

Bore Hole No. : B - 27
Location : Dam site
Ground Elevation : EL. 136.65 m
Total Depth : 88 m
Depth : 35 ~ 70 m

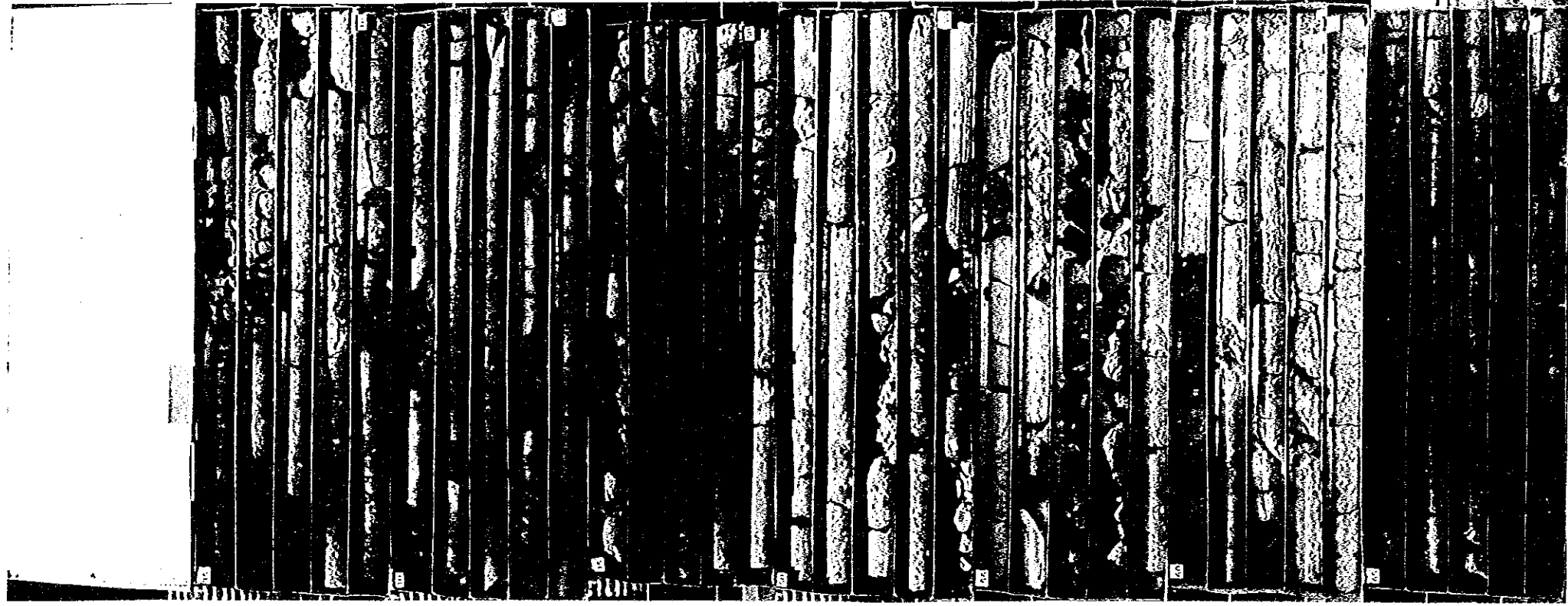


Photo 1.1.24 Drilling Core Photograph of Bore Hole No. B - 27 (2 of 3)

Bore Hole No. : B - 27
Location : Dam site
Ground Elevation : EL. 136.65 m
Total Depth : 88 m
Depth : 70 ~ 88 m

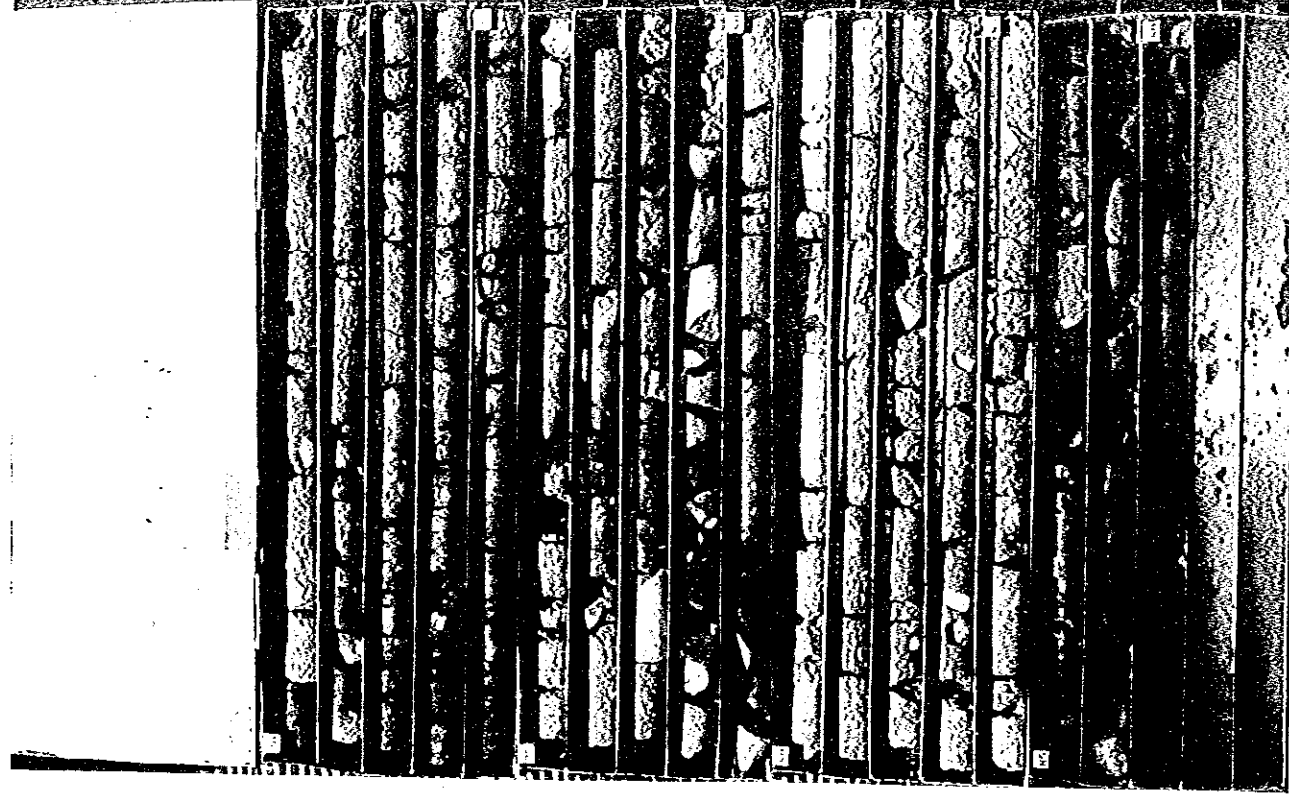


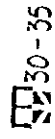
Photo 1.1.24 Drilling Core Photograph of Bore Hole No. B - 27 (3 of 3)

Bore Hole No. : B-28
 Location : Damsite
 Ground Elevation : EL. 128.774 m
 Total Depth : 115 m
 Depth : 0 ~ 30 m

ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA



BORE HOLE NO. : B-28
 LOCATION : DAM SITE
 TOTAL DEPTH : 115 m
 DATE : AUGUST 1998



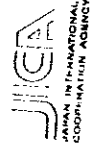
0 10 20 30 40 50 60 70
 24 9 1998



Photo 1.1.25 Drilling Core Photograph of Bore Hole No. B-28 (1 of 4)

Bore Hole No. : B-28
 Location : Damsite
 Ground Elevation : EL. 128.774 m
 Total Depth : 115 m
 Depth : 30 ~ 60 m

ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA



BORE HOLE NO. : B-28
 LOCATION : DAM SITE
 TOTAL DEPTH : 115 m
 DATE : AUGUST 1998



10 20 30 40 50 60 70
 24 9 1998

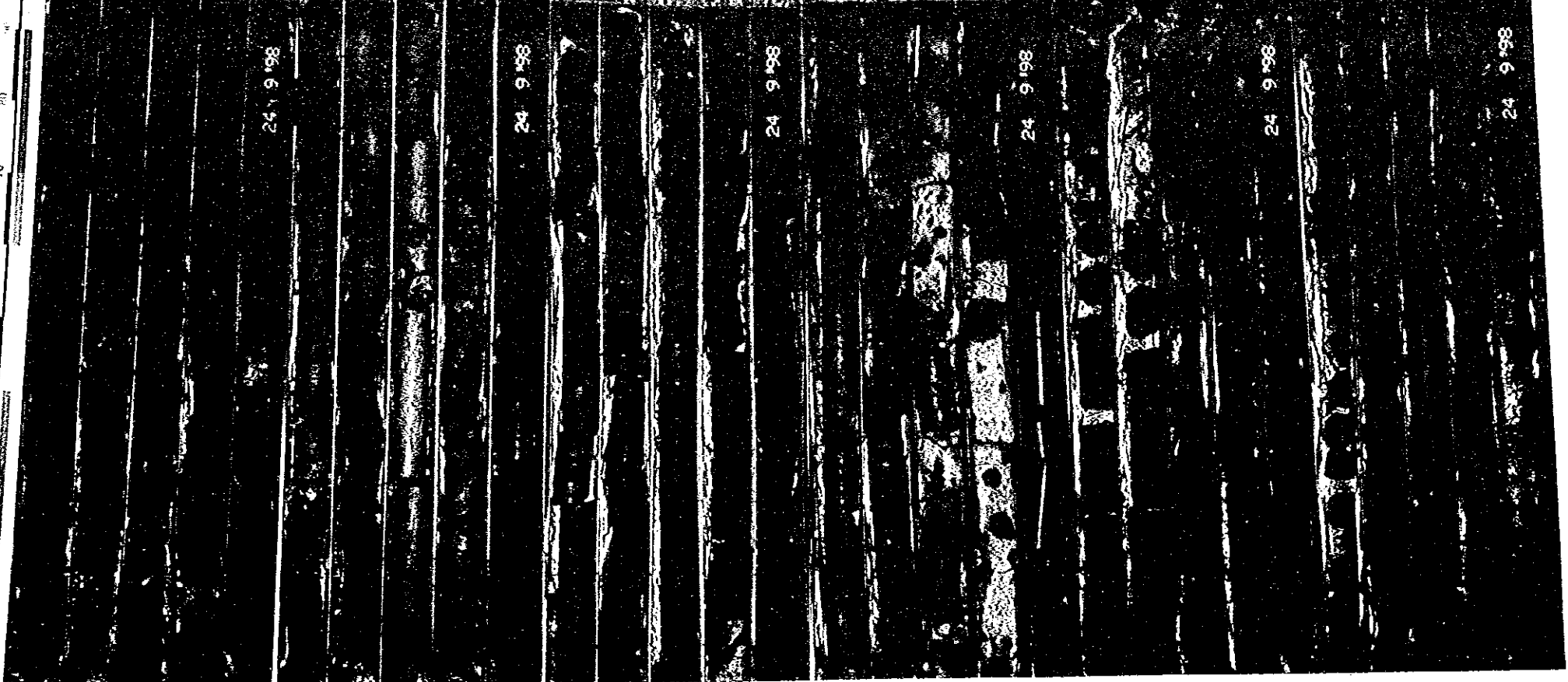


Photo 1.1.25 Drilling Core Photograph of Bore Hole No. B-28 (2 of 4)

Bore Hole No. : B-28
 Location : Damsite
 Ground Elevation : EL. 128.774 m
 Total Depth : 115 m
 Depth : 60 ~ 90 m

ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA



JAPAN INTERNATIONAL
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BORE HOLE NO. : B-28
 LOCATION : DAM SITE
 TOTAL DEPTH : 115 m
 DATE : AUGUST 1998

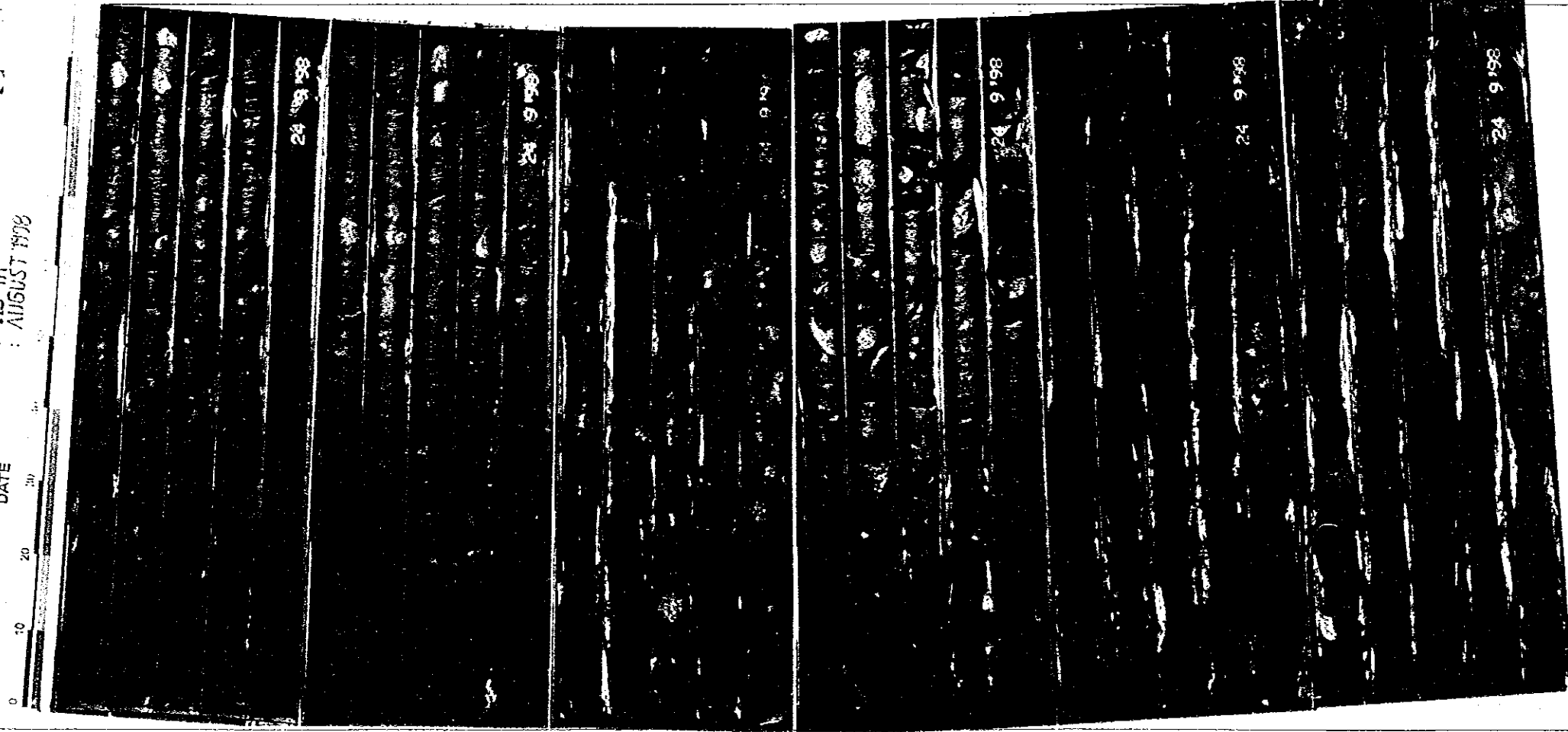
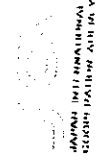


Photo 1.1.25 Drilling Core Photograph of Bore Hole No. B - 28 (3 of 4)

Bore Hole No. : B-28
 Location : Damsite
 Ground Elevation : EL. 128.774 m
 Total Depth : 115 m
 Depth : 90 ~ 115 m

FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA



JAPAN INTERNATIONAL
 COOPERATION AGENCY

BORE HOLE NO. : B-28
 LOCATION : DAM SITE
 TOTAL DEPTH : 115 m
 DATE : AUGUST 1998

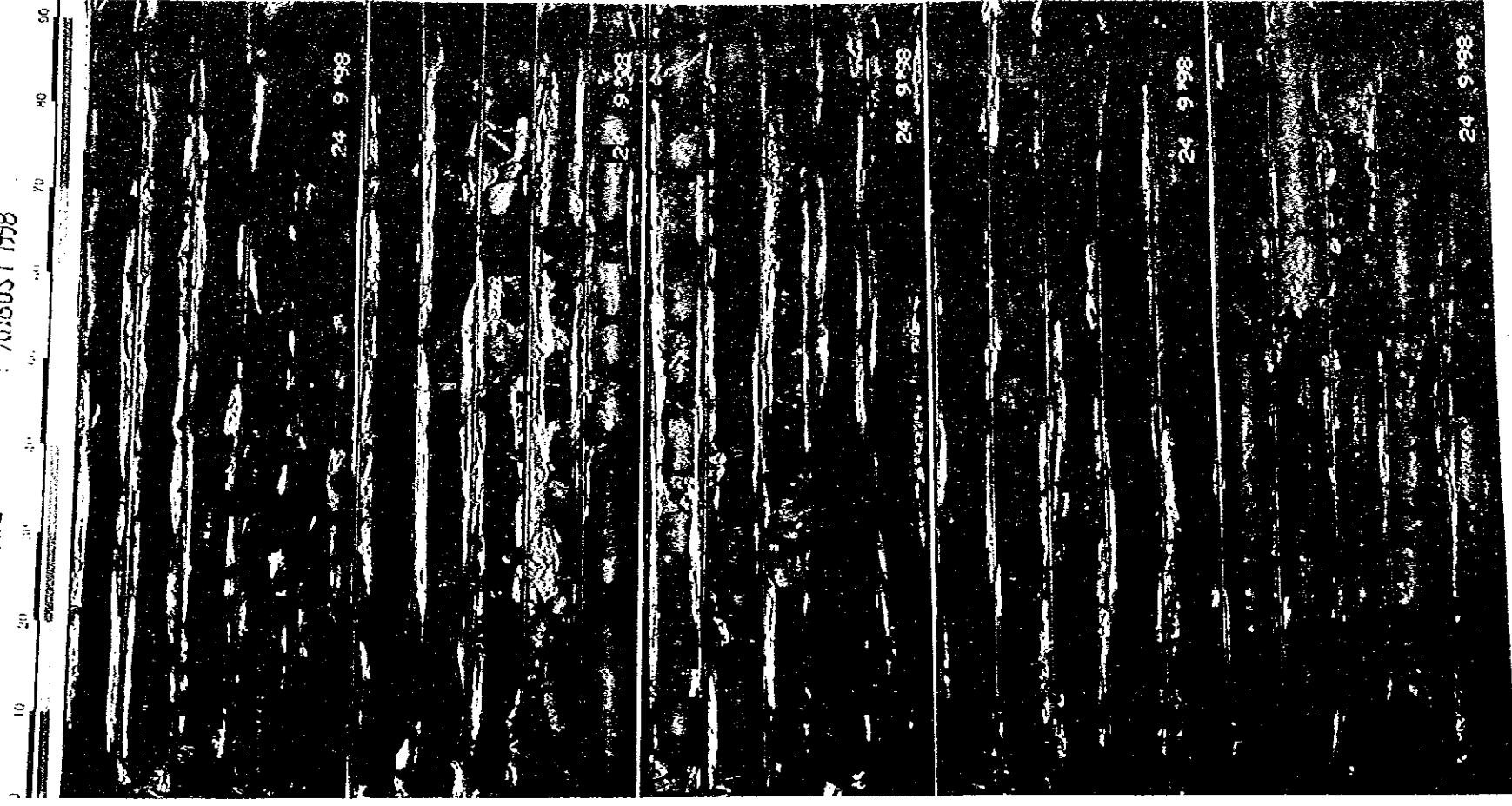


Photo 1.1.25 Drilling Core Photograph of Bore Hole No. B - 28 (4 of 4)

Bore Hole No. : B-29
 Location : Damsite
 Ground Elevation : EL. 93.752 m
 Total Depth : 80 m
 Depth : 0 ~ 30 m

ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

BORE HOLE NO. : B-29
 LOCATION : DAM SITE
 TOTAL DEPTH : 80.00 m
 DATE : 29 9 1988

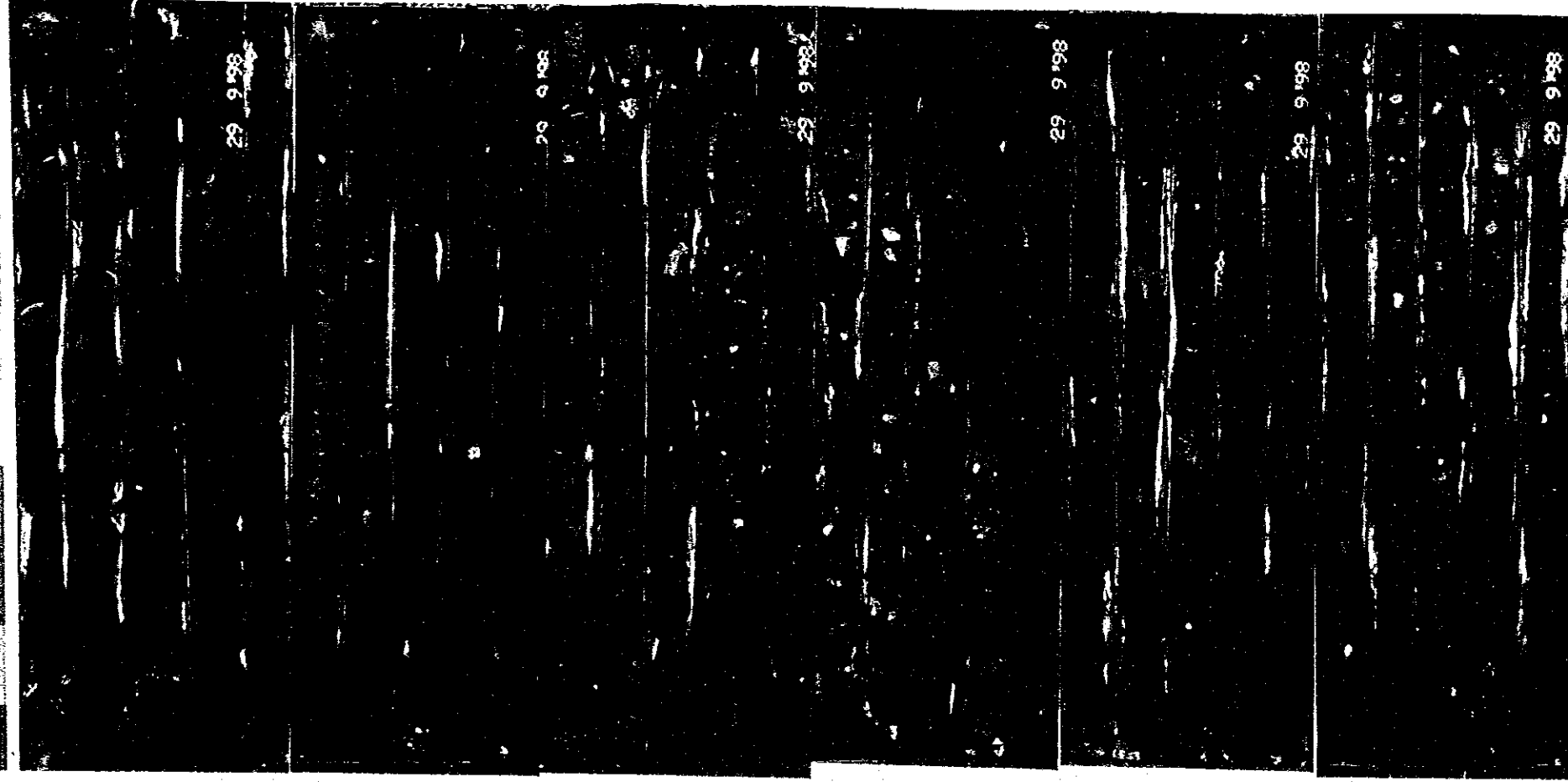


Photo 1.1.26 Drilling Core Photograph of Bore Hole No. B - 29 (1 of 3)

Bore Hole No. : B-29
 Location : Damsite
 Ground Elevation : EL. 93.752 m
 Total Depth : 80 m
 Depth : 30 ~ 60 m

ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

BORE HOLE NO. : B-29
 LOCATION : DAM SITE
 TOTAL DEPTH : 80.00 m
 DATE : 29 9 1988

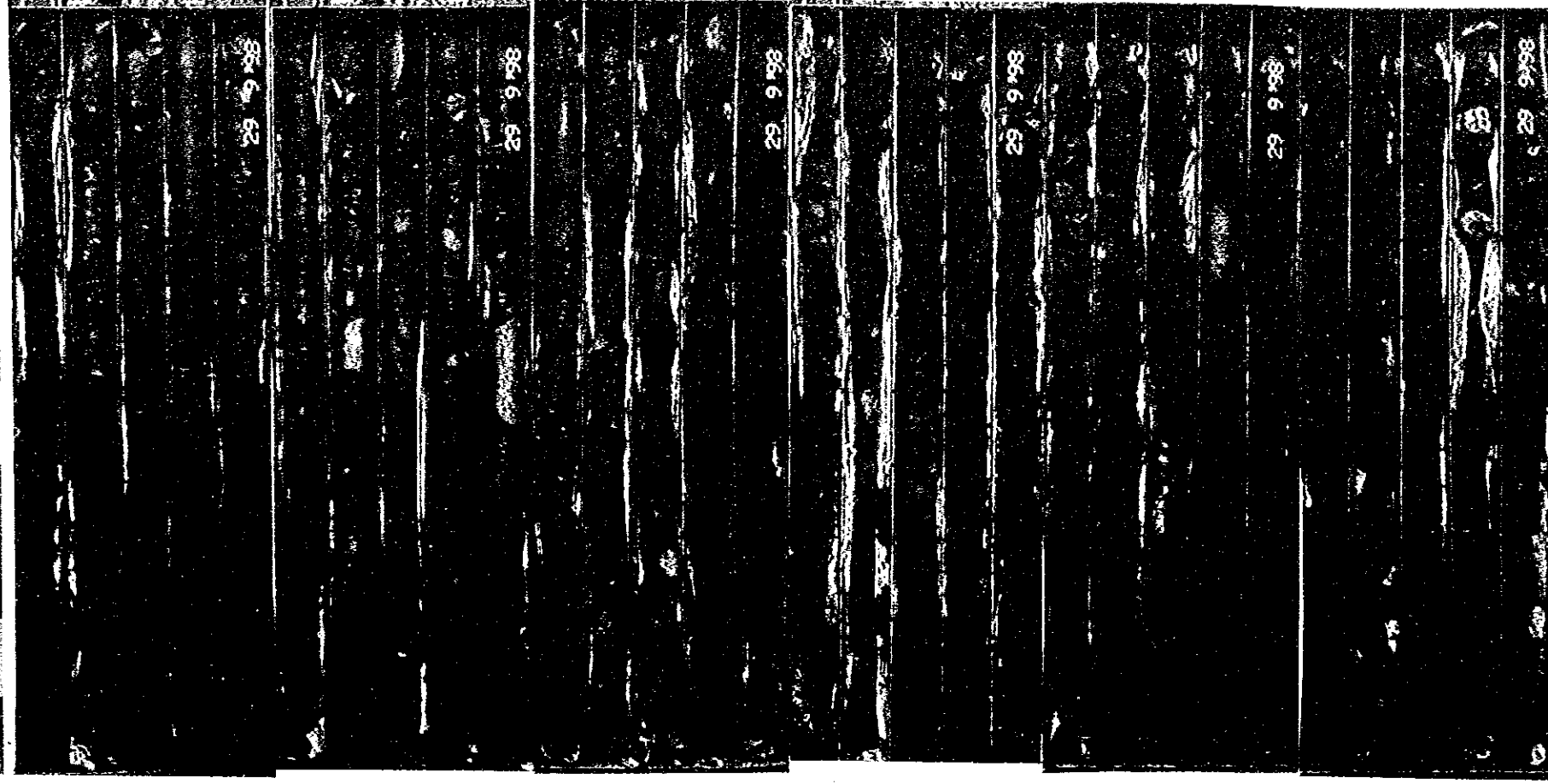


Photo 1.1.26 Drilling Core Photograph of Bore Hole No. B - 29 (2 of 3)

Bore Hole No. : B-29
 Location : Damsite
 Ground Elevation : EL. 93.752 m
 Total Depth : 80 m
 Depth : 60 ~ 80 m

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ADDITIONAL GEOLOGICAL SURVEY
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 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

BORE HOLE NO. : B-29
 LOCATION : DAM SITE
 TOTAL DEPTH : 80.00 m
 DATE : 29 9 1988

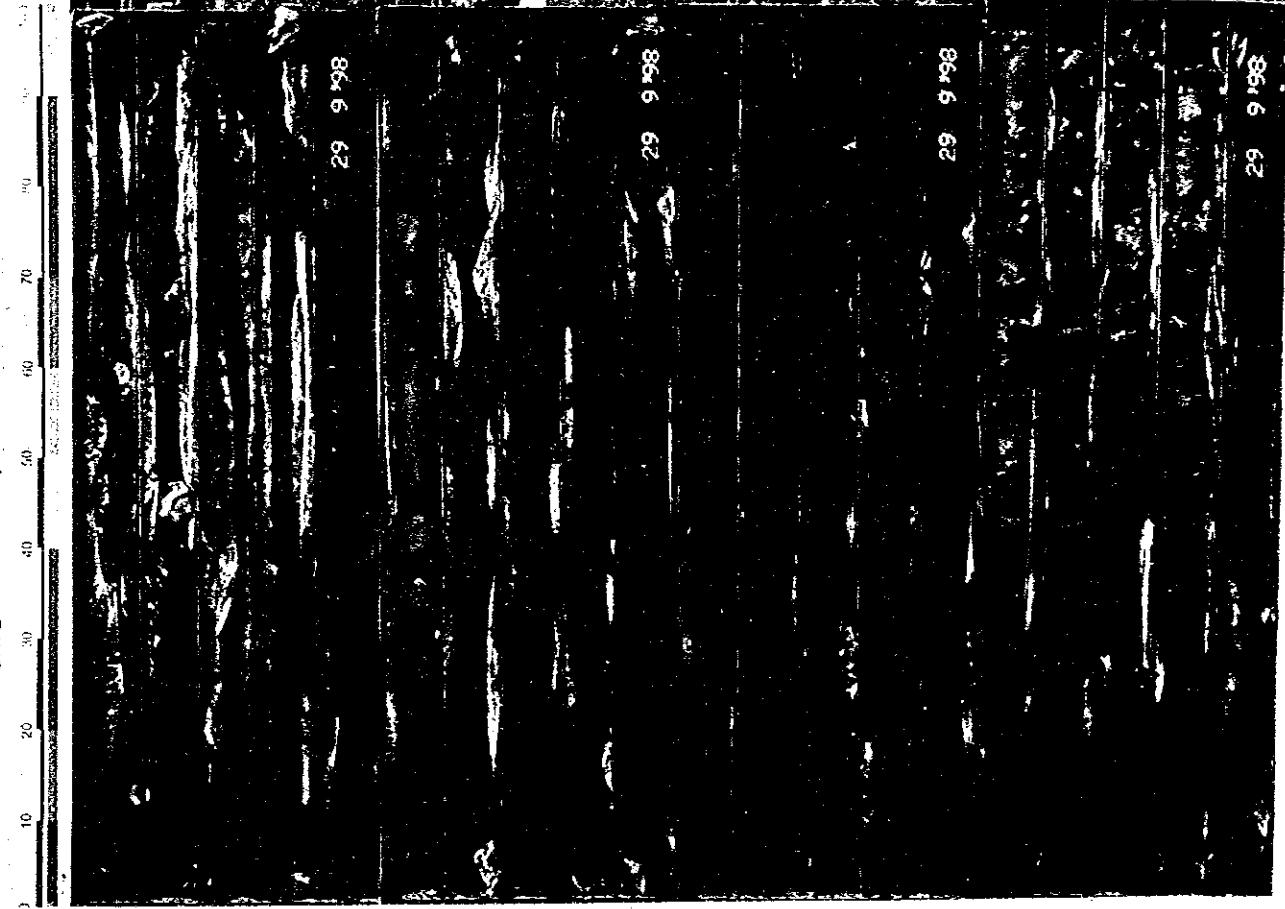


Photo 1.1.26 Drilling Core Photograph of Bore Hole No. B - 29 (3 of 3)

Bore Hole No. : B-30
 Location : Damsite
 Ground Elevation : EL. 134.949 m
 Total Depth : 125 m
 Depth : 0 ~ 30 m

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ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

BORE HOLE NO. : B-30
 LOCATION : DAM SITE
 TOTAL DEPTH : 125 M
 DATE : 17 10 1988

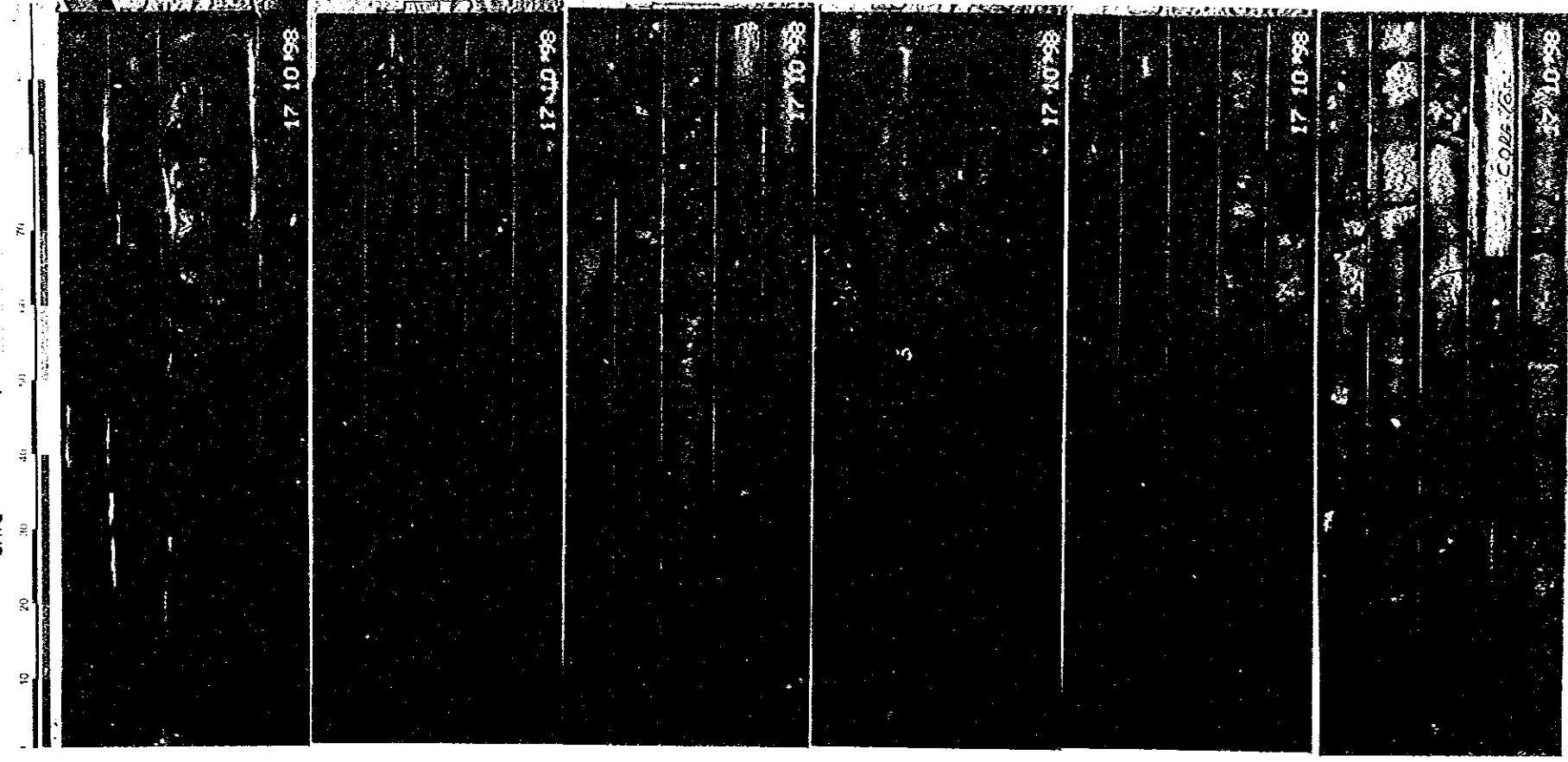


Photo 1.1.27 Drilling Core Photograph of Bore Hole No. B - 30 (1 of 4)

Bore Hole No. : B-30
 Location : Damsite
 Ground Elevation : EL. 134.949 m
 Total Depth : 125 m
 Depth : 30 ~ 60 m

ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

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 JAPAN INTERNATIONAL COOPERATION AGENCY

BORE HOLE NO. : B-30
 LOCATION : DAM SITE
 TOTAL DEPTH : 125 M
 DATE : 17 10 98

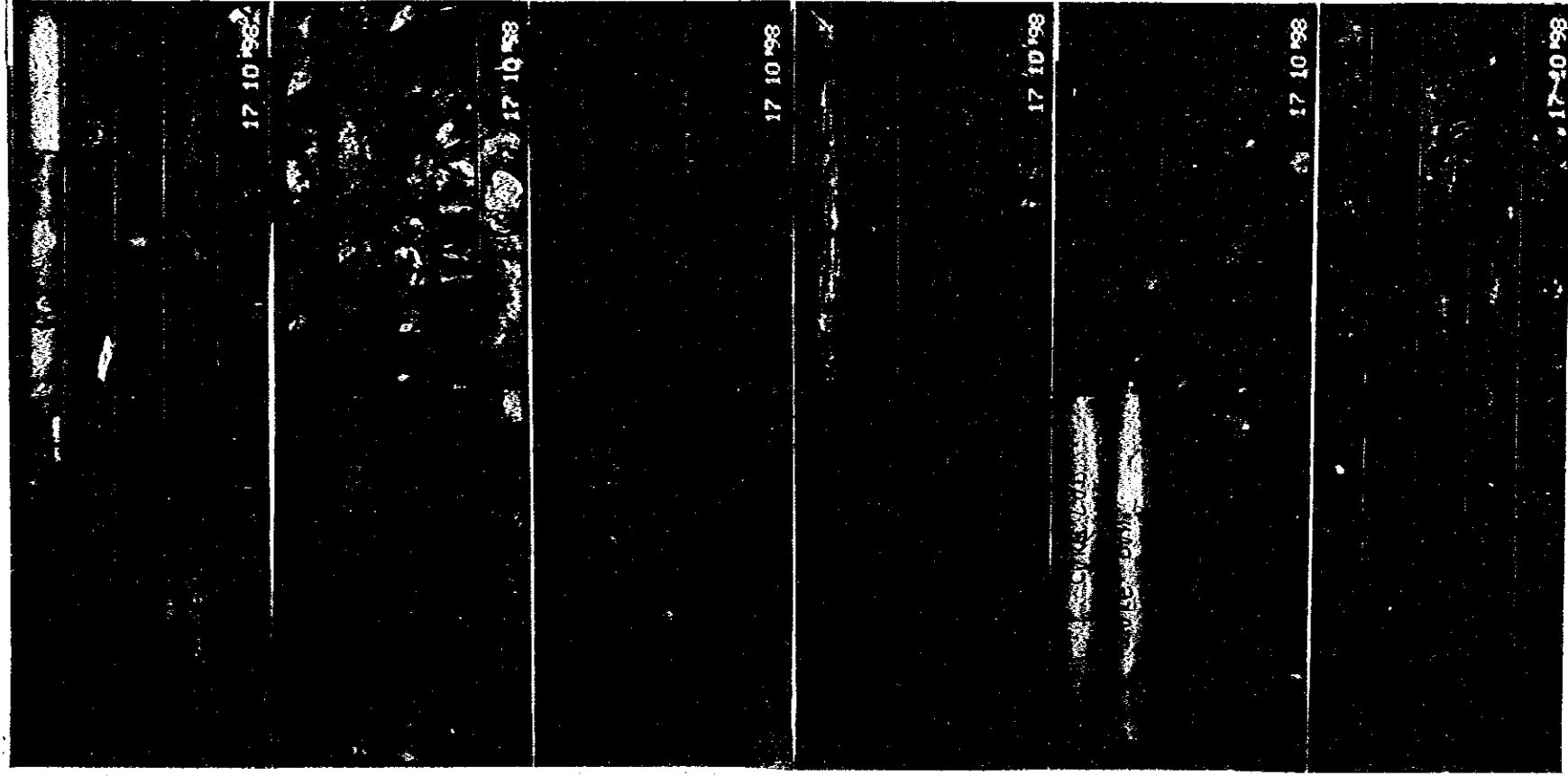


Photo 1.1.27 Drilling Core Photograph of Bore Hole No. B - 30 (2 of 4)

Bore Hole No. : B-30
 Location : Damsite
 Ground Elevation : EL. 134.949 m
 Total Depth : 125 m
 Depth : 60 ~ 90 m

ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

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 JAPAN INTERNATIONAL COOPERATION AGENCY

BORE HOLE NO. : B-30
 LOCATION : DAM SITE
 TOTAL DEPTH : 125 M
 DATE : 17 10 98

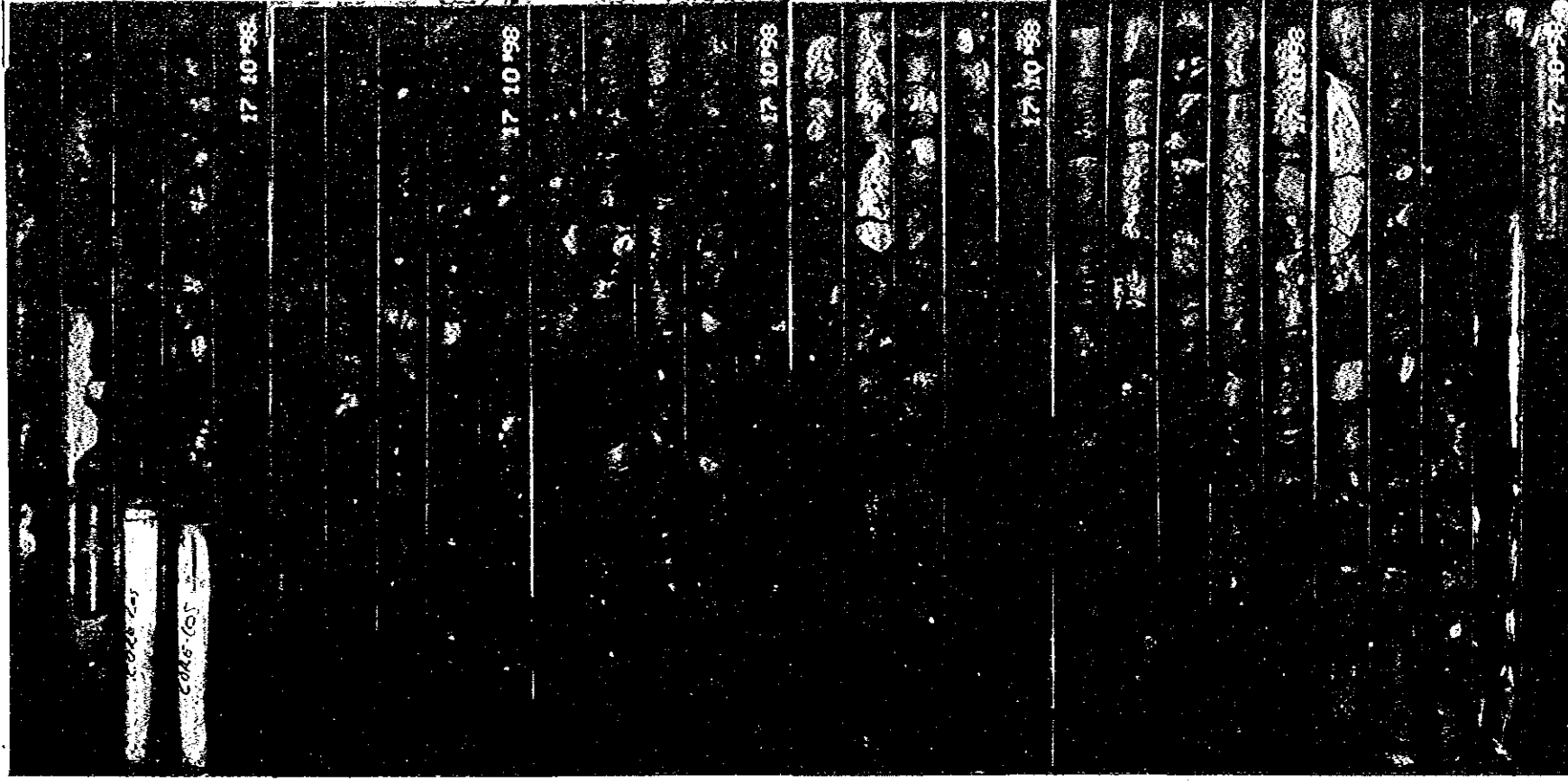


Photo 1.1.27 Drilling Core Photograph of Bore Hole No. B - 30 (3 of 4)

Bore Hole No. : B-30
 Location : Damsite
 Ground Elevation : EL. 134.949 m
 Total Depth : 125 m
 Depth : 90 ~ 125 m

ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

JICA
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BORE HOLE NO. : B-30
 LOCATION : DAM SITE
 TOTAL DEPTH : 125 M
 DATE : 17 10 98

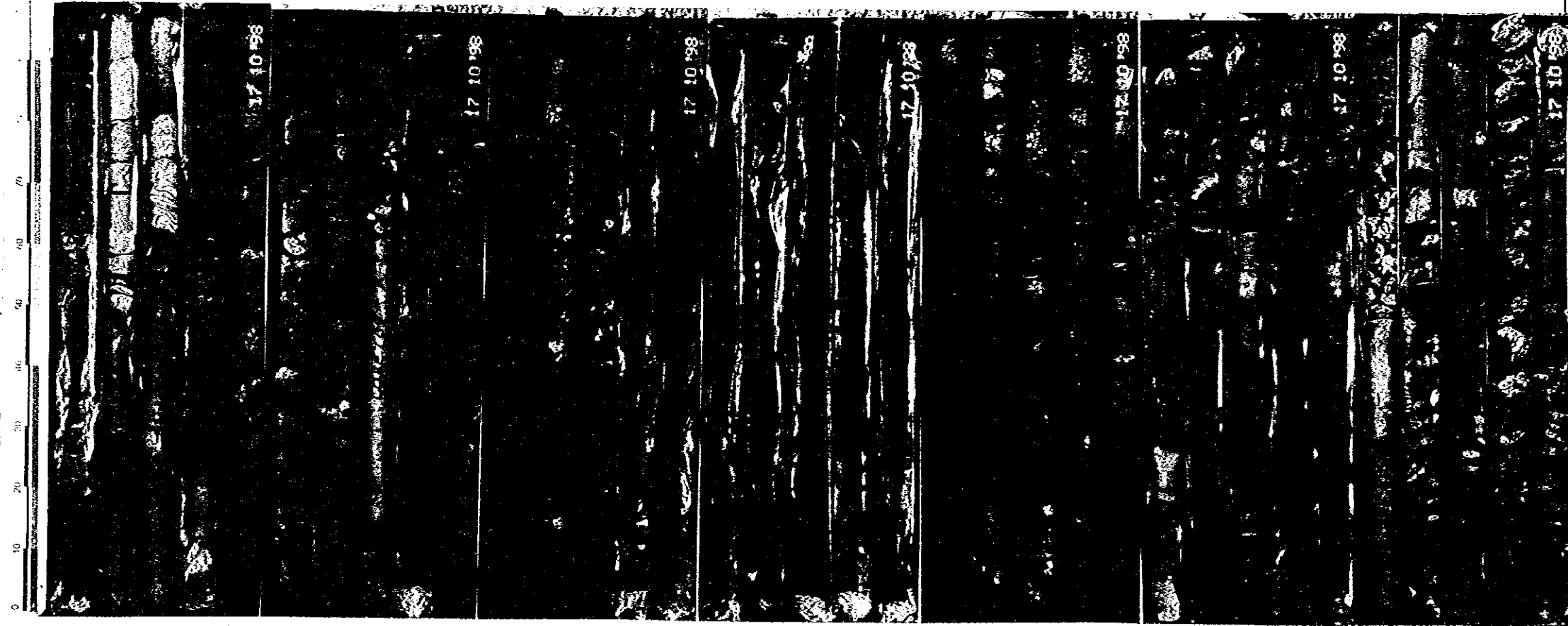


Photo 1.1.27 Drilling Core Photograph of Bore Hole No. B - 30 (4 of 4)

Bore Hole No. : B-31
 Location : Damsite
 Ground Elevation : EL. 147.380 m
 Total Depth : 65 m
 Depth : 0 ~ 35 m

ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

JICA
 JAPAN INTERNATIONAL COOPERATION AGENCY

BORE HOLE NO. : B-31
 LOCATION : DAM SITE
 TOTAL DEPTH : 65.00M
 DATE : 29 9 98

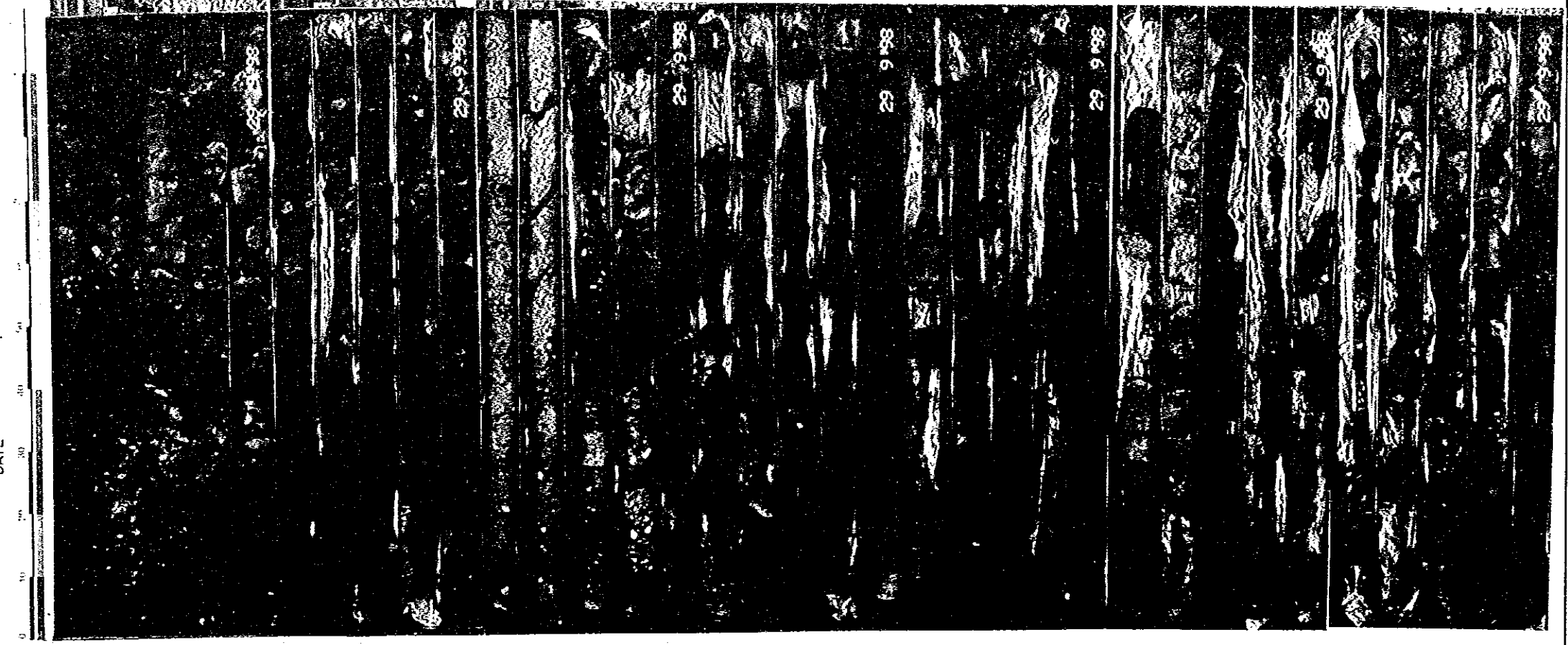


Photo 1.1.28 Drilling Core Photograph of Bore Hole No. B - 31 (1 of 2)

Bore Hole No. : B-31
 Location : Damsite
 Ground Elevation : EL. 147.380 m
 Total Depth : 65 m
 Depth : 35 ~ 65 m

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 ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA
 BORE HOLE NO. : B-31
 LOCATION : DAM SITE
 TOTAL DEPTH : 65.00m
 DATE : 29/9/98

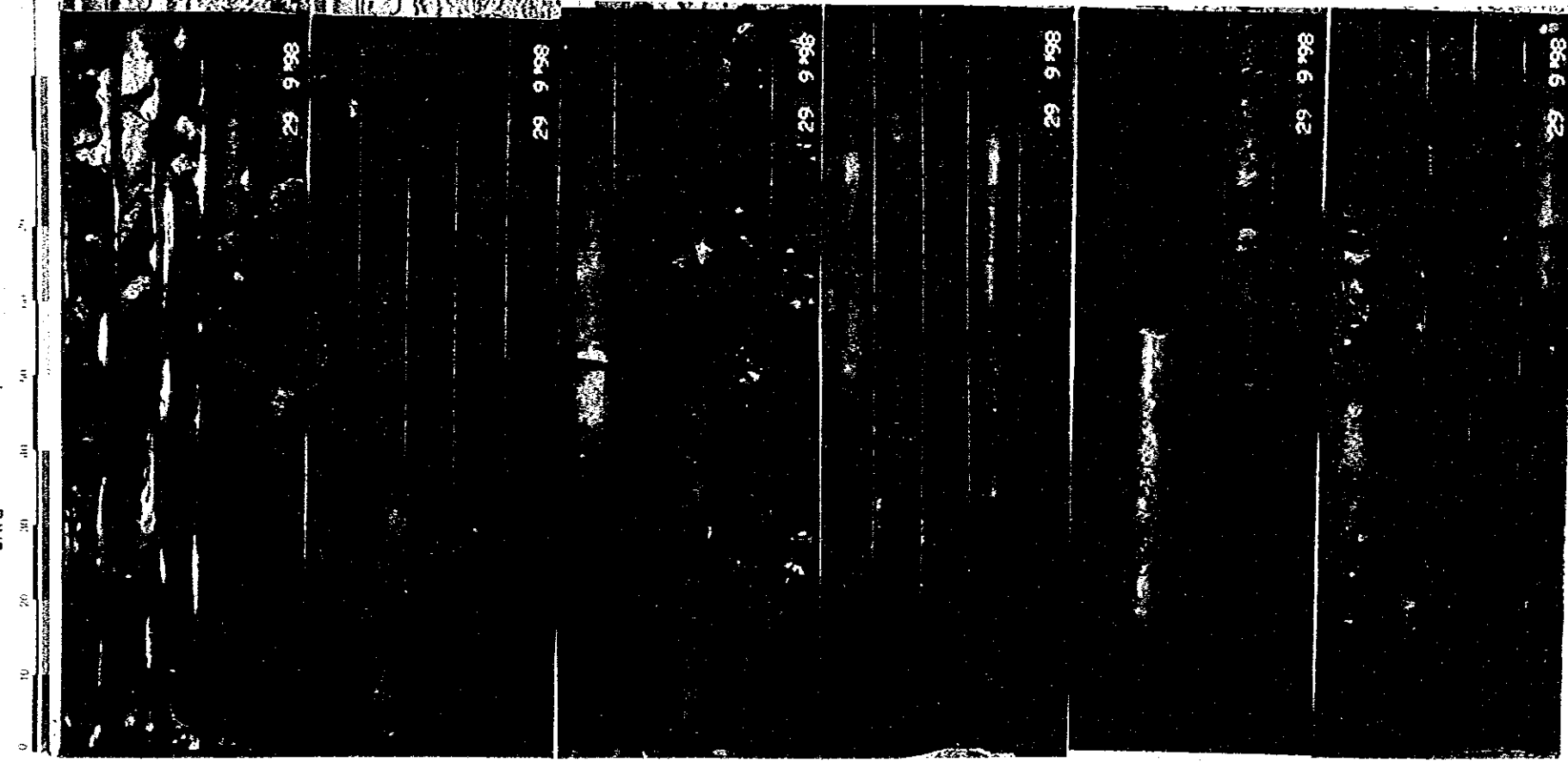


Photo 1.1.28 Drilling Core Photograph of Bore Hole No. B - 31 (2 of 2)

Bore Hole No. : B-32
 Location : Damsite
 Ground Elevation : EL. 171.143 m
 Total Depth : 85 m
 Depth : 0 ~ 30 m

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 ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA
 BORE HOLE NO. : B-32
 LOCATION : DAM SITE
 TOTAL DEPTH : 85.00 m
 DATE : 29/9/98

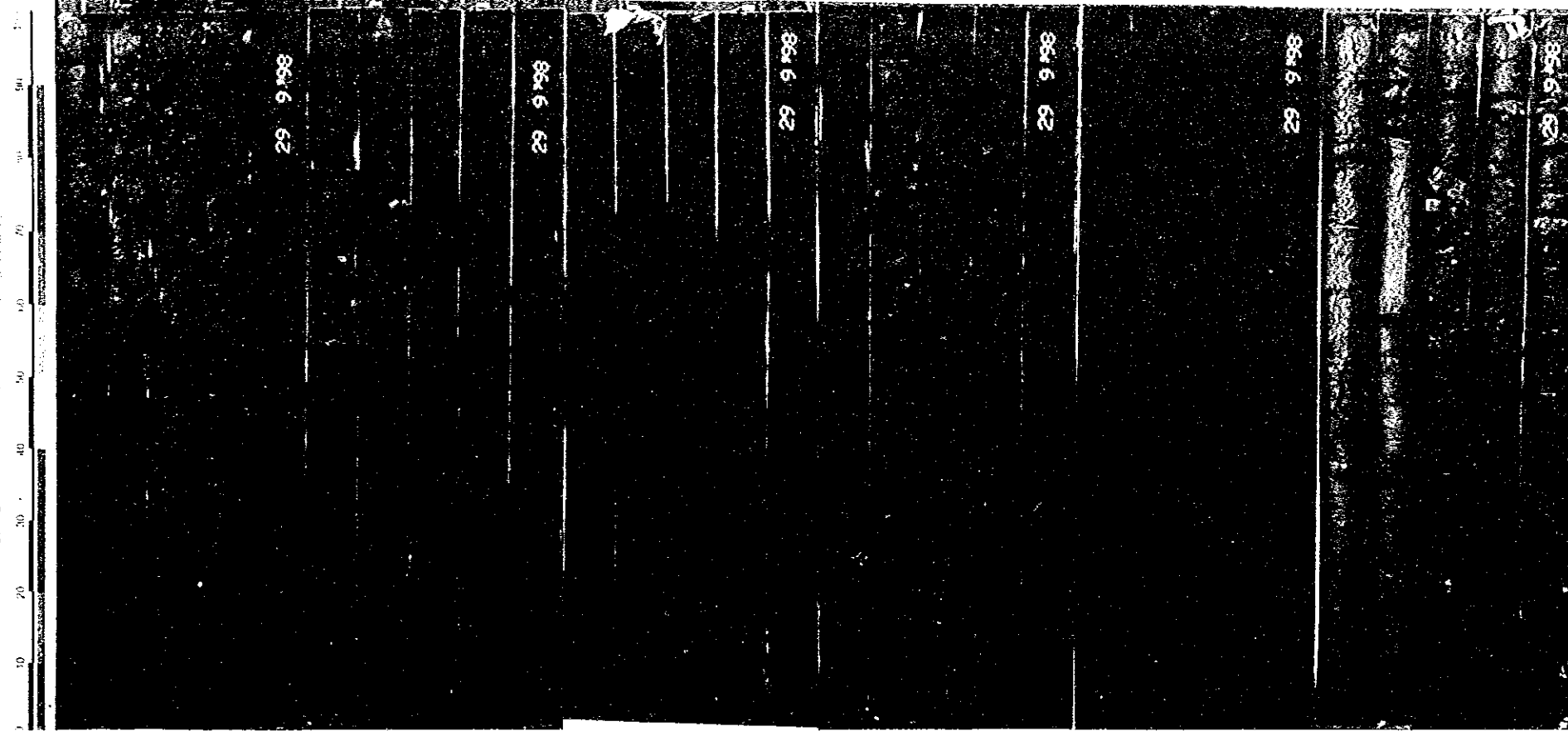


Photo 1.1.29 Drilling Core Photograph of Bore Hole No. B - 32 (1 of 3)

Bore Hole No. : B-32
 Location : Dam site
 Ground Elevation : EL. 171.143 m
 Total Depth : 85 m
 Depth : 30 ~ 60 m

ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

BORE HOLE NO. : B-32
 LOCATION : DAM SITE
 TOTAL DEPTH : 85.00 m
 DATE : 29 9 1988

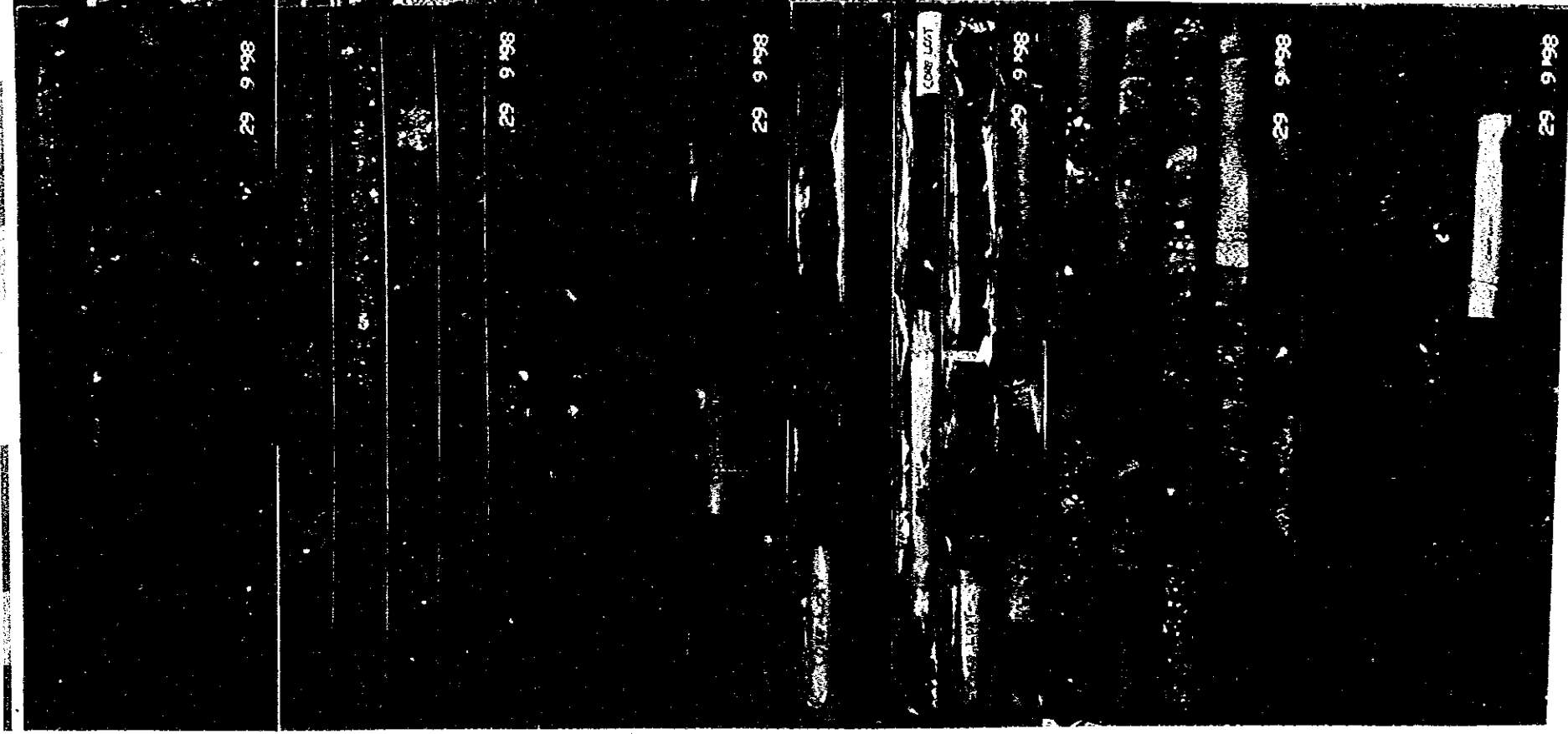


Photo 1.1.29 Drilling Core Photograph of Bore Hole No. B-32 (2 of 3)

Bore Hole No. : B-32
 Location : Dam site
 Ground Elevation : EL. 171.143 m
 Total Depth : 85 m
 Depth : 60 ~ 85 m

ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

BORE HOLE NO. : B-32
 LOCATION : DAM SITE
 TOTAL DEPTH : 85.00 m
 DATE : 29 9 1988

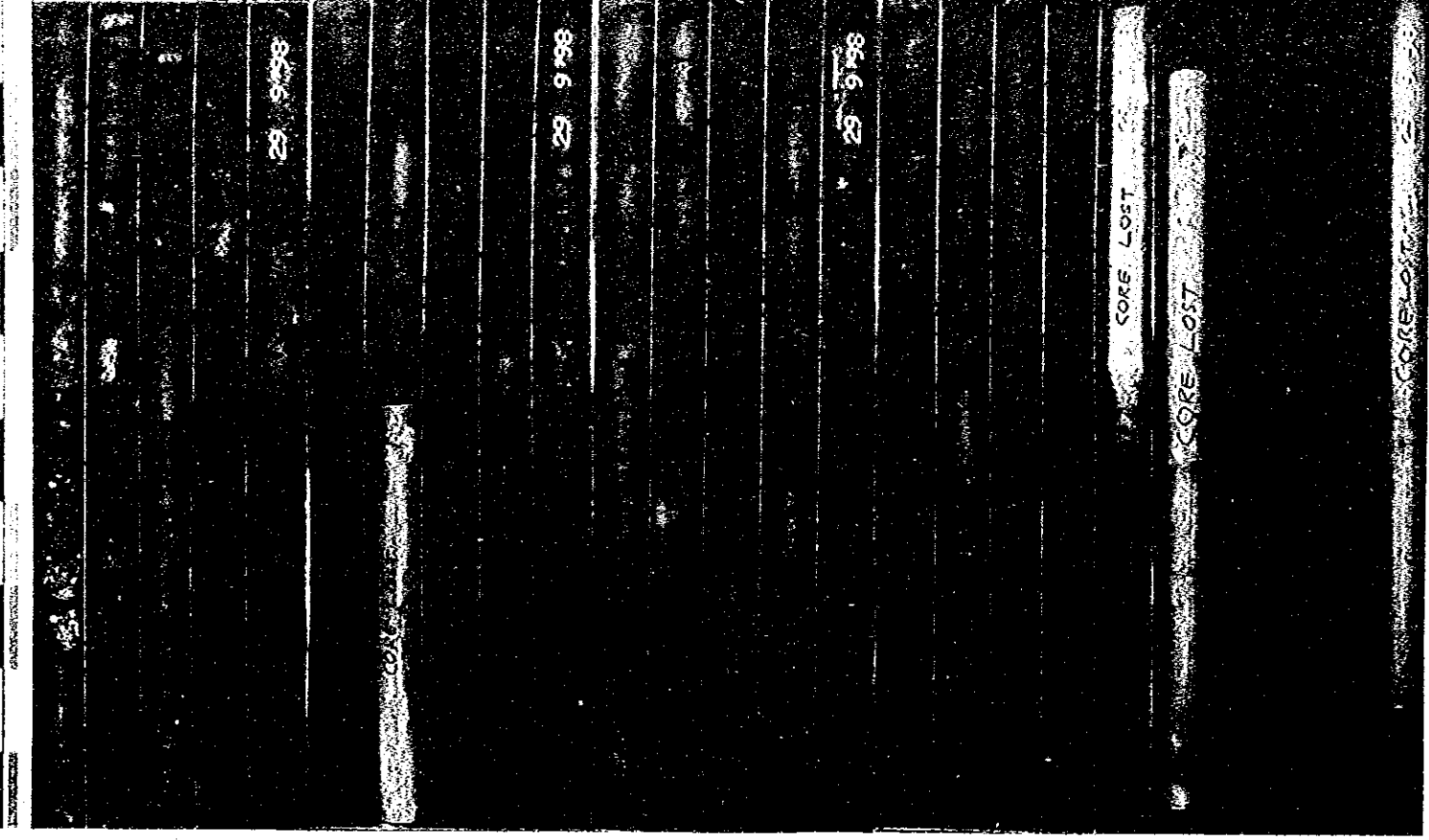


Photo 1.1.29 Drilling Core Photograph of Bore Hole No. B-32 (3 of 3)

Bore Hole No. : B-33
 Location : Damsite
 Ground Elevation : EL. 88.096 m
 Total Depth : 35 m
 Depth : 0 ~ 30 m

FOR THE DETAILED DESIGN OF FLOOD CONTROL
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

BORE HOLE NO. : B-33
 LOCATION : DAM SITE
 TOTAL DEPTH : 35.00m
 DATE : 24 9 1988



Photo 1.1.30 Drilling Core Photograph of Bore Hole No. B - 33 (1 of 2)

Bore Hole No. : B-33
 Location : Damsite
 Ground Elevation : EL. 88.096 m
 Total Depth : 35 m
 Depth : 30 ~ 35 m

ADDITIONAL GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

BORE HOLE NO. : B-33
 LOCATION : DAM SITE
 TOTAL DEPTH : 35.00m
 DATE : 24 9 1988

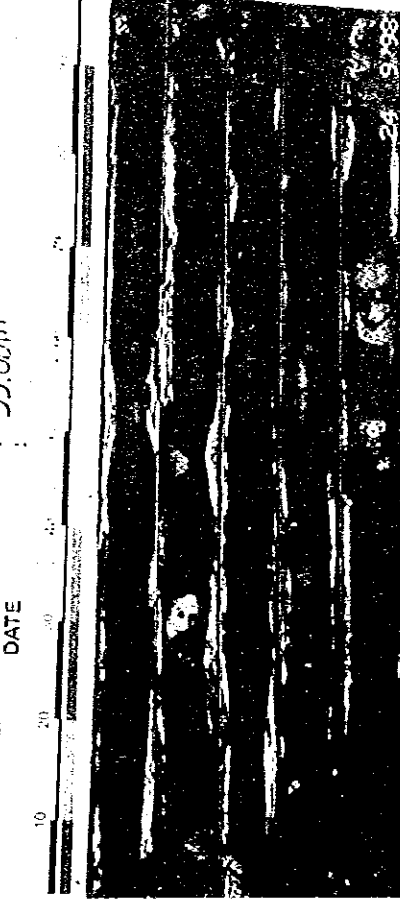
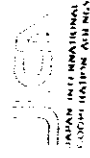


Photo 1.1.30 Drilling Core Photograph of Bore Hole No. B - 33 (2 of 2)

Bore Hole No. : B-34
 Location : Damsite
 Ground Elevation : EL. 100.958 m
 Total Depth : 10 m
 Depth : 0 ~ 10 m

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 FOR THE DETAILED GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

BORE HOLE NO. : B-34
 LOCATION : DAM SITE
 TOTAL DEPTH : 10.00 m
 DATE :

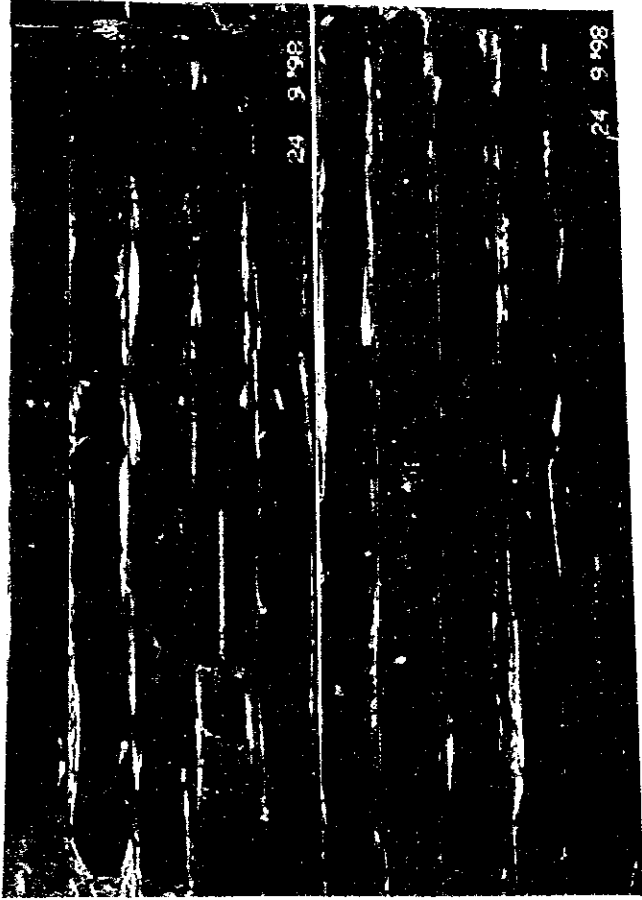


Photo 1.1.31 Drilling Core Photograph of Bore Hole No. B - 34 (1 of 1)

Bore Hole No. : B-35
 Location : Damsite
 Ground Elevation : EL. 150.163 m
 Total Depth : 20 m
 Depth : 0 ~ 20 m

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 FOR THE DETAILED GEOLOGICAL SURVEY
 FOR THE DETAILED DESIGN OF FLOOD CONTROL,
 URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

BORE HOLE NO. : B-35
 LOCATION : DAM SITE
 TOTAL DEPTH : 20.00 m
 DATE : SEPTEMBER '98

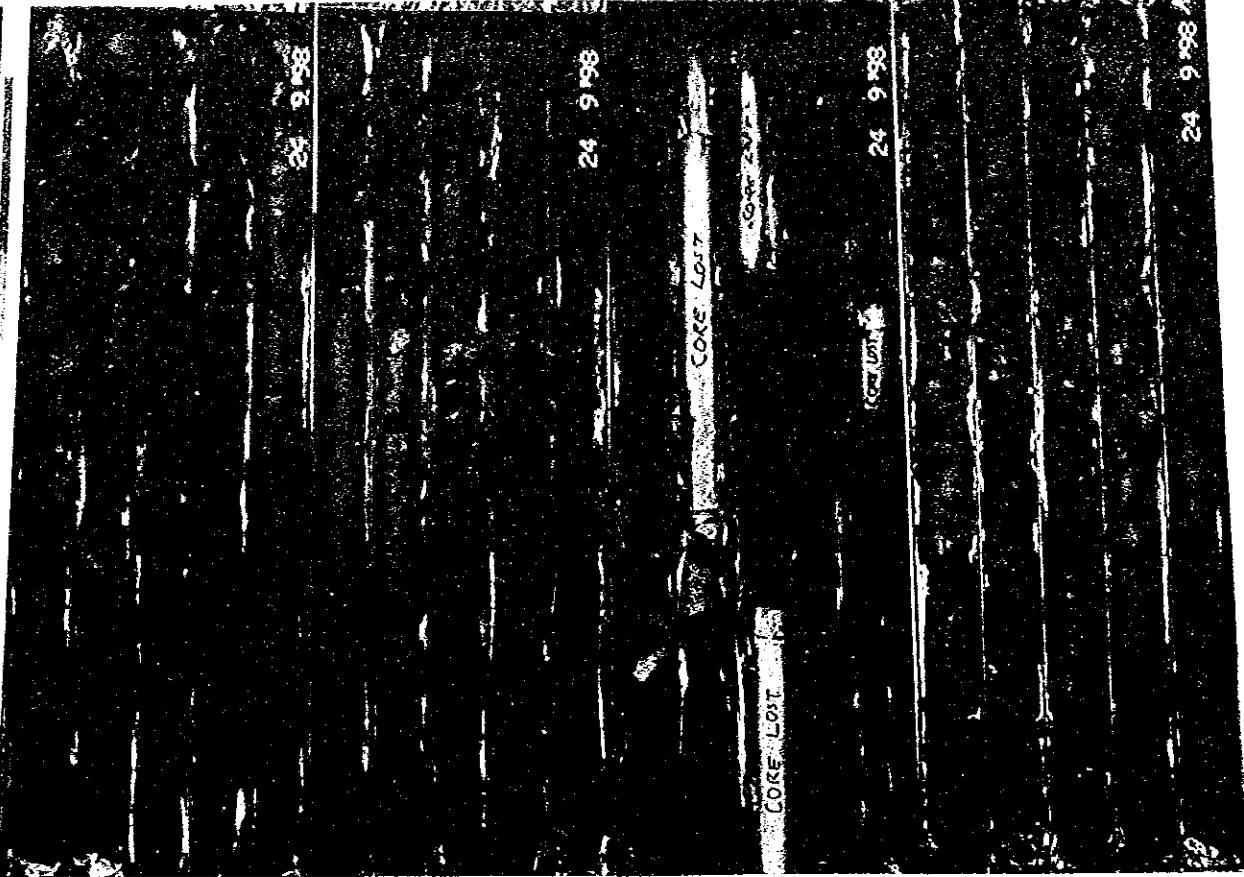
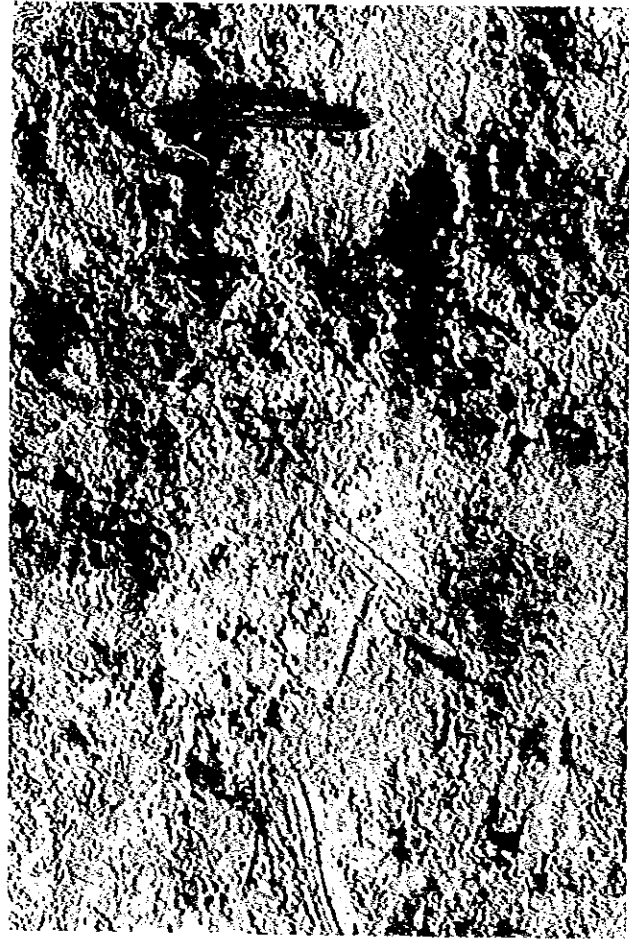
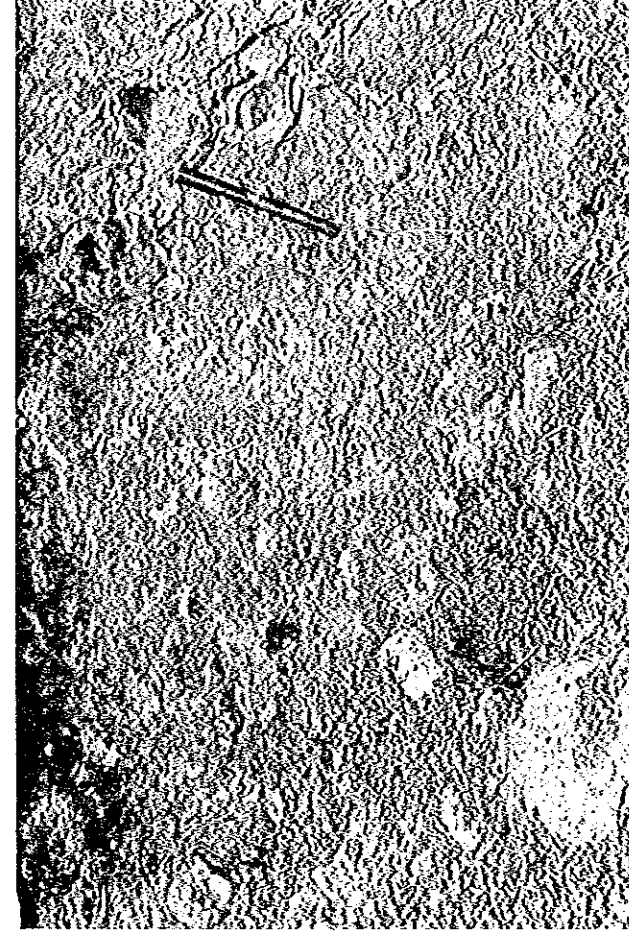


Photo 1.1.32 Drilling Core Photograph of Bore Hole No. B - 35 (1 of 1)



Highly Weathered of Volcanic Conglomerate, poor cemented, brown (D),
on the Up Stream



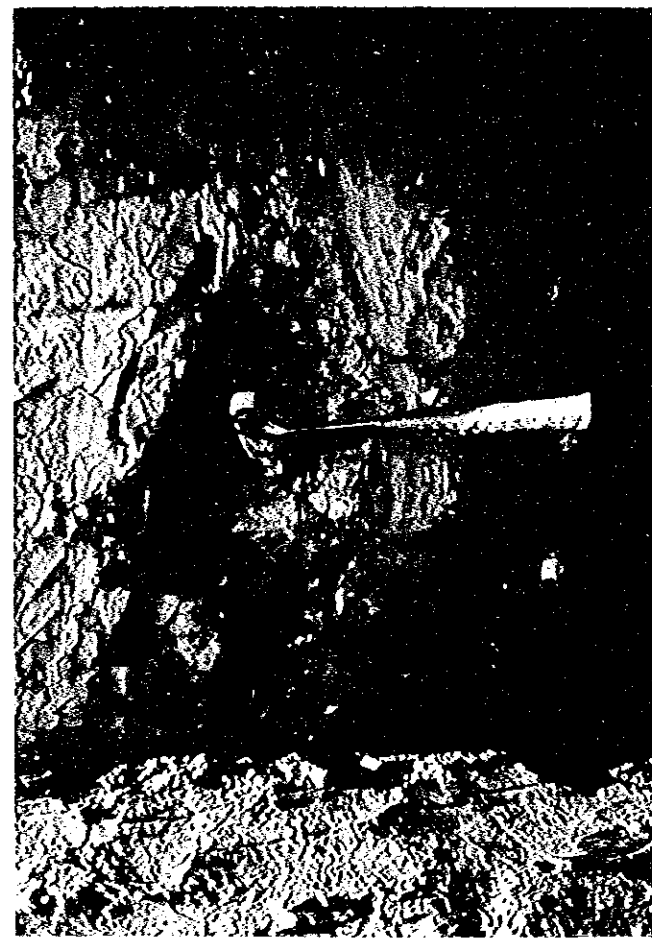
Volcanic Conglomerate, poor cemented, greyish brown (CL - L)
on the Axis Dam



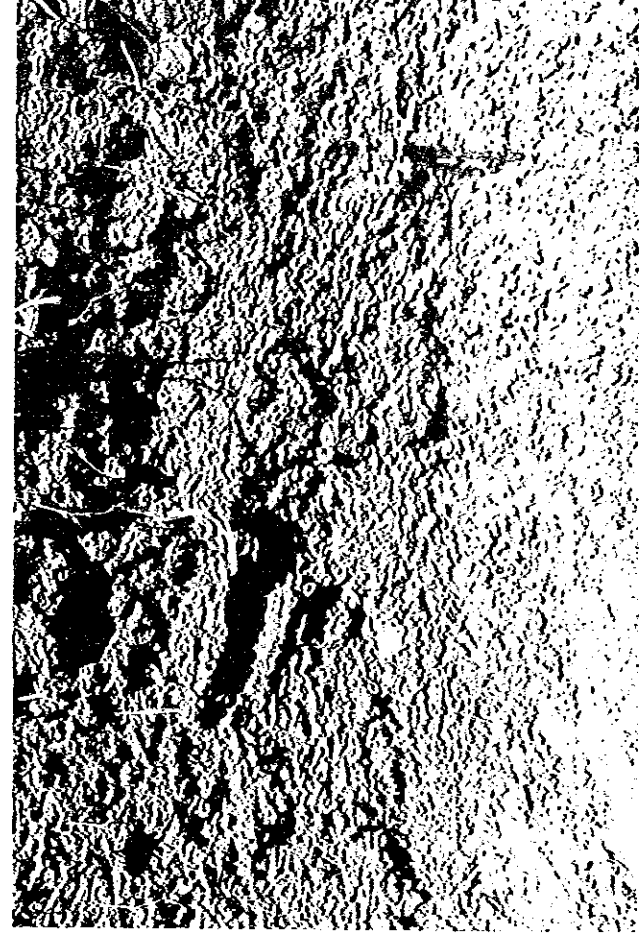
Bed rock of Volcanic Conglomerate and Tuffaceous Sandstone
on the Axis Dam



Bed rock of Volcanic Conglomerate poor cemented, brown,
on the Down Stream



Mudstone, dense ~ compact, blackish grey



Secondary Deposits on the reservoir area

Photo 1.2.1 Trench Rock Type Photograph



Conglomerate, poor cemented, brownish grey (CL - L) and Tuffaceous Sandstone, coarse grained, brown (CL - L) on the T - 1.



Conglomerate with boulder, poor cemented, brownish grey (CL - L) on the T - 1



Tuffaceous, fine ~ medium grained, light brown (CL - L) and inter callation of Conglomerate, poor cemented, brownish grey (CL - L) on the T - 2.



Conglomerate, poor cemented, greyish brown (CL - L) and Sand loose, Coarse grained, blackish (D) on the T - 2.



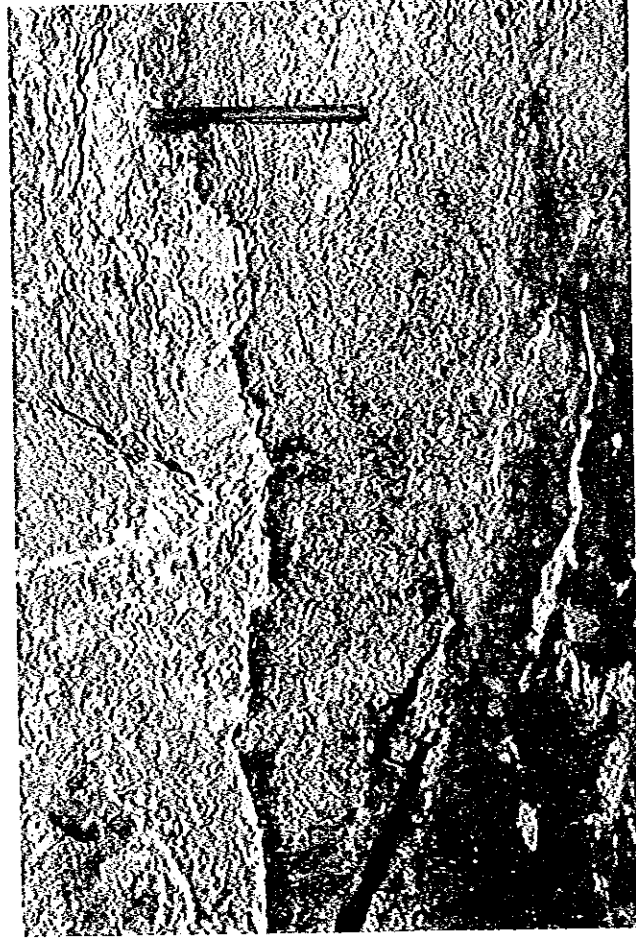
Tuffaceous Sandstone with some gravels, fine ~ medium grained, brown (CL - L) on the T - 3.



Tuffaceous Sandstone, fine grained, brown (CL - L) on th T - 3.



Tuffaceous Sandstone, fine ~ coarse grained, brown (CL - L) and Volc. Conglomerate, poor cemented, brownish grey (CL - L) on the T - 4.



Tuffaceous Sandstone, fine grained, light brown (CL - L) and Conglomerate Sandstone, dense, grey (CL - L) on the T - 4.

Photo 1.3.1 Adit Rock Type Photograph (2 of 2)