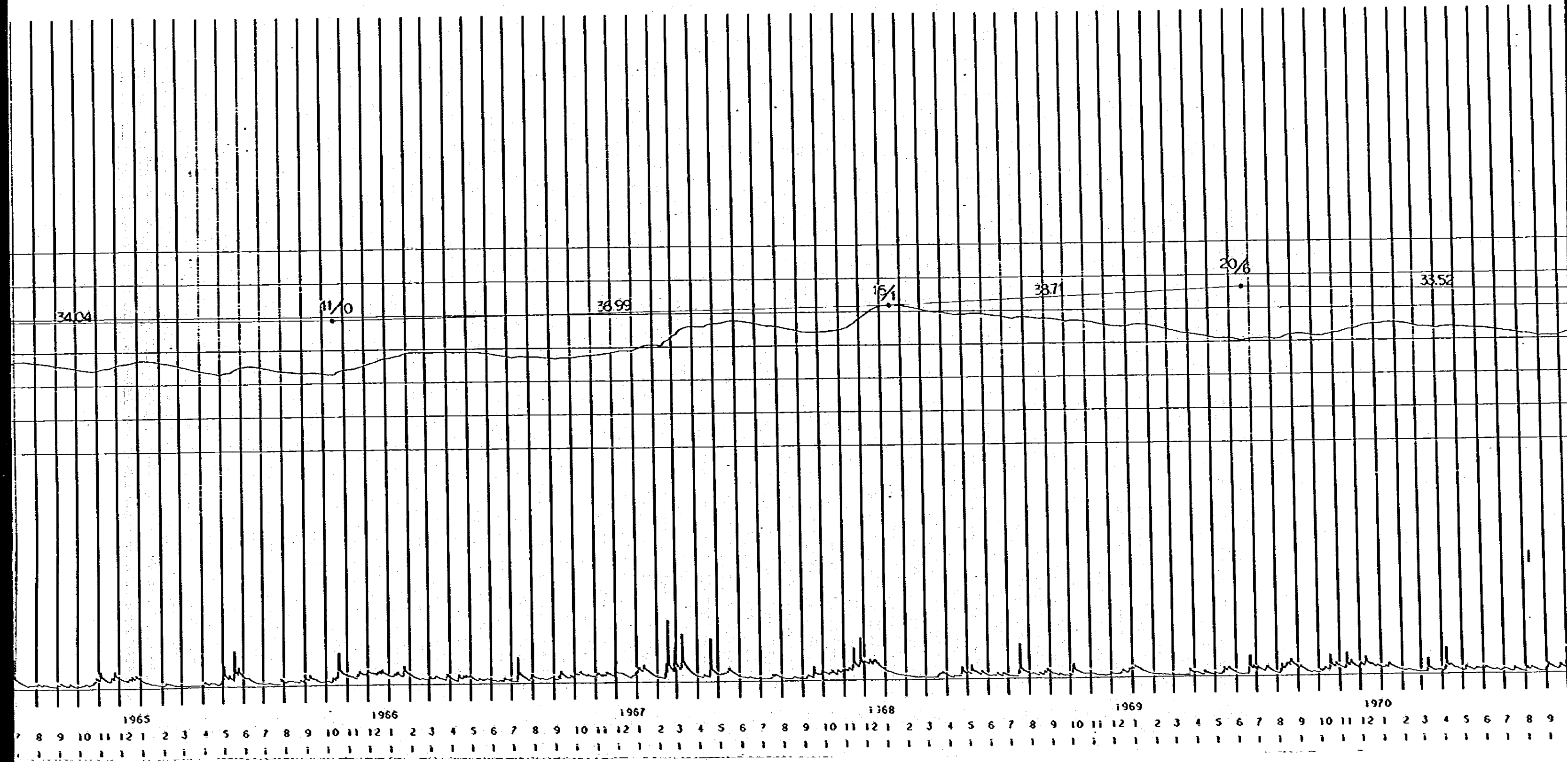
Appendix I Mass Curve of Reservoir

REVISED APR 1964



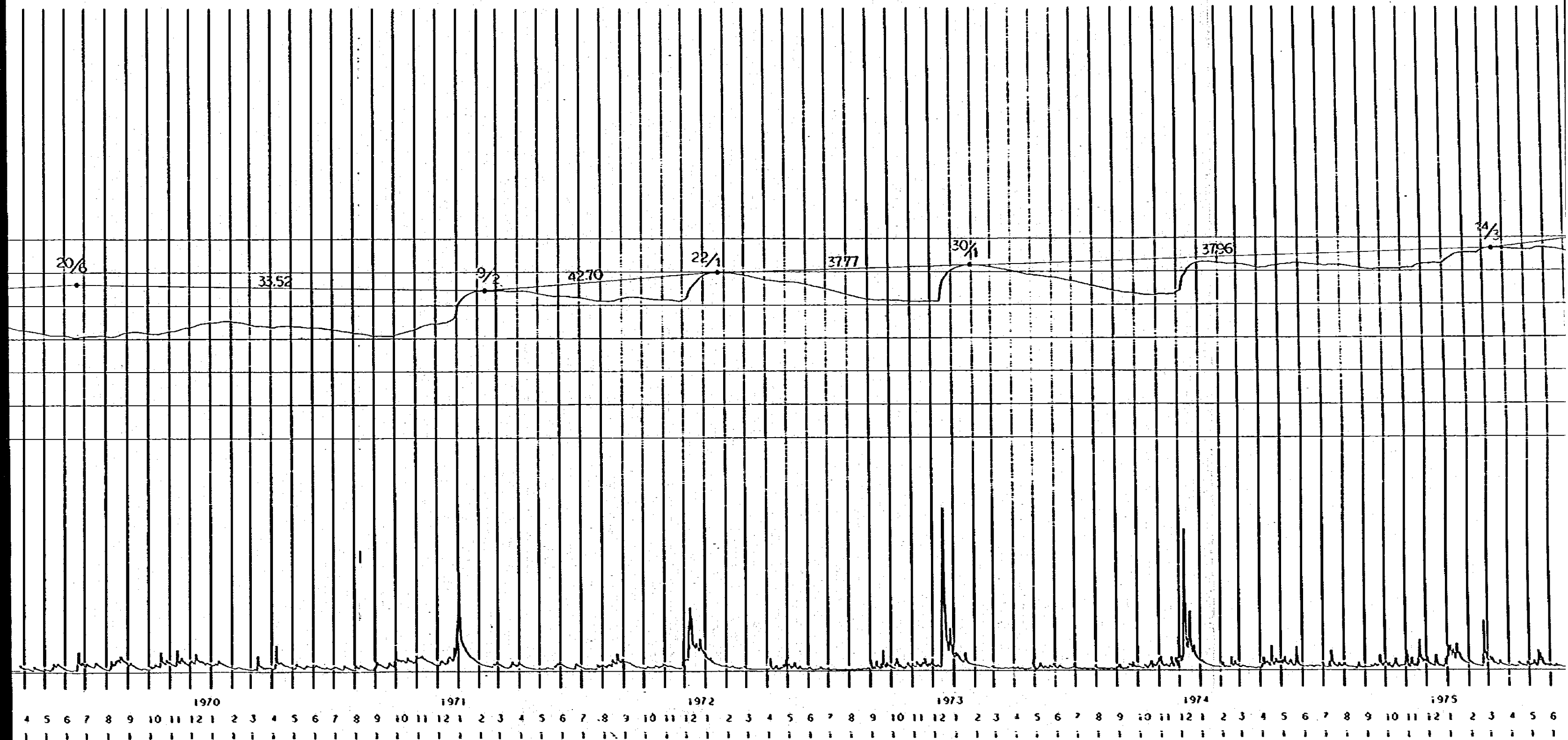
EFFECTIVE STORAGE CAPACITY=680,000,000 m³





MASS CURVE (UPPER TEKAI RESERVOIR)

Q AVERAGE = 34.84



1970

1971

1972

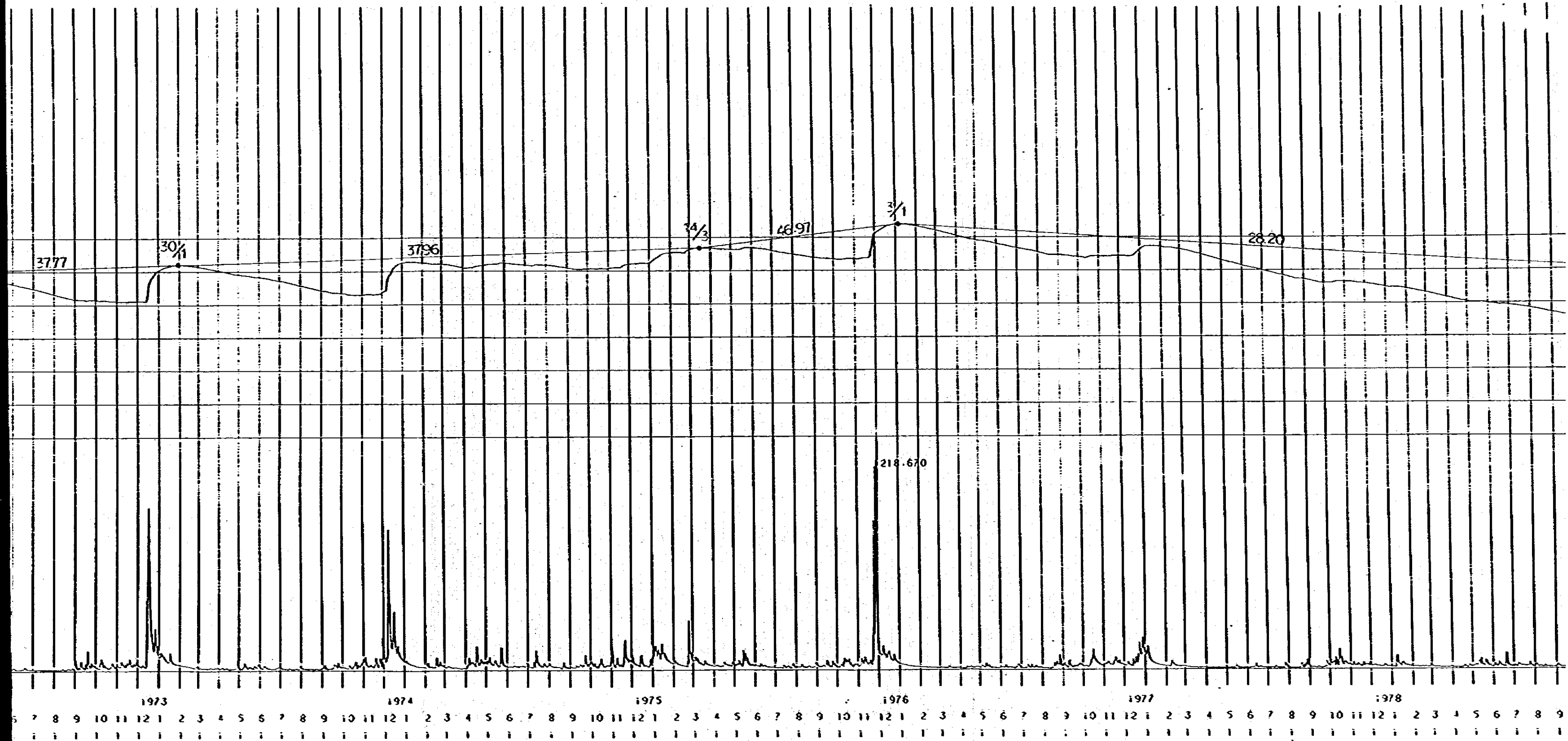
1973

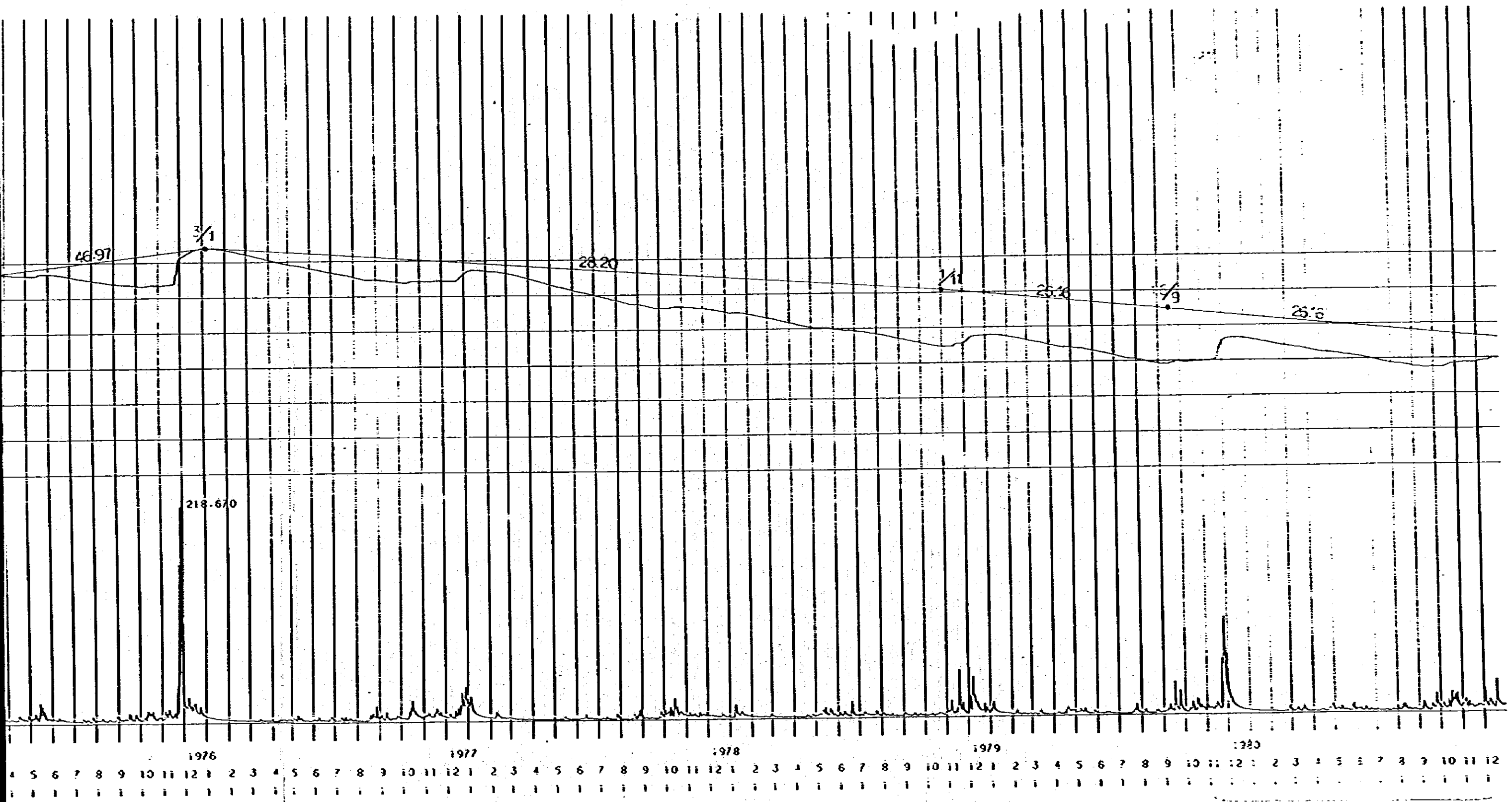
1974

1975

4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6

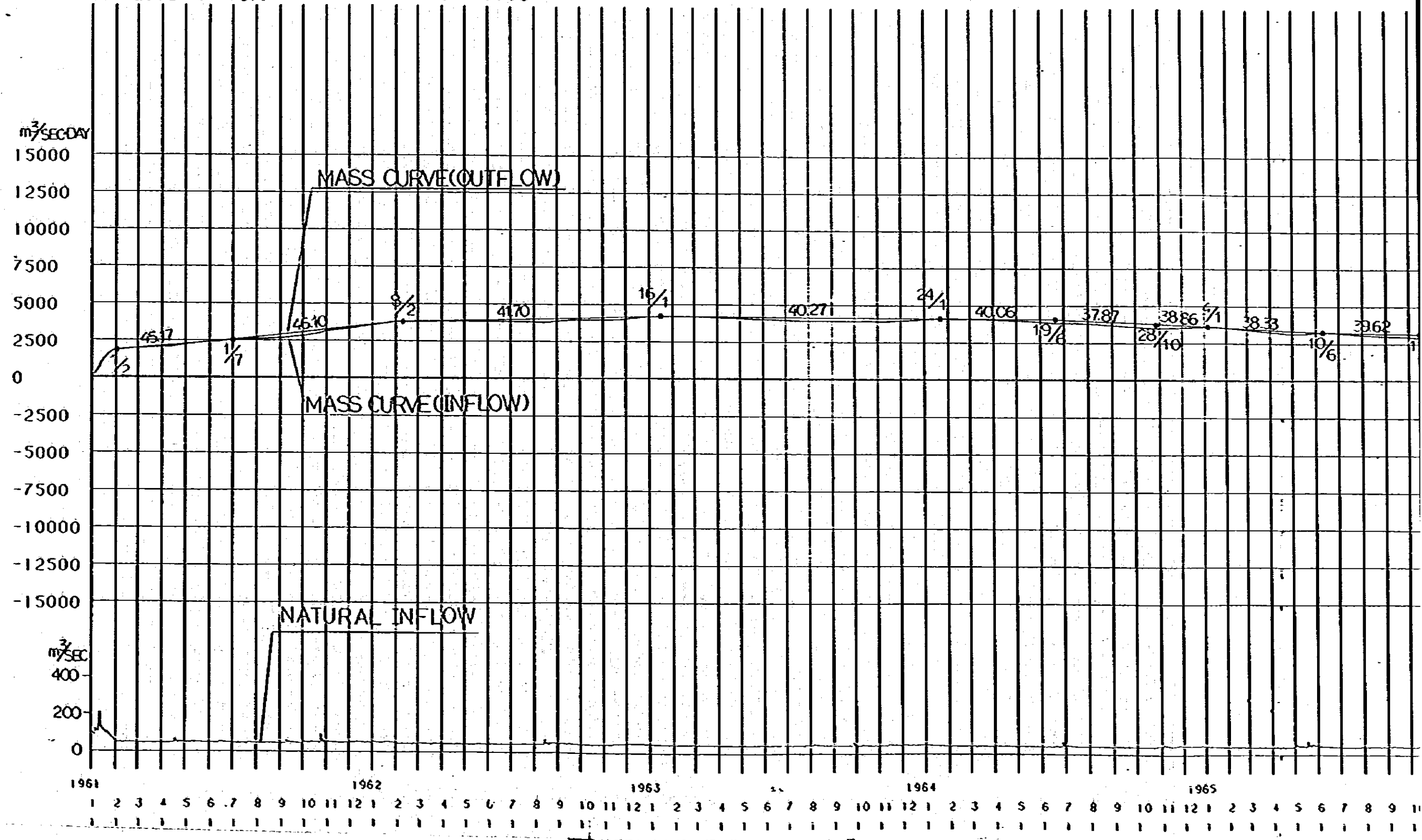
R TEKAL RESERVOIR)

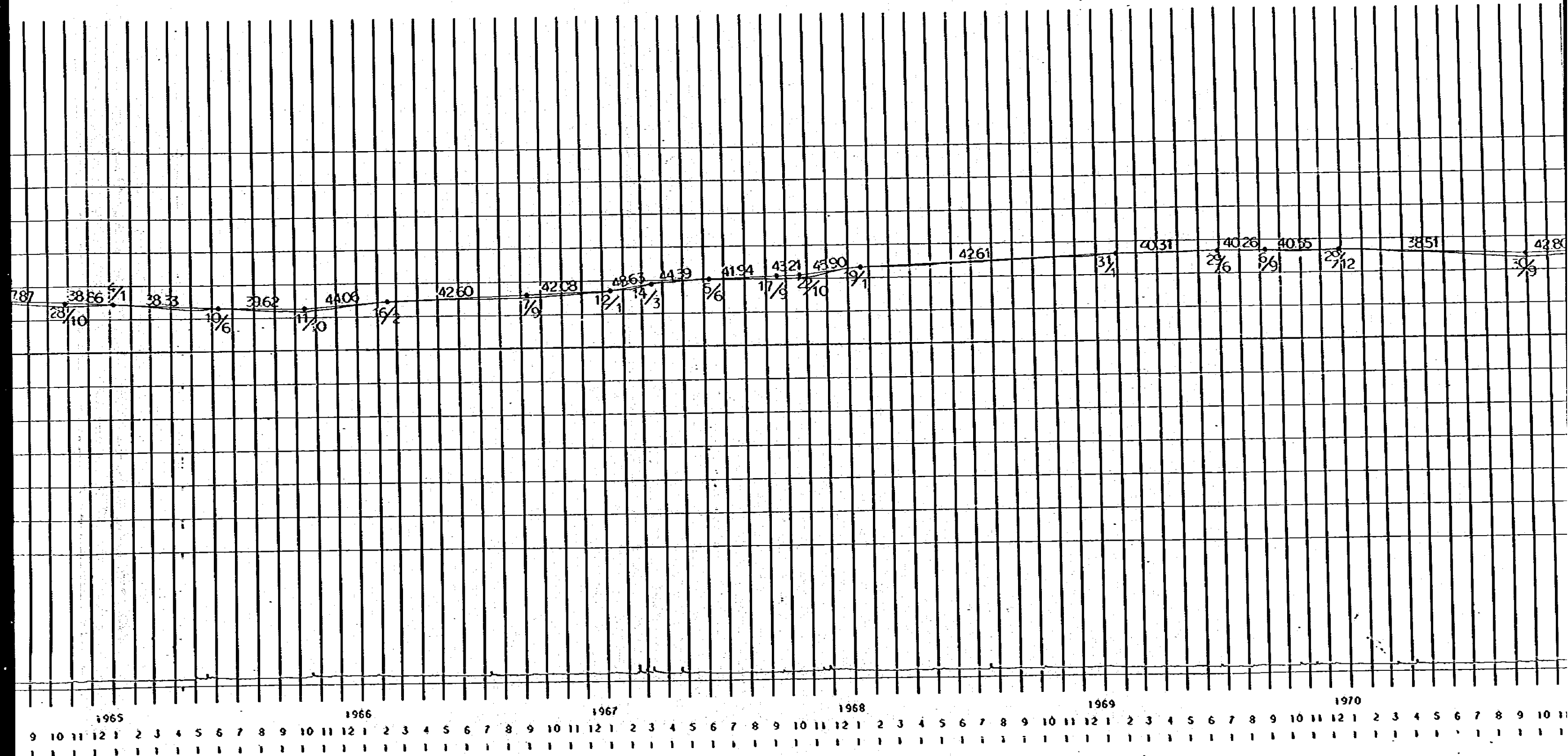




1976 1977 1978 1979 1980
 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12

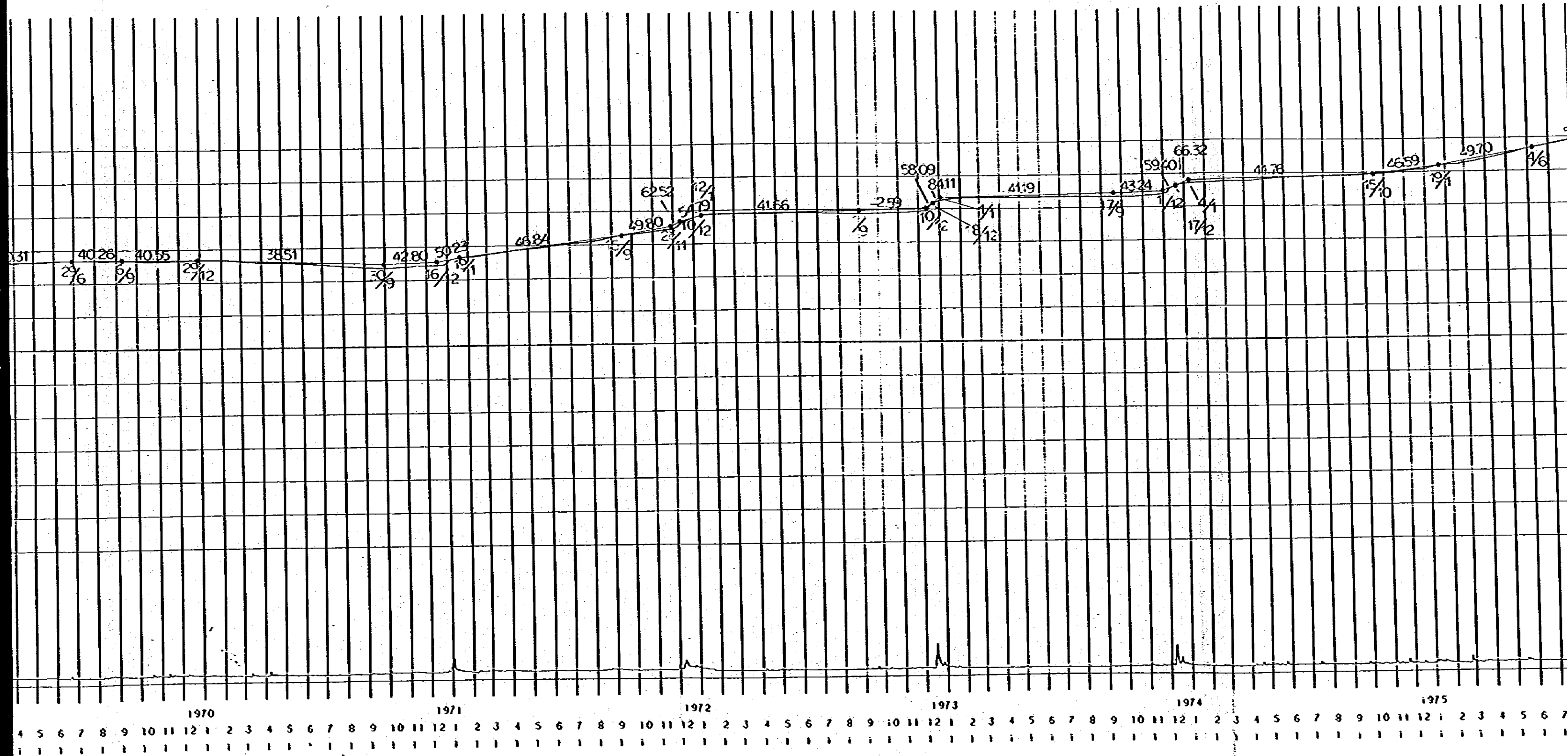
EFFECTIVE STORAGE CAPACITY = 21,500,000 m³



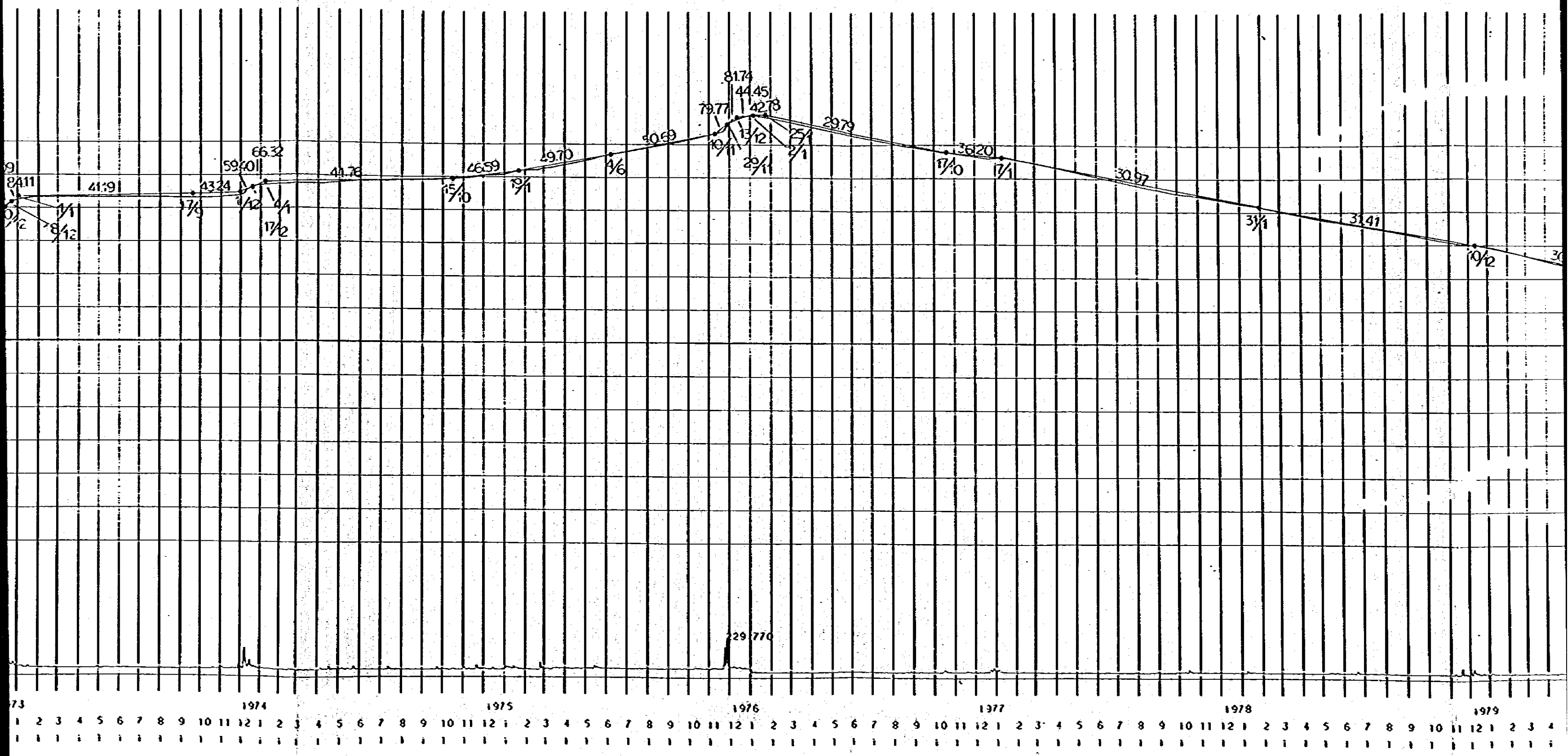


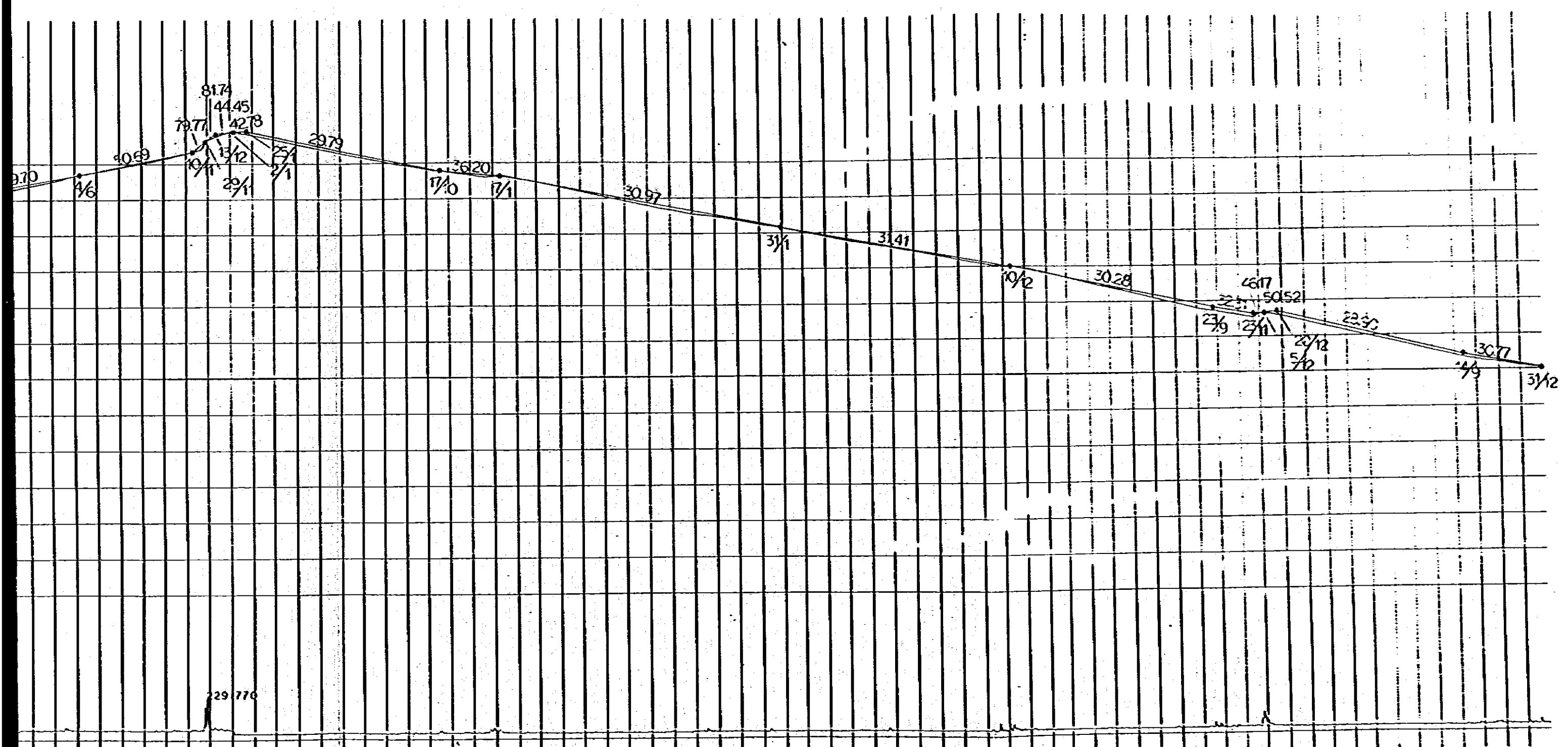
MASS CURVE (LOWER TEKAI RESERVOIR)

Q AVERAGE = 40.07



RESERVOIR)



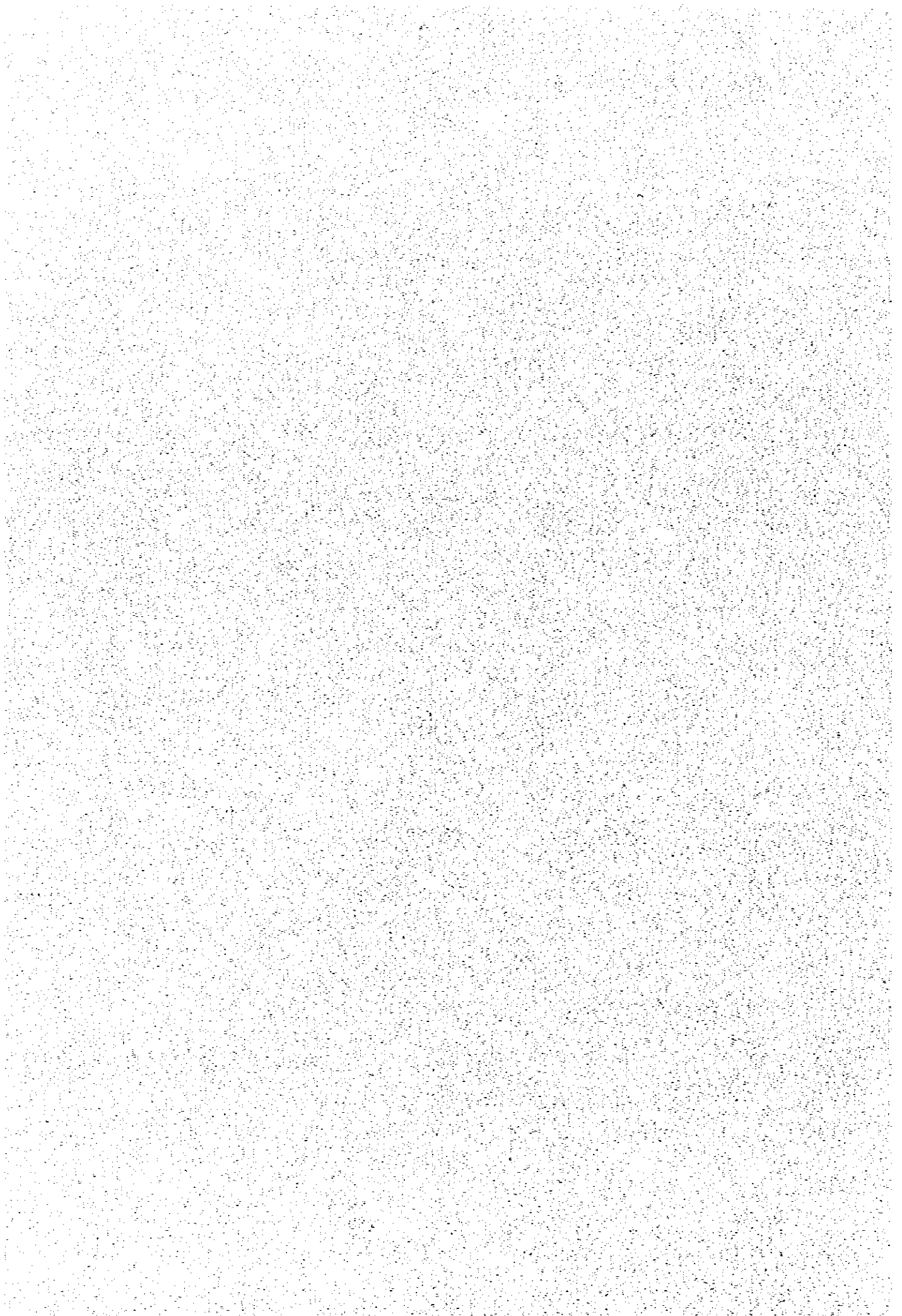


1976 1977 1978 1979 1980

4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12

Appendix I Drawing

100-100-100

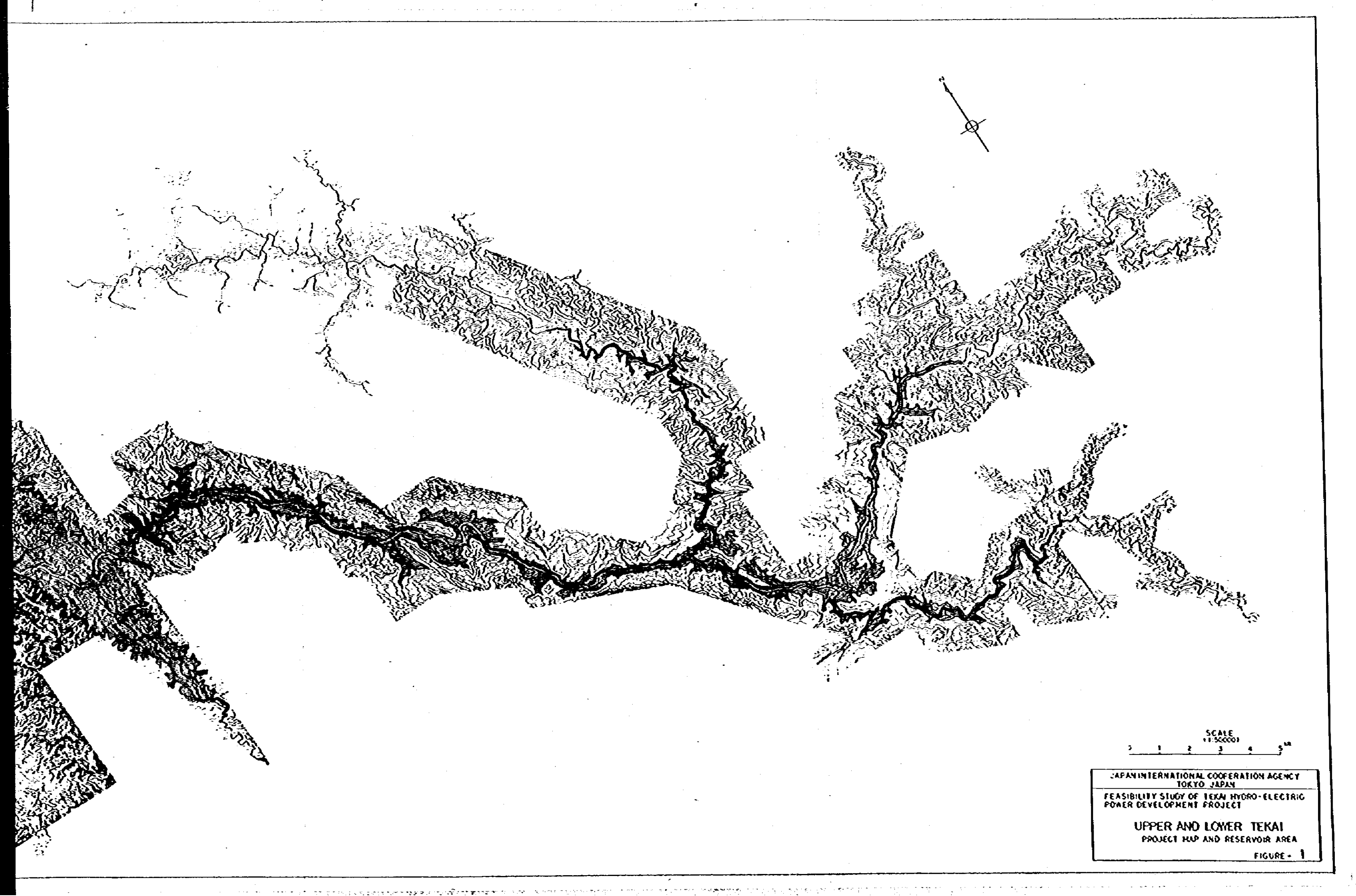




KAL

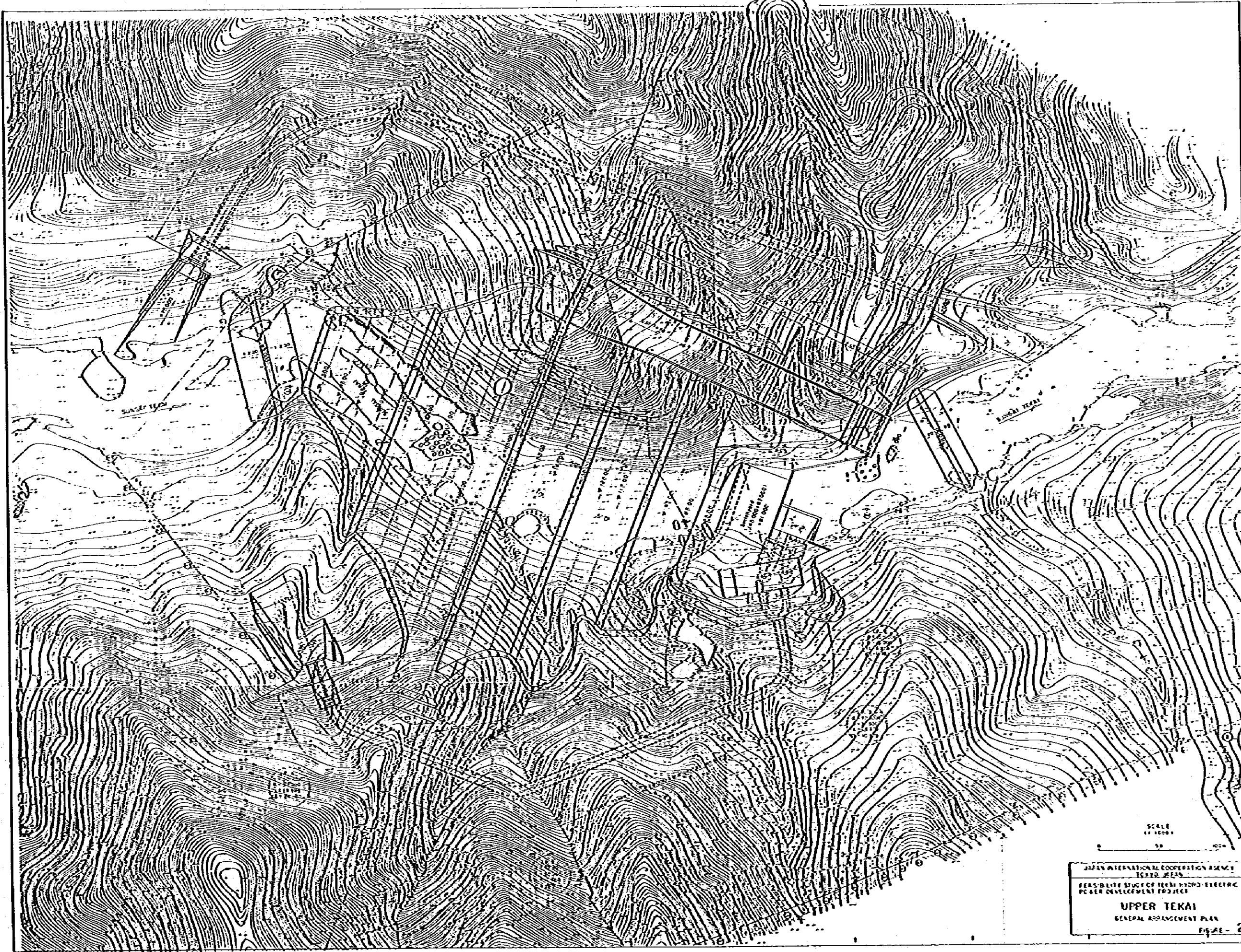
FWL 79 000
HWL 75 000
LWL 70 500

JERANTUT



SCALE
1:50000
0 1 2 3 4 5 km

JAPAN INTERNATIONAL COOPERATION AGENCY
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FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
POWER DEVELOPMENT PROJECT
UPPER AND LOWER TEKAI
PROJECT MAP AND RESERVOIR AREA
FIGURE - 1



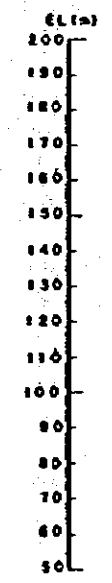
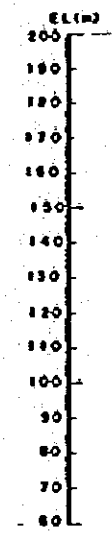
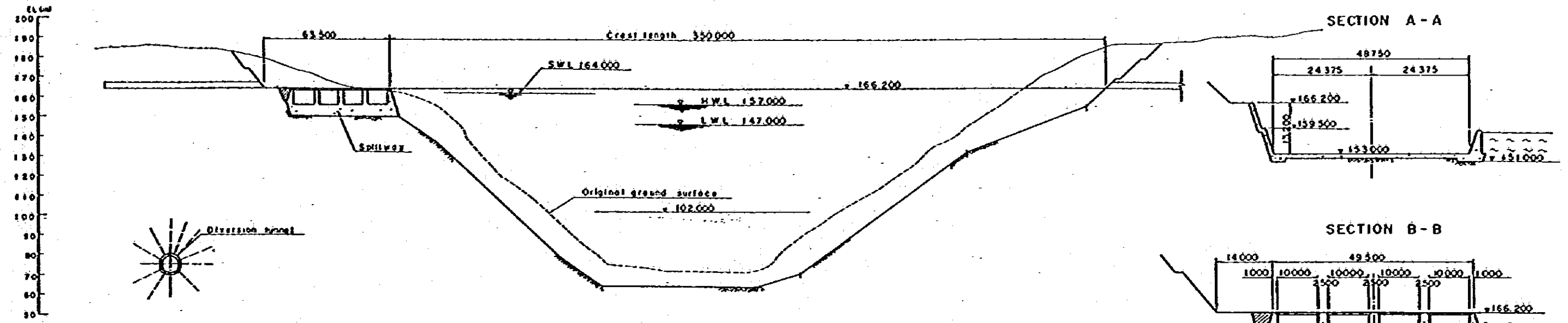
SCALE
1:10000

JAPAN INTERNATIONAL COOPERATION AGENCY
ICED, JAPAN
FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
POWER DEVELOPMENT PROJECT

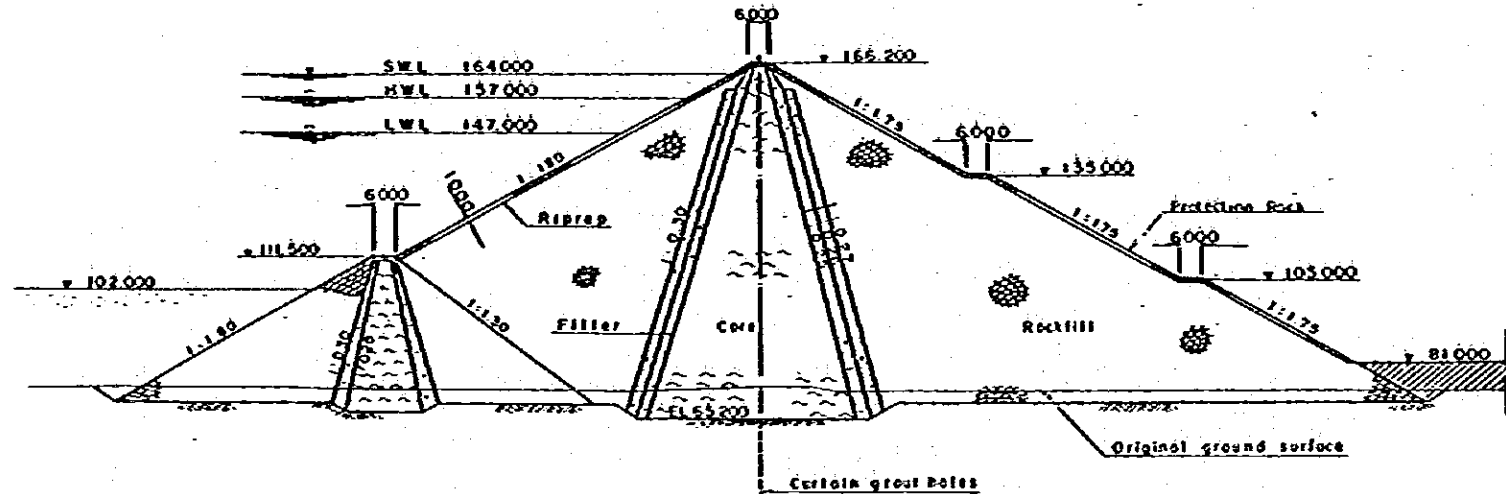
UPPER TEKAI
GENERAL ARRANGEMENT PLAN

FIGURE - 2

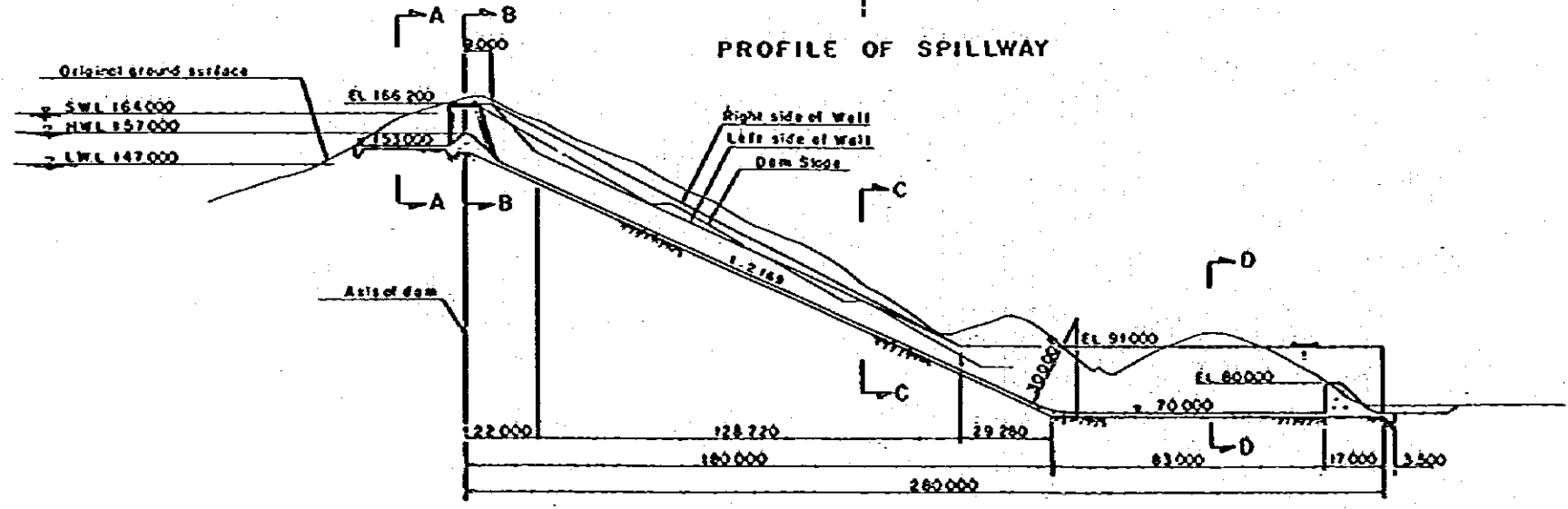
PROFILE OF DAM



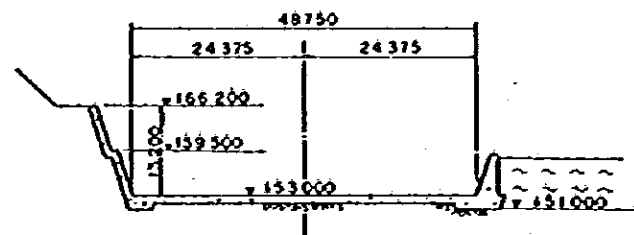
TYPICAL SECTION OF DAM



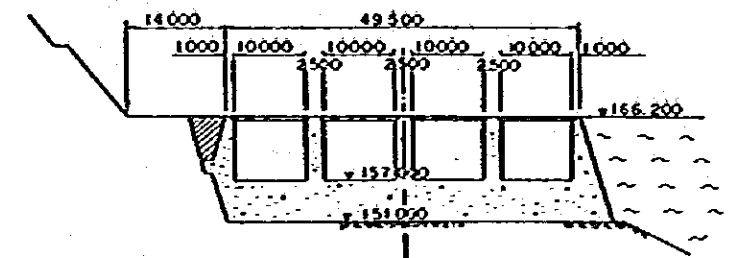
PROFILE OF SPILLWAY



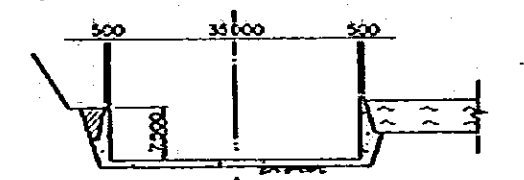
SECTION A-A



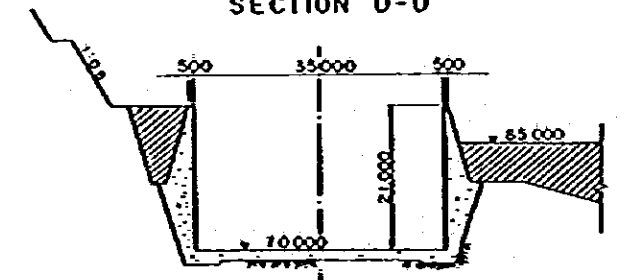
SECTION B-B



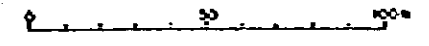
SECTION C-C



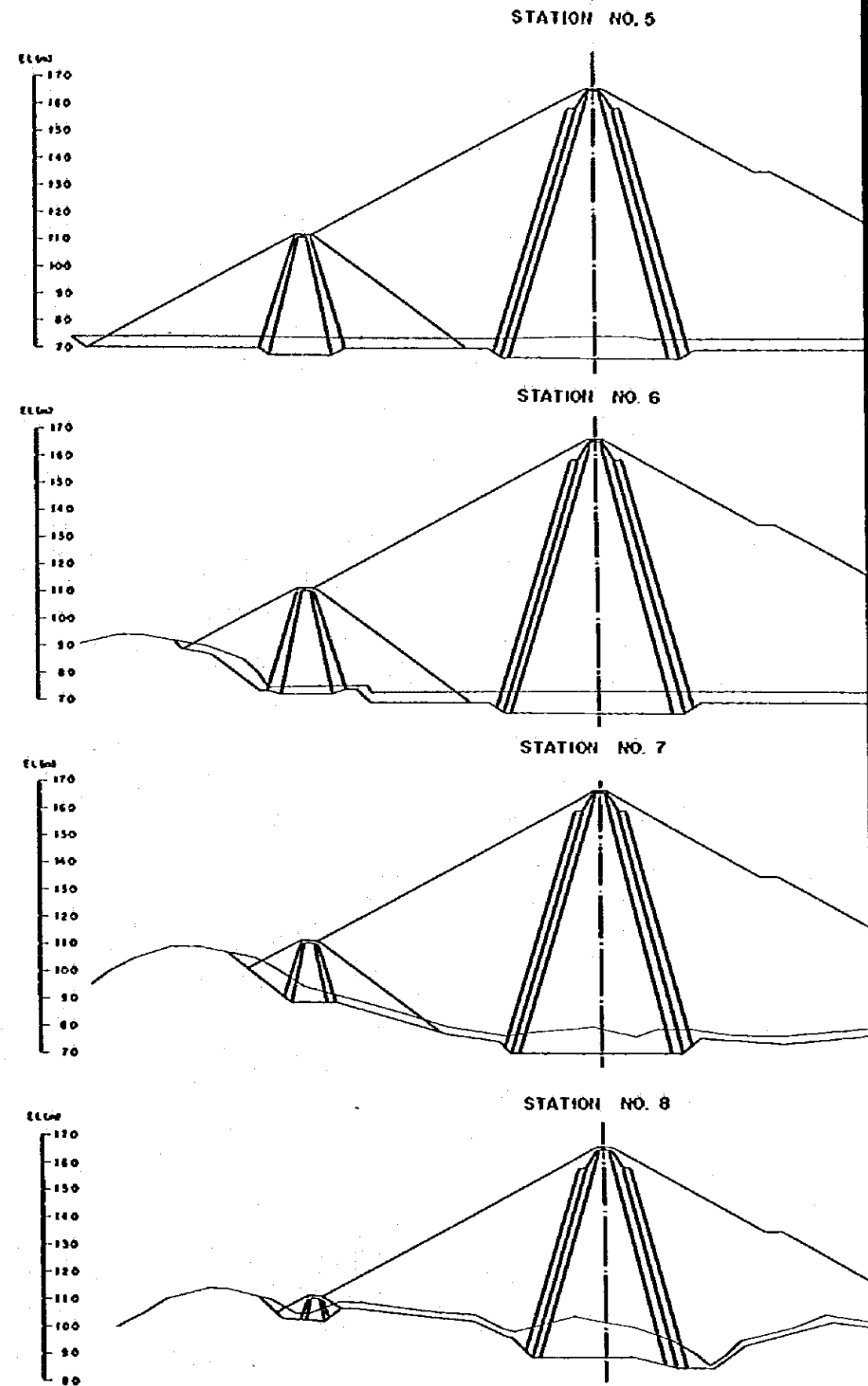
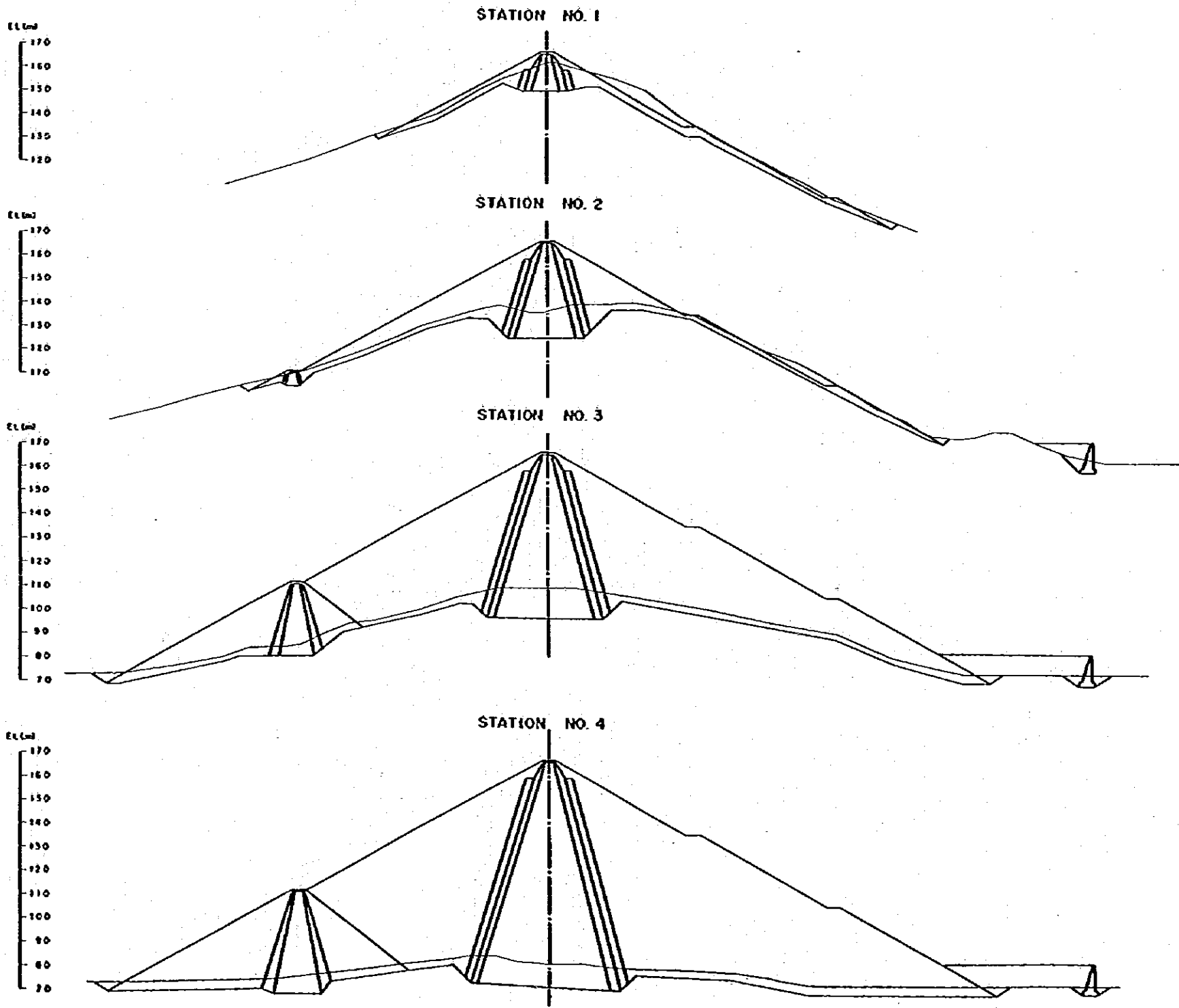
SECTION D-D

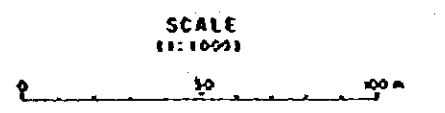
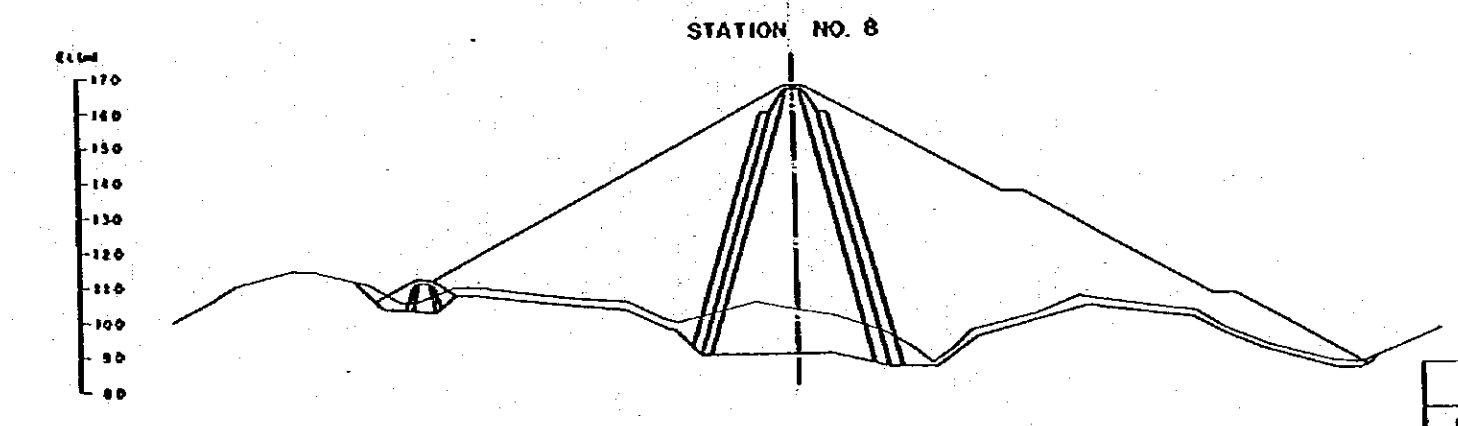
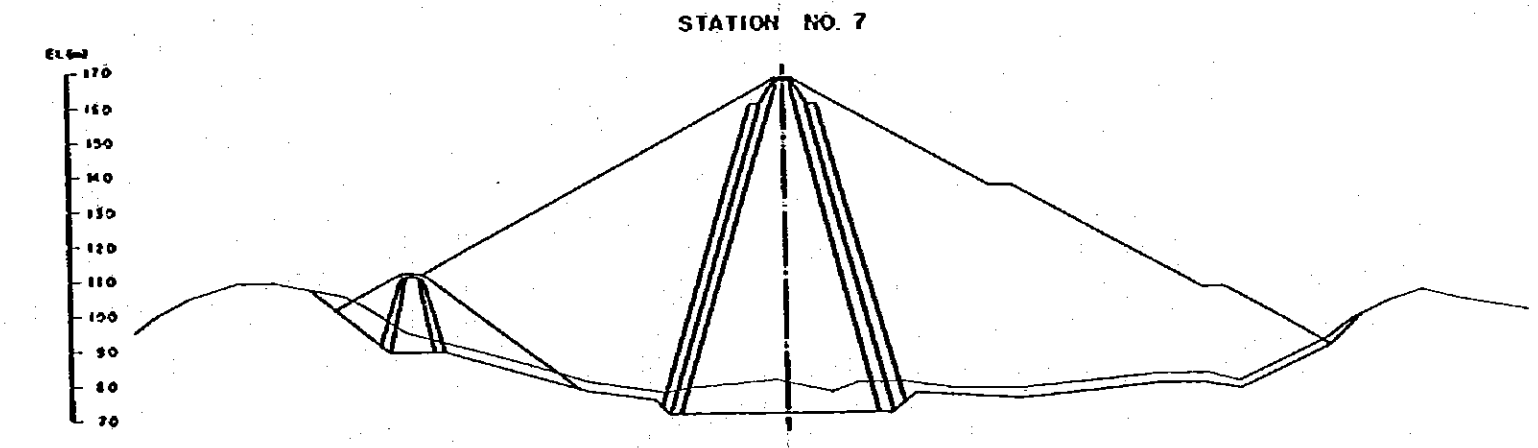
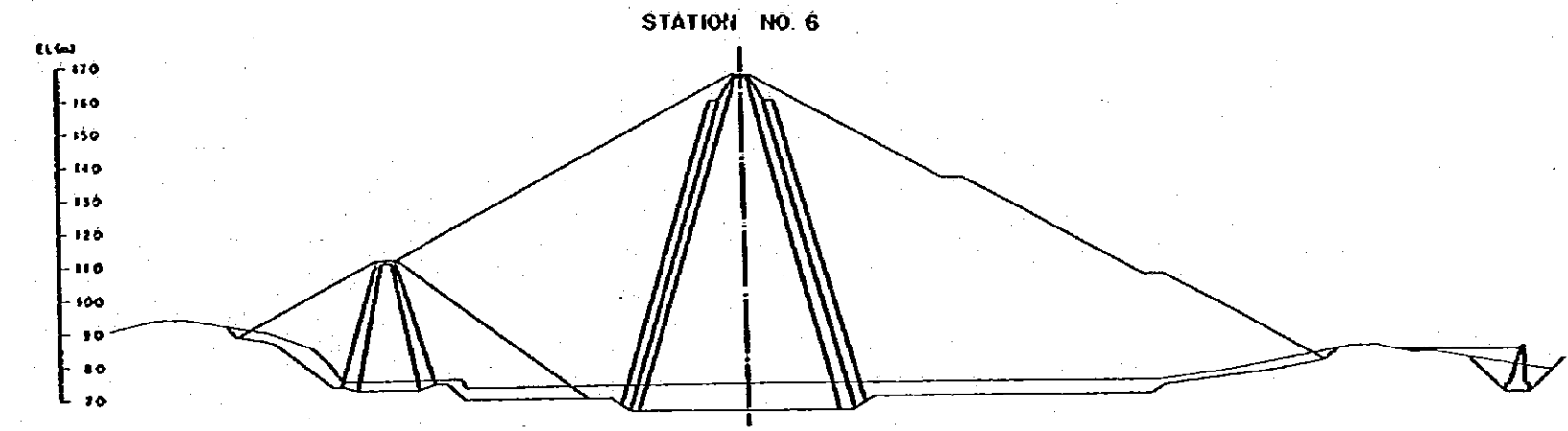
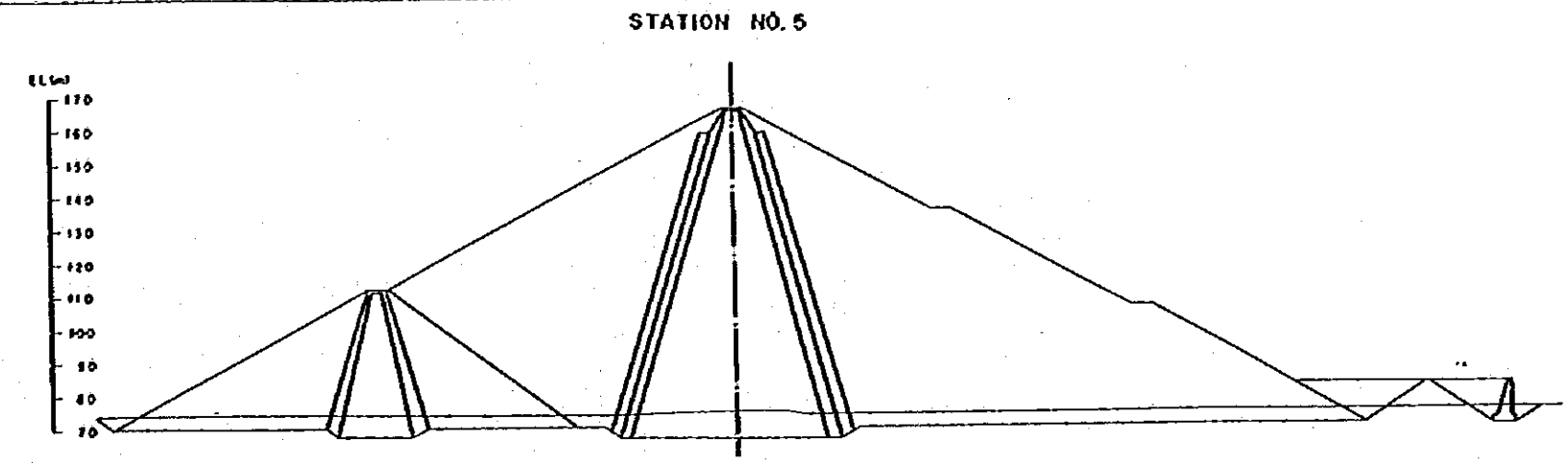
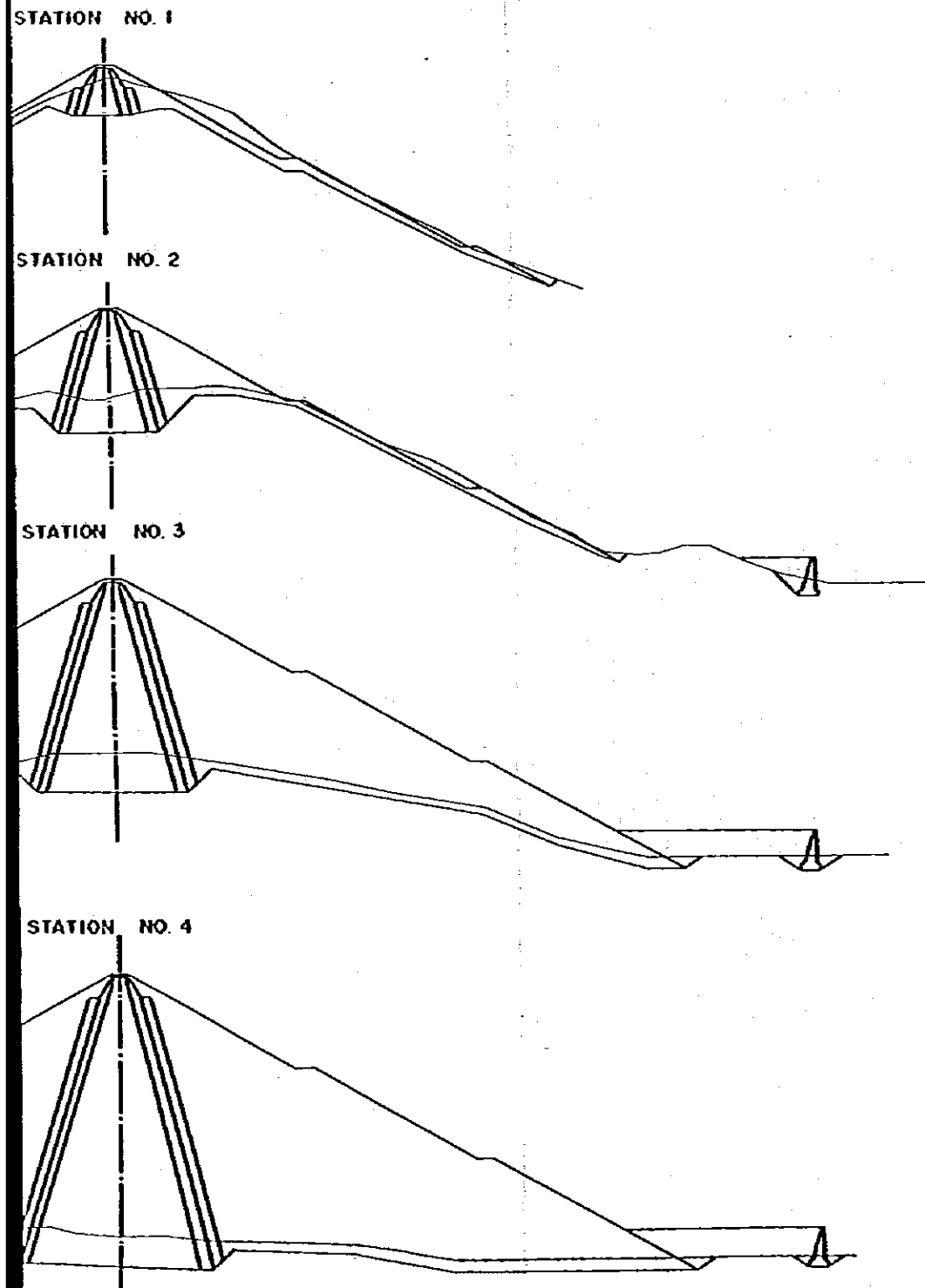


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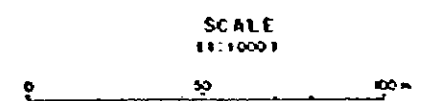
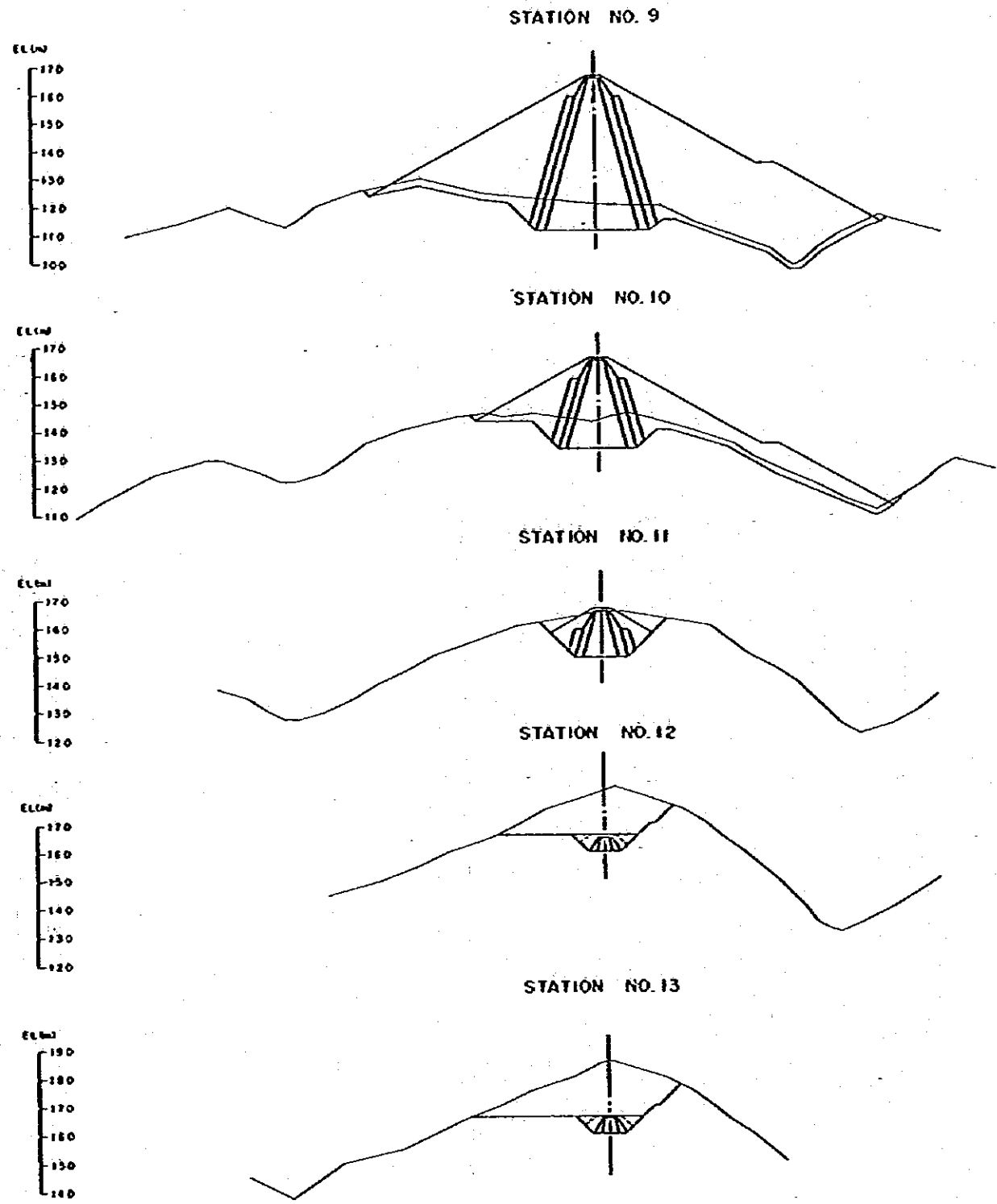


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FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
POWER DEVELOPMENT PROJECT
UPPER TEKAI
SPILLWAY AND SECTIONS
FIGURE - 3

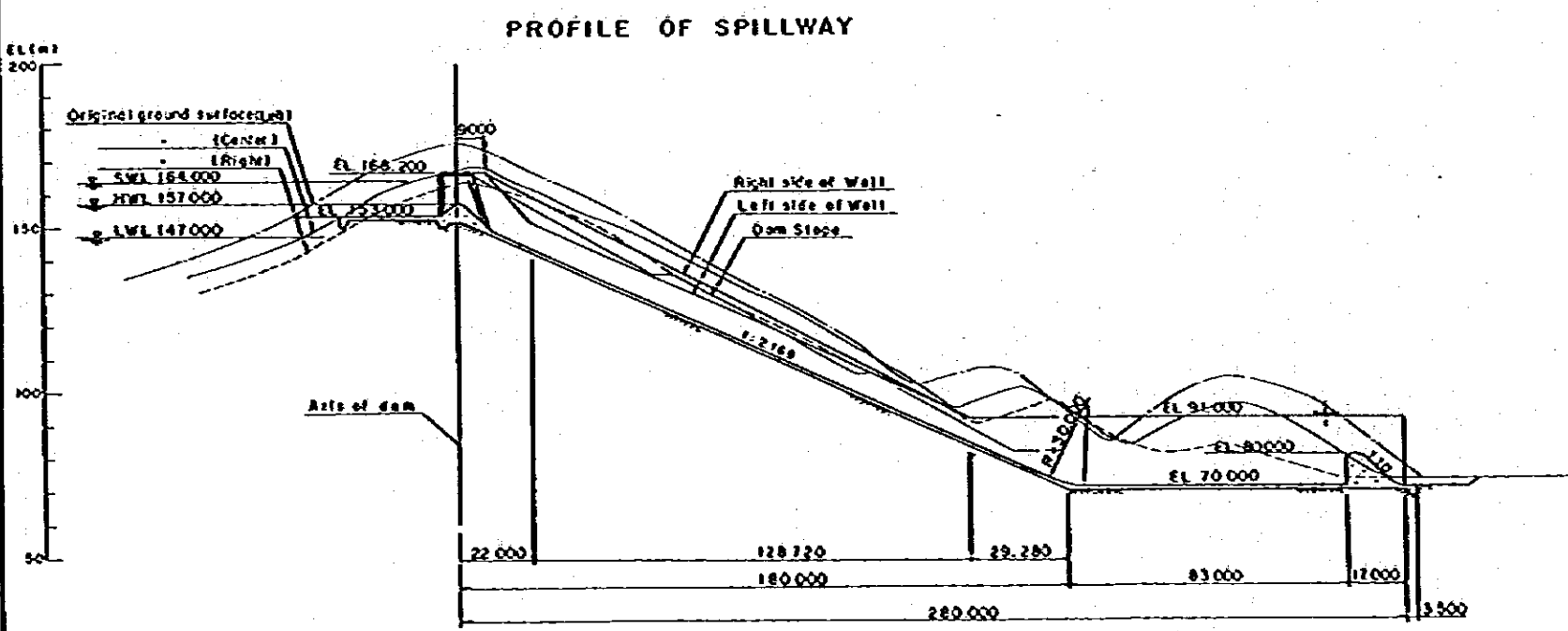
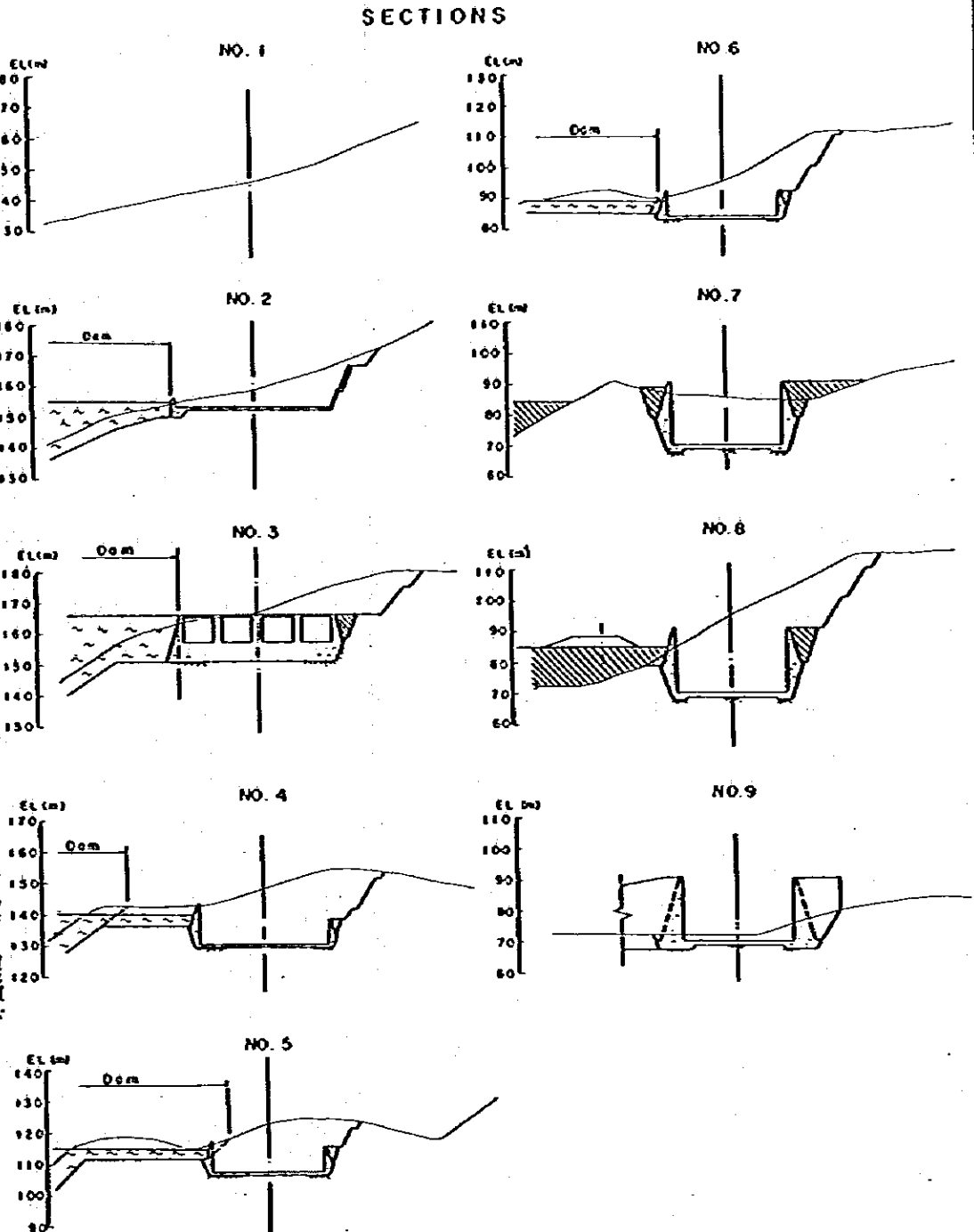
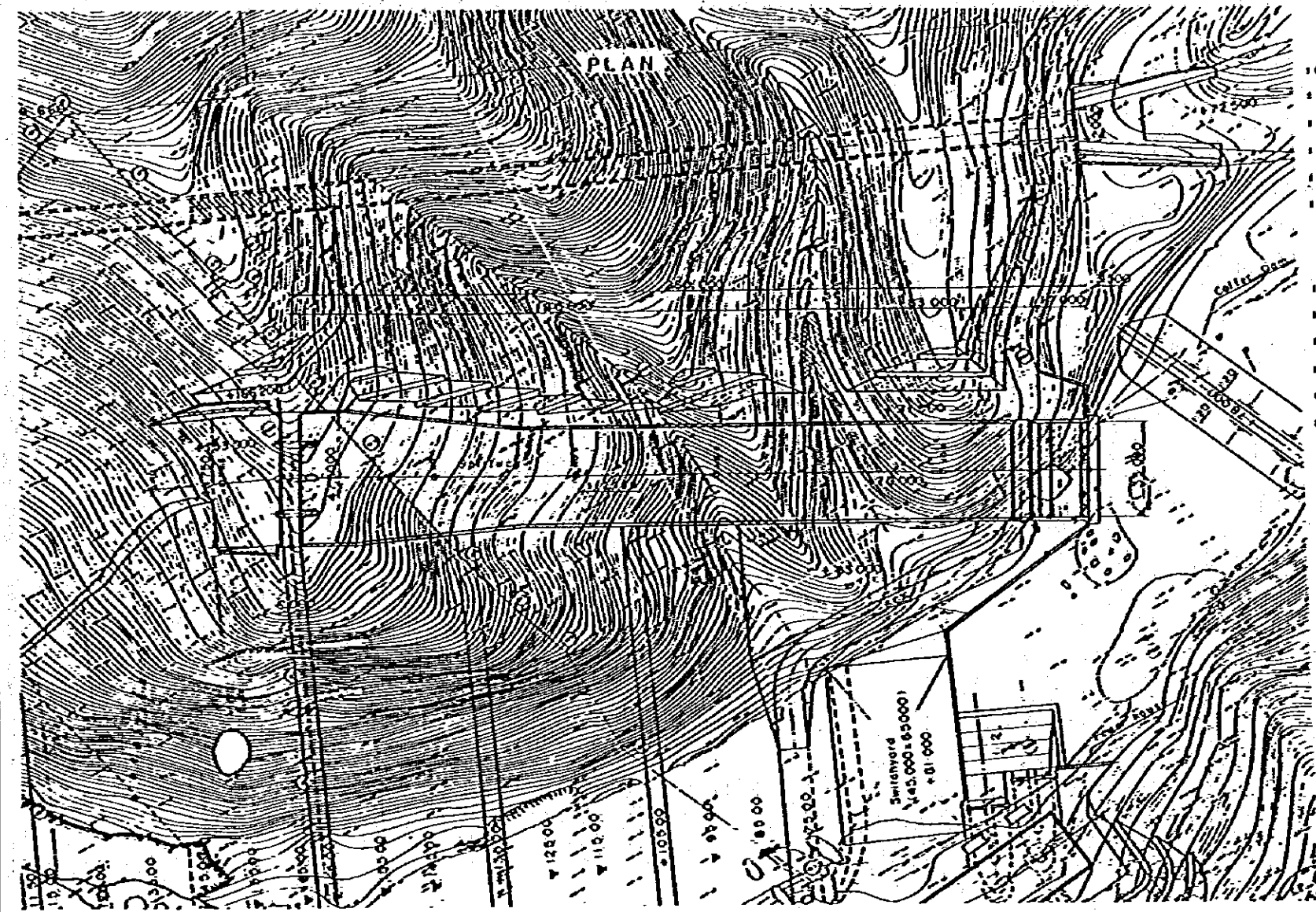




JAPAN INTERNATIONAL COOPERATION AGENCY
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 FEASIBILITY STUDY OF TEKA HYDRO-ELECTRIC
 POWER DEVELOPMENT PROJECT
 UPPER TEKA
 SECTIONS
 FIGURE - 4



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 FEASIBILITY STUDY OF TEKA HYDRO-ELECTRIC
 POWER DEVELOPMENT PROJECT
UPPER TEKAI
 SECTIONS
 FIGURE - 5



SCALE 1:10,000

0 50 100m

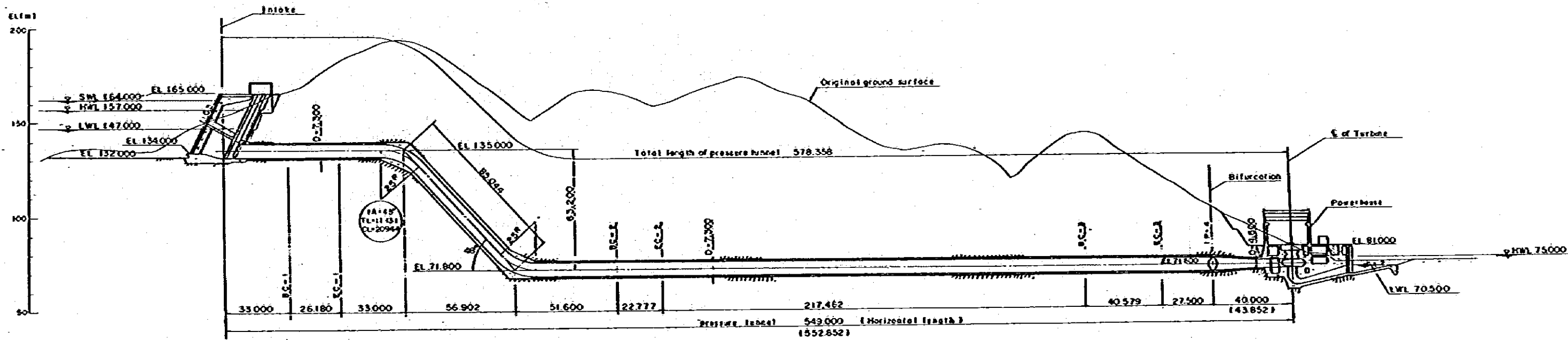
JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN

FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
 POWER DEVELOPMENT PROJECT

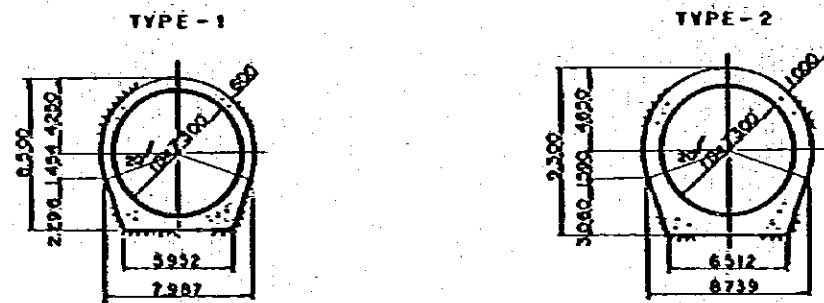
**UPPER TEKAI
 SPILLWAY**

FIGURE - 6

PROFILE OF TUNNEL



SECTION OF PRESSURE TUNNEL

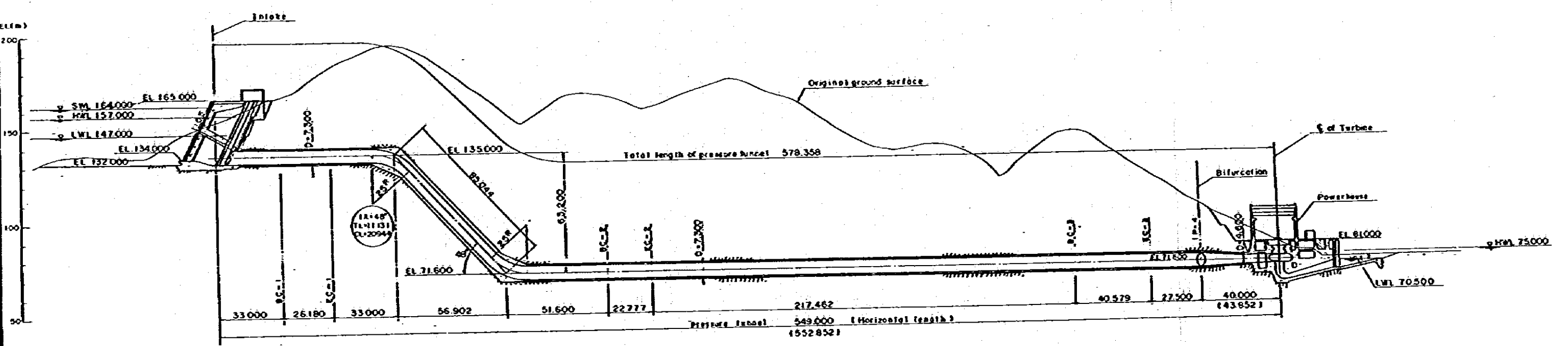


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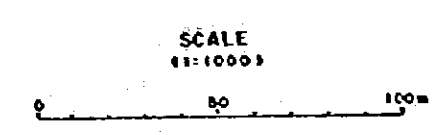
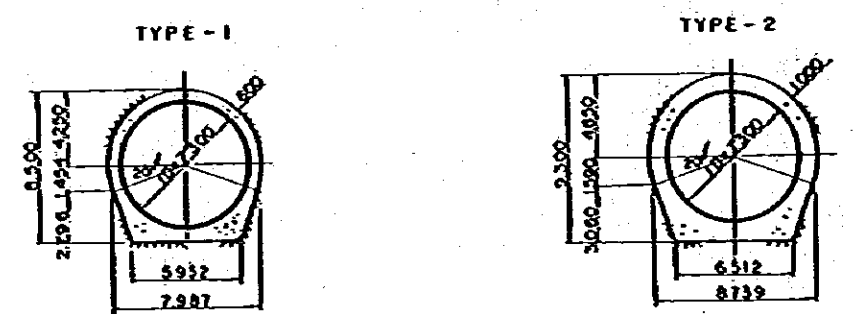
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN
FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
POWER DEVELOPMENT PROJECT
UPPER TEKAI
PRESSURE TUNNEL

FIGURE

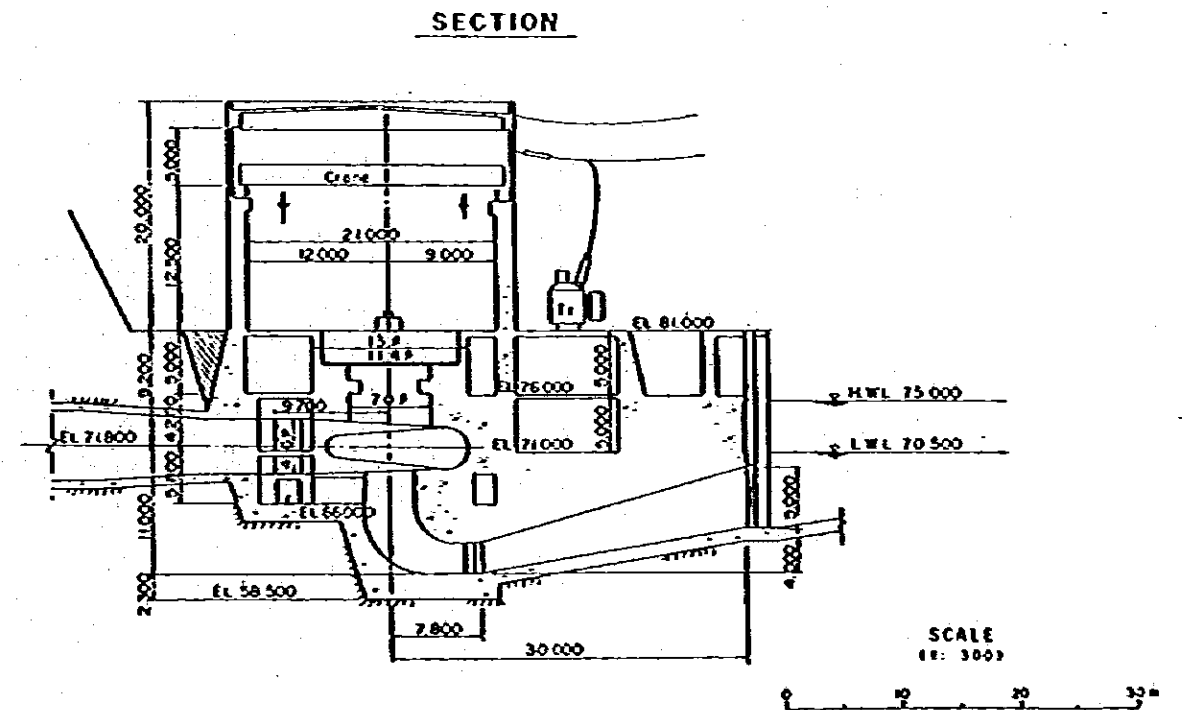
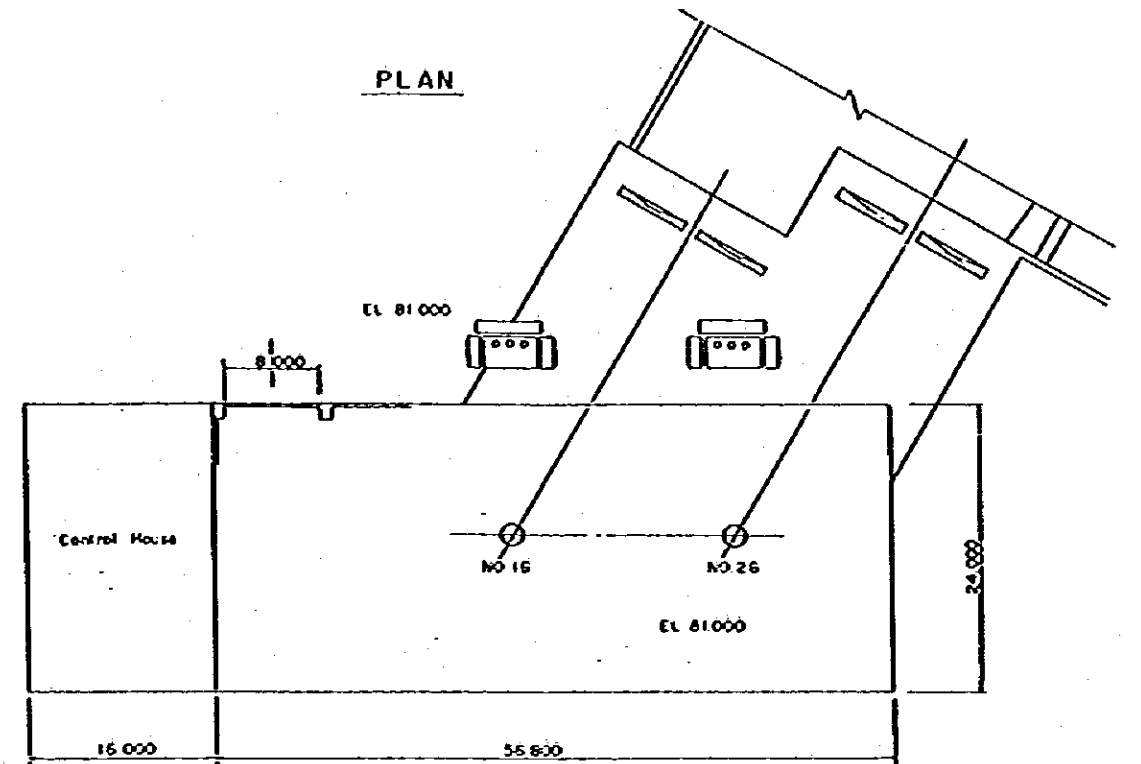
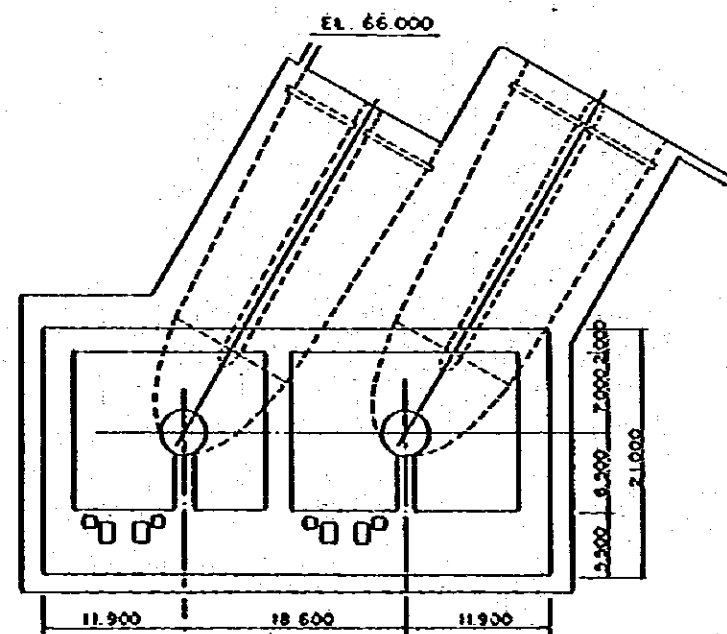
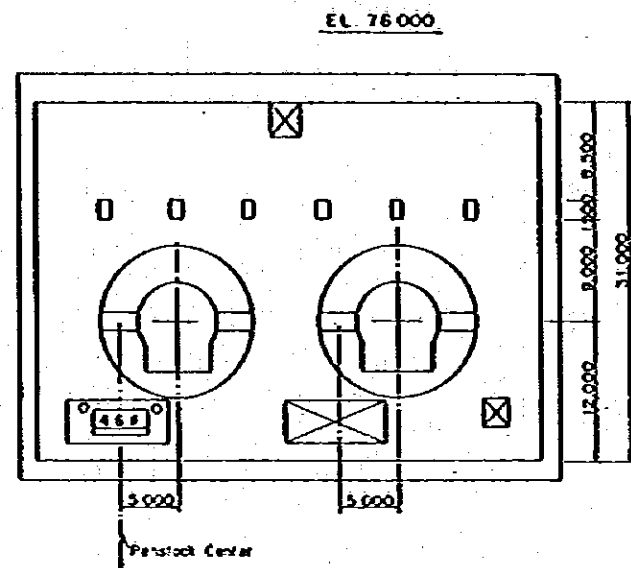
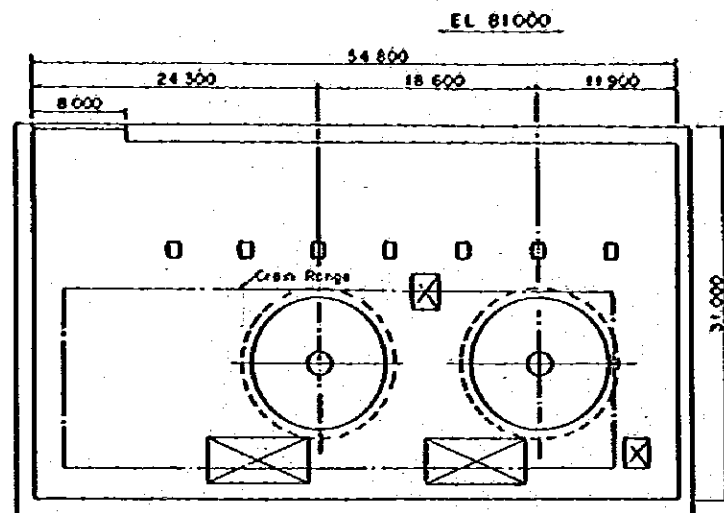
PROFILE OF TUNNEL



SECTION OF PRESSURE TUNNEL

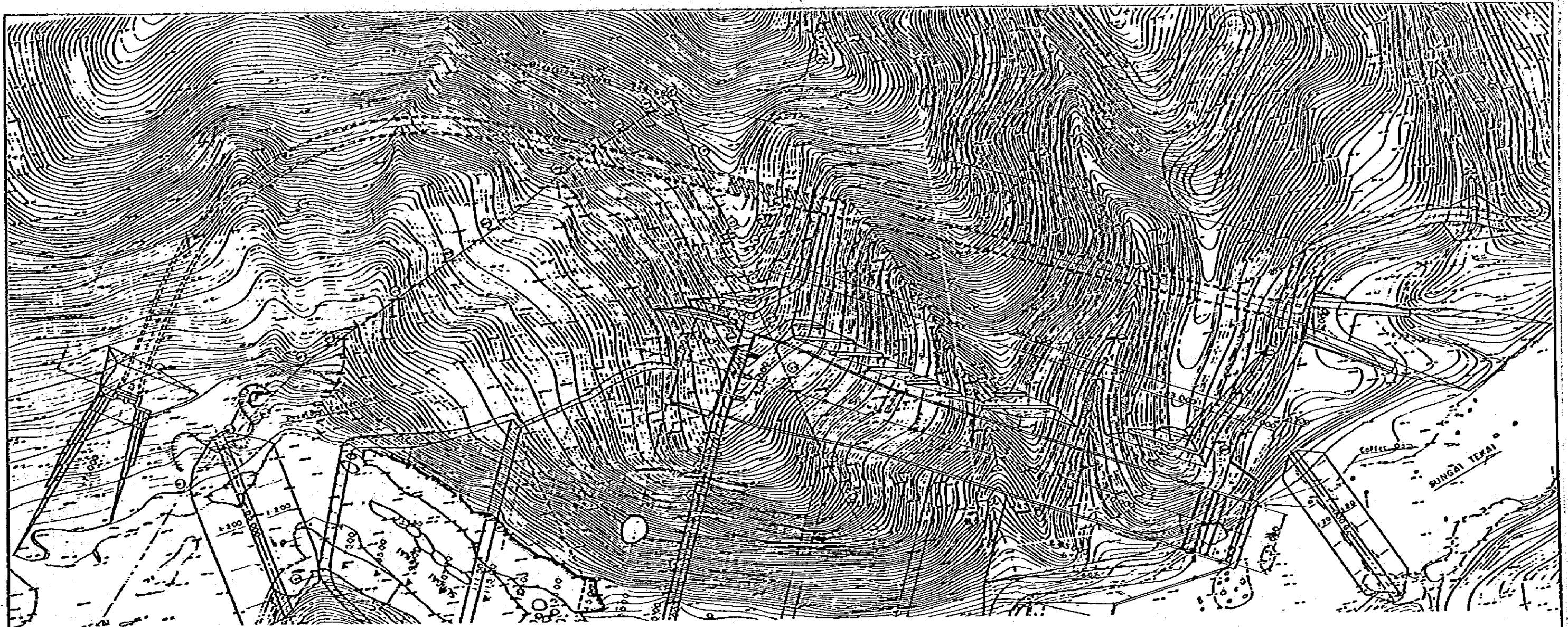


JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN
 FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
 POWER DEVELOPMENT PROJECT
UPPER TEKAI
 PRESSURE TUNNEL
 FIGURE - 7

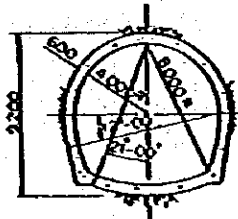
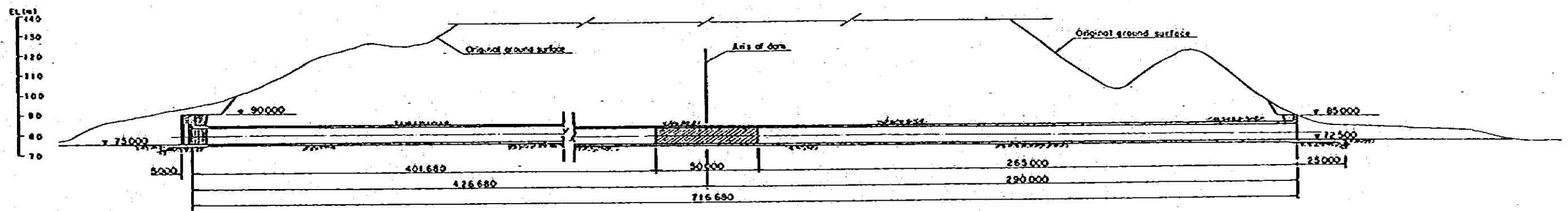


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JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN
 FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
 POWER DEVELOPMENT PROJECT
UPPER TEKAI
 POWER STATION
 FIGURE- 8



PROFILE OF DIVERSION TUNNEL

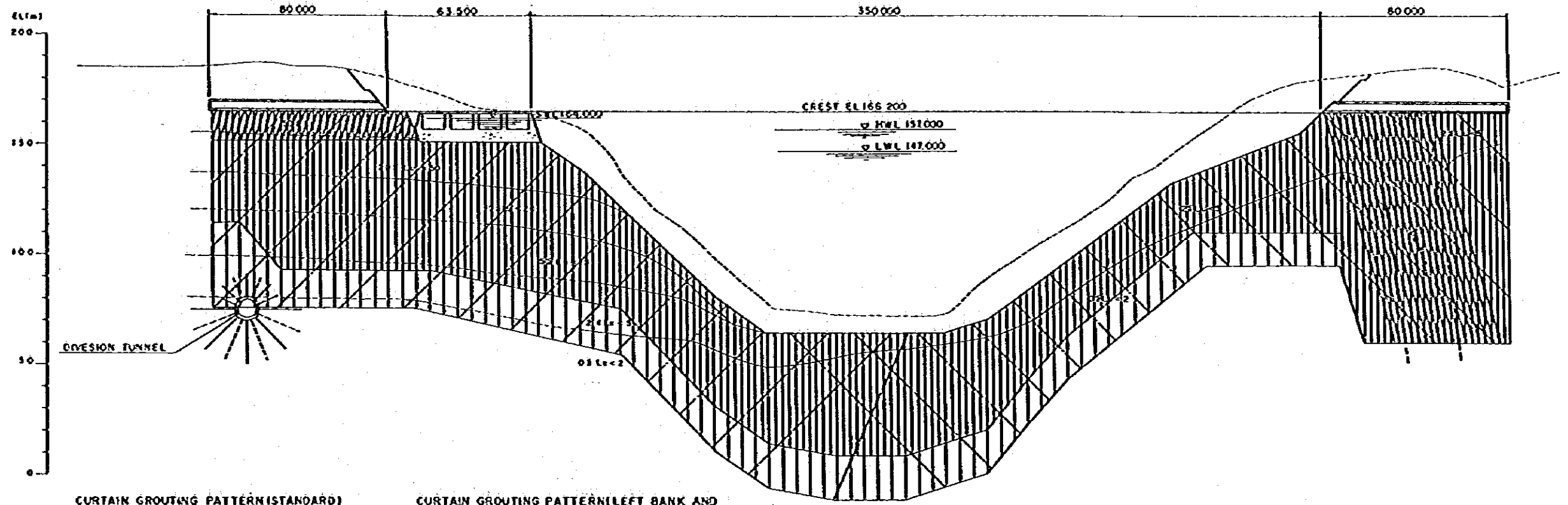


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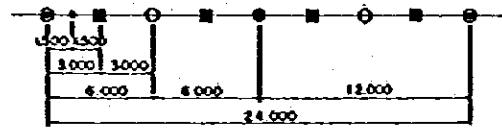


JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN
FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
POWER DEVELOPMENT PROJECT
UPPER TEKAI
DIVERSION
FIGURE - 9

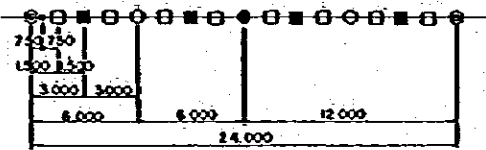
GROUTING PLAN OF UPPER TEKAI DAM



CURTAIN GROUTING PATTERN (STANDARD)

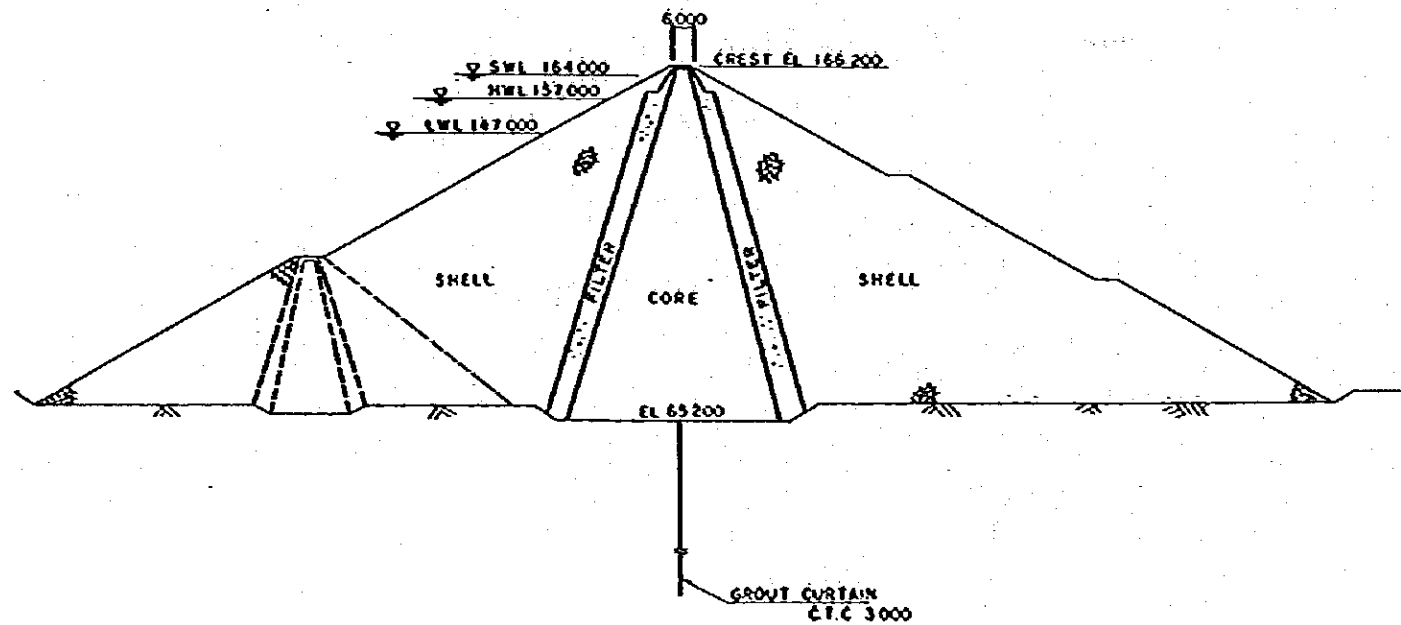


CURTAIN GROUTING PATTERN (LEFT BANK AND FRACTURED ZONE)

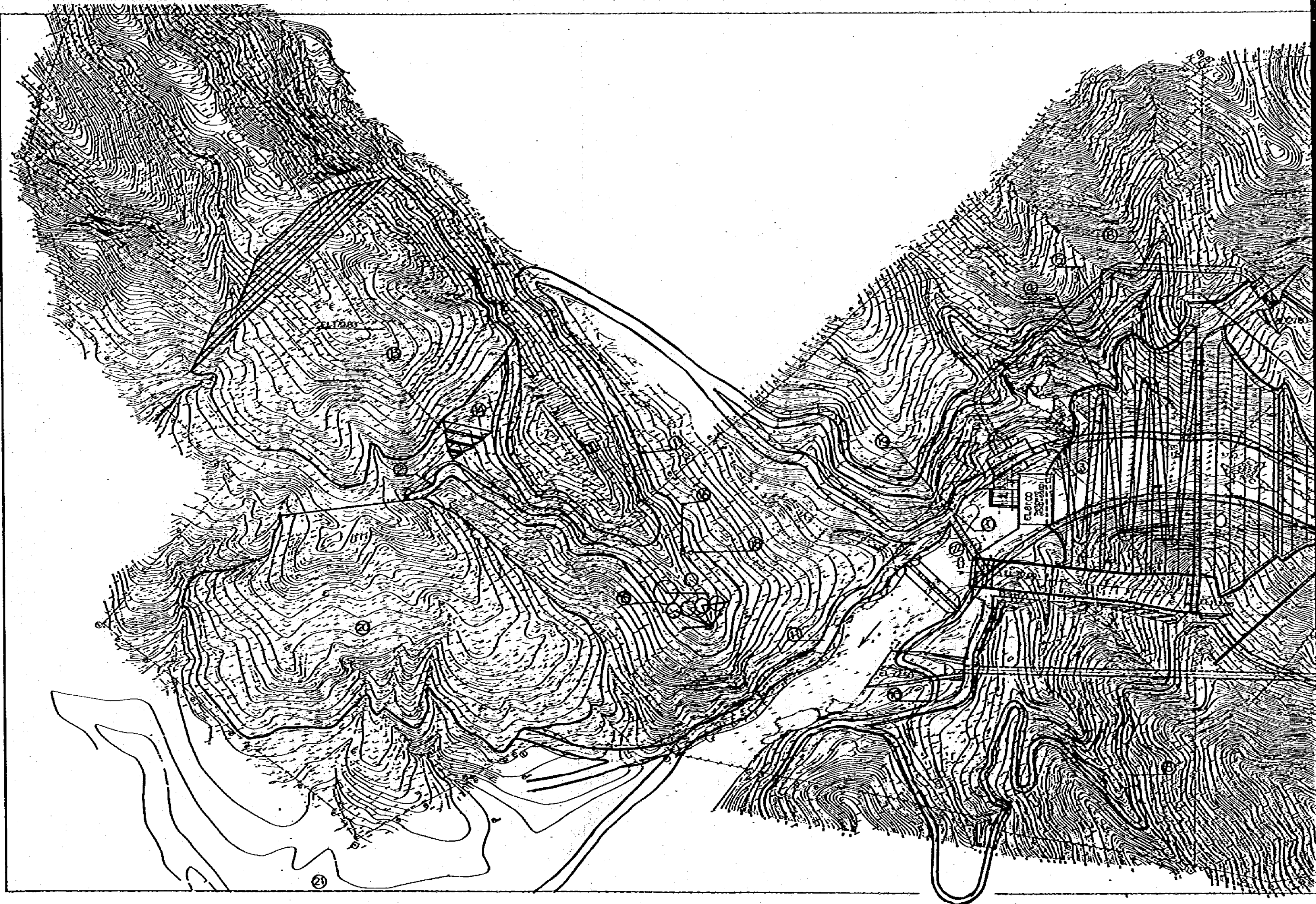


- PILOT GROUTING
- FIRST GROUTING
- SECOND GROUTING
- THIRD GROUTING
- FOURTH GROUTING
- ADDITIONAL GROUTING

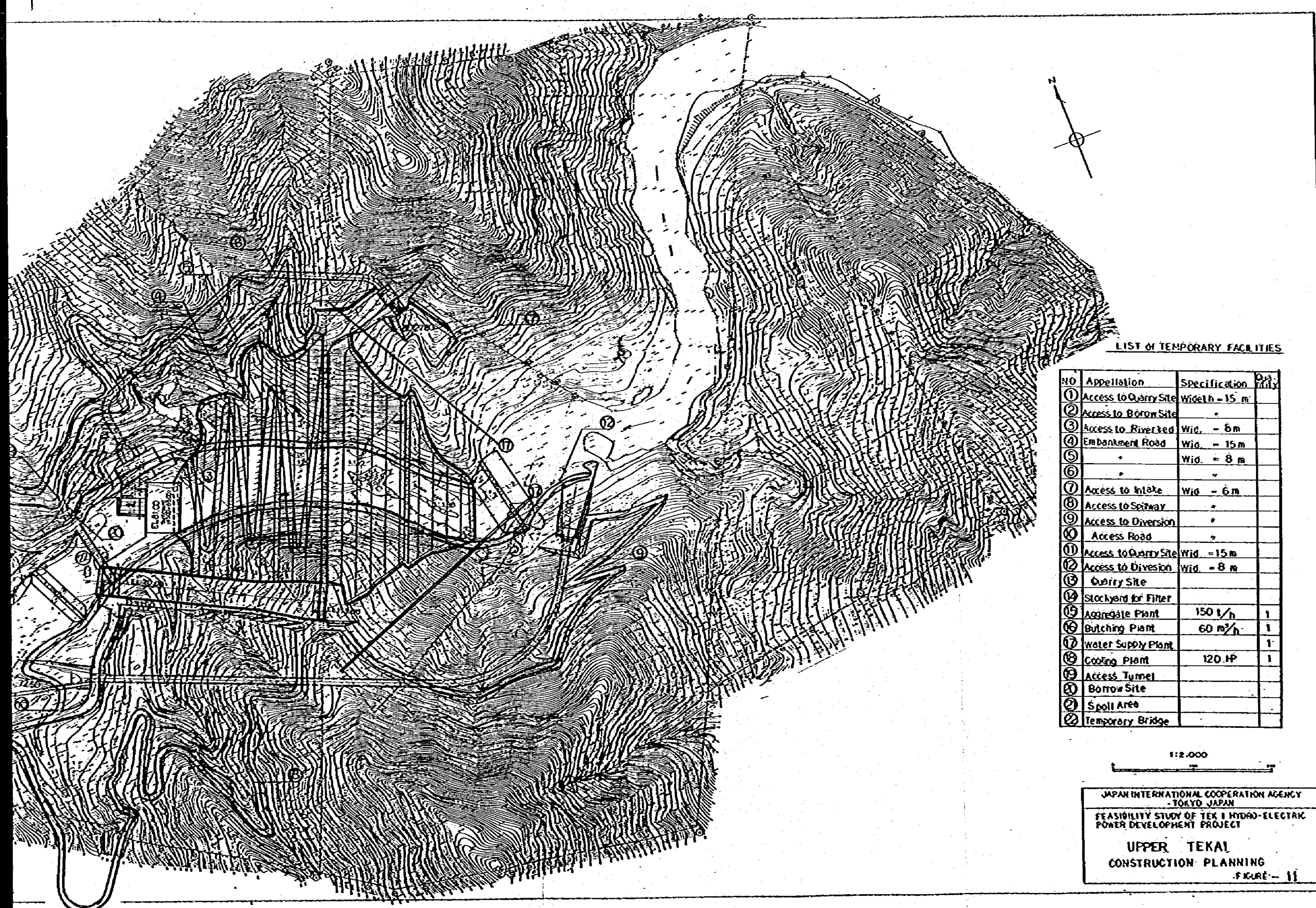
GROUTING HOLES



JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN
 FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
 POWER DEVELOPMENT PROJECT
UPPER TEKAI
 GROUTING PLAN
 FIGURE - 10



20



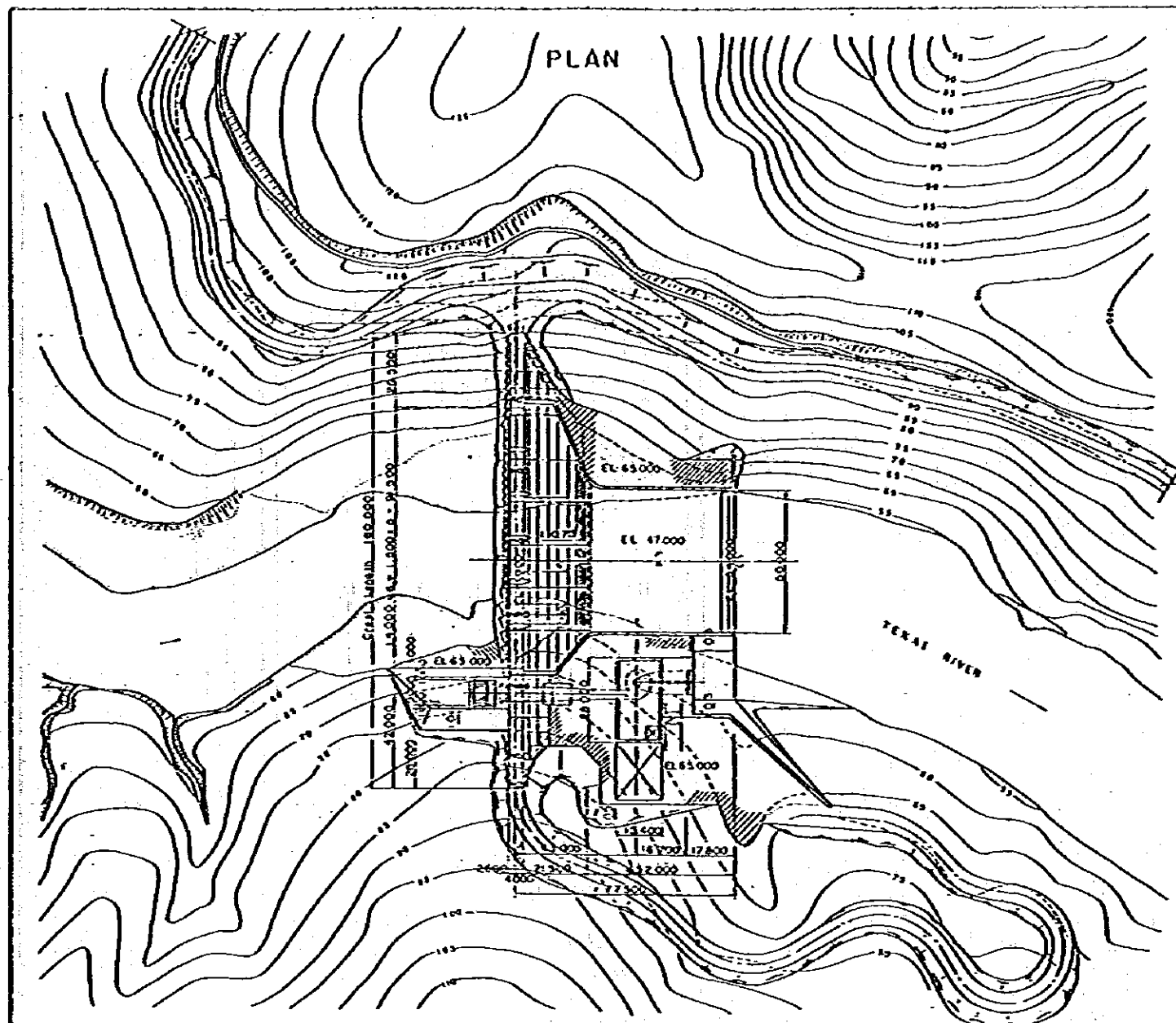
LIST OF TEMPORARY FACILITIES

NO	Appellation	Specification	Qty
①	Access to Quarry Site	Width - 15 m	
②	Access to Borrow Site	"	
③	Access to Riverbed	Wid. - 6 m	
④	Embankment Road	Wid. - 15 m	
⑤	"	Wid. - 8 m	
⑥	"	"	
⑦	Access to Inlet	Wid - 6 m	
⑧	Access to Spillway	"	
⑨	Access to Diversion	"	
⑩	Access Road	"	
⑪	Access to Quarry Site	Wid. - 15 m	
⑫	Access to Diversion	Wid. - 8 m	
⑬	Quarry Site		
⑭	Stockyard for Filter		
⑮	Aggregate Plant	150 t/h	1
⑯	Batching Plant	60 m ³ /h	1
⑰	Water Supply Plant		1
⑱	Cooling Plant	120 HP	1
⑲	Access Tunnel		
⑳	Borrow Site		
㉑	Spill Area		
㉒	Temporary Bridge		

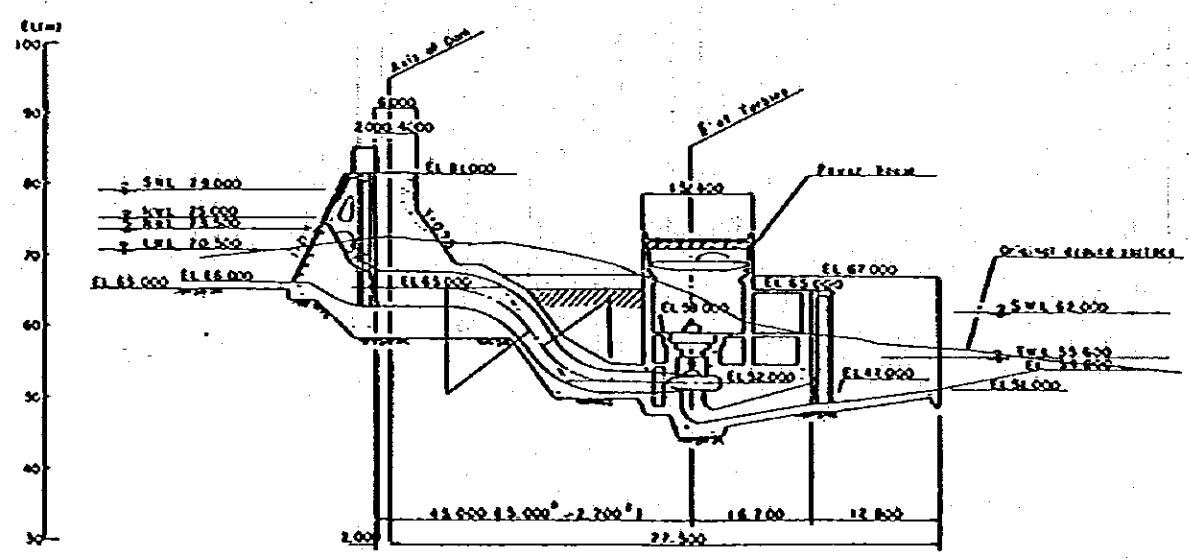
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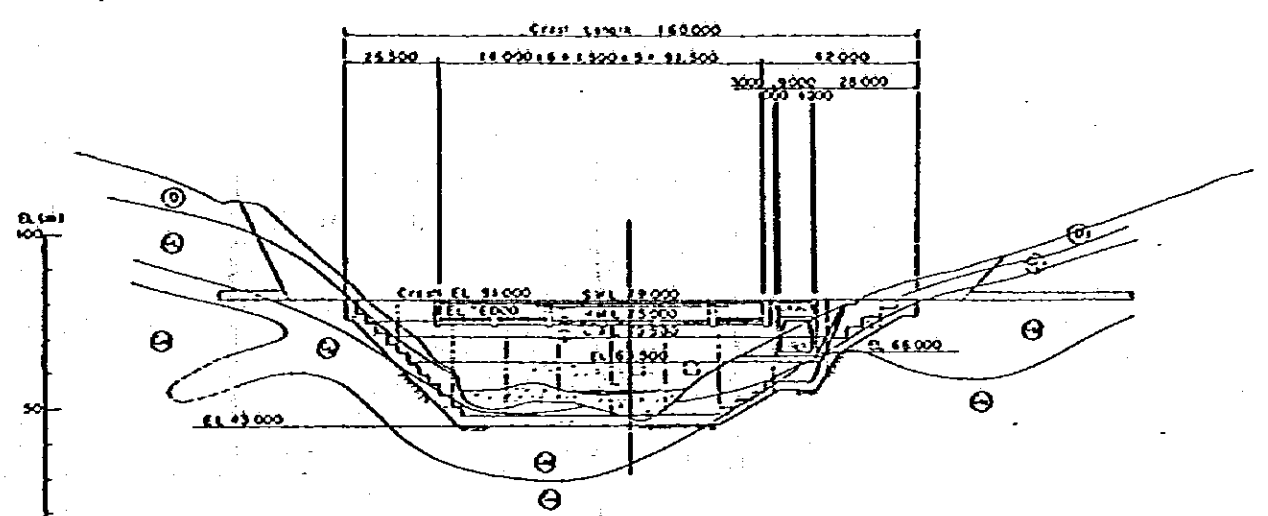
JAPAN INTERNATIONAL COOPERATION AGENCY
 - TOKYO, JAPAN
 FEASIBILITY STUDY OF TEK I HYDRO-ELECTRIC
 POWER DEVELOPMENT PROJECT
 UPPER TEKAI
 CONSTRUCTION PLANNING
 FIGURE - 11



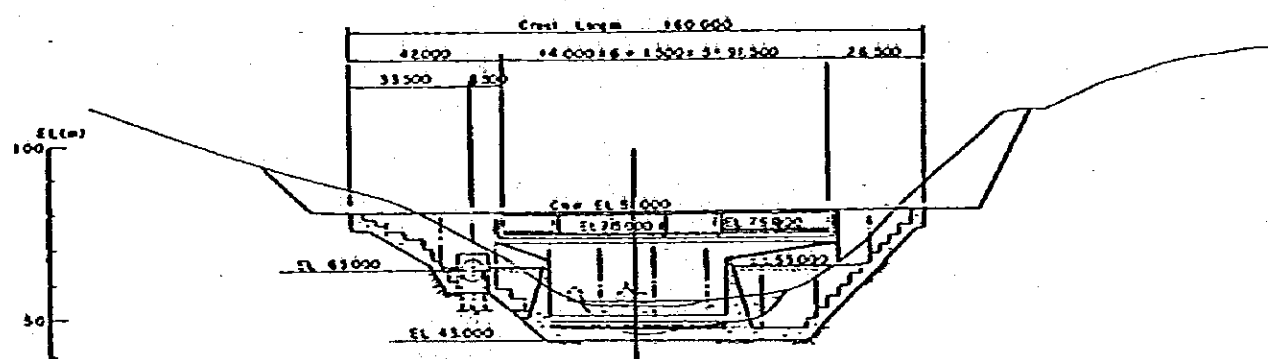
LONGITUDINAL SECTION PRESSURE PIPELINE



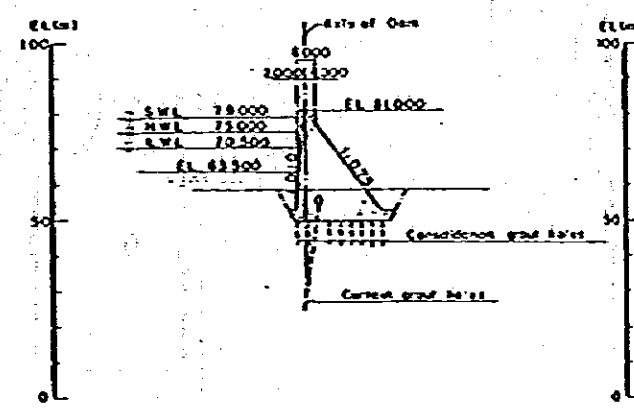
UPSTREAM ELEVATION



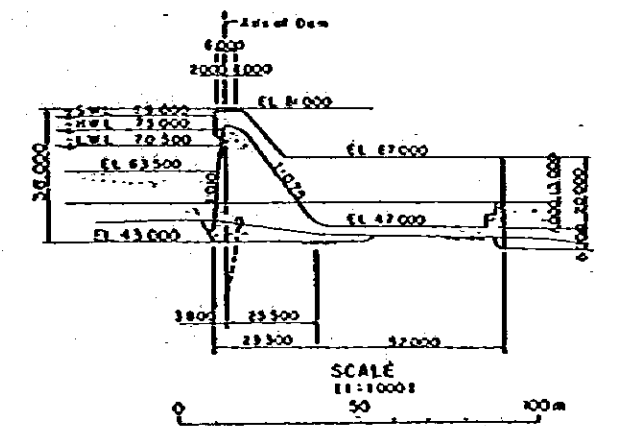
DOWNSTREAM ELEVATION



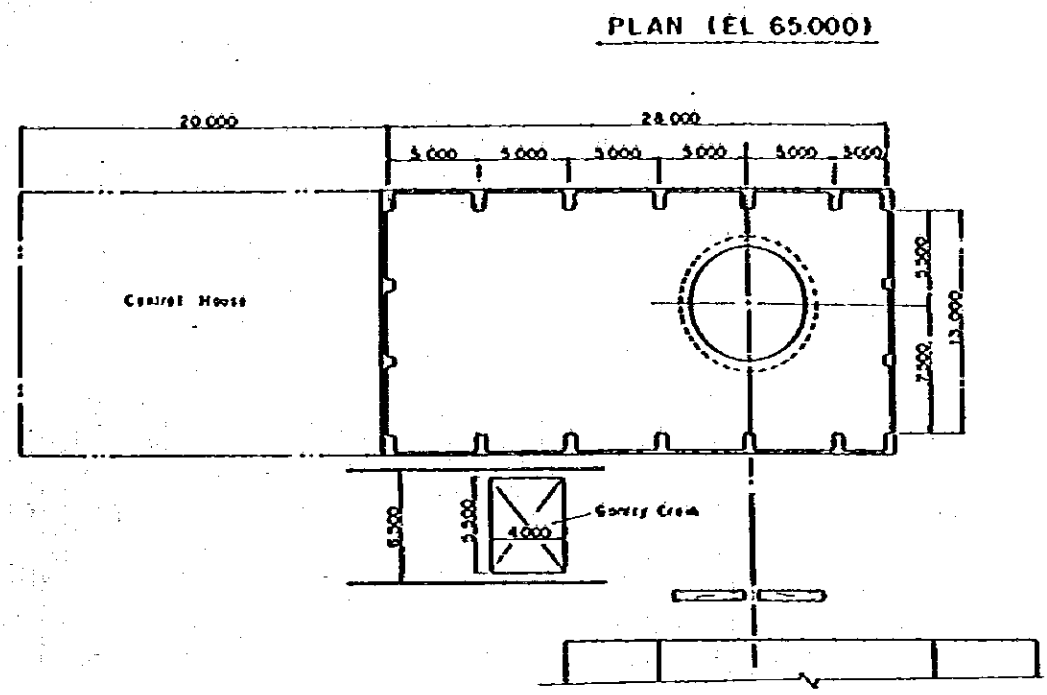
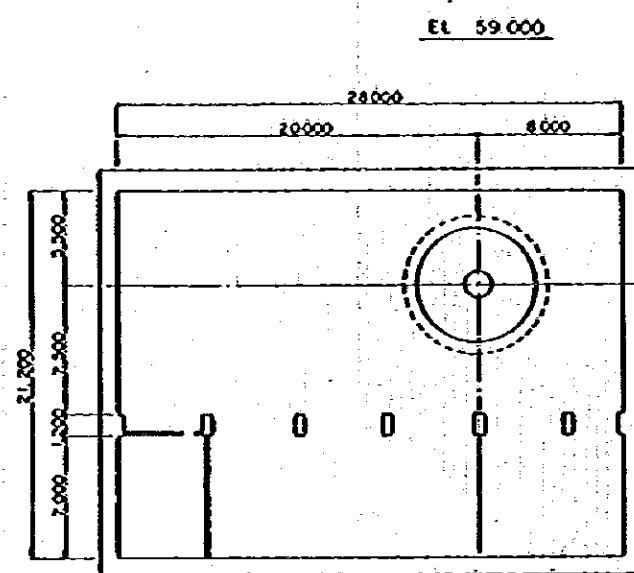
NON OVERFLOW SECTION



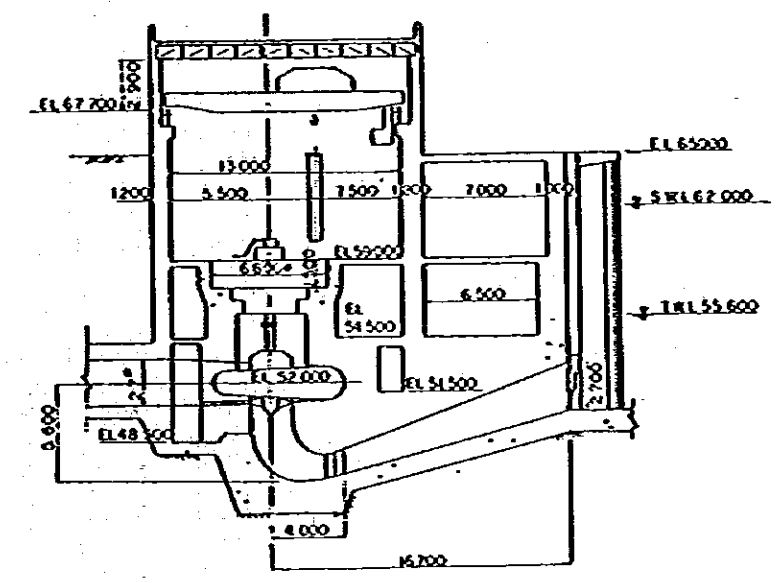
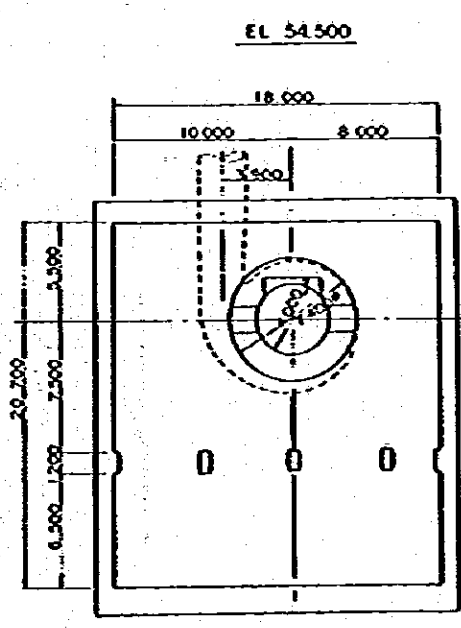
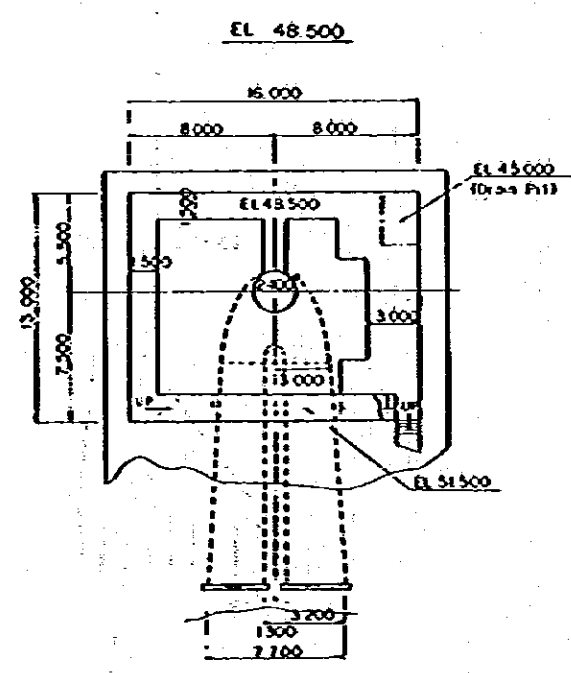
OVERFLOW SECTION



JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN
 FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
 POWER DEVELOPMENT PROJECT
LOWER TEKAI
 GENERAL ARRANGEMENT-PLAN,
 POWER STATION AND SECTIONS
 FIGURE- 12

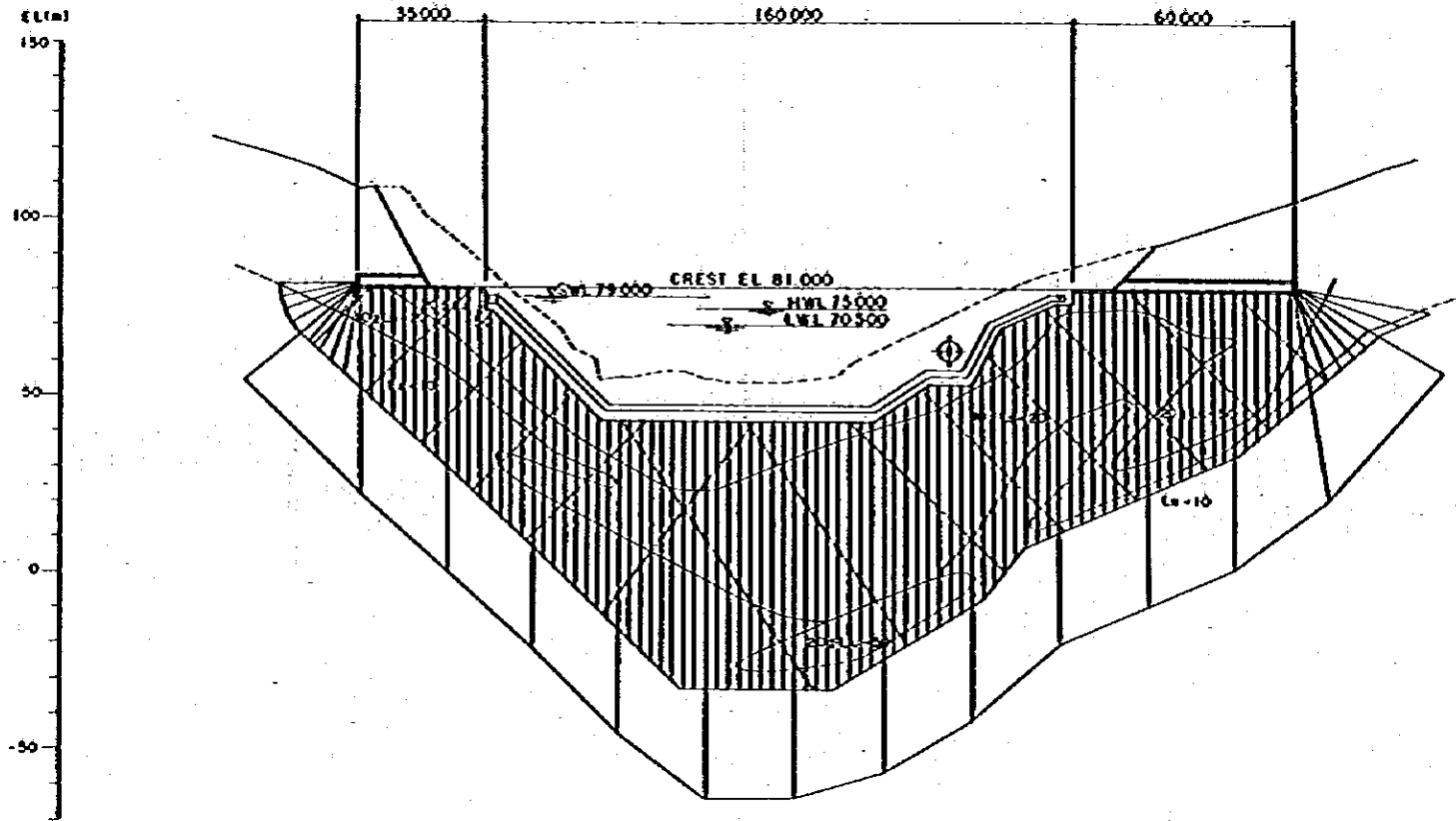


SECTION

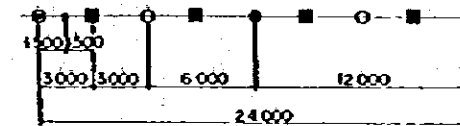


JAPAN INTERNATIONAL COOPERATION AGENCY
 TOKYO JAPAN
 FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
 POWER DEVELOPMENT PROJECT
LOWER TEKAI
 POWER STATION
 FIGURE - 13

GROUTING PLAN OF LOWER TEKAI DAM

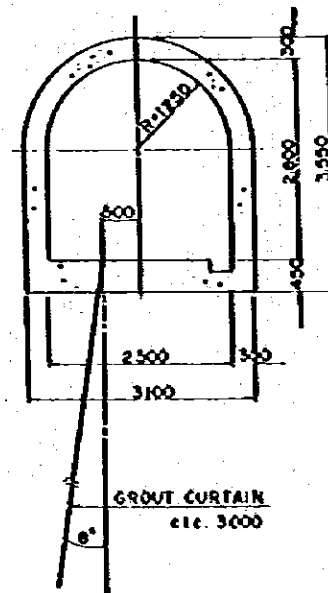


CURTAIN GROUTING PATTERN (STANDARD)

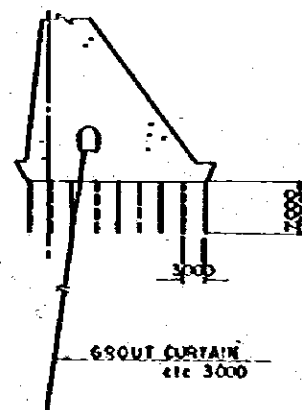


- ⊙ PILOT GROUTING
- FIRST GROUTING
- SECOND GROUTING
- THIRD GROUTING
- FOURTH GROUTING
- ADDITIONAL GROUTING

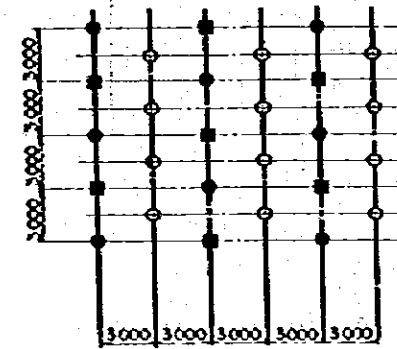
GROUTING GALLERY



GROUTING HOLES

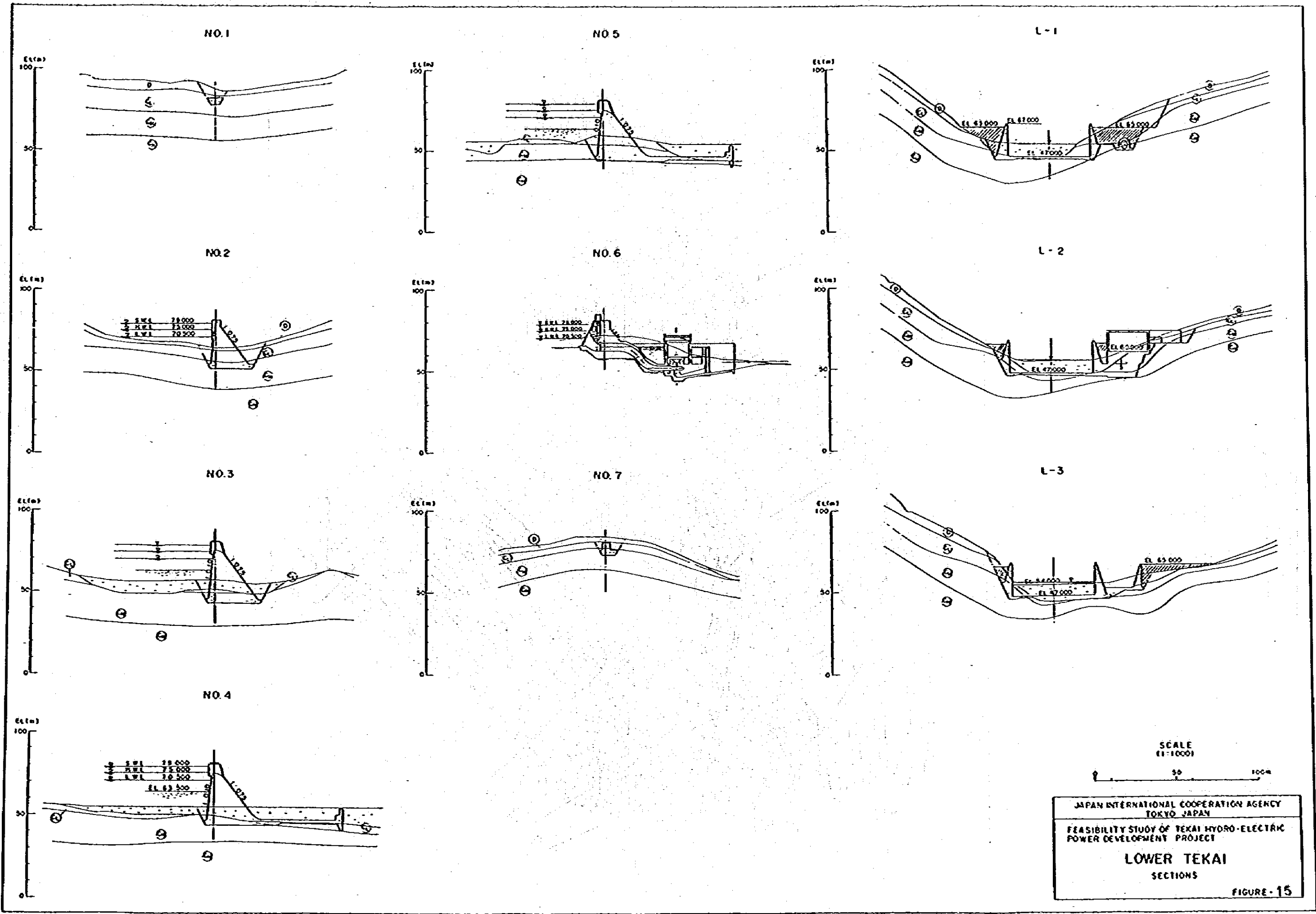


CONSOLIDATION GROUTING PATTERN



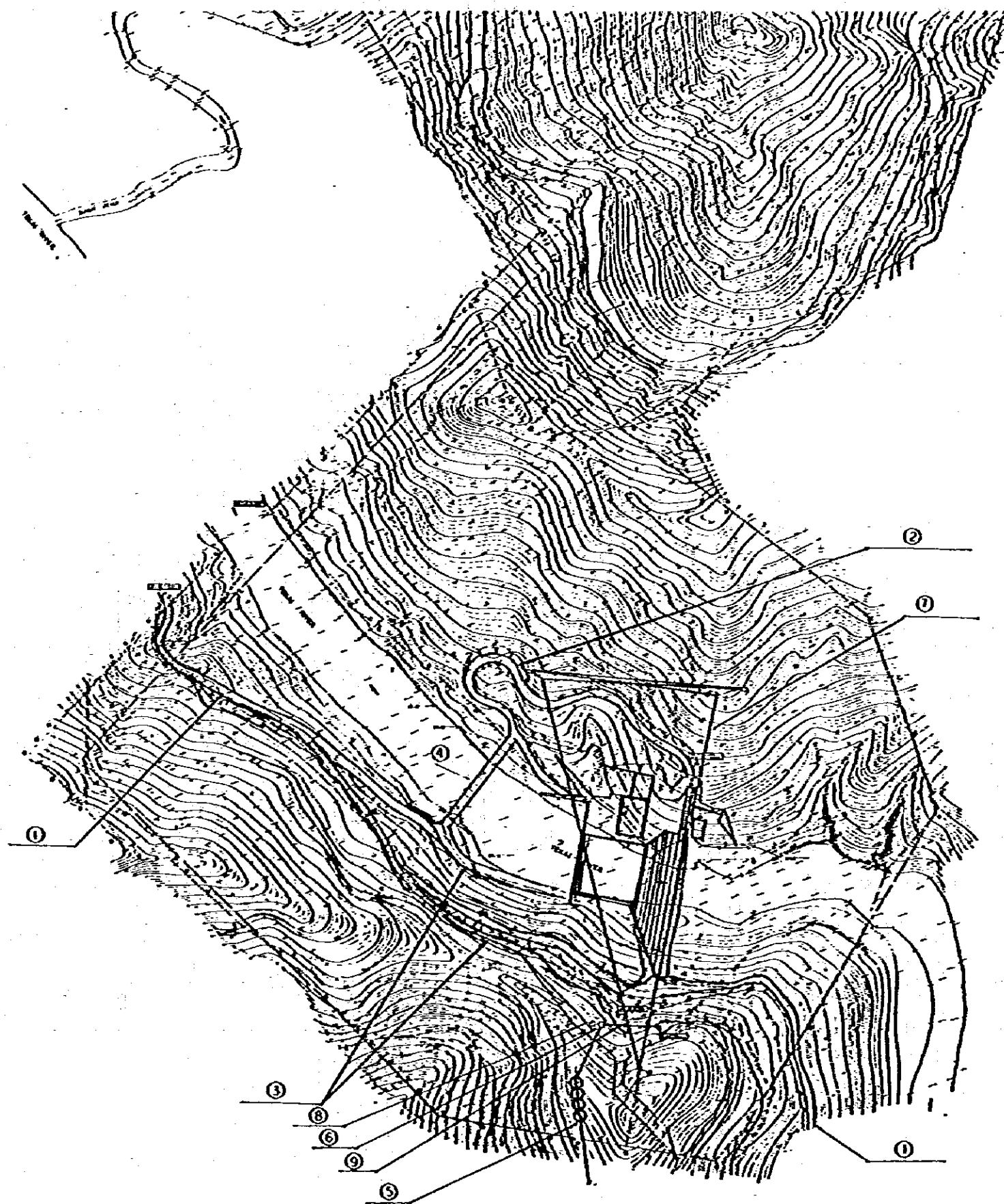
- FIRST GROUTING
- SECOND GROUTING
- THIRD GROUTING

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 POWER DEVELOPMENT PROJECT
LOWER TEKAI
 GROUTING PLAN
 FIGURE - 14



SCALE
 (1:1000)
 0 50 100m

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 POWER DEVELOPMENT PROJECT
LOWER TEKAI
 SECTIONS
 FIGURE - 15



LIST OF TEMPORARY FACILITIES

No	Appellation	Specifications	Quantity
①	Access Road (left bank)	width = 6 m	
②	Access Road (right bank)	-	
③	Temporary Road	-	
④	Temporary Bridge	-	96 m
⑤	Aggregate Stock Pile	-	1
⑥	Batching Plant	30 m ² /H	1
⑦	Cable Crane	200 T capacity Size 100	1
⑧	Cooling Plant	120 HP	1
⑨	Shuttle Train Line	-	1

1:2,000



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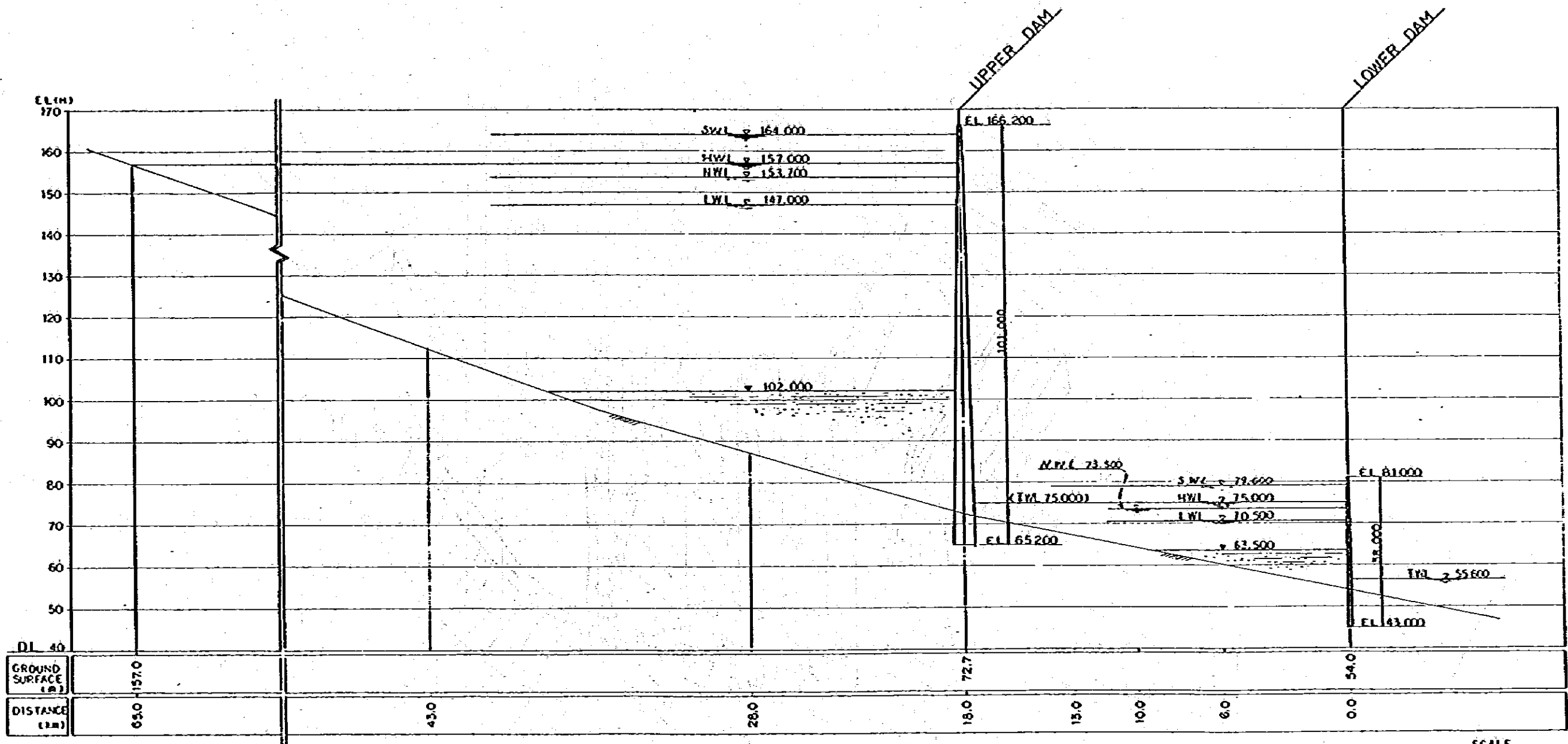
LOWER TEKAI
 CONSTRUCTION PLANNING

FIGURE - 16

PROFILE

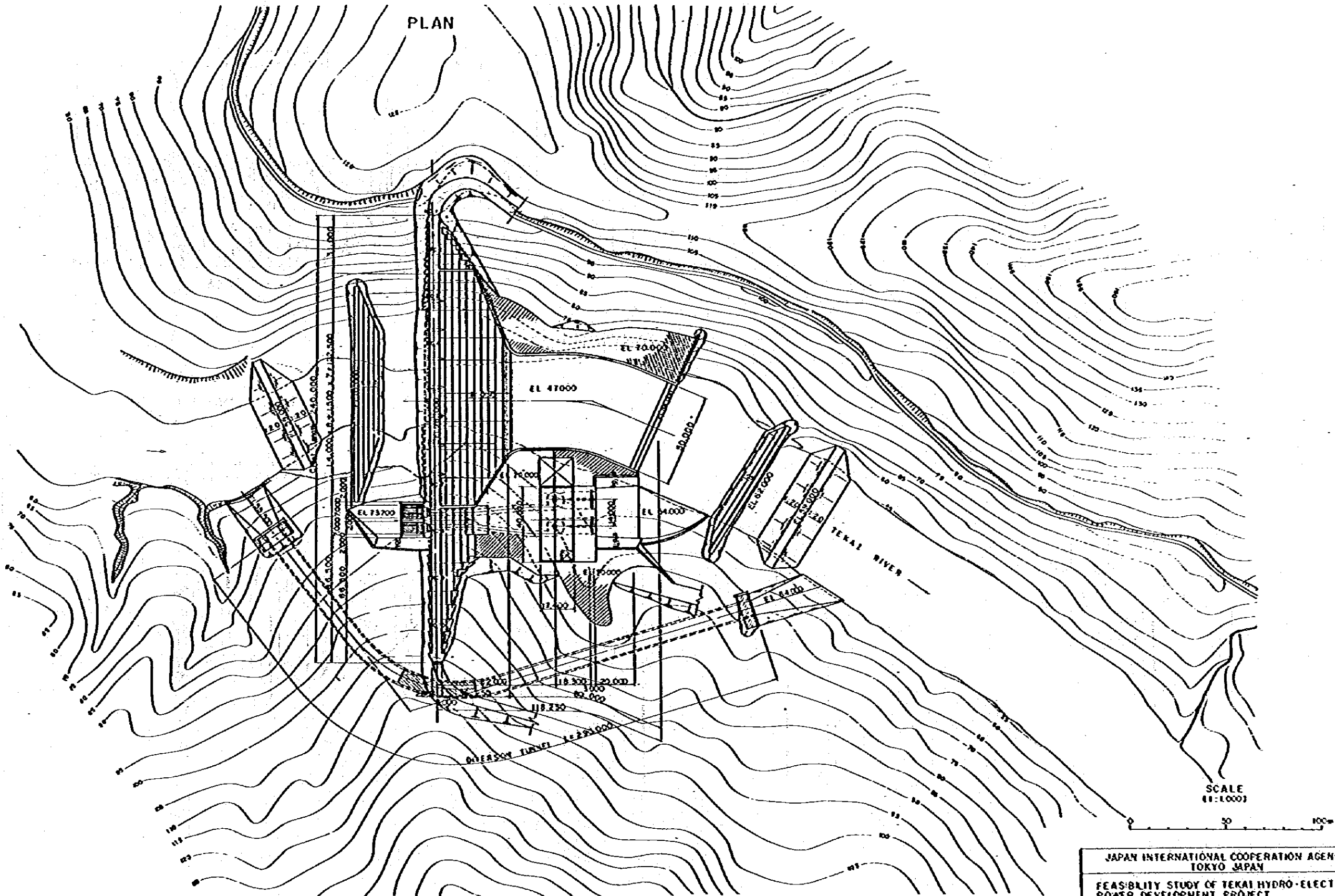
SH : 1:100,000
SV : 1: 500

Item		UPPER DAM	LOWER DAM
Catchment Area	km ²	1,200	1,300
High	m	101	58
Volume	m ³	3,125,000	57,000
HWL	m	157	75
Reservoir Area	km ²	76	61
Gross Capacity	km ³	2,060	415
Effective Capacity	m ³	680	215
Maximum Discharge	m ³ /s	235	40
Maximum Output	MW	150	58
Annual Energy	MWh	1943	403
Gross Head	m	787	127



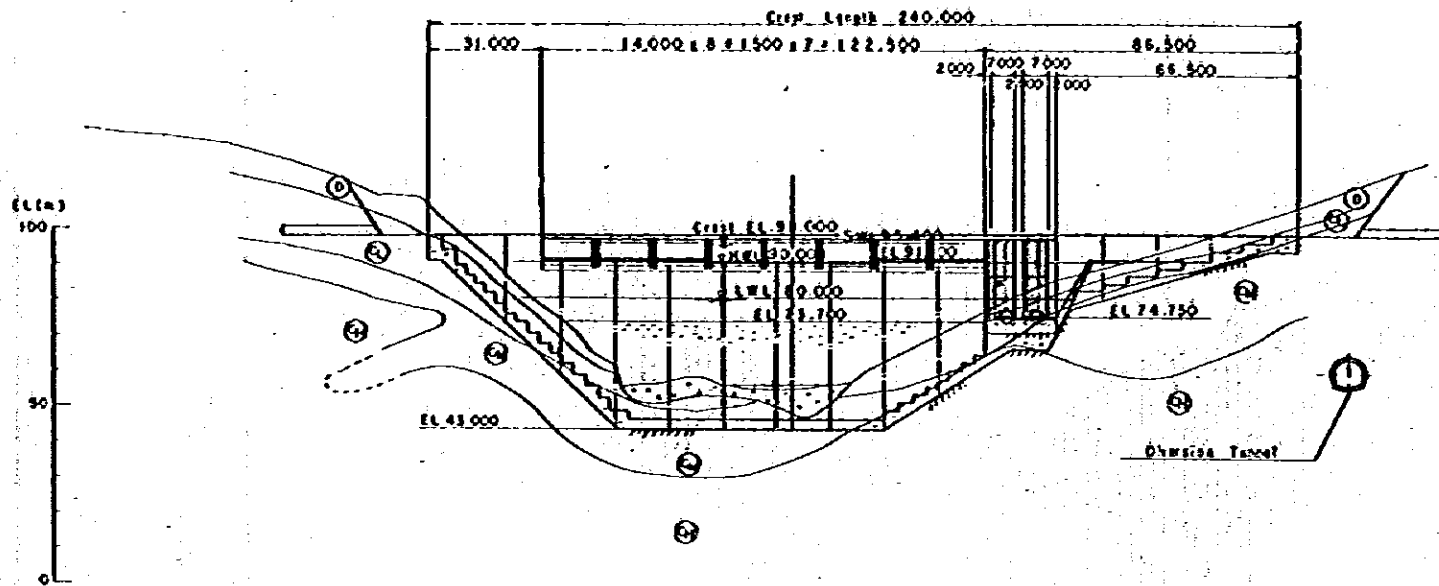
SCALE
1:100,000

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FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
POWER DEVELOPMENT PROJECT
TEKAI DAM
PROFILE
FIGURE-17

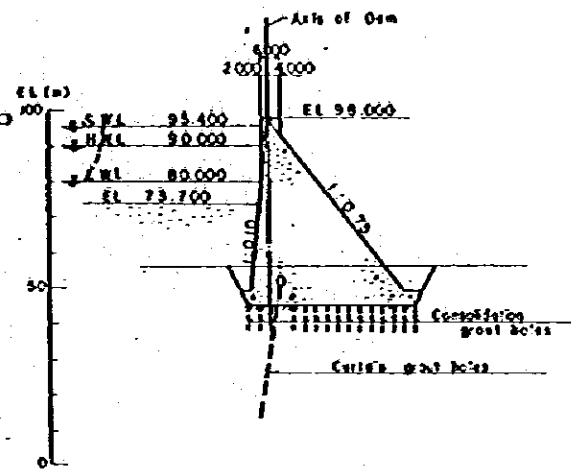


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 POWER DEVELOPMENT PROJECT
LOWER TEKAI
 GENERAL ARRANGEMENT PLAN
 (Single Development)
 FIGURE - 18

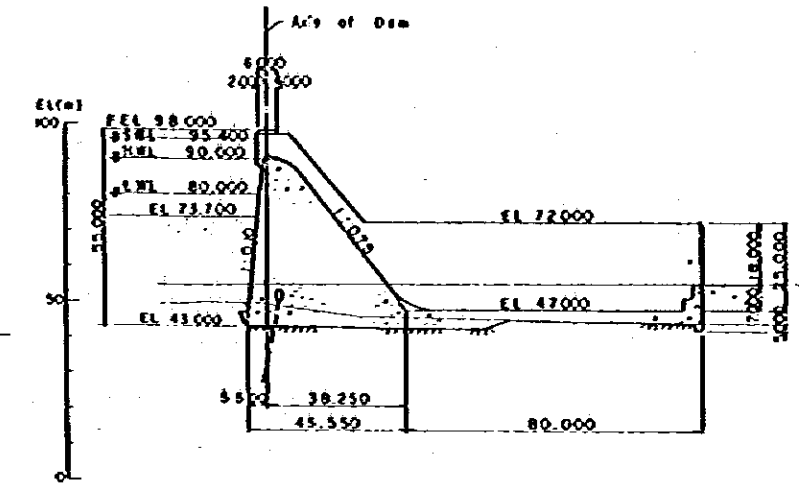
UPSTREAM ELEVATION



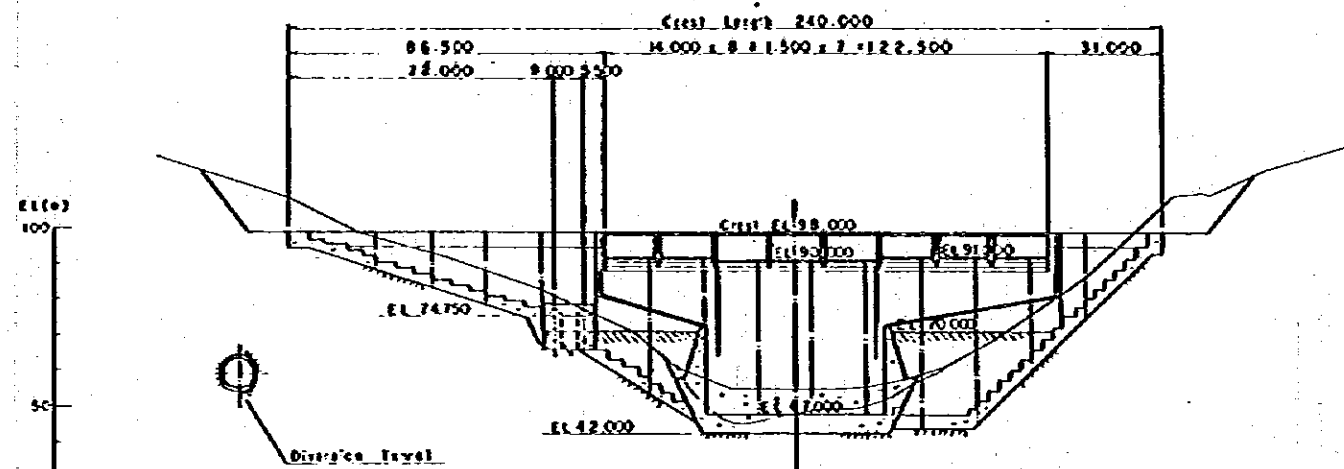
NON-OVERFLOW SECTION



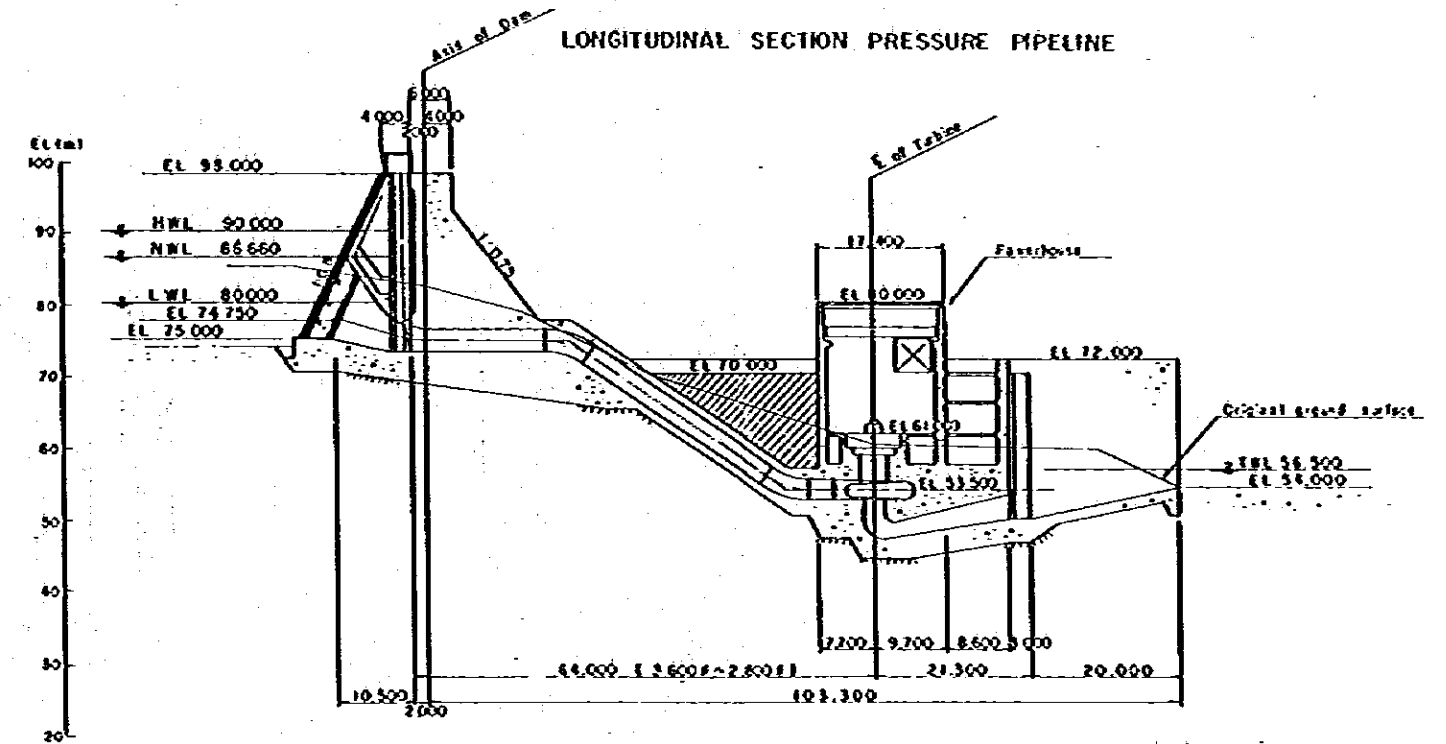
OVERFLOW SECTION



DOWNSTREAM ELEVATION



LONGITUDINAL SECTION PRESSURE PIPELINE



SCALE
(1:1,000)

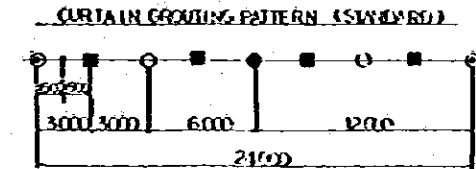
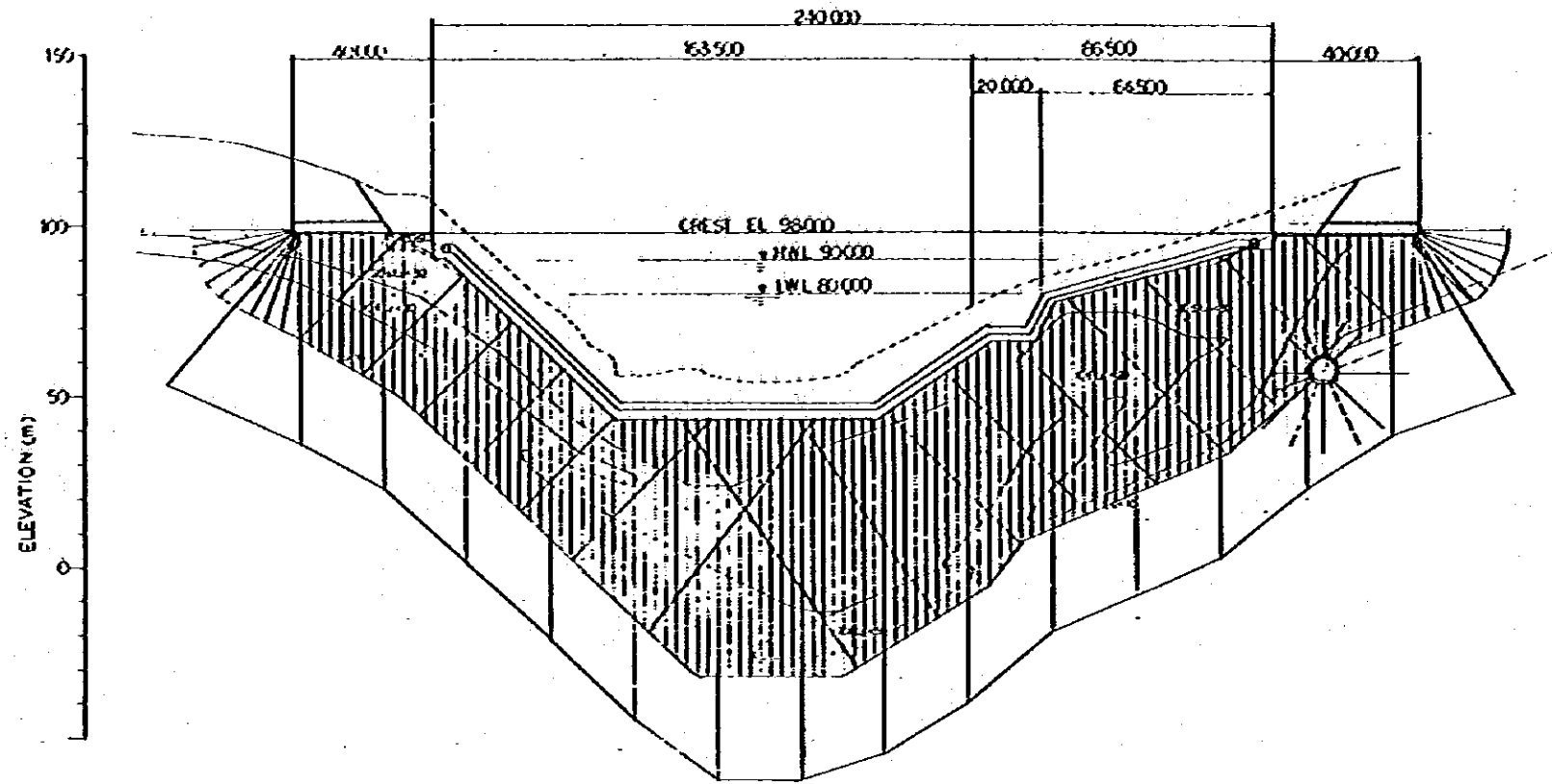


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FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
 POWER DEVELOPMENT PROJECT

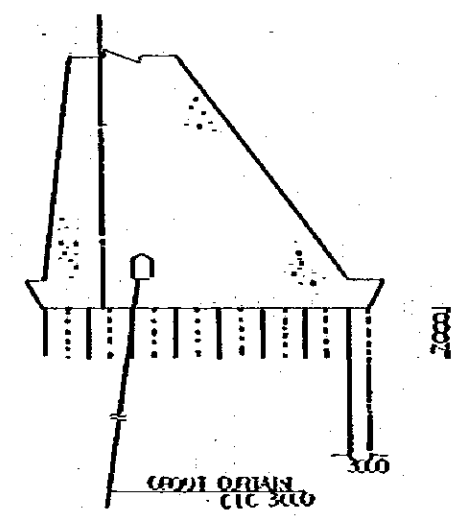
LOWER TEKAI
 POWERSTATION AND SECTIONS
 (Single Development)
 FIGURE - 19

GROUTING PLAN OF LOWER TEKAI DAM (single)

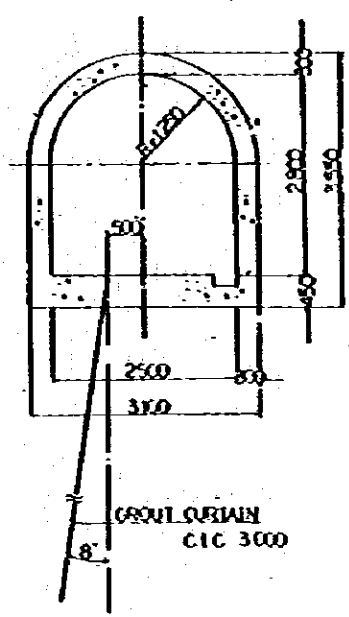


- PILOT GRROUTING
- FIRST GRROUTING
- SECOND GRROUTING
- THIRD GRROUTING
- FOURTH GRROUTING
- ADORIONAL GRROUTING

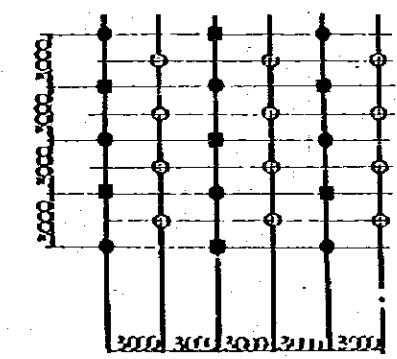
GRROUTING HOLES



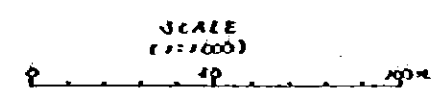
GRROUTING GALLERY



CONSOLIDATION GRROUTING PATTERN



- FIRST GRROUTING
- SECOND GRROUTING
- THIRD GRROUTING



JAPAN INTERNATIONAL COOPERATION AGENCY
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FEASIBILITY STUDY OF TEKAI HYDRO-ELECTRIC
 POWER DEVELOPMENT PROJECT

LOWER TEKAI
 GRROUTING PLAN (Single Development)

FIGURE - 20

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