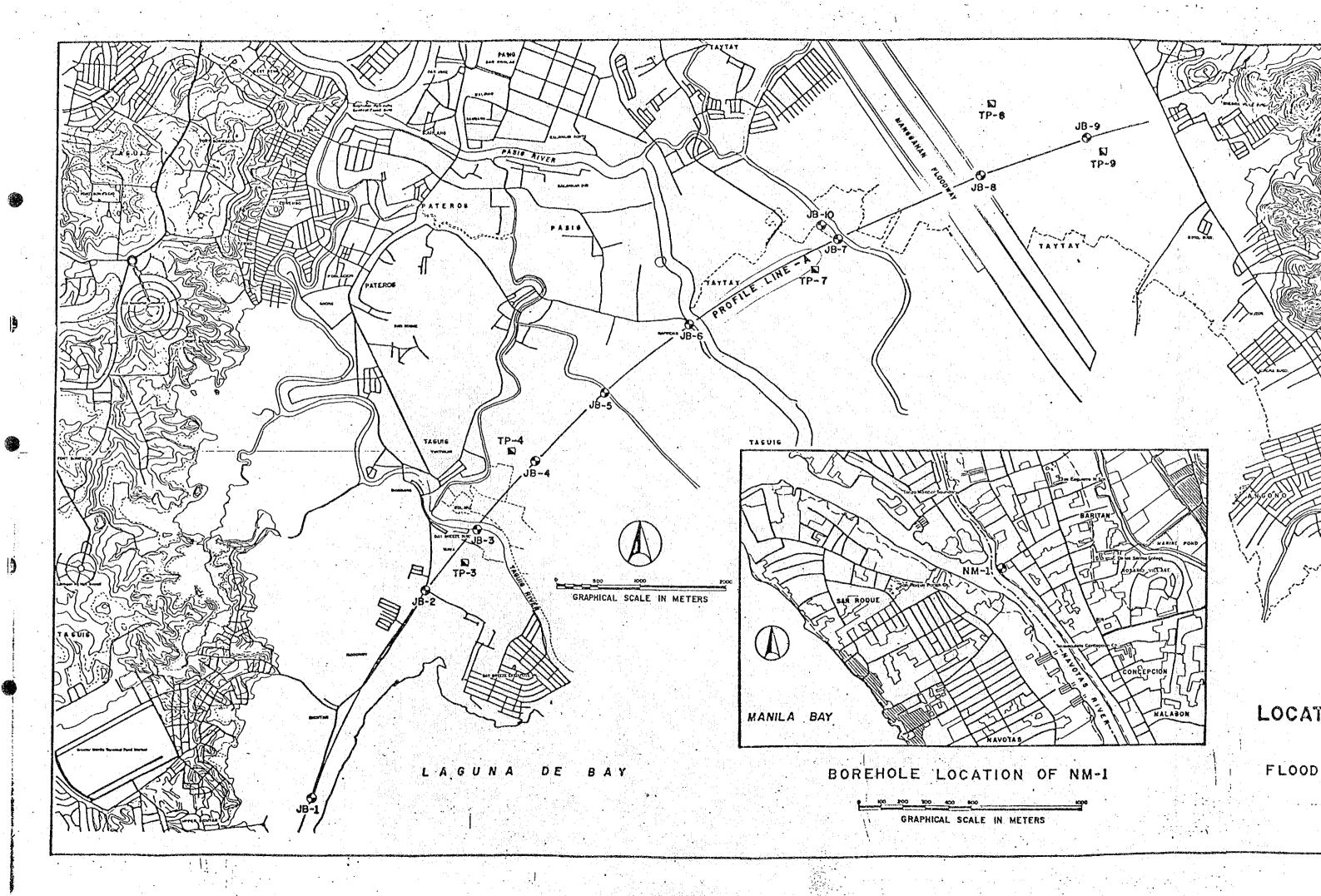
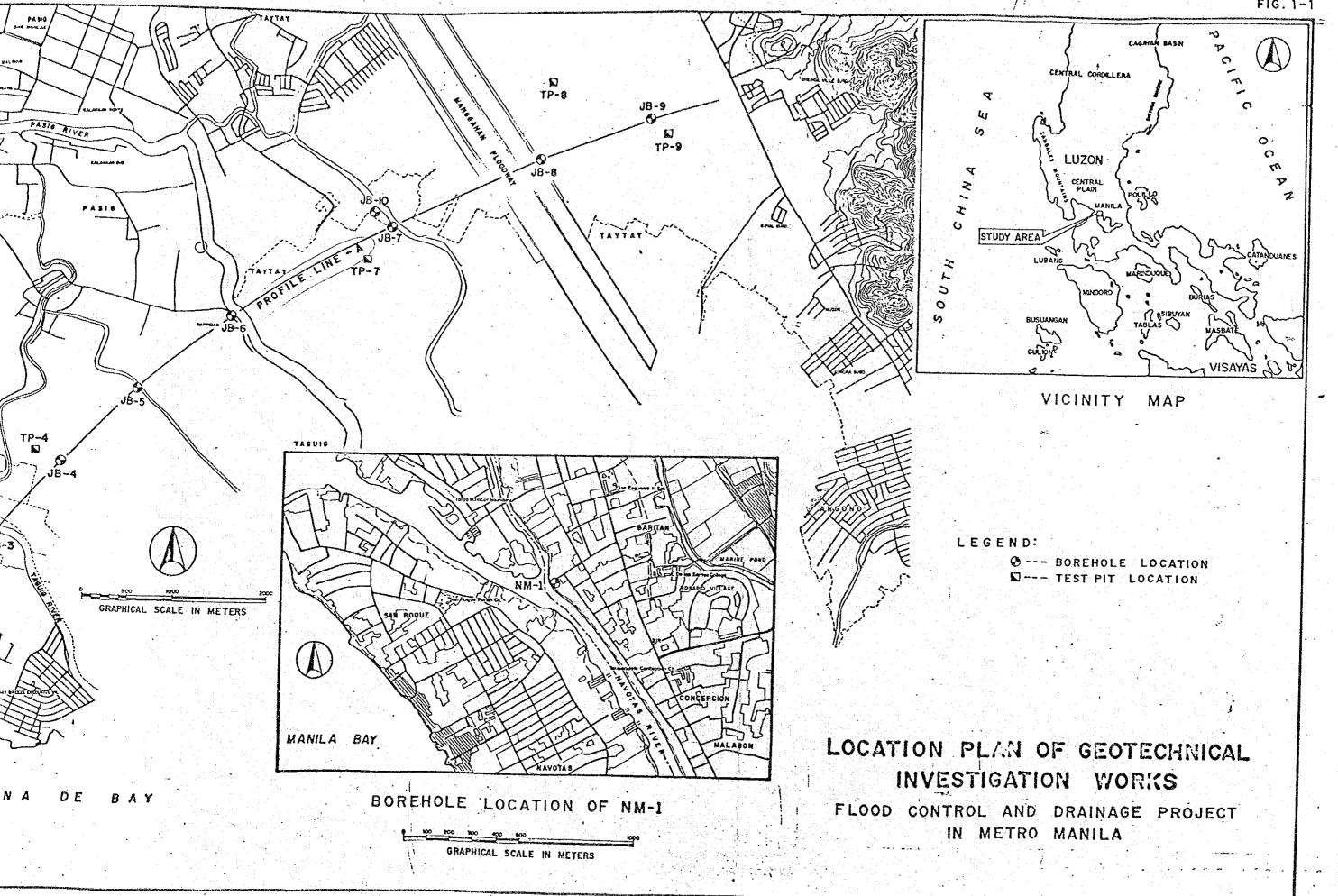
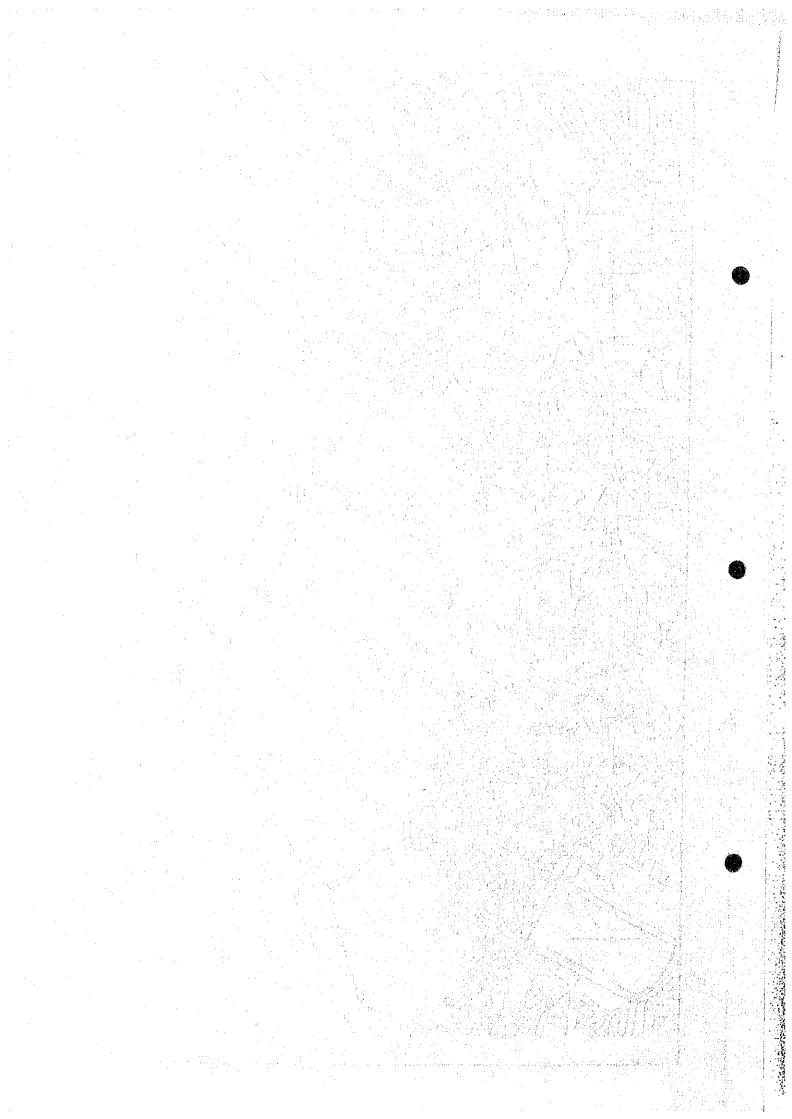
#### **B. RESULTS OF GEOTECHNICAL INVESTIGATION**







		· · · · · · · ·	DRILL	LO	G J	HOLI	E NO.	JB-1	SHEET	NO. 1	<u>or</u> 11	
12	DEPTH	ELEVATION	ROCK TYPE	COLUMN	DESCRIPTION	SS:-	GROUNDWATER LEVEL	KECOVEK. COKE	SAMPLE	STANDARD	PENETRATION	
DATE	30	ELE:	FORMATION	SECTION	DESCRIP (10A	CLA FICAT	ROUNT		TESTED	τ .	EST	1.4
	0.30	11,31	TOPSOIL		Brown organic clay,	<del>                                     </del>				, a		
سلسلسلس	2.50	9,11	SAND		Dark brown, medium to coarse sand. Very dense.	SP	6-15-19	9.			ZП	
عسأسنيل يديله يدا		: .	SAND	6 6	Dark groy to green, fine to medium sand with shells, Loose.			95				
	5.00			B 8				85		/		
68	5.60	6.01	CLAY	- 35.70.35	Light gray clay, Very soft, medium plasticity.	СН				/		
9	7.00	4.61	SAND	77	Dark greenish slity sond. Loose,	SM		95		\		
⊷F-I	8.00	3,61	SILT		Greenish gray clayey silt; very high plasticity.	мн	·	α	Unchrande			
SVD				*				95				han an land
سليسيلسليه			CLAY	<i>a</i>	Bluish to greenish gray clay with shells. Very high plasticity.	сн		95 95				Included in
				0				95 95				
	4.00	-2.39			Contract to the state of the st			95				
-	5.00	-3.39	SILT		Greenish gray silt; very high plasticity; stiff.	мн			Under Urba			
					END OF BOREHOLE		-					
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			:	DRILL	LO	G 1	HOLE	E NO.	JB-2	SHEET	NO. 2	<u> </u>	
	DAIL	DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN	DESCRIPTION	USCS CLASSI- FICATION	GROUNDWATER LEVEL	CORE RECOVERY	SAMPLE TESTED	Ť	PENETRATION EST	DEPTH
	ملسات الساميليسيليسي	3.0	3.97	RECLAIMED	X	FIII. Tuff trogments and gravels for road in BAY BREEZE EXECUTIVE VILL. Brown to groy, sand, tuff and grovel mixed (source: ANTH-POLO)			% cα ω		16 78		
	سادسالسط	4.5	8.47	SÄND	0.0	Light yellowish brown , medium sand. Loose.	sp	4-15-89	ω				
	سلسلسك	6.0	6:97	CLAY	<i>5</i>	Dark gray , sandy clay. Medium plastic.	CL		ıα				ակուսանո
	3.9	8.7	4.27	SILT	7 -0-1 10 -10 10 -10	Dark gray, soft, sandy silt with clay. Very low plasti- city.	МL		95 95 95				in brutan antania
	10NE 14-15, 198	0.51	0.97	SAND	0000	Dark greenish gray, medium to coarse sand with shells. Medium dense.	SP.		95 95 95				edeselection inchering
	يولساساساساساساسا	[4.6	-1.63	SILT	7/ /6 // 1/	Dark greenish gray to brow- nish gray, clayey silt. Medium dense.	мн		90 90 93				dimber bedreibun
	مسلسيل سطسط	17.0	-4.03	CLAY		Bluish gray clay. High plas- ticity.			95 (00				ահավագիու
	استلسلسلسلسا			CLAY		Dark gray to black, mode- rately hard (consolidated) clay. Plastic.	СН	•	m m m	Undistrey Dample	\ 		dan hadan hadan da
	L	20.0	-7.03		===	End of BOREHOLE			$\infty$		X		lum!
	باستياسا ساسياسا					ENG OF BOKEHOLE							declaritation la
	<u> </u>												HOLE HOLE
	ستاستاستاس							110000000000000000000000000000000000000					molandaridanian NO:
	سلسلسلسلسا												initial marini
	والسراسياسيا												deinbrokeiluule )
	وستنسطستاس							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					antimkantar (
-				····	<del></del>	B-3	<del></del> -	_, <u>.</u>	::::::::.J:			CO., LTD.	

				·	DRILL	LO	G ~			B-3	SHEET	NO. 3 OF 11	
	31		DEPTH	ELEVATION	ROCK TYPE OR	COLUMN	DESCRIPTION	SSI- TION	GROUNDWATER CEVEL	CORE RECOVERY	SAMPLE	SYANDARD PENETRATION	
	Ya		30	ELEY	FORMATION	SECTION	DESCRIPTION	ES S	SROUND	% cm	TESTED	TEST	DEPTI
		1	0.8	12.01	TOP SOIL	$\geq \leq$	Dark brown, organic day with roots		0-12-19				
			,		CLAY		Yellowish brown, soft cloy. High plosticity.	сн		$\infty$			
		أساسا	3.0	19.51			2.5-3.0m.: contained silty matrix.			20			
		اسلساسا	5.1	7.41	SAND		Dark greenish brown, medium (3.0-5.0 m) to fine (5.0-60m sand with shells ; loose.	SP	:				
		-	6.1	6.41	SILT		Dark brown closes silt; highly plastic; soft.	мн		ω	Undistante Somple		
	1989					6 0 0 0 0 0 0 0 0	Dark gray, portly bluish. dark gray, soft clay, high plasticity At 8.0-10.0 m., mony shells are concentrated.			æ æ			edin tarka maka
A	-12,	-			CLAY	00		сн		95			
	JUNE 1									95			
	, and the same	_	13.0	0.51 -0.49	SAND		Yellowish brown, fine sond; consolidated.	SP		95			
	متائديهما يسترا اعتصامتهما فتجملته		6.5		CLAY		Dark bluish gray, soft clay. a Very high plosticity.			00 00 00	Undistyrbad Surple		
	مينيمساميميا يحيث سيايم			-3.99	CLAY		Dark brown to black, very sticky cloy. Very high plosticity. Stiff.	CH		95 95			in the state of th
		ľ		-8.49	CLAY		19.0 - 20.0 m.: Including many tragments of light brown tuffoceous			95			
	1	12	0.0	-7.49			sand Hard END OF BOREHOLE			90			
	اسلىسىلىسى	1											
	باسطيسا		1.11										Lantantant
	արտարա		ŀ										TOH
	يصلسطيسا												NO.
	المساسينا												dialind.
	ահասևամա					•							milmohim
	ساسيشتىك												
	Juntambunt												antandan ;
											NIDDAN	LA LE	Lunium

			DRILL	LÖ	${f G}$	HOLI	E NO.	JB-4	SHEET	NO. 4 OF II
31	ОЕРТИ	ELEVATION	ROCK TYPE OR	COLUMN	DESCRIPTION	ASSI- ATTON	GROUNDWATER LEVEL	CORE	.1	STANDARD PENETRATION
ý	, H		FORMATION	SECTION		255	CROU	% cm	TESTED	TEST 2
1	0.8	11.66	CLAY	$\geq$	Fill materials for road Tabedo Tuff fragments	ОН	-			
1	1.3	10.96	CLAT		Dork brown, organic clay.	Он	{·	8.		
لمسافعت فتعتب	3.3	8.86	CLAY		Light grayish brown clay, Sity material included in lower portion. Medium plasticity,	СН	4-13-89	95		
استاستسلسه	4.0	7, 66	SAND		Bluish to yellowish light brown, fine sond.			9.5		
استستست	6.0	6,15	SAND	V. /. /	Dark greenish gray, medium to coorse sand. Medium dense.	SP		9:		
سلسناسا	8.0	4.16	CLAYEY FINE SAND	d o e e e e e e e e e e e e e e e e e e	Greenish dark gray, line sand. Very loose; many sheli.	sc		9.5		
سنسلسيلسط	10.0	2.16	CLAYEY SILT	LT Medium to low plasticit		мн			Undinterbi Somple	
	11.1	1.06	SAND	311	Gray, fine to medium sand. Medium dense.	SP		95		
سلسسلسسلس			CLAY		Gray, sandy to slity clay. Very low plasticity. Soft.	СГ		X		
t i	14.0	-1.84		2-7/-	Complete and Nicks					
اسطينا	-		. :	1/19	Gray clayey silt; highly plastic; stiff. Light greenish gray,	мн			Uralstone Somple	
	16.5	-4.34	SAND		Silty to Clayey fine sand. Medium dense.	SC:		a constant		
			CLAY		Dork glay clay with many shells. High plasticity,	СН	1.	o o		
سلسمامسك		-7.84				on .				
السلا	20.0	-7.54			END OF BOREHOLE					
-						-				
					•					
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						1.				
-										
-										N KOFL CO LTD

					DRILL	LO	G	HOL	E , N	O. 4	JB-5	SHEET	NO. 5 OF 11
	:	DATE	ОЕРТИ	ELEVATION	ROCK TYPE OR FORMATION	COLUMN	DESCRIPTION	USCS	GROUNDWATER	LEVEI.	CORE.	SAMPLE TESTED	STANDARD PENETRATION
		1	1,50		CONCRETE B TRASH	X	Backfill materials for road.		C.		% (	, y	* * * * * * * * * * * * * * * * * * *
		سلسل	2.30		TOPSOIL		Groy , highly organic , clay. Highly plastic,		• 10	- 8 6	5 to		
		հասկապետու	4.50	8.78	CLAY		Clay, alternating colors of black and yellowish brown High plasticity . Soft .	СН	<u></u>		×		
1		F	5.00	8.28	SILT		Yellowish brown Sandy Silt; low plos-	ML.	}		κ	Und thin b	
}		أحساسطسية	7.00	6.28	SAND		Light greenish brown and dork green fine (5-6 m) to coars 67m)sand with clayey matrix.	SP			9:		
4		- 10 1989			CLAY		Greenish gray clay.  At 7.00 - 8.00 m: many shells concentrated.  Very high plasticity. Soft.	СН			95 95 95		
		سلسسلسسلسط	13,00		SAND		Dark greenish gray, medium to coarse sand . Medium dense.	SP		ATTITUTE OF THE PERSONS ASSESSMENT	95 /X		
		السالساساسا		~1.7£	CLAY		Greenish dark gray , sandy clay. High plasticity. Small shell are sporadically scattered .	СН			95 95 95		
			16.00	-2.72	SAND		Dark green , coarse sand .	SP		. 1	95		
		سلسيأسطيساسياس	00.e1	-5.72	CLAY		Dark ( bluish ) gray clay , Moderately soft and very high plasticity .	сн	·.· .		95		
		III.		-6.72	CLAY		Black clay , Highly consolidated High plasticity :			en an an	- B		
		البنيا سيناس لشناسيا ساليس					END OF BOREHOLE						
		أسان أساسا							:				NO STORY
		والمسالية والمسالية والمسالية											0.
		براسا برياسيا ساسا							·				
A SECTION ASSESSMENT													
	Ц	<u>L</u>		L	<u></u>							NIPPO	

			a *	DRILL	LO	G .	HOLI	E NO.	JB-	6 SHEE	T NO.	6 c	<u>F</u> 11	
	NATE	OEPTH	ЕСЕУАПОН	ROCK TYPE OR	COLUMN	DESCRIPTION	USCS CLASSI- FICATION	GROUNDWATER LEVEL	COR.	5AMPLE	1	NDARD PE	NETRATION	EFTI
				SIL T		Light yellowish brown, sondy(med- lum)slit with low water content.		0,80	0,	сь "			v it so	(1. Imput
		1.80	11.04	CLAY		Dork brown sandy(fine)clay, High plasticity;compacted.	СН	6-10-6 V	•	90 E				mountain
		3.60	9.04	CANO		Dork green to greenish brown,				95 95	Z			
		5.30	7.24	SAND	<b>,</b> , , 4	siliy sond. Loose  Dark gray, massive and soft	SM			93	7			uderulumlu.
		-			* V	clay. At 5,20 –7,20 m, 8,30 – 8,50 m, 10,50 – II.00 m and 13,00 – 13,20 n	4			95 Drosiu	180			e de la constante
	السائسا					Many shells are concentrated. 7.00-8.30 m: Medium sonds Included.				95 .a.				lanlandard
3				CLAY		i030-ii.00 m: Fine sond to silt included.	CH	-		γα				ntadanta
	-10 1989				ð	Very high plasticity.				100				andanda.
	UNE 9-	13.40	-0.86							95				աժանահա
	سيسيس	15.90	-3,36	SAND		Dark greenish gray, fine to coarse (15.00 — 15.90 m.) s and. Medium dense.	SP			Unguin Unguin Eastaire	»< \			անականա
	بينام بالمسلم				<i>y</i>	Greenish to bluish, dark gray clay. Soft and high plasticity.				φ • • • • • • • • • • • • • • • • • • •				ախանակա
	հումումում			CLAY		19.00, 20.00-20.60 m., mony	СН	ie je		ω				dundandari d
	ահասևումո					small shells are found.		:		00				ահավասի
Care	أيملسطسك		-8.96 -9.46	SAND		Dark greenish gray, mediumsand Intercalated, Very dense.	SP			00				almaha
	استساسه	24.30	~11.76	CLAY		22,00-24,30m.: Dark gray to block consolidated hard clay.	сн			95				Ludanhal
	سلسم		<u>-12,46</u>	SILT		24.30m.: Light greenish brown, tuffaceous silt. Very hord. END OF BOREHOLE	нм			95			3	TOH
	سيلسيلسك													NO.
	بأسساسساسيا													lunhunhunh
	سنسلسس													سائديناساس
	عسلسيليسله							:						almiliada )
	فليسلسسا													multimitani (
l					•					NIPP	DN KO	DEL C	BEE	and and a

Very high plasticity, Soft    12.00 - 0.28	١.	· -:				DRILL	LO	G	HOLI	E NO.	JB-7	SHEET	NO. 7	<u>of</u> 11	
0.50   1222   YOP 500L		34.		.ртн	VATION	1.	COLUMN		ASSI-	DWATER VEL	1	SAMPLE	STANDARD	PENETRATION	Ē
Son 10.12	)	ď		' . <del></del>			SECTION		콩염뜶	CROUNT		TESTED	TE N x	ST # # %	0.67
2.50   16.72			1	0.80	12.22			Grass roots included.				3			
SAND  Cost a sond	•		11	2,00	10.72	SANDY		cloy. Organic matters and root included.Yellowish light brown,	4 он			25			Till I
SAND  SAND  Greenish gray loose allty and sill send with smell shalls.  LID EAST  CLAY  Vellowish light brown color, Grey to dork gray eter, Sondy to stilly to port, 150-0  GRAY  Very bigh planticity.  CLAY  Vellowish light brown color, Grey to dork gray eter, Sondy to stilly to port, 150-0  ELOO 0.72  IROO 0.72  SAND  CLAY  CLA				3.30	9.42			Greenish gray, medium to coorse				75			Tanjus (m
Side Case  Tillo 5-62  CLAY  Tellowith light brown clay.  CLAY  Tellowith light brown clay.  CLAY  Tellowith light brown clay.  CLAY  Sondy to silly in pert. 8.50  CLAY  Tellowith light brown clay.  CLAY  Sondy to silly in pert. 8.50  Tellowith light brown clay.  CLAY  Tellowith light brown clay.  CLAY  Sondy to silly in pert. 8.50  Tellowith light brown clay.			1	4.55	8,17		•//					3			Junitani
CLAY  CLAY  Yellowith light brown color, Croy to dork gray clay, Sondy to silly in port, IE.50 – 12.00 no. Silly to sondy clay, Sondy to silly in port, IE.50 – 13.00 – D.28  SAND  I.O.O - B. SAND  I.O.O - B. SON, Dork green median  II.O.O - B. SON, Dork green median  II.O.O - B. SON, Dork green median  III.O.O - B. SON, Dork green median  III			1	6.10	6.62		?// ¥	with small shells.				Undi Hero XX Shiibit	4/===		
Vellowith light brown color, Gray to dark gray clay, Sandy to silly in part. 11.50 — 12.00 m. Silly in sandy clay, Very high plasticity. Satt  13.00 — 0.28 S A N D  12.00 — 13.00 m. Green medius In the sand/very Green with clay.  13.00 — 15.00 m. Green medius In the sand/very Green with clay.  13.00 — 15.00 m. Green medius In the sand/very Green with clay.  14.00 — 15.00 m. Green medius In the sand/very Green with clay.  15.00 — 15.00 m. Green medius In the sand/very Green with clay.  16.00 — 15.00 m. Green medius In the sand/very Green with clay.  16.00 — 15.00 m. Green medius In the sand/very Green with clay.  16.00 — 15.00 m. Green medius In the sand/very Green with clay.  16.00 — 15.00 m. Green medius In the sand/very Green with clay.  16.00 — 15.00 m. Green medius In the sand/very Green with clay.  16.00 — 15.00 m. Green medius In the sand/very Green with clay.  16.00 — 15.00 m. Green medius In the sand/very Green with clay.  16.00 — 15.00 m. Green medius In the sand/very In the sand/very Green medius In t	)			7.10 7.40	5.62				ОН		9	5	7		بيانسانه
Green to dock grey class of the control of the cont	:	989	-		7 72	CLAY					9	5			al miles
CLAY    12.00 72   12.00 13.00 12.00 13.00 12.		7		<i>3.00</i>	2.12						9	5			أنسا
13.00 - 0.28   S A N D   12.00 - 13.00 m. Dark green median to the sark/very doese with clay.   13.00 - 16.00 m. Sweet with clay pleasted by beam sloy, produce pleastedly.   13.00 - 16.00 m. Sweet with pleast brown sloy, produce pleastedly.   16.00 - 19.55 m. Nery dork groys, sloy with pleast y of 4 he flat, Organis.   19.50 - 16.78   CLAY   16.00 m. Sweet with pleast y of 4 he flat, Organis.   19.50 - 16.78   CLAY   16.00 m. Sweet with pleast y of 4 he flat, Organis.   19.50 - 16.78   CLAY   16.00 m. Sweet with pleast y of 4 he flat, Organis.   19.50 - 16.78   19.5	D	JE ST	-			CLAY		12.00 m. Silty to sandy clay.	CH			5			
SP dense with clay the sort New John Spending SP dense with clay the sort New John Spending S		D.		12.00	0.72							Digarities 5 Salesia			
13.00-16.00m:Greenish to yellowist brown day, reedson plosticity.  CLAY  16.00-19.55 m. Very dark groys, clay with plenty of she files, organic.  95  95  96  97  98  98  98  98  98  98  98  98  98		المشقيمية	-	3.00	-0.28	SAND		to the sand Very	SP		×			182	առանում
Please letty,    GOO-19.55 m. Very dork groys, inly with planty of shells, Organic.   90		مندستانستا	-		, 11			13.00-16.00 m.: Greenish to yellowish			o				ախան
cloy with plenty CH of shells, Organic.    19.50 - 6.76		minima	1					-			9,		V I		اسطاساه
Of shells, Organic.  19.50 -6.778  ZOCO -7.28 CLAY  Nighly consolidated cloy.  END OF BOREHOLE		- Lunium				CLAY			СН						uluulu
20.00 -7.28 CLAY Noghly consolidated clay.  END OF BORENOLE  HOLE NO.		ululu	]		11 1		0.0	of shells,							dental de la constante de la c
20.00 -7.28 CLAY Noghly consolidated clay.  END OF BORENOLE  HOLE NO.		unimp	-	9.50	-6.78		100	Greenish brown to note brown			33				- dan dan
	-	F				CLAY		highly consolidated clay.			90				որում
		لسلست						J. BONEROLE							ulumlui ,
	9	سيلسلس	-												Janopan Janopa
		استنسا													andradia.
		سلسلس								111111111111111111111111111111111111111					~=i  t~
		لسلسبك						•							:3H
		mhanta													in de la constanta de la const
		السلسا													باستاسناه
		اعسالستا													mpunim
		m.h.m.h													استاستان (
		سالسل													
NIPPON KOEI CO., LTD.		mul.													ماستطينيعا

CONSULTING ENGINEERS, TOKYO.

BOCK TYPE COLUMN DISCRIPTION D		1	DRILL		G .	HOLI		JB8	SHEET	NO.	8	<u>of</u> 11	·
Oct. A TOP SOLL  CLAY  CLAY  Sold citer, Organic Mark brown So	рате ОЕРТН	ELEVATION	OR	COLOMN	DESCRIPTION	USCS CLASSI- FICATION	IOUNDWATES LEVEL	RECOVER	<u>:</u> ] ,	STANC		· .	II Ect Sty
Medium to coorse sand; Ioosa Pols yellowish greatfor medium sand with still and dork grean coir for course sand) SAND Dork gray, Sity Sand SM CLAY Oork gray, soll, Sity cley. Very high plasticity city.  Dork gray soll, Sity cley. Very high plastic CH City.  CLAY  Many shells and fragments ore concentraled.  Greanish brown to pals Yearn, EACH CH Greanish brown to pals Yearn, EO-1-02  CLAY  CLAY  CLAY  Many shells and fragments ore concentraled.  CLAY  CLAY  CLAY  CLAY  Many shells and fragments ore concentraled.  CLAY  CLAY  CLAY  CLAY  CLAY  Many shells and fragments ore concentraled.  CLAY  CLAY  CLAY  CLAY  CLAY  Many shells and fragments ore concentraled.  CLAY  CLAY  CLAY  CLAY  Many shells and fragments ore concentraled.  CLAY  CLAY  CLAY  CLAY  Many shells and fragments ore concentraled.  CLAY  CLAY  CLAY  Many shells and fragments ore concentraled.  CLAY  CLAY  Many shells and fragments ore concentraled.  CLAY  CLAY  CLAY  Many shells and fragments ore concentraled.  CLAY  Many shells and fragments ore concentraled.  CH Greanish brown to pals Yearn, EO-1-0-1-0-1-0-1-0-1-0-1-0-1-0-1-0-1-0-1-					grass roots, Yellowish brown to dark brown Sandy clay, Organic, Medium	СН	8-2-89	8.					
SAND  SAND  Dork groy, Sity Sond  Dork groy, Sity Sond  CLAY  Sity clay, Very high plostical CH  city.  Dork preenth groy course  Sp. Sond  Sond, Medium dense.  Dork brownish groy clay with portly sity mortix.  CLAY  Many shells and fragments or concentrated.  Torenith brown to pole brown; sondy to tultocopus clay, Medium  CLAY  Firsticity of 14,00-14,40 m.; 16,00-16,40 m.; 16,00	2.0	3.40			Medium to coarse sand; laose. Pale yellowish green(for med-	SM							
Silty clay. Very high plasticity.  9.00 2.98 SAND  Cork greenish groy coarse Sp and, Medium denss.  Dark brownish groy clay with partly silty matrix.  GLAY  Greenish brown to pole brown; sondy to full foccous clay Medium Plasticity of 40.0-14.40 m.; if CO-15.40 m. and Tr. 10 m. depth. Highly consolidated.  Light yellowish brown, medium to coarse silty sond, Very dense and solid.  END OF BONKHOLE	F		SAND	// // 	green color (for course sand).	SM	:	iii a		11711-1-1-1	: :::::::::::::::::::::::::::::::::::::		-
Dork greenish gray coorse sond, Medium danse.  Dork brownish gray coorse sond, Medium danse.  Dork brownish gray coorse sond, Medium danse.  CLAY  Meny shells and tragments are concentrated,  Greenish brown to pole brown; sondy to tut faceous clay, Medium Plasticity at 4.00—14.20 m.; fis.00—16.20 m. dayth. Highly consolidated.  CLAY  Lipht yellowish brown, medium to coarse sithy sand. Very deman and solid.  END OF BORKHOLE	الربيلسيلسيلي		CLAY		Silty clay. Very high plasti- city,	сн	·						
CLAY  Many shells and fragments of a concentrated.  Greenish brown to pole brown, sondy to tulfaceous cloy. Medlem Plasticity at 14,00-14,00 m.; 15,00-16,40 m. and 17,0 m. depth. Highly consolidated.  SAND  Light yellowith brown, medium to coarse eility sand. Very dense and solid.  END OF BORRHOLE		1	SAND	W. 1976).	Dark greenish groy coorse sand, Medium dense.	ŚP		α					
Greenish brown to pole browns sondy to tutl accoust clay. Medium Plasticity at 14.00-14.40 m.; if 6.00-16.40 m. and 17.10 m. depth. Highly controllated.    17.20 -5.22   SAND   Light yellowish brown, medium to coarse sity sand. Very dense and solid.   SM dense and			CLAY	\$ 0 6 6	partly silty matrix.  Many shalls and fragments		· .						
IF.OO-IG. 40m. and 17.10 m. depth. Highly consolidated.    17.20 -5.22	13.50	-1.52	CL AY		Greenish brown to pale brown; sandy to tutfaceous clay. Medium	СН							111111111111111111111111111111111111111
SAND  Light yellowish brown, medium to coarse sitty sand. Very dense and solid.  20.00 -8.02  END OF BOREHOLE  SM 99 99 99 99 99 99 99 99 99 99 99 99 99	17.20	~5.22			16.00-16.40m, and 17.10 m.			93 95					
	20.00	-8.02			to coarse silty sand. Very	SM		93					
					END OF BOREHOLE								111111111111111111111111111111111111111
													سيسينين استاسان
													antoniarianiani Internationalian
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				***									

					DRILL	. Lo	G.	HOL	E NO.	JB-9	SHEET	NO. 9 OF 11
	DATE		DEPTH	ELEVATION	ROCK TYPE OR FORMATION	COLUMN	DESCRIPTION	USCS CLASSI- PCATION	04	CORE RECOVER	SAMPLE	STANDARD PENETRATION
			Q.40 Q.90	11,98	TOP SOIL CLAY		Light brown gravelly clay, Fill. Light brown, sandy to slity clay, Yellowish brown clay, High plasticity		CRO	<i>u<sub>a</sub></i> (m	× Underhirbe	H 24 32 46 56
		dan salamah	1.40	9.38	CLAY		Whitish, light brown ckry. Contained much sitty to sandy, matrix.	7	6-3-89	8.5	POINTS	
		_ ];	3.00 3.50 4.00	8.88	SAND	70 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Whitish brown, medium sond, Loose White, slity cky, High plasticity.	SP CH		να 95		
			5.50	6.88	SAND		Dark brown, medium to coarse sand. Many shells included.	SP	٠	95		
		-			CLAY		Light brown (partly yellowish) cky. High plasticity. Stiff.			ος (X		
	1989	8	50	3.88						, voc 85	Undeskabe somple	
	2-3	-	.00	1,38	CLAY		Reddish to yellowish brown clay. Very high plasticity. Stiff.	СН		85		
	CONE	-			CLAY		Brown colored clay Very high plasticity. Hard and sticky.			85 85 85		
	عسلسيلسلساسة		.00	-0.92	SILT		Yellowish pale brown, clayey silt. Medium plasticity, very hard.	мн		78		
	المالية المالي	. [		-3.62	FINE SAND		Pole brown, clayey, allif to tine sond. Low plasticity.	sc		90		
	عىلىسىلىسىلىسىلىمىلى				SILŤ		Light brown, silt to clayey silt. Sticky and high plasticity. Hard. Few gravels/pebbles included.	мн		8		
	سأسسلتنسان	20.	.00	~7.62			•			8		
	باستأسياسان						End of BOREHOLE					
	علىسانسالسلس			ı								
•	يىلىتىنلىسىلىتىلىد			1 1 1 1					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
	سامسا أسسالسها											
	يسليس أستلسيك											
	استاسيران بالسا											
	اسطسسلسا											
			-	<del></del> .L	**************************************	- <del></del>	B-10			uest fü	NIPPON	KOEI CO., LTD.

CONSULTING ENGINEERS, TOKYO.

RECOVERY  OR  FORMATION  DESCRIPTION  DESCRIPTION  OR  RECOVERY  TESTE  O.53 12.64 TOP SOIL  CLAY  Light brown, silly clay. Median  Plasticity  A-7-09	TEST LANG
1 . CLAY Elight brown, silly clay, Median	
Light brown, silty cloy, Median	
95	
CLAY / Sandy clay. Soft.	
4.00 9.19  4.30 8.89 CLAY Dark gray, highly plastic, clay.	
SAND  Dark greenish brown, medium to coarse sand, Loose. Shell fragments included.  SP  Undist	
Gray to dark gray, yery soft clay. High plasticity.  CH	
Yellowish pale brown color Gray silt , medium plasti— MH  SILT  SI	
Partly very coarse sand materials scattered. SP	
Small shell fragments,	
rondomly distributed.	
CLAY. Bluish gray, CH 95	
firm silty clay. Shells are concentrated at 18.5 - 20.0 m	
- 20.00 - 6.64	
End of BOREHOLE	
	H H
	a 10H
	No.

DRILL LOG HOLE NO. NM-1 SHEET NO. 11 OF 11											
31.45	DEPTH	ELEYATION	ROCK TYPE OR FORMATION	COLUMN	DESCRIPTION	USCS CLASSI- FICATION	GROUNDWAT ER LEVEL	CORE RECOVERY	SAMPLE TESTED	STANDARD PENETRAT	
	1.00	10.38		$\supset \subset$	CONCRETE PAVEMENT		6-20-89 V				" "
سليب إستيئين أسيلسطين مقس	4.50	6.88	SAND	9/10	Silty Gravelly SAND; dark gray; fine sand; sub-ongular gravel; non-plastic fines; med. dense. Gravelly Silty SAND; fine to very time sand; slightly plastic fines; with abundant shell fragments; medium dense. Silty Fine to Very Fine SAND; gray; slightly plastic fines; with traces of shell fragments; loose	SM		40 75 83			<u> </u>
المنطسطين المسلمي			CLAY	- // - //o - //o - // o - // o	Sandy Silty CLAY; dark gray; medium to high plosticity; very fine sand; with traces of shell tragments; Fine to Soft.	1 1		95 95 95			
handa d	9.00	2,38			with greenish tinge.			95			
	10.00	1.38	SHELLS	101100	SHELLS with CLAY-SILT materials; groy with greenish tinge.					И 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
					End of BOREHOLE			95			
-											
-		1, 21									
-											
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1											
!  -  -											



PROJECT	ICA - Flood Co	ontrol and	Drainage	Project	in Metro	Manila	
BOREHOLE No.							

	<del></del>						
\$	SAMPLE NO.	VDS-1	UDS-2				1
SA	AMPLE DEPTH (m)	7.55- 8.00	14.55- 15.00		1		
	% PASSING SIEVE 3/	8" 100	100				<del>                                     </del>
	#4	99	9.9				
GRAIN SIZE	#10	99	95			1	
ANALYSIS	#40	98	92	:			
	#10	96	91.			-	<del> </del>
	#20	0 93	87				
	Liquid Limit, WI (%)	40	78				
CONSISTENCY	Plastic Limit, Wp (%)	21	40				
O NOISTENOT	Plasticity Index, Ip	19	39				
-	Shrinkage Limit, SI, %						
Soil Classifi	cation (ASTM)	МН	МН				
Specific Gra	ovity, G <sub>s</sub>	2.60	2.61				
Natural Moi	sture Content, Wn (%)	- 93	92				
Organic Con	tent						
Wet Unit We	oight 1. 8t (g/cm³)	f	$\theta$	· .			
Dry Unit We	ight, Td (g/cm³)	1.76	1.34				
Natural Void	Ratio, e <sub>o</sub>	1.13	0.70				<u> </u>
	aturation, Sr (%)		7.		:		
CONSOLIDATION	Preconsolidation Pressure pc (kg/cm²)	•	:				
. TEST	Compression Index, Cc						
	Unconfined Compressive	1 7	0.105				
UNCONFINED COMPRESSION	Strength, qu (kg/cm²)	2					
TEST		1	8.815	3 (	-		
	Strain, E (%)	2					
TRIAXIAL	Cohesion, Cu (kg/cm²)	0.07			•		:
COMPRESSION TEST (Cu)	Angle of Internal Friction Øu (dea)	29					
COMPACTION	Maximum Dry Density, g/c	С			-		<u>-</u>
TEST	Optimum Moisture Content,	%					



PROJECT	JICA -	Flood Control	and	Drainage	Project	in Metro	Mànila		
BOREHOLE		JB-2		4				•	

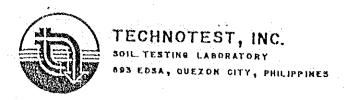
		<ul> <li>1 147</li> </ul>					
s	AMPLE NO.	UDS-1					
SA	MPLE DEPTH	17.55- 18.00					:
	% PASSING SIEVE 3/8"	100					
	#4	99					
GRAIN SIZE	#10	97					
ANALYSIS	#40	95					
	#100	95	1				
	#200	95					<del></del>
	Liquid Limit, W1 (%)	91					
CONSISTENCY	Plastic Limit, Wp (%)	47					
CONSTITUTION	Plasticity Index, Ip	44					
	Shrinkage Limit, SI, %					11	
Soil Classifi	cation (ASTM)	СН					
Specific Gro	evity, G <sub>s</sub>	2.61	:			* :	
Natural Moi:	sture Content, Wn (%)	83					
Organic Con	fent						
Wet Unit We	ight, Ot (g/cm³)	1.39				:	
Dry Unit We	ight , od (g/cm³)	0.67		- 1 i			
Natural Void	Ratio, e <sub>o</sub>	14					
Degree of S	aturation, Sr (%)				<del></del>	,	
CONSOLIDATION	Preconsolidation Pressure, pc (kg/cm²)				1		
. TEST	Compression Index, Cc						
	Unconfined Compressive	0.175	-				·
UNCONFINED	Strength, qu (kg/cm²) 2						
COMPRESSION TEST	1	3.297		,	- <del>*</del>		
	Strain, £ (%)						
TRIAXIAL	Cohesion, Cu (kg/cm²)	0.18					
COMPRESSION TEST (Cu)	Angle of Internal Friction,	13.5					
COMPACTION	Maximum Dry Density, g/cc						
TEST	Optimum Moisture Content, %		•			-	
		1				<b>L</b>	



PROJECT JICA - Flood Control	and Drainage Project in Metro M	anila
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BOREHOLE No. JB-3

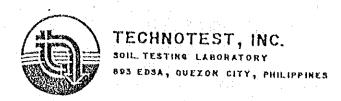
			11.00			* •
SAMPLE NO.	TP-UDS	UDS-1	UDS-2	S-16		
MPLE DEPTH (m)	0.55-	5.55- 6.00	14:55- 15.00	17.55- 18.00		
% PASSING SIEVE 3/8"	100	100		100		
#4	100	100	200	100		
#10	100	97		99		
#40	99	97		99		
#100	- 99	97		97		
#200	99	95		93		
Liquid Limit, WI (%)	62	67	103			
Plastic Limit, Wp (%)	33	34	54		· :	
Plasticity Index, Ip	29	32	49	1		
Shrinkage Limit, SI, %	34		43			
cation (ASTM)	СН	мн	СН	СН	: .	
ivity, G <sub>s</sub>	2.63	2.60	2,61	2.57		
sture Content, Wn (%) -	43	. 72	122	103		
tent .			Bish s			
ight, T <sub>1</sub> (g/cm <sup>3</sup> )	1.60	1.52 .!				
ight, 0d (g/cm <sup>3</sup> )	1.12	0.88	0.64			
Ratio, e <sub>o</sub>	1.353	1.941	0.082			
aturation, Sr (%)	84	<del>}</del>				
Preconsolidation Pressure, pc (kg/cm²)	0.78	0.92				
Compression Index, Cc	0.377	1.01	1.395			
Unconfined Compressive		0.097	0.121			
Strongth, qu (kg/cm²) 2			:.			
Strain, E (%)		5.714	11.152			
2						
		0.06				
Øu (dea)		15				İ
Maximum Dry Density, g/cc	1.48					
Optimum Moisture Content, %	25					
	% PASSING SIEVE 3/8"  #4  #10  #40  #100  #200  Liquid Limit, WI (%)  Plastic Limit, Wp (%)  Plasticity Index, Ip  Shrinkage Limit, SI, %  cation (ASTM)  nvity, G <sub>S</sub> sture Content, W <sub>n</sub> (%) -  tent  ight, T <sub>1</sub> (g/cm <sup>3</sup> )  ight, T <sub>2</sub> (g/cm <sup>3</sup> )  Ratio, e <sub>0</sub> aturation, Sr (%)  Preconsolidation Pressure, pc (kg/cm <sup>2</sup> )  Compression Index, Cc  Unconfined Compressive I  Strength, qu (kg/cm <sup>2</sup> )  2  Strain, E (%)  Angle of Internal Friction, Øu (deg)  Maximum Dry Density, g/cc	MPLE DEPTH (m)  % PASSING SIEVE 3/8" 100  #40 100  #40 99  #100 99  Liquid Limit, WI (%) 62  Plastic Limit, Wp (%) 33  Plasticity Index, Ip Shrinkage Limit, SI, % 34  cation (ASTM) CH  Ivity, G <sub>5</sub> sture Content, W <sub>n</sub> (%) - 1,12  Ratio, e <sub>0</sub> aturation, Sr (%)  Preconsolidation Pressure, pc (kg/cm²) Compression Index, Cc  Unconfined Compressive Strength, qu (kg/cm²)  Strain, E (%)  Cohesion, Cu (kg/cm²)  Angle of Internal Friction, %u (dea)  Maximum Dry Density, g/cc  1,48	MPLE DEPTH (m)  "% PASSING SIEVE 3/8" 100  "40  "40  "40  "99  "400  "99  "4100  "99  "4200  "99  "4200  "99  "4200  "99  "4200  "99  "4200  "43  "440	MPLE DEPTH (m)  0.55- 1.00 6.00 15.00  % PASSING SIEVE 3/8" 100 100  #40 99 97  #100 99 97  #200 99 95  Liquid Limit, WI (%) 62 67 103  Plastic Limit, Wp (%) 33 34 54  Plasticity Index, Ip 29 32 49  Shrinkage Limit, SI, % 34  Cation (ASTM) CR MH CH OH  Outly, Gs 2.63 2.60 2.61  Sture Content, Wn (%) - 43 72 122  tent ight, To (g/cm³) 1.60 1.52 1.42  ight, To (g/cm³) Ratio, e aturation, Sr (%)  Ratio, e aturation, Sr (%)  Preconsolidation Pressure, pc (kg/cm²) Compression Index, Cc Unconfined Compressive pc (kg/cm²) Strength, qu (kg/cm²)  Strain, E (%)  Angle of Internal Friction, Øu (deg)  Maximum Dry Density, g/cc  1.48  Maximum Dry Density, g/cc  1.48  100 100 100 100 100 100 100 100 100 1	MPLE DEPTH (m)  0.55- 1.00 6.00 15.00 18.00  % PASSING SIEVE 3/8" 100 100 410 100 410 100 410 100 97 99 440 99 97 4200 99 97 4200 99 95 103  Liquid Limit, WI (%) 62 67 103  Plastic Limit, We (%) 33 34 54  Plasticity Index, Ip 29 32 49  Shrinkage Limit, SI, % 34 43  cation (ASTM) CH MR CH CH Shrinkage Limit, Wn (%) - 43 72 122 103  tent:  ight, 3, (g/cm³) 1.12 0.88 0.64  Ratio, e 1.353 1.941 0.082  aturation, Sr (%)  Preconsolidation Pressure, pc (kg/cm²) Compression Index, Cc 0.377 1.01 1.395  Strength, qu (kg/cm²) 2  Strain, £ (%)  Angle of Internal Friction, Øu (deq) Maximum Dry Density, g/cc 1.48  Maximum Dry Density, g/cc  Maximum Dry Density, g/cc 1.48   MPLE DEPTH (m)  0.555	



PROJECT JICA - Floof Control and Drainage Project in Metro Manila

BOREHOLE No. JB-4

			<u>11</u>	• '			
	SAMPLE NO.	TP-UDS	UDS-1	UDS-2			:
S	AMPLE DEPTH (m)	0.50- 1.00	8.55- 9.00	14.55- 15.00			
	% PASSING SIEVE 3/8	100	100	100		<del> </del>	
	#4	100	99	100		<u> </u>	
GRAIN SIZE	#10	100	98	99		<u> </u>	
ANALYSIS	#40	99	97	97			<del></del>
:	#100	99	95 ;	96		<u> </u>	
	#200	99	86	80	<del>                                     </del>		
	Liquid Limit, W1 (%)	6.5	34	44			
CONSISTENCY	Plastic Limit, Wp (%)	35	17	22		ļ.———	
oonala i Litoi	Plasticity Index, (p	30	16	22	<del>                                     </del>		
	Shrinkage Limit, SI, %	24			<del> </del>		<u> </u>
Soil Classifi	ication (ASTM)	ОН	МН	MH			
Specific Gr	avity , G <sub>s</sub>	2.62	2.63	2.60			
Natural Moi	sture Content, Wn (%) -	45	. 42	49			
Organic Con							
Wet Unit We	oight,_Dt (g/cm <sup>3</sup> )	1.63	1.64				
Dry Unit We	ight,_0d (g/cm³)	1.12	1.15				e e e
Natural Void	l Ratio, e <sub>o</sub>	1.273					
Degree of S	saturation, Sr (%)	93					
CONSOL IDATION	Preconsolidation Pressure, pc (kg/cm²)	0.99					
. TEST	Compression Index, Cc	0.408					
	Unconfined Compressive		0.182				
UNCONFINED	Strength, qu (kg/cm²) 2						
COMPRESSION TEST			2.747		· · · · · · · · · · · · · · · · · · ·		
	Strain, E (%)						<u>·</u>
TRIAXIAL	Cohesion, Cu (kg/cm²)		0.32		•		
COMPRESSION TEST (Cu)	Angle of Internal Friction, Øu (dea)		8				
COMPACTION	Maximum Dry Density, g/cc	1.43					
TEST	Optimum Moisture Content, %	<del> </del>					
	e e e e e e e e e e e e e e e e e e e	7 - 7 - 1					



PROJECT_	JICA -	Flood	Control	and	Drainage	Project	in	Metro	Manila	
BOREHOLE	The state of the s	JB-5						* * * * * * * * *	<del>*****</del> *****	 *

D A 10 m				and the second s		
SAMPLE NO.	IIII IIII IIII IIII IIII IIII IIII IIII IIII	S-12				
AMPLE DEPTH (m)	4.55- 5.00	13.55- 14.00				
% PASSING SIEVE 3/8"	100	100	<del>                                     </del>	<u> </u>		
#4	100	98			<u> </u>	
#10	100	89				
#40	99	78				
#100	- 95	41	Ì			
#200	63	26				
Liquid Limit, WI (%)	50			:		
Plastic Limit, Wp (%)	27					
Plasticity Index, Ip	- 23					1:
Shrinkage Limit, SI, %						N 4 8
ication (ASTM)	ML	SP				
	2.60	2.60				
	42	44				
itent		1 2 2 2 4				
	1.75	1		: :- : :: ::		
ight , 26d (g/cm <sup>3</sup> )	1.23					
i Ratio, e <sub>o</sub>	1.105			1		
	98					
Preconsolidation Pressure, pc (kg/cm²)	2.80					
Compression Index, Cc	0.488					
Unconfined Compressive	0.629					
Strength, qu (kg/cm²) 2						
Strain. F (%)	3.608					
2						
Cohesion, Cu (kg/cm²)	0.18				j	:
lon (dea)	23	Market St.			i	
Maximum Dry Density, g/cc						
	% PASSING SIEVE 3/8"  #4  #10  #40  #200  Liquid Limit, W1 (%)  Plastic Limit, Wp (%)  Plasticity Index, Ip  Shrinkage Limit, SI, %  ication (ASTM)  avity, G <sub>S</sub> sture Content, W <sub>n</sub> (%)  itent  hight, D <sub>1</sub> (g/cm <sup>3</sup> )  iff (g/cm <sup>3</sup> )  Ratio, e <sub>0</sub> Saturation, Sr (%)  Preconsolidation Pressure, pc (kg/cm <sup>2</sup> )  Compression Index, Cc  Unconfined Compressive [I Strength, qu (kg/cm <sup>2</sup> ) 2  Strain, E (%)  Cohesion, Cu (kg/cm <sup>2</sup> )  Angle of Internal Friction, %u (deg)	#4 100  #40 99  #100 - 95  #200 63  Liquid Limit, W1 (%) 50  Plastic Limit, Wp (%) 27  Plasticity Index, Ip - 23  Shrinkage Limit, SI, %  ication (ASTM) ML  avity, G <sub>S</sub> 2.60  sture Content, W <sub>n</sub> (%) - 42  Itent  eight, D <sub>1</sub> (g/cm³) 1.75  eight, D <sub>2</sub> (g/cm³) 1.23  I Ratio, e <sub>0</sub> 1.105 and a content and a conten	#4 100 98 #40 99 78 #100 -95 41   #200 63 26  Liquid Limit, WI (%) 50  Plastic Limit, Wp (%) 27  Plasticity Index, Ip 23  Shrinkage Limit, SI, %  ication (ASTM) ML SP  avity, Gs 2.60 2.60  sture Content, Wn (%) 42 44  Itent  pight, \$\mathcal{T}_1\$ (g/cm³) 1.75  pight, \$\mathcal{T}_2\$ (g/cm³) 1.23  Ratio, eo 1.105  Saturation, Sr (%) 98  Preconsolidation Pressure, pc (kg/cm²) 2.80  Compression Index, Cc 0.488  Unconfined Compressive 1 0.629  Strength, qu (kg/cm²) 2.80  Cohesion, Cu (kg/cm²) 0.18  Angle of Internal Friction, 23  Angle of Internal Friction, 23	(m)   5.00   14.00	(m) 5.00 14.00  % PASSING SIEVE 3/8" 100 100  #4 100 98  #10 100 89  #40 99 78  #100 95 41 4  #200 63 26  Liquid Limit, WI (%) 50  Plastic Limit, Wp (%) 27  Plasticity Index, Ip 23  Shrinkage Limit, SI, %  ication (ASTM) ML SP  avity, G <sub>5</sub> 2.60 2.60  sture Content, W <sub>n</sub> (%) 42 44  Itent  sight, \(\mathcal{D}\) (g/cm <sup>3</sup> ) 1.23  I Ratio, e <sub>0</sub> 1.105  saturation, Sr (%) 98  Preconsolidation Pressure, pc (kg/cm²) 2.80  Compression Index, Cc 0.488  Unconfined Compressive 1 0.629  Strain, \(\mathcal{E}\) (%) 23  Cohesion, Cu (kg/cm²) 0.18  Angle of Internal Friction, 23  Angle of Internal Friction, 23  Angle of Internal Friction, 23	(m) 5.00 14.00  % PASSING SIEVE 3/8" 100 100  #4 100 98  #10 100 89  #40 99 78  #100 95 41    #200 63 26    Liquid Limit, WI (%) 50  Plastic Limit, Wp (%) 27  Plasticity Index, IP 23  Shrinkage Limit, SI, %  Ideation (ASTM) ML SP  avity, G <sub>S</sub> 2.60 2.60  sture Content, W <sub>n</sub> (%) 42 44  Itent  Sight, 5t (g/cm³) 1.75  Sight, 5t (g/cm³) 1.23  I Retio, e <sub>o</sub> 1.105.  Saturation, Sr (%) 98  Preconsolidation Pressure, 2.80  Compression Index, Cc 0.488  Unconfined Compressive 1 0.629  Streingth, qu (kg/cm²) 2  Cohesion, Cu (kg/cm²) 0.18  Angle of Internal Friction, 23  Angle of Internal Friction, 23  Angle of Internal Friction, 23



PROJECT JICA - Flood Control and Drainage Project in Metro Manila
BOREHOLE No. JB-6

	· 	<del></del>		<u> </u>			
S'AMPLE NO.		S-5	UDS-1	UDS-2	S-23		
AMPLE DEPTH (m)		4.55-	6.55-	14.55-	24.55		
% PASSING SIEVE	z /o"		·	15.00	<del> </del>	<u> </u>	
	<u> </u>		<del> </del>	<u> </u>	100	<u> </u>	
		<del></del>	88	ļ	100		
		99	87		97		
		99	85		95		
#	100	- 89	68		94	1 1 1	
#:	200	64	50		92		
Liquid Limit, WI (	/ <sub>6</sub> )	<u> </u> ,	34	63			
Plastic Limit, Wp (	/ <sub>6</sub> }		18	32			
Plasticity Index, Ip	1.1		16	- 30			
Shrinkage Limit, SI,	<b>%</b>		35				11 (a) 11 (b) 11 (b) 12 (c) 12
ication (ASTM)							
avity, G <sub>s</sub>		2.63	2.59		2.60		
sture Content, Wn (%)	-	37		68			
itent.	<del></del>			- 0			
eight, of (g/cm³)	-			7 57			
			<b>,</b>				
	:	: 1		0.94			····
							<u> </u>
	re,						-
1							
	1						
		-		0.799			
, , , , , , , , , , , , , , , , , , , ,	2						
Strain, & (%)	-			5.051			
	2						
				0.30			i
CAUGIE Of Internal Frictic	n ,			12	<u></u>	i	
Angle of Internal Frictic Øu (deg)			<u> </u>	1.3			. 1
Øu (deg) Maximum Dry Density, g/				7.2			
	% PASSING SIEVE  #  #  Liquid Limit, WI (9  Plastic Limit, WP (9  Plasticity Index, (p  Shrinkage Limit, SI, (9)  Shrinkage Limit, SI, (10)  avity, G <sub>5</sub> sture Content, W <sub>n</sub> (%)  Itent  eight, T <sub>1</sub> (g/cm <sup>3</sup> )  Ratio, e <sub>0</sub> Saturation, Sr (%)  Preconsolidation Pressure (kg/cm <sup>2</sup> )  Compression Index, Ca  Unconfined Compressive  Strength, qu (kg/cm <sup>2</sup> )  Strain, E (%)	**AMPLE DEPTH (m)  % PASSING SIEVE 3/8"  #4  #10  #40  #100  #200  Liquid Limit, WI (%)  Plastic Limit, Wp (%)  Plasticity Index, Ip  Shrinkage Limit, SI, %  ication (ASTM)  avity, G <sub>S</sub> sture Content, W <sub>n</sub> (%)  ifent  eight, T <sub>1</sub> (g/cm <sup>3</sup> )  ight, T <sub>2</sub> (g/cm <sup>3</sup> )  I Ratio, e <sub>0</sub> Saturation, Sr (%)  Preconsolidation Pressure, pc (kg/cm <sup>2</sup> )  Compression Index, Cc  Unconfined Compressive 1  Strength, qu (kg/cm <sup>2</sup> )  2  Strain, E (%)  Cohesion, Cu (kg/cm <sup>2</sup> )	AMPLE DEPTH (m)  % PASSING SIEVE 3/8" 100  #4 100  #40 99  #40 99  #200 64  Liquid Limit, WI (%) Plastic Limit, Wp (%) Plasticity Index, (p Shrinkage Limit, SI, %  ication (ASTM)  avity, G <sub>5</sub> sture Content, W <sub>n</sub> (%) - 37  ifent: eight, O <sub>f</sub> (g/cm³)  I Ratio, e <sub>0</sub> Saturation, Sr (%)  Preconsolidation Pressure, pc (kg/cm²) Compression Index, Cc  Unconfined Compressive   Strength, qu (kg/cm²)   2  Strain, E (%)   2  Cohesion, Cu (kg/cm²)	AMPLE DEPTH (m)  % PASSING SIEVE 3/8" 100 92  #4 100 88  #10 99 87  #40 99 85  #100 - 89 68  #200 64 50  Liquid Limit, WI (%) Plastic Limit, Wp (%) Plasticity Index, Ip Shrinkage Limit, SI, % 35  ication (ASTM)  avity, Gs sture Content, Wn (%) - 37 39  itent  eight, Tq. (g/cm³) 3ight, Tq. (g/cm³) 3ight, Tq. (g/cm³) Compression Index, Cc  Unconfined Compressive I Strength, qu (kg/cm²)  Cohesion, Cu (kg/cm²)  Cohesion, Cu (kg/cm²)	AMPLE DEPTH (m)  4.55- 5.00  7.00  15.00  % PASSING SIEVE 3/8"  100  92  #4  100  88  #10  99  87  #40  99  85  #100  AMPLE DEPTH (m)  99  87  #40  99  85  #100  AMPLE DEPTH (m)  90  #4  100  88  #100  88  #100  88  #100  88  #100  89  85  #100  84  #100  88  #100  88  #100  89  85  #100  80  #100  81  #100  82  #100  83  #100  84  #100  85  #100  86  #100  86  #100  86  #100  88  #100  89  85  #100  80  #100	AMPLE DEPTH (m)  4.55- 5.00  7.00  15.00  24.55- 25.00  100  #4 100  88 100  #10 99 87 97  #40 99 85 95  #100 89 68    94  #200 64 50 92  Liquid Limit, WI (%) 34 63.  Plastic Limit, Wp (%) 18 32  Plastic Limit, Wp (%) 35  Strain (ASTM)  avity; Gs  sture Content, Wn (%) - 37 39 68 52  Ifent  eight, Tq (g/cm²)  sight, Tq (g/cm²)  sight, Tq (g/cm²)  Compression Index, Cc  Unconfined Compressive, Cc  Unconfined Compressive, Strength, qu (kg/cm²)  Strain, E (%) 1 5.051  2  Cohesion, Cu (kg/cm²)  Strain, E (%) 2  Cohesion, Cu (kg/cm²)   AMPLE DEPTH (m)  4.55- 5.00 7.00 15.00 25.00  % PASSING SIEVE 3/8" 100 92 100  #40 99 87 97  #40 99 85 95  #100 88 100  89 68 94  #200 64 50 92  Liquid Limit, WI (%) Plastic Limit, Wp (%) Plastic Limit, SI, % 35  ication (ASTM)  avity, Gs sture Content, Wn (%) 37 39 68 52  sture Content, Wn (%) Ratio, e <sub>0</sub> 3aturation, Sr (%) Preconsolidation Pressure, pc (kg/cm²) Compression Index, Cc Unconfined Compressive Strength, qu (kg/cm²) 2  Strein, E (%)  Strein, E (%)  Cohesion, Cu (kg/cm²)  Strein, E (%)  Strein, E (%)  Cohesion, Cu (kg/cm²)	



PROJECT	JICA - Floo	d Control	and	Drainage	Project	in	Metrò	Manil	a

BOREHOLE No. JB-7

			-				•	
S	SAMPLE: NO.		TP-UDS	UDS-1	UDS-2	<b>S-1</b> 5		
S A	MPLE DEPTH (m)		0.50	5.50 6.00	11.50 12.00	16.55 17.00		
	% PASSING SIEVE 3	/8"	100	100		100		
	#4		99	99		100		
GRAIN SIZE	#1	0	99	95		99		
ANALYSIS	#4	0	99	66		99		<del> </del>
	#1	00	- 99	34		99		<b> </b>
•	#2	00	97	27		97		<u> </u>
	Liquid Limit, WI (%	5)	56		53			<b> </b>
CONSISTENCY	Plastic Limit, Wp (%	٠,	-30		30			<del> </del>
CONSISTENCE	Plasticity Index, Ip		26		26			
	Shrinkage Limit, SI, %	, o	23		43			
Soil Classifi	cation (ASTM)		СН	SM	СН	СН	,	
Specific Gre	ivity, G <sub>s</sub>	· · · · · ·	2.61	2.62	2.61	2.57		
Natural Moi	sture Content, Wn. (%)		33	31	70	47		
Organic <sup>.</sup> Con		•		2 2		: .		
Wet Unit We	ight, of (g/cm3)		1.59	4	1.58			
Dry Unit We	ight , Id (g/cm3)		1.19		0.93			
Natural Void	Ratio, e <sub>o</sub>		1.174		1.817			
Degree of S	aturation, Sr (%)		74		100			
CONSOL EDATION	Preconsolidation Pressur pc (kg/cm²)	€,	0.76		0.890			
. TEST	Compression Index, Cc		0.380		0.682			
	Unconfined Compressive	Π	1.663		0.002			
UNCONFINED	Strength, qu (kg/cm²)			<del>-</del>				
COMPRESSION TEST			4.571		1			
	Strain, E (%)	2						<del></del>
TRIAXIAL	Cohesion, Cu (kg/cm²)	إجبا						
COMPRESSION TEST (Cu)	Angle of Internal Friction Øu (deg)							<del></del>
COMPACTION	Maximum Dry Density, g/		1.43		0.18			
TEST	Optimum Moisture Content,		29		17.5			
		1			11.1			



TECHNOTEST, INC.
SOIL TESTING LABORATORY
893 EDSA, QUEZON CITY, PHILIPPINES

#### SUMMARY OF SOIL TEST RESULTS

PROJECT JICA - Flood Control and Drainage Project in Metro Manila

BOREHOLE No. JB-8

S	AMPLE NO.	TP-UDS	UDS-1	S-14	S-17	<u> </u>	<del></del>
SA	MPLE DEPTH (m)	0.55- 1.00	5.55- 6.00	14.55- 15.00	17.55- 18.00		:
	% PASSING SIEVE 3/8"	100	100	100	100		
,	#4	100	100	98	100	· · · · · · · · · · · · · · · · · · ·	
GRAIN SIZE	#10	100	99	98	100		
ANALYSIS	<i>#</i> 40	99	75	98	91		
*	# 100	99	16	97	60		
:	<i>#</i> 200	99	8	95	45		
	Liquid Limit, WI (%)	59		-			
CONSISTENCY	Plastic Limit, Wp (%)	27					
CONSISTENCE	Plasticity Index, Ip	32	J. J.				
	Shrinkage Limit, SI, %	38					
Soil Classifi	cotion (ASTM)	СН	SM	СН	SM	i	
Specific Gro	ivity, G <sub>s</sub>	2.61	2.59	2.61	2.64		
Natural Moi:	sture Content, Wn (%)	46	32	39	26	i	
Organic Con	tent						
Wet Unit We	ight, ot (g/cm³)	1.69			<u> </u>	ĺ	
Dry Unit We	ight, dd (g/cm³)	1.16					
Natural Void	Ratio, e <sub>o</sub>	1.247					
Degree of S	aturation, Sr (%)	96					<del></del>
CONSCLIDATION	Preconsolidation Pressure, pc (kg/cm²)	1.046		······································			
TEST	Compression Index, Cc	0.386			i		
	Unconfined Compressive	0.955					
	Strength, qu (kg/cm²) 2		!				
COMPRESSION	Strain, & (°',0)	4.00	1	». :	-		
TRIAXIAL	2	<u> </u>	:		·		
COMPRESSION	Conesion , Ou (Rg/cm²) : Angle of internal Friction ,	0.10 13.5			·	· · · · · · · · · · · · · · · · · · ·	
	:) v (dea) Maximum Dry Density, g/cc		<u> </u>				
COMPACTION   TEST	Cottinum Moissure Content, %	1.45 26			· · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	,—W-11
			<u> </u>	!		i	



PROJECT JICA - Flood Control and Drainage Project in Metro Manila

BOREHOLE No. JB-9

	SAMPLE NO.		T .			r	· · · · · · · · · · · · · · · · · · ·
	TP-UDS	VDS-1	S-16				
SA	SAMPLE DEPTH (m)		7.55- 8.00	16.55- 17.00			
	% PASSING SIEVE 3/8	" 100	1.00	100			
	#4	100	100	100			
GRAIN SIZE	#10	100	95	99			
ANALYSIS	#40	100	82	99			
	#10	D - 99	79	98			
	#20	D 99	77	94			
	Liquid Limit, WI (%)	57	63				
CONSISTENCY	Plastic Limit, Wp (%)	28	34				
·	Plasticity Index, Ip	29	29				
	Shrinkage Limit, SI, %	19	19				
Soil Classifi	cution (ASTM)						
Specific Gra	Specific Grovity, Gs		2.62	2.62			
Natural Moisture Content, Wn (%)		47	43	30			
Organic Con			,,		11		
Wet Unit We	ight, 0 ( g/cm <sup>3</sup> )	1.72	1.75				
Dry Unit We	ight 1=0d (g/cm²)	1.17	1.22		-		
Natural Void	Ratio, e <sub>o</sub>	1.247				<u></u>	
Degree of S	aturation, Sr (%)	99					
CONSOLIDATION	Preconsolidation Pressure.	0.83					
TEST	Compression Index, Cc	0.368					
	Unconfined Compressive	0.838	0.632				
UNCONFINED	CAR	,					
COMPRESSION TEST		5.58	8.515				
	Strain, E (%)		0.010				
TRIAXIAL	Cohesion, Cu (kg/cm²)	0.06					
COMPRESSION TEST (Cu)	Angle of Internal Friction,	16.2					
COMPACTION	Maximum Dry Density, g/cc						
TEST	Optimum Moisture Content,	<del></del>	<u> </u>				<u> </u>
	, , , , , , , , , , , , , , , , , , , ,	7 - 20					



PROJECT	JICA - Flood	Control	and	Drainage	Project	in	Metro Manila	
			<del></del>				and the second s	

BOREHOLE No. JB-10

				·y		<u> </u>			
SAMPLE NO.			UDS	S-1	UDS-2	S-14			
SAMPLE DEPTH (m)		0.	50- 00	0.55- 1.00	11.55-	15.55- 16.00			
	% PASSING SIEVE 3/	<b>/</b> 8"	· · · · · · · · · · · · · · · · · · ·	94	89	100			
	#4			93	83	97	· ·		
GRAIN SIZE	#10	0		90	82	89			
ANALYSIS	#4	0		88	80	85			
	#10	00	:	87	75	85		ļ	
	#20	00		85	67	85			
	Liquid Limit, WI (%	.)		-	56				
CONSISTENCY	Plastic Limit, Wp (%	.)			28	1 1 1			
· · · · · · · · · · · · · · · · · · ·	Plasticity Index, Ip				28			<del></del>	
	Shrinkage Limit, SI, %	,		-	33				<del></del>
Soil Classifi	cation (ASTM)								
Specific Gro	rvity, G <sub>s</sub>	2.6	6	2.62	2.60	2.65	· · · · · · · · · · · · · · · · · · ·		·
Natural Moisture Content, Wn (%)				38	65	71			
Organic Con	tent .					- / -			
Wet Unit We	ight,_Ot (g/cm³)	1.8	6	,,	1.59				<del>-</del>
Dry Unit We	ight ,_0d; (g/cm³)	1.3	9	• 1	0.96				
Natural Void	Ratio, e <sub>o</sub>	0.90			1.703				
Dagree of S	aturation, Sr (%)	99		•	99			~~~	
CONSOLIDATION	Preconsolidation Pressure pc (kg/cm²)	1.44	0	:	1.99			,	
. TEST	Compression Index, Cc	0.16			0.367				
	Unconfined Compressive	1 0.08			0.507				
UNCONFINED	Strongth, qu (kg/cm²)	2							
COMPRESSION TEST		1 1.38			,				
	Strain, E (%)	2	_		-				
TRIAXIAL	Cohesion, Cu (kg/cm²)		_		0.20				
COMPRESSION TEST (Cu)	Angle of Internal Friction	.,	$\dashv$		12.3				
COMPACTION	Maximum Dry Density, g/c	:c	_	****	26.3				
TEST	Optimum Moisture Content,		$\dashv$					· · · · · · · · · · · · · · · · · · ·	
		<u>.</u>							



PROJECT _	فتأر و	ICA	- Flood	Control	and	Drainage	Project	in	Metro	Manila	
BOREHOLE	No.		NM-1								 

			3 *				
S	SAM'PLE NO.	S-1	S-5	S-9			
S A	MPLE DEPTH	1.55- 2.00	5.55- 6.00	9.55 10.00			
	% PASSING SIEVE 3/8"	100	100	100			
•	#4	80	,99	. 99			
GRAIN SIZE	#10	73	99	89			
ANALYSIS	#40	51	99	66			
* .	#100	- 26	99 ;	60			
	#200	10	92	57			
	Liquid Limit, WI (%)		41	- 56			** :
CONSISTENCY	Plastic Limit, Wp (%)	:	22.:	<b>:- 28</b>			
	Plasticity Index, Ip		19	- 28			
	Shrinkage Limit, SI, %.				<u>.</u>		
Soil Classification (ASTM)		SM	CL	СН	:		
Specific Gravity, G <sub>S</sub>		2.64	2.60	2.59			7
Natural Moisture Content, Wn (%)		31	- 49	50			
Organic Con	tent						
Wet Unit We	ight, <b>3</b> 1 (g/cm³)						
Dry Unit We	ight, Id (g/cm³)		•				
Natural Void	Ratio, e <sub>o</sub>						
	aturation, Sr (%)						
	Preconsolidation Pressure, pc (kg/cm²)					-	: -
TEST	Compression Index, Cc		1. <u>-</u>				
er i Salar i Salar salar i	Unconfined Compressive						
UNCONFINED OMPRESSION	Strength, qu (kg/cm <sup>2</sup> ) 2						
TEST	Strain, E (%)		. :	,		٠.	
	2						
TRIAXIAL COMPRESSION	Cohesion, Cu (kg/cm²)						
TEST (Cu)	Angle of Internal Friction, Øu (dea)						
OMPACTION	Maximum Dry Density, g/cc						
TEST	Optimum Moisture Content, %						
					<del></del>		~

TECHNOTEST, INC. Soil Testing Laboratory 893 EDSA, Quezon City PHILIPPINES

PROJECT: Flood Control & Drainage Project

DATE TESTED: 06-20-89

#### UNIT WEIGHT TEST RESULTS

SAMPLE NO.	DEPTH (meter)	GHT (WET I	ENSITY)
JB-1 UDS-1	7.55 - 8.00	1.76	
JB-6 UDS-1	6.55 - 7.00	1.78	
JB-7 UDS-1	5.55 - 6.00	1.65	

Tested by:

REUBIEN M. MALLARE

Lab. Technician

Chacked by:

HARRY P MALAPAYA

Supervisor

SAMPLES ANALYZED AS RECEIVED DELGINAL COPY

CHECKED 3: LIPM

DATE: 06/26/89

LASCRATORY NO 424