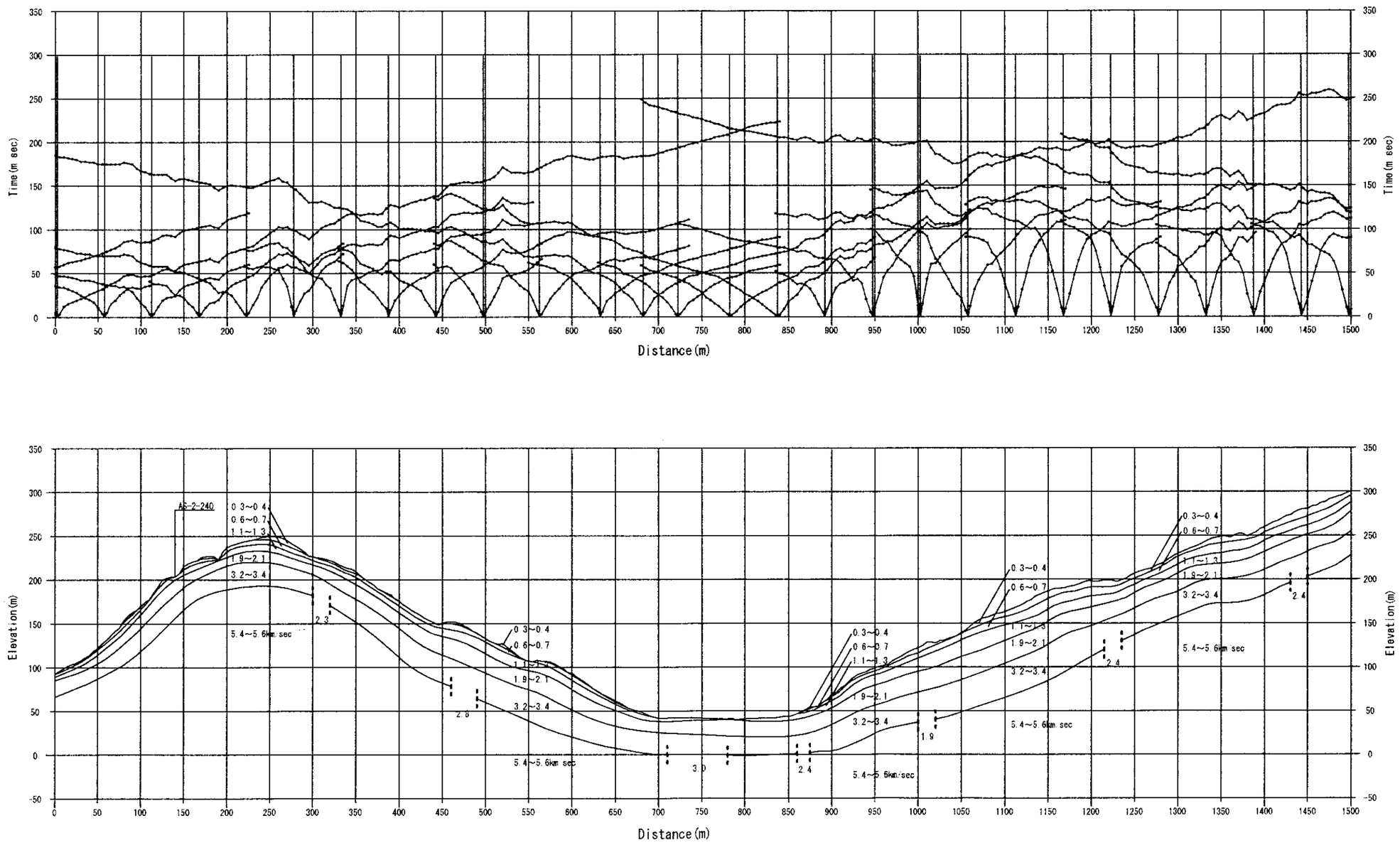
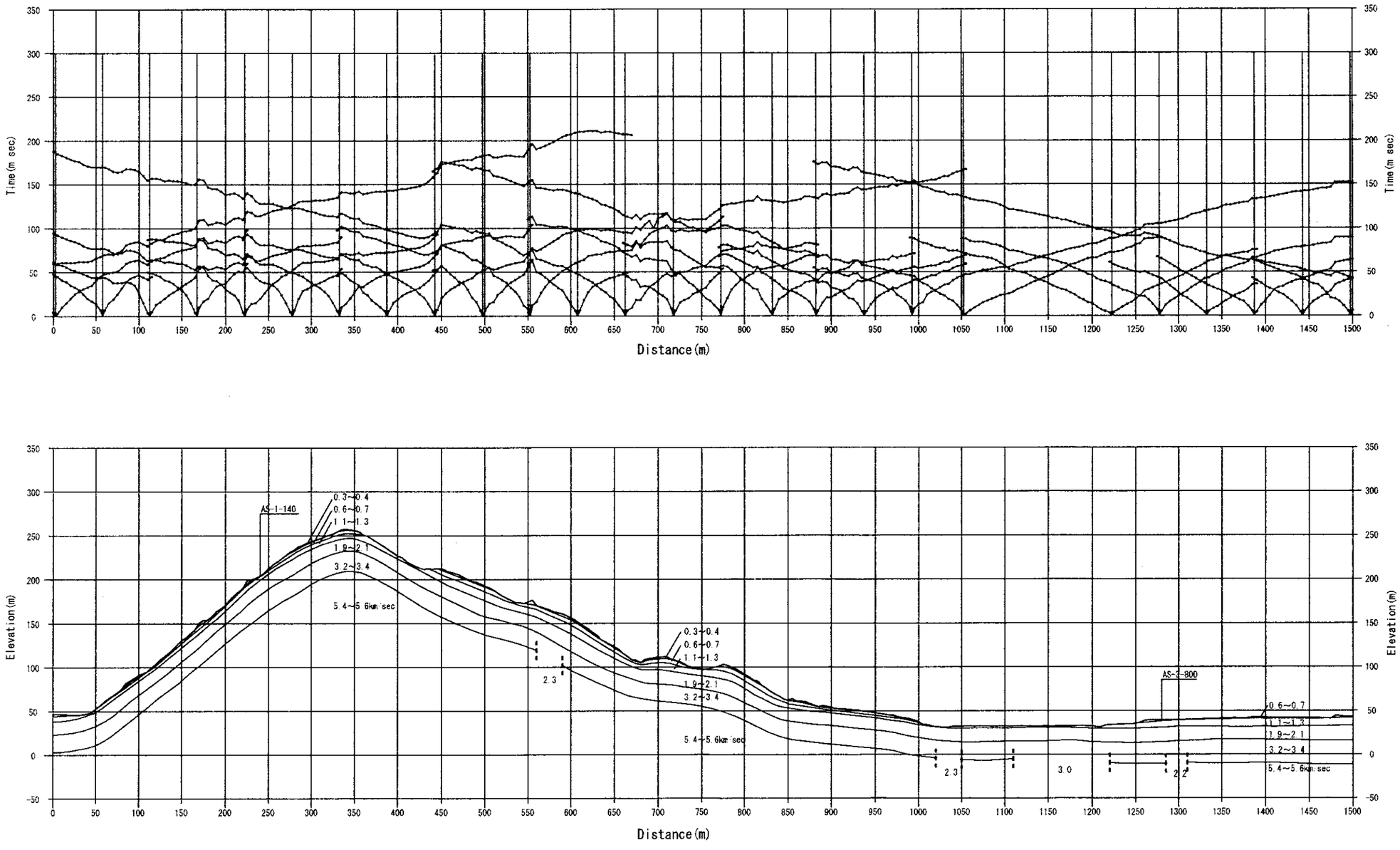
G3 Seismic Refraction Prospecting

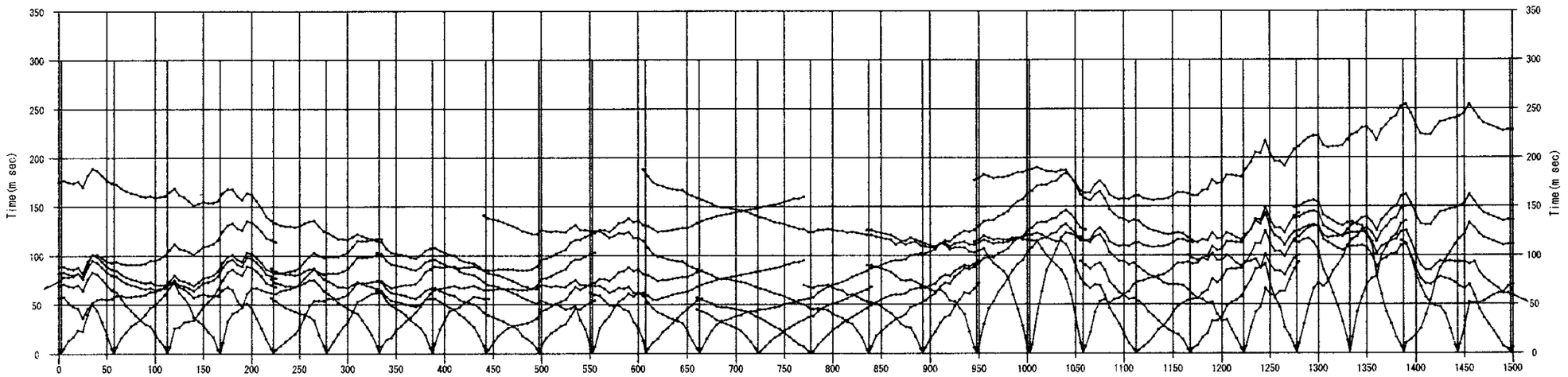
AS-1 LINE


Time(m sec)
Distance(m)
Elevation(m)
AS-2-240
0.3~0.4
0.6~0.7
1.1~1.3
1.9~2.1
3.2~3.4
5.4~5.6km sec
2.3
2.8
3.0
2.4
1.9

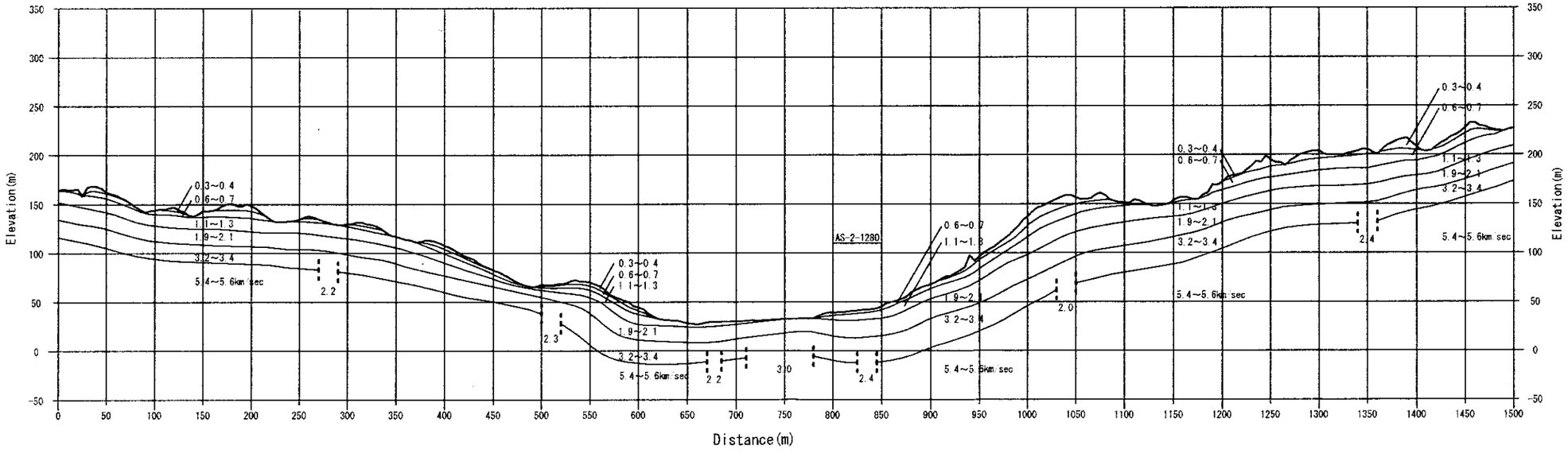
AS-2 LINE


Time(m sec)
Distance(m)
Elevation(m)
AS-1-140
0.3~0.4
0.6~0.7
1.1~1.3
1.9~2.1
3.2~3.4
5.4~5.6km/sec
2.3
AS-3-800
3.0
2.2

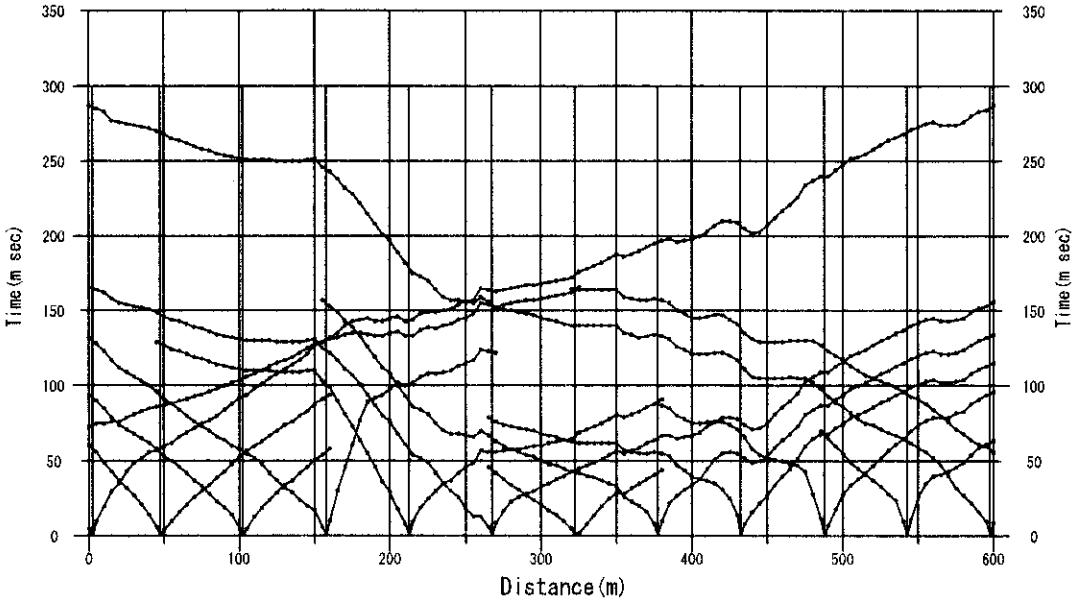
AS-3 LINE

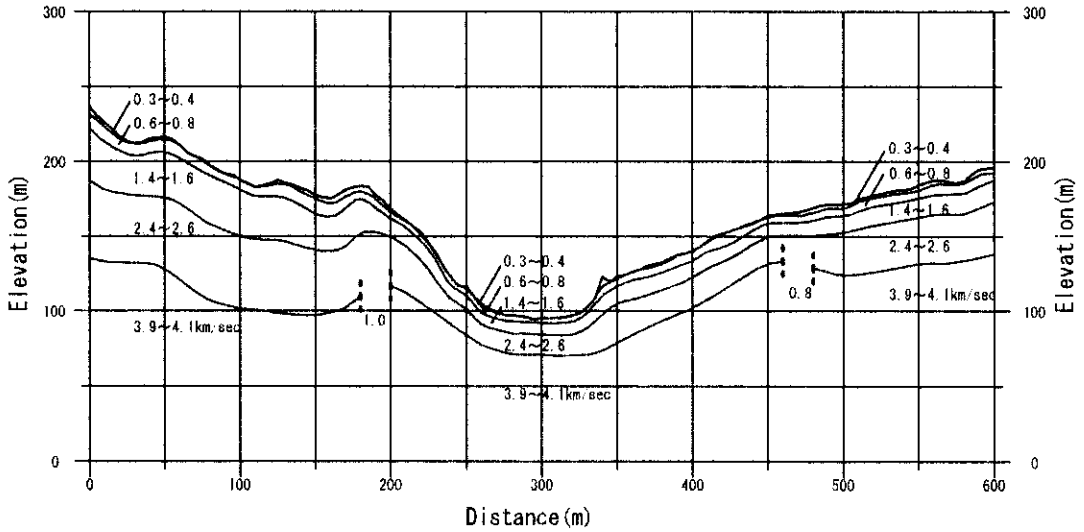


AS-3 LINE

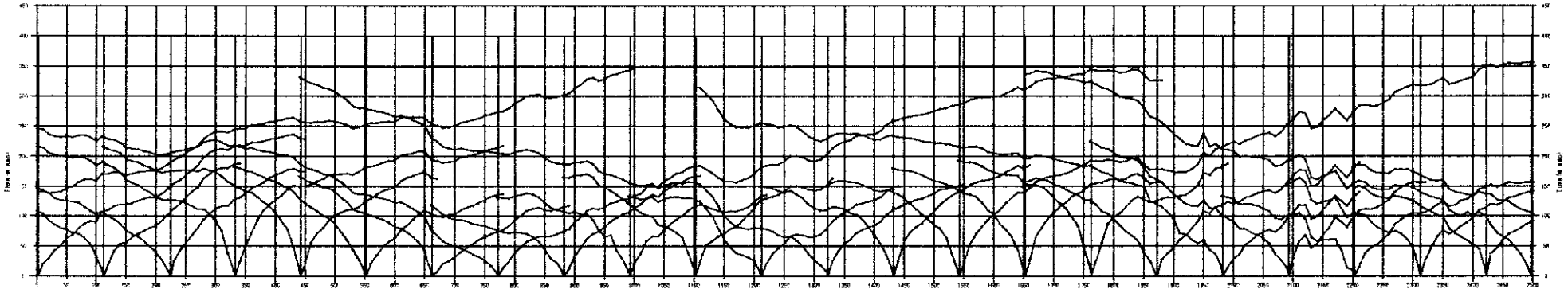


KS-1 LINE

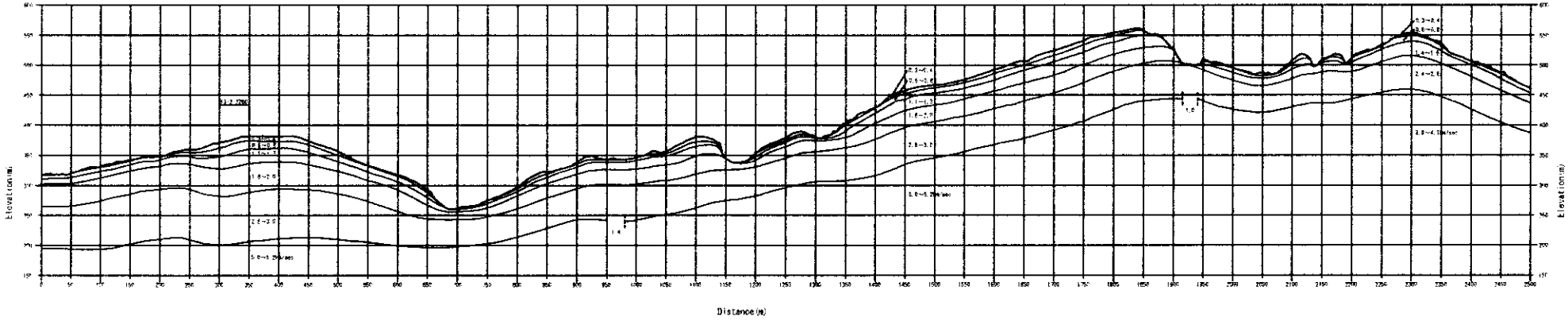

Time(m sec)
Distance(m)
0
50
100
150
200
250
300
350
0
100
200
300
400
500
600


Elevation(m)
Distance(m)
0.3~0.4
0.6~0.8
1.4~1.6
2.4~2.6
3.9~4.1km/sec
1.0
0.8
0
100
200
300
400
500
600

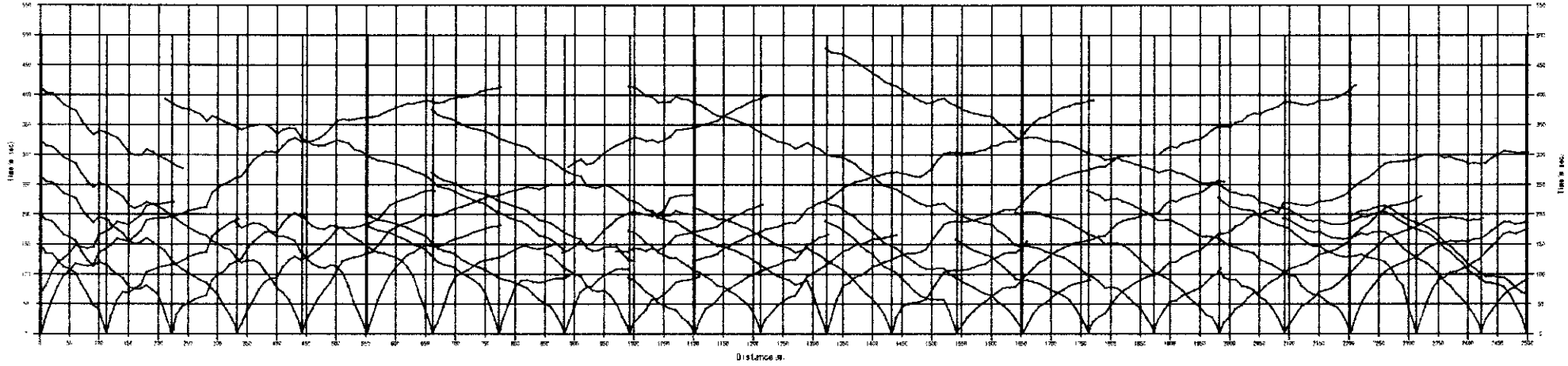
TS-1 LINE



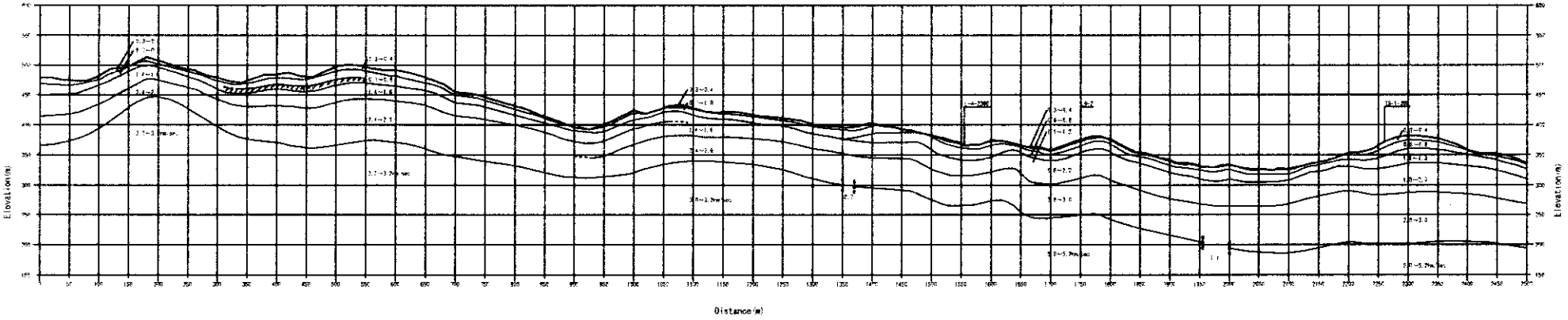
TS-1 LINE



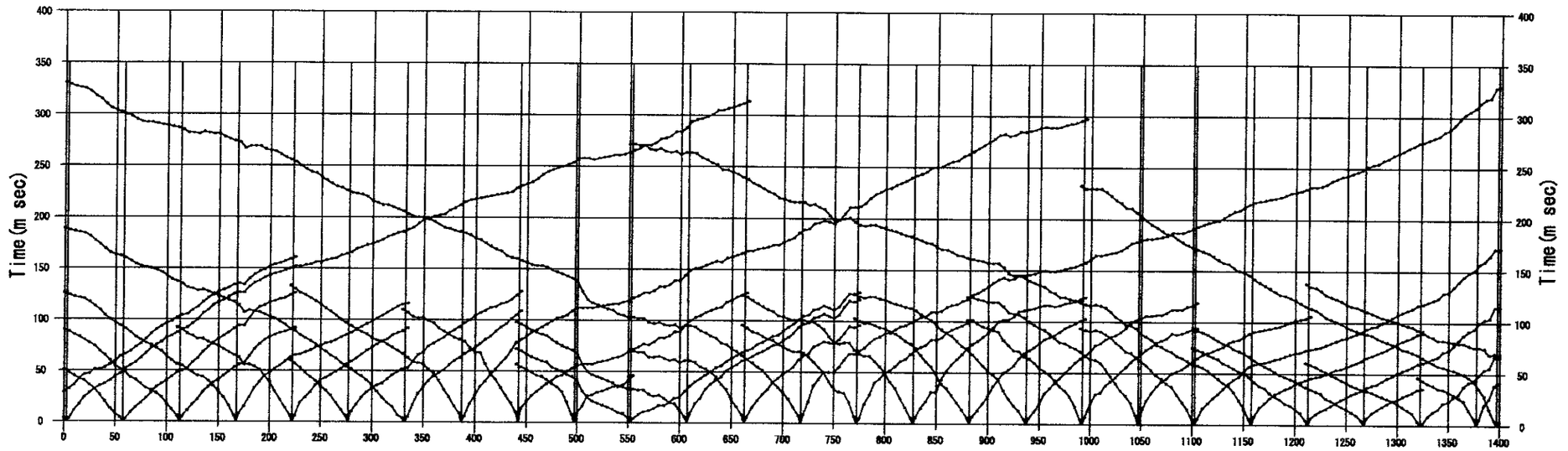
TS-2 LINE



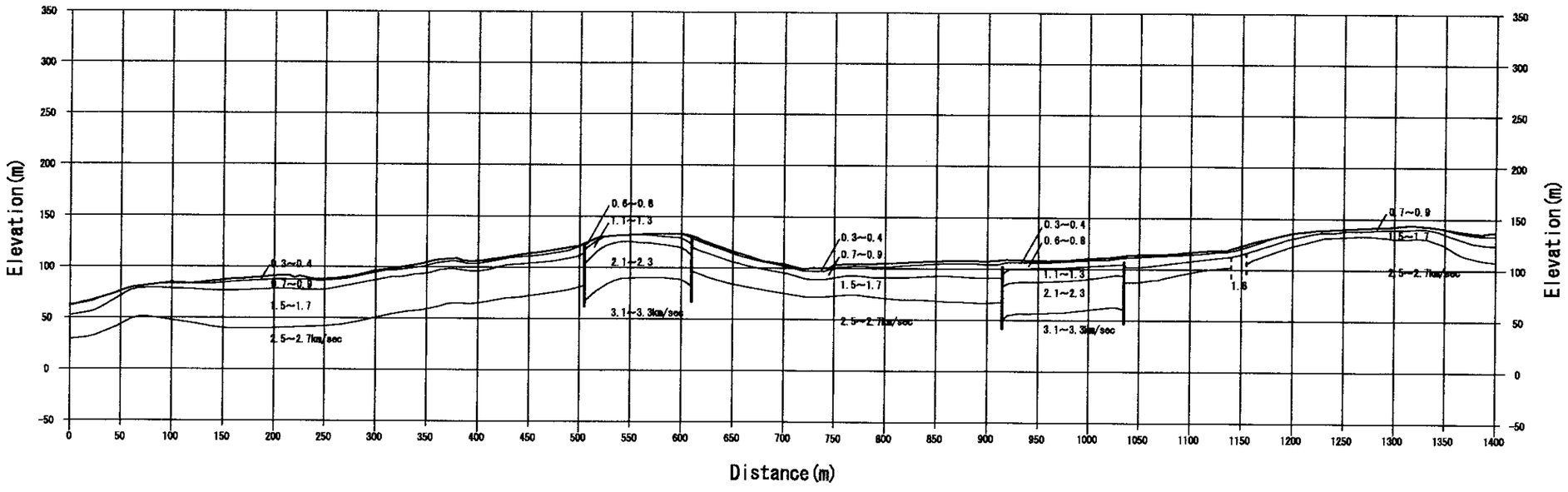
TS-2 LINE



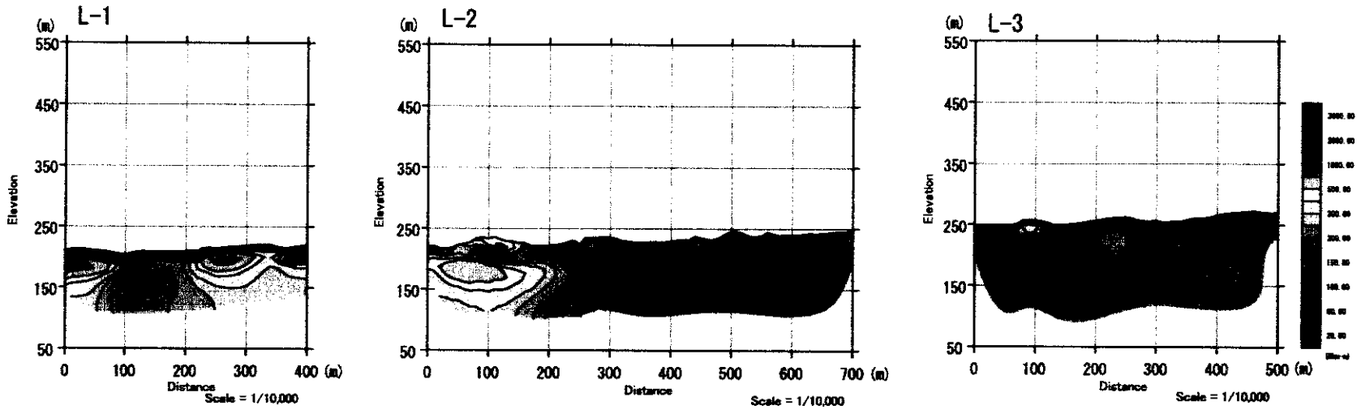
WS-1 LINE



WS-1 LINE

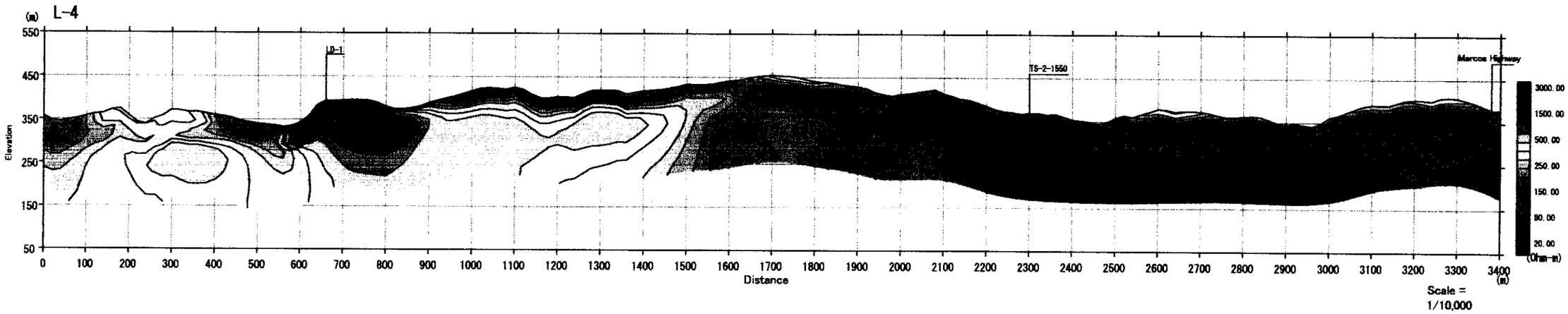


G4 Electric Prospecting (two-dimensional resistivity profiling)


L-1
(m)
550
450
350
250
150
50
Elevation
0
100
200
300
400 (m)
Distance
Scale = 1/10,000

L-2
(m)
550
450
350
250
150
50
Elevation
0
100
200
300
400
500
600
700 (m)
Distance
Scale = 1/10,000

L-3
(m)
550
450
350
250
150
50
Elevation
0
100
200
300
400
500 (m)
Distance
Scale = 1/10,000


L-4
(m)
550
450
350
250
150
50
Elevation
LD-1
TS-2-1550
Marcos Highway
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
3300
3400
(m)
Distance
Scale =
1/10,000
3000.00
1500.00
500.00
250.00
150.00
80.00
20.00
(Ohm-m)

G5 Testpit Log

No. ATP-1 Depth: 3.0 m Elevation: 54.0 m Station: N 1, 623, 845 E 556, 235

Location: Agoo sand and gravel Date: Aug. 22, 2002 Ground Water Level: 2.7 m.

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
3.0	Terrace Deposit		Brownish Gray	sandy GRAVEL with cobbles and few silt	moist		S-1	

No. ATP-2 Depth: 3.0 m Elevation: 53.0 m Station: N 1, 623, 875 E 556, 557

Location: Agoo sand and gravel Date: Aug. 22, 2002 Ground Water Level: 2.8 m.

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
	Terrace Deposit		Brownish Gray	gravelly SAND, moist	moist		S-1	

G5-2

No. ATP-3 Depth: 3.0 m Elevation: 47.0 m Station: N 1, 624, 290 E 556, 515

Location: Agos sand and gravel Date: Aug. 25, 2002 Ground Water Level: 2.7 m

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
1.8	Riverbed Deposit		Brownish Gray	sandy GRAVEL with few cobbles	moist		S-1	
3.0			Brownish Gray	sandy GRAVEL with traces of silt	wet		S-2	

No. ATP-4 Depth: 3.0 m Elevation: 47.5 m Station: N 1, 624, 465 E 556, 540

Location: Agos sand and gravel Date: Aug. 25, 2002 Ground Water Level: 2.8 m

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0.9	Riverbed Deposit		Brownish Gray	gravelly SAND with silt	moist		S-1	
3.0			Brownish Gray	sandy GRAVEL with silt, some boulders	wet to moist		S-2	

No. ATP-5 Depth: 2.8 m Elevation: 44.0 m Station: N 1, 624, 805 E 551,087

Location: Agos sand and gravel Date: Aug. 24, 2002 Ground Water Level 2.2 m

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
1.0	Riverbed Deposit		Brownish Gray	gravelly SAND and silt	Wet to moist		S-1	
2.8			Brownish Gray	gravelly SAND some cobbles	wet		S-2	

No. ATP-6 Depth: 3.0 m Elevation: 47.0 m Station: N 1, 624, 900 E 558, 220

Location: Agos sand and gravel Date: Aug. 27, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
1.0	Terrace Deposit		Brownish Gray	gravelly SAND	dry		S-1	
3.0			Brownish Gray		moist			

No. ATP-7 Depth: 3.0 m Elevation: 38.0 m Station: N 1, 624, 235 E 559, 123

Location: Agos sand and gravel Date: Aug. 27, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0.7	Terrace Deposit		Brownish Gray	silty fine SAND	dry	-	S-1	
3.0			Brownish Gray	clayey SAND with gravel and some cobbles	moist		S-2	

No. ATP-8 Depth: 3.0 m Elevation: 26.6 m Station: N 1, 625, 600 E 560, 866

Location: Agos afterbay sand and gravel Date: Aug. 26, 2002 Ground Water Level: 2.7 m

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
2.0	Riverbed Deposit		Brownish Gray	sandy GRAVEL traces of silt some cobbles	moist		S-1	
3.0			Brownish Gray	gravelly SAND some silt	wet		S-2	

No. ATP-9 Depth: 3.0 m Elevation: 23.10 m Station: N 1, 625, 906 E 562, 065

Location: Agos afterbay sand and gravel Date: Aug. 30, 2002 Ground Water Level 2.8 m

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0.9	Riverbed Deposit		Brownish Gray	sandy GRAVEL with some silt	moist		S-1	
3.0			Brownish Gray	sandy GRAVEL with cobbles	wet		S-2	

No. ATP-10 Depth: 3.0 m Elevation: 24.90 m Station: N 1, 625, 948 E 562, 502

Location: Agos afterbay sand and gravel Date: Sept. 2, 2002 Ground Water Level 2.9 m

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
3.0	Terrace Deposit		Brownish Gray	sandy GRAVEL with cobbles and silt	moist		S-1	

No. ATP-11 Depth: 3.0 m Elevation: 123.0 m Station: N 1, 824, 565 E 556, 254

Location: Agos soil material Date: Sept. 4, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
3.0	Residual Soil		Brown	sandy CLAY with gravel and traces of silt	moist		S-1	

No. ATP-12 Depth: 3.0 m Elevation: 103.0 m Station: N 1, 824, 260 E 556, 130

Location: Agos soil material Date: August 29, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
1.3	Residual Soil		Dark Brown	silty CLAY with some gravel	moist		S-1	
3.0			Dark Brown	silty CLAY, high plasticity			S-2	

No. ATP-13 Depth: 3.0 m Elevation: 152.0 m Station: N 1, 625, 085 E 557, 092

Location: Agos soil material Date: August 30, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
3.0	Residual Soil		Ridish Brown	silty CLAY traces of fine sand	moist		S-1	

No. ATP-14 Depth: 3.0 m Elevation: 160.0 m Station: N 1, 624, 550 E 557, 402

Location: Agos soil material Date: Sept. 10, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
	Residual Soil		Brown	clayey SILT, traces of fine sand and gravel	moist		S-1	

No. ATP-15 Depth: 3.0 m Elevation: 50.0 m Station: N 1, 625, 175 E 557, 055

Location: Agos soil material Date: Sept. 2, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No	Remarks
0	Slope Wash		Rusty Brown	sandy CLAY with fine gravel	moist		S-1	
3.0								

No. AQ-1 Depth: - Elevation: 75.0 m Station: N 1, 624, 500 E 556, 258

Location: Agos Quarry Rock Date: Aug., 30, 2002 Ground Water Level: -

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0	Base Rock		Dark Gray	SANDSTONE; slightly weathered to fresh, moderately strong to strong			S-1	
1								
2								
3								
4								
5								

NOTE: Chipped sample from outcrop.

No. AQ-2 Depth: - Elevation: 70.0 m Station: N 1, 624, 370 E 556, 180

Location: Agos Quarry Rock Date: Aug., 30, 2002 Ground Water Level: -

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No	Remarks
0	Base Rock		Dark Gray	SANDSTONE; slightly weathered to fresh, moderately strong to strong			S-1	
1								
2								
3								
4								
5								

NOTE: Chipped sample from outcrop.

No. AQ-3 Depth: - Elevation: 105.0m Station: N 1, 624, 600 E 556, 130

Location: Agos Quarry Rock Date: Aug., 30, 2002 Ground Water Level: -

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0	Base Rock		Dark Gray	SANDSTONE: slightly weathered to fresh, moderately strong to strong			S-1	
1								
2								
3								
4								
5								

NOTE: Chipped sample from outcrop.

No. KTP-1 Depth: 3.0 m Elevation: 99.50 m Station: N 1, 616, 140 E 550, 915

Location: Kaliwa sand and gravel Date: Aug. 19, 2002 Ground Water Level: 2.6 m

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0	Riverbed Deposit		Light Gray to Brown	sandy GRAVEL with traces of silt and cobbles	moist		S-1	
2.5					wet			
3.0								

No. KTP-2 Depth: 3.0 m Elevation: 99.40 m Station: N 1, 615, 895 E 551, 122

Location: Kaliwa sand and gravel Date: Aug. 5, 2002 Ground Water Level: 2.9 m

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0	Riverbed Deposit		Grayish Brown	sandy GRAVEL with few cobbles and traces of silt	moist		S-1	
3.0								

No. KTP-3 Depth: 3.0 m Elevation: 99.30 m Station: N 1, 615, 900 E 551, 155

Location: Kaliwa sand and gravel Date: Aug. 3, 2002 Ground Water Level: 2.8 m

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No	Remarks
3.0	Riverbed Deposit		Brown to Gray	sandy GRAVEL with some cobbles and traces of silt	moist		S-1	

No. KTP-4 Depth: 3.0 m Elevation: 99.0 m Station: N 1, 616, 180 E 551, 300

Location: Kaliwa sand and gravel Date: Aug.10, 2002 Ground Water Level: 2.7 m

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
3.0	Riverbed Deposit		Light Brown to Gray	sandy GRAVEL with some silt & cobbles	wet To moist		S-1	

No. KTP-5 Depth: 3.0 m Elevation: 99.0 m Station: N 1, 616, 325 E 551, 560

Location: Kaliwa sand and gravel Date: Aug. 6, 2002 Ground Water Level: 2.8 m

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No	Remarks
0	Riverbed Deposit		Grayish Brown	sandy GRAVEL with traces of silt, some cobbles	moist		S-1	
3.0								

No. KTP-6 Depth: 3.0 m Elevation: 192.0 m Station: N 1, 616, 190 E 551, 050

Location: Kaliwa soil material Date: Aug. 6, 2002 Ground Water Level: 2.9 m

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0	Residual Soil		Yellowish Brown	silty CLAY with traces of fine sand	wet		S-1	
3.0								

No. KTP-7 Depth: 3.0 m Elevation: 150.0 m Station: N 1, 616, 080 E 550, 820

Location: Kaliwa soil material Date: Aug. 3, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No	Remarks
3.0	Residual Soil		Reddish Brown	silty CLAY traces of fine sand	moist		S-1	

No. KTP-8 Depth: 3.0 m Elevation: 140.0 m Station: N 1, 615, 920 E 550, 862

Location: Kaliwa soil material Date: Aug. 7, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
3.0	Residual Soil		Reddish Brown	silty CLAY traces of fine sand and fine gravel	moist to wet		S-1	

GS-15

No. KTP-9 Depth: 3.0 m Elevation: 448.0 m Station: N 14° 35'29.16" E 121° 28' 13.52"

Location: Kaliwa soil material Date: Aug. 10, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
3.0	Residual Soil		Dark Brown	silty CLAY with few sand	moist		S-1	

No. KTP-10 Depth: 3.0 m Elevation: 463.5 m Station: N 14° 35'22.7" E 121° 28' 18.59"

Location: Kaliwa soil material Date: Aug. 10, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
3.0	RESIDUAL SOIL	0.00m to 3.0 m.	Yellowish to Dark Brown	silty CLAY with traces of sand. some fine gravel	moist		S-1	

No.: KQ-1 Depth: - Elevation: 103.0 m Station: N 1,616,140 ; E 551,000

Location: Kaliwa Quarry Rock Date: August 27, 2002 Ground Water Level: -

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No	Remarks
0	Base Rock		Light to Dark Gray	SANDSTONE; fresh, strong			S-1	
1								
2								
3								
4								
5								

NOTE: Chipped sample from outcrop.

No.: KQ-2 Depth: - Elevation: 104.0 m Station: N 1,616,025 ; E 551,238

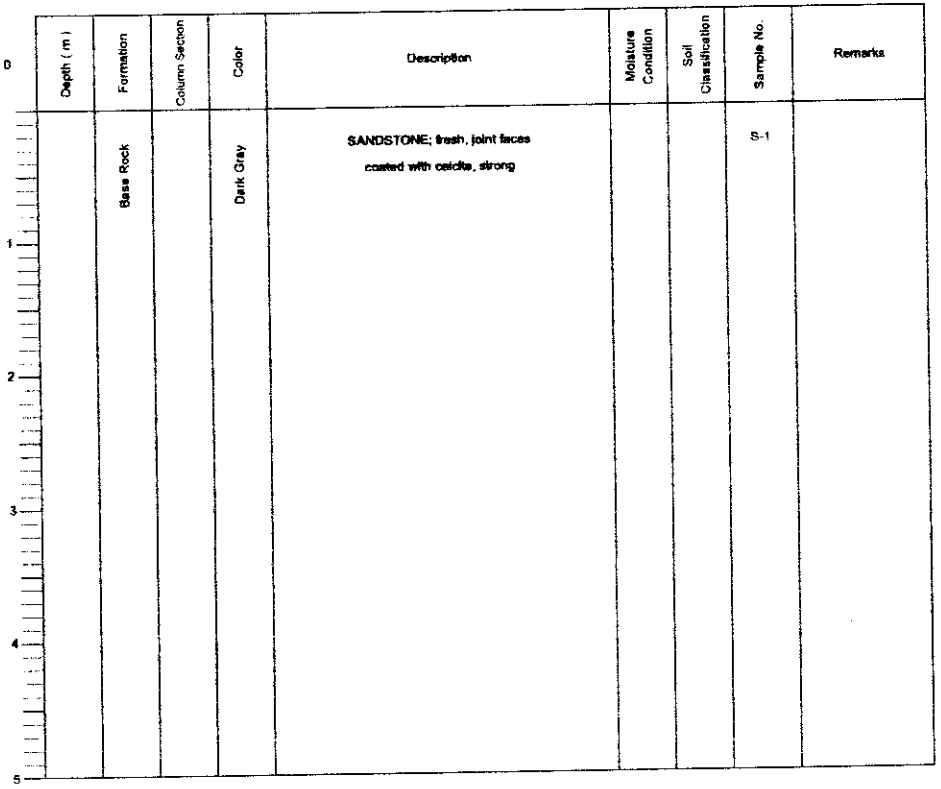
Location: Kaliwa Quarry Rock Date: August 27, 2002 Ground Water Level: -

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0	Base Rock		Dark Gray	SANDSTONE: fined grained, moderately weathered, moderately strong			S-1	
1								
2								
3								
4								
5								

NOTE: Chipped sample from outcrop.

No.: KQ-3 Depth: - Elevation: 104.0 m Station: N 1,616,250 ; E 551,218

Location: Kaliwa Quarry Rock Date: August 27, 2002 Ground Water Level: -



Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0	Base Rock		Dark Gray	SANDSTONE; fresh, joint faces coated with calcite, strong			S-1	

NOTE: Chipped sample from outcrop.

No. WTP-1 Depth: 3.0 m Elevation: 115.0 m Station: N 1° 611' 380" E 527° 017'

Location: WTP soil material Date: Aug. 20, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0								
	Residual Soil		Grayish Brown	silty CLAY with some sand	moist		S-1	
3.0								
5								

No. WTP-2 Depth: 3.0 m Elevation: 107.0 m Station: N 1 611, 130 E 527, 260

Location: WTP soil material Date: Aug.. 20, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0								
	Residual Soil		Reddish Brown	silty CLAY with some sand and fine gravel	moist		S-1	
3.0								
5								

No. WTP-3 Depth: 3.0 m Elevation: 124.0 m Station: N 1, 610, 890 E 527, 510

Location: WTP soil material Date: Aug., 21, 2002 Ground Water Level DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0								
	Residual Soil		Dark Brown	sandy CLAY some silt	moist		S-1	
3.0								
5								

No. WTP-4 Depth: 3.0 m Elevation: 106.0 m Station: N 1, 611, 122 E 526, 750

Location: WTP soil material Date: Aug. 21, 2002 Ground Water Level DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0								
	Residual Soil		Grayish Brown	sandy SILT a little fine gravel	moist		S-1	
3.0								
5								

No. WTP-5 Depth: 3.0 m Elevation: 124.5 m Station: N 1, 610, 867 E 526, 988

Location: WTP soil material Date: Aug., 22, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No	Remarks
0								
	Residual Soil		Grayish Brown	silty CLAY with some sand and silt	moist		S-1	
3.0								
5								

No. WTP-6 Depth: 3.0 m Elevation: 92.0 m Station: N 1, 610, 622 E 527, 235

Location: WTP Soil Material Date: Aug., 22, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No	Remarks
0								
	Residual Soil		Grayish Brown	silty CLAY with a little sand	moist		S-1	
3.0								
5								

No. WTP-7 Depth: 3.0 m Elevation: 72.0 m Station: N 1, 610, 245 E 515, 928

Location: Taytay S/R soil material Date: Aug., 21, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0								
	Residual Soil		Brown	clayey SILT with traces of sand and a little fine gravel	moist		S-1	
3.0								
5								

No. WTP-8 Depth: 3.0 m Elevation: 97.0 m Station: N 1, 610, 300 E 516, 738

Location: Taytay S/R soil material Date: Aug., 21, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No	Remarks
0								
	Residual Soil		Reddish Brown	clayey SILT with some sand	moist		S-1	
3.0								
5								

No. WTP-9 Depth: 3.0 m Elevation: 63.0 m Station: N 1, 610, 050 E 516, 600

Location: Taytay S/R soil material Date: Aug., 22, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0	Residual Soil		Dark Brown	silty CLAY with traces of sand and some gravel	moist		S-1	
3.0								

No. WTP-10 Depth: 3.0 m Elevation: 72.0 m Station: N 1, 610, 092 E 516, 780

Location: Taytay S/R soil material Date: Aug., 22, 2002 Ground Water Level: DRY

Depth (m)	Formation	Column Section	Color	Description	Moisture Condition	Soil Classification	Sample No.	Remarks
0	Residual Soil		Grayish Brown	silty CLAY, high plasticity	moist		S-1	
3.0								

G6 Laboratory Test

Grain Size Analysis

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL. NO	ADL02-TCU-17892
LOCATION		DATE TESTED	SEPT. 18, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-1	SAMPLE NO.	S-1	DEPTH (M)	0.00-3.00
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		6525.2

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6	1064.9	1064.9	16.32	83.68
3 1/2"	88.9	680.6	1745.5	26.75	73.25
3"	76.2	270.1	2015.6	30.89	69.11
2 1/2"	63.5	368.1	2383.7	36.53	63.47
2"	50.8	399.3	2783	42.65	57.35
1 1/2"	38.1	373.9	3156.9	48.38	51.62
1"	25.4	406.5	3563.4	54.61	45.39
3/4"	19.1	343.9	3907.3	59.88	40.12
1/2"	12.7	420.9	4328.2	66.33	33.67
3/8"	9.52	230.3	4558.5	69.86	30.14
No. 4	4.76	259.1	4817.6	73.83	26.17
No. 8	2.38	366	5183.6	79.44	20.56
No. 16	1.18	216	5399.6	82.75	17.25
No. 30	0.6	152	5551.6	85.08	14.92
No. 40	0.42	259.7	5811.3	89.06	10.94
No. 50	0.298	227.8	6039.1	92.55	7.45
No. 100	0.149	134.4	6173.5	94.61	5.39
No. 200	0.074	33.3	6206.8	95.12	4.88

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL. NO	ADL02-TCU-17893
LOCATION		DATE TESTED	SEPT. 18, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-2	SAMPLE NO.	S-1	DEPTH (M)	0.00-3.00
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		6754.2

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9				
3"	76.2				
2 1/2"	63.5				
2"	50.8	0	0	0.00	100.00
1 1/2"	38.1	1696	1696	25.11	74.89
1"	25.4	334.3	2030.3	30.06	69.94
3/4"	19.1	494.4	2524.7	37.38	62.62
1/2"	12.7	387.7	2912.4	43.12	56.88
3/8"	9.52	414	3326.4	49.25	50.75
No. 4	4.76	640.3	3966.7	58.73	41.27
No. 8	2.38	822	4788.7	70.90	29.10
No. 16	1.18	482.9	5271.6	78.05	21.95
No. 30	0.6	516.1	5787.7	85.69	14.31
No. 40	0.42	618.7	6406.4	94.85	5.15
No. 50	0.298	125.6	6532	96.71	3.29
No. 100	0.149	29.7	6561.7	97.15	2.85
No. 200	0.074	97.3	6659	98.59	1.41

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17894
LOCATION		DATE TESTED	SEPT. 18, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-3	SAMPLE NO.	S-1	DEPTH (M)	0.00-1.80
DESCRIPTION	Poorly grade GRAVEL		TOTAL OVEN DRY SAMPLE		7325.1

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9				
3"	76.2				
2 1/2"	63.5	1615.2	1615.2	22.05	77.95
2"	50.8	193.4	1808.6	24.69	75.31
1 1/2"	38.1	561.1	2369.7	32.35	67.65
1"	25.4	824.8	3194.5	43.61	56.39
3/4"	19.1	232.9	3427.4	46.79	53.21
1/2"	12.7	413.1	3840.5	52.43	47.57
3/8"	9.52	270.3	4110.8	56.12	43.88
No. 4	4.76	482	4592.8	62.70	37.30
No. 8	2.38	694.5	5287.3	72.18	27.82
No. 16	1.18	380.1	5667.4	77.37	22.63
No. 30	0.6	547.9	6215.3	84.85	15.15
No. 40	0.42	319.4	6534.7	89.21	10.79
No. 50	0.298	159	6693.7	91.38	8.62
No. 100	0.149	334.7	7028.4	95.95	4.05
No. 200	0.074	82.1	7110.5	97.07	2.93

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17885
LOCATION		DATE TESTED	SEPT. 19, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-3	SAMPLE NO.	S-2	DEPTH (M)	1.80-3.00
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		8755.1

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9	1290.5	1290.5	14.74	85.26
3"	76.2	514.8	1805.3	20.62	79.38
2 1/2"	63.5	461.4	2266.7	25.89	74.11
2"	50.8	506.9	2773.6	31.68	68.32
1 1/2"	38.1	452.7	3226.3	36.85	63.15
1"	25.4	865.8	4092.1	46.74	53.26
3/4"	19.1	887.8	4979.9	56.88	43.12
1/2"	12.7	865.9	5845.8	66.77	33.23
3/8"	9.52	619	6464.8	73.84	26.16
No. 4	4.76	69.1	6533.9	74.63	25.37
No. 8	2.38	888.7	7422.6	84.78	15.22
No. 16	1.18	426.3	7848.9	89.65	10.35
No. 30	0.6	151.5	8000.4	91.38	8.62
No. 40	0.42	178.6	8179	93.42	6.58
No. 50	0.298	116.5	8295.5	94.75	5.25
No. 100	0.149	82.3	8377.8	95.69	4.31
No. 200	0.074	108.5	8486.3	96.93	3.07

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17896
LOCATION		DATE TESTED	SEPT. 19, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-4	SAMPLE NO.	S-1	DEPTH (M)	0.00-0.90
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		7895.1

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9				
3"	76.2	1706.1	1706.1	21.61	78.39
2 1/2"	63.5	630.8	2336.9	29.60	70.40
2"	50.8	474.5	2811.4	35.61	64.39
1 1/2"	38.1	189.5	3000.9	38.01	61.99
1"	25.4	396.4	3397.3	43.03	56.97
3/4"	19.1	129.4	3526.7	44.67	55.33
1/2"	12.7	188.9	3715.6	47.06	52.94
3/8"	9.52	303	4018.6	50.90	49.10
No. 4	4.76	441.3	4459.9	56.49	43.51
No. 8	2.38	470.6	4930.5	62.45	37.55
No. 16	1.18	900	5830.5	73.85	26.15
No. 30	0.6	531.4	6361.9	80.58	19.42
No. 40	0.42	478.4	6840.3	86.64	13.36
No. 50	0.298	453.2	7293.5	92.38	7.62
No. 100	0.149	197.4	7490.9	94.88	5.12
No. 200	0.074	84.4	7575.3	95.95	4.05

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17897
LOCATION		DATE TESTED	SEPT. 19, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-4	SAMPLE NO.	S-2	DEPTH (M)	0.90-3.00
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		9015.0

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6	2663.9	2663.9	29.55	70.45
3 1/2"	88.9	598.6	3262.5	36.19	63.81
3"	76.2	663.9	3926.4	43.55	56.45
2 1/2"	63.5	1133.2	5059.6	56.12	43.88
2"	50.8	345.3	5404.9	59.95	40.05
1 1/2"	38.1	418.3	5823.2	64.59	35.41
1"	25.4	385.8	6209	68.87	31.13
3/4"	19.1	446.3	6655.3	73.82	26.18
1/2"	12.7	630.1	7285.4	80.81	19.19
3/8"	9.52	203.8	7489.2	83.07	16.93
No. 4	4.76	567.9	8057.1	89.37	10.63
No. 8	2.38	74.8	8131.9	90.20	9.80
No. 16	1.18	124.4	8256.3	91.58	8.42
No. 30	0.6	132.6	8388.9	93.05	6.95
No. 40	0.42	109	8497.9	94.26	5.74
No. 50	0.298	146.1	8644	95.88	4.12
No. 100	0.149	175.8	8819.8	97.83	2.17
No. 200	0.074	50.5	8870.3	98.39	1.61

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17898
LOCATION		DATE TESTED	SEPT. 19, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-5	SAMPLE NO.	S-1	DEPTH (M)	0.00-1.00
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		5825.1

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9				
3"	76.2				
2 1/2"	63.5				
2"	50.8				
1 1/2"	38.1	1296.1	1296.1	22.25	77.75
1"	25.4	1243.6	2539.7	43.60	56.40
3/4"	19.1	232.5	2772.2	47.59	52.41
1/2"	12.7	486.4	3258.6	55.94	44.06
3/8"	9.52	338.4	3597	61.75	38.25
No. 4	4.76	632	4229	72.60	27.40
No. 8	2.38	661.2	4890.2	83.95	16.05
No. 16	1.18	307	5197.2	89.22	10.78
No. 30	0.6	159	5356.2	91.95	8.05
No. 40	0.42	249.3	5605.5	96.23	3.77
No. 50	0.298	59.4	5664.9	97.25	2.75
No. 100	0.149	42.5	5707.4	97.98	2.02
No. 200	0.074	21	5728.4	98.34	1.66

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17899
LOCATION		DATE TESTED	SEPT. 19, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-5	SAMPLE NO.	S-2	DEPTH (M)	1.00-3.00
DESCRIPTION	Poorly grade GRAVEL		TOTAL OVEN DRY SAMPLE		6715.5

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9				
3"	76.2				
2 1/2"	63.5				
2"	50.8				
1 1/2"	38.1	755.5	755.5	11.25	88.75
1"	25.4	1181.9	1937.4	28.85	71.15
3/4"	19.1	698.4	2635.8	39.25	60.75
1/2"	12.7	709.9	3345.7	49.82	50.18
3/8"	9.52	498.9	3844.6	57.25	42.75
No. 4	4.76	846.2	4690.8	69.85	30.15
No. 8	2.38	698.4	5389.2	80.25	19.75
No. 16	1.18	466	5855.2	87.19	12.81
No. 30	0.6	239.1	6094.3	90.75	9.25
No. 40	0.42	163.9	6258.2	93.19	6.81
No. 50	0.298	111.5	6369.7	94.85	5.15
No. 100	0.149	60.4	6430.1	95.75	4.25
No. 200	0.074	69.8	6499.9	96.79	3.21

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17900
LOCATION		DATE TESTED	SEPT. 19, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-6	SAMPLE NO.	S-1	DEPTH (M)	0.00-3.00
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		8025.0

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"					
3 1/2"					
3"					
2 1/2"	63.5	1499.1	1499.1	18.68	81.32
2"	50.8	497.5	1996.6	24.88	75.12
1 1/2"	38.1	382	2378.6	29.64	70.36
1"	25.4	2094.5	4473.1	55.74	44.26
3/4"	19.1	1197.4	5670.5	70.66	29.34
1/2"	12.7	134	5804.5	72.33	27.67
3/8"	9.52	343.5	6148	76.61	23.39
No. 4	4.76	337	6485	80.81	19.19
No. 8	2.38	466.3	6951.3	86.62	13.38
No. 16	1.18	263.2	7214.5	89.90	10.10
No. 30	0.6	220.7	7435.2	92.65	7.35
No. 40	0.42	132.4	7567.6	94.30	5.70
No. 50	0.298	166.9	7734.5	96.38	3.62
No. 100	0.149	59.4	7793.9	97.12	2.88
No. 200	0.074	69.8	7863.7	97.99	2.01

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL. NO	ADL02-TCU-17901
LOCATION		DATE TESTED	SEPT. 19, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-7	SAMPLE NO.	S-1	DEPTH (M)	0.00-0.70
DESCRIPTION	Silty SAND		TOTAL OVEN DRY SAMPLE		5025.0

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9				
3"	76.2				
2 1/2"	63.5				
2"	50.8				
1 1/2"	38.1				
1"	25.4				
3/4"	19.1				
1/2"	12.7				
3/8"	9.52				
No. 4	4.76	4	4	0.08	99.92
No. 8	2.38	15.6	19.6	0.39	99.61
No. 16	1.18	719.6	739.2	14.71	85.29
No. 30	0.6	334.6	1073.8	21.37	78.63
No. 40	0.42	1744.7	2818.5	56.09	43.91
No. 50	0.298	359.8	3178.3	63.25	36.75
No. 100	0.149	281.4	3459.7	68.85	31.15
No. 200	0.074	97.3	3557	70.79	29.21

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL. NO	ADL02-TCU-17902
LOCATION		DATE TESTED	SEPT. 19, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-7	SAMPLE NO.	S-2	DEPTH (M)	0.70-3.00
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		9985.5

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6	1985.1	1985.1	19.88	80.12
3 1/2"	88.9	1235.2	3220.3	32.25	67.75
3"	76.2	693	3913.3	39.19	60.81
2 1/2"	63.5	468.3	4381.6	43.88	56.12
2"	50.8	536.3	4917.9	49.25	50.75
1 1/2"	38.1	393.4	5311.3	53.19	46.81
1"	25.4	818.8	6130.1	61.39	38.61
3/4"	19.1	822.8	6952.9	69.63	30.37
1/2"	12.7	508.3	7461.2	74.72	25.28
3/8"	9.52	165.7	7626.9	76.38	23.62
No. 4	4.76	342.5	7969.4	79.81	20.19
No. 8	2.36	539.2	8508.6	85.21	14.79
No. 16	1.18	286.6	8795.2	88.08	11.92
No. 30	0.6	356.5	9151.7	91.65	8.35
No. 40	0.42	163.8	9315.5	93.29	6.71
No. 50	0.298	255.6	9571.1	95.85	4.15
No. 100	0.149	133.8	9704.9	97.19	2.81
No. 200	0.074	110.8	9815.7	98.30	1.70

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17903
LOCATION		DATE TESTED	SEPT. 20, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-8	SAMPLE NO.	S-1	DEPTH (M)	0.00-2.00
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		9895.5

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9				
3"	76.2	915.3	915.3	9.25	90.75
2 1/2"	63.5	488.9	1404.2	14.19	85.81
2"	50.8	249.3	1653.5	16.71	83.29
1 1/2"	38.1	324.6	1978.1	19.99	80.01
1"	25.4	1751.5	3729.6	37.69	62.31
3/4"	19.1	1521	5250.6	53.06	46.94
1/2"	12.7	1181.5	6432.1	65.00	35.00
3/8"	9.52	496.7	6928.8	70.02	29.98
No. 4	4.76	687.8	7616.6	76.97	23.03
No. 8	2.38	642.2	8258.8	83.46	16.54
No. 16	1.18	382.9	8641.7	87.33	12.67
No. 30	0.6	393.9	9035.6	91.31	8.69
No. 40	0.42	97	9132.6	92.29	7.71
No. 50	0.298	45.5	9178.1	92.75	7.25
No. 100	0.149	39.6	9217.7	93.15	6.85
No. 200	0.074	144.4	9362.1	94.61	5.39

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17904
LOCATION		DATE TESTED	SEPT. 20, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-8	SAMPLE NO.	S-2	DEPTH (M)	2.00-3.00
DESCRIPTION	Poorly graded GRAVEL with silt		TOTAL OVEN DRY SAMPLE		9765.0

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9				
3"	76.2				
2 1/2"	63.5	1069.3	1069.3	10.95	89.05
2"	50.8	646.4	1715.7	17.57	82.43
1 1/2"	38.1	687.5	2403.2	24.61	75.39
1"	25.4	765.5	3168.7	32.45	67.55
3/4"	19.1	430.7	3599.4	36.86	63.14
1/2"	12.7	1452	5051.4	51.73	48.27
3/8"	9.52	503.9	5555.3	56.89	43.11
No. 4	4.76	669.9	6225.2	63.75	36.25
No. 8	2.38	590.8	6816	69.80	30.20
No. 16	1.18	762.6	7578.6	77.61	22.39
No. 30	0.6	554.7	8133.3	83.29	16.71
No. 40	0.42	335.9	8469.2	86.73	13.27
No. 50	0.298	319.3	8788.5	90.00	10.00
No. 100	0.149	288.1	9076.6	92.95	7.05
No. 200	0.074	148.4	9225	94.47	5.53

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17905
LOCATION		DATE TESTED	SEPT. 20, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-9	SAMPLE NO.	S-1	DEPTH (M)	0.00-0.90
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		10250.5

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6	1907.6	1907.6	18.61	81.39
3 1/2"	88.9	745.2	2652.8	25.88	74.12
3"	76.2	597.6	3250.4	31.71	68.29
2 1/2"	63.5	777	4027.4	39.29	60.71
2"	50.8	623.3	4650.7	45.37	54.63
1 1/2"	38.1	223.4	4874.1	47.55	52.45
1"	25.4	385.4	5259.5	51.31	48.69
3/4"	19.1	1203.4	6462.9	63.05	36.95
1/2"	12.7	695	7157.9	69.83	30.17
3/8"	9.52	407	7564.9	73.80	26.20
No. 4	4.76	378.2	7943.1	77.49	22.51
No. 8	2.38	396.9	8340	81.36	18.64
No. 16	1.18	258.1	8598.1	83.88	16.12
No. 30	0.6	140.5	8738.6	85.25	14.75
No. 40	0.42	191.6	8930.2	87.12	12.88
No. 50	0.298	482.4	9412.6	91.83	8.17
No. 100	0.149	402.3	9814.9	95.75	4.25
No. 200	0.074	63.5	9878.4	96.37	3.63

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17906
LOCATION		DATE TESTED	SEPT. 20, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-9	SAMPLE NO.	S-2	DEPTH (M)	0.90-3.00
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		9875.0

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6	2388.8	2388.8	24.19	75.81
3 1/2"	88.9	568.8	2957.6	29.95	70.05
3"	76.2	502.6	3460.2	35.04	64.96
2 1/2"	63.5	208.4	3668.6	37.15	62.85
2"	50.8	369.3	4037.9	40.89	59.11
1 1/2"	38.1	168.9	4206.8	42.60	57.40
1"	25.4	454.2	4661	47.20	52.80
3/4"	19.1	785.1	5446.1	55.15	44.85
1/2"	12.7	477.9	5924	59.99	40.01
3/8"	9.52	712	6636	67.20	32.80
No. 4	4.76	1054.6	7690.6	77.88	22.12
No. 8	2.38	425.7	8116.3	82.19	17.81
No. 16	1.18	238.9	8355.2	84.61	15.39
No. 30	0.6	122.5	8477.7	85.85	14.15
No. 40	0.42	81	8558.7	86.67	13.33
No. 50	0.298	353.5	8912.2	90.25	9.75
No. 100	0.149	283.4	9195.6	93.12	6.88
No. 200	0.074	142.2	9337.8	94.56	5.44

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17907
LOCATION		DATE TESTED	SEPT. 20, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	ATP-10	SAMPLE NO.	S-1	DEPTH (M)	0.00-3.00
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		10735.2

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6	2348.9	2348.9	21.88	78.12
3 1/2"	88.9	697.7	3046.6	28.38	71.62
3"	76.2	668.9	3715.5	34.61	65.39
2 1/2"	63.5	599	4314.5	40.19	59.81
2"	50.8	610.8	4925.3	45.88	54.12
1 1/2"	38.1	375.8	5301.1	49.38	50.62
1"	25.4	812.6	6113.7	56.95	43.05
3/4"	19.1	628	6741.7	62.80	37.20
1/2"	12.7	343.5	7085.2	66.00	34.00
3/8"	9.52	521.7	7606.9	70.86	29.14
No. 4	4.76	884.6	8491.5	79.10	20.90
No. 8	2.38	452	8943.5	83.31	16.69
No. 16	1.18	234	9177.5	85.49	14.51
No. 30	0.6	135.3	9312.8	86.75	13.25
No. 40	0.42	249	9561.8	89.07	10.93
No. 50	0.298	287.7	9849.5	91.75	8.25
No. 100	0.149	337.1	10186.6	94.89	5.11
No. 200	0.074	201.9	10388.5	96.77	3.23

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17887
LOCATION		DATE TESTED	SEPT. 17, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	KTP-1	SAMPLE NO.	S-1	DEPTH (M)	0.00-3.00
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		8714.1

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9				
3"	76.2				
2 1/2"	63.5				
2"	50.8	1642.6	1642.6	18.85	81.15
1 1/2"	38.1	514.1	2156.7	24.75	75.25
1"	25.4	169.1	2325.8	26.69	73.31
3/4"	19.1	129.8	2455.6	28.18	71.82
1/2"	12.7	616.1	3071.7	35.25	64.75
3/8"	9.52	348.6	3420.3	39.25	60.75
No. 4	4.76	969	4389.3	50.37	49.63
No. 8	2.38	817.4	5206.7	59.75	40.25
No. 16	1.18	395.6	5602.3	64.29	35.71
No. 30	0.6	1254	6856.3	78.68	21.32
No. 40	0.42	495.8	7352.1	84.37	15.63
No. 50	0.298	425.2	7777.3	89.25	10.75
No. 100	0.149	490.6	8267.9	94.88	5.12
No. 200	0.074	129.9	8397.8	96.37	3.63

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17888
LOCATION		DATE TESTED	SEPT. 17, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	KTP-2	SAMPLE NO.	S-1	DEPTH (M)	0.00-3.00
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		8975.2

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9				
3"	76.2				
2 1/2"	63.5				
2"	50.8	841	841	9.37	90.63
1 1/2"	38.1	1105.7	1946.7	21.69	78.31
1"	25.4	2249.2	4195.9	46.75	53.25
3/4"	19.1	385.9	4581.8	51.05	48.95
1/2"	12.7	792.5	5374.3	59.88	40.12
3/8"	9.52	332.1	5706.4	63.58	36.42
No. 4	4.76	457.8	6164.2	68.68	31.32
No. 8	2.38	410.1	6574.3	73.25	26.75
No. 16	1.18	274.7	6849	76.31	23.69
No. 30	0.6	348.2	7197.2	80.19	19.81
No. 40	0.42	364.4	7561.6	84.25	15.75
No. 50	0.298	569	8130.6	90.59	9.41
No. 100	0.149	271.1	8401.7	93.61	6.39
No. 200	0.074	192.1	8593.8	95.75	4.25

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17889
LOCATION		DATE TESTED	SEPT. 17, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	KTP-3	SAMPLE NO.	S-1	DEPTH (M)	0.00-3.00
DESCRIPTION	Poorly graded SAND		TOTAL OVEN DRY SAMPLE		9695.1

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9				
3"	76.2	1973	1973	20.35	79.65
2 1/2"	63.5	228.8	2201.8	22.71	77.29
2"	50.8	184.1	2385.9	24.61	75.39
1 1/2"	38.1	250.2	2636.1	27.19	72.81
1"	25.4	257.9	2894	29.85	70.15
3/4"	19.1	364.5	3258.5	33.61	66.39
1/2"	12.7	236.6	3495.1	36.05	63.95
3/8"	9.52	213.3	3708.4	38.25	61.75
No. 4	4.76	352.9	4061.3	41.89	58.11
No. 8	2.38	1101.3	5162.6	53.25	46.75
No. 16	1.18	630.2	5792.8	59.75	40.25
No. 30	0.6	433.4	6226.2	64.22	35.78
No. 40	0.42	1354.4	7580.6	78.19	21.81
No. 50	0.298	1072.3	8652.9	89.25	10.75
No. 100	0.149	546.8	9199.7	94.89	5.11
No. 200	0.074	210.2	9409.9	97.06	2.94

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17890
LOCATION		DATE TESTED	SEPT. 17, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	KTP-4	SAMPLE NO.	S-1	DEPTH (M)	0.00-3.00
DESCRIPTION	Poorly graded GRAVEL		TOTAL OVEN DRY SAMPLE		8675.2

SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9				
3"	76.2				
2 1/2"	63.5	904.8	904.8	10.43	89.57
2"	50.8	1273.5	2178.3	25.11	74.89
1 1/2"	38.1	338.4	2516.7	29.01	70.99
1"	25.4	838.9	3355.6	38.68	61.32
3/4"	19.1	396.4	3752	43.25	56.75
1/2"	12.7	471.1	4223.1	48.68	51.32
3/8"	9.52	394.7	4617.8	53.23	46.77
No. 4	4.76	256.8	4874.6	56.19	43.81
No. 8	2.38	308.8	5183.4	59.75	40.25
No. 16	1.18	1598.9	6782.3	78.18	21.82
No. 30	0.6	438.1	7220.4	83.23	16.77
No. 40	0.42	288	7508.4	86.55	13.45
No. 50	0.298	142.3	7650.7	88.19	11.81
No. 100	0.149	493.6	8144.3	93.88	6.12
No. 200	0.074	188.2	8332.5	96.05	3.95

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-TCU-17891
LOCATION		DATE TESTED	SEPT. 17, 2002

SIEVE ANALYSIS

(ASTM - D422)

TEST PIT NO.	KTP-5	SAMPLE NO.	S-1	DEPTH (M)	0.00-3.00
DESCRIPTION	Poorly grade GRAVEL		TOTAL OVEN DRY SAMPLE		9753.1

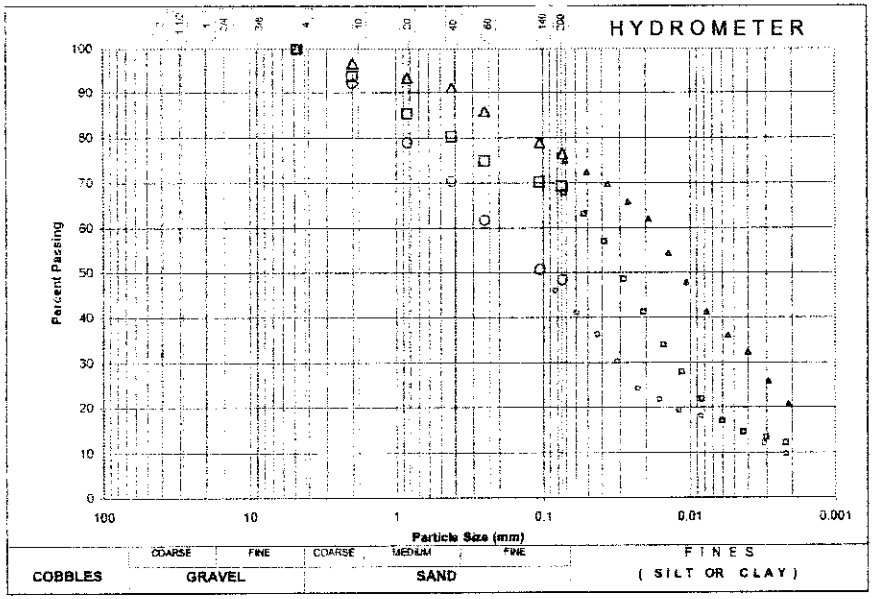
SEIVE NUMBER	DIAMETER OF OPENINGS (mm)	WEIGHT RETAINED (g)	CUMULATIVE WT. RETAINED (g)	CUMULATIVE PERCENT RETAINED	PERCENT FINER
4"	101.6				
3 1/2"	88.9				
3"	76.2				
2 1/2"	63.5				
2"	50.8	960.7	960.7	9.85	90.15
1 1/2"	38.1	542.3	1503	15.41	84.59
1"	25.4	1640.4	3143.4	32.23	67.77
3/4"	19.1	437	3580.4	36.71	63.29
1/2"	12.7	540.3	4120.7	42.25	57.75
3/8"	9.52	675.9	4796.6	49.18	50.82
No. 4	4.76	848.5	5645.1	57.88	42.12
No. 8	2.38	1043.6	6688.7	68.58	31.42
No. 16	1.18	459.3	7148	73.29	26.71
No. 30	0.6	366.8	7514.8	77.05	22.95
No. 40	0.42	430.1	7944.9	81.46	18.54
No. 50	0.298	642.7	8587.6	88.05	11.95
No. 100	0.149	472.1	9059.7	92.89	7.11
No. 200	0.074	236	9295.7	95.31	4.69

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-HYD-17961
LOCATION		DATE TESTED	SEPT. 22, 2002

GRAIN SIZE ANALYSIS WITH HYDROMETER TEST

(ASTM-D422)

SYMBOL	TEST PIT NUMBER	SAMPLE NUMBER	DEPTH (M)	ASTM CLASSIFICATION	DESCRIPTION
○	ATP-11	1	0.00-3.00	SC	Clayey SAND
□	ATP-12	2	1.30-3.00	MH	Clayey SILT
△	ATP-13	1	0.00-3.00	CH	Silty CLAY



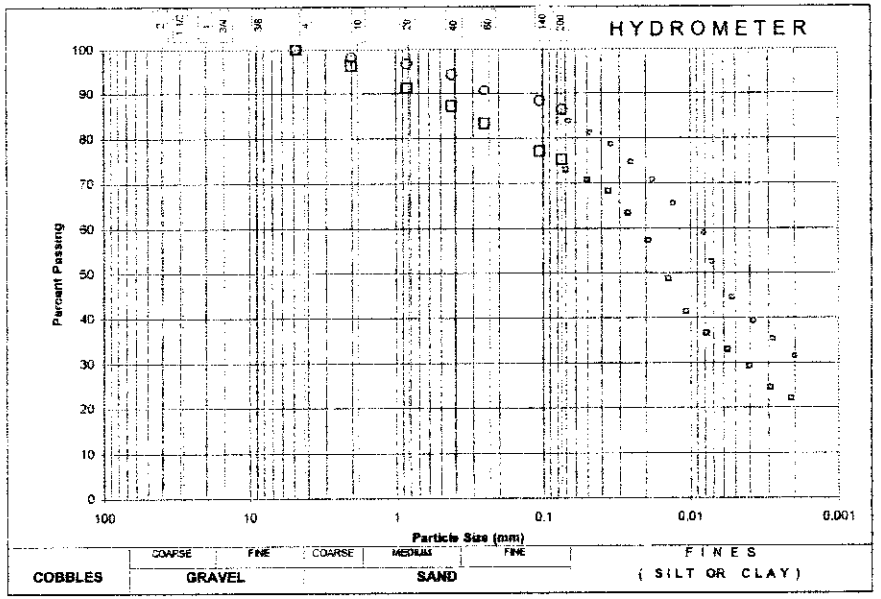
Remarks: _____

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-HYD-17963
LOCATION		DATE TESTED	SEPT. 22, 2002

GRAIN SIZE ANALYSIS WITH HYDROMETER TEST

(ASTM-D422)

SYMBOL	TEST PIT NUMBER	SAMPLE NUMBER	DEPTH (M)	ASTM CLASSIFICATION	DESCRIPTION
○	ATP-14	1	0.00-3.00	CH	Silty CLAY
□	ATP-15	1	0.00-3.00	CH	Silty CLAY
△					



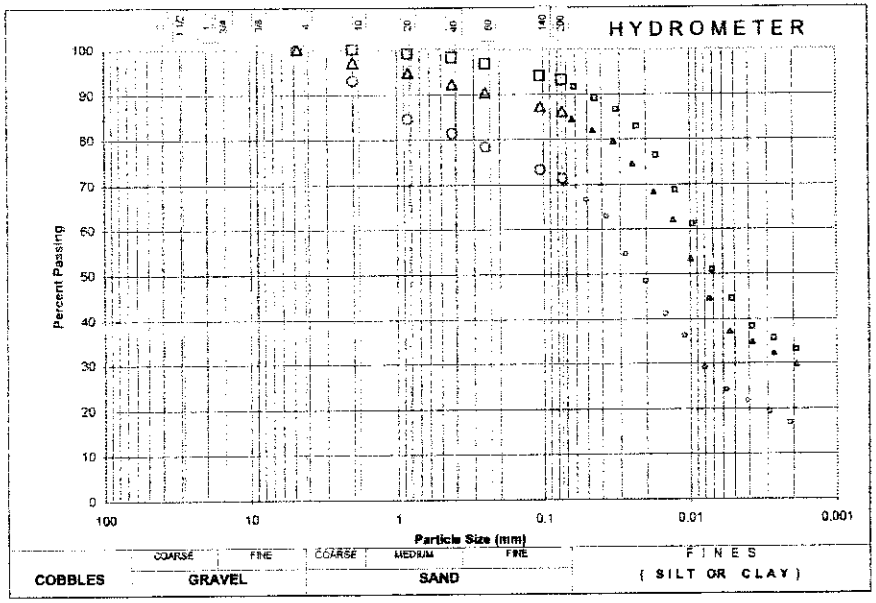
Remarks: _____

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-HYD-17959
LOCATION		DATE TESTED	SEPT. 20, 2002

GRAIN SIZE ANALYSIS WITH HYDROMETER TEST

(ASTM-D422)

SYMBOL	TEST PIT NUMBER	SAMPLE NUMBER	DEPTH (M)	ASTM CLASSIFICATION	DESCRIPTION
○	KTP-6	1	0.00-3.00	MH	Clayey SILT
□	KTP-7	1	0.00-3.00	CH	Silty CLAY
△	KTP-8	1	0.00-3.00	CH	Silty CLAY



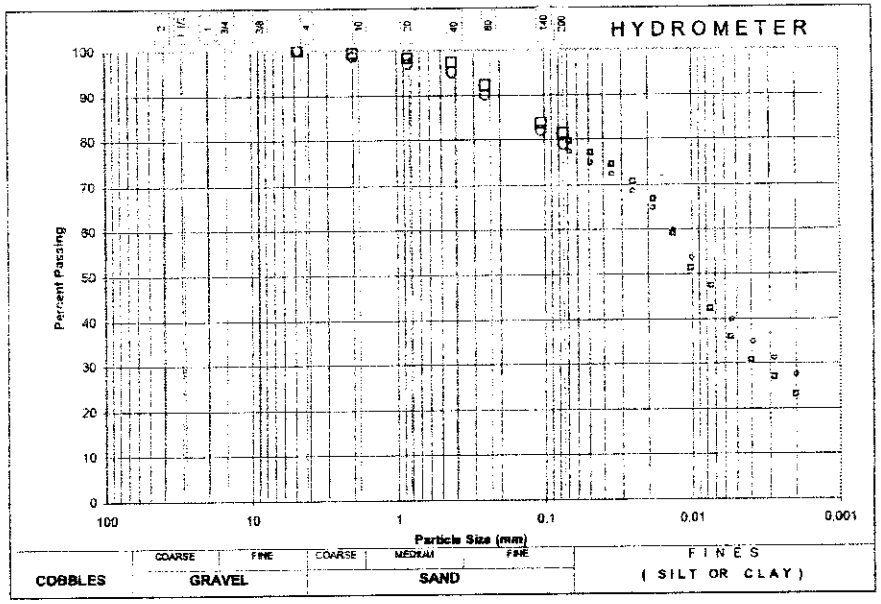
Remarks: _____

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-HYD-17960
LOCATION		DATE TESTED	SEPT. 20, 2002

GRAIN SIZE ANALYSIS WITH HYDROMETER TEST

(ASTM-D422)

SYMBOL	TEST PIT NUMBER	SAMPLE NUMBER	DEPTH (M)	ASTM CLASSIFICATION	DESCRIPTION
○	KTP-9	1	0.00-3.00	CH	Silty CLAY
□	KTP-10	1	0.00-3.00	CH	Silty CLAY
△					



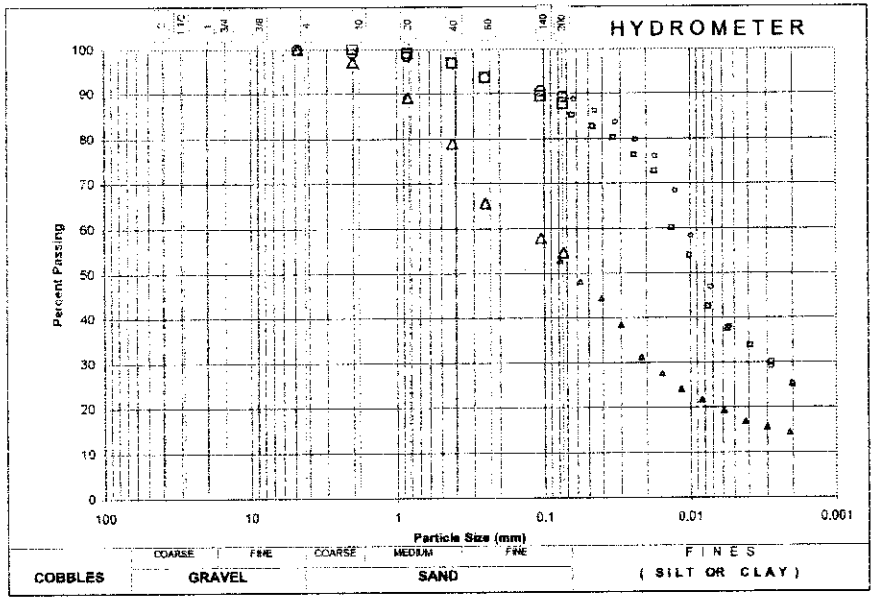
Remarks: _____

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-HYD-17955
LOCATION		DATE TESTED	SEPT. 19, 2002

GRAIN SIZE ANALYSIS WITH HYDROMETER TEST

(ASTM-D422)

SYMBOL	TEST PIT NUMBER	SAMPLE NUMBER	DEPTH (M)	ASTM CLASSIFICATION	DESCRIPTION
○	WTP-1	1	0.00-3.00	CH	Silty CLAY
□	WTP-2	1	0.00-3.00	CH	Silty CLAY
△	WTP-3	1	0.00-3.00	MH	Clayey SILT



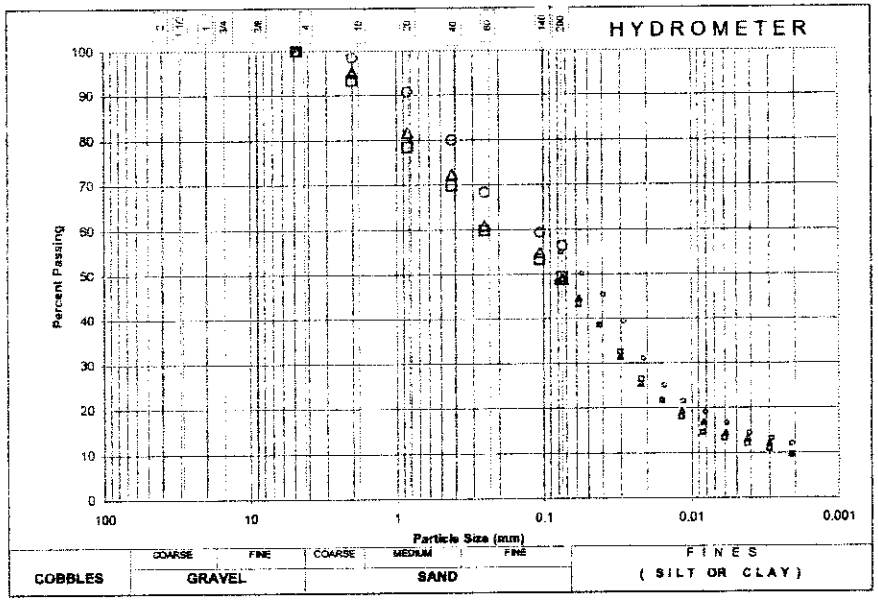
Remarks: _____

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-HYD-17955
LOCATION		DATE TESTED	SEPT. 19, 2002

GRAIN SIZE ANALYSIS WITH HYDROMETER TEST

(ASTM-D422)

SYMBOL	TEST PIT NUMBER	SAMPLE NUMBER	DEPTH (M)	ASTM CLASSIFICATION	DESCRIPTION
○	WTP-4	1	0.00-3.00	MH	Clayey SILT
□	WTP-5	1	0.00-3.00	SC	Clayey SAND
△	WTP-6	1	0.00-3.00	MH	Clayey SILT



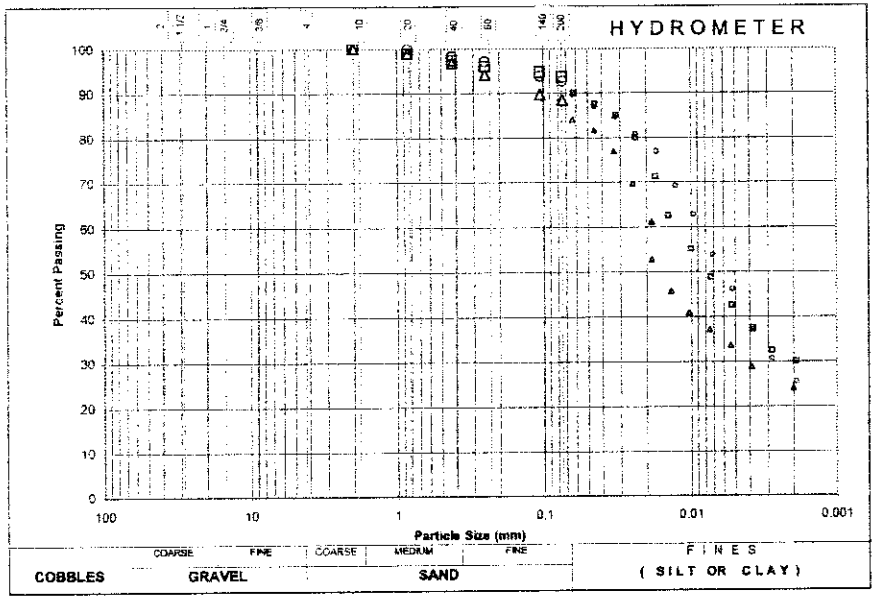
Remarks: _____

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-HYD-17955
LOCATION		DATE TESTED	SEPT. 19, 2002

GRAIN SIZE ANALYSIS WITH HYDROMETER TEST

(ASTM-D422)

SYMBOL	TEST PIT NUMBER	SAMPLE NUMBER	DEPTH (M)	ASTM CLASSIFICATION	DESCRIPTION
○	WTP-7	1	0.00-3.00	CH	Silty CLAY
□	WTP-8	1	0.00-3.00	CH	Silty CLAY
△	WTP-9	1	0.00-3.00	CH	Silty CLAY



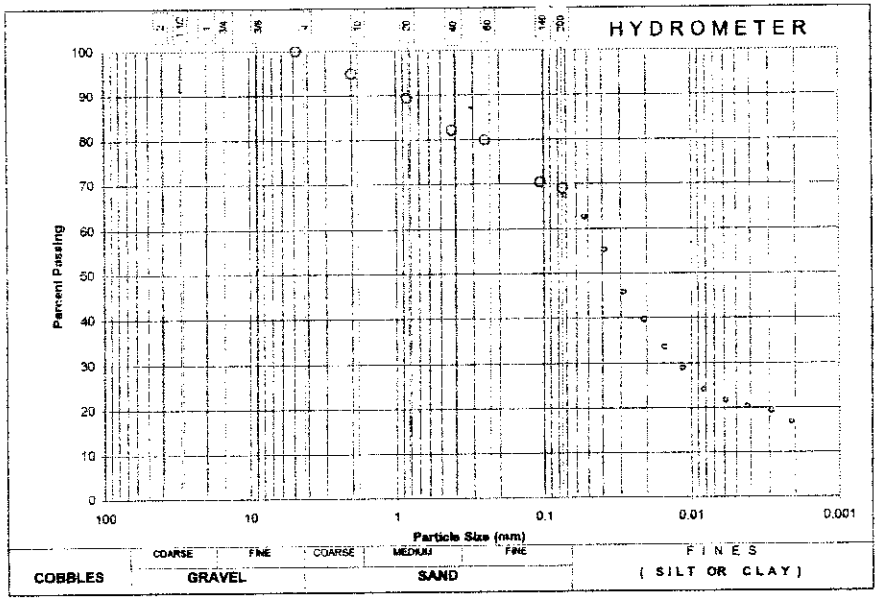
Remarks: _____

PROJECT	STUDY ON WATER RESOURCES DEVELOPMENT FOR METRO MANILA	CONTROL NO	ADL02-HYD-17956
LOCATION		DATE TESTED	SEPT. 19, 2002

GRAIN SIZE ANALYSIS WITH HYDROMETER TEST

(ASTM-D422)

SYMBOL	TEST PIT NUMBER	SAMPLE NUMBER	DEPTH (M)	ASTM CLASSIFICATION	DESCRIPTION
○	WTP-10	1	0.00-3.00	CH	Silty CLAY
□					
△					



Remarks: _____