

CHAPTER 12. ITEMS FOR REFERENCE

12-1 Paper Bag Manufacturing Factory

(1) Outline

Cement bags being used at Kyangin Cement Mill at present are those manufactured by a bag factory in Thayet Cement Mill.

For this expansion project, the bag manufacturing equipment of the same type and capacity as those in Thayet Paper Bag Factory, will be installed in the Kyangin cement plant site to manufacture cement bags.

However, roll paper for manufacturing cement bags will be supplied from Rangoon.

Only this paper bag manufacturing factory will be constructed as a rehabilitation work, separately from this project.

(2) Facilities of Thayet Paper Bag Manufacturing Factory

- o Name of the maker : New Long Machines Works, Ltd.
- o Bag manufacturing capacity: 150 tubes/min x 1 set
- o Type: Tuber 6M
- o Capacity of both-sheet-end sewing machine: 35 bag/min x 4 sets
- o Type: Model DSM-2

(3) Brief evaluation on the equipment capacity of the paper bag manufacturing factory.

Bag manufacturing capacity : 150 tubes/min x 60 x 7h/d = 63,000 bags/d

Cement production : (800 x 1,045) x 2 ÷ 1,670 t/d

When the entire volume is packed in paper bags,

$$\frac{1,670 \times 10^3}{50} = 33,400 \text{ bags/d} < 63,000 \text{ bags/d}$$

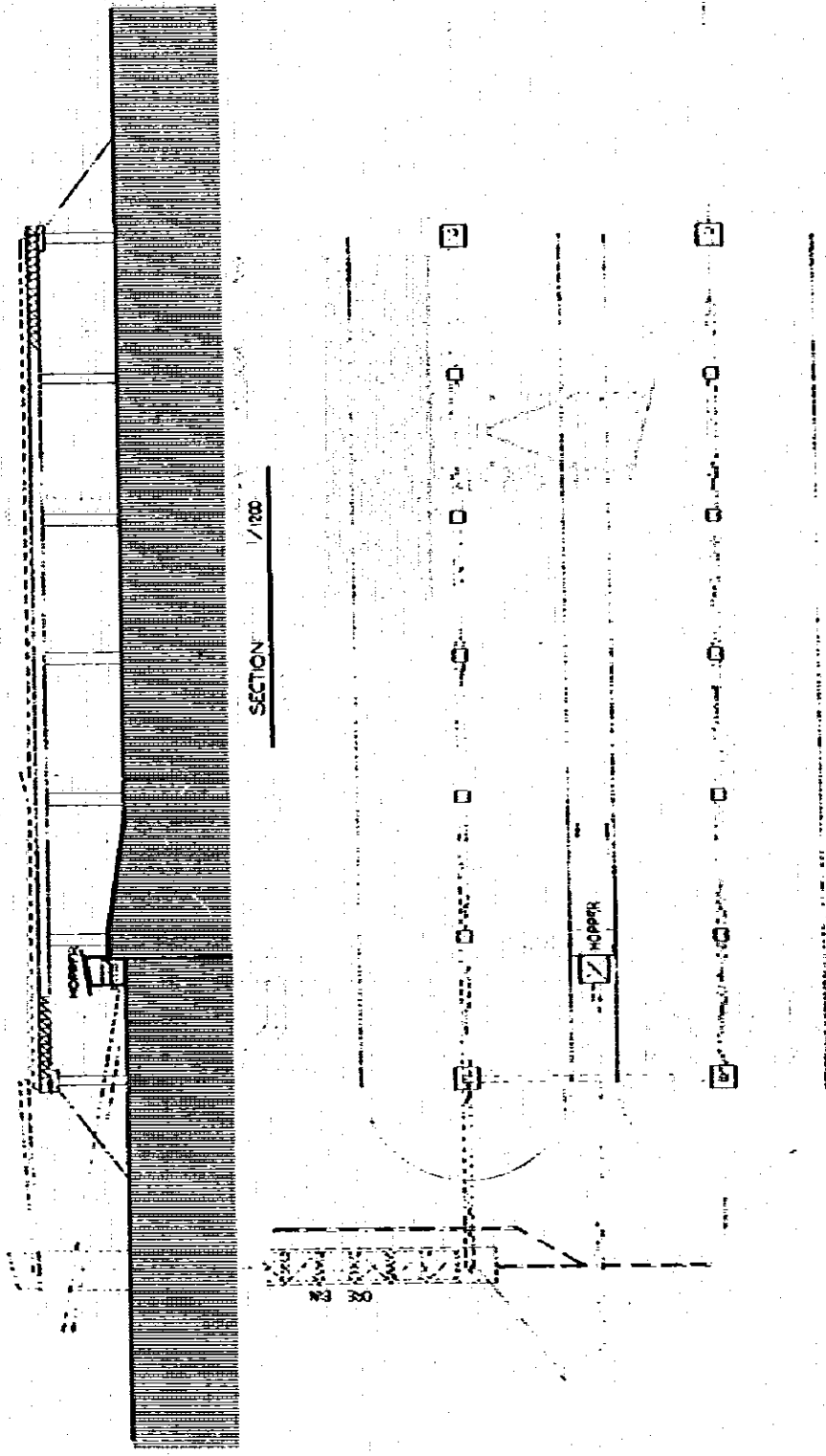
As shown above, the capacity of the factory is approximately twice as much as the quantity required. Therefore, the capacity of the new facilities can be less than the above capacity. However, when the interchangeability of the parts and the skills of the workers are considered, the same facilities as of Thayet Paper Bag Manufacturing Factory are desirable, as expected by the Burmese party.

With respect to the bagged cement, 6-ply 50kg paper bags are presently used. The bagged cement is handled 4 times during the transportation to Rangoon or Mandalay, and the ratio of broken bags to the total bags is calculated to be 3% at the maximum. This is due to the problems such as the quality of the paper bags, transportation method, etc. The problems must be studied in the earliest future.

(4) Specifications of the paper bags manufacturing plant

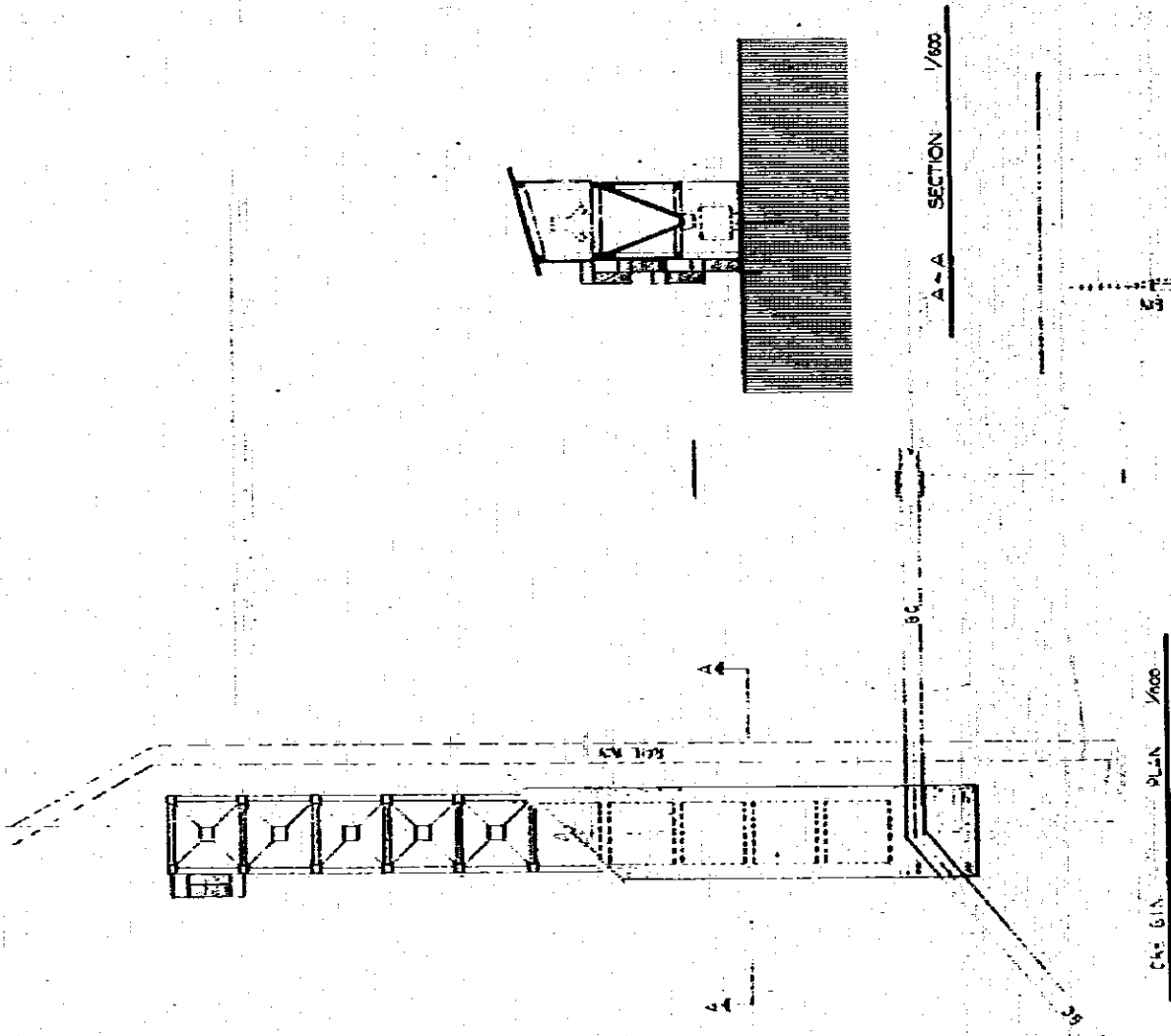
Table 12-1-1

Name of Machinery	Description	Q'ty
Tubing machine	<ul style="list-style-type: none"> o Capacity: Up to 150 tubes/min o Electric motor: 15kW for main drive 1.1kW x 2 sets 	1
Sewing machine	<ul style="list-style-type: none"> o Capacity: 35 bags/min o Electric motor: 1.5kW for main drive 0.25kW x 1 set o Accessories = Bag counter 	4
Baling machine with air compressor	<ul style="list-style-type: none"> o Capacity: 100 - 150 bags/bundle o Packing speed: 4,500 bags/h o Electric motor: 3.7kW for air compressor 	1
Electric Hoist for bag making house service	<ul style="list-style-type: none"> o Type: Monorail hoist o Capacity: 1 ton x 12 m Lift o Electric motor: 2.2kW for hoisting 0.4kW for travelling o Accessories: Rail, Trolley wires 	1
Overhead travelling crane	<ul style="list-style-type: none"> o Type: Plate girder hoist crane type o Capacity: 2 tons x 6m lift o Span: 15m o Electric motor: 3.7kW for hoisting 0.75kW for travelling 0.75kW for traversing o Accessories: Rail, Trolley wires 	1
Glue preparation device	<p>Consist of:</p> <ul style="list-style-type: none"> Glue mixer with 0.4 kW Glue strainer with 0.4 kW 	1
Valve folding tool		10
Electric Hoist	<ul style="list-style-type: none"> o Type: Monorail hoist o Capacity: 1 ton x 12m lift o Electric motor: 2.2kW for hoisting 0.4kW for travelling o Accessories: Rail, Trolley wires 	1
Paper testing machine		1

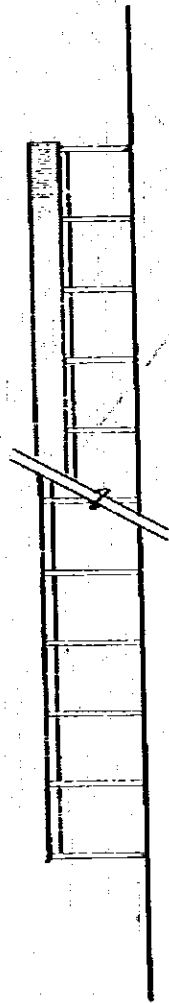


LIMESTONE OPEN STOCK YARD PLAN 1/100

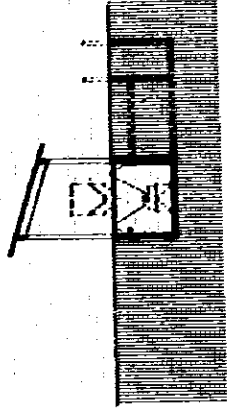
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	SOCIALIST REPUBLIC OF BURMA	
	KYANGON CEMENT MILL EXPANSION	
	LIMESTONE OPEN STOCK YARD	
DATE	2-1979	SCALE
PROJECT NO.	1300	FIG. NO.
		C-01



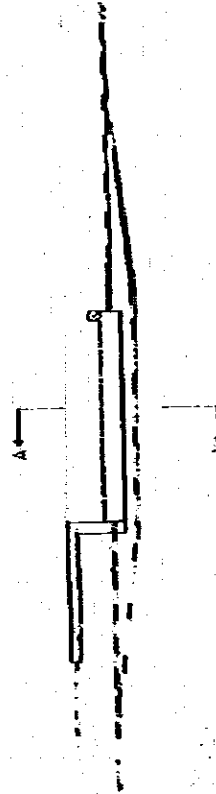
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	SOCIALIST REPUBLIC OF BURMA	
	KYANGON CEMENT MILL EXPANSION	
	DATE	PROJECT NO.
	2-1979	600
	ORE BIN	
	SCALE	FIG. NO.
	1/600	C-02



ELEVATION 1/600



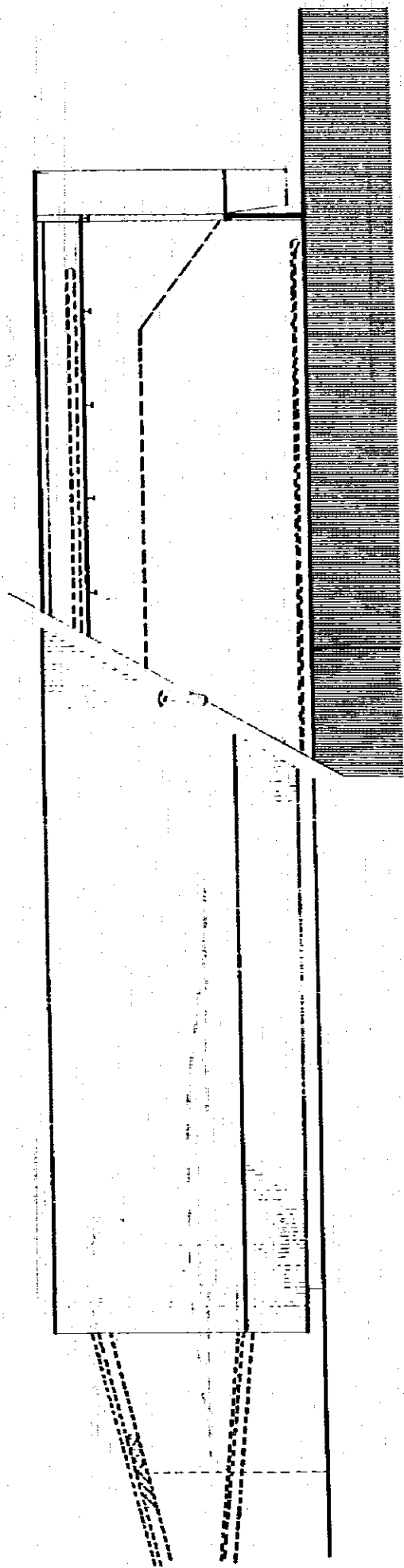
A-A SECTION 1/600



LIMESTONE RECEIVING HOPPER

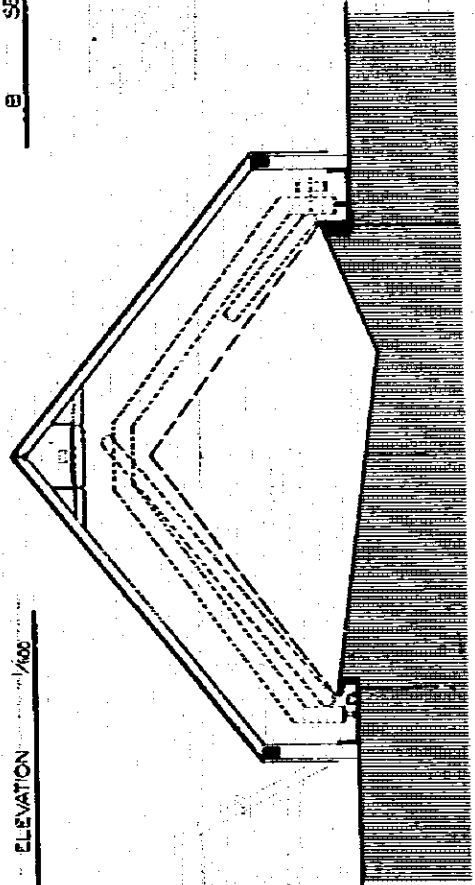
KEY PLAN

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	SOCIALIST REPUBLIC OF BURMA KYANGIN CEMENT MILL EXPANSION LIMESTONE RECEIVING HOPPER
DATE: 12-1979	NO: 600
SCALE: 1/600	NO: C-03

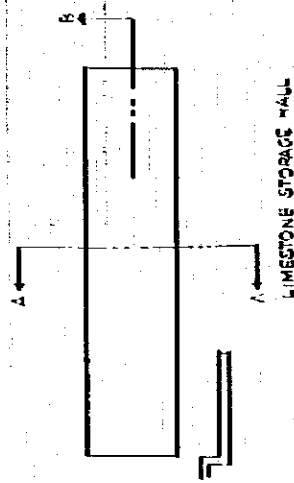


B SECTION 1/600

ELEVATION 1/600



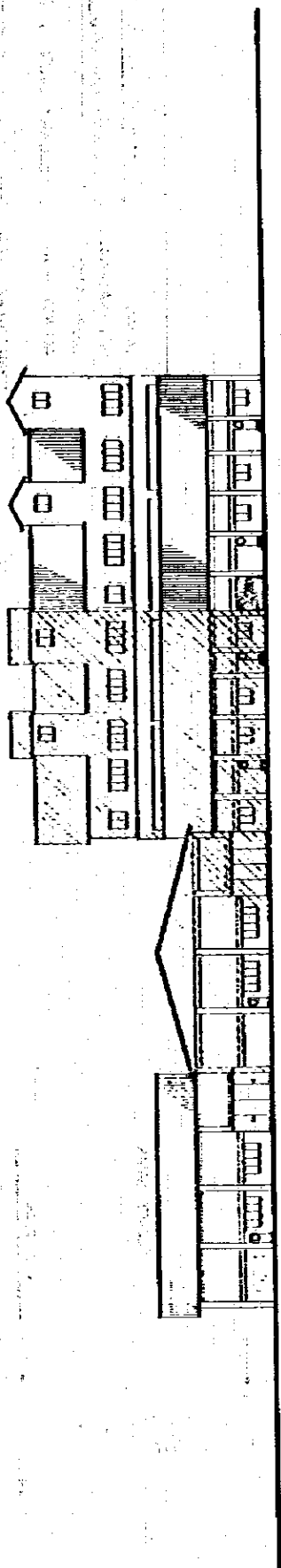
A - A SECTION 1/600



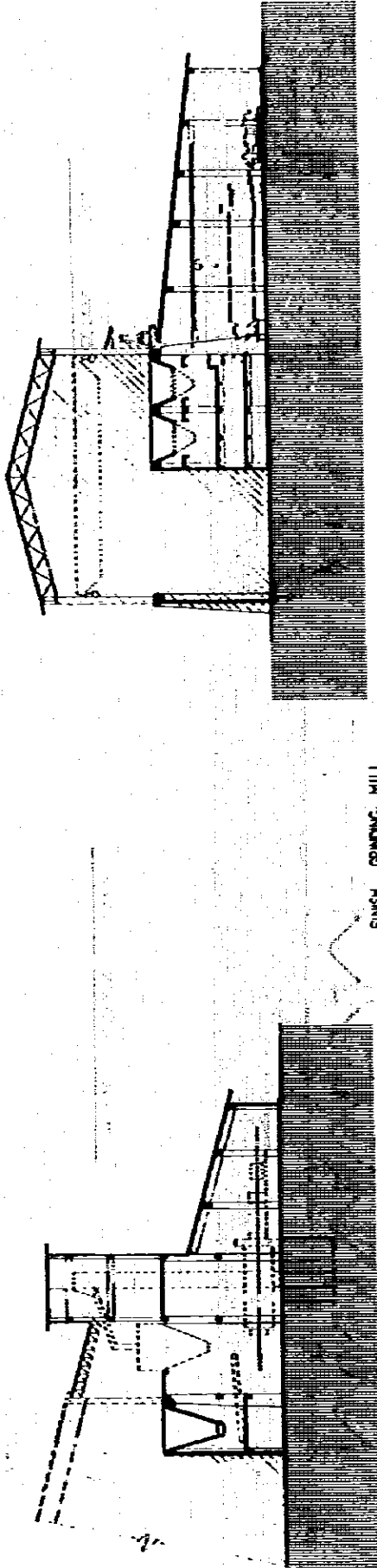
LIMESTONE STORAGE HALL

KEY PLAN

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	SOCIALIST REPUBLIC OF BURMA	
	KYANGON CEMENT MILL EXPANSION	
LIMESTONE STORAGE HALL		DATE 2-1979
DRAWN BY [signature]		SCALE 1/600
CHECKED BY [signature]		NO. C-04

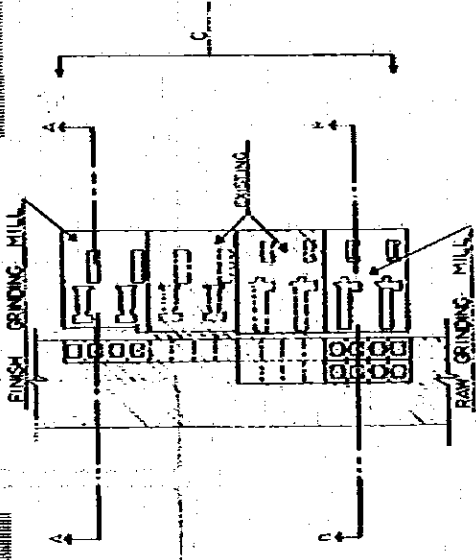


VIEW - C (ELEVATION) 1/600



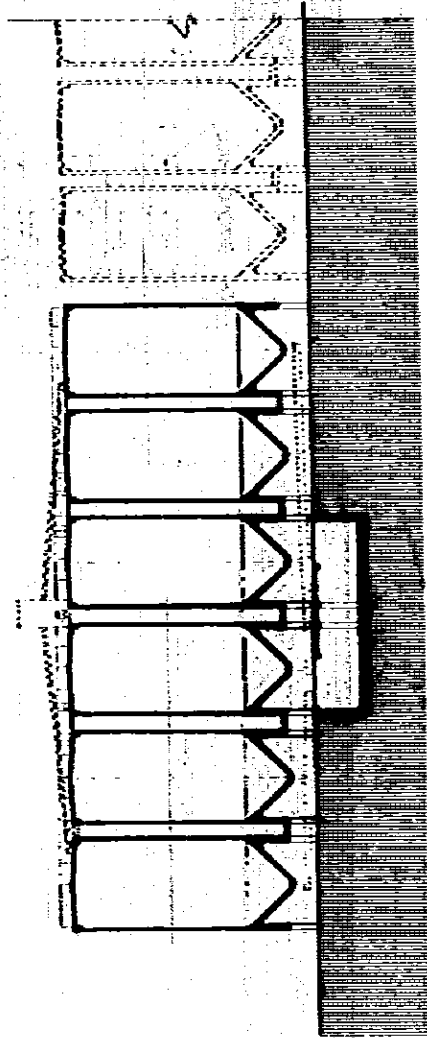
A - A SECTION 1/600

B - B SECTION 1/600

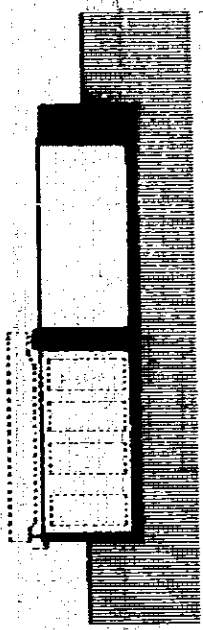


KEY PLAN

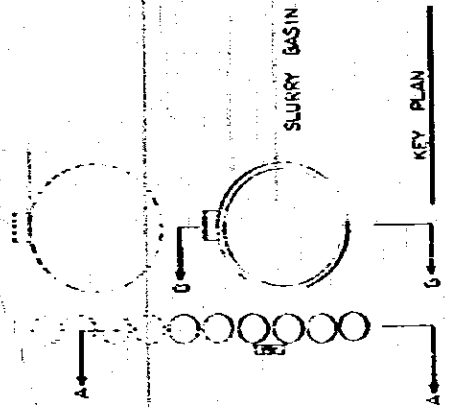
SOCIALIST REPUBLIC OF BURMA	
KYANON CEMENT MILL EXPANSION	
GRINDING MILL DEPARTMENT	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	DATE 2-1979 SCALE 1/600 C-05



A ~ A SECTION 1/600



B ~ B SECTION 1/600

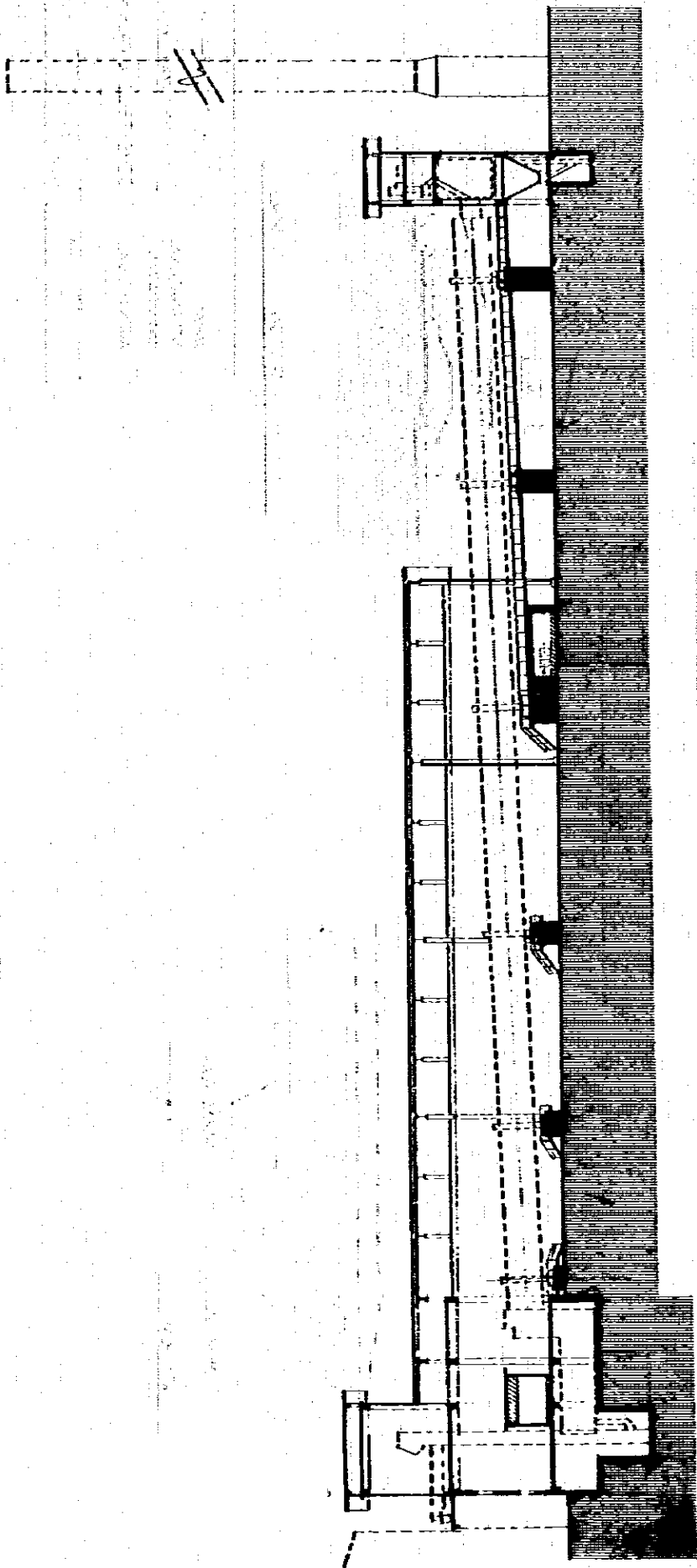


SLURRY SILOS

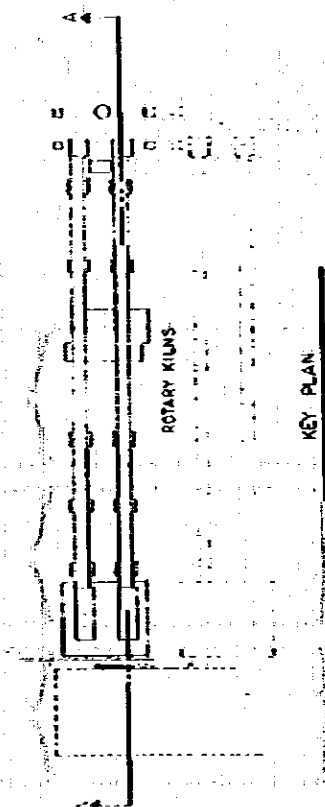
SLURRY BASIN

KEY PLAN

SOCIALIST REPUBLIC OF BURMA		PROJECT NO. C-06	
KYANON CEMENT MILL EXPANSION		DATE 12-1979	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)		DRAWING NO. 600	
SLURRY SILOS & BASIN		SCALE 1/600	

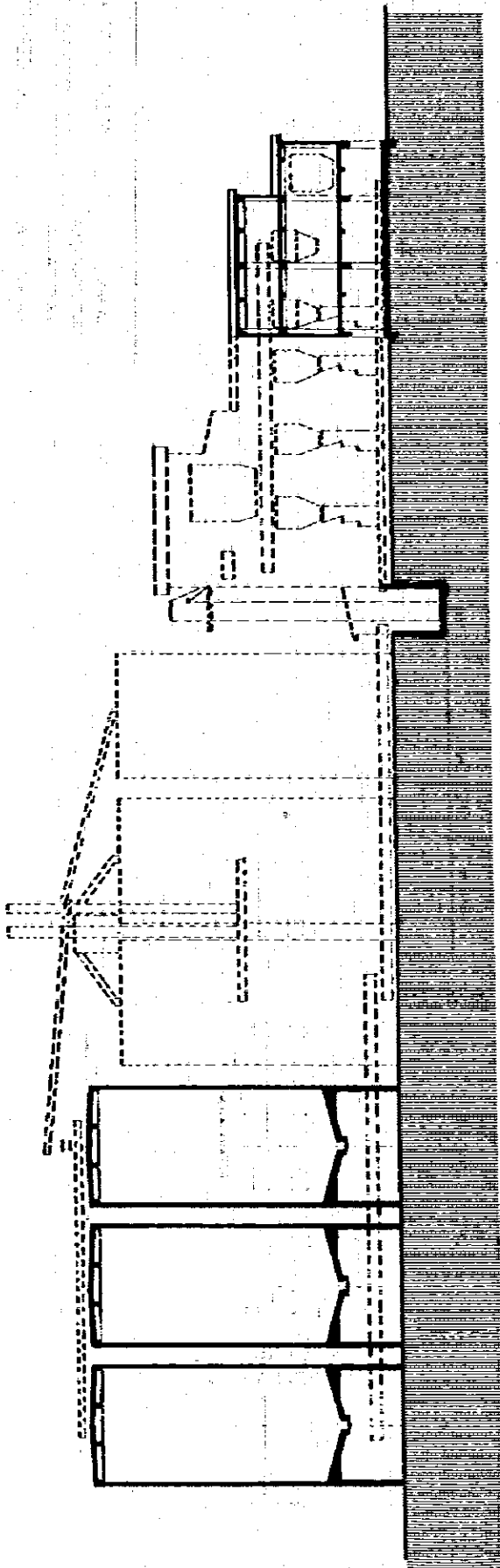


A-A SECTION 1/600

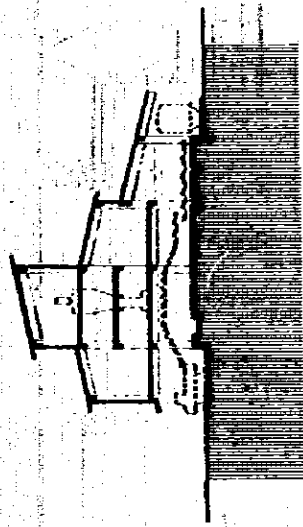


KEY PLAN

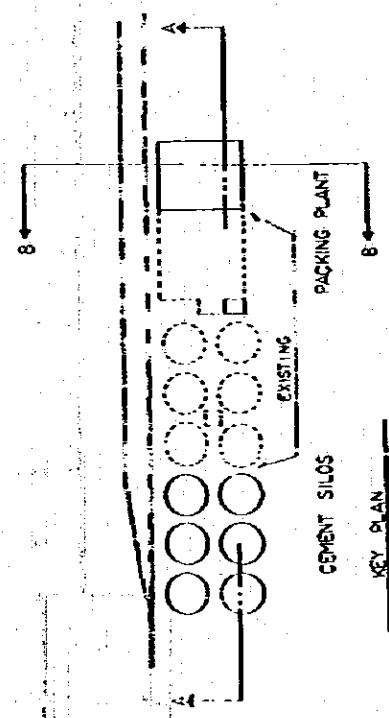
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	SOCIALIST REPUBLIC OF BURMA		DATE 2-1979	SCALE 1/600	SHEET NO. C-07	TOTAL NO. C-07
	KYANON CEMENT MILL EXPANSION					
NILN DEPARTMENT						



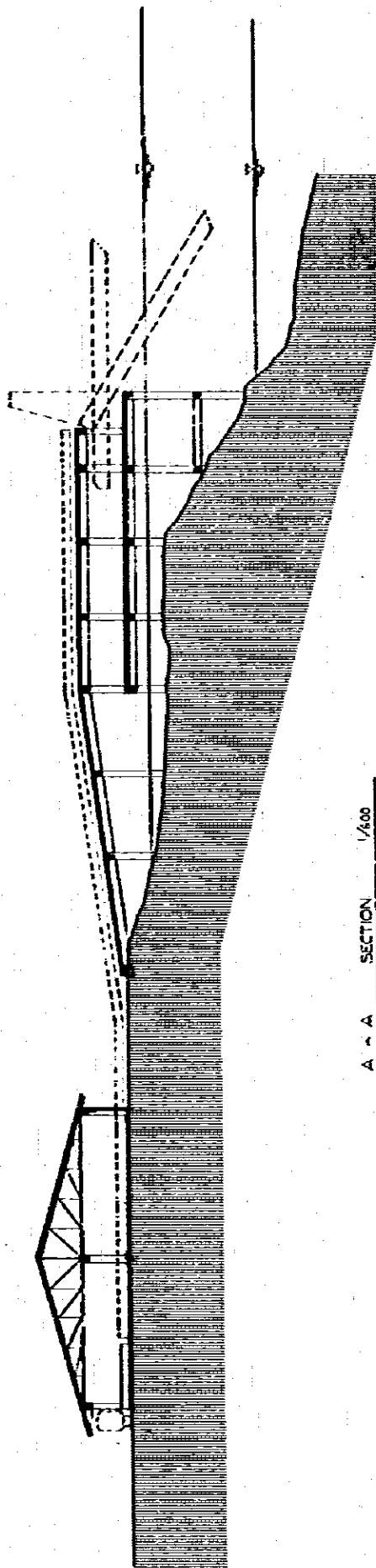
A ~ A SECTION 1/600



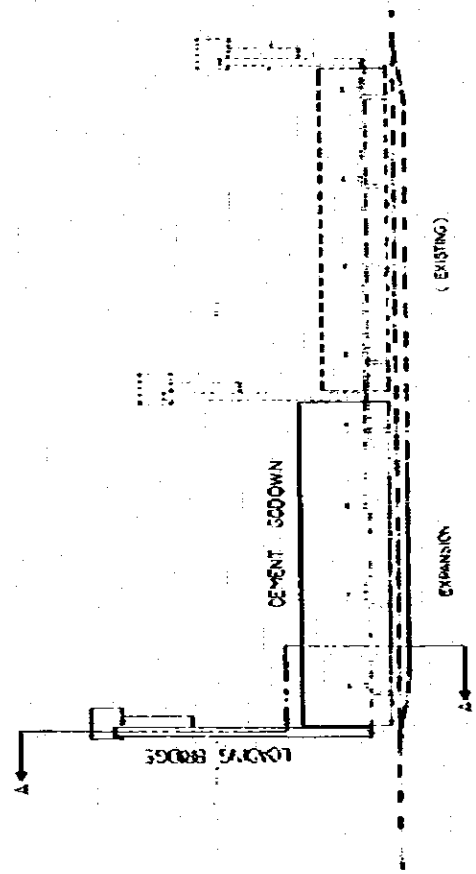
B ~ B SECTION 1/600



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	PROJECT NO. 2-1979	DATE AUG 2-1979	SCALE 1/600	SOCIALIST REPUBLIC OF BURMA
				KYANGON CEMENT MILL EXPANSION
CEMENTSILO & PACKING HOUSE				PROJECT NO. C-08

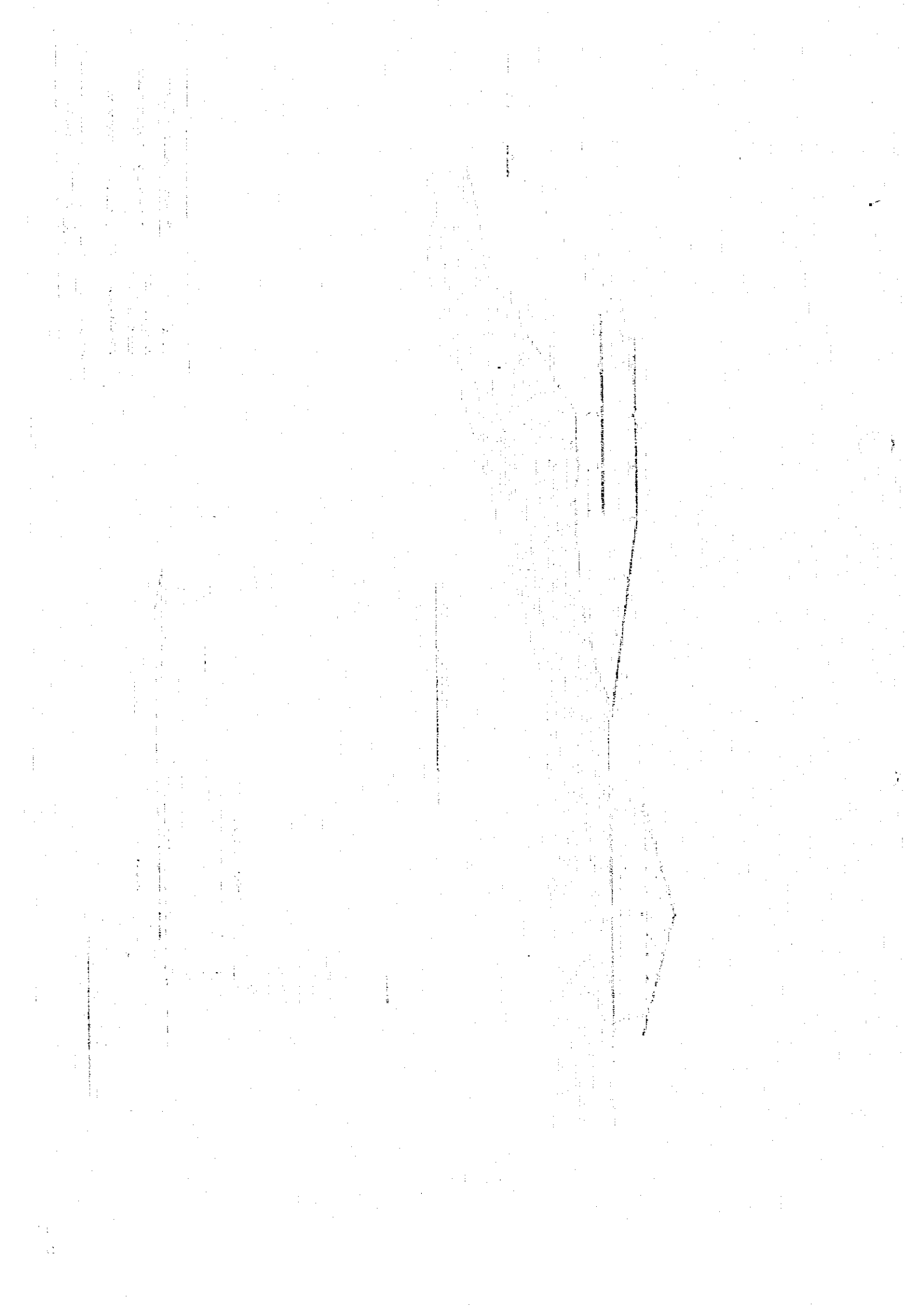


A - A SECTION 1/400



K.Y. H. J. AN

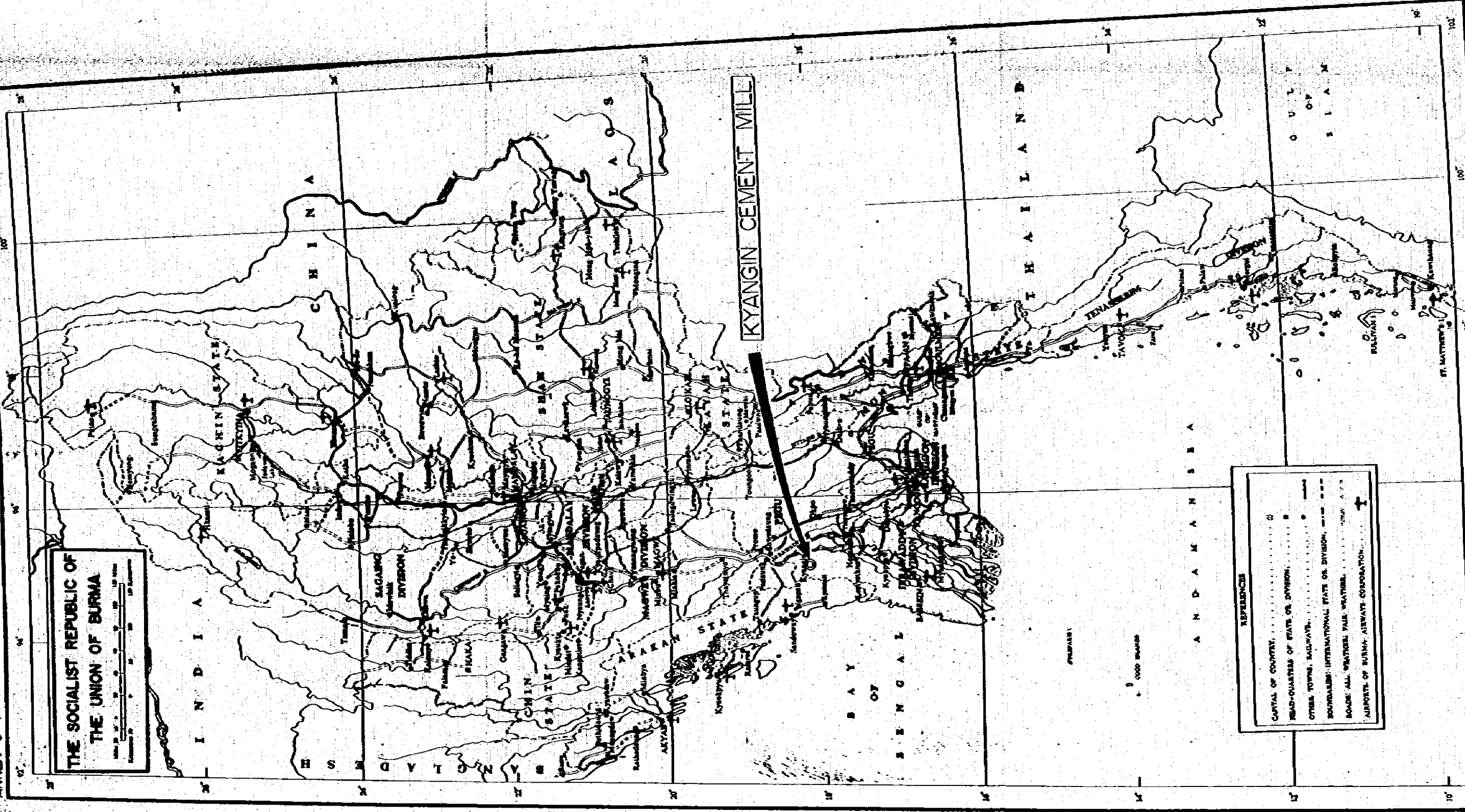
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	SOCIALIST REPUBLIC OF BURMA	
	KYANGON CEMENT MILL EXPANSION	
PROJECT NO. 1/600	DATE	2-1979
	SCALE	C-09
LOADING DEPARTMENT		



ATTACHMENT

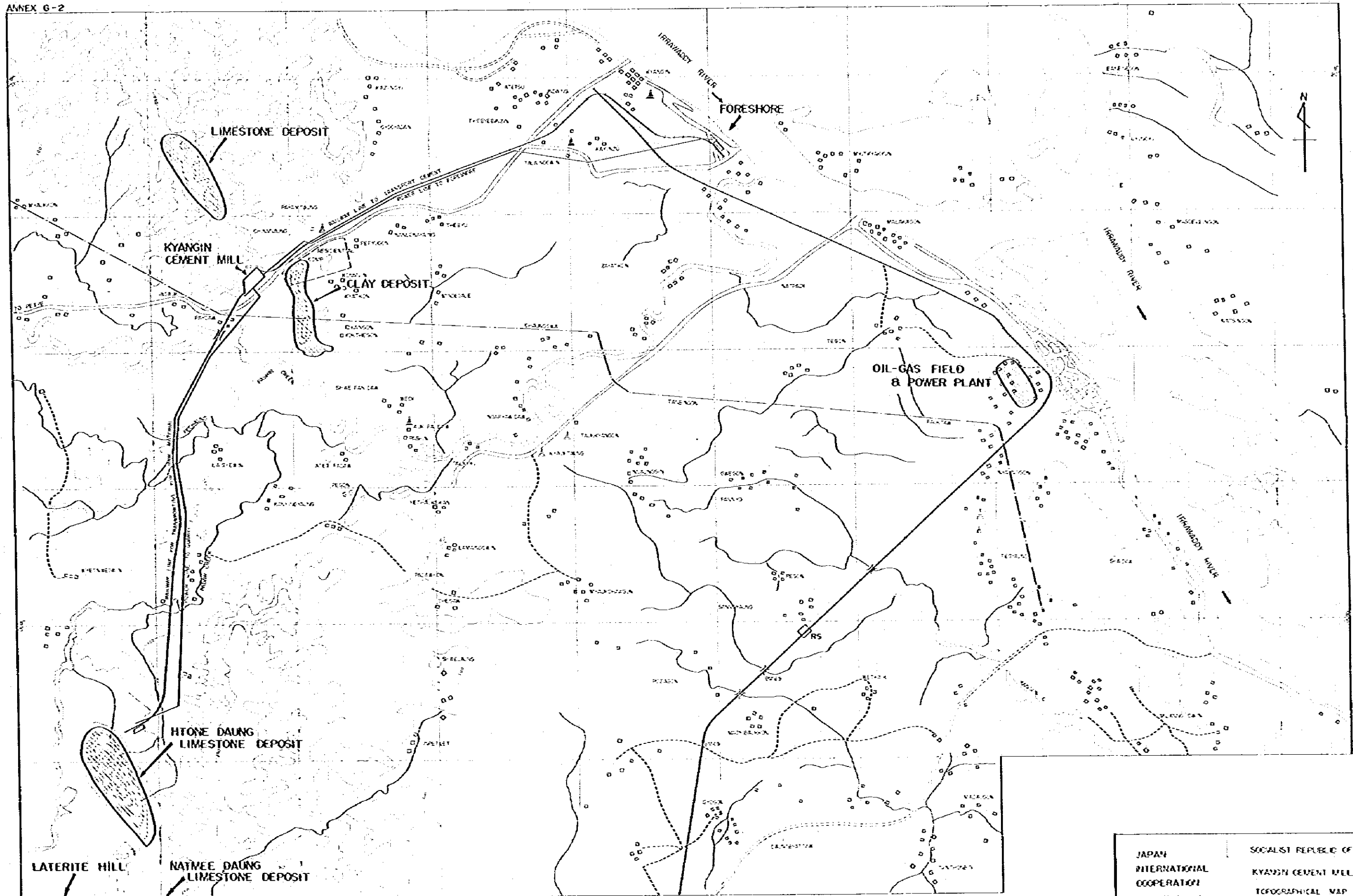
THE SOCIALIST REPUBLIC OF
THE UNION OF BURMA

Scale 1:500,000
1:500,000
1:500,000



REFERENCE

CAPITAL OF COUNTRY	○
HEAD-QUARTERS OF STATE OR DIVISION	□
OTHER TOWNS, BAYWAYS	●
BOUNDARIES: INTERNATIONAL STATE OR DIVISION	—
ROADS: ALL WEATHER PAVE WEATHER	—
AIRPORTS OF BURMA: AIRWAYS CORPORATION	✈

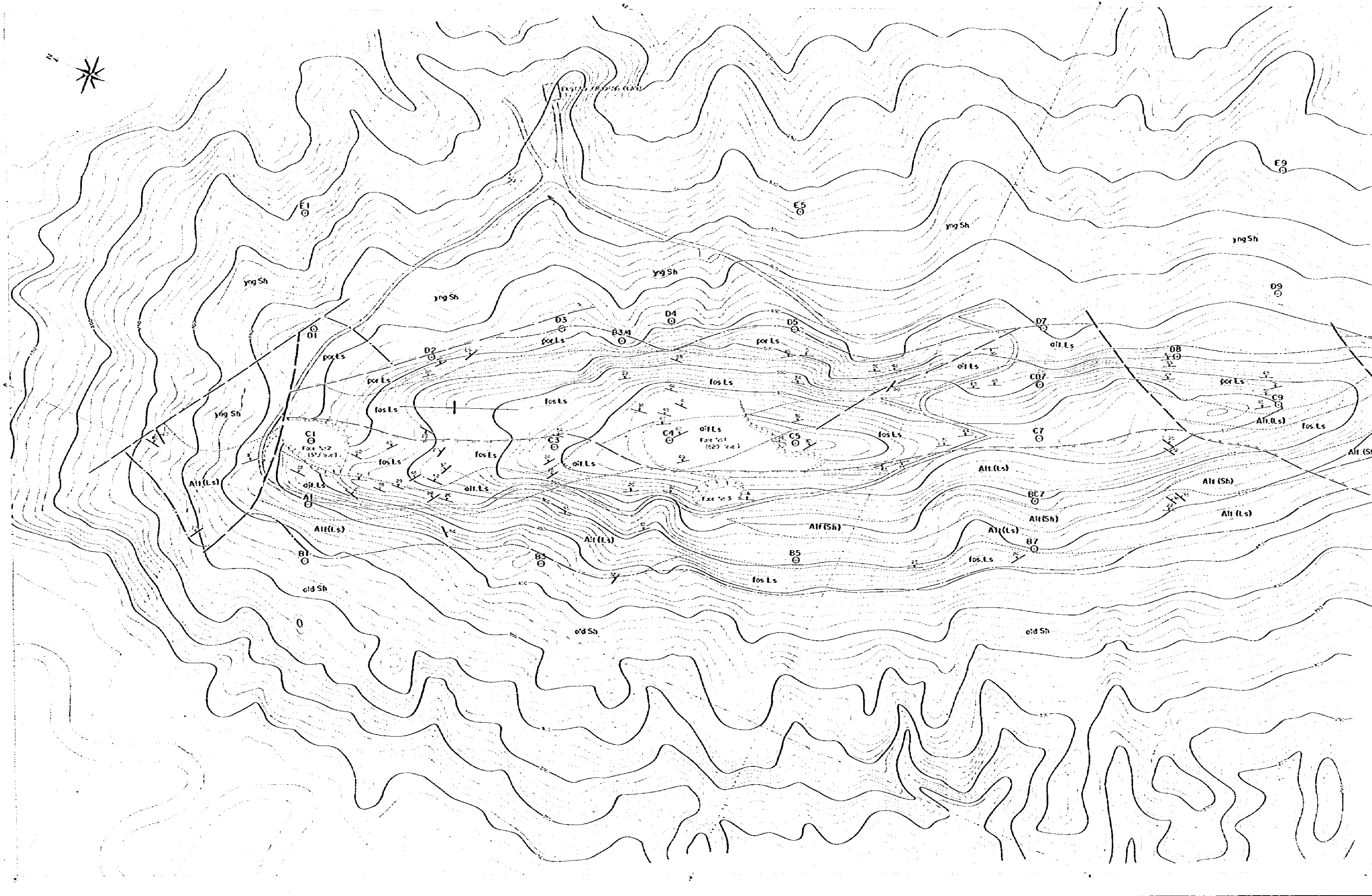


JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

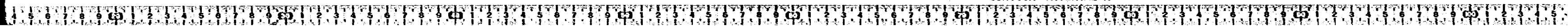
SOCIALIST REPUBLIC OF BURMA
 KYAUKSE CEMENT MILL EXPANSION
 TOPOGRAPHICAL MAP SHOWING
 HTONE DAUNG-KYAUKSE VILLAGE

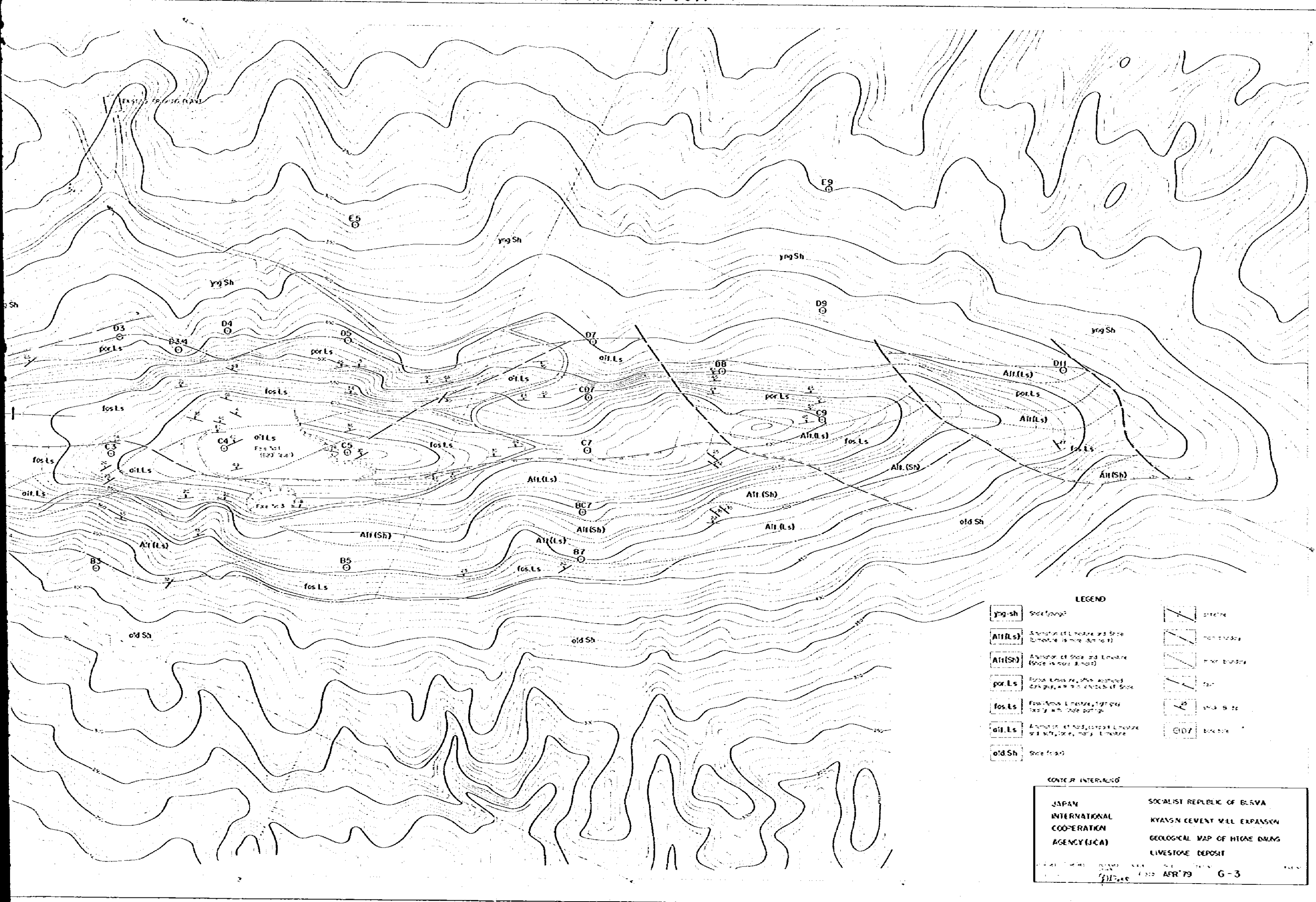
Scale: 1:50,000
 Date: 1988





SCALE = 1:200
CONTOUR INTERVAL = 10'





LEGEND

yng-sh	Shale (young)	[Symbol]	contour
All(Ls)	Alternation of Limestone and Shale (Limestone is more abundant)	[Symbol]	thin boundary
All(SH)	Alternation of Shale and Limestone (Shale is more abundant)	[Symbol]	thin boundary
por Ls	Porosities limestone, often weathered and grey, with thin cracks of shale	[Symbol]	fault
fos Ls	Fossiliferous limestone, light grey, locally with shale partings	[Symbol]	shale shale
oil Ls	Alternation of hard, coarse limestone and soft, grey, marly limestone	[Symbol]	break site
old Sh	Shale (old)		

CONTOUR INTERVAL=10

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

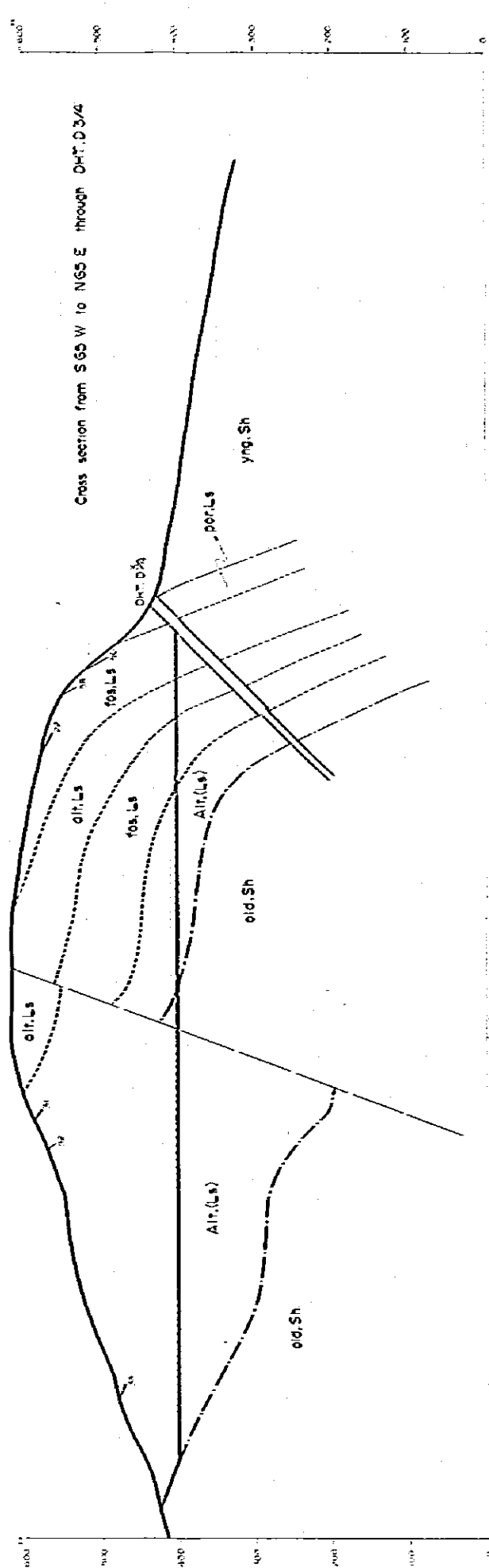
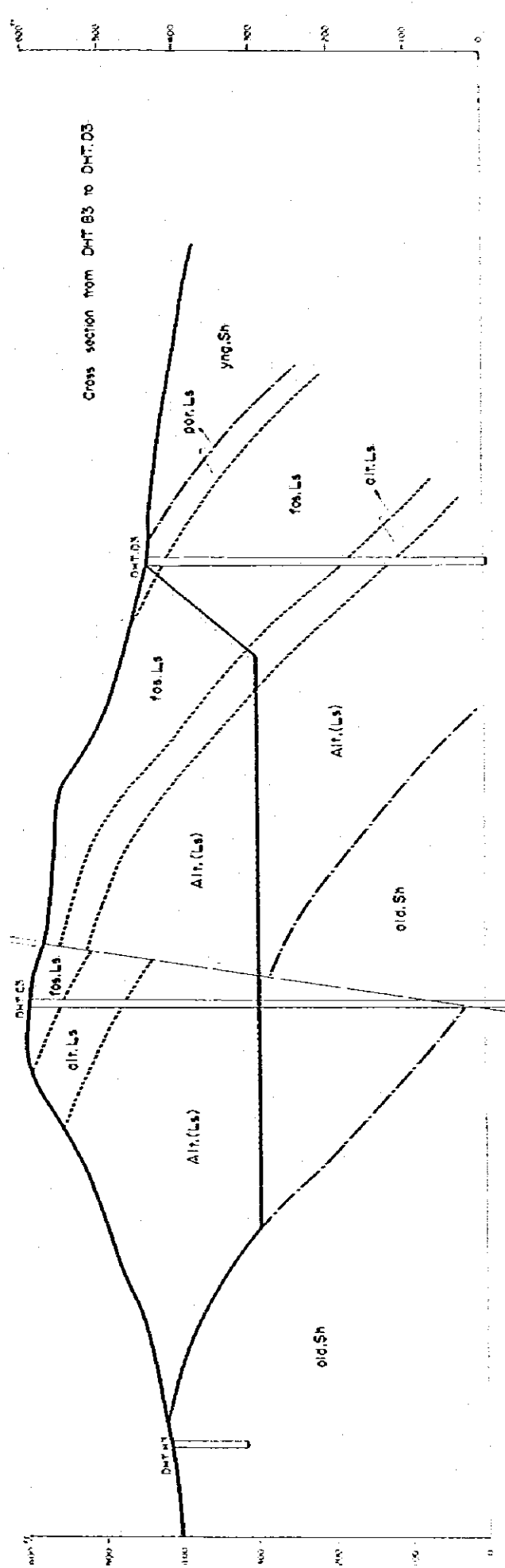
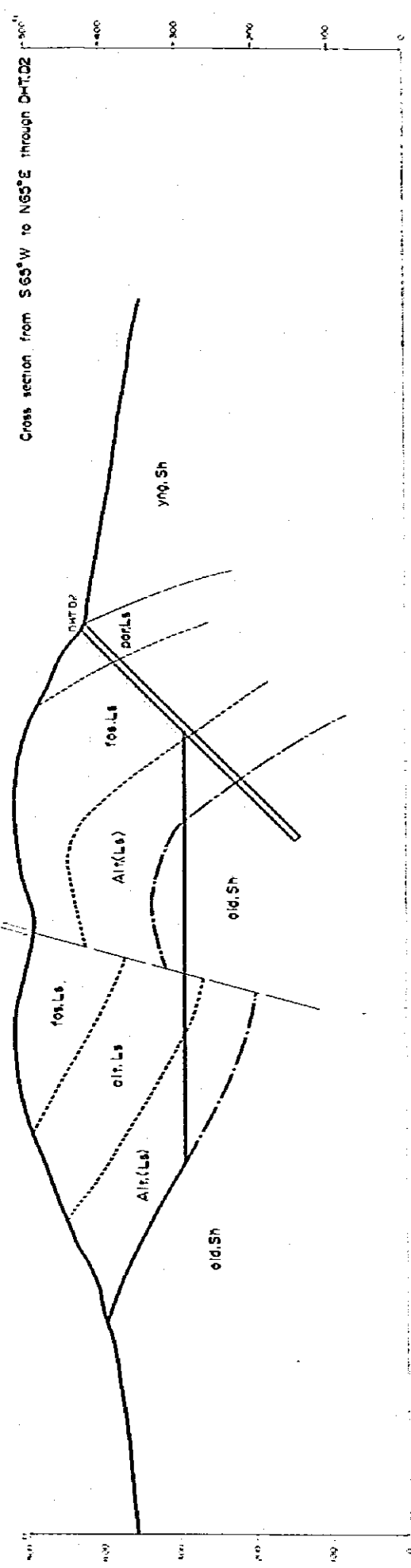
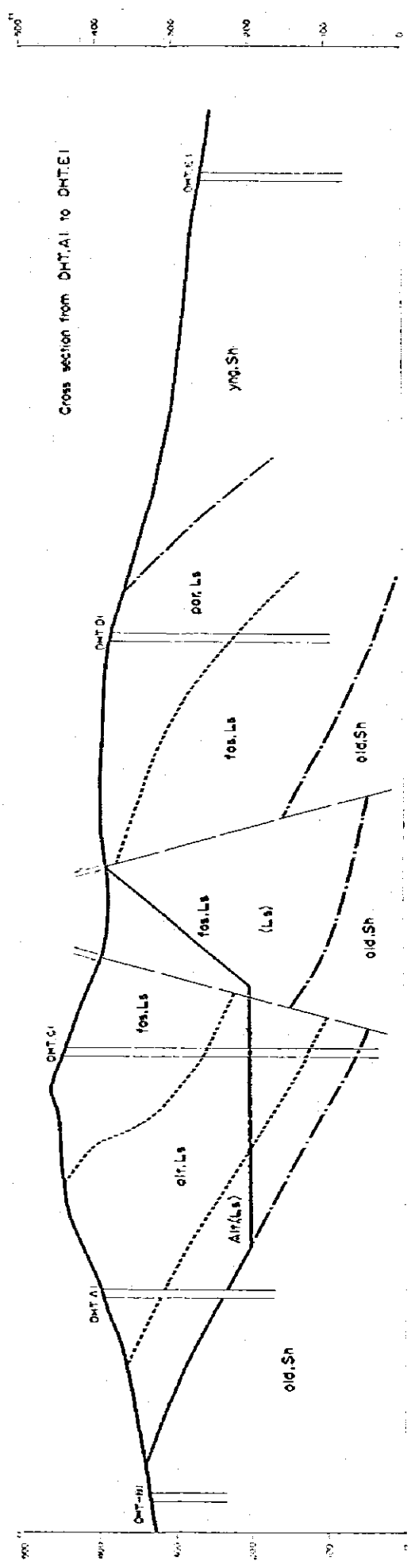
SOCIALIST REPUBLIC OF BURMA
KYAVIN CEMENT MILL EXPANSION
GEOLOGICAL MAP OF HTAE DZUNG
LIVESTOCK DEPOSIT

1:200 SCALE
APR '79
G-3

SCALE = 1:200
CONTOUR INTERVAL=10



GEOLOGICAL PROFILES OF HTONE DAUNG LIMESTONE DEPOSIT



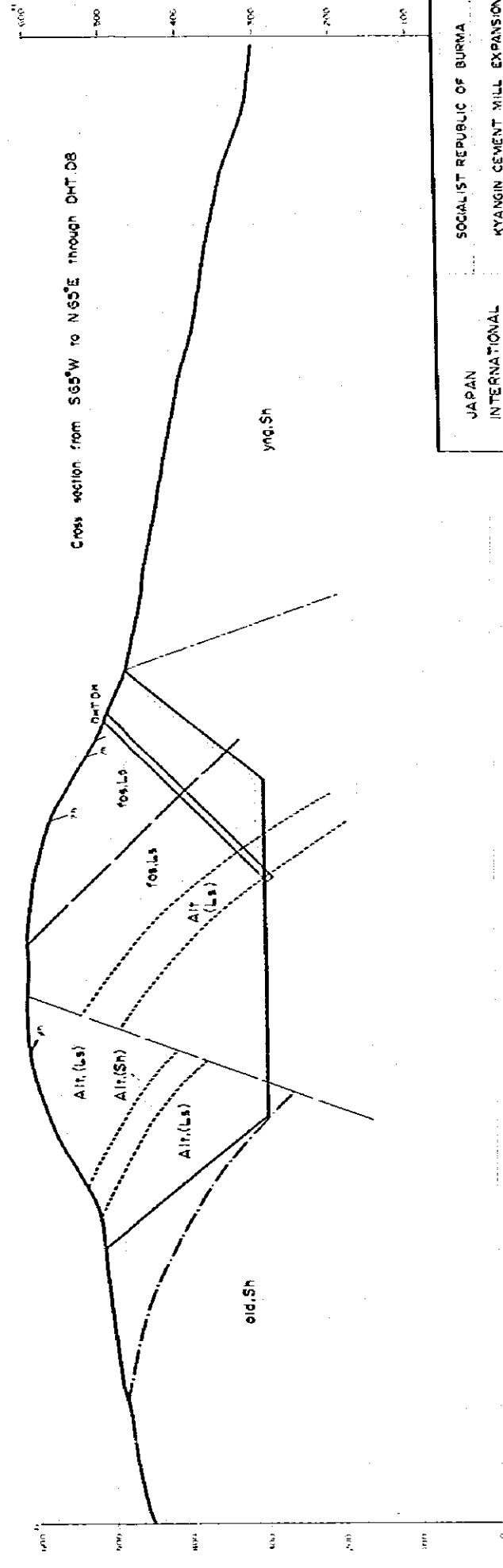
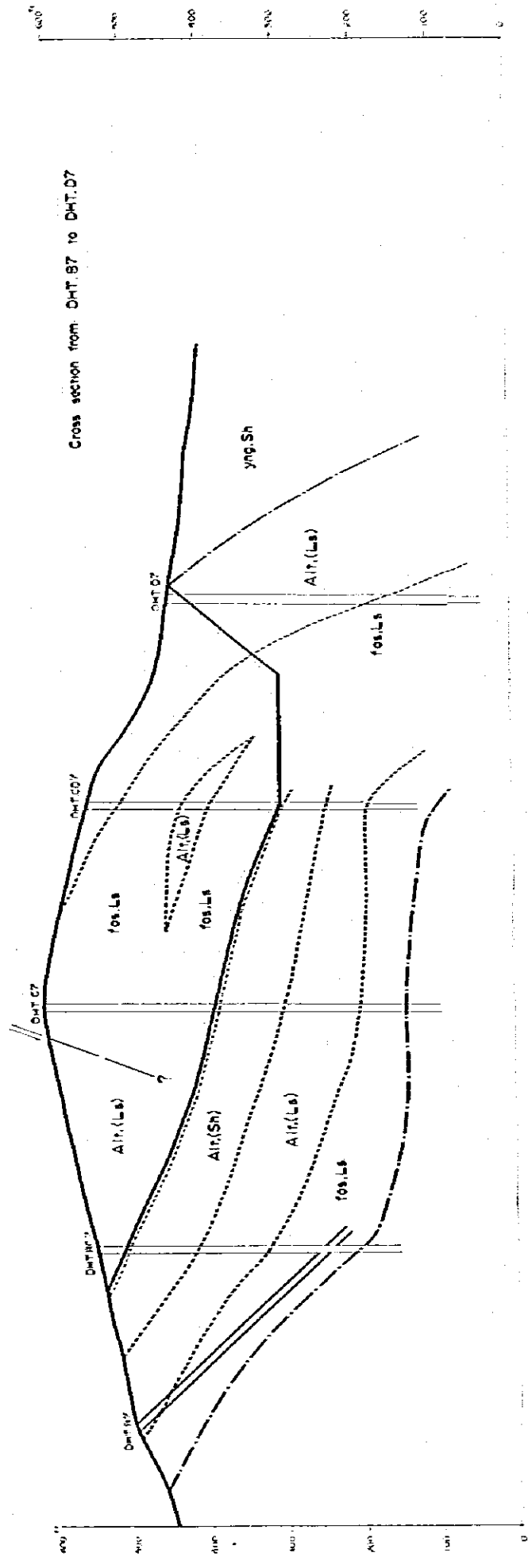
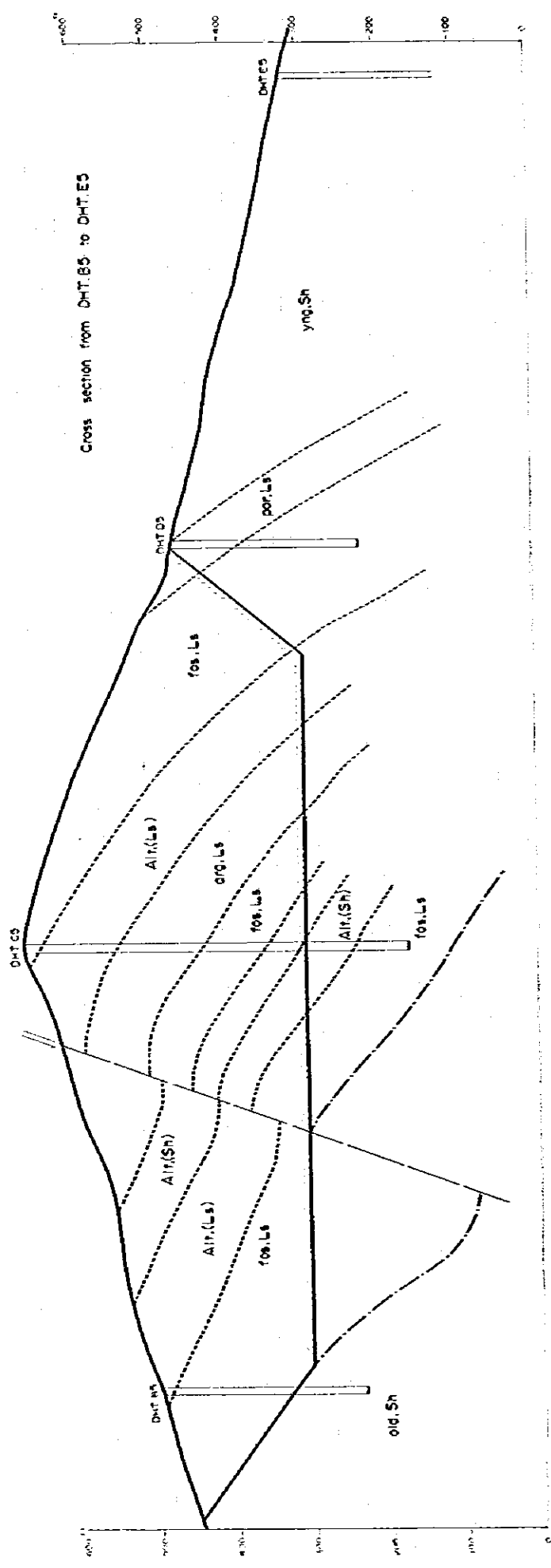
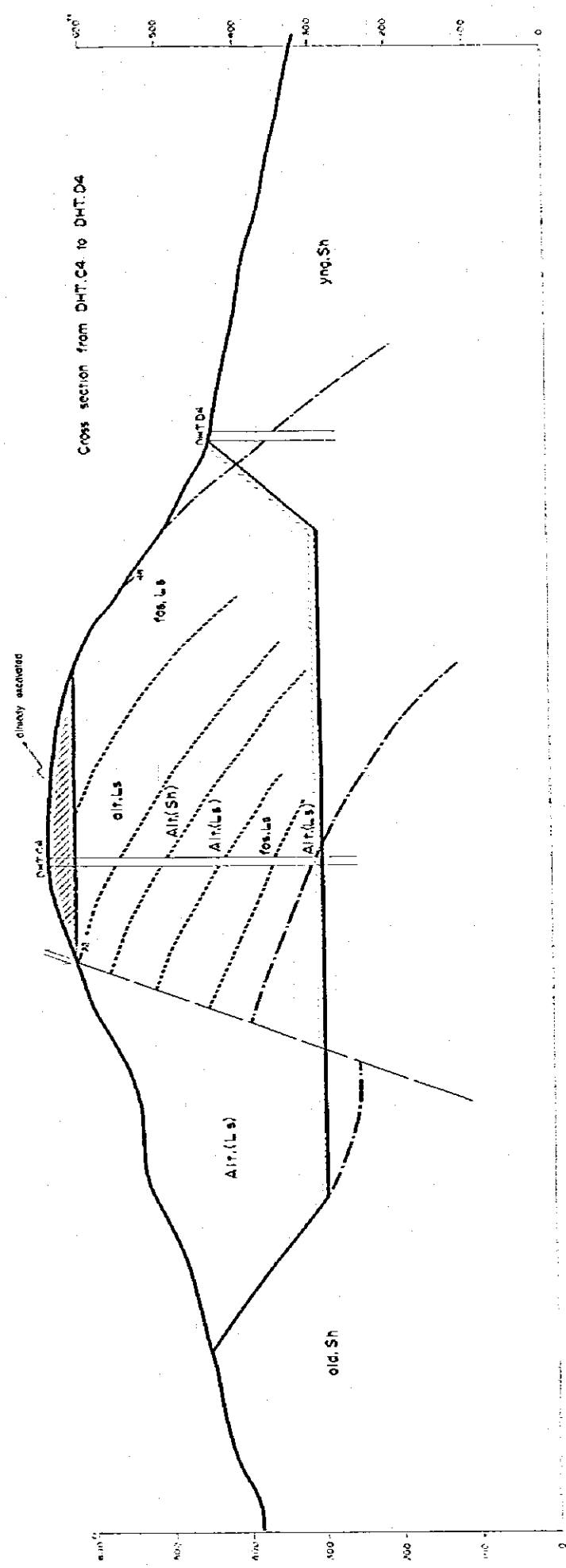
As for legend, see ANNEX G-4-C

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	SOCIALIST REPUBLIC OF BURMA KYANGIN CEMENT MILL EXPANSION GEOLOGICAL PROFILES OF HTONE DAUNG LIMESTONE DEPOSIT
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DATE: APR. 79
SCALE: 1:5000

GEOLOGICAL PROFILES OF HTONE DAUNG LIMESTONE DEPOSIT

ANNEX G-4-B

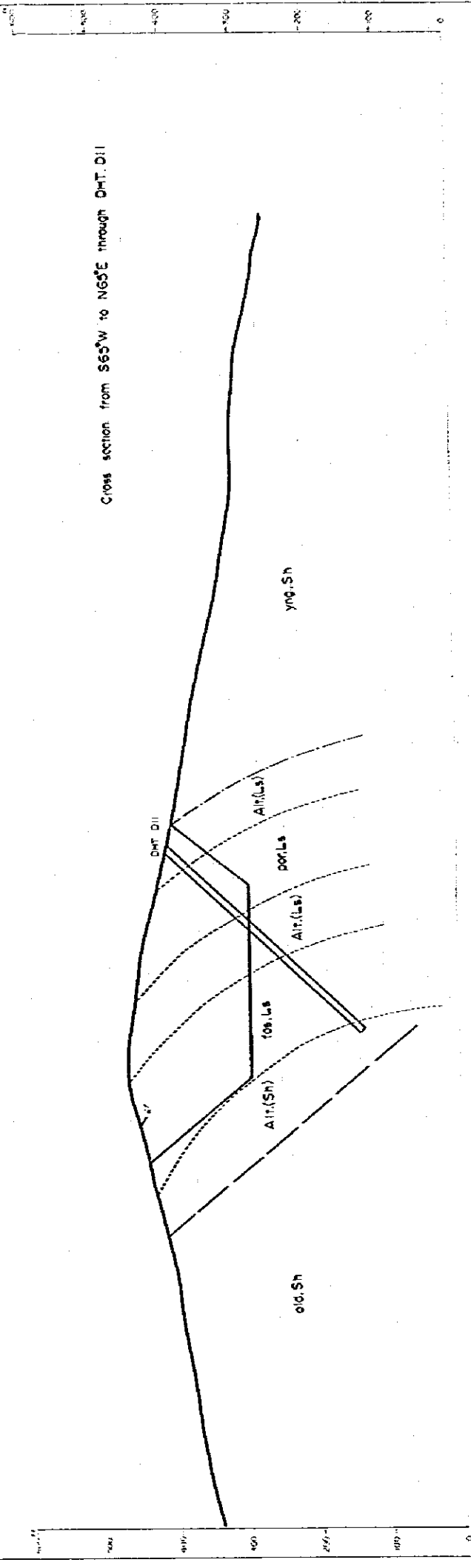
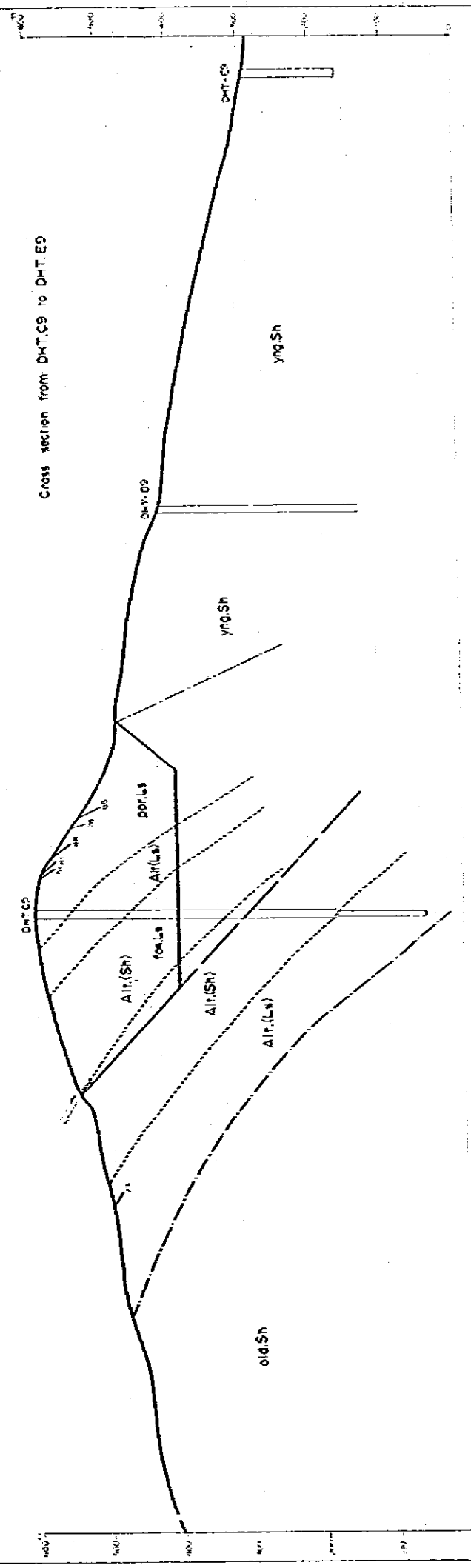


As for legend, see ANNEX G-4-C

JAPAN	SOCIALIST REPUBLIC OF BURMA
INTERNATIONAL COOPERATION AGENCY (JICA)	KYANGIN CEMENT MILL EXPANSION
	GEOLOGICAL PROFILES OF HTONE DAUNG LIMESTONE DEPOSIT
DATE: APR. 79	SCALE: 1:10000
PROJECT NO: G-4-B	

GEOLOGICAL PROFILES OF HTONE DAUNG LIMESTONE DEPOSIT

ANNEX G-4-C



LEGEND

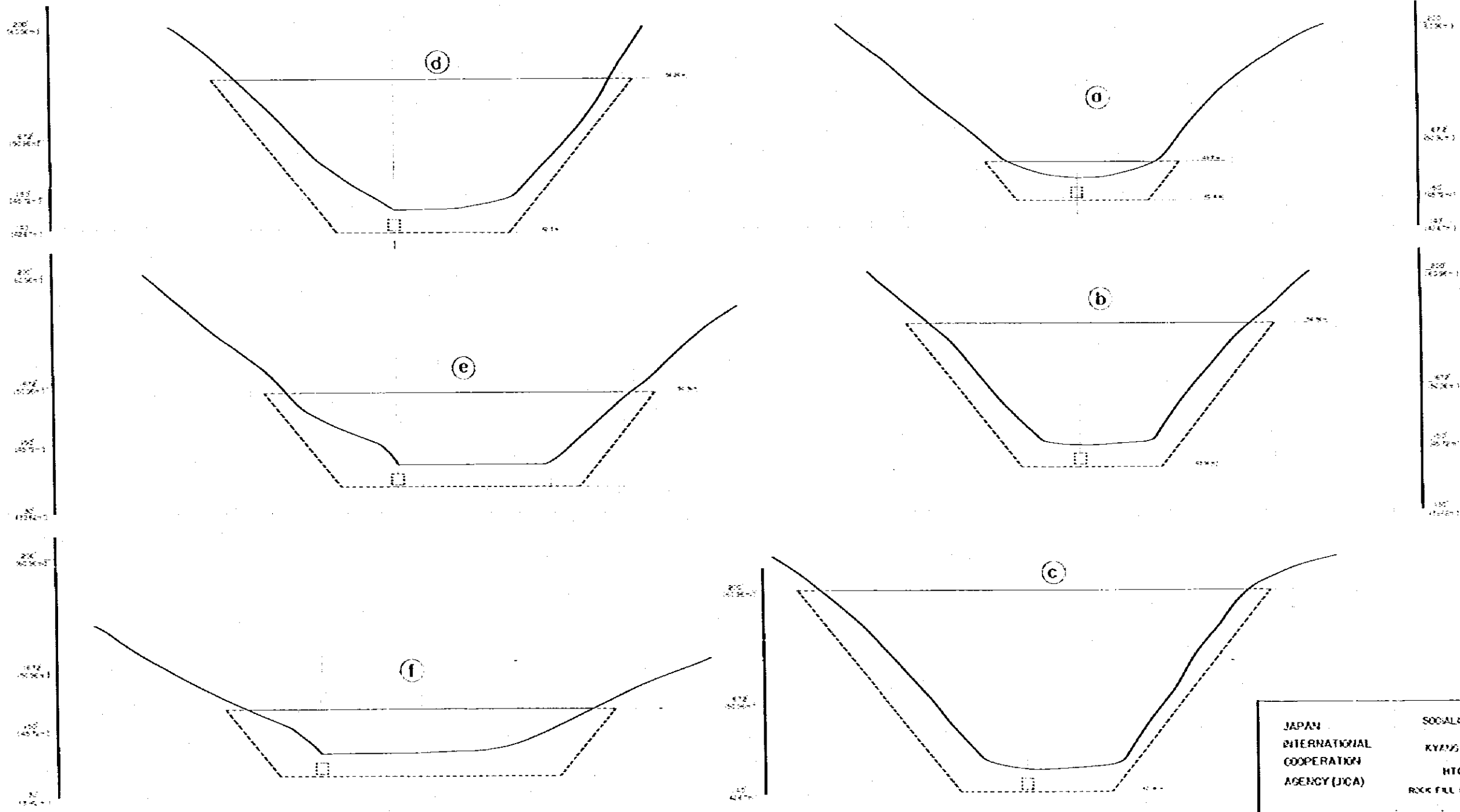
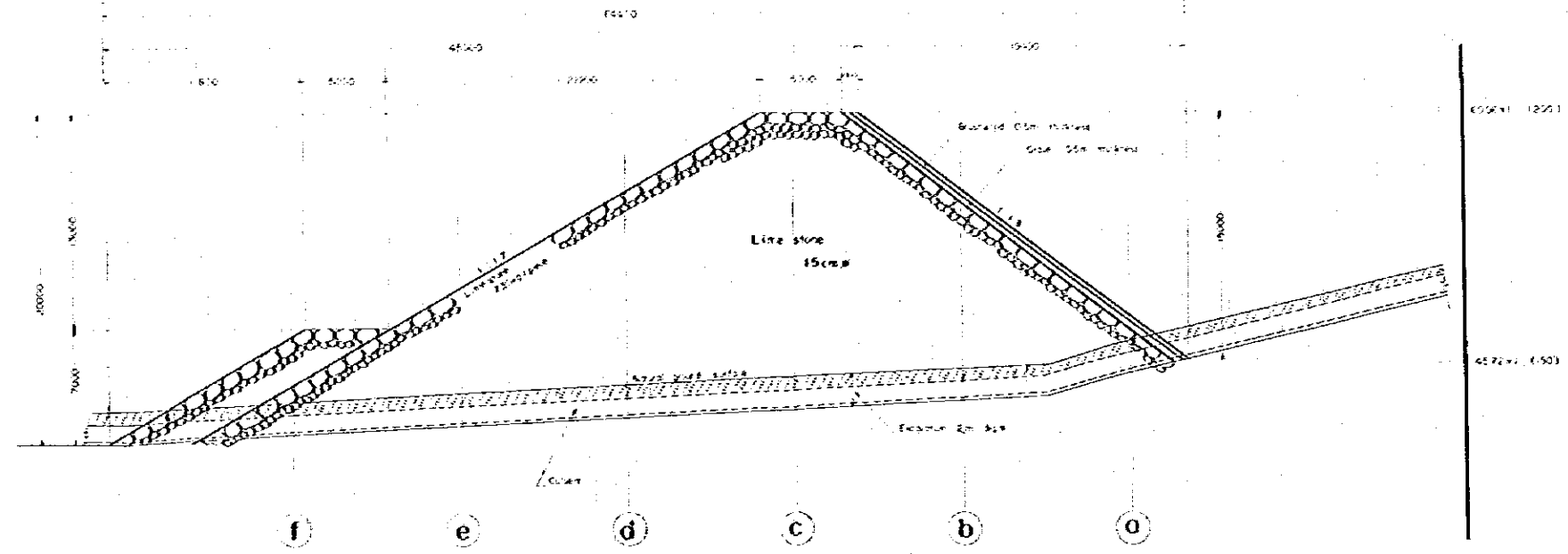
- | | | |
|----------|---|------------------------------|
| Yng.Sh | Shale (younger) | Main boundary |
| Alr.(Ls) | Alteration of Limestone and Shale
(Limestone is more dominant) | Minor boundary |
| Alr.(Sh) | Alteration of Shale and Limestone
(Shale is more dominant) | Fault |
| Dol.Ls | Dolomite Limestone (thin weathered
discontinuity with thin interlayers of shale) | Joint of nearest calculation |
| Old.Ls | Residual Limestone, light grey
locally with shale partings | |
| Old.Sh | Alteration of hard compact limestone
(see also, lower, Heavy Limestone) | |
| Old.Sh | Shale (older) | |

JAPAN
 INTERNATIONAL
 COOPERATION
 AGENCY (JICA)

SOCIALIST REPUBLIC OF BURMA
 KYANGIN CEMENT MILL EXPANSION
 GEOLOGICAL PROFILES OF HTONE DAUNG
 LIMESTONE DEPOSIT

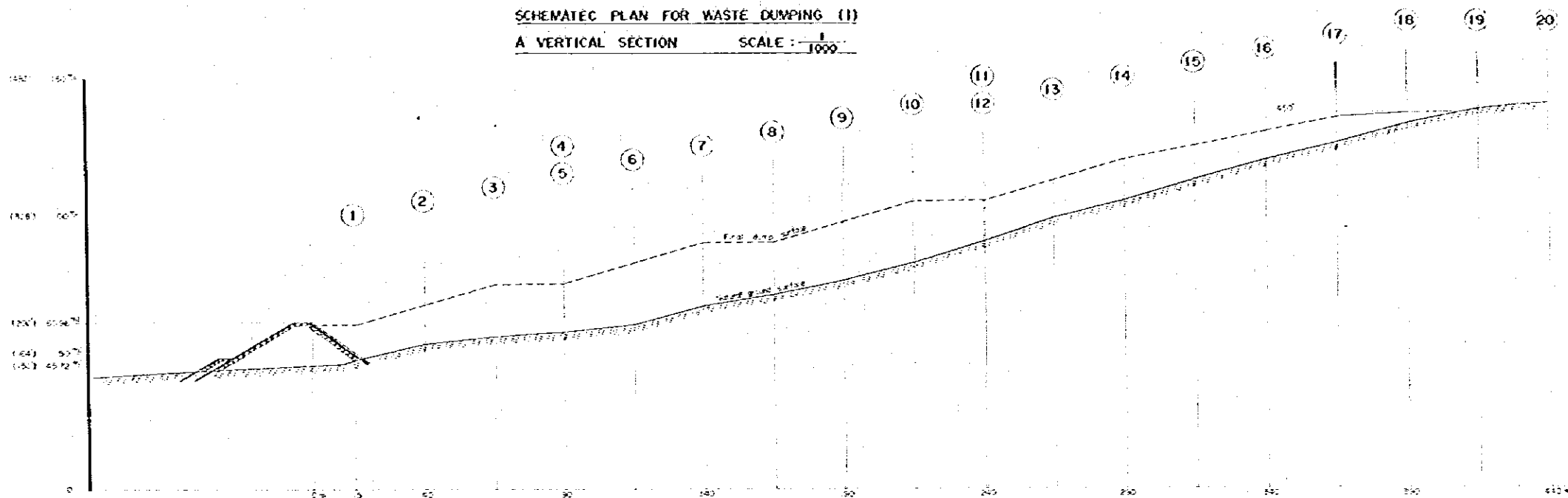
DATE: APR. 79
 DRAWING NO: G-4-C

HTONEDAUNG QUARRY
ROCK FILL DAM, VERTICAL AND CROSS SECTION
 SCALE: 1/3000, UNIT: M

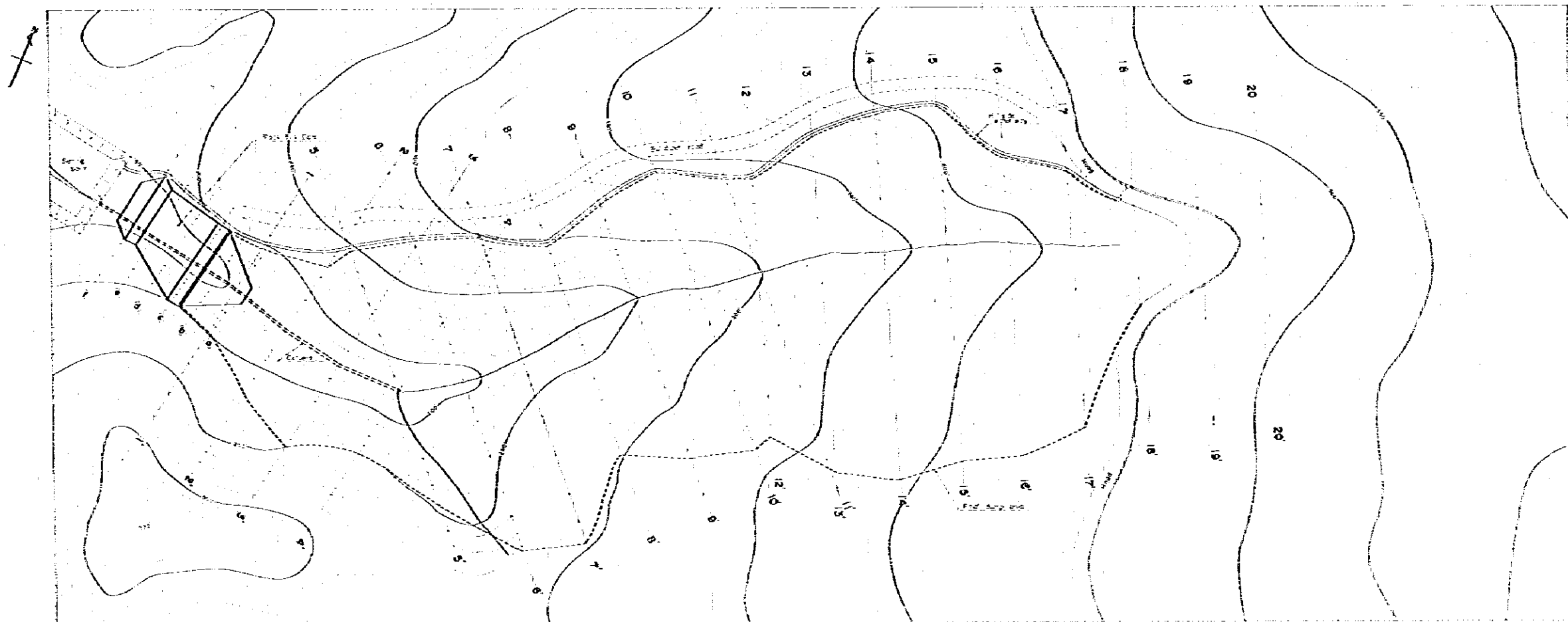


JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 SOCIALIST REPUBLIC OF BURMA
 KYAWGN CEMENT MILL EXPANSION
 HTONEDAUNG QUARRY
 ROCK FILL DAM, VERTICAL AND CROSS SECTION

HTONEDAUNG QUARRY
SCHEMATIC PLAN FOR WASTE DUMPING (I)
A VERTICAL SECTION SCALE: 1/1000



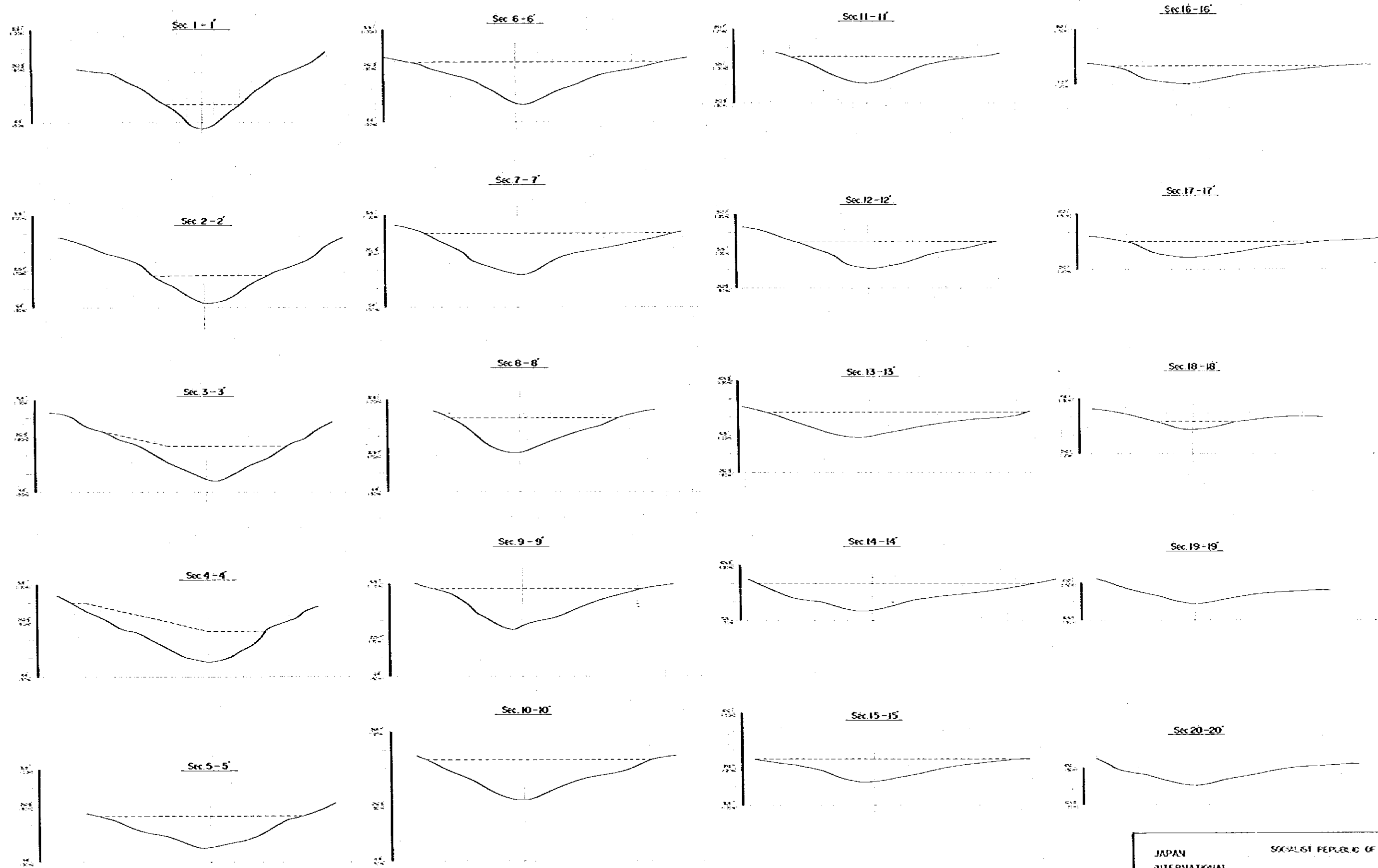
SCALE: 1/1000
A GROUND PLAN CONTOUR INTERVAL = 10



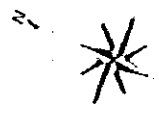
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SOCIALIST REPUBLIC OF BURMA KYANGON CEMENT MILL EXPANSION HTONEDAUNG QUARRY SCHEMATIC PLAN FOR WASTE DUMPING (I) A VERTICAL SECTION

HTONEDAUNG QUARRY

SCHMATIC PLAN FOR WASTE DUMPING (II) A CROSS SECTION SCALE: 1/1000



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	SOCIALIST REPUBLIC OF BURMA KYAWSON CEMENT MILL EXPANSION HTONEDAUNG QUARRY SCHMATIC PLAN FOR WASTE DUMPING (II) A CROSS SECTION
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EXISTING CRUSHING PLANT

NEW CRUSHING PLANT

ROAD FOR Limestone TRANSPORT

ROAD FOR Limestone TRANSPORT

LIMIT OF EXPLOITATION

LIMIT OF EXPLOITATION

LIMIT OF EXPLOITATION

ROAD FOR WASTE TRANSPORT

WASTE DUMP AREA

WASTE DUMP PROPOSED AREA

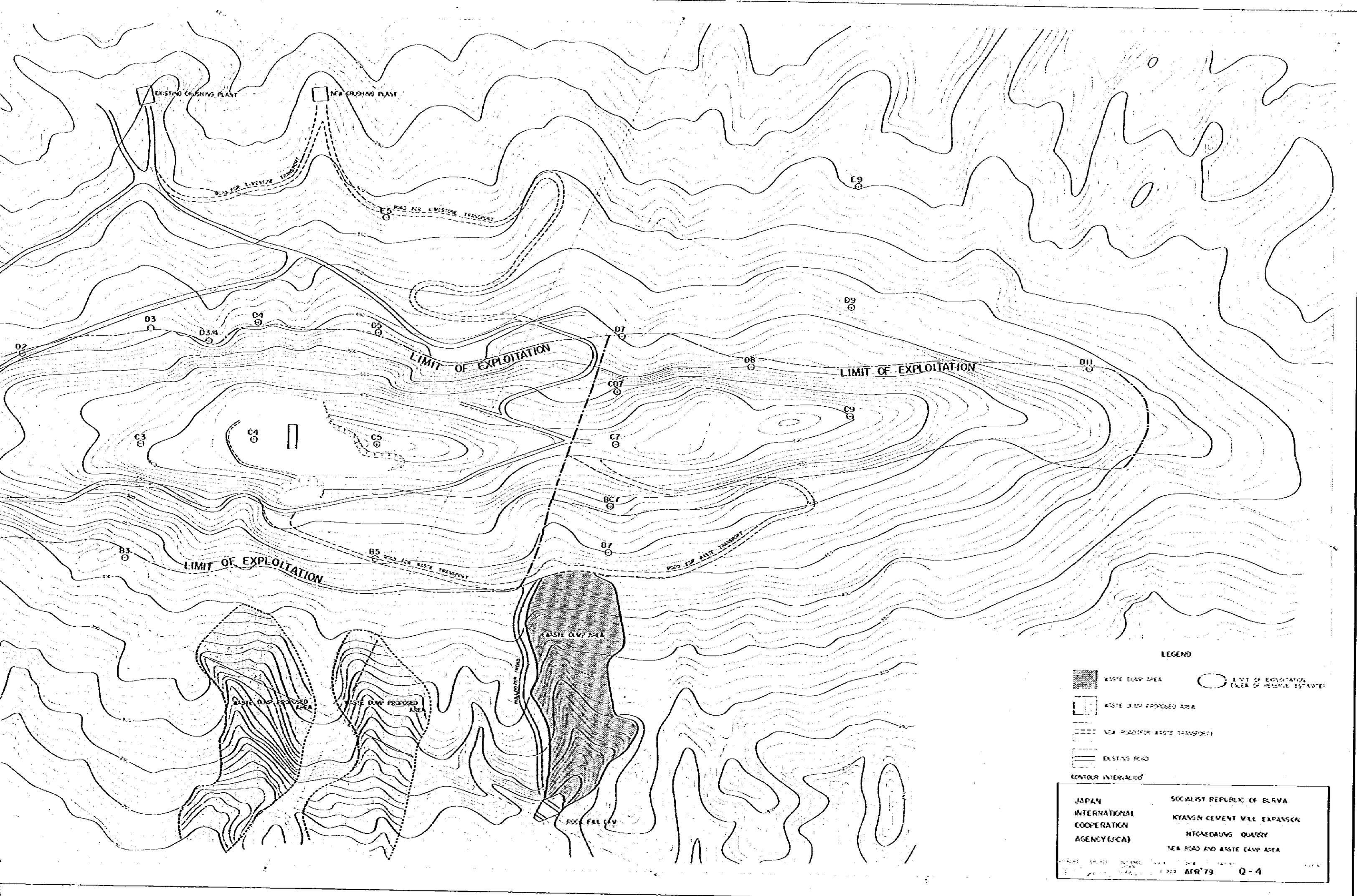
WASTE DUMP PROPOSED AREA

ROCK FALL CANY

SCALE = 1:200'

CONTOUR INTERVAL = 4'





LEGEND

- WASTE DUMP AREA
- WASTE DUMP PROPOSED AREA
- NEW ROAD (FOR WASTE TRANSPORT)
- EXISTING ROAD
- LIMIT OF EXPLOITATION (AREA OF RESERVE ESTIMATE)
- CONTOUR INTERVAL: 10'

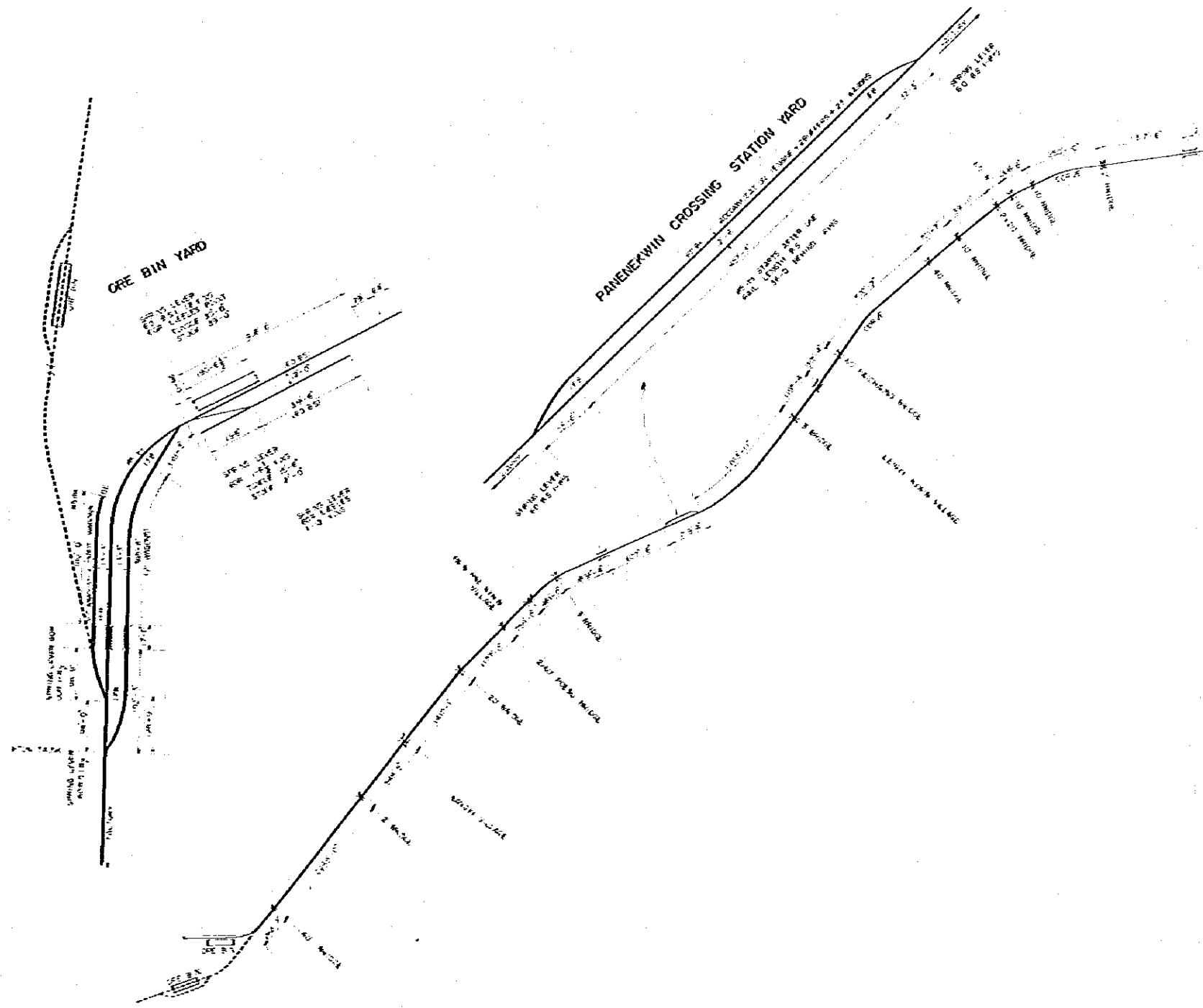
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

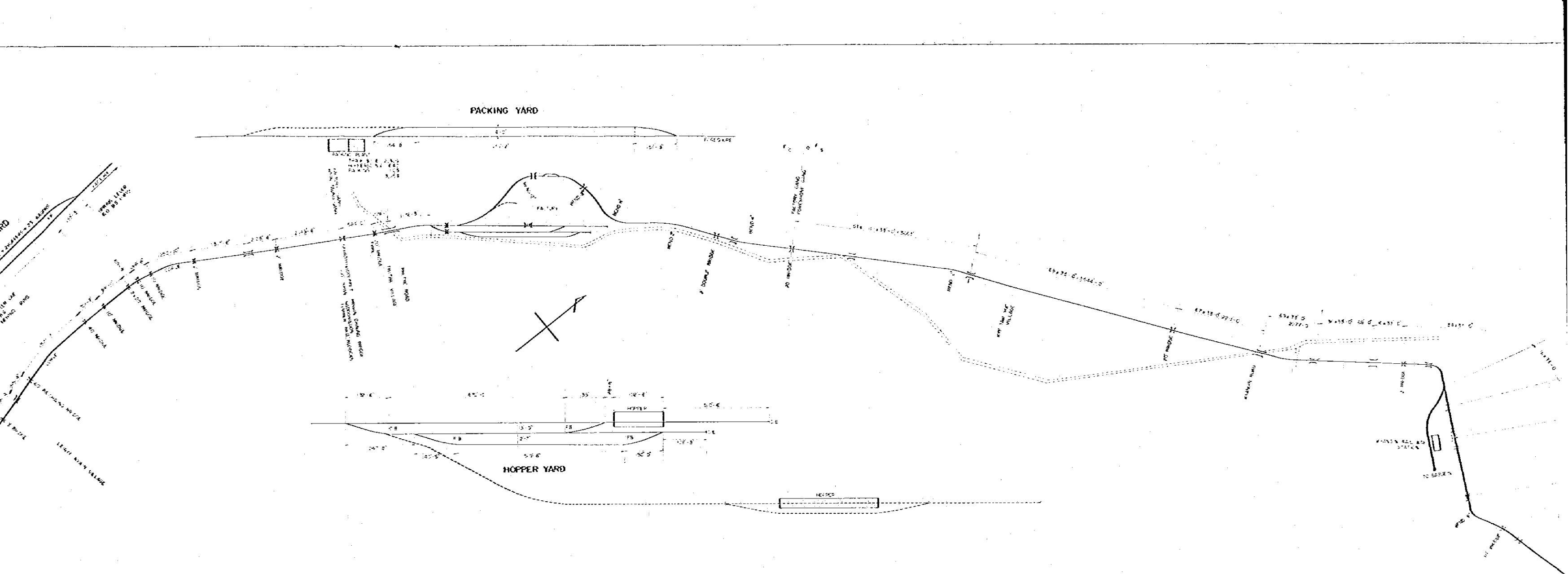
SOCIALIST REPUBLIC OF BURMA
 KYANGON CEMENT MILL EXPANSION
 HTOGAEDRANG QUARRY
 NEW ROAD AND WASTE DUMP AREA

DATE: 27 APR 79
 SHEET: Q-4

SCALE = 1" = 200'
 CONTOUR INTERVAL = 10'





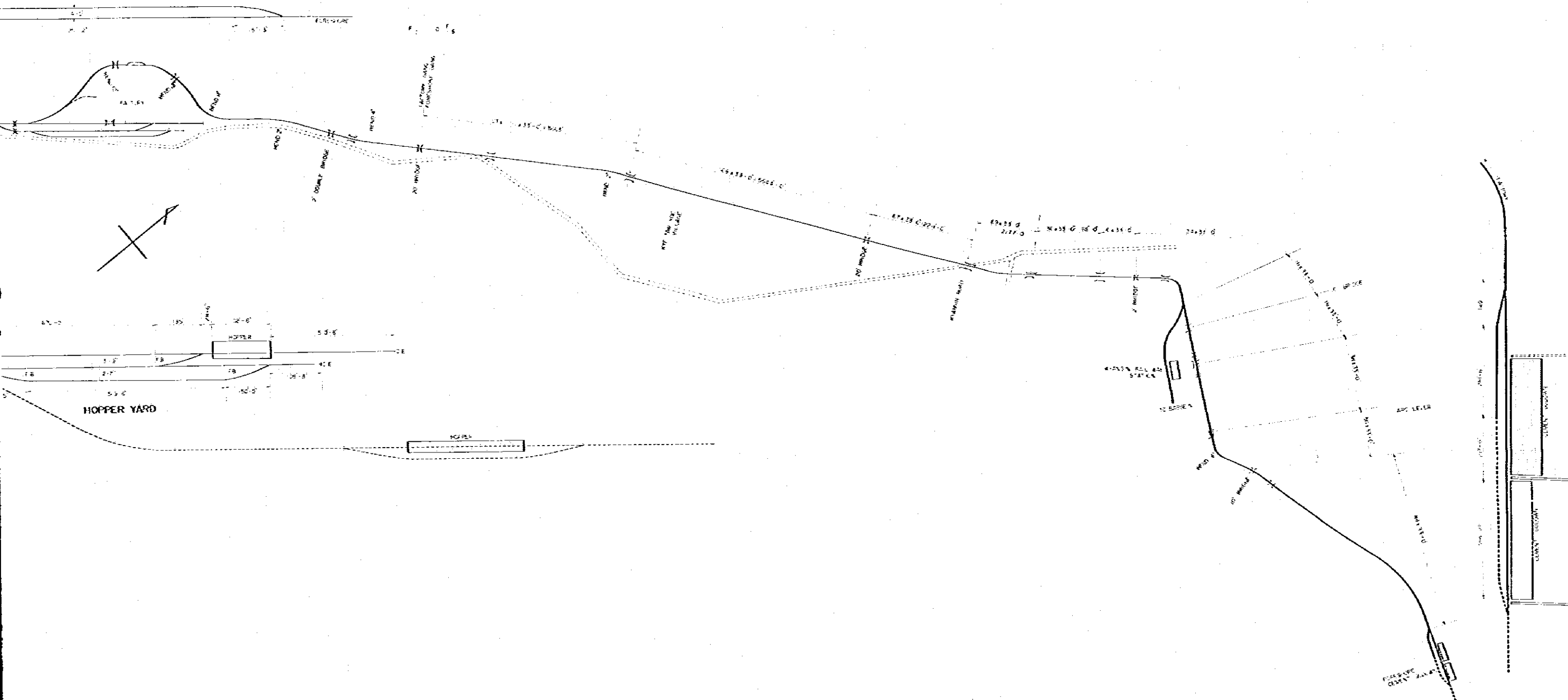


LEGEND

- EXISTING
- - - - - PROPOSED



PACKING YARD



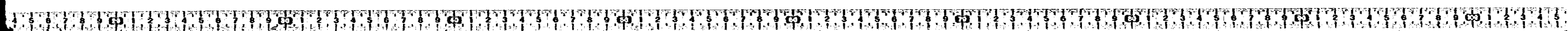
LEGEND

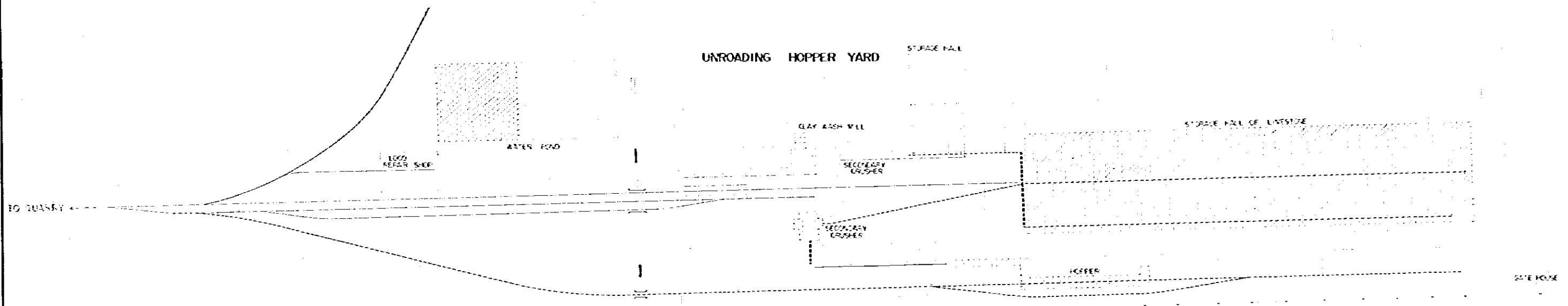
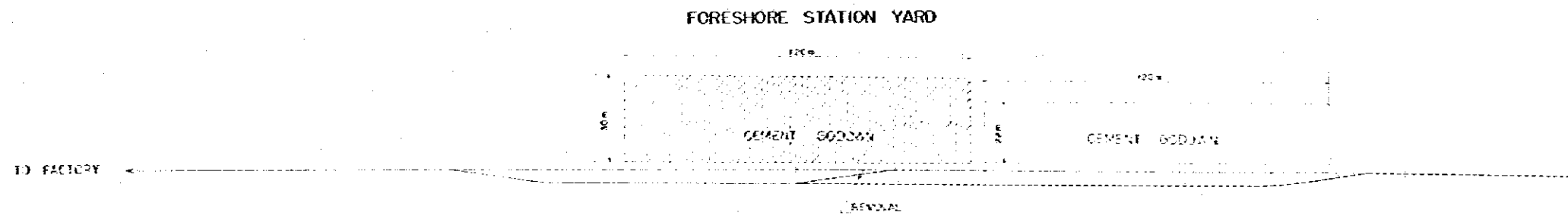
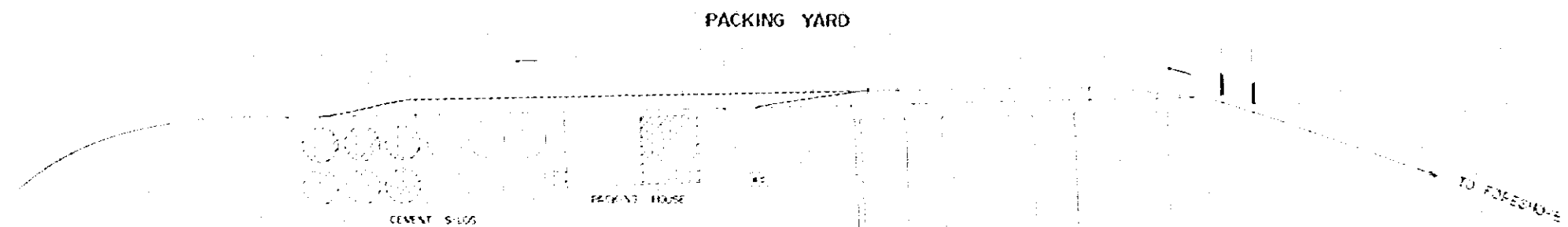
————— EXISTING

----- EXTENSION

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	SOCIALIST REPUBLIC OF BURMA KYANGON CEVENT VILL. EXPANSION RAILWAY FROM QUARRY TO FORESHORE
--	---

DATE: 1977
DRAWN: C-10

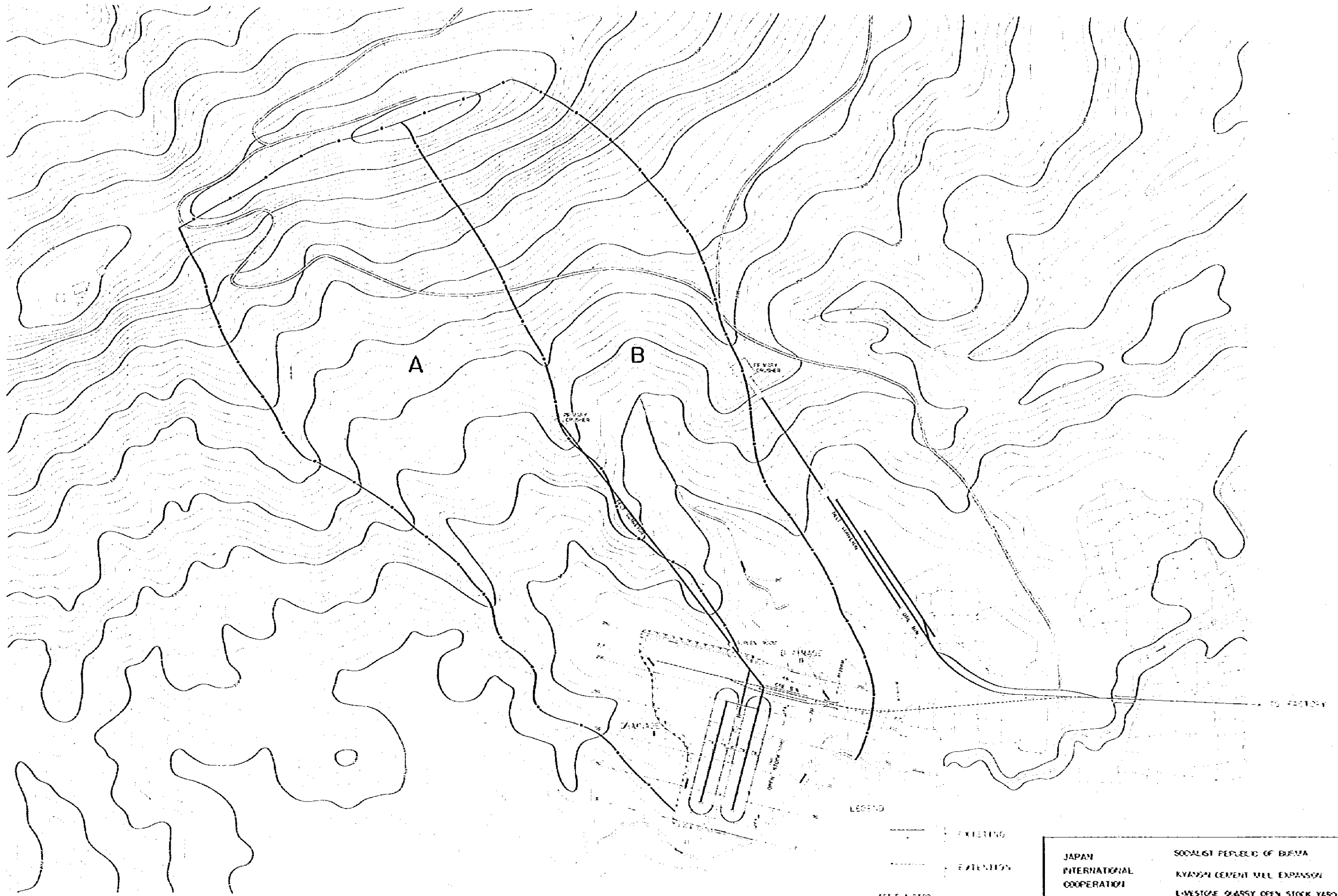




LEGEND
 ——— EXISTING
 - - - - - EXTENSION

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	SOVIET REPUBLIC OF BSRVA KYANGSI CEMENT MILL EXPANSION RAILWAY MODIFICATION PLANNING
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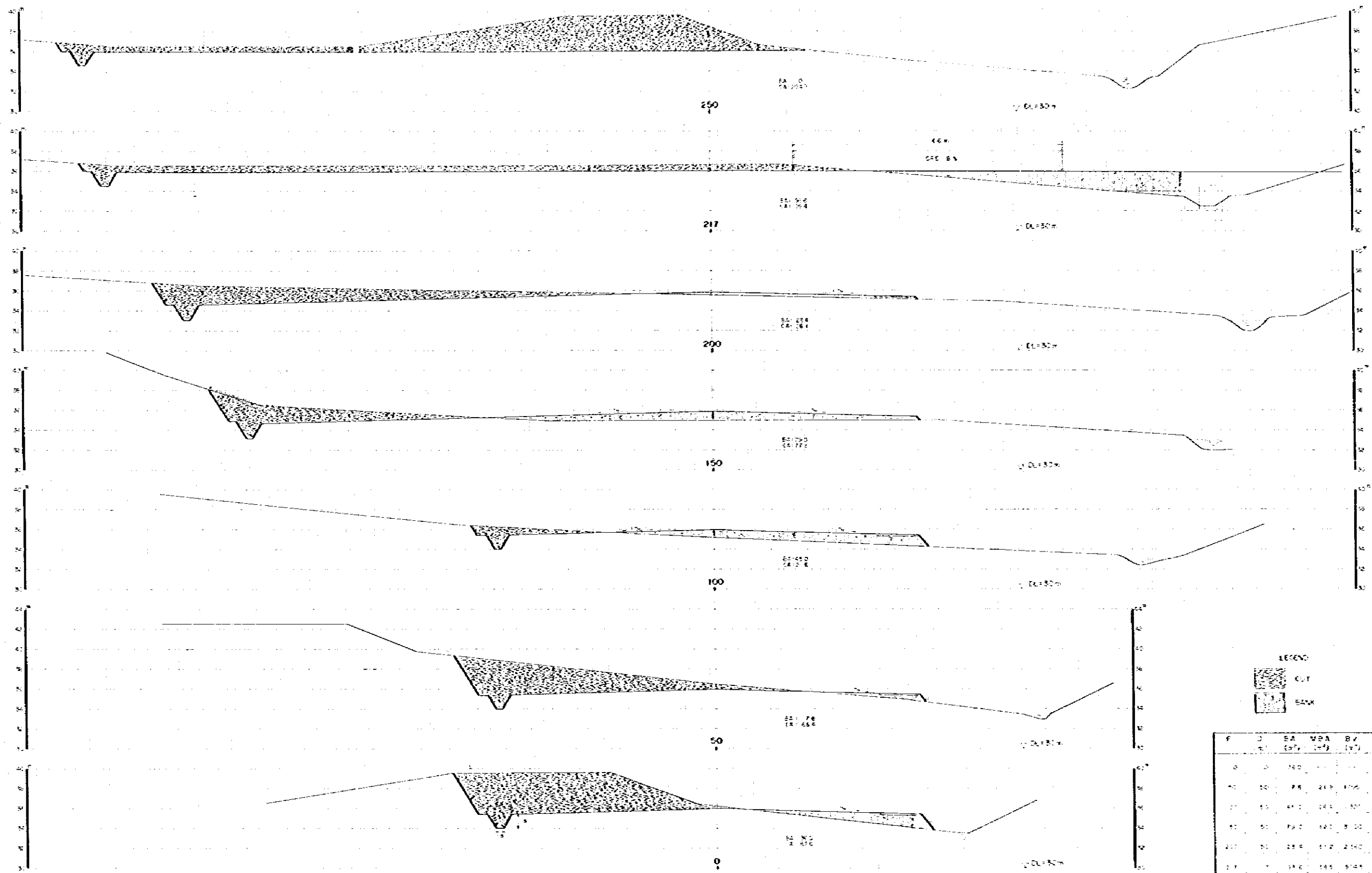
C-11



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

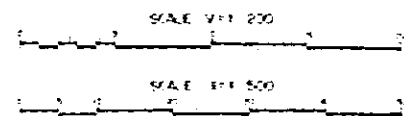
SOCIALIST REPUBLIC OF BURMA
KYANSON CEMENT MILL EXPANSION
LIVESTOCK QUARRY OPEN STOCK YARD
SITE LEVELING AND DRAIN PLAN (1)

DATE: 1974.08.20
DRAWN: [unclear]
SCALE: 1:2500
C-12

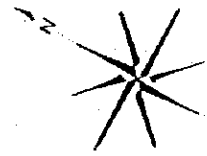


LEGEND
 [Stippled pattern] CUT
 [Cross-hatched pattern] BANK

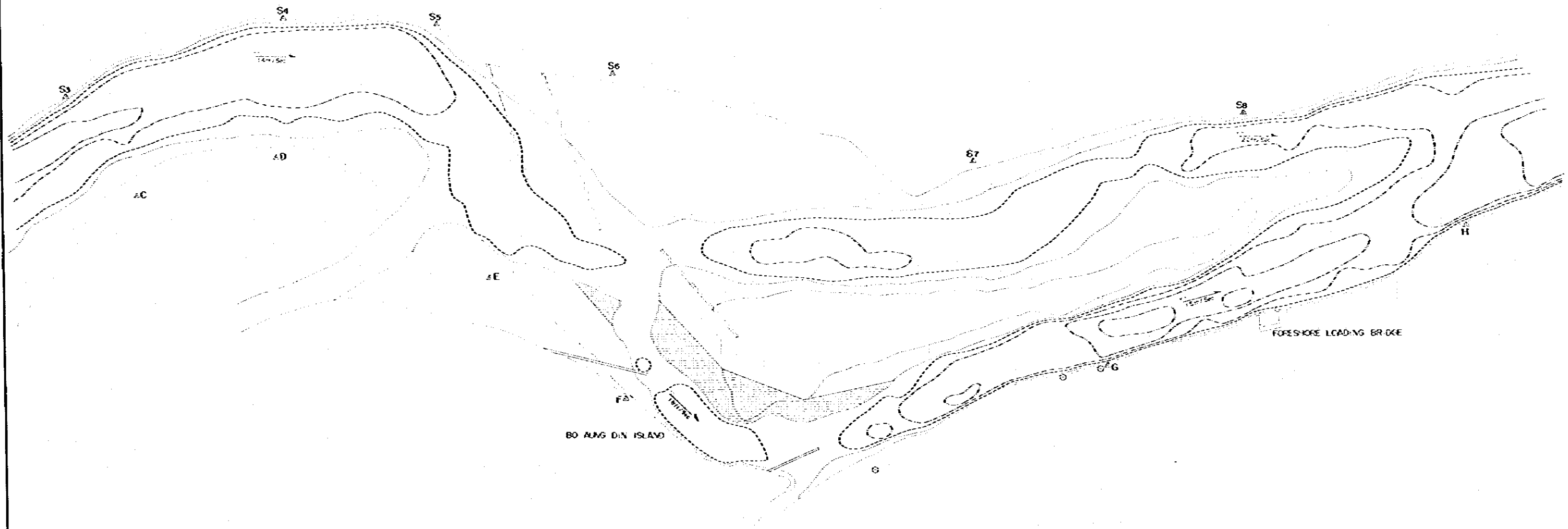
F	D	EA	MPA	BY	CA	MEA	CV
(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)
0	0	160	160	160	160	160	160
50	50	160	160	160	160	160	160
100	100	160	160	160	160	160	160
150	150	160	160	160	160	160	160
200	200	160	160	160	160	160	160
217	217	160	160	160	160	160	160
250	250	160	160	160	160	160	160
TOTAL							



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SOCIALIST REPUBLIC OF BURMA
 KYAWON CEMENT MILL EXPANSION
 LIMESTONE QUARRY OPEN STOCK YARD
 SITE LEVELING AND GRAN PLAN (2)
 (CROSS SECTIONS)



V.N. GALA ISLAND



BO ANG DIN ISLAND

FORESHORE LOADING BRIDGE

TOTAL LENGTH OF
RETIEMENT: 11420'

- FOR DESIGN
- RETIEMENT
- TELETYPE POST, 42000'
- CURRENT SPEED
- FORESHORE LINE
- 0' REF. LINE (P)
- 5' REF. LINE (S)
- 10' REF. LINE (S)
- 20' REF. LINE (S)
- 30' REF. LINE (S)

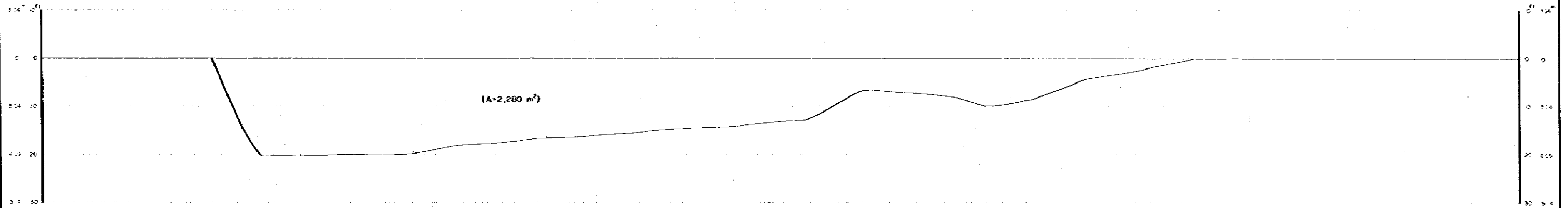
SCALE 1:12,000



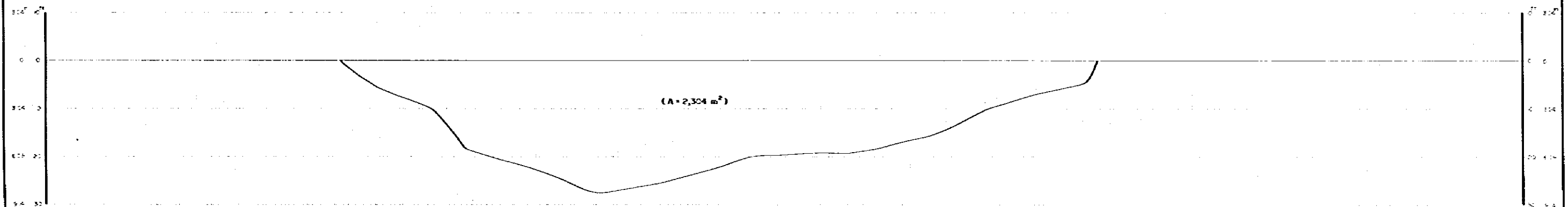
1977 Dec - 1978 Jan
Map Showing Water Levels
Depth of water is shown in ft
With reference to 30 ft above sea level (Average)

JAPAN	SOVIET REPUBLIC OF BELARUS
INTERNATIONAL	RYAUSKI CEMENT MILL EXPANSION
COOPERATION	IRRADDY RIVER WATER-DEPTH
AGENCY (JICA)	CONTROLS MAP

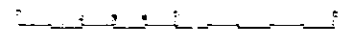
1977 CROSS SECTION



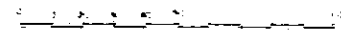
1978 CROSS SECTION



SCALE V=1:120

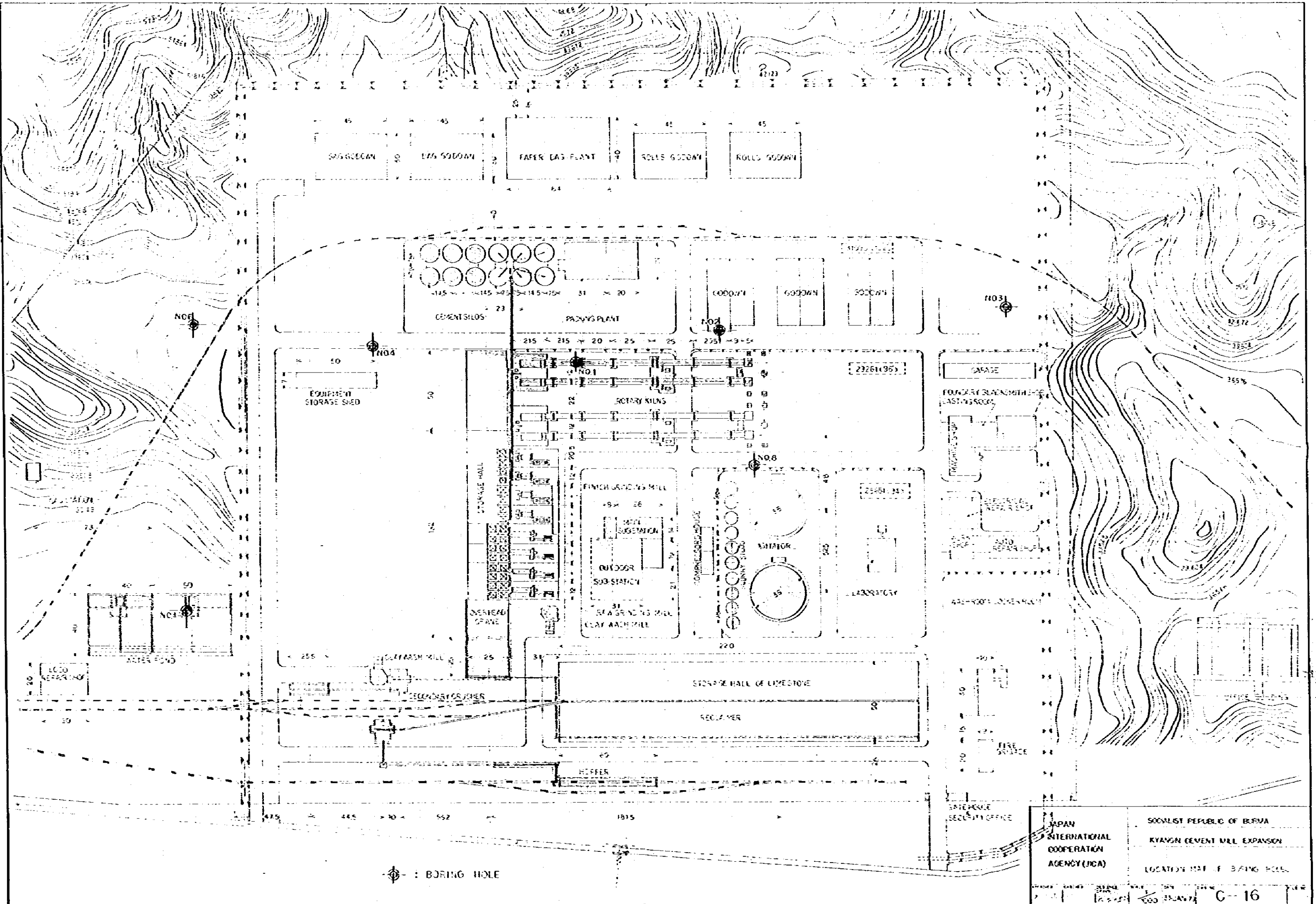


SCALE H=1:200



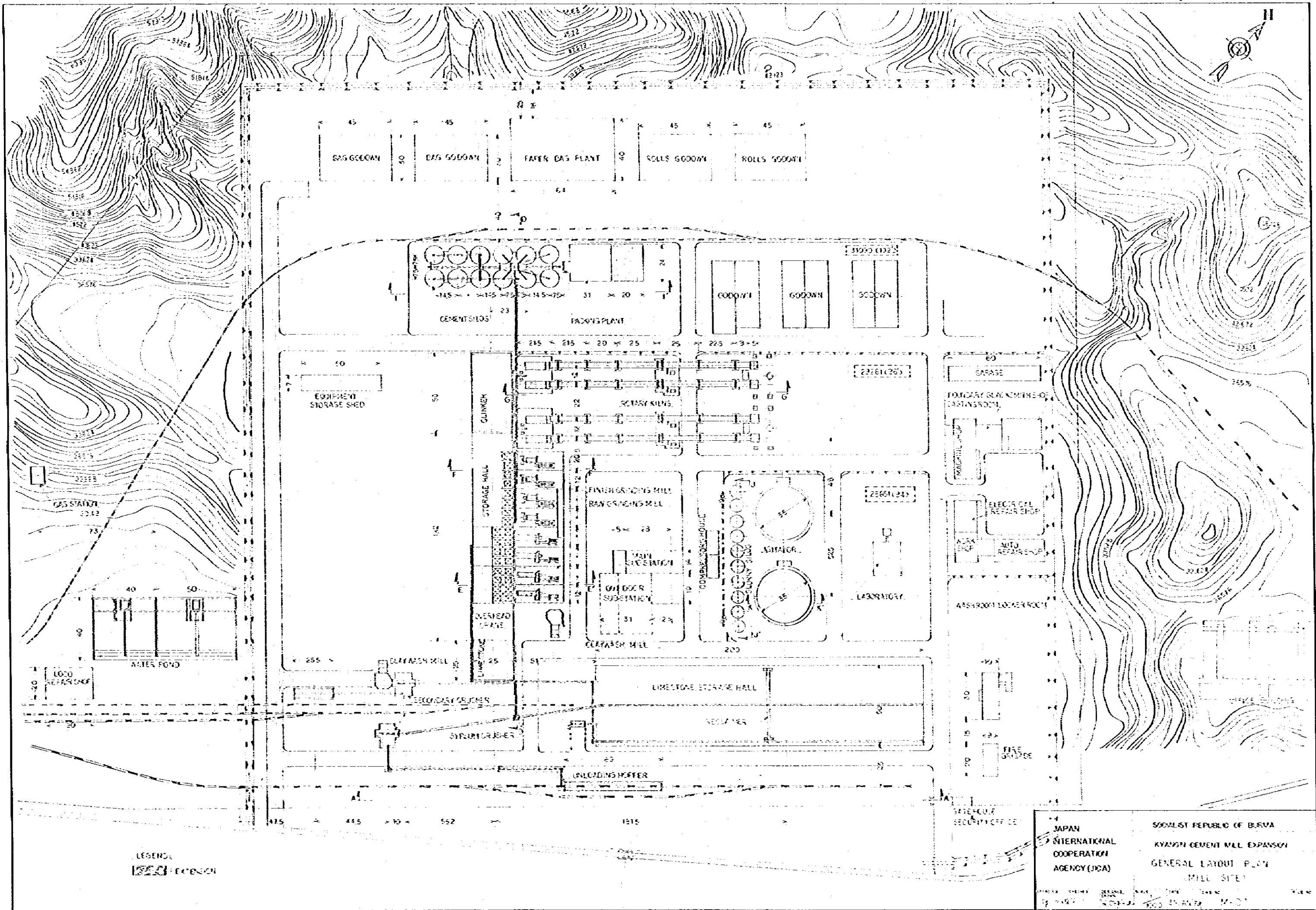
JAPAN	SOCIALIST REPUBLIC OF BURMA
INTERNATIONAL COOPERATION AGENCY (ICA)	KYANGON CEMENT MILL EXPANSION
	IPPAASOY RIVER CROSS-SECTION OF JETTY SITE AT KYANGON CEMENT FACTORY

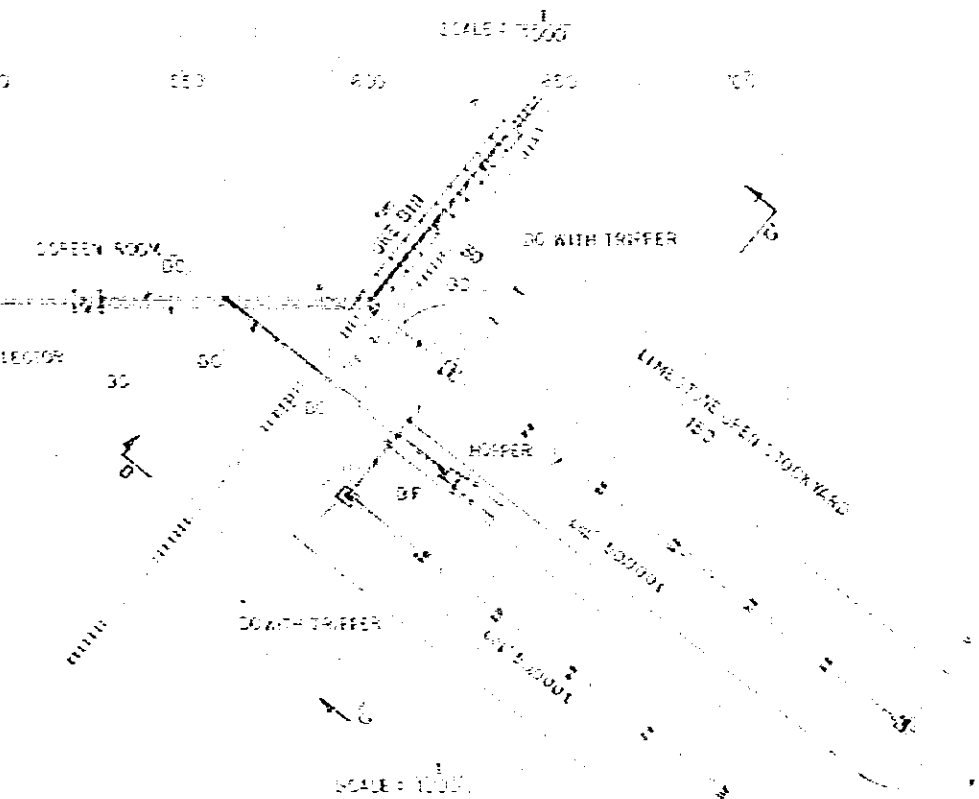
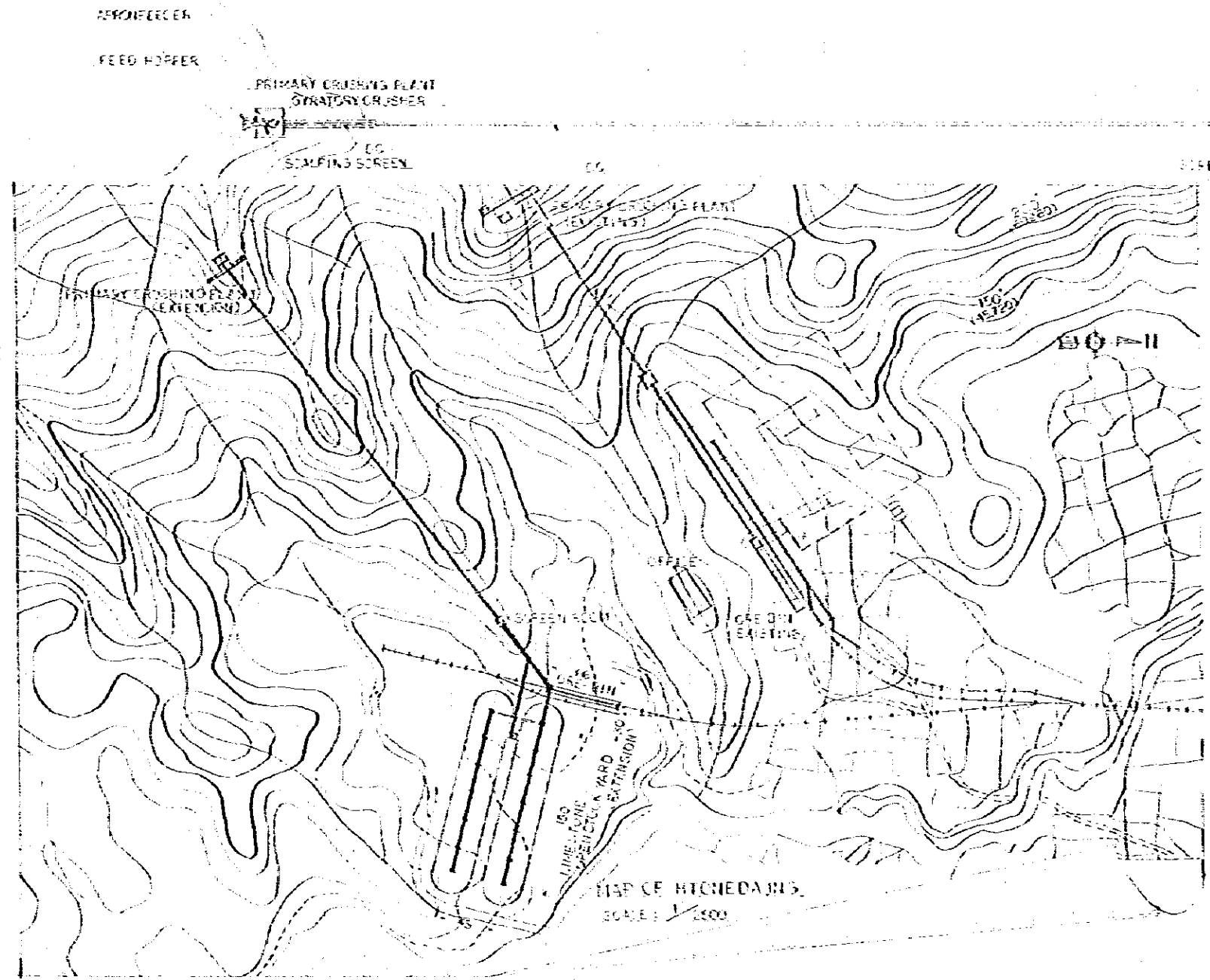
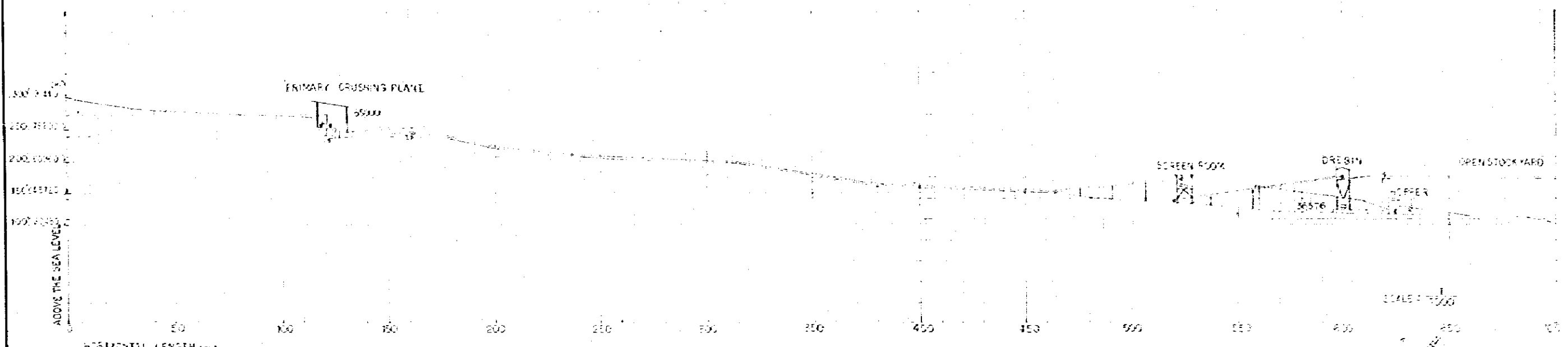
C-15



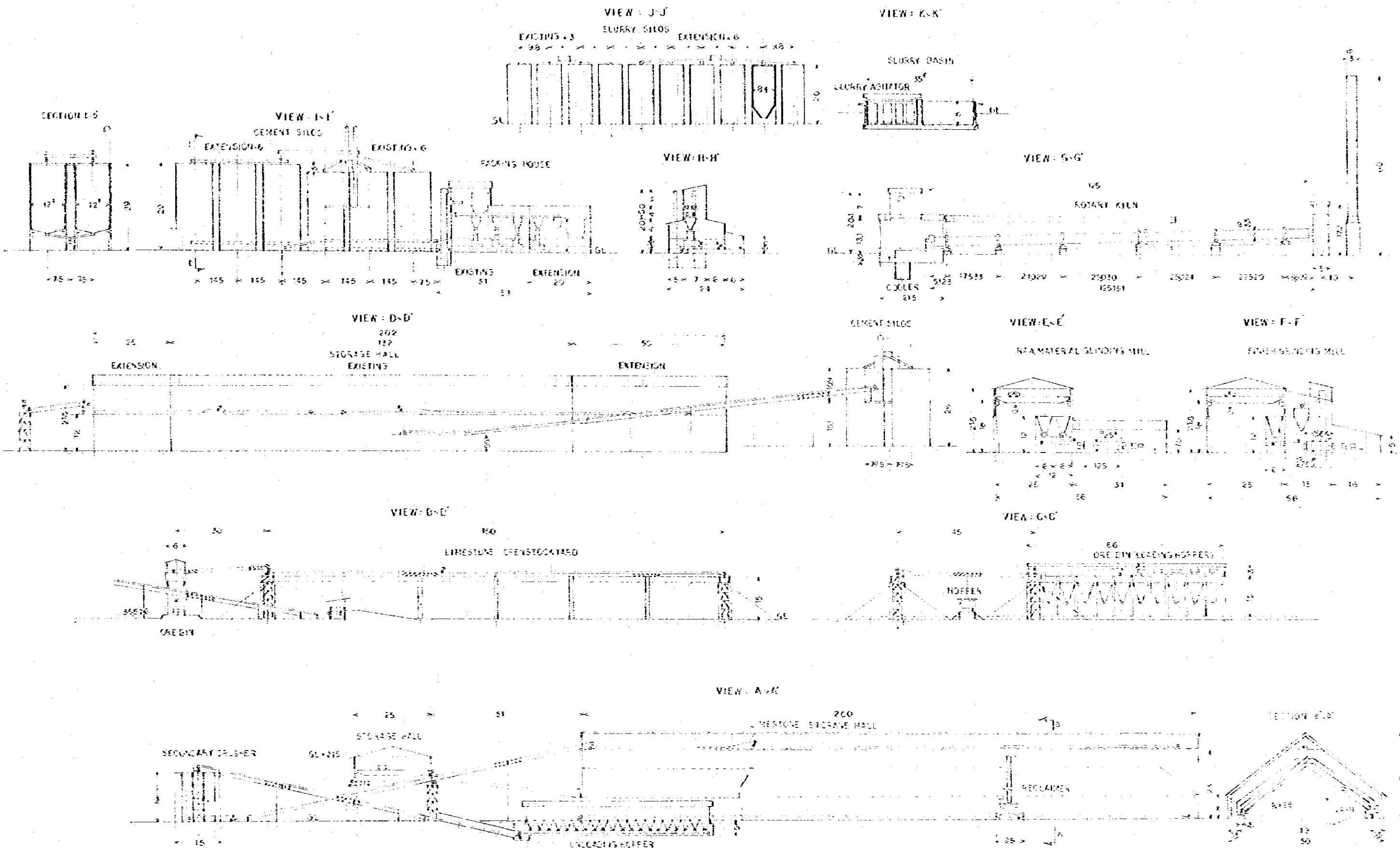
⊕ : BORING HOLE

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	SOCIALIST REPUBLIC OF BURMA
	KYANGON CEMENT MILL EXPANSION
	LOCATION MAP OF BANG HOLE
C-16	





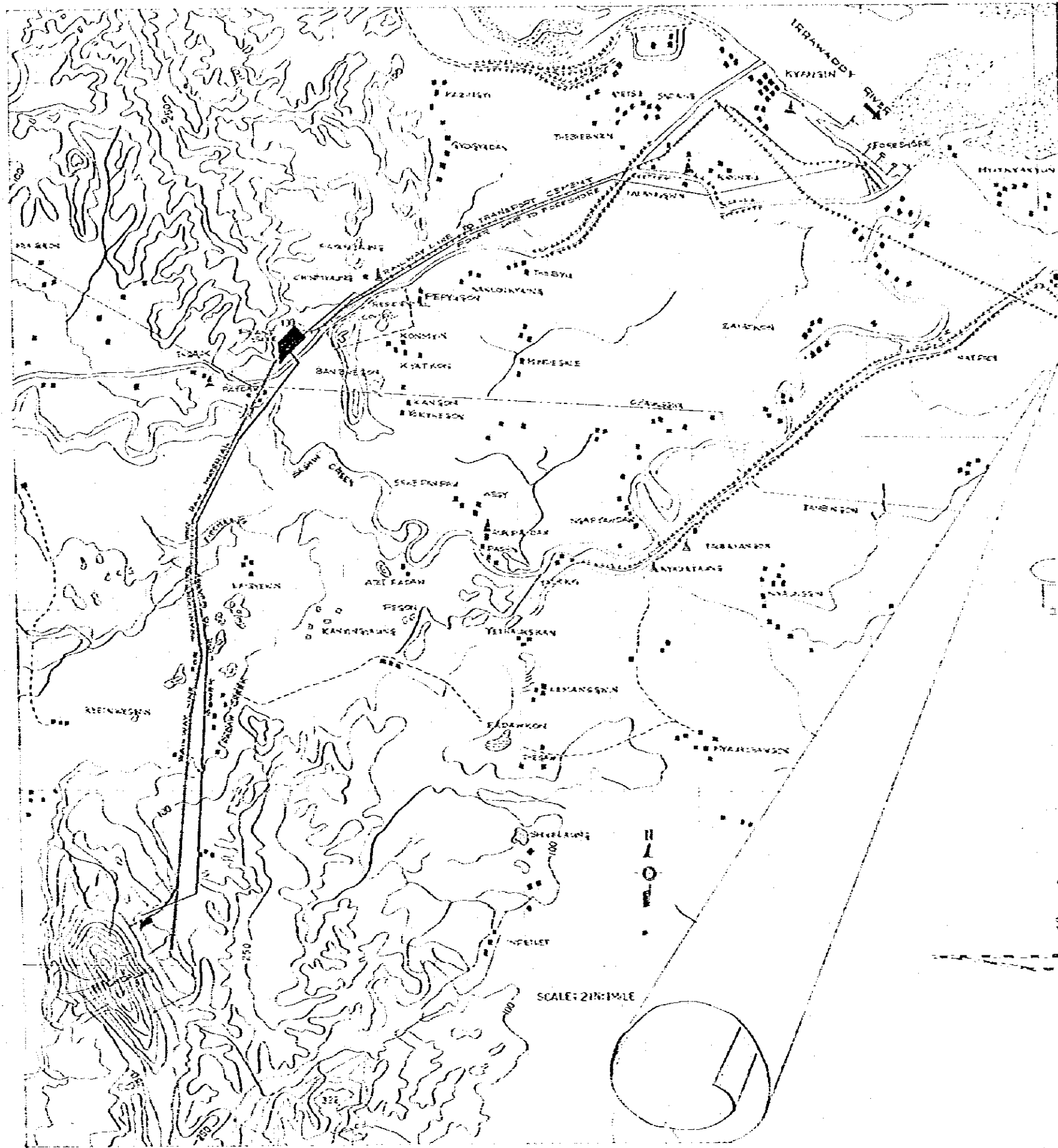
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	SOCIALIST REPUBLIC OF BURMA KYANSON GENERAL PILL EXPANSION GENERAL LAYOUT PLAN LIMESTONE CRUSHING PLANT
DATE: 1972.11.20	SCALE: 1:1000



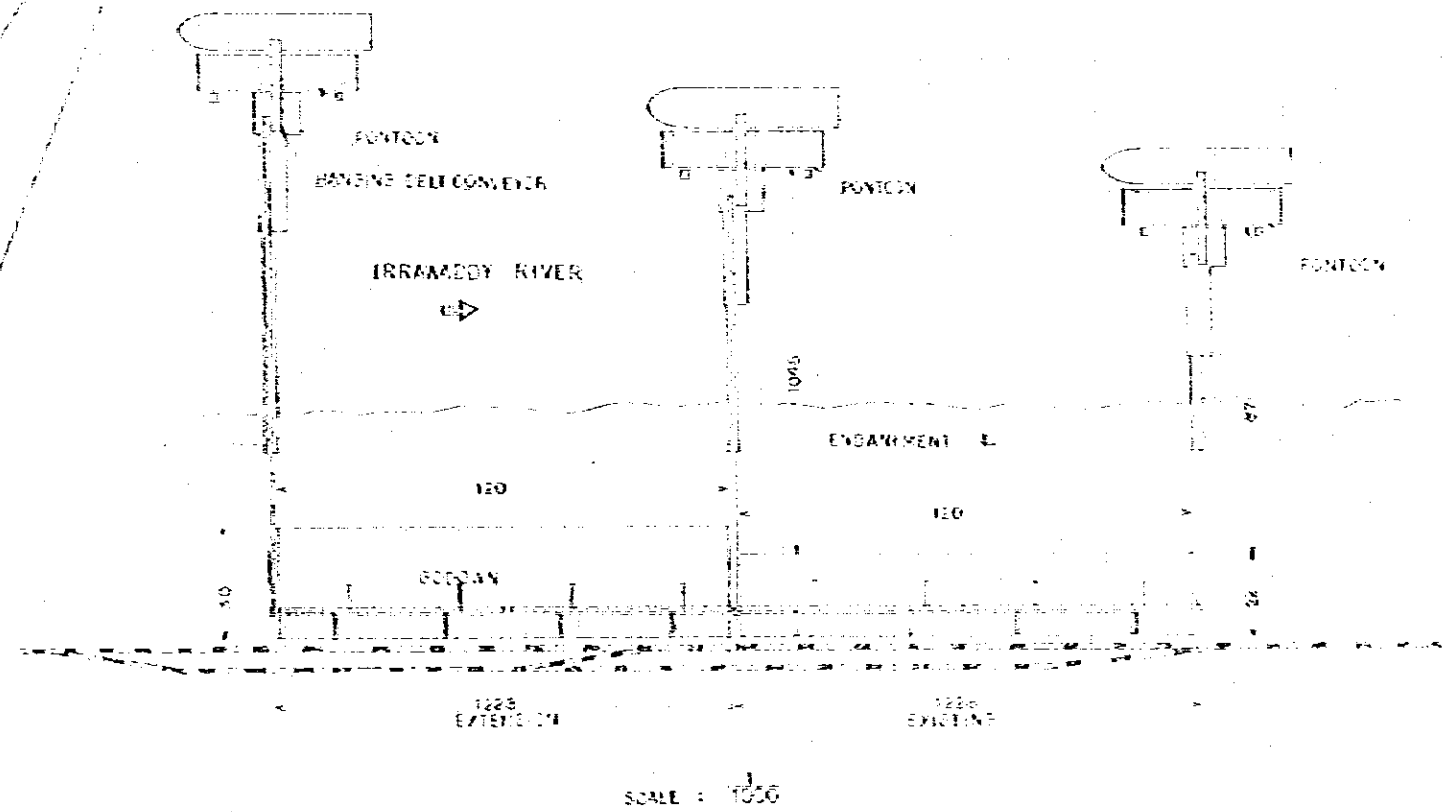
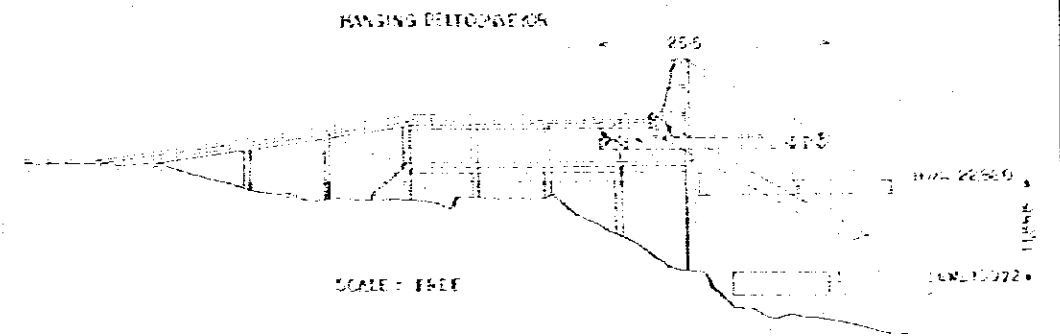
JAPAN
INTERNATIONAL
COOPERATION
AGENCY (JICA)

SOVIET REPUBLIC OF BSMV
KYAUSHI CEMENT MILL EXPANSION
GENERAL ARRANGEMENT

SCALE: 1/50
DATE: 1978.12
DRAWN: M-C3

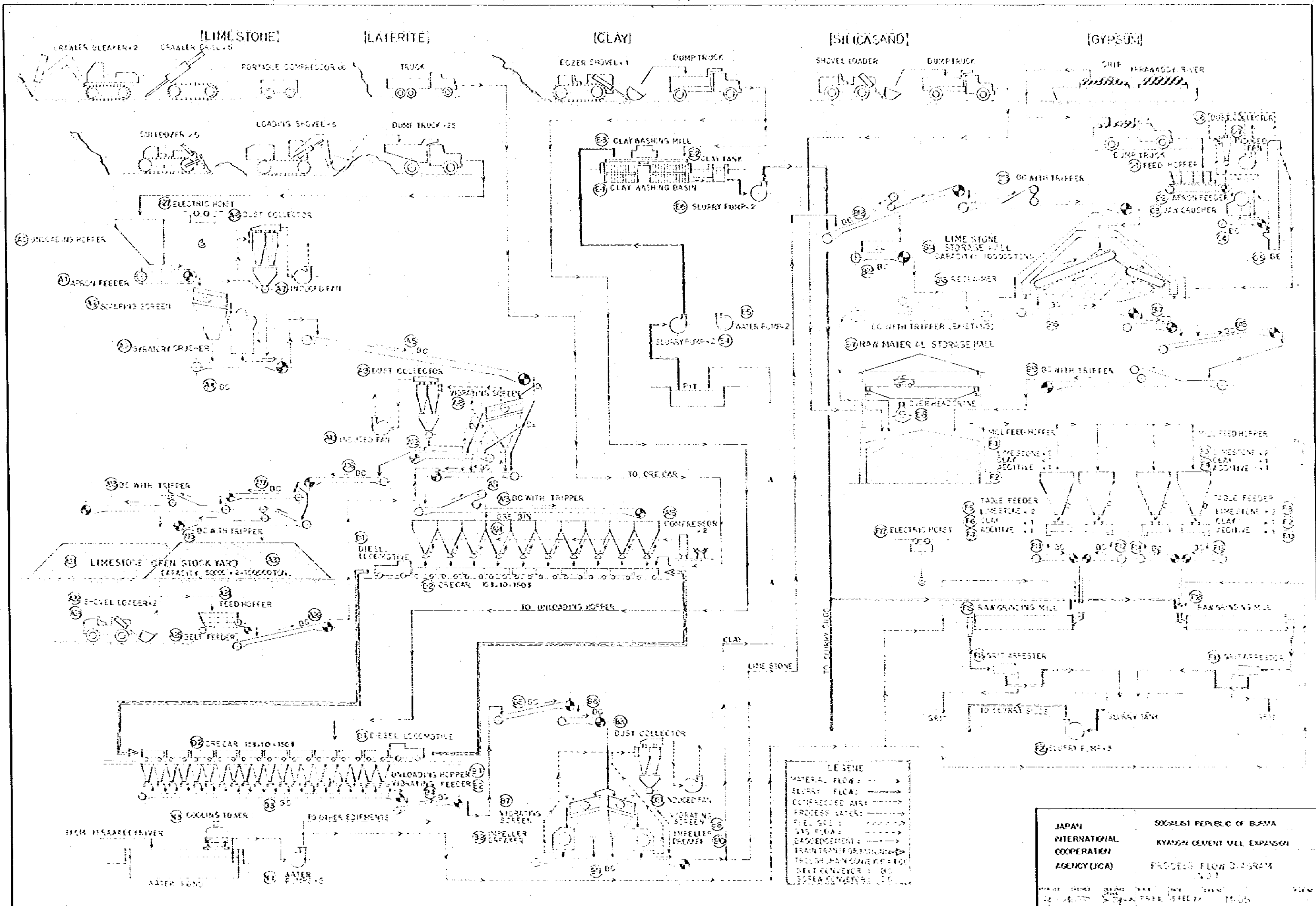


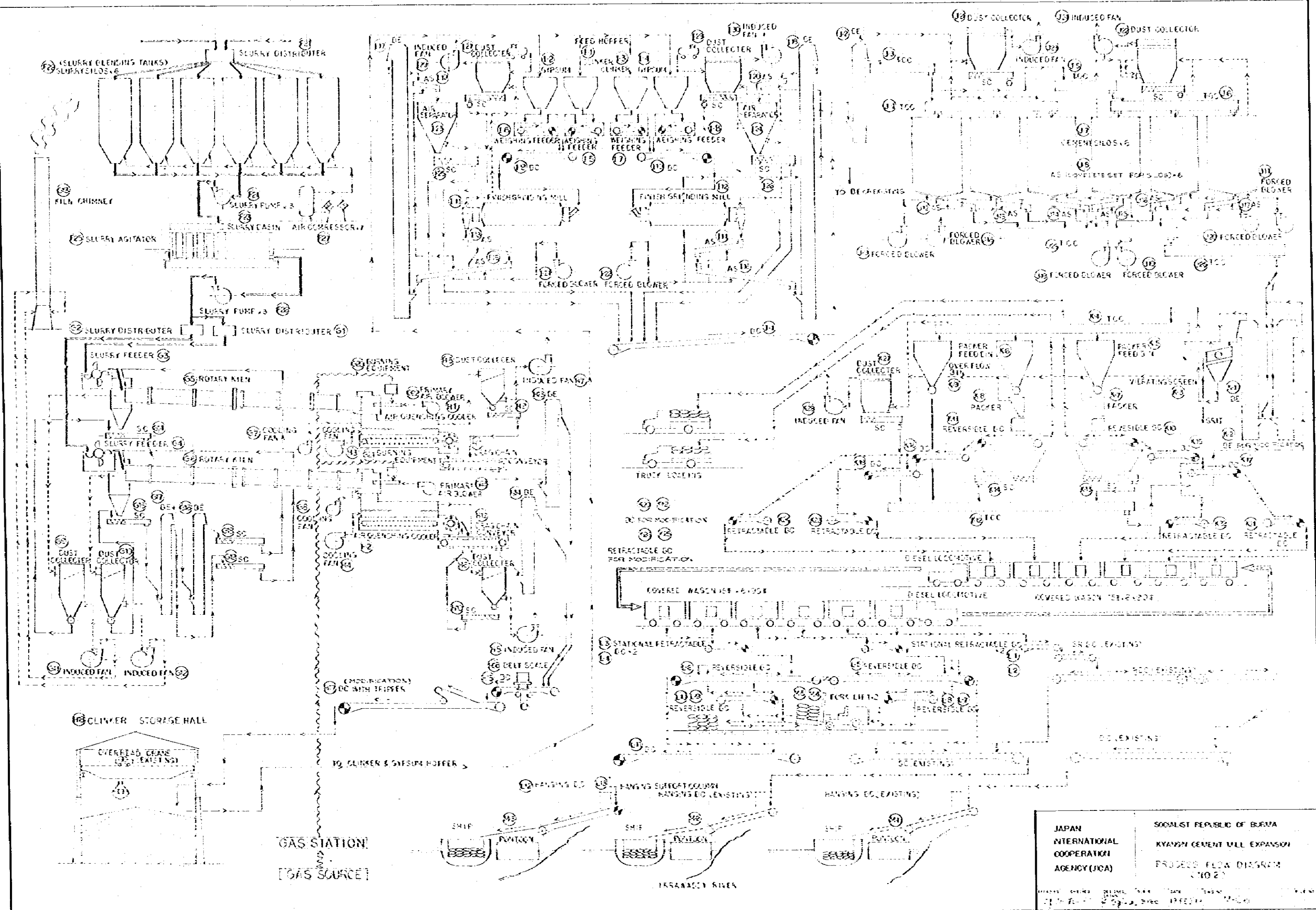
TOPOGRAPHICAL MAP SHOWING
HLO'CAUNG-KYANSIN-KYAUKSE



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	SOCIALIST REPUBLIC OF BURMA KYANGSI CEMENT MILL EXPANSION GENERAL LAYOUT PLAN (FORESHORE SITE)
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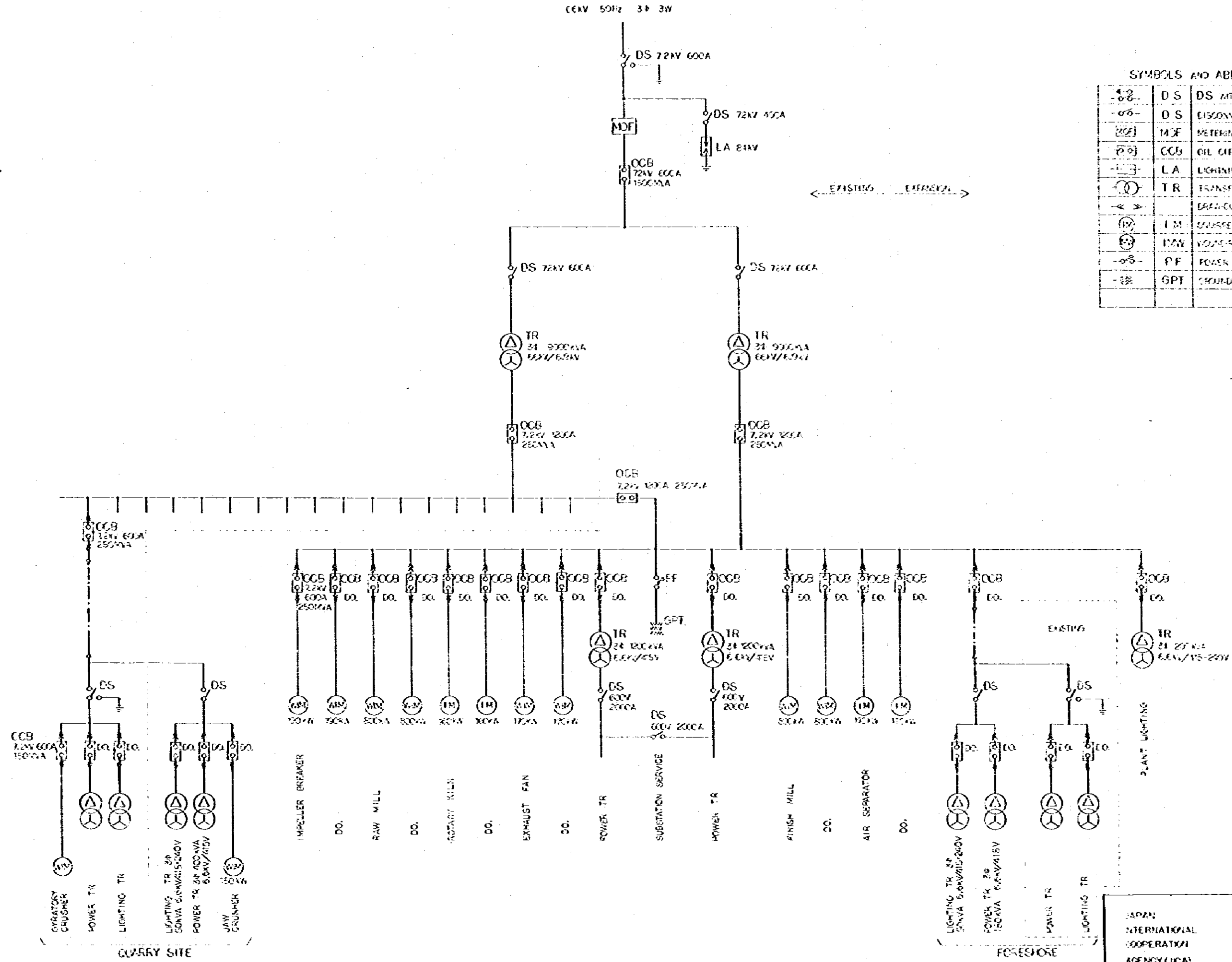


JAPAN
 INTERNATIONAL
 COOPERATION
 AGENCY (JICA)

SOCIALIST REPUBLIC OF BURMA
 KYAWIN CEMENT MILL EXPANSION
 PROCESS FLOW DIAGRAM
 (10/2)



66KV 50HZ 3Φ 3W



SYMBOLS AND ABBREVIATIONS

	DS	DS WITH GROUNDING DEVICE
	DS	DISCONNECTING SWITCH
	MDF	METERING CABINET
	OCB	OIL CIRCUIT BREAKER
	LA	LIGHTNING ARRESTER
	TR	TRANSFORMER
		BREAK-OUT TYPE FAN/MOTOR
	IM	SCHEPPEL CASE TYPE IND. MOTOR
	IMW	VOLUNTEER TYPE IND. MOTOR
	PF	POWER FUSE
	GPT	GROUND POTENTIAL TR

EXISTING EXPANSION

QUARRY SITE

PROCESSING

JAPAN SOCIALIST REPUBLIC OF S. YEM
 INTERNATIONAL COOPERATION AGENCY (ICA) KYANGH CEMENT MILL EXPANSION
 SINGLE LINE CIRCUIT DIAGRAM



FEASIBILITY STUDY REPORT
FOR EXPANSION PROJECT OF KYANGIN CEMENT MILL
OF THE SOCIALIST REPUBLIC OF THE UNION OF BURMA

July, 1979



JICA

104
683
MPI