

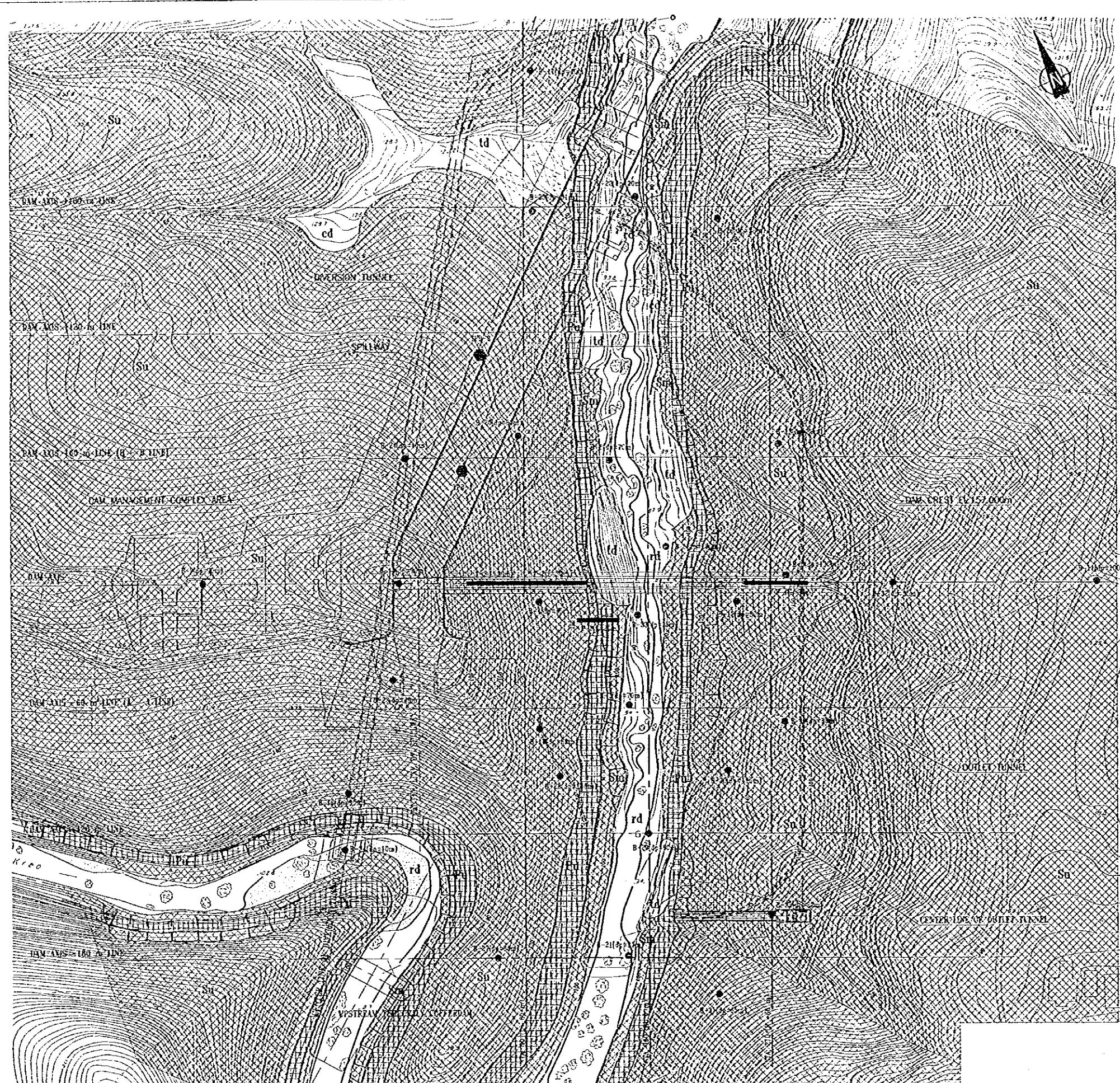
LEGEND				
(Geological Strata)	Age	Formation and Strata Name	Symbol	Description
		Riverbed Deposit	[rd]	The deposit is distributed at the existing riverbed and the flood plain. It mainly consists of gravel, sand and clay, and it contains the huge fallen rocks in the gorge area, which was formed by Kreo River.
Quaternary		Talus Deposit	[td]	The deposit is distributed at the skirt of the mountain slope. It consists of failure soil and sand, detritus and fallen rocks.
Quaternary	Holocene	Terrace Deposit	[tr]	The deposit forms the terrace plain along the riverbed, and the relative height of the plain is less than 3 m from the riverbed. Terrace deposit can be divided into two layers, the upper layer mainly consists of silt, and the lower layer mainly consists of sand and gravel.
Tertiary		Sedimentary Rock Unit Xaligetas	[Ks]	Xaligetas formation is distributed at the south side of a fault, which located 400 m southwest of the damsite. This fault has direction from east to northwest and forms a boundary of Damar formation and Kerek and Xaligetas formations. Sedimentary rock unit is formed by complicated alternation which mainly consists of conglomerate, conglomeratic sandstone, tuffaceous sandstone and sandstone. Cracks hardly develop in the bedrock, and the degree of cementation and the hardness of rock are comparatively low.
Tertiary	Pliocene-Pleistocene	Sedimentary Rock Unit Damar	[Ds]	Damar formation is distributed at the north side of the above mentioned fault. Sedimentary rock unit is formed by complicated alternation which mainly consists of tuffaceous sandstone, conglomeratic sandstone and volcanic conglomerate. Cracks badly develop in the bedrock, and the degree of cementation and the hardness of rock are comparatively low.
Tertiary	Miocene-Pliocene	Pyroclastic Rock Unit Dp	[Dp]	Pyroclastic rock unit mainly consists of volcanic breccia, and partly contains mafic tuff and andesite lava. The volcanic breccia contains fragments of andesite and pumice, and matrix consists of mafic tuff. Cracks badly develop in the bedrock, but the hardness of rock is comparatively high.
Tertiary	Miocene-Pliocene	Sedimentary Rock Unit Kerek	[Km]	Kerek formation is distributed at the south side of the above mentioned fault. Sedimentary rock unit mainly consists of siltstone whose color is greenish dark gray, and partly contains coral limestone. The hardness of siltstone is comparatively low, and slickenside develops around the fault.

BOUNDARY OF GEOLOGICAL UNIT AND STRATUM

FAULT AND DIP/STRIKE

NOTE : THIS GEOLOGICAL MAP IS ONLY FOR REFERENCE.

 THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT PRATUNSELLA FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION GEOLGY RESERVOIR AND REGIONAL GEOLGY	SCALE 0 100 200 300 400m			
	PROVINCE : CENTRAL JAVA	PROJECT NAME : FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT OF SEMARANG IN THE REPUBLIC OF INDONESIA		
DESIGNER : JATIBARANG LTD. IN COLLABORATION WITH TECHNICAL CONSULTANT : PT. HUTAN MULIA FACO INTERNATIONAL INC.	APPROVED : CHIEF OF PLANNING AND DESIGN			
DATE : 05/05/2011	CONTRACT NO. : 5			
NO. DATE	REVISIONS	COORDINATED	DESURSD	APPROVED
APPROVED	CHIEF OF PLANNING AND DESIGN			PROJECT MANAGER



(Geological Strata)

Age	Formation and Strata Name	Symbol	Description
Quaternary	Riverbed deposit	rd	Riverbed deposit consists of Gravel, sand and clay. It contains the huge fallen rocks in the gorge area, which was made by Kreo river.
	Talus deposit	td	Talus deposit consists of collapse soil and sand, detritus, fallen rocks. It is accumulated on the foot of mountainside slope and cliff.
Tertiary-Quaternary	Upper Sedimentary Rock Unit	su	The unit mainly consists of alternation of conglomerate, conglomeratic sandstone, tuffaceous sandstone and sandstone, and partly contains mafic tuff and volcanic conglomerate. The grain size of sandstone is big, and lamina is formed partly. The matrix of conglomerate consists of same material of sandstone, and gravel consists of andesite and pumice, and diameter of gravel is smaller than 50 cm. Cracks hardly develop in the bedrock, and the degree of cementation of conglomerate, tuffaceous sandstone, sandstone and tuff are comparatively low, and lower cementation layer is formed partly in sandstone and conglomerate.
	Upper Pyroclastic Rock Unit	pu	The unit mainly consists of volcanic breccia, and partly contains mafic tuff and andesite lava. The volcanic breccia contains fragments of andesite and pumice, and matrix consists of mafic tuff. Cracks hardly develop in the bedrock, and the hardness of rock is comparatively high.
	Middle Sedimentary Rock Unit	sm	The unit mainly consists of alternation of conglomerate, conglomeratic sandstone, sandstone and tuffaceous sandstone, and partly contains mafic tuff. The facies of each rock and conditions of bedrock are almost same as the upper sedimentary rock unit.

LEGEND

NOTE : THIS GEOLOGICAL MAP IS ONLY FOR REFERENCE.
BOUNDARY OF GEOLOGICAL UNIT AND STRATUM

(LOCATION OF BORE HOLES AND ADITS AT THE PHASE 1 INVESTIGATION)

- : BORE HOLE (NUMBER, TOTAL DEPTH)
- : ADIT (NUMBER, TOTAL LENGTH)

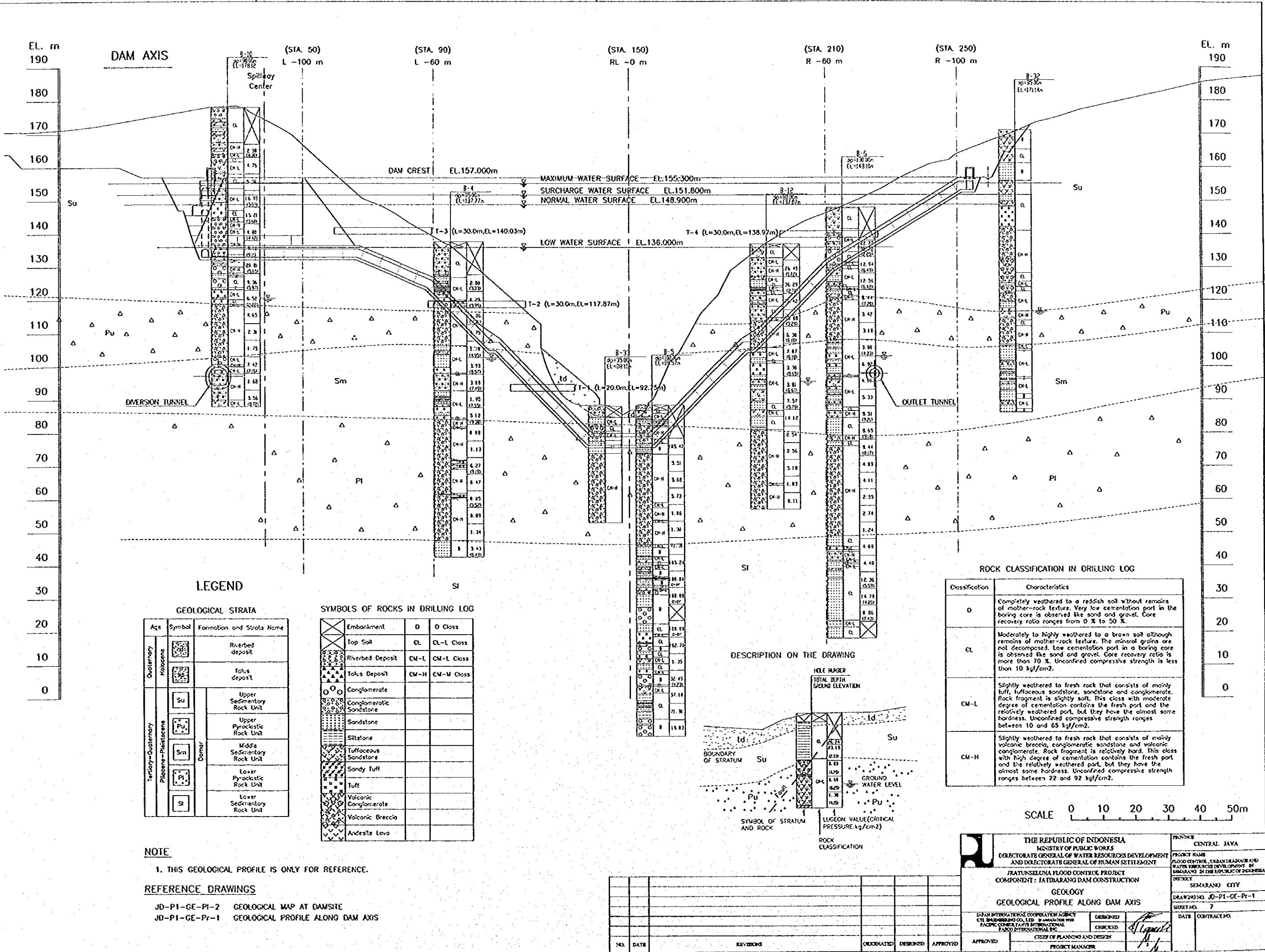
(LOCATION OF BORING HOLES AND TEST PITS AT THE PHASE 2 INVESTIGATION)

- : BORE HOLE (NUMBER, TOTAL DEPTH)
- ◆ : TEST PIT (NUMBER)

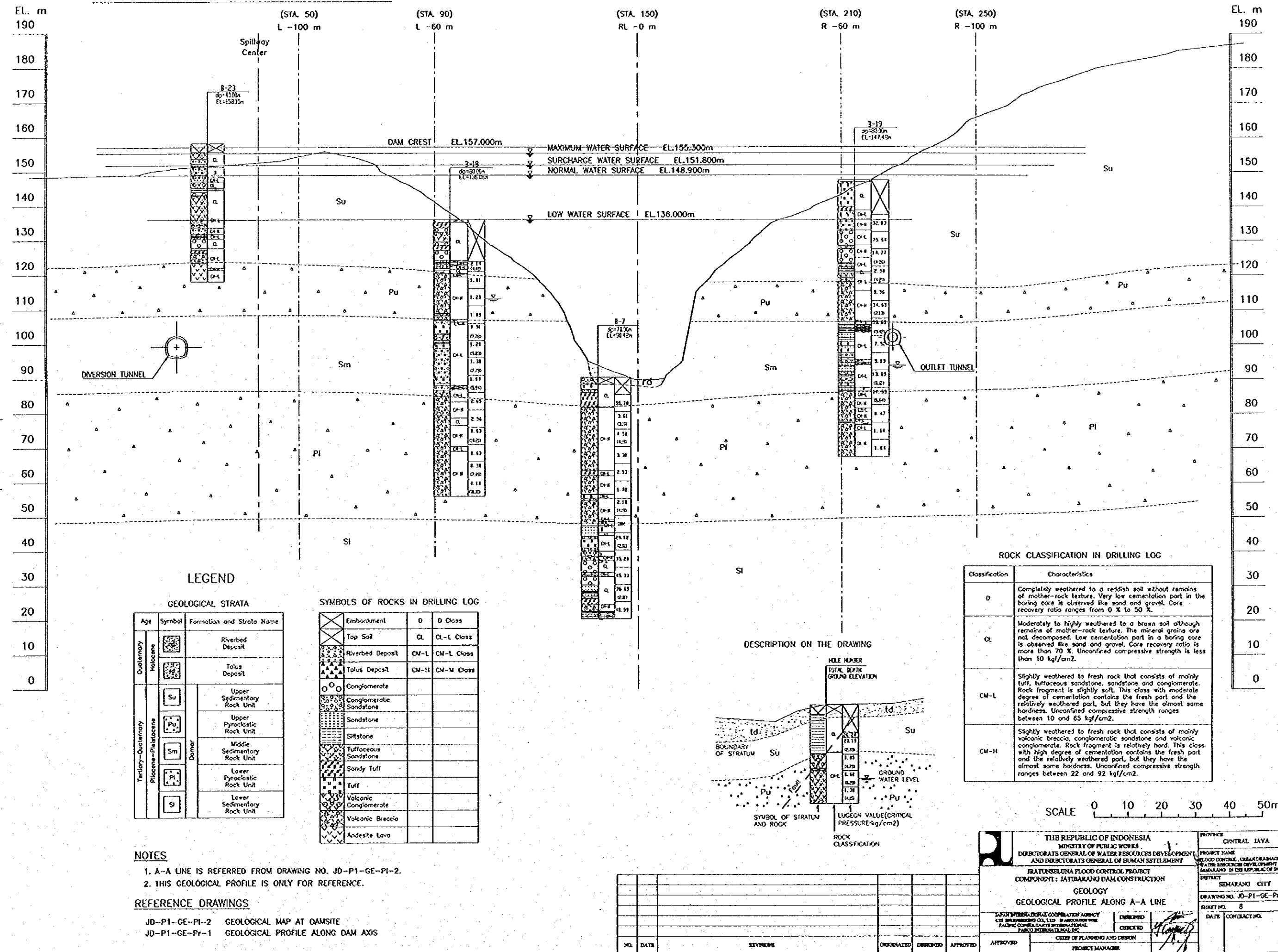
SCALE 0 20 40 60 80 100m

THE REPUBLIC OF INDONESIA				PROVINCE CENTRAL JAVA	
MINISTRY OF PUBLIC WORKS				PROJECT NAME FLOOD CONTROL, URBAN DRainAGE AND SANITATION IN SEMARANG CITY IN THE REPUBLIC OF INDONESIA	
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT				DISTRICT SEMARANG CITY	
IRATUNSLUNA FLOOD CONTROL PROJECT				DRAWING NO. JD-PI-CE-PI-2	
COMPONENT: JATIHARANG DAM CONSTRUCTION				SHEET NO. 6	
GEOLOGY				DATE CONTRACT NO.	
GEOLoGICAL MAP AT DAM SITE					
JAPAN INTERNATIONAL COOPERATION AGENCY		DESIGNED		CHECKED	
CO., LTD. IN ASSOCIATION WITH					
PACIFIC CONSULTANT INTERNATIONAL					
RAPID INTERNATIONAL INC.					
CHIEF OF PLANNING AND DESIGN					
PROJECT MANAGER					

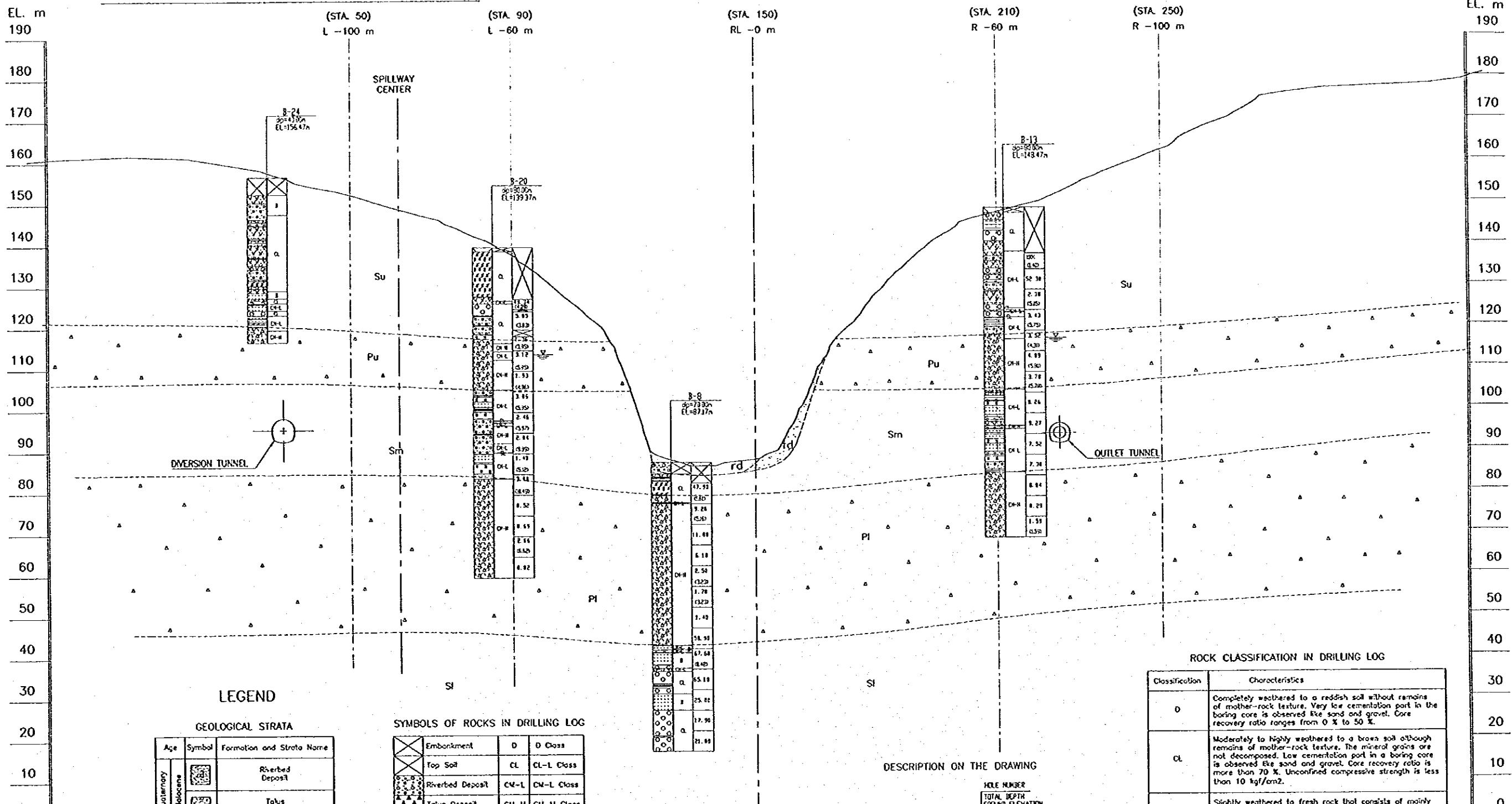
NO.	DATE	REVISIONS	COORDINATED	DESIGNED	APPROVED



A-A LINE (60 m UPSTREAM OF DAM AXIS)



B-B LINE (60 m DOWNSTREAM OF DAM AXIS)



LEGEND

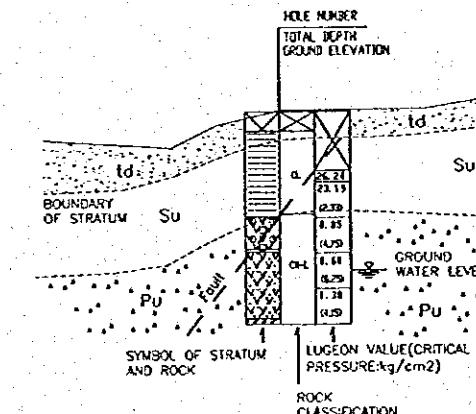
GEOLOGICAL STRATA

Age	Symbol	Formation and Strata Name
Quaternary	[Symbol]	Riverbed Deposit
Holocene	[Symbol]	Talus Deposit
Tertiary-Quaternary	[Symbol]	Upper Sedimentary Rock Unit
Pleistocene	[Symbol]	Upper Pyroclastic Rock Unit
Pleistocene	[Symbol]	Middle Sedimentary Rock Unit
Pleistocene	[Symbol]	Lower Pyroclastic Rock Unit
Pleistocene	[Symbol]	Lower Sedimentary Rock Unit

SYMBOLS OF ROCKS IN DRILLING LOG

	Embankment	D	D Class
Top Soil	CL	CL-L Class	
Riverbed Deposit	CM-L	CM-L Class	
Talus Deposit	CM-H	CM-M Class	
Conglomerate			
Conglomeratic Sandstone			
Sandstone			
Siltstone			
Tuffaceous Sandstone			
Sandy Tuff			
Tuff			
Volcanic Conglomerate			
Volcanic Breccia			
Andesite Lava			

DESCRIPTION ON THE DRAWING



THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
PRATUNSELINA FLOOD CONTROL PROJECT COMPONENT: JATIBARANG DAM CONSTRUCTION		
GEOLOGY GEOLLOGICAL PROFILE ALONG B-B LINE		
DRAWING NO. JD-P1-GE-Py-3 SERIAL NO. 9 DATE CONTRACT NO.		
SAPAN INTERNATIONAL CONSULTANT AGENCY CIVIL ENGINEERING CO. LTD. IN COLLABORATION WITH PACIFIC CONCRETEZERS INTERNATIONAL PACIFIC INTERNATIONAL INC.		DESIGNED CERCOO CERCOO APPROVED CERCOO CERCOO PROJECT MANAGER

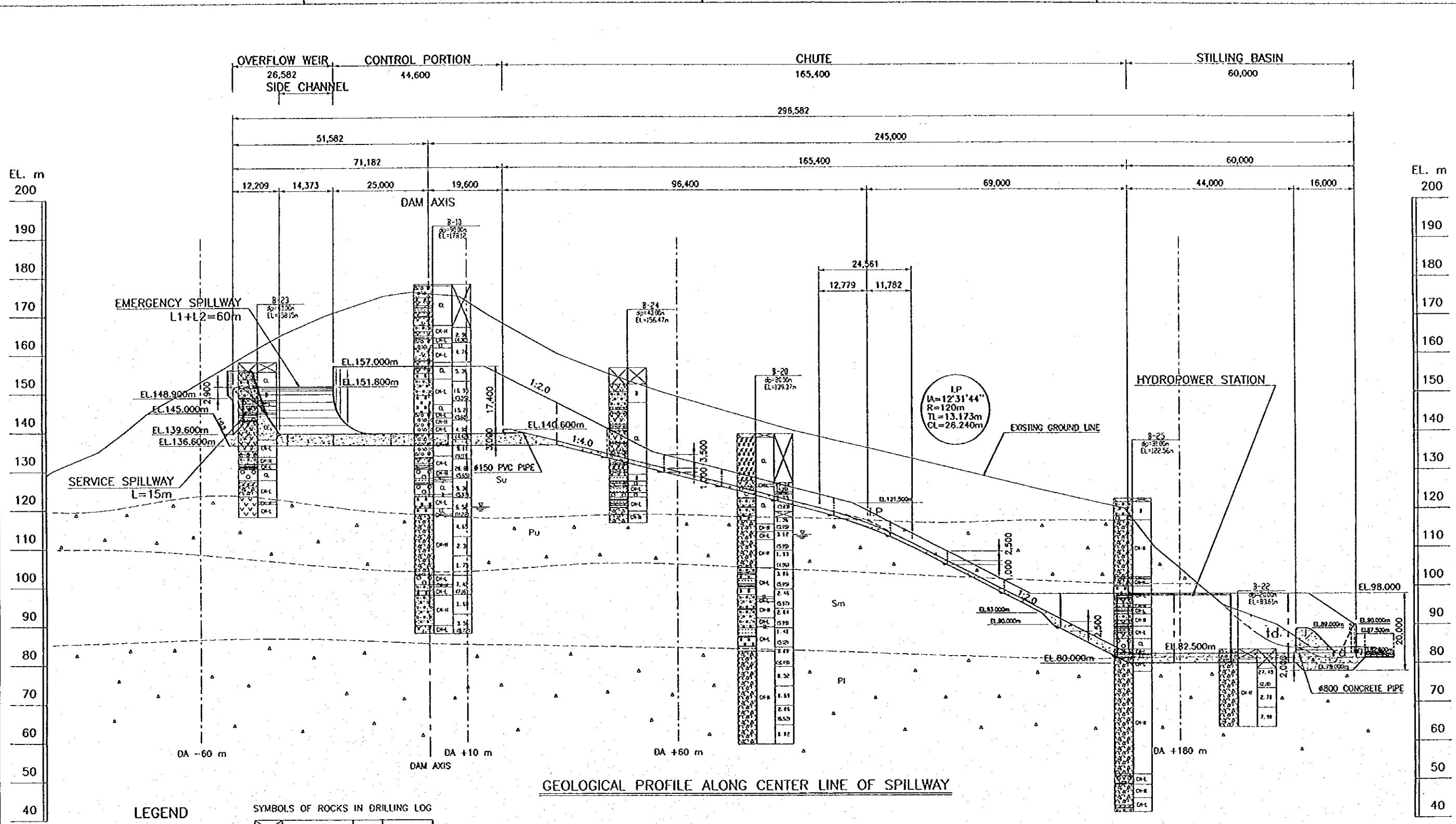
NOTES

1. B-B LINE IS REFERRED FROM DRAWING NO. JD-P1-GE-Py-2.
2. THIS GEOLOGICAL PROFILE IS ONLY FOR REFERENCE.

REFERENCE DRAWINGS

- JD-P1-GE-Py-2 GEOLOGICAL MAP AT DAMSITE
JD-P1-GE-Py-1 GEOLOGICAL PROFILE ALONG DAM AXIS

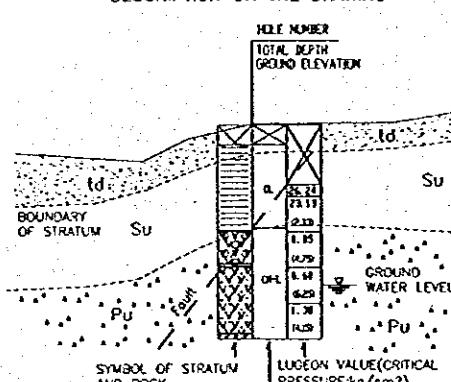
NO.	DATE	REVISIONS	COORDINATED	DESIGNED	APPROVED



LEGEND

SYMBOLS OF ROCKS IN DRILLING LOG

DESCRIPTION ON THE DRAWINGS



NOTE

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
 2. FOR SYMBOLS OF ROCKS AND ROCK CLASSIFICATION IN DRILLING LOG,
SEE DRAWING NO. JD-P1-GE-Pr-1.
 3. THIS GEOLOGICAL PROFILE IS ONLY FOR REFERENCE.

REFERENCE DRAWINGS

JD-P1-GE-PI-2 GEOLOGICAL MAP AT DANSITE
JD-P1-GE-Pr-1 GEOLOGICAL PROFILE ALONG DAM AXIS

A scale bar with markings at 0, 25, and 50m.

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DISASTER MITIGATION CHEMICAL WASTE MANAGEMENT	PROVINCE CENTRAL JAVA PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND
--	---

JATUNSELUA FLOOD CONTROL PROJECT
COMPONENT : JATIBARANG DAM CONSTRUCTION

GEOLOGY SEMARANG CITY
PAPUA-INDONESIA, 10-11-CE-Proj.

LOGICAL PROFILE ALONG CENTER LINE OF SPILLWAY

INTERNATIONAL COOPERATION AGENCY
FEDERAL BUREAU OF INVESTIGATION
U.S. DEPARTMENT OF JUSTICE
SHEET NO. 10

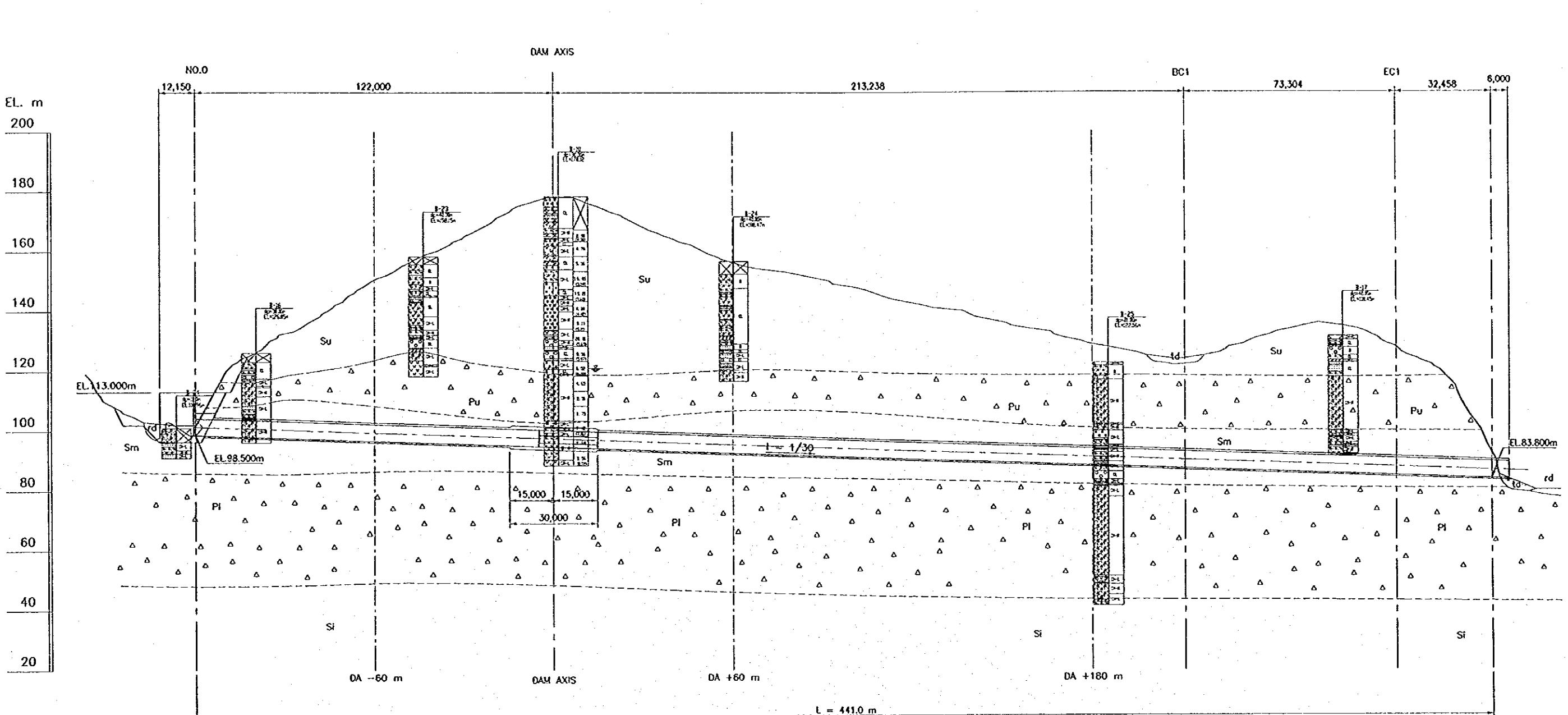
MEMORANDUM
RECORDED AND INDEXED
BY THE SECRETARY OF THE
GENERAL ASSEMBLY
ON BEHALF OF THE
SECRETARIAT

PARK INTERNATIONAL, INC. CREDITOR KJ LANGRISCH

CHIEF OF PLANNING AND DESIGN		
PROJECT MANAGER		

REVIEWER

[View Details](#) | [Edit](#) | [Delete](#)



GEOLOGICAL PROFILE ALONG CENTER LINE OF DIVERSION TUNNEL

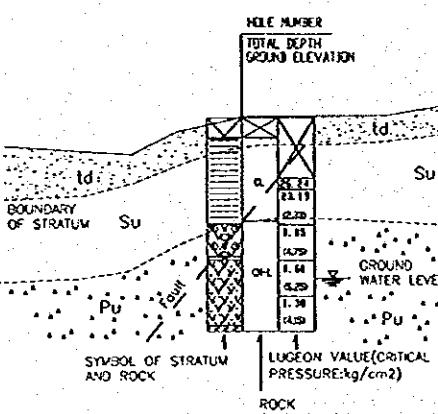
LEGEND

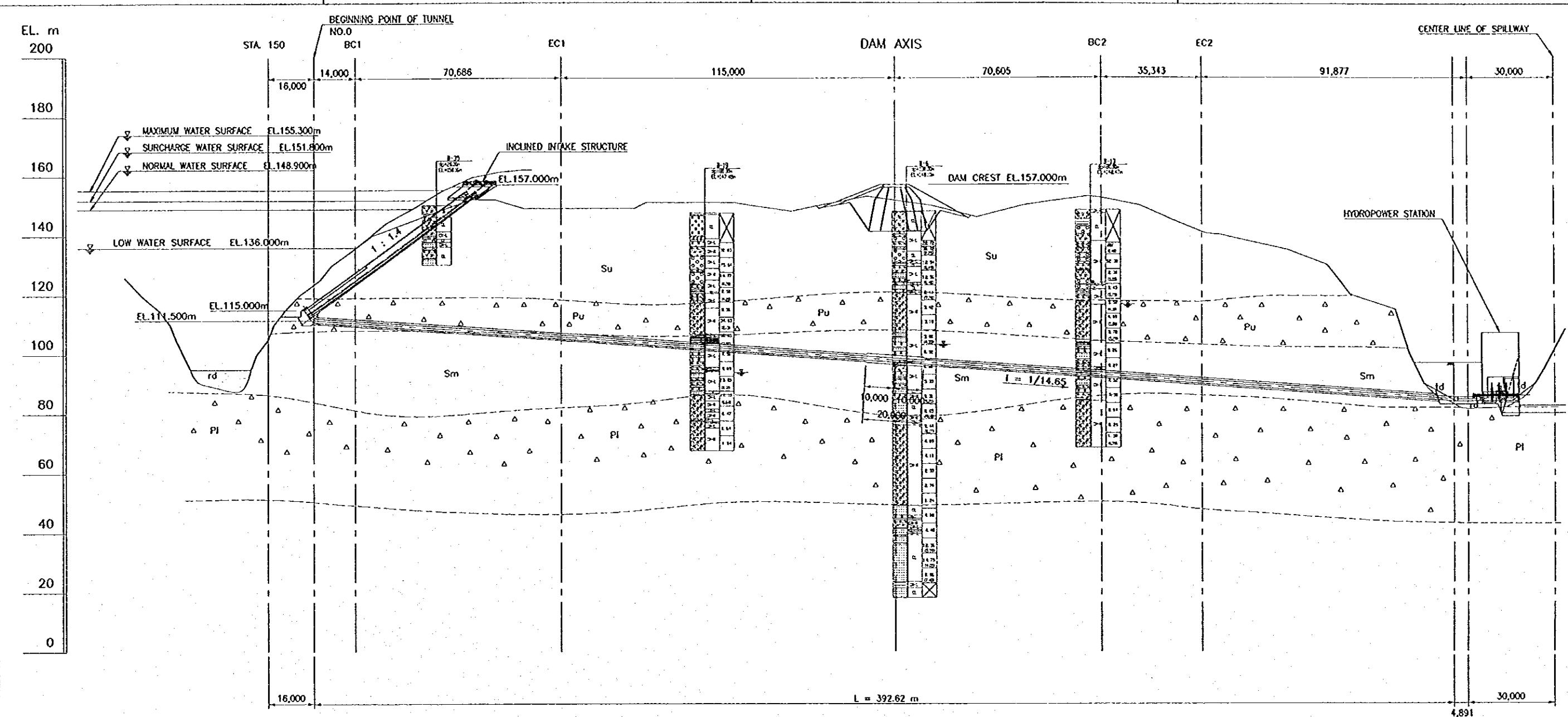
GEOLOGICAL STRATA		
Age	Symbol	Formation and Strata Name
Quaternary		Riverbed Deposit
		Talus Deposit
		Upper Sedimentary Rock Unit
		Upper Pyroclastic Rock Unit
		Middle Sedimentary Rock Unit
		Lower Pyroclastic Rock Unit
		Lower Sedimentary Rock Unit
Holocene		
Tertiary-Holocene		
Pliocene-Pleistocene		
Debris		

SYMBOLS OF ROCKS IN DRILLING LOG

Embankment	D	D Class
Top Soil	CL	CL-L Class
Riverbed Deposit	CM-L	CM-L Class
Talus Deposit	CM-H	CM-M Class
Conglomerate		
Conglomeratic Sandstone		
Sandstone		
Siltstone		
Tuffaceous Sandstone		
Sandy Tuff		
Tuff		
Volcanic Conglomerate		
Volcanic Breccia		
Andesite Lava		

DESCRIPTION ON THE DRAWING





GEOLOGICAL PROFILE ALONG CENTER LINE OF OUTLET TUNNEL

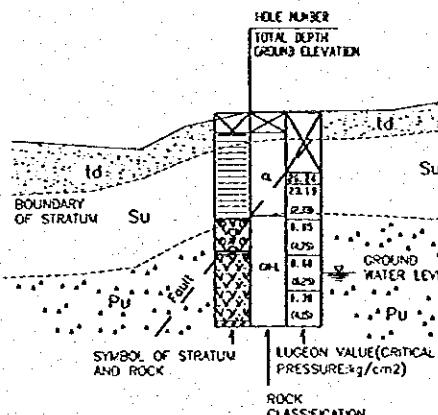
LEGEND

GEOLOGICAL STRATA			
Age	Symbol	Formation and Strata Name	
Quaternary		Riverbed Deposit	
Holocene		Talus Deposit	
Tertiary-Quaternary		Upper Sedimentary Rock Unit	Damor
Pliocene-Pleistocene		Upper Pyroclastic Rock Unit	
		Middle Sedimentary Rock Unit	
		Lower Pyroclastic Rock Unit	
		Lower Sedimentary Rock Unit	

SYMBOLS OF ROCKS IN DRILLING LOG

	Embankment	D	D Class
Top Soil	CL	CL-L	Class
Riverbed Deposit	CM-L	CM-L	Class
Talus Deposit	CM-H	CM-N	Class
Conglomerate			
Conglomeratic Sandstone			
Sandstone			
Siltstone			
Tuffaceous Sandstone			
Sandy Tuff			
Tuff			
Volcanic Conglomerate			
Volcanic Breccia			
Andesite Lava			

DESCRIPTION ON THE DRAWING



NOTES

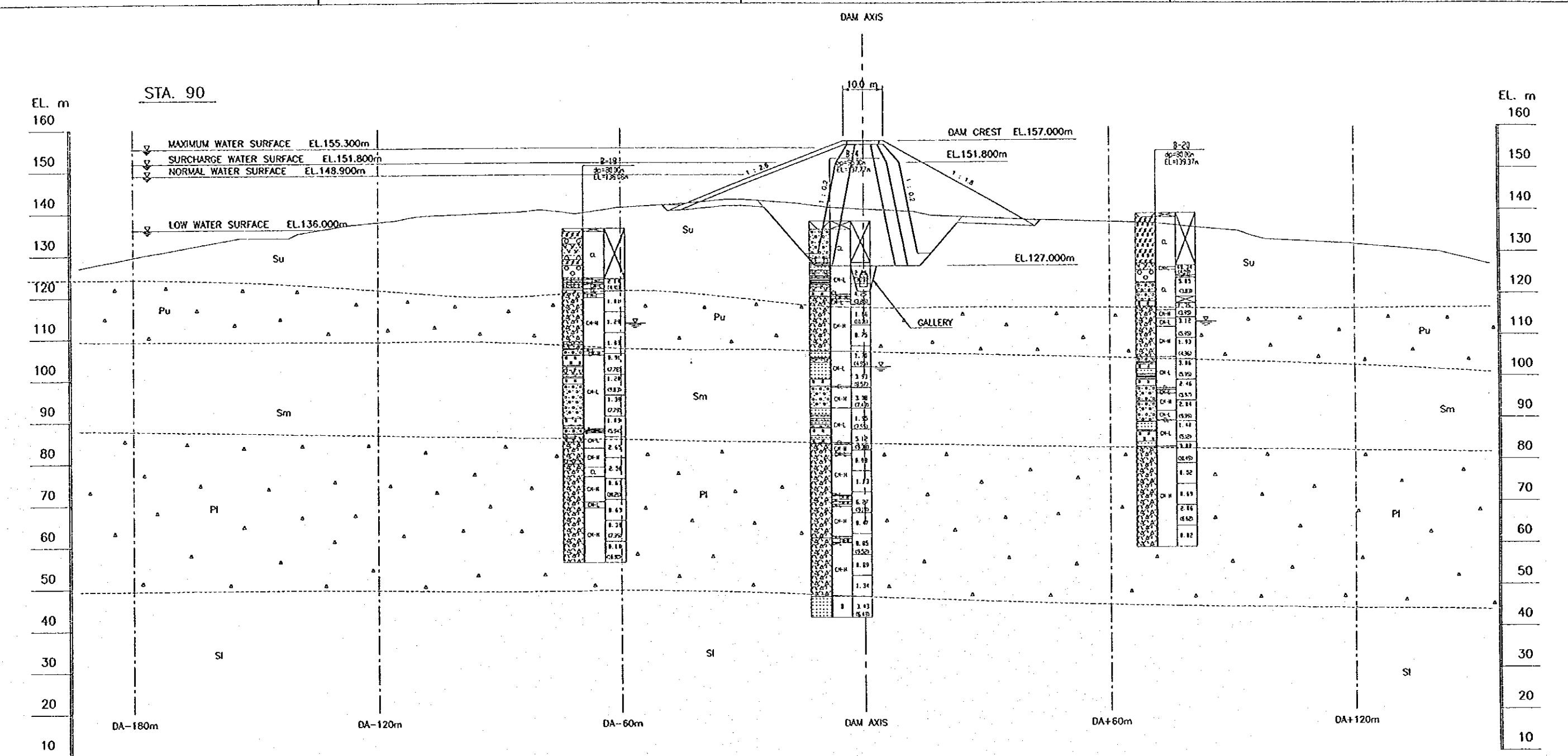
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 2. FOR SYMBOLS OF ROCKS AND ROCK CLASSIFICATION IN DRILLING LOG.
SEE DRAWING NO. JD-PI-GE-Pr-1.
 3. THIS GEOLOGICAL PROFILE IS ONLY FOR REFERENCE.

REFERENCE DRAWINGS

- JD-P1-GE-PI-2 GEOLOGICAL MAP AT DAM SITE
JD-P1-GE-Pr-1 GEOLOGICAL PROFILE ALONG DAM AXIS

SCALE 0 20 40 60 80m

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
JATI TUNSELUNA FLOOD CONTROL PROJECT COMPONENT : JATIRARANG DAM CONSTRUCTION		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
		DISTRICT SEMARANG CITY
		DRAWING NO. JD-PT-GE-Pr-8
		SECRET NO. 12
		DATE CONTRACT NO.
JAPAN INTERNATIONAL COOPERATION AGENCY CTC ENGINEERING CO. LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL TAKAHASHI ENGINEERS LTD.		DISPATCHED CHECKED <i>[Signature]</i>
APPROVED	CENTER OF PLANNING AND DESIGN PROJECT MANAGER <i>[Signature]</i>	



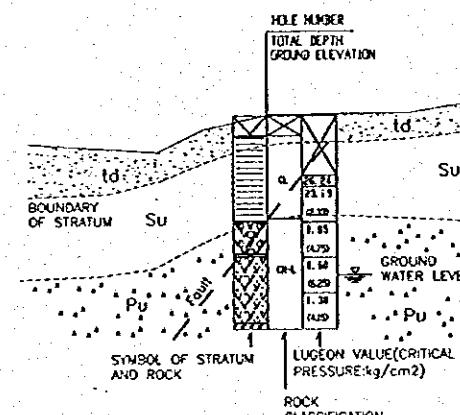
LEGEND

GEOLOGICAL STRATA		
Age	Symbol	Formation and Strata Name
Quaternary		Riverbed Deposit
Quaternary		Talus Deposit
Quaternary		Upper Sedimentary Rock Unit
Quaternary		Upper Pyroclastic Rock Unit
Quaternary		Middle Sedimentary Rock Unit
Quaternary		Lower Pyroclastic Rock Unit
Quaternary		Lower Sedimentary Rock Unit

SYMBOLS OF ROCKS IN DRILLING LOG		
Embankment	D	D Class
Top Soil	CL	CL-L Class
Riverbed Deposit	CM-L	CM-L Class
Talus Deposit	CM-H	CM-H Class
Conglomerate		
Conglomeratic Sandstone		
Sandstone		
Siltstone		
Tuffaceous Sandstone		
Sandy Tuff		
Tuff		
Volcanic Conglomerate		
Volcanic Breccia		
Andesite Lava		

ROCK CLASSIFICATION IN DRILLING LOG		
Classification	Characteristics	
D	Completely weathered to a reddish soil without remains of mother-rock texture. Very low cementation part in the boring core is observed like sand and gravel. Core recovery ratio ranges from 0 % to 50 %.	
CL	Moderately to highly weathered to a brown soil although remains of mother-rock texture. The mineral grains are not decomposed. Low cementation part in a boring core is observed like sand and gravel. Core recovery ratio is more than 70 %. Unconfined compressive strength is less than 10 kgf/cm ² .	
CM-L	Slightly weathered to fresh rock that consists of mainly tuff, tuffaceous sandstone, sandstone and conglomerate. Rock fragment is slightly soft. This class with moderate degree of cementation contains the fresh part and the relatively weathered part, but they have the almost same hardness. Unconfined compressive strength ranges between 10 and 65 kgf/cm ² .	
CM-H	Slightly weathered to fresh rock that consists of mainly volcanic breccia, conglomeratic sandstone and volcanic conglomerate. Rock fragment is relatively hard. This class with high degree of cementation contains the fresh part and the relatively weathered part, but they have the almost same hardness. Unconfined compressive strength ranges between 22 and 92 kgf/cm ² .	

DESCRIPTION ON THE DRAWING



NOTES

- 1. STA. 90 IS REFERRED FROM DRAWING NO. JD-P1-GE-PI-2.
- 2. THIS GEOLOGICAL SECTION IS ONLY FOR REFERENCE.

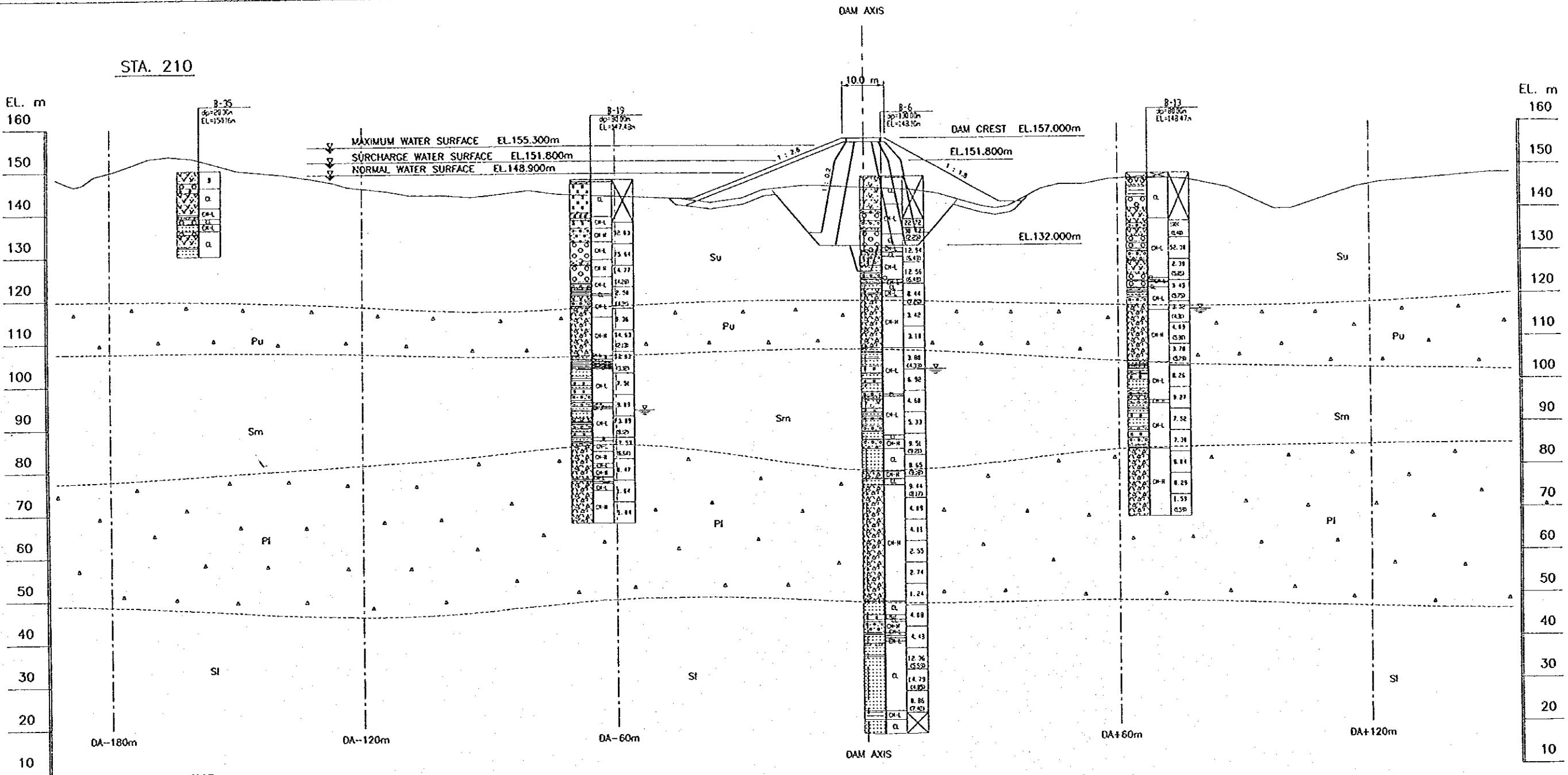
REFERENCE DRAWINGS

- JD-P1-GE-PI-2 GEOLOGICAL MAP AT DAMSITE
JD-P1-GE-Pr-1 GEOLOGICAL PROFILE ALONG DAM AXIS

SCALE 0 10 20 30 40 50m

THE REPUBLIC OF INDONESIA		PROVINCE			
MINISTRY OF PUBLIC WORKS		CENTRAL JAVA			
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT					
AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT					
IRATUNSELUNA FLOOD CONTROL PROJECT					
COMPONENT: JATIBARANG DAM CONSTRUCTION					
GEOLOGY					
GEOLOGICAL CROSS SECTION (STA. 90)					
JAPAN INTERNATIONAL COOPERATION AGENCY					
CPT CO., LTD. AND PAPUA					
PACIFIC CONSTRUCTORS INTERNATIONAL INC.					
TAICO INTERNATIONAL INC.					
CBOF OF PLANNING AND DESIGN					
PROJECT MANAGER					
NO.	DATE	REVISIONS	ORIGINATED	EDITED	APPROVED
APPROVED	DESIGNED	CR	DATE	CONTRACT NO.	

STA. 210



LEGEND

GEOLOGICAL STRATA		
Age	Symbol	Formation and Strata Name
Quaternary		Reverted Deposit
Holocene		Talus Deposit
Tertiary-Quaternary		Conglomerate
Phocene-Paleocene		Upper Sedimentary Rock Unit
		Conglomeratic Sandstone
		Sandstone
		Siltstone
		Tuff
		Volcanic Conglomerate
		Volcanic Breccia
		Andesite Lava

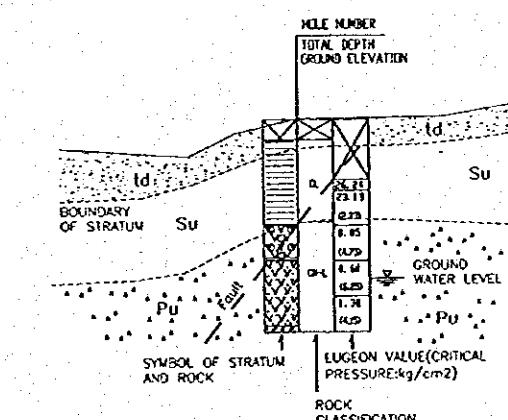
SYMBOLS OF ROCKS IN DRILLING LOG

Age	Symbol	Formation and Strata Name	D	D Class
Quaternary		Reverted Deposit	CL	CL-E Class
Holocene		Talus Deposit	CM-L	CM-L Class
Tertiary-Quaternary		Conglomerate	CM-H	CM-M Class
Phocene-Paleocene		Upper Sedimentary Rock Unit		
		Conglomeratic Sandstone		
		Sandstone		
		Siltstone		
		Tuff		
		Volcanic Conglomerate		
		Volcanic Breccia		
		Andesite Lava		

ROCK CLASSIFICATION IN DRILLING LOG

Classification	Characteristics
D	Completely weathered to a reddish soil without remains of mother-rock texture. Very low cementation part in the boring core is observed like sand and gravel. Core recovery ratio ranges from 0 % to 50 %.
CL	Moderately to highly weathered to brown soil although remains of mother-rock texture. The mineral grains are not decomposed. Low cementation part in a boring core is observed like sand and gravel. Core recovery ratio is more than 70 %. Unconfined compressive strength is less than 10 kg/cm ² .
CM-L	Slightly weathered to fresh rock that consists of mainly tuff, tuffaceous sandstone, sandstone and conglomerate. Rock fragment is slightly soft. This class with moderate degree of cementation contains the fresh part and the relatively weathered part, but they have the almost same hardness. Unconfined compressive strength ranges between 10 and 65 kg/cm ² .
CM-H	Slightly weathered to fresh rock that consists of mainly volcanic breccia, conglomeratic sandstone and volcanic conglomerate. Rock fragment is relatively hard. This class with high degree of cementation contains the fresh part and the relatively weathered part, but they have the almost same hardness. Unconfined compressive strength ranges between 22 and 92 kg/cm ² .

DESCRIPTION ON THE DRAWING



NOTES

1. STA. 210 IS REFERRED FROM DRAWING JD-P1-GE-PI-2.
2. THIS GEOLOGICAL SECTION IS ONLY FOR REFERENCE.

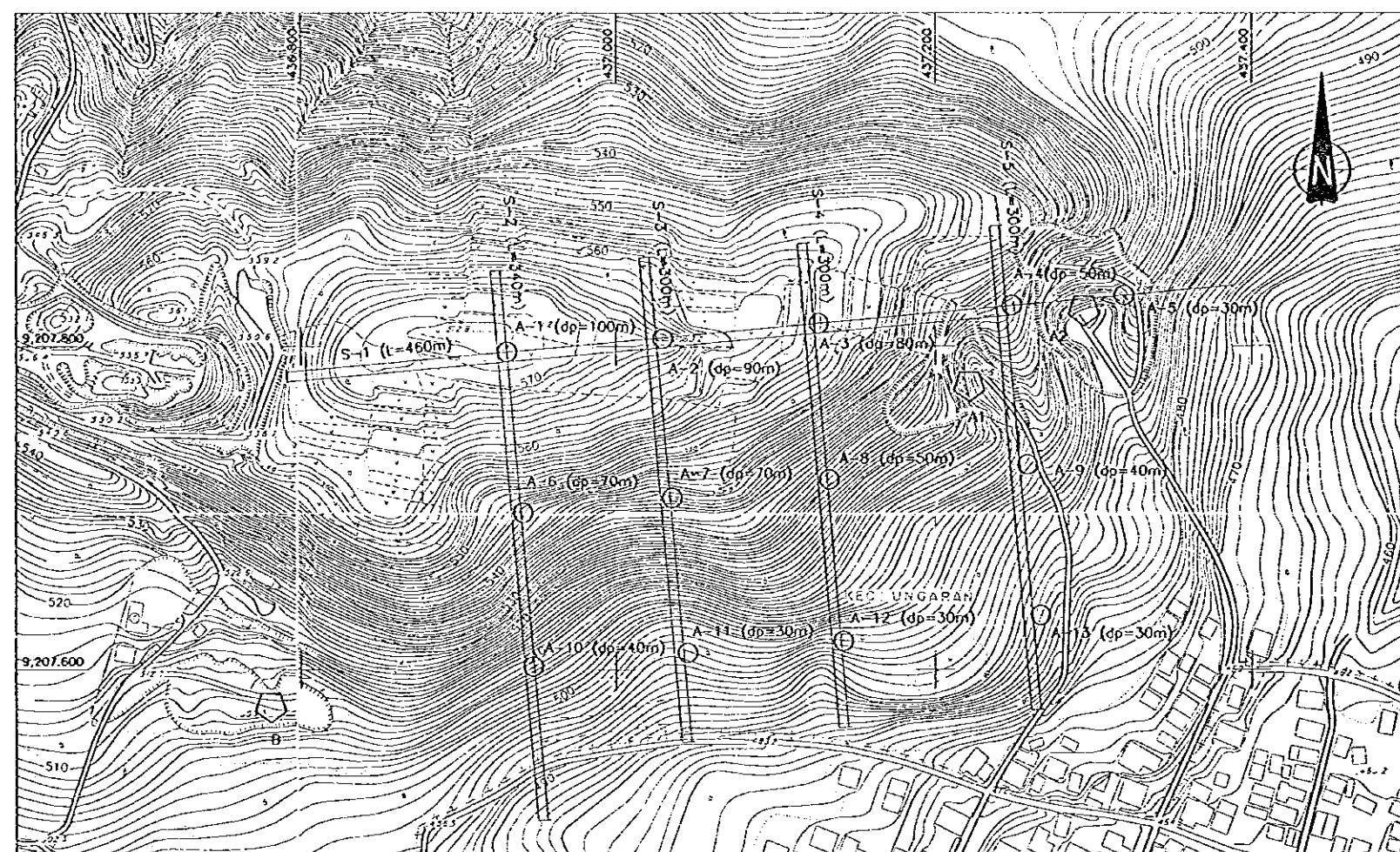
REFERENCE DRAWINGS

- JD-P1-GE-PI-2 GEOLOGICAL MAP AT DAM SITE
JD-P1-GE-Pr-1 GEOLOGICAL PROFILE ALONG DAM AXIS

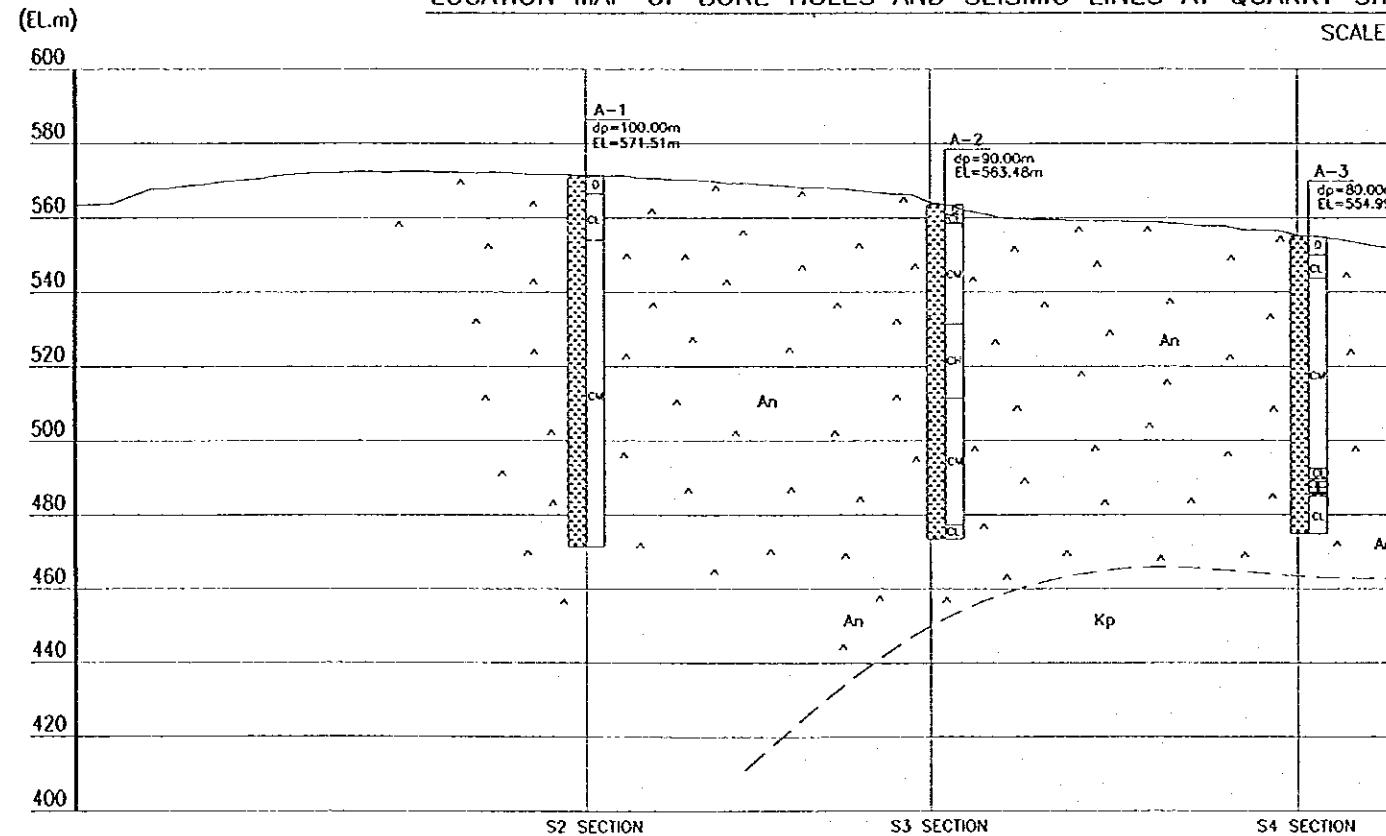
SCALE 0 10 20 30 40 50m

NO.	DATE	KEYWORD	COORDINATE	DRAWN BY	APPROVED

THE REPUBLIC OF INDONESIA		PROVINCE
MINISTRY OF PUBLIC WORKS		CENTRAL JAVA
DEPARTMENT OF GENERAL OF WATER RESOURCES DEVELOPMENT		PROJECT NAME
AND DEPARTMENT OF HUMAN SETTLEMENT		FLOOD CONTROL, URBAN DRAINAGE AND
JATIBARANG FLOOD CONTROL PROJECT		WATER RESOURCES DEVELOPMENT AND
COMPONENT: JATIBARANG DAM CONSTRUCTION		REHABILITATION IN THE MURKOK IN SUMATRA
GEOLGY		DATE
GEOLOGICAL CROSS SECTION (STA. 210)		SPALANG CITY
DRAWING NO. JD-P1-GE-CI-3		DRAWN BY
SHEET NO. 15		CHECKED
DATE		APPROVED
CROSS OF PLANNING AND DESIGN		CONTRACT NO.
PRODUCT NUMBER		



LOCATION MAP OF BORE HOLES AND SEISMIC LINES AT QUARRY SITE



GEOLOGICAL PROFILE ALONG S1 LINE

SCALE B

NOTES

1. THIS GEOLOGICAL PROFILE IS ONLY FOR REFERENCE.

REFERENCE DRAWINGS

JD-P1-GD-PI-5 QUARRY AREA MAP
JD-P1-GE-Qu-2 GEOLOGICAL PROFILE AT QUARRY

LEGEND

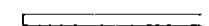
GEOLOGICAL STRATA

Age	Formation and Strata Name	Symbol	Description
Tertiary - Quaternary	Andesite	An	Andesite consists of sheet or dike, which is mainly composed Plagioclase, Pyroxene and Ore minerals, and shows dark gray. But it was changed in quality partly by the hydrothermal alteration, and secondary minerals that consists of Chlorite, Mordomite and Ilite were formed, and show greenish light gray. The hardness of rock is comparatively high, and the bedrock has cracks with the interval of 10 to 200 cm.
Pliocene - Pleistocene	Kaligatos	Kp	Pyroclastic rock mainly consists of volcanic breccia and partly contains mafic tuff and andesite lava. Volcanic breccia contains fragments of andesite and pumice, and matrix consists of mafic tuff. Rocks are weathered strongly, so hardness of rocks is very soft. This stratum is covered by andesite sheet.
	Pyroclastic Rock		

HOLE NUMBER (TOTAL DEPTH)



LINE NAME (TOTAL LENGTH)



SEISMIC LINE

SAMPLE NUMBER



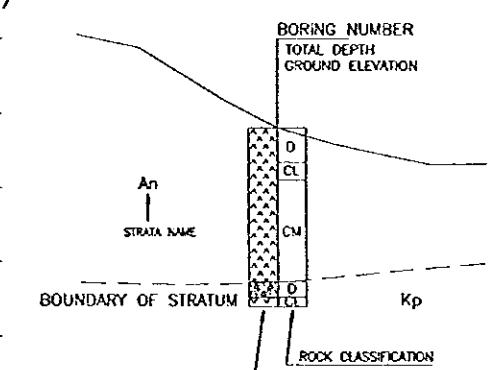
SYMBOLS OF ROCKS IN DRILLING LOG

Classification	Characteristics
D	Completely weathered and very soft. Discrimination of cracks is impossible.
CL	Drilling cores are deeply weathered, discolored to brown or reddish brown. Saturated surface-dry density shows around 2.2 g/cm³.
CM	Almost of cores are fresh and hard. Saturated surface-dry density shows around 2.6 g/cm³.
CH	Almost of cores are fresh and hard. Rocks are composed of finer grain mineral than CM class. Saturated surface-dry density shows around 2.7 g/cm³.

ROCK CLASSIFICATION IN DRILLING LOG

Classification	Characteristics
D	Completely weathered and very soft. Discrimination of cracks is impossible.
CL	Drilling cores are deeply weathered, discolored to brown or reddish brown. Saturated surface-dry density shows around 2.2 g/cm³.
CM	Almost of cores are fresh and hard. Saturated surface-dry density shows around 2.6 g/cm³.
CH	Almost of cores are fresh and hard. Rocks are composed of finer grain mineral than CM class. Saturated surface-dry density shows around 2.7 g/cm³.

DESCRIPTION ON THE DRAWING



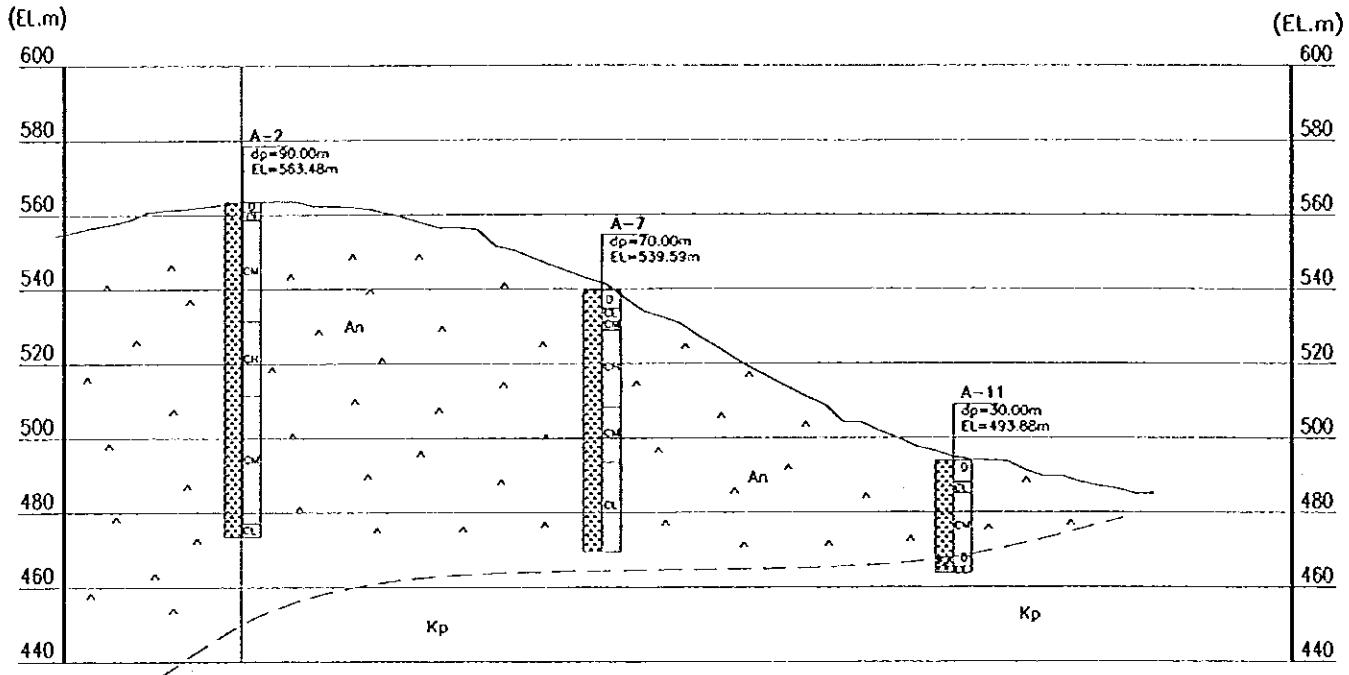
SCALE A

0 40 80 120 160 200m

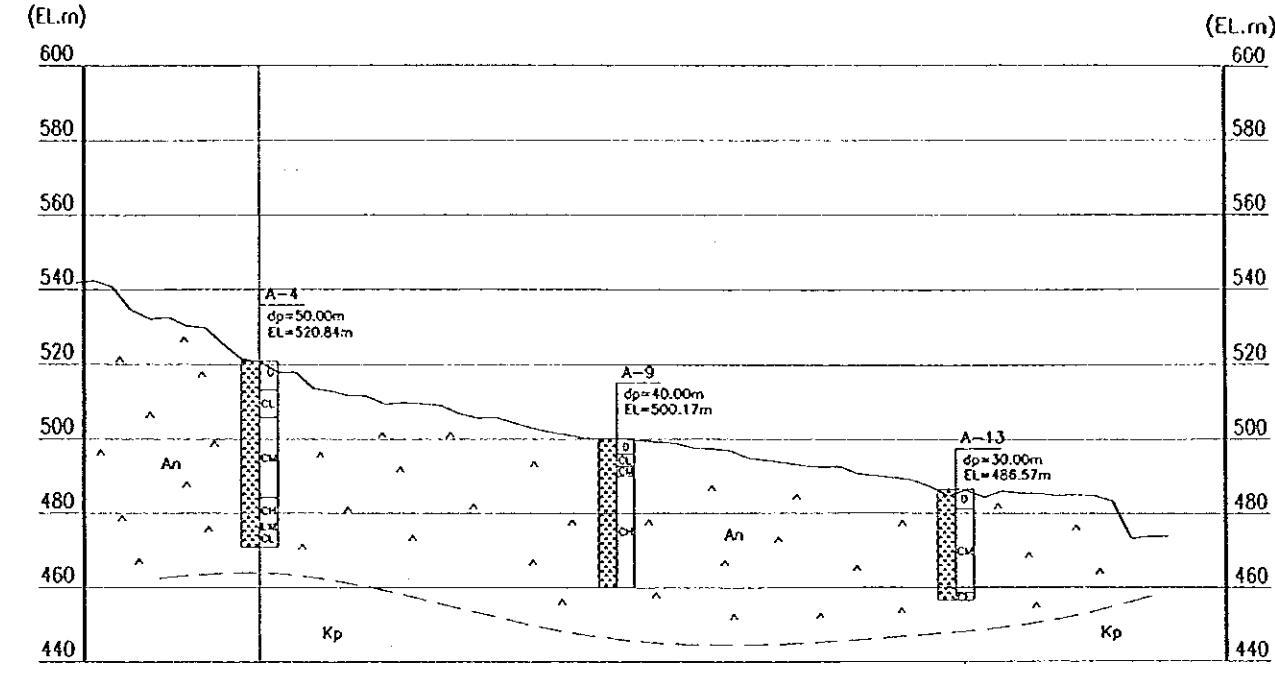
SCALE B

0 20 40 60 80 100m

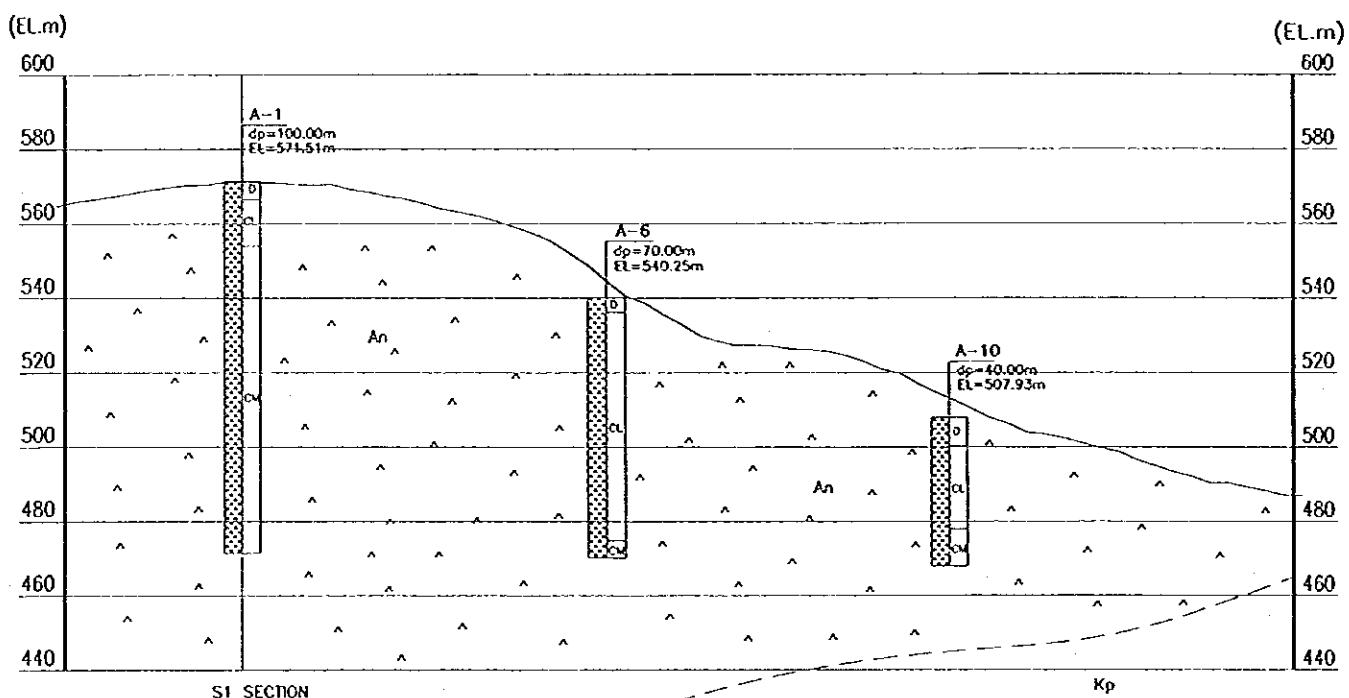
		THE REPUBLIC OF INDONESIA									
		MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT									
		JATIMSELUNA FLOOD CONTROL PROJECT									
		COMPONENT : JATIBARANG DAM CONSTRUCTION									
GEOLOGY											
LOCATION MAP OF DRILLINGS AND GEOLOGICAL PROFILE AT QUARRY											
		DAI INTERNATIONAL COOPERATION AGENCY CIVIL ENGINEERING & CONSTRUCTION PACIFIC CONSULTANTS INTERNATIONAL PACIFIC INTERNATIONAL INC.		DESIGNED OCCUPIED		APPROVED		APPROVED		APPROVED	
		CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		M.	
NO. DATE		DIVISIONS		ORIGINATED		DESIGNED		APPROVED		APPROVED	



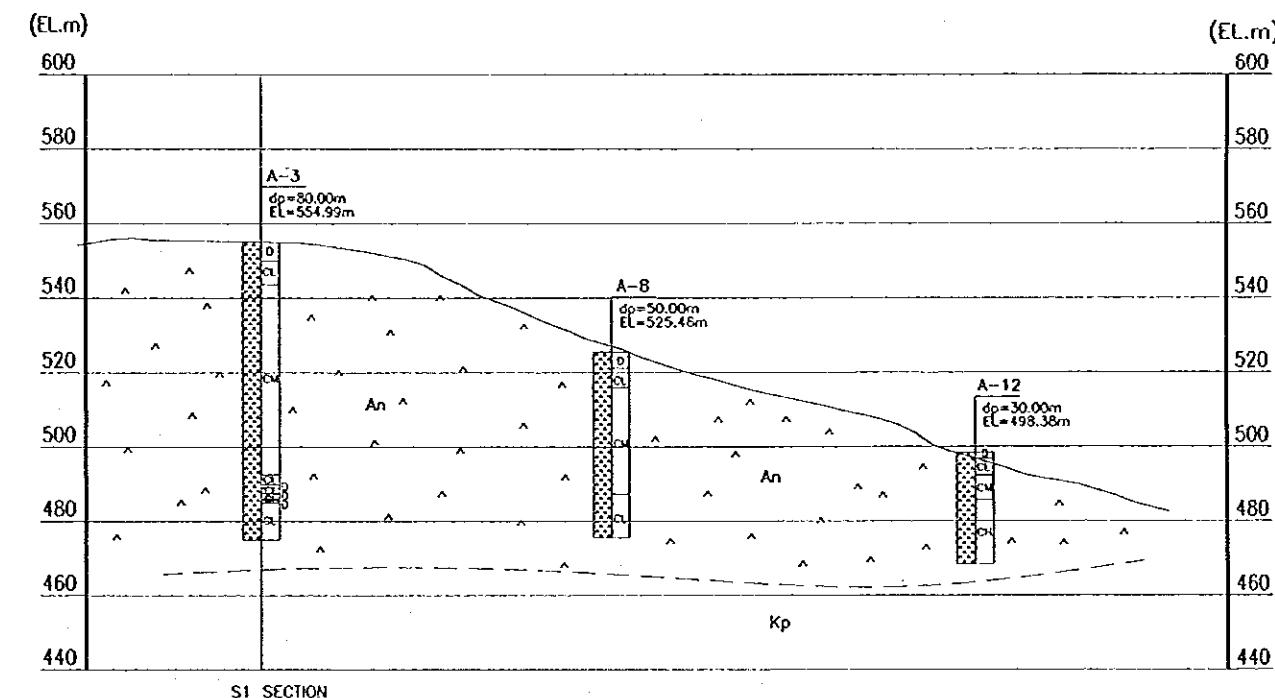
GEOLOGICAL PROFILE ALONG S3 LINE



GEOLOGICAL PROFILE ALONG S5 LINE



GEOLOGICAL PROFILE ALONG S2 LINE



GEOLOGICAL PROFILE ALONG S4 LINE

DESCRIPTION ON THE DRAWING

BORING NUMBER
TOTAL DEPTH
GROUND ELEVATION

An
STRATA NAME
Boundary of stratum
SYMBOL OF STRATUM
Kp
ROCK CLASSIFICATION

SYMBOLS OF ROCKS IN DRILLING LOG

	An	Andesite Sheet
	Kp	Pyroclastic Rock
	Lo	Andesite Lava

ROCK CLASSIFICATION IN DRILLING LOG

Classification	Characteristics
D	Completely weathered and very soft. Dissemination of cracks is impossible.
CL	Drilling cores are deeply weathered, discolored to brown or reddish brown. Saturated surface-dry density shows around 2.2 g/cm ³ .
CM	Almost of cores are fresh and hard. Saturated surface-dry density shows around 2.6 g/cm ³ .
CH	Almost of cores are fresh and hard. Rocks are composed of finer grain mineral than CM class. Saturated surface-dry density shows around 2.7 g/cm ³ .

NOTES

1. UNES ARE REFERRED FROM DRAWING NO. JD-P1-GE-Qu-1.
2. THE GEOLOGICAL PROFILES ARE ONLY FOR REFERENCE.

REFERENCE DRAWINGS

JD-P1-GD-PI-5 QUARRY AREA MAP

JD-P1-CE-Qu-1 LOCATION MAP OF DRILLINGS AND GEOLOGICAL PROFILE AT QUARRY

SCALE 0 20 40 60 80 100m

		THE REPUBLIC OF INDONESIA		PROYECT CENTRAL JAVA	
		MINISTRY OF PUBLIC WORKS		PROJECT NAME: FLOOD CONTROL, URBAN PLANNING AND WATER RESOURCES DEVELOPMENT IN SEMARANG CITY	
		DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		TRATUNSELINA FLOOD CONTROL PROJECT	
				COMPONENT: JATIBARANG DAM CONSTRUCTION	
				GEOLOGY	
				GEOLOGICAL PROFILE AT QUARRY	
				DRAWING NO. JD-P1-GE-Qu-2	
				SHEET NO. 16-2	
				DATE / CONTRACT NO.	
				DESIGNED BY:	
				CHECKED BY:	
				APPROVED BY:	
				COPY OF PLANNING AND DESIGN	
				PROJECT MANAGER	