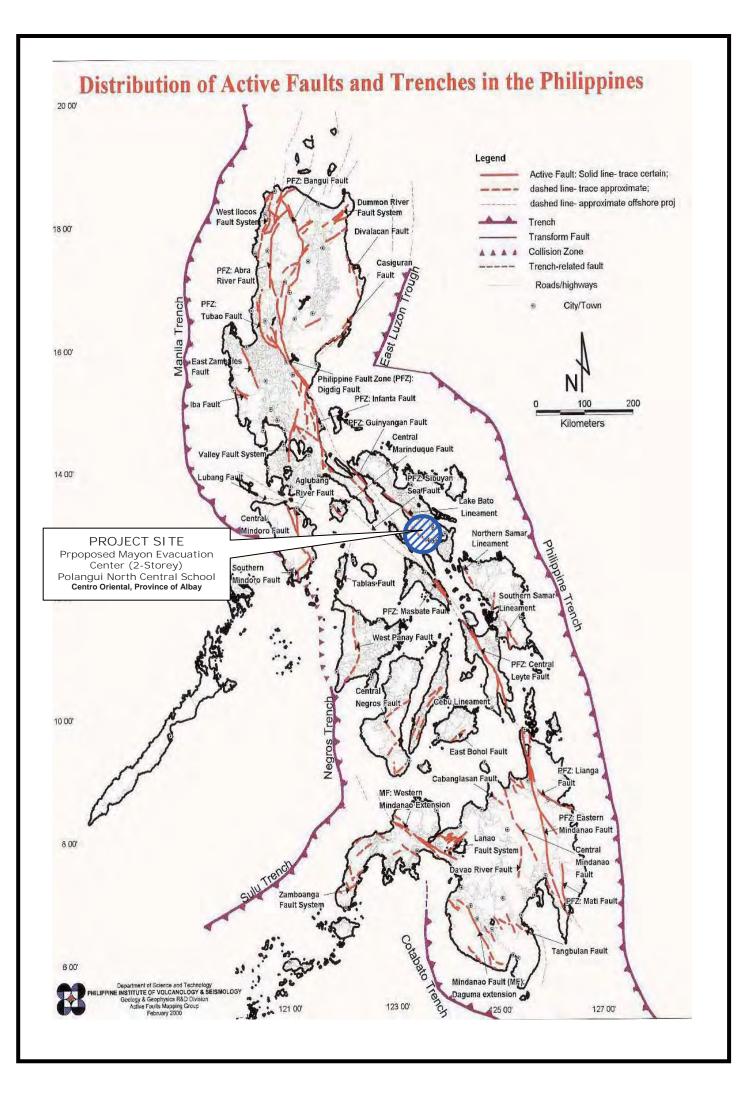
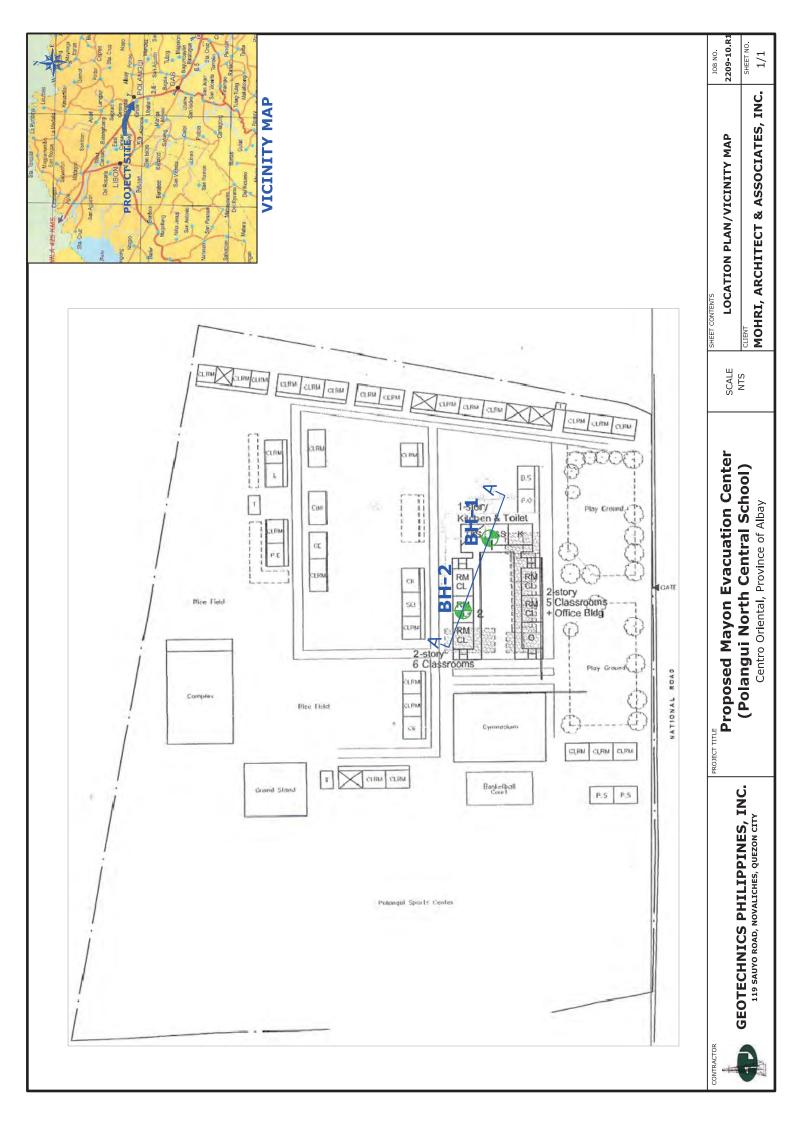
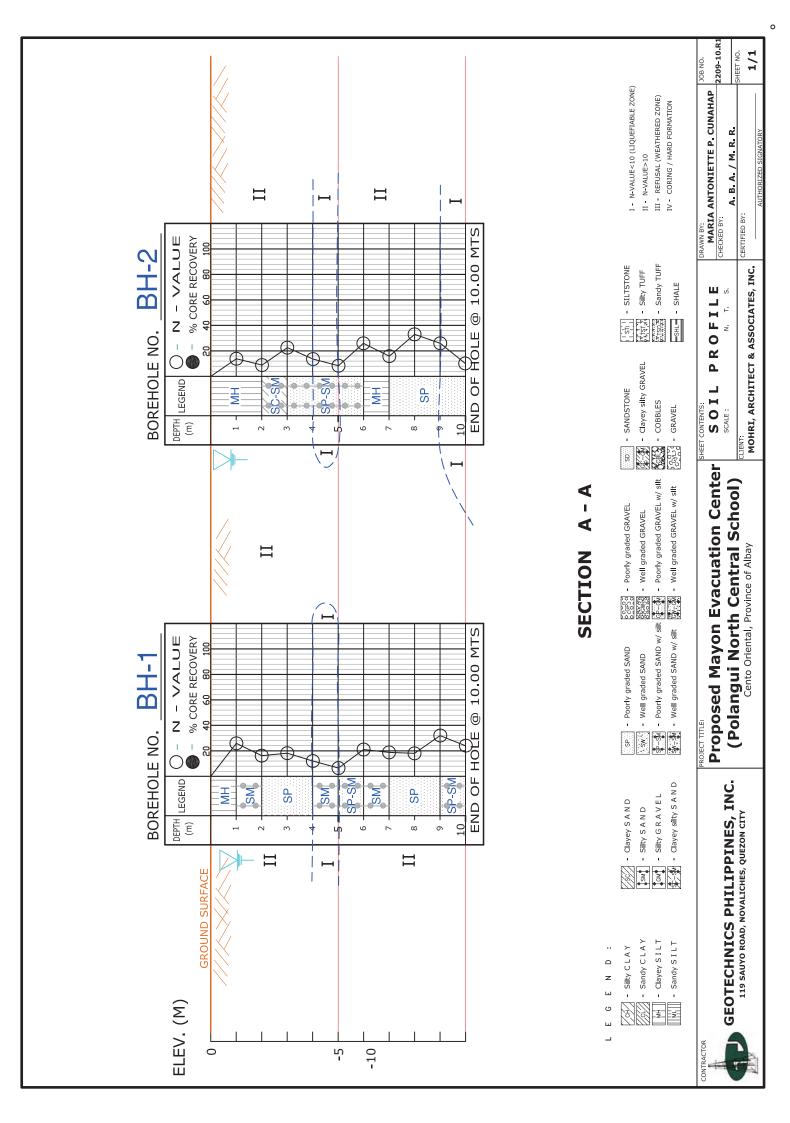
APPENDICES











GEOTECHNICS PHILIPPINES, INCORPORATED SOILS AND MATERIALS TESTING LABORATORY 119 SAUYO ROAD, NOVALICHES, QUEZON CITY TEL. NO. 938-2124 \ 456-1140 \ 930-6555



	No. 10				
CLIENT	MOHRI, ARCHITECT & ASSOCIATES, INC.			BOREHOLE NO. BH-1	
PROJECT	Proposed Mayon Evacuation Center (Polangui North Central	School)		JOB NO. 2209-10.R1-FBL-	01
LOCATION	Centro Oriental, Province of Albay	DRILLED	R. POLIDAN	SHEET 1 of 1	
RIG	KSK SMALL	LOGGED	R. POLIDAN	0.00 to 10.00 meters	
	Hammer Weight 63.50 Kg.	DATE STARTED	Oct. 17, 2010	GROUND LEVEL - m.	
	Fall Height 76.20 cm.	DATE COMPLETED	Oct. 17, 2010	WATER LEVEL 1.05 m.	
METHOD	WASH BORING	NORTHING	-	EASTING _	
	FINAL BO	RING LOG			
DEPTH (m)	SOIL SAMPLE TYPE OF REC RQD PL NMC LL PI CONSISTENC SYMBOL NUMBER SAMPLING (cm) (%) 20 40 60 80 100	CY	covery SO.	L DESCRIPTION	OTHER TEST DATA
-	S-1 SPT 45 - 28 VERY STIF		(MH) Elastic SII	T with little amount of sand avel, dark gray, very moist)	
¥ - 1.00 ·				D, fine to coarse grained with I, dark gray, very moist	

	- ·		S-1	SPT	45	_	$\left \right $				28	VERY STIFF	26							of gravel, dark gra (14)						
¥	- 1.00 - - · · - · ·		S-2	SPT	45	_					NP		16							GAND, fine to coars avel, dark gray, v 9)						
	- 2.00 - - · ·		S-3	SPT	45	_					NP	MEDIUM DENSI	18							graded SAND with gray, moist 9)	n little amount of					
	- 3.00 - - · ·		S-4	SPT	45	_					NP		11						(SP-SM)m NB: (8)(6)(5	-SM)moist (8)(6)(5)						
	- 4.00 - - · · - ·		S-5	SPT	45	_					2	LOOSE	7						(SM) Silty S dark gray, v NB: (5)(4)(3		um grained,					
	- 5.00 - - · · - ·		S-6	SPT	45						NP		21							orly graded SAND t of gravel, dark g L2)						
	- 6.00 - - · · - ·		S-7	SPT	45	_					NP	MEDIUM DENS							(SM) Silty S traces of gra NB: (5)(8)(3		se grained with					
	- 7.00 - - · ·			SPT	39	_					NP		18						(SP) Poorly dark gray, r NB: (8)(8)(3		n some gravel,					
	- 8.00 - - · · - ·		S-9	SPT	45	_					NP	DENSE	31	G	Ň				(SP)with f NB: (10)(14							
	- 9.00 - - · ·		S-10	SPT	45	_						MEDIUM DENSE							traces of gra NB: (9)(11)	orly graded SAND avel, dark gray, m (14) BORING AT 10.0	oist					
Ту	pe of Sar	mpling			Type of S	i i	⊥€	<u> </u>					NSIS	TE	B I INC	Ξ Y	_			MOISTURE	PERCENTAGE					
Г		ANDARD		Silty CLAY	[s	ilty G	RAVE	L			OHESIVE SOILS	5	COI	HE	VSI	ON	LES	S SOILS MO	ISTURE CONTENT	% of SAND and GRAVEL					
		INDERATION INTERATION EST (SPT) NDISTURBED AMPLING IDS)		Clayey SILT Clayey SANE Silty SAND			ith si RAVE	lt	GRAVE	EL	0 2 4 8	ALUE <u>CONSIST</u> - 2 – VERY SO - 4 – SOFT - 8 – FIRM - 15 – STIFF	FT	0 4 1 3	0 - 4 - 0 - 0 -	4 10 30 50	- \ - I - I - I	VERY LOO: MED DEN:	I LOOSE 0 SE 10 IUM DENSE 30 SE 70	IGES VALUES 10 - DRY 30 - MOIST 70 - VERY MOIST 100 - WET	RANGES VALUES 0 - 5 - TRACES 6 - 10 - FEW 11 - 25 - LITTLE 26 - 35 - SOME					
		ORING RG)		Clayey silty : SAND	ł	$\nabla \nabla \nabla$	UFF uffec	eous :	SILTST	ONE		- 30 — VERY ST 30 — HARD	IFF		> 5	0	- \	VER	(DENSE >	100 – SATURATED	36 - 45 — WITH					
REM	IARKS:	Rec =	Recov	ery in C	entim	eters		N	B =	No	l . of F	Blows HW :	= Hai	ηn	ner	w	eic	iht		Prepared by : R	T. LUSTRE					
\vdash	Refe			pacing:								m. >#3>3cn				<1	-	<u> </u>		Charling di huu a	.B.A. / M.R.R.					
					30 cm		2>	10c	m.		3 c	m. >#4>1cn	ı							Certified by :	-					
		RQD =	= Rock	Quality	Desig	natio	٦	S	CR	= 5	Solid	Core Recover	y								UTHORIZED SIGNATORY					
Des	scription	of Strat	a is acco	ording to l	Unified S	Soil Cla	ssif	icat	ion S	Syst	em									Date Issued :						



Description of Strata is according to Unified Soil Classification System

GEOTECHNICS PHILIPPINES, INCORPORATED SOILS AND MATERIALS TESTING LABORATORY 119 SAUYO ROAD, NOVALICHES, QUEZON CITY TEL. NO. 938-2124 \ 456-1140 \ 930-6555



Date Issued :

CLIE	NT	монг		UITECT	· 0. ACC	-		6 11						-				-			BOREHOLE NO.	BH- 2	IS Accredited		
PRO			,	HITECT				·			: No	with Construct C	-	•							100.000	09-10.R1-FBL-	0.2		
	TION									ngu		orth Central S	DRILLE								SHEET		02		
RIG				o Orienta	ai, Pro	vince	e or	AIDa	ау				LOGGE									1 of 1			
		KSK S		60 E0 K									DATE S		RTED)			OLIDAN		GROUND LEVEL	0 to 10.00 meters			
				t 63.50 Kg].								DATE						18, 201		WATER LEVEL	- m.			
METH			ght 76.2										NORTH				0	oct.	18, 201	10	EASTING	0.97 m.			
MEII		WASH	I BORI	NG									NOKT	IINC			-					-			
											FI	NAL BOR	ING	6 I		G									
	:PTH m)	SOIL	SAMPLE	SAMPLIN		RQD (%)	ŀ	NM)—	1	PI	CONSISTENCY	Õ -	%	- V A Core	e Re	cove	_ ^ I		S	OIL DESCRIPTION		OTHEF TEST DATA		
¥	- 1.00 -		S-1	SPT	40	_		•			25	STIFF	13							dark g	ILT with sand a ray, very moist	nd traces of			
-	- 2.00 -		S-2	SPT	45	_		I OI			28	FIRM	8						(MH) NB: (4)		me sand				
-	- 3.00 -		S-3	SPT	45	_		P			4	MEDIUM DENS	23							dark g	ey silty SAND wi ray, very moist 13)	th traces of			
-	- 4.00 -		. S-4	SPT	45	_					NP		13							of grav	y graded SAND el, dark gray, ve				
-	- 5.00 -			SPT	45	-					NP	LOOSE	8						(SP-SM) NB: (2)	,	ist				
-	- 6.00 -			SPT	45	-					NP	MEDIUM DENS	5E 27	Ň					(SP-SM NB: (10						
-	• •	-	S-7	SPT	45	-					24	VERY STIFF	16							h gray	ILT with little an , very moist)	nount of sand,			
-	- 7.00 -			SPT	45	-					NP	DENSE	32							dark g	ray, moist	little amount of			
-	- 8.00 -		S-9	SPT	45	-					26	MEDIUM DENS	SE 27						(SP)w NB: (10		ces of gravel 15)				
-	- 9.00 -			SPT	45	_					NP				$\ $				(SP)d NB: (7)	(5)(5)	oring at 10.0	0 METERS			
Tvn	<u>10.00</u> e of Sar	nplina	3-10		Type of s	L Soil	шd	ЬШ			INP.		10 2NSIS	Ъ		⊥⊥ `V		Ш			MOISTURE	PERCENTA			
.,,,		,		Silty CLAY	[sile: C	RAVEL			<u> </u>						ייאר	FC	C COTI C						
		FANDARD INETRATION EST (SPT) NDISTURBED AMPLING IDS) DRING IRG)		Silty CLAY Clayey SILT Clayey SANI Silty SAND Clayey silty SAND	D		Well gr with si GRAVE SILTST TUFF	raded (lt EL	GRAVE		<u>N-V</u> 0 2 4 8 15	COHESIVE SOIL /ALUE CONSIST 2 – VERY SI 4 – SOFT 8 – FIRM 15 – STIFF 30 – HARD	<u>TENCY</u> OFT	<u>N</u>	0 - 4 - 10 - 3	<u>UE</u> 4 10 30 50	<u>C(</u> - V - Li - M	ONS (ERY .00S (EDI DENS	UM DENSE	RANGE 0 - 1 10 - 3 30 - 7	0 – DRY 0 – MOIST 0 – VERY MOIST 00 – WET	% of SAND and (RANGES VA 0 - 5 - TRA(6 - 10 - FEW 11 - 25 - LITT 26 - 35 - SOM 36 - 45 - WITH	LUES CES LE E		
REM	ARKS:	Rec -	Recov	very in C	Centim	etero	5	NF	5 ==	No	L	Blows HW	= Ha	L m	ner	w	eia	ht			Prepared by : R	T. LUSTRE			
				pacing:				INE	, _			cm. >#3>3ci			#5 ·		-			-+	Charling huse	B.A. / M.R.R.			
					30 cn	n.>#	2>:	10cr	n.		3 c	:m. >#4>1cr	m.								Certified by :				
		RQD	= Rock	Quality	' Desig	natio	n	S	CR	= S	olid	Core Recove	ry								A	UTHORIZED SIGNAT	ORY		
-														-							Date Issued :				



GEOTECHNICS PHILIPPINES, INC. SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



CLIENT...... MOHRI, ARCHITECT & ASSOCIATES, INC. PROJECT..... Proposed Mayon Evacuation Center (Polangui North Central School) LOCATION.... Centro Oriental, Province of Albay

SUMMARY OF LABORATORY TESTS

SAMPLE	DEPTH	NMC	ATTE	RBERG (%)	LIMIT,	USCS		SI	EVE AN	ALYSIS	(% FIN	ier) pas	SSING S	IEVE N	0.		Remarks
NUMBER	(m)	(%)	LL	PL	ΡI	Class.	1	³ / ₄	³ / ₈	4	10	20	40	60	140	200	
BH-1																	
1	0.55 - 1.00	45	60	32	28	MH			100	98	97	93	88	83	77	76	-
2	1.55 - 2.00	30	-	NP	-	SM			100	95	81	61	43	32	25	24	-
3	2.55 - 3.00	27	-	NP	-	SP		100	87	78	64	45	24	10	3	3	-
4	3.55 - 4.00	19	-	NP	-	SP		100	90	79	67	47	22	10	4	3	-
5	4.55 - 5.00	32	35	33	2	SM				100	99	91	72	56	34	32	-
6	5.55 - 6.00	16	-	NP	-	SP-SM		100	94	84	75	52	22	12	7	6	-
7	6.55 - 7.00	29	-	NP	-	SM			100	98	96	84	58	40	25	22	-
8	7.55 - 8.00	23	-	NP	-	SP		100	86	69	56	44	25	12	5	4	-
9	8.55 - 9.00	25	-	NP	-	SP		100	95	92	82	64	29	10	5	4	-
10	9.55 - 10.00	26	-	NP	-	SP-SM			100	98	89	64	29	13	7	5	-
BH-2																	
1	0.55 - 1.00	47	57	32	25	MH			100	98	95	86	78	72	69	67	-
2	1.55 - 2.00	50	60	32	28	MH			100	96	88	85	81	77	73	72	-
3	2.55 - 3.00	36	38	34	4	SC-SM			100	97	91	82	71	60	39	37	-
4	3.55 - 4.00	37	-	NP	-	SP-SM		100	98	96	90	73	43	17	6	5	-
5	4.55 - 5.00	27	-	NP	-	SP-SM			100	98	92	75	37	15	6	5	-
6	5.55 - 6.00	24	-	NP	-	SP-SM				100	97	81	40	18	7	6	-
7	6.55 - 7.00	48	56	32	24	MH					100	98	93	84	77	73	-
8	7.55 - 8.00	23	-	NP	-	SP			100	86	73	49	24	12	6	4	-
9	8.55 - 9.00	21	-	NP	-	SP			100	98	86	61	32	14	4	3	-
10	9.55 - 10.00	27	-	NP	-	SP			100	98	86	61	32	14	4	3	-

SAMPLE SUBMITTED BY :

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119 Sauyo Road, Novaliches, Quezon City



Job Number...... 2209-10.R1-NMC-01-1 Client...... MOHRI, ARCHITECT & ASSOCIATES, INC. Date of Receipt..... October 27, 2010 Project...... Proposed Mayon Evacuation Center (Polangui North Central School) Location...... Centro Oriental, Province of Albay Date of Test..... October 27-28, 2010

TEST REPORT FOR LABORATORY DETERMINATION OF WATER (MOISTURE) CONTENT OF SOIL & ROCK BY MASS

ASTM D 2216 - 05

_

Test Method	✓ A	В
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BOREHOLE	ENOBH-1

SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	WATER CONTENT (%)	REMARKS
				Ν	IATURAL M	OISTURE C	ONTENT	
1	0.55-1.00	93.80	67.75	26.05	9.66	58.09	45	
2	1.55-2.00	97.57	77.42	20.15	9.53	67.89	30	
3	2.55-3.00	96.30	78.08	18.22	9.97	68.11	27	
4	3.55-4.00	106.75	90.94	15.81	9.82	81.12	19	
5	4.55-5.00	111.50	87.10	24.40	9.97	77.13	32	
6	5.55-6.00	116.10	101.23	14.87	9.52	91.71	16	

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS ASTM Designation : D 4318 - 05, Method B

SAMPLE	DEPTH (m)	BLOWS		DRY SOIL	WATER	DISH	DRY SOIL	% Retained	ATTERBE	RG LIMIT	REMARKS
NUMBER		DLOWS	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	on 0.425 mm	LL	PL	REMARKS
					LIC	DUID LIMIT					
5	4.55-5.00	20	37.64	30.35	7.29	10.04	20.31		35		35
5	4.55-5.00	20	37.80	30.46	7.34	10.00	20.46		35		55
					PLA	STIC LIMI	Г				
F		Р	22.78	19.47	3.31	9.49	9.98			33	22
5	4.55-5.00	Р	22.80	19.50	3.30	9.50	10.00			33	33
Uncertainty I			tent (%) =			uid Limit =			stic Limit =		la la constante de la constante
	ported expanded u	incertainty	is based on	a compined	a uncertain	ty by a cov	erage facto	r от к=2, рі	-		
approximate	-										D.:NMC-10-502
SAMPLE SUB	MITTED BY :	PI Field Op				REMARKS:					
	Silents 💌 G	PI Field Op	erator								
R. POLIDAN				-							
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Final Report Form - 1





119 Sauyo Road, Novaliches, Quezon City



Client...... MOHRI & PA ASSOCIATES, INC. Project...... Proposed Mayon Evacuation Center (Polangui North Central School) Location...... Centro Oriental, Province of Albay

TEST REPORT FOR LABORATORY DETERMINATION OF WATER (MOISTURE) CONTENT OF SOIL & ROCK BY MASS

ASTM D 2216 - 05

Test Method 🗹 A 🗌 B

SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	WATER CONTENT (%)	REMARKS
				٦	NATURAL M	OISTURE C	ONTENT	
7	6.55-7.00	106.18	84.64	21.54	9.68	74.96	29	
8	7.55-8.00	106.20	88.30	17.90	9.65	78.65	23	
9	8.55-9.00	100.58	82.29	18.29	9.49	72.80	25	
10	9.55-10.00	100.10	81.67	18.43	9.73	71.94	26	

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS ASTM Designation : D 4318 - 05, Method B

SAMPLE	DEPTH (m)	BLOWS	WET SOIL	DRY SOIL	WATER	DISH	DRY SOIL	% Retained	ATTERBE	RG LIMIT	REMARKS
NUMBER	DEF ITI (III)	BLOWS	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	on 0.425 mm	LL	PL	REWARKS
	L				LIC	QUID LIMIT	-				
					PLA	ASTIC LIMIT	Г				
Uncertainty			tent (%) =						stic Limit =		idence of
	ported expanded u	incertainty	is based on	a complined	a uncertain	ity by a cov	-	-	-		
approximate	-					DEMARKO					D.:NMC-10-502
SAMPLE SUE	MITTED BY :	PI Field Op	erator			REMARKS:					
R. POLIDAN			crutor								
COMPUTER]	-							
	IARIA ANTONIETTE	E P. CUNAH	AP								
	Encode				TI	ESTED BY :		AF	RTURO Q. A	QUINO	
Data Check	ked by:AB	A/MRR								CHNICIAN	
		lity Assura	nce								
Data Iccua	d:				CERT	TIFIED BY :					
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This report she	ould not be copied, di	vulaed or rea	produced, in t	full or in part	, without pri	or advice to a	and written a	pproval from	GPI-SMTL.		
Final Repo		3		. Part	· · · · · F. ·					Re	v.6 / Oct. 2010





119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR LABORATORY DETERMINATION OF WATER (MOISTURE) CONTENT OF SOIL & ROCK BY MASS

ASTM D 2216 - 05

Test Method 🗹 A 🗌 B

BOREHOLE NO...BH-2

SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	WATER CONTENT (%)	REMARKS
				1	NATURAL M	IOISTURE C	ONTENT	
1	0.55-1.00	109.70	77.86	31.84	9.84	68.02	47	
2	1.55-2.00	93.90	65.88	28.02	9.65	56.23	50	
3	2.55-3.00	121.90	92.02	29.88	9.54	82.48	36	
4	3.55-4.00	89.34	67.97	21.37	9.86	58.11	37	
5	4.55-5.00	106.50	85.81	20.69	9.51	76.30	27	
6	5.55-6.00	99.60	82.43	17.17	9.59	72.84	24	

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS ASTM Designation : D 4318 - 05, Method B

SAMPLE	DEPTH (m)	BLOWS		DRY SOIL	WATER	DISH	DRY SOIL	% Retained	ATTERBE	RG LIMIT	REMARKS
NUMBER	DEF III (III)	BLOWS	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	on 0.425 mm	LL	PL	REIMARKS
					LIC	2010 LIMIT					
3	2.55-3.00	20	38.10	30.25	7.85	10.10	20.15		38		38
5	2.55-3.00	20	37.94	30.14	7.80	10.08	20.06		38		30
					PLA	STIC LIMI	<u> </u>				
		Р	22.78	19.45	3.33	9.56	9.89			34	
3	2.55-3.00	Р	22.81	19.45	3.36	9.55	9.90			34	34
Uncertainty			tent (%) =			uid Limit =			stic Limit =		
Note: The re	ported expanded u	ncertainty	is based on	a combined	d uncertain	ty by a cov	erage facto	r of k=2, pr	oviding a l	evel of conf	idence of
approximate	ly 95%.								I	LAB.FILE NO	D.:NMC-10-503
SAMPLE SUE	MITTED BY :					REMARKS:					
Walk-in	Clients 🔽 G	PI Field Op	erator								
R. POLIDAN				-							
COMPUTER											
<i>By:</i> N			AP								
	Encode	÷ľ.			TE	ESTED BY :					
Data Check	xed by:AB							LABOI	ratory te	CHNICIAN	
	Qua	lity Assura	nce		0507						
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Final Report Form - 1





119 Sauyo Road, Novaliches, Quezon City



Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number
Project Proposed Mayon Evacuation Center (Polangui North Central Scho	ol) Date of Receipt October 27, 2010
Location Centro Oriental, Province of Albay	Date of Test October 28-29, 2010

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

ASTM D 4318 - 05

Method : A 🗹 Wet Preparation 🗌 Dry Preparation

BOREHOLE NO	BH-1		DEPTH (m))	0.55-1.00			SOIL DES	CRIPTION			
SAMPLE NO	S-1		USCS CLAS	S	MH		Elastic SILT					
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		65 _T					
DETERMINATION	<u>TRIAL 1</u>	TRIAL 2	<u>TRIAL 3</u>	<u>TRIAL 1</u>	<u>TRIAL 2</u>	\sim	64 -	\				
DISH NUMBER	A2	A37	A82	B32	B98	t (%)	63 -		\setminus			
WET SOIL + DISH (g)	32.75	35.28	38.40	22.71	22.74	teni	62 -					
DRY SOIL + DISH (g)	24.27	25.59	27.24	19.52	19.54	Con	61 -					
WATER (g)	8.48	9.69	11.16	3.19	3.20	ure	60 -					
DISH MASS (g)	9.64	9.70	9.80	9.53	9.54	oisture	59 -					
DRY SOIL (g)	14.63	15.89	17.44	9.99	10.00	Š	58 -					
MOISTURE CONTENT	57.96	60.98	63.99	31.93	32.00		57 -					
NUMBER OF BLOWS	31	22	15	3	2		1(C	No. of B	lows		100
% RETAINED ON 0.42	5mm				12.48		LL =	60	PL = 3	2	PI =	28

BOREHOLE NO		DEPTH (m))	SC	DIL DESCRIPTION	
SAMPLE NO		USCS CLAS	SS			
MOISTURE CONTENT <u>DETERMINATION</u> DISH NUMBER WET SOIL + DISH (g) DRY SOIL + DISH (g) WATER (g) DISH MASS (g) DRY SOIL (g) MOISTURE CONTENT		ID LIMIT IAL 2 <u>TRIAL 3</u>	PLASTIC LIMIT <u>TRIAL 1</u> <u>TRIAI</u>			
NUMBER OF BLOWS				10	No. of Blows	100
% RETAINED ON 0.42	5mm			LL =	PL =	PI =
Uncertainty Results:			uid Limit = ± 0.13 uid Limit =	55	Plastic Limit = \pm 0.2008 Plastic Limit =	
Note: The reported exp	panded uncerta	inty is based on a	combined uncerta	inty by a coverage	e factor of k=2, providing a leve	l of confidence
of approximately 95%.						LAB.FILE NO.:AL-10-650
SAMPLE SUBMITTED B		eld Operator		REMARKS:		
R. POLIDAN						
COMPUTER PRINT-OU	Τ					

COMPUTER PRINT-O	JT		
By: MARIA A	NTONIETTE P. CUNAHAP		
	Encoder	TESTED BY :	ARTURO Q. AQUINO
Data Checked by:	ABA / MRR Quality Assurance		LABORATORY TECHNICIAN
		CERTIFIED BY :	
Date Issued:			AUTHORIZED SIGNATORY
		-	

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119 Sauyo Road, Novaliches, Quezon City



Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number	2209-10.R1-AL-02-1
Project Proposed Mayon Evacuation Center (Polangui North Central School)	Date of Receipt	October 27, 2010
Location Centro Oriental, Province of Albay	Date of Test	October 29-30, 2010

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

ASTM D 4318 - 05

Method : A 🗹 Wet Preparation 🗌 Dry Preparation

BOREHOLE NO	BH-2		DEPTH (m))	0.55-1.00		9	SOIL DESC	RIPTION			
SAMPLE NO	SS	MH		E	Elastic SILT	-						
MOISTURE CONTENT DETERMINATION	L TRIAL 1	IQUID LIMI TRIAL 2	T TRIAL 3	PLASTI TRIAL 1	C LIMIT TRIAL 2		61 _					
DISH NUMBER	A43	A68	A14	B75	B25	t (%)	60 - 59 -	٩				
WET SOIL + DISH (g)	32.44	35.27	38.18	22.58	22.61	Content	58 -		\mathbf{N}			
DRY SOIL + DISH (g)	24.33	25.94	27.55	19.38	19.39	Con			Ne la			
WATER (g)	8.11	9.33	10.63	3.20	3.22	ure	57 -		$ \mathbf{\lambda}$			
DISH MASS (g)	9.60	9.72	9.85	9.39	9.38	Moisture	56 -					
DRY SOIL (g)	14.73	16.22	17.70	9.99	10.01	Š	55 -					
MOISTURE CONTENT	55.06	57.52	60.06	32.03	32.17		54 🗕					
NUMBER OF BLOWS	31	22	15	3	2		10)	No. (of Blows		100
% RETAINED ON 0.42	5mm				21.55		LL =	57	PL =	32	PI =	24

BOREHOLE NO	BH-2		DEPTH (m))	1.55-2.00		S	OIL DESC	CRIPTION
SAMPLE NO	AMPLE NO S-2 USCS CLASS MH							lastic SIL	Т
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		65 _T		
DETERMINATION	<u>TRIAL 1</u>	<u>TRIAL 2</u>	<u>TRIAL 3</u>	<u>TRIAL 1</u>	<u>TRIAL 2</u>	\sim	64 -	X	
DISH NUMBER	B17	B24	B90	A48	A32	t (%)	63 -		\mathbf{X}
WET SOIL + DISH (g)	32.52	35.40	38.34	22.68	22.74	Content	62 -		
DRY SOIL + DISH (g)	24.12	25.67	27.21	19.51	19.56	Con	61 -		
WATER (g)	8.40	9.73	11.13	3.17	3.18	ture	60 -		X
DISH MASS (g)	9.63	9.72	9.83	9.48	9.55	Moisture	59 -		
DRY SOIL (g)	14.49	15.95	17.38	10.03	10.01	2	58 -		
MOISTURE CONTENT	57.97	61.00	64.04	31.61	31.77		57 +		
NUMBER OF BLOWS	31	22	15	3	2		10)	No. of Blows 100
% RETAINED ON 0.42	5mm				18.94		LL =	60	PL = 32 PI = 28

Uncertainty Results: I	Liquid Limit = ± 0.1346	Plastic Limit = ± 0.2008
11	Liquid Limit = ± 0.1368	Plastic Limit = \pm 0.1998
Note: The reported expanded uncertainty is based	on a combined uncertainty by a coverage	factor of k=2, providing a level of confidence
of approximately 95%.		LAB.FILE NO.:AL-10-651
SAMPLE SUBMITTED BY :	REMARKS:	
Walk-in Clients GPI Field Operator		
R. POLIDAN		
COMPUTER PRINT-OUT		
By: MARIA ANTONIETTE P. CUNAHAP		
Encoder	TESTED BY :	ARTURO Q. AQUINO
Data Checked by: ABA / MRR		LABORATORY TECHNICIAN
Data Checked by: ABA / MRR Quality Assurance	—	
	CERTIFIED BY :	
Date Issued:		AUTHORIZED SIGNATORY

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119 Sauyo Road, Novaliches, Quezon City



Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number
Project Proposed Mayon Evacuation Center (Polangui North Centra	al School) Date of Receipt October 27, 2010
Location Centro Oriental, Province of Albay	Date of Test October 29-30, 2010

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

ASTM D 4318 - 05

Method : A 🗹 Wet Preparation 🗌 Dry Preparation

BOREHOLE NO	BH-2		DEPTH (m))	6.55-7.00			SOIL DE	SCRIPTION			
SAMPLE NO	S-7		USCS CLAS	SS	MH			Elastic S	ILT			
MOISTURE CONTENT DETERMINATION	L <u>TRIAL 1</u>	IQUID LIMI <u>TRIAL 2</u>	T TRIAL 3	PLASTI <u>TRIAL 1</u>	C LIMIT <u>TRIAL 2</u>	(61 60 -		R			
DISH NUMBER	B52	B21	B63	C85	C57	%)	59 -		\mathbf{n}			
WET SOIL + DISH (g)	32.70	35.49	38.50	22.67	22.71	Content	58 -		X			
DRY SOIL + DISH (g)	24.61	26.12	27.74	19.47	19.49	Con	57 -		l l			
WATER (g)	8.09	9.37	10.76	3.20	3.22	ure	56 -					
DISH MASS (g)	9.63	9.70	9.82	9.52	9.54	Moisture	55 -					
DRY SOIL (g)	14.98	16.42	17.92	9.95	9.95	Š	54 -					
MOISTURE CONTENT	54.01	57.06	60.04	32.16	32.36		53 -					
NUMBER OF BLOWS	32	22	15	3	2		10)	No. (of Blows		100
% RETAINED ON 0.42	5mm				7.28		LL =	56	PL =	32	PI =	24

SAMPLE NO USCS CLASS MOISTURE CONTENT LIQUID LIMIT DETERMINATION TRIAL 1 TRIAL 1 TRIAL 2 TRIAL 1 TRIAL 3 TRIAL 1 TRIAL 3 TRIAL 1 TRIAL 2 TRIAL 2 TRIAL 2 TRIAL 2 TRIAL 2 TRIAL 2 TRIAL	BOREHOLE NO		DEPTH (m)		SOIL DES	CRIPTION		
DETERMINATION TRIAL 1 TRIAL 2 TRIAL 3 TRIAL 1 TRIAL 2 TRIAL 2 TRIAL 3 TRIAL 1 TRIAL 2 TRIAL 2 TRIAL 3 TRIAL 1 TRIAL 2 TRIAL 3 TRIAL 3 TRIAL 1 TRIAL 2 TRIAL 3 TRIAL 3 TRIAL 1 TRIAL 2 TRIAL 3 Trial 3<	SAMPLE NO		USCS CLAS	SS					
WATER (g) DISH MASS (g) DRY SOIL (g) MOISTURE CONTENT NUMBER OF BLOWS MOISTURE CONTENT NUMBER OF BLOWS	DETERMINATION DISH NUMBER WET SOIL + DISH (g)				(%)	_			
	WATER (g) DISH MASS (g) DRY SOIL (g) MOISTURE CONTENT				Moisture	10	No. of Blo	ws	100
		5mm			 LL	=	PL =	PI =	

Uncertainty Results: I	Liquid Limit = ± 0.1330	Plastic Limit = ± 0.2017
П	Liquid Limit =	Plastic Limit =
Note: The reported expanded uncertainty is based	on a combined uncertainty by a coverage	factor of k=2, providing a level of confidence
of approximately 95%.		LAB.FILE NO.:AL-10-652
SAMPLE SUBMITTED BY :	REMARKS:	
Walk-in Clients GPI Field Operator		
R. POLIDAN		
COMPUTER PRINT-OUT <i>By:</i> MARIA ANTONIETTE P. CUNAHAP		
Encoder	TESTED BY :	ARTURO Q. AQUINO
Data Checked by:ABA / MRR Quality Assurance		LABORATORY TECHNICIAN
	CERTIFIED BY :	
Date Issued:		AUTHORIZED SIGNATORY
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		ICV.3/ DEC.2007





119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007)

DEPTH	AMPLE NO I (m) DESCRIPTION		<u>0 1</u> 0.55-1.00 Elastic SILT			□ <u>2</u> 1.55-2.00 Silty SAND		I	▲ <u>3</u> 2.55-3.00 Poorly graded SANE)
	SIEVE SIZE	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent	Cumm.Mas		Percent
inch		Retained (q)	Retained	Finer	Retained (q)	Retained	Finer	Retained (c		Finer
2 1										
2										
1 1										
1										
3/-										100
3/				100			100	8.95	13.14	87
4		1.33	2.29	98	3.64	5.36	95	14.80	21.73	78
10		2.03	3.49	97	13.08	19.27	81	24.60	36.12	64
20		4.22	7.26	93	26.71	39.34	61	37.70	55.35	45
40		7.25	12.48	88	38.38	56.53	43	51.48	75.58	24
60		9.98	17.18	83	46.11	67.92	32	61.19	89.84	10
14		13.08	22.52	77	50.79	74.81	25	65.80	96.61	3
20		14.10	24.27	76	51.52	75.89	24	66.27	97.30	3
	N DRIED MASS		58.09 gms			67.89 gms			68.11 gms	
	3" 21/2" 2" 11/2	1" 3/4 3/8	##	#10	#20	#1140		HYDRO		
10	00 + + + + + + + + + + + + + + + + + +			-0-	1					
	90					: : : :				
		📉								
8	80	1 I I		<u> </u>						
	70	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		$\overline{\}$						
Percent Passing	60			<u></u> Д	\mathbb{N}					
ass				\sim						
L D	50	1 I I I	1			· · · ·				
cen						: :				
, Per	40 ++++++++++++++++++++++++++++++++++++									
	30									
	20	1 1 1				· · · ·				
						: ;				
	10									
	0									
	100 COARS	e FINE 10	COAR		IUM 1 Particle Siz	FINE e (mm) 0.1		0.01	1	0.001
COB		GRAVEL			SAND	e (IIIII) 0.1			T OR CLAY)	0.001
L	vith Hydrometer		I			REMARKS :	S-3:		64 Cc =	0.61
	E SUBMITTED BY:						0 01		0. 00	
	Ik-in Clients		ator							
		GFT Held Opera	101							
R. POL	IDAN			_						
COMPU	TER PRINT-OUT					TESTED BY :		ARTURC	d. Aquino	
Ву:		ONIETTE P. CUI	JAHAP					LABORATO	RY TECHNICIAN	
		Encoder								
					C	ERTIFIED BY :				
Data	Checked by:				0			AUTHOR17	ED SIGNATORY	
		Quality Assu	rance	Uncertaint	v Results	% Finer =	+ 0.0503	AGTHORIZ	LAB.FILE NO.	·GSA-10 404
	la averal				-					
Date	Issued:								ed uncertainty by	y a coverage
				Tactor of K	=2, providing a	ievel of confide	nce or appr	oximately 95	70.	
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SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007)

DEPTH (m)	LE NO	;	<u>0 4</u> 3.55-4.00 y graded SAND)		□ <u>5</u> 4.55-5.00 Silty SAND		Poorl	∆ <u>6</u> 5.55-6.00 y graded SAND v	with silt
SIEVE	E SIZE	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent <u>Finer</u>
inches	<u>mm</u>	Retained (g)	Retained	Finer	Retained (g)	Retained	Finer	Retained (g)	Retained	Percent <u>Filler</u>
2 1/2	62.5									
2	50.0									
1 1/2	37.5									
1	25.0									
3/4	19.0		0.50	100						100
3/8	9.5	7.71	9.50	90	0.17	0.01	100	5.51	6.01	94
4	4.75	16.71	20.60	79	0.16	0.21	100	14.54	15.85	84
10 20	2.0 0.8	26.91 43.29	33.17 53.37	67 47	1.00 6.68	1.30 8.66	99 91	23.30 44.02	25.41 48.00	75 52
40	0.8	43.29 63.22	77.93	22	21.73	28.17	72	71.28	48.00 77.72	22
60	0.425	73.25	90.30	10	33.98	44.06	56	80.52	87.80	12
140	0.20	78.10	96.28	4	51.07	66.21	34	85.50	93.23	7
200	0.075	78.82	97.16	3	52.20	67.68	32	86.57	94.40	6
	RIED MASS		31.12 gms	0	02120	77.13 gms	02	00107	91.71 gms	Ũ
	3" 2 1/2" 2" 1 1/2	3/4 3/8	#	#10	#20		#200	HYDRON		
100 - 90 -										
80 -										
70 -										
ssing				\rightarrow						
Percent Passing										
90 - 40										
30 -							:			
20 -						~				
10						××	ð			
0 – 100 COBBLES		e Fine 10 GRAVEL	CÓARS		IUM 1 Particle Siz SAND	FINE ze (mm) 0.1		0.01 FINES (SILT		0.001
* - with F	1	ORWEL				REMARKS	: S-4:	Cu = 5.6		= 0.74
	BMITTED BY:						S-6:	Cu = 5.5		= 1.19
		GPI Field Opera	ator				0.0.	<u> 0</u> - 0.0	. 00-	
R. POLIDAN			101	_						
COMPUTER	PRINT-OUT					TESTED BY :			Q. AQUINO	
Ву:		<u>DNIETTE P. CUN</u> Encoder	NAHAP					LABORATOF	RY TECHNICIA	١N
Data Checi	ked by:	ABA/MRR			C	ERTIFIED BY	:		D SIGNATOR	V
		Quality Assu	rance	Uncertaint	v Results:	% Finer –	± 0.0422	NUTTORIZI		0.:GSA-10-404
Date Issue	pd:			Note: The	-	nded uncertaii	nty is based		d uncertainty	by a coverage
This report sh	ould not be co	pied, divulged or	reproduced, ir		t, without prior ac			5		

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SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007) BH / SAMPLE NO..... <u>BH-1</u> <u>0</u>7 <u>□</u> 8 8.55-9.00 6.55-7.00 7.55-8.00 DEPTH (m)..... SOIL DESCRIPTION Silty SAND Poorly graded SAND Poorly graded SAND SIEVE SIZE Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Finer inches Retained (g) Retained Finer Retained (g) Retained Finer Retained (g) Retained mm 2 1/2 62.5 2 50.0 1 1/2 37.5 25.0 1 3/4 19.0 100 100 3/8 100 10.82 13.76 95 86 3 37 4.63 95 24.26 30.85 8.08 4 75 1.58 2.11 98 69 5.88 92 4 3.05 44.03 56 18.05 10 2.0 4.07 96 34.63 13.14 82 43.74 20 0.8 11.89 15.86 84 55.61 44 26.35 36.20 64 0.425 31.58 58 58.67 74.60 25 51.89 71 28 29 40 42.13 69.16 60.06 40 87 93 89.60 60 0.25 45.02 12 65.23 10 25 95.13 5 69.20 95 05 140 0.105 56.50 75.37 74.82 5 58.44 75.56 96.07 70.00 200 0.075 77.96 22 4 96.15 4 OVEN DRIED MASS 78.65 gms 72.80 gms 74.96 gms 1 1/2 #140 #10 #200 #20 #40 3/4 3/8 # #60 5 HYDROMETER 100 90 80 70 ÷. ŝ Percent Passing 60 ÷. 50 40 30 ŝ 20 10 0 COARSE COARSE MEDIUM FINE 100 10 Particle Size (mm) 0.1 0.01 0.001 COBBLES GRAVEL SAND FINES (SILT OR CLAY) REMARKS : Cc = 0.38- with Hydrometer S-8 Cu =10.19 SAMPLE SUBMITTED BY: S-9: Cu = 3.56 Cc = 1.19□ Walk-in Clients GPI Field Operator R. POLIDAN TESTED BY : ARTURO Q. AQUINO COMPUTER PRINT-OUT By: MARIA ANTONIETTE P. CUNAHAP LABORATORY TECHNICIAN Encoder CERTIFIED BY : Data Checked by: ABA/MRR AUTHORIZED SIGNATORY **Quality Assurance** Uncertainty Results: % Finer = ± 0.0468 LAB.FILE NO.:GSA-10-404 Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage Date Issued: factor of k=2, providing a level of confidence of approximately 95%.

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SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007)

DU / 0	SAMPLE NO	<u>BH-1</u>	<u>010</u>	J 11VI D 42	.2 - 03 (Ne-		07)		Δ	
	H (m)		.55-10.00						Δ	
	DESCRIPTION		aded SAND wi	th silt						
	SIEVE SIZE	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent	Cumm.Ma	ss Cumm.%	
inch		Retained (g)	Retained	Finer	Retained (g)	Retained	Finer	Retained (Percent <u>Finer</u>
2 1	/2 62.5									
2	2 50.0									
11	/2 37.5									
1	25.0									
3/	4 19.0									
3/				100						
4		1.56	2.17	98						
1		7.69	10.69	89						
2		25.83	35.90	64						
4		51.15	71.10	29						
6		62.52	86.91	13						
14		67.14	93.33	7						
20		68.33	94.98	5						
	EN DRIED MASS		1.94 gms							
	3" 2 1/2" 2" 1 1/2	1" 3/4 3/8	#4	#10	#20	#60		HYDRO	METER	
1										
	90	1 I I		$\overline{}$		<u> </u>				
	80									
	70									
	10				N					
Percent Passing	60	1 1 1								
ase					$ \times $					
ц	50		1			1 1				
Cel	10				$ \cdot \cdot \cdot $					
Pe	40 40									
	30									
	20	1 I I	1 I I							
	10									
	100 COARS	SE FINE 10	COAR		1 Particle Si	FINE ze (mm) 0.1		0.0)1	0.001
	BLES	GRAVEL			SAND				LT OR CLAY)	
	with Hydrometer					REMARKS :	S-10:	Cu = 3	.99 Cc :	= 1.26
	E SUBMITTED BY									
	alk-in Clients 🔽	GPI Field Opera	ator							
R. POL	IDAN			_						
	JTER PRINT-OUT					TESTED BY :				
Ву:		ONIETTE P. CUN	IAHAP					LABORATO	DRY TECHNICI	AN
		Encoder								
Date	Chacked by					CERTIFIED BY :				
Data	Checked by:	Quality Assu	2000					AUTHORI	ZED SIGNATOF	ΥY
			ance	Uncertaint	y Results:	% Finer =	± 0.0471		LAB.FILE N	IO.:GSA-10-404
Date	Issued:				-	anded uncertaint		on a combin		
Duid						a level of confide				Sy a coverage
								,		
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SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007)

DEPT	⁻ H (m)	LE NO RIPTION	(<u>0 1</u> 0.55-1.00 Elastic SILT			□ <u>2</u> 1.55-2.00 Elastic SILT		Cl	▲ <u>3</u> 2.55-3.00	
SUIL		E SIZE			Deveent	Current Massa		Deveent	I	ayey silty SAND	Deveent
inc	ches		Cumm.Mass <u>Retained (q)</u>	Cumm.% <u>Retained</u>	Percent <u>Finer</u>	Cumm.Mass <u>Retained (q)</u>	Cumm.% <u>Retained</u>	Percent <u>Finer</u>	Cumm.Mass <u>Retained (q)</u>	Cumm.% <u>Retained</u>	Percent <u>Finer</u>
	1/2	<u>mm</u> 62.5	<u>Retained (g)</u>	Retained	<u>r inci</u>	<u>Retained (g)</u>	Retained		<u>Retained (g)</u>	Retained	<u>1 IIICI</u>
	2	50.0									
	z 1/2										
		37.5									
	1	25.0									
	8/4	19.0									
	8/8	9.5			100			100			100
	4	4.75	1.15	1.69	98	2.51	4.46	96	2.31	2.80	97
	10	2.0	3.31	4.87	95	6.56	11.67	88	7.30	8.85	91
2	20	0.8	9.30	13.67	86	8.53	15.17	85	14.93	18.10	82
Z	40	0.425	14.66	21.55	78	10.65	18.94	81	24.08	29.19	71
6	60	0.25	19.05	28.01	72	12.80	22.76	77	32.89	39.88	60
1	40	0.105	21.10	31.02	69	15.20	27.03	73	50.60	61.35	39
2	00	0.075	22.40	32.93	67	15.97	28.40	72	52.30	63.41	37
OV	'EN DR	RIED MASS	e	58.02 gms			56.23 gms			82.48 gms	
		3" 2 1/2" 2" 1 1/2	1" 3/4 3/8	#	#10			007#	HYDROM		
	100 +				$\overline{\checkmark}$						
	90 -				\sim	1 1					
	30										
	80 +		1 1 1 1								
	70 +					<u> </u>					
þ								1			
ssir	60 +		1 1 1	1			A				
Percent Passing							X =				
ent	50 +										
Profe	40 +										
ď											
	30 +										
	20 +										
	10 +										
	0 ⊥										
	100	COARS	E FINE 10	COARS	SE MED	IUM 1 Particle Size	FINE (mm) 0.1		0.01		0.00
COE	BBLES		GRAVEL			SAND	- (mm) 0.1		FINES (SILT	OR CLAY)	0.00
		Hydrometer	OIUTULL				DEWVDR2 -				
		5					KLWARKS .				
		BMITTED BY									
	/alk-in	Clients 🔽	GPI Field Opera	ator							
. PO	LIDAN	l									
		PRINT-OUT			_		TESTED BY :		ARTURO Q	. AQUINO	
			ONIETTE P. CUI						LABORATORY		
Ву:									LADORATORT	LOUNIOLAN	
			Encoder								
Data	Chas	line of lassi				С	ERTIFIED BY :				
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			Quality Assu	ance	Uncertaint	y Results:	% Finer =	± 0.0454		AB.FILE NO.	:GSA-10-40
Dat-	leeve	d.				-					
Ddle	= 155UE	:u							on a combined u oximately 95%.	uncertainty by	
					TIACIOI OI K	$= 2, \mu u u u u u d a$		ence or appr	UNITIALETY 95%.		

Final Report Form - 3&4



Final Report Form - 3&4



GEOTECHNICS PHILIPPINES, INC.

SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007)

It Percent <u>Finer</u> 100 97 81 40 18 7 6
Percent <u>Finer</u> 100 97 81 40 18 7
Percent <u>Finer</u> 100 97 81 40 18 7
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2
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SA-10-4 covera
2

5 1 1 1 1 1

Rev.6 / Dec. 2009

FINAL REPORT

SUBSURFACE INVESTIGATION PROPOSED MAYON EVACUATION CENTER (2-STOREY) OAS SOUTH CENTRAL SCHOOL BRGY. ILAOR NORTE, PROVINCE OF ALBAY

MOHRI, ARCHITECT & ASSOCIATES, INC.

OCTOBER 2010 JOB NO. 2209-10.R0





FINAL REPORT

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	tterberg Limit
	Grain Size Analysis







Geotechnical Contractor

119 Sauyo Road, Novaliches Quezon City, Philippines

Business development Customer Service Fax Homepage Email 9306555 9382124/9353730 4561140 www.geophil.com jmcgpi@gmail.com

FINAL REPORT

SUB-SURFACE INVESTIGATION FOR THE PROPOSED MAYON EVACUATION CENTER (2-STOREY) LOCATED AT OAS SOUTH CENTRAL SCHOOL, BRGY. ILAOR NORTE, PROVINCE OF ALBAY

1.0 INTRODUCTION

Geotechnics Philippines, Incorporated (GPI) completed the subsurface soil investigation for the proposed Mayon Evacuation Center. The proposed site explored is located at Oas South Central School Brgy. Ilaor Norte, Province of Albay.

Two (2) boreholes were drilled at the proposed site from October 18 to October 19, 2010. Borings were undertaken down to 8.45m and 8.00 m respectively for both BH-1 and BH-2 below existing natural ground line. Borehole locations are as indicated on the accompanying Boring Plan and Soil Profile Shpeets.

The subsurface soil exploration was undertaken upon the request of Mohri, Architect & Associates, Inc. in order to gain information on the subsurface conditions and bearing characteristics of the underlying soils at site.

The undersigned was tasked to evaluate the results of the completed subsurface soil exploration and to recommend a suitable foundation solution for the proposed structure.

This report embodies the undersigned's engineering analysis and recommendations based mainly on the results of the geotechnical soil borings and pertinent laboratory tests performed on extracted samples.

The results of geotechnical soil borings and laboratory tests can be referred to in the Attachments accompanying this report.

2.0 OBJECTIVES

The geotechnical investigation aims to determine the following:

- Soil Profile
- Engineering properties of the Soil Strata
- Bearing Capacities and Foundation Types
- Settlement conditions of critical areas
- · Comment on ground stability and liquefaction potential of the site
- Recommend ground improvement when necessary
- Provide Excavation and Fill Guidelines

In addition to the above mentioned items, matters on implementation and construction shall be given as required.

3.0 BOREHOLE STATIGRAPHY

Two (2) boreholes were driven to investigate the subsurface. The following are the findings:

3.1 Borehole BH-1

Borehole BH-1 extends 10 meters obtaining the following stratification: Firm sandy silt with traces of grave at 0-1 meter, firm fat clays with traces of sand at 1-3 meters, medium dense clayey silty sand at 3-4 meters, medium dense well graded sand with silt at 4-6 meters, Stiff elastic silt at 6-7 meters, medium dense well graded sand with silt at 7-8 meters, medium dense silty sand at 8-9 meters, very stiff elastic silt at 9-10 meters, the extent of the borehole.

The ground water was detected at 0.75 meters from the existing grade.

3.2 Borehole BH-2

Borehole BH-2 extends 10 meters obtaining the following subsurface stratification: Stiff sandy silt at 0-1 meter, firm fat clay at 1-2 meters, very firm elastic silt at 2-3 meters, medium dense poorly graded sand with silt at 3-5 meters, dense poorly graded sand with silt at 5-6 meters, medium dense well graded sand with silt at 6-7 meters, very stiff sandy silt at 7-8 meters, dense silty sand at 8-10 meters, the extent of the borehole.

The ground water table was detected at 0.71 meters from the existing grade.

4.0 FIELD EXPLORATION AND INVESTIGATION

The field exploration implored continuous was boring as the Standard Penetration Test (SPT) was performed at the last 45cm of every change strata or 1.0 meter intervals. The blow counts (N value or NB) were recorded as disturbed samples from the split spoon sampler were retrieved for laboratory testing. The recovered samples were described semi qualitative in terms of extracted length. The extracted soil samples were wrapped in double plastiv bags for moisture and sample protection and were transported to the laboratory for further testing of engineering properties.

Advancing through the hard strata, the same technique was implored. Hard strata are defined over a series of high blow count layers of more than 50 blows or the inability of driving the hammer to penetrate at high blow counts termed as refusal.

4.1 Standard Penetration Test

The Standard Penetration Test (SPT) is a field test used in determining the shear strength of soils from an established correlation. The SPT requires the count of the number of blows that it would take a standard split spoon sampler to penetrate its last 30.5cm (12inches) of the sampler. The standard mass is 63.5 kilograms and the height of the drop is 76.2cm specified as a free drop.

4.2 Hard Strata and Soft Strata Sampling

Hard strata are defined as a consecutive ground resistance of refusal to the standard penetration test of blow counts of 50 with a penetration less than or equal to 25.4mm, This is in accordance to the American Standard for Testing Materials (ASTM) Designated D 1586. Coring techniques were not conducted in the

investigation. Sampling of undisturbed samples for soft cohesive soils was not conducted via pressing the sampler.

4.3 Ground Water Table

The ground water table (GWT) elevation was observed at least 4 hours from the completion of the borehole up to demobilization.

5.0 LABORATORY INVESTIGATION

The retrieved samples were brought to the laboratory in Sauyo Road, Novaliches, Quezon City. Various tests were conducted on all extracted samples with test procedures conforming to the American Standards for Testing Materials (ASTM). The following are the laboratory tests conducted on the soil samples.

Type of Test	ASTM Designation	Description of Test
Soil Classification for Engineering Purposes – Unified Soil Classification System	ASTM D 2487-05	 Standard in classifying the type of soil based on composition and physical properties These were classified in accordance to grain size, composition, percentage of size in the distribution
Particle Size Distribution – Sieve Analysis	ASTM D 422-63 (Reapproved 2002)	 The test allows the dried or wet soil to pass through a series of sieves in order to determine the distribution of grain sizes. The distributions of the particles are graphed on a semi log scale This test aids the previous test in classification
Moisture Content	ASTM D 2216-05	 The test aims to determine the natural content of water in the soil This is taken as the ratio of water to the ratio of the soil particles The test uses a weighing scale measuring the initial weight of the soil after drying it in the oven
Atterberg Limits Liquid Limit, Plastic Limit and Plasticity Index	ASTM D4318-05	 Tests determining the limits of cohesive soils in behaving as a plastic or a flowing medium by incrementally changing the water content The plastic limit is determined by rolling a clay sample to around 1/8 of an inch or 3mm The liquid limit uses the liquid limit device and determines the number of blows it would take for the slit to close Correlative values can be used for settlement relations

The results of the laboratory investigation are appended.

6.0 SOIL PROPERTIES

The following are the adapted soil properties for the investigated strata:

S	oil Parameters		-
Gravels, Sands, Sil	ty Sands and Clayey cohesive)	Sanc	ls (Non-
Sands	C	φ	y (kcf)
Very Loose	0	26	0.085
Loose	0	28	0.100
Medium Dense	0	30	0.110
Dense	0	32	0.120
Very Dense	0	35	0.130
Silts a	nd Clays (Cohesive))	
Silts and Clays	c	φ	y (kcf)
Very Soft		0	0.100
Soft	-(11810)/2	0	0.105
Firm	=(N*10)/2	0	0.115
Stiff	from Brain Das	0	0.120
Very Stiff	Braja Das	0	0.125
Hard		0	0.130

7.0 LIQUEFACTION POTENTIAL

The two (2) boreholes showed no potential for liquefaction due to dense and stiff layer underneath.

8.0 BEARING CAPACITY AND FOUNDATION TYPE

Shallow Foundations have good bearing capacities. The following are the allowable net bearing capacities based on Terzaghi's Bearing Capacity Equation:

BH-1:

BH-2:

Depth	Bearing Capacity (kPa)
1.0	96
Depth	Bearing Capacity (kPa)

The associated settlement on the other hand is within the tolerable engineering settlement of 25mm. Although the soil bearing capacity is competent, the structural tie beam proved to be efficient during major earthquake.

9.0 EXCAVATION AND FILL

Fill for the excavation for footings may utilize the same materials. On the other hand, grade and subgrade materials should be sandy frictional materials.

Fill should be compacted at 95% its maximum dry density. Should the amount of soil be inept, sandy fill may be utilized and should be compacted in the same degree.

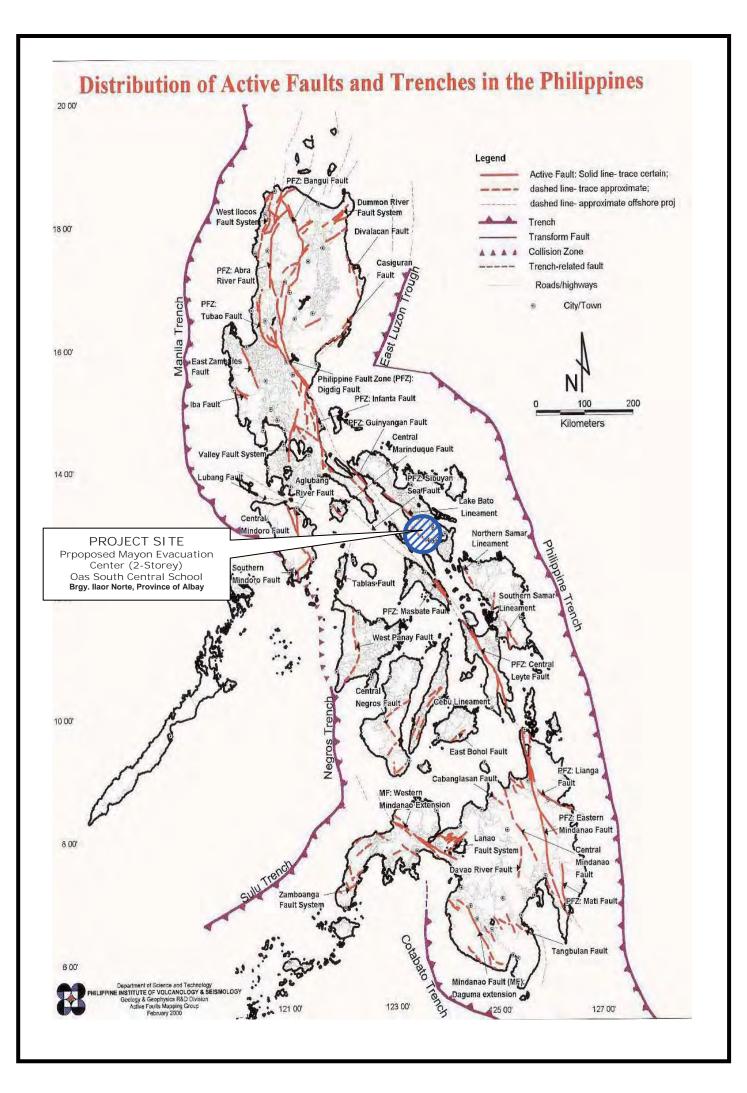
Borehole Conclusions and Recommendations

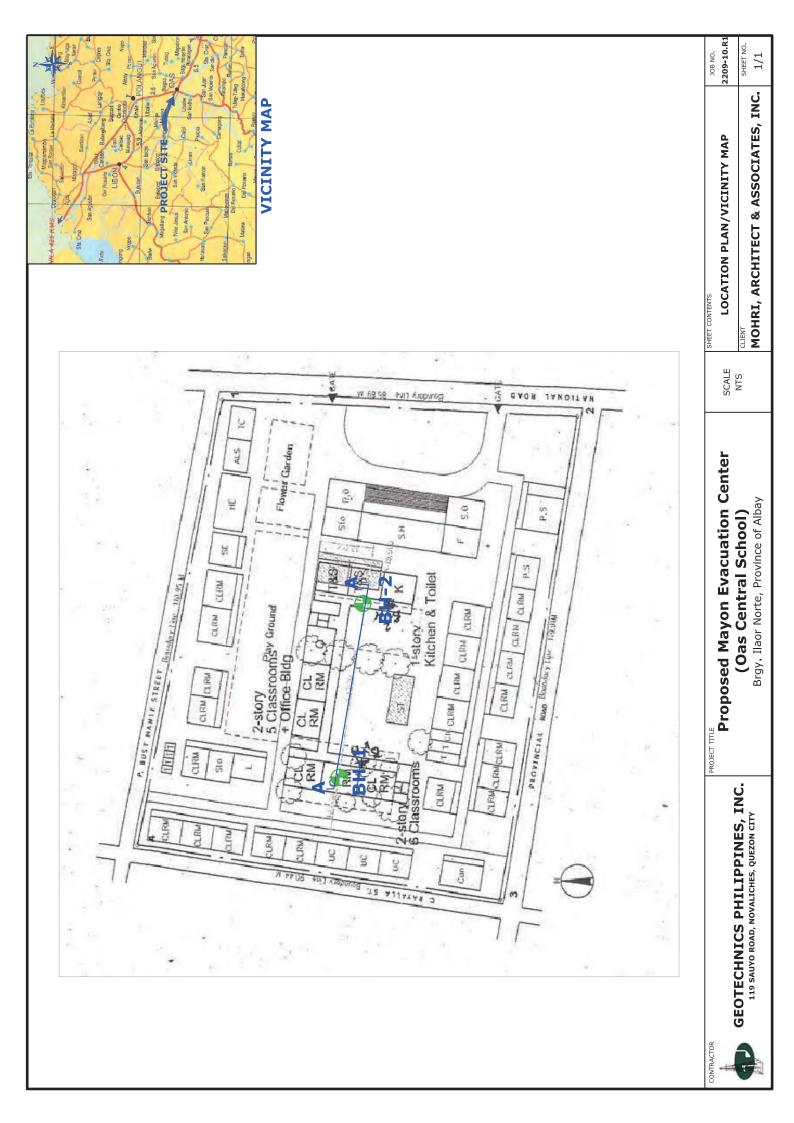
The conclusions and recommendations are based on the data of two (2) boreholes and the geologic map. Deviations from these are expected and should be minimal as the boreholes are typical of an alluvial formation. Should there be any major deviation in the substrata be detected during the excavation phase, may the undersigned through Geotechnics Philippines Inc (02-930-6555) be approached immediately for proper reassessment.

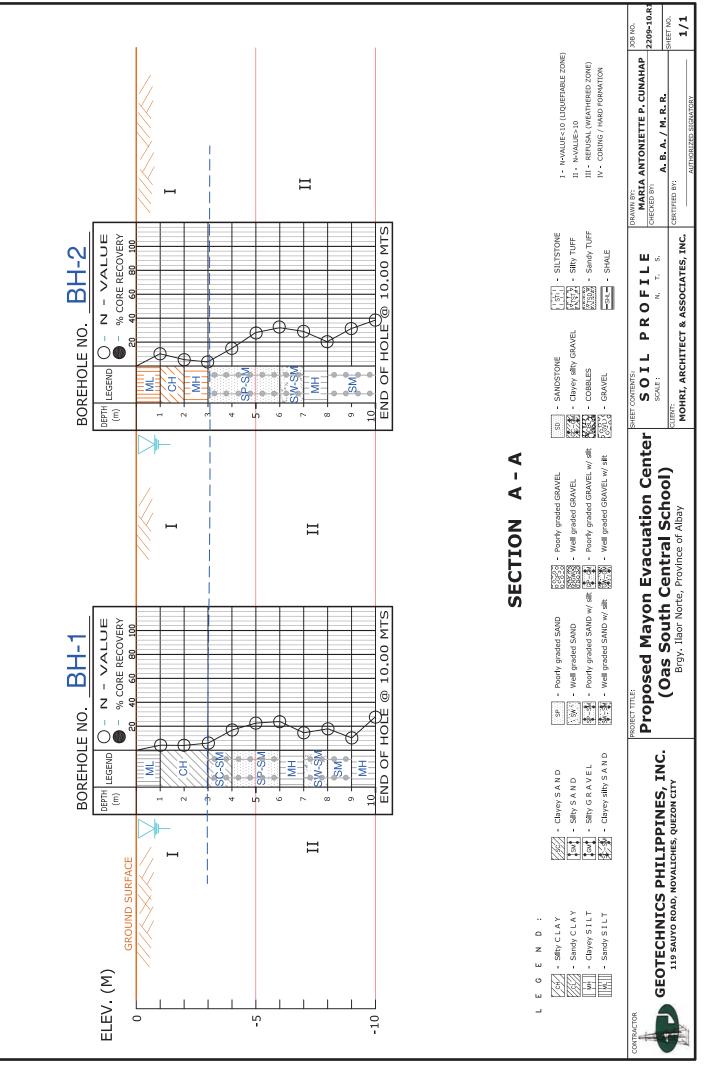
DIOSDADO A. UREÑA CE REG No. 053884 PTR No. 3228274 Issued on January 8, 2010 Issued at Quezon City

APPENDICES







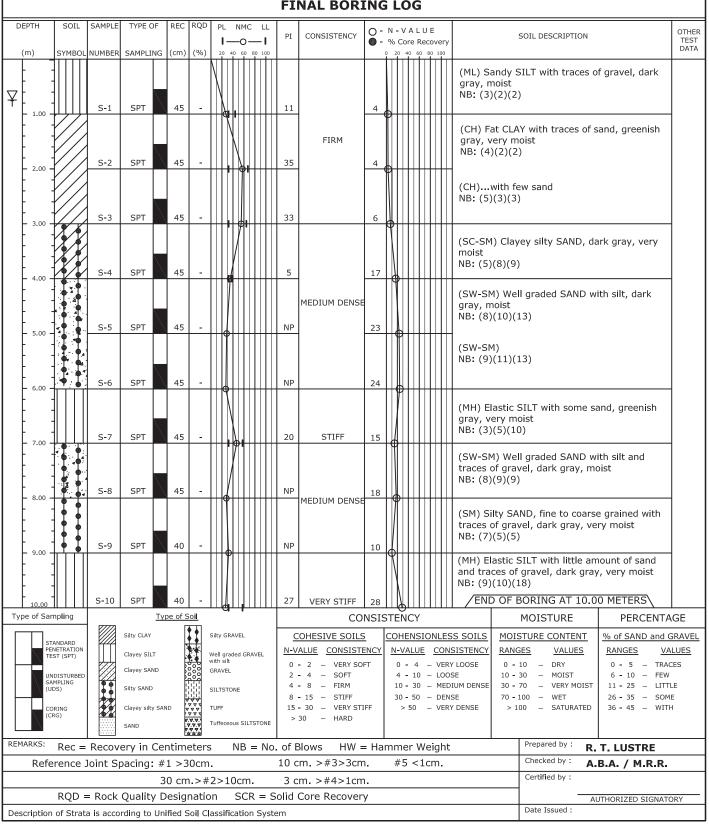




119 SAUYO ROAD, NOVALICHES, QUEZON CITY TEL. NO. 938-2124 \ 456-1140 \ 930-6555



CLIENT	MOHRI, ARCHITECT & ASSOCIATES, INC.			BOREHOLE NO.	3H- 1
PROJECT	Proposed Mayon Evacuation Center (Oas South Central Scho	ol)		^{JOB NO.} 2209	9-10.R1-FBL-01
LOCATION	Brgy. Ilaor Norte, Province of Albay	DRILLED	R. POLIDAN	SHEET	1 of 1
RIG	KSK SMALL	LOGGED	R. POLIDAN	0.00 t	o 10.00 meters
	Hammer Weight 63.50 Kg.	DATE STARTED	Oct. 18, 2010	GROUND LEVEL	- m.
	Fall Height 76.20 cm.	DATE COMPLETED	Oct. 18, 2010	WATER LEVEL	0.75 m.
METHOD	WASH BORING	NORTHING	-	EASTING	-





GEOTECHNICS PHILIPPINES, INCORPORATED SOILS AND MATERIALS TESTING LABORATORY 119 SAUYO ROAD, NOVALICHES, QUEZON CITY TEL. NO. 938-2124 \ 456-1140 \ 930-6555



							P	TV	-				TE	L. NO. 93	8-2124	4 \	456	5-11	40	\ 9:	30-6555			DPWH-BF	RS Accredite
CLIE	ΝT	MOH	IRI ,	ARC	HITECT	& ASS	OCL	ATE	s , 1	ENC	2.												BOREHOLE NO.	BH- 2	
ROJ	ECT	Prop	ose	ed Ma	yon Eva	acuatio	on Ce	ente	er ((Oas	s Sc	outh	Centra	al Schoo)								^{JOB NO.} 2209-10.R1-FBL-02		
.OCA	TION	Brgy	/. Il	aor N	orte, Pr	rovince	e of A	٩lba	ay						DRILLE	D			F	R. P	OLIDAN		SHEET	1 of 1	
IG		KSK	SM	IALL											LOGGED R. POLIDAN								0.0	0 to 10.00 meters	
		Hamr	ner \	Weight	63.50 Kg										DATE S	STA	RTE	C	(Oct.	. 19, 201	0	GROUND LEVEL - m.		
		Fall H	leigh	t 76.20	cm.										DATE (201	1PLE	TED	(Oct.	. 19, 201	0	WATER LEVEL	0.71 m.	
ETH	IOD	WAS	SH E	BORIN	IG										NORTH	IIN	3		_				EASTING	-	
												F	ΓΝΔΙ	BOR	TNG		0	G					<u> </u>		
DE	РТН	SOII		AMPLE	TYPE O	F REC	RQD	Б	- N	IMC					1										1
	n)				SAMPLIN			1		0-	-1	PI	CON	SISTENCY		%	- V A Cor 20 40	e Re	ecov	· · ·		SO	IL DESCRIPTION		OTH TES DA
	1.00 -	-		S-1	SPT	45	_					12	2	STIFF	10						(ML) Sa grayish NB: (3)	brown,	T with traces o moist	f gravel,	
	2.00			S-2	SPT	45	-					33	3	FIRM	5						(CH) Fa very mo NB: (2)	oist	with few sand,	grayish brown,	
	3.00 -	-	S-3 SPT 45 -									22	2		4							Elastic SILT with some sand, grayish n, very moist 5)(3)(1)			
	4.00 -			S-4	_								15								ly graded SAND with silt and el, dark gray, moist				
	5.00 -			S-5	SPT	45	_					NI		IUM DENS	28	(SP-SM) NB: (11)(13)(1					· · /		5)		
	6.00 -			S-6	SPT	37	-					N		(SP-SM)mo NB: (12)(15)(1				1 ° ′							
	7.00			S-7	SPT	40	_					NI	MED]	IUM DENS	E 29							, f gravel	raded SAND w , dark gray, mo 5)		
	8.00 -	-		S-8 SPT 30 -					17	7 VE	RY STIFF	20						(ML) Sandy SI gray, very moi NB: (7)(10)(10							
	9.00 -									NI	2	DENSE	31						(SM) Silty SAND, fine to coarse grained, dark gray, moist NB: (10)(14)(17)						
	10.00			S-10	SPT	41	-					NI			38						(SM) NB: (17		0) RING AT 10.0	0 METERS	
yp	e of Sa	mpling				Type of S	So il		-					СС	NSIS	SТ	ENC	CΥ				М	OISTURE	PERCENTA	٩GE
		TANDARD ENETRATIC EST (SPT) NDISTURB AMPLING JDS) DRING CRING			Silty CLAY Clayey SILT Clayey SANI Silty SAND Clayey silty SAND	D SAND		Well g with s GRAV SILTS TUFF		I GRA		(2 2 1	VALUE - 2 - 4 - 8 - 15 5 - 30	SIVE SOIL <u>CONSIST</u> – VERY SC – SOFT – FIRM – STIFF – VERY ST – HARD	<u>ENCY</u> DFT	1	0 - 4 - 10 - 30 -	4 10 30 50	 	VERY LOOS MEDI DENS	IUM DENSE	RANGES	– DRY – MOIST – VERY MOIST	% of SAND and 0 RANGES VA 0 - 5 - TRA 6 - 10 - FEW 11 - 25 - LITT 26 - 35 - SOM 36 - 45 - WITH	CES CES LE

Tuffeceous SILTSTONE SAND $| \rangle$ REMARKS: Prepared by : Rec = Recovery in Centimeters NB = No. of BlowsHW = Hammer Weight **R. T. LUSTRE** Checked by : Reference Joint Spacing: #1 >30cm. 10 cm. >#3>3cm. #5 <1cm. A.B.A. / M.R.R. Certified by : 30 cm.>#2>10cm. 3 cm. >#4>1cm. RQD = Rock Quality Designation SCR = Solid Core Recovery AUTHORIZED SIGNATORY Date Issued : Description of Strata is according to Unified Soil Classification System



GEOTECHNICS PHILIPPINES, INC. SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



CLIENT....... MOHRI, ARCHITECT & ASSOCIATES, INC. PROJECT..... Proposed Mayon Evacuation Center (Oas South Central School) LOCATION.... Brgy. Ilaor Norte, Province of Albay

SUMMARY OF LABORATORY TESTS

SAMPLE	DEPTH	NMC	ATTERBERG LIMIT, (%)		USCS	SIEVE ANALYSIS (% FINER) PASSING SIEVE NO.									Remarks		
NUMBER	(m)	(%)	LL	PL	ΡI	Class.	1	³ / ₄	³ /8	4	10	20	40	60	140	200	
BH-1																	
1	0.55 - 1.00	28	44	33	11	ML			100	98	96	88	76	68	53	50	-
2	1.55 - 2.00	57	68	33	35	СН						100	99	98	96	95	-
3	2.55 - 3.00	55	65	32	33	СН				100	99	98	96	95	92	91	-
4	3.55 - 4.00	35	38	33	5	SC-SM				100	98	89	72	57	41	39	-
5	4.55 - 5.00	29	-	NP	-	SW-SM				100	95	77	51	31	12	10	-
6	5.55 - 6.00	27	-	NP	-	SW-SM				100	96	82	56	36	15	12	-
7	6.55 - 7.00	47	52	32	20	MH				100	99	96	90	83	69	64	-
8	7.55 - 8.00	28	-	NP	-	SW-SM			100	99	93	65	34	23	14	12	-
9	8.55 - 9.00	32	-	NP	-	SM			100	96	87	67	45	32	_20	17	-
10	9.55 - 10.00	48	59	32	27	MH			100	97	95	93	92	89	85	82	-
BH-2																	
1	0.55 - 1.00	28	45	33	12	ML			100	98	94	85	73	64	52	50	-
2	1.55 - 2.00	56	65	32	33	СН					100	99	98	97	95	92	-
3	2.55 - 3.00	49	54	32	22	MH				100	97	92	84	80	75	72	-
4	3.55 - 4.00	28	-	NP	-	SP-SM			100	96	89	76	54	30	12	10	-
5	4.55 - 5.00	23	-	NP	-	SP-SM			100	96	88	74	50	27	10	8	-
6	5.55 - 6.00	22	-	NP	-	SP-SM			100	99	92	77	52	26	8	6	-
7	6.55 - 7.00	24	-	NP	-	SW-SM		100	98	95	83	63	40	21	10	8	-
8	7.55 - 8.00	46	49	32	17	ML			100	95	89	82	73	65	56	54	-
9	8.55 - 9.00	29	-	NP	-	SM				100	99	89	65	45	25	21	-
10	9.55 - 10.00	29	-	NP	-	SM				100	99	86	60	36	19	16	-

SAMPLE SUBMITTED BY :

Walk-in Clients GPI Field	d Operator	REMARKS:	* with hydrometer
R. POLIDAN			
COMPUTER PRINT-OUT <i>By: <u>MARIA ANTONIETTE P. CUNA</u> Encoder Data Chkd by: <u>ABA / MRR</u> Quality Assurance</i>		CERTIFIED BY:	AUTHORIZED SIGNATORY
Date Issued			

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119 Sauyo Road, Novaliches, Quezon City



 Client.......
 MOHRI, ARCHITECT & ASSOCIATES, INC.
 Job

 Project.......
 Proposed Mayon Evacuation Center (Oas South Central School)
 Date

 Location.......
 Brgy. Ilaor Norte, Province of Albay
 Date

TEST REPORT FOR LABORATORY DETERMINATION OF WATER (MOISTURE) CONTENT OF SOIL & ROCK BY MASS

ASTM D 2216 - 05

BOREHOLE NO...BH-1

Test Method 🗹 A 🗌 B

SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	WATER CONTENT (%)	REMARKS						
NATURAL MOISTURE CONTENT														
1	0.55-1.00	99.00	79.40	19.60	9.67	69.73	28							
2	1.55-2.00	92.00	62.19	29.81	9.77	52.42	57							
3	2.55-3.00	113.54	76.74	36.80	9.79	66.95	55							
4	3.55-4.00	116.15	88.45	27.70	9.48	78.97	35							
5	4.55-5.00	96.80	77.09	19.71	9.64	67.45	29							
6	5.55-6.00	98.30	79.41	18.89	9.65	69.76	27							

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS ASTM Designation : D 4318 - 05, Method B

SAMPLE	DEPTH (m)	BLOWS		DRY SOIL	WATER	DISH	DRY SOIL	% Retained	ATTERBE	RG LIMIT	REMARKS		
NUMBER		DLOWS	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	on 0.425 mm	LL	PL	REMARKS		
					LIC	2010 LIMIT							
4	3.55-4.00	20	38.10	30.41	7.69	10.67	19.74		38		38		
т	3.33-4.00	20	38.24	30.44	7.80	10.36	20.08		38		50		
					PLA	STIC LIMI	<u> </u>						
		Р	22.70	19.42	3.28	9.56	9.86			33			
4	3.55-4.00	Р	22.74	19.48	3.26	9.55	9.93			33	33		
Uncertainty I	Results:	Water Con	tent (%) =	± 0.0419	Liq	uid Limit =	± 0.0947	Plas	stic Limit =	± 0.2042			
Note: The re	ported expanded u	ncertainty	is based on	a combined	d uncertain	ty by a cov	erage facto	r of k=2, pr	roviding a le	evel of conf	dence of		
approximate	ly 95%.								I	LAB.FILE NO	D.:NMC-10-504		
SAMPLE SUB	MITTED BY :					REMARKS:							
Walk-in (Clients 🗹 G	PI Field Op	erator										
R. POLIDAN				-									
COMPUTER I													
<i>By:</i> N	IARIA ANTONIETTE Encode		AP										
	ETICOUR				TE	ESTED BY :		ARTURO Q. AQUINO					
Data Check	ked by: AB							LABOI	ratory te	CHNICIAN			
	Qua	lity Assura	nce		CEDT								
Date Issue	d:				ULKI	IFILD DI .		AUTHORIZED SIGNATORY					
								AUTHORIZED SIGNATORY					
This report sho	ould not be copied, di	vulged or rep	produced, in	full or in part	, without pric	or advice to a	and written a	pproval from	GPI-SMTL.				

Final Report Form - 1





119 Sauyo Road, Novaliches, Quezon City



Client...... MOHRI, ARCHITECT & ASSOCIATES, INC. Project...... Proposed Mayon Evacuation Center (Oas South Central School) Location...... Brgy. Ilaor Norte, Province of Albay

Job Number...... 2209-10.R1-NMC-01-2 Date of Receipt..... October 27, 2010 Date of Test..... October 27-28, 2010

TEST REPORT FOR LABORATORY DETERMINATION OF WATER (MOISTURE) CONTENT OF SOIL & ROCK BY MASS

ASTM D 2216 - 05

Test Method 🗹 A 🗌 B

SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	WATER CONTENT (%)	REMARKS				
NATURAL MOISTURE CONTENT												
7	6.55-7.00	96.15	68.54	27.61	9.65	58.89	47					
8	7.55-8.00	106.10	85.25	20.85	9.59	75.66	28					
9	8.55-9.00	114.70	89.43	25.27	9.56	79.87	32					
10	9.55-10.00	89.02 63.15		25.87	9.49	53.66	48					

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS ASTM Designation : D 4318 - 05, Method B

SAMPLE	DEPTH (m)	BLOWS	WET SOIL	DRY SOIL	WATER	DISH	DRY SOIL	% Retained	ATTERBE	ERG LIMIT	REMARKS	
NUMBER	DEF ITI (III)	BLOWS	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	on 0.425 mm	LL	PL	REWARKS	
	L				LIC	QUID LIMIT						
					PI A	ASTIC LIMIT	 Г					
Uncertainty	Results:	Water Con	tent (%) =	± 0.0395	Liq	uid Limit =		Plas	stic Limit =			
Note: The re	ported expanded u	ncertainty	is based on	a combined	d uncertain	ty by a cov	erage facto	r of k=2, p	roviding a l	evel of conf	idence of	
approximate	ly 95%.									LAB.FILE NO	D.:NMC-10-504	
	MITTED BY :					REMARKS:						
Walk-in	Clients 🗹 G	PI Field Op	erator									
R. POLIDAN				-								
COMPUTER												
<i>By:</i> N	IARIA ANTONIETTE Encode		AP									
	Encour	51			11	ESTED BY :		ARTURO Q. AQUINO LABORATORY TECHNICIAN				
Data Check	ked by: AB							LADU	RATURT I			
	Qua	ility Assura	nce		CERT	TIFIED BY :						
Date Issue	d:				OLIVI	IN ILD DI .			HORIZED S			
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119 Sauyo Road, Novaliches, Quezon City



 Client.......
 MOHRI, ARCHITECT & ASSOCIATES, INC.
 Job

 Project.......
 Proposed Mayon Evacuation Center (Oas South Central School)
 Dat

 Location.......
 Brgy. Ilaor Norte, Province of Albay
 Dat

TEST REPORT FOR LABORATORY DETERMINATION OF WATER (MOISTURE) CONTENT OF SOIL & ROCK BY MASS

ASTM D 2216 - 05

Test Method 🗹 A 🗌 B

BOREHOLE	NOBH-2

SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	WATER CONTENT (%)	REMARKS				
NATURAL MOISTURE CONTENT												
1	0.55-1.00	124.50	99.58	24.92	9.47	90.11	28					
2	1.55-2.00	99.08	66.99	32.09	9.63	57.36	56					
3	2.55-3.00	110.10	77.16	32.94	10.16	67.00	49					
4	3.55-4.00	101.60	81.62	19.98	9.98 9.63 71.99 28		28					
5	4.55-5.00	101.50	84.16	17.34	9.81	74.35	23					
6	5.55-6.00	108.60	91.03	17.57	9.94	81.09	22					

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS ASTM Designation : D 4318 - 05, Method B

SAMPLE	DEPTH (m)	BLOWS	WET SOIL	DRY SOIL	WATER	DISH	DRY SOIL	% Retained	ATTERBE	RG LIMIT	REMARKS	
NUMBER		BLOWS	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	on 0.425 mm	LL	PL	REWARKS	
					LIC	2010 LIMIT						
					PLA	STIC LIMI	Г					
Uncertainty			itent (%) =						stic Limit =		idence of	
approximate	ported expanded u	ncertainty	is based on	a complined	uncertain	ty by a cov	-	-	-			
	MITTED BY :										D.:NMC-10-505	
Walk-in		PI Field Op	erator			REMARKS:						
R. POLIDAN	_											
COMPUTER	PRINT-OUT			-								
<i>By:</i> N	IARIA ANTONIETTE		IAP									
	Encode	er			TI	ESTED BY :		AF	RTURO Q. A	QUINO		
Data Check	ked by:AB	A/MRR						LABO	RATORY TE	CHNICIAN		
	Qua	lity Assura	nce									
Date Issue	d:				CERI	IFIED BY :		AUTHORIZED SIGNATORY				
								7.011	.5			
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119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR LABORATORY DETERMINATION OF WATER (MOISTURE) CONTENT OF SOIL & ROCK BY MASS

ASTM D 2216 - 05

Test Method 🗹 A 🗌 B

SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	WATER CONTENT (%)	REMARKS
				٦	NATURAL M	OISTURE C	ONTENT	
7	6.55-7.00	114.10	93.85	20.25	9.74	84.11	24	
8	7.55-8.00	94.10	67.59	26.51	9.65	57.94	46	
9	8.55-9.00	114.60	91.14	23.46	9.75	81.39	29	
10	9.55-10.00	117.30	93.25	24.05	9.72	83.53	29	

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS ASTM Designation : D 4318 - 05, Method B

SAMPLE	DEPTH (m)	BLOWS	WET SOIL	DRY SOIL	WATER	DISH	DRY SOIL	% Retained	ATTERBE	RG LIMIT	REMARKS
NUMBER		BLUW3	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	on 0.425 mm	LL	PL	REWARKS
	L				LIC	QUID LIMIT					
					PI A	ASTIC LIMIT	<u> </u>				
Uncertainty	Results:	Water Con	tent (%) =	± 0.0363	Liq	uid Limit =		Pla	stic Limit =		
Note: The re	ported expanded u	incertainty	is based on	a combined	d uncertain	ty by a cov	erage facto	r of k=2, p	roviding a l	evel of conf	idence of
approximate	ly 95%.								I	LAB.FILE NO	D.:NMC-10-505
	MITTED BY :					REMARKS:					
Walk-in	Clients 🗹 G	PI Field Op	erator								
R. POLIDAN				-							
COMPUTER											
<i>By:</i> N	IARIA ANTONIETTE Encode		AP							0.000	
	LICOUR	51			11	ESTED BY :			RTURO Q. A		
Data Check	ked by: AB							LABU	RATORY TE	CHINICIAN	
	Qua	ility Assura	nce		CERI	TIFIED BY :					
Date Issue	d:				OLIVI	IN ILD DI .			HORIZED SI		
				ACTIONIZED SIGNATORI							
	ould not be copied, di	vulged or rep	produced, in t	full or in part	, without pri	or advice to a	and written a	pproval from	GPI-SMTL.		
Final Repo	rt Form - 1									Re	v.6 / Oct. 2010





119 Sauyo Road, Novaliches, Quezon City



Client......MOHRI, ARCHITECT & ASSOCIATES, INC.JotProject.....Proposed Mayon Evacuation Center (Oas South Central School)DaLocation....Brgy. Ilaor Norte, Province of AlbayDa

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

ASTM D 4318 - 05

Method : A 🗹 Wet Preparation 🗌 Dry Preparation

BOREHOLE NO	BH-1		DEPTH (m))	0.55-1.00			SOIL	DESCRIPTION			
SAMPLE NO	S-1		USCS CLAS	SS	ML			Sandy	SILT			
MOISTURE CONTENT				PLASTI			⁴⁸ T		À			
DETERMINATION	<u>TRIAL 1</u>	<u>TRIAL 2</u>	<u>TRIAL 3</u>	<u>TRIAL 1</u>	<u>TRIAL 2</u>	(%)	47 -					
DISH NUMBER	A33	A8	A80	B30	B76		46 -		\mathbf{N}			
WET SOIL + DISH (g)	32.70	35.42	38.22	22.67	22.70	Content	45 -					
DRY SOIL + DISH (g)	25.87	27.44	29.07	19.44	19.46		44 -					
WATER (g)	6.83	7.98	9.15	3.23	3.24	ure			X			
DISH MASS (g)	9.60	9.70	9.80	9.57	9.58	Moisture	43 -					
DRY SOIL (g)	16.27	17.74	19.27	9.87	9.88	Σ	42 -					
MOISTURE CONTENT	41.98	44.98	47.48	32.73	32.79		41 -					
NUMBER OF BLOWS	31	22	15	3	3		1(C	No. d	of Blows		100
% RETAINED ON 0.42	5mm				23.85		LL =	44	PL =	33	PI =	11

BOREHOLE NO	BH-1		DEPTH (m))	1.55-2.00		S	DIL DES	CRIPTION	
SAMPLE NO	S-2		USCS CLAS	S	СН		Fa	at CLAY		
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		73 _T			
DETERMINATION	<u>TRIAL 1</u>	TRIAL 2	TRIAL 3	<u>TRIAL 1</u>	TRIAL 2		72 -	١	₹	
DISH NUMBER	B62	B7	B86	C5	C97	t (%)	71 -		$\mathbf{X} = \mathbf{A} + $	
WET SOIL + DISH (g)	32.47	35.22	38.49	22.64	22.66	Content	70 -			
DRY SOIL + DISH (g)	23.38	24.79	26.46	19.34	19.35	Cor	69 -			
WATER (g)	9.09	10.43	12.03	3.30	3.31	ture	68 -		×	
DISH MASS (g)	9.62	9.68	9.76	9.31	9.32	Moisture	67 -			
DRY SOIL (g)	13.76	15.11	16.70	10.03	10.03	2	66 -			
MOISTURE CONTENT	66.06	69.03	72.04	32.90	33.00		65 +			
NUMBER OF BLOWS	32	22	16	3	3		10		No. of Blows 100	
% RETAINED ON 0.42	5mm				0.95		LL =	68	PL = 33 PI = 35	

Uncertainty Results: I	Liquid Limit = ± 0.1222	Plastic Limit = ± 0.2037
П	Liquid Limit = ± 0.1445	Plastic Limit = ± 0.2005
Note: The reported expanded uncertainty is based	on a combined uncertainty by a coverage	e factor of k=2, providing a level of confidence
of approximately 95%.		LAB.FILE NO.:AL-10-653
SAMPLE SUBMITTED BY :	REMARKS:	
Walk-in Clients GPI Field Operator		
R. POLIDAN		
COMPUTER PRINT-OUT		
By: MARIA ANTONIETTE P. CUNAHAP		
Encoder	TESTED BY :	ARTURO Q. AQUINO
Data Checked by: ABA / MRR		LABORATORY TECHNICIAN
Quality Assurance	—	
	CERTIFIED BY :	
Date Issued:		AUTHORIZED SIGNATORY

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119 Sauyo Road, Novaliches, Quezon City



Client......MOHRI, ARCHITECT & ASSOCIATES, INC.JoProject.....Proposed Mayon Evacuation Center (Oas South Central School)DaLocation....Brgy.Ilaor Norte, Province of AlbayDa

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

ASTM D 4318 - 05

Method : A 🗹 Wet Preparation 🔲 Dry Preparation

BOREHOLE NO	BH-1		DEPTH (m))	2.55-3.00			SOIL DESC	RIPTION			
SAMPLE NO	S-3		USCS CLAS	SS	ML			Sandy SIL ⁻	Г			
MOISTURE CONTENT DETERMINATION	L TRIAL 1	IQUID LIMI TRIAL 2	T TRIAL 3	PLASTI TRIAL 1	C LIMIT TRIAL 2		69 T	•				
DISH NUMBER	A100	A90	A12	B2	B51	t (%)	68 - 67 -	,	\setminus			
WET SOIL + DISH (g)	32.28	35.18	37.94	22.69	22.72	Content	66 -					
DRY SOIL + DISH (g)	23.51	25.05	26.52	19.50	19.50	Con						
WATER (g)	8.77	10.13	11.42	3.19	3.22	are	65 -		X			
DISH MASS (g)	9.60	9.71	9.85	9.49	9.51	Moisture	64 -					
DRY SOIL (g)	13.91	15.34	16.67	10.01	9.99	Ĕ	63 -			N		
MOISTURE CONTENT	63.05	66.04	68.51	31.87	32.23		62 -					
NUMBER OF BLOWS	31	22	15	3	2		10)	No. of	Blows		100
% RETAINED ON 0.42	5mm				4.20		LL =	65	PL =	32	PI =	33

BOREHOLE NO	BH-1		DEPTH (m))	6.55-7.00		S	OIL DESC	RIPTION	
SAMPLE NO	S-7		USCS CLAS	S	MH		EI	astic SILT	-	
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		56 _T			
DETERMINATION	<u>TRIAL 1</u>	TRIAL 2	TRIAL 3	<u>TRIAL 1</u>	TRIAL 2		55 -			
DISH NUMBER	A29	A16	A21	C54	C92	t (%)	54 -	```	\mathbf{X}	
WET SOIL + DISH (g)	32.67	35.38	38.24	22.69	22.73	Content	53 -			
DRY SOIL + DISH (g)	25.00	26.55	28.16	19.51	19.53		52 -		▶ ♥	
WATER (g)	7.67	8.83	10.08	3.18	3.20	ture			X	
DISH MASS (g)	9.65	9.75	9.85	9.52	9.56	Moisture	51 -			
DRY SOIL (g)	15.35	16.80	18.31	9.99	9.97	2	50 -			
MOISTURE CONTENT	49.97	52.56	55.05	31.83	32.10		49 +			
NUMBER OF BLOWS	31	22	15	3	2		10)	No. of Blows 10	0
% RETAINED ON 0.42	5mm				10.44		LL =	52	PL = 32 PI = 20	0

Uncertainty Results: I	Liquid Limit = ± 0.1424	Plastic Limit = ± 0.2003
П	Liquid Limit = ± 0.1293	Plastic Limit = ± 0.2007
Note: The reported expanded uncertainty is based	on a combined uncertainty by a coverage	e factor of k=2, providing a level of confidence
of approximately 95%.		LAB.FILE NO.:AL-10-654
SAMPLE SUBMITTED BY :	REMARKS:	
Walk-in Clients GPI Field Operator		
R. POLIDAN		
COMPUTER PRINT-OUT		
By: MARIA ANTONIETTE P. CUNAHAP		
Encoder	TESTED BY :	ARTURO Q. AQUINO
Data Checked by: ABA / MRR		LABORATORY TECHNICIAN
Quality Assurance	—	
	CERTIFIED BY :	
Date Issued:		AUTHORIZED SIGNATORY
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Data Checked by:

Date Issued:

ABA / MRR Quality Assurance



GEOTECHNICS PHILIPPINES, INC. SOILS AND MATERIALS TESTING LABORATORY

119 Sauyo Road, Novaliches, Quezon City



Client....... MOHRI, ARCHITECT & ASSOCIATES, INC.JobProject..... Proposed Mayon Evacuation Center (Oas South Central School)DateLocation.... Brgy. Ilaor Norte, Province of AlbayDate

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

ASTM D 4318 - 05

Method : A 🗹 Wet Preparation 🗌 Dry Preparation

BOREHOLE NO	BH-1		DEPTH (m))	9.55-10.00)	:	SOIL DES	CRIPTION			
SAMPLE NO	S-10		USCS CLAS	S	MH			Elastic SIL	T			
MOISTURE CONTENT DETERMINATION	L <u>TRIAL 1</u>	IQUID LIMI <u>TRIAL 2</u>	T TRIAL 3	PLASTI <u>TRIAL 1</u>	C LIMIT <u>TRIAL 2</u>		63 62 -	•				
DISH NUMBER	B100	B66	B39	D68	D41	t (%)	61 -		\backslash			
WET SOIL + DISH (g)	32.46	35.24	37.98	22.78	22.69	Content	60 -					
DRY SOIL + DISH (g)	24.17	25.65	27.14	19.62	19.50	Cor						
WATER (g)	8.29	9.59	10.84	3.16	3.19	are	59 -		X			
DISH MASS (g)	9.62	9.68	9.81	9.64	9.55	Moisture	58 -					
DRY SOIL (g)	14.55	15.97	17.33	9.98	9.95	Ĕ	57 -					
MOISTURE CONTENT	56.98	60.05	62.55	31.66	32.06		56 -					
NUMBER OF BLOWS	31	21	16	3	2		10)	No. c	of Blows		100
% RETAINED ON 0.42	5mm				8.50		LL =	59	PL =	32	PI =	27

	BOREHOLE NO DEPTH (n SAMPLE NO USCS CLA						SOIL DESCRIPT	ΓΙΟΝ		
MOISTURE CONTENT DETERMINATION		QUID LIMI <u>TRIAL 2</u>	T <u>TRIAL 3</u>	PLASTI <u>TRIAL 1</u>	C LIMIT <u>TRIAL 2</u>	2				
DISH NUMBER						Moisture Content (%) L				
WET SOIL + DISH (g)						tent				
DRY SOIL + DISH (g)						L Con	-			
WATER (g)						ture				
DISH MASS (g)						Aoist				
DRY SOIL (g)						2				
MOISTURE CONTENT						0				
NUMBER OF BLOWS							10	No. of Blow	S	100
% RETAINED ON 0.425	5mm					LL =	=	PL =	PI =	
Uncertainty Results:	I		Liq	uid Limit =	± 0.1363		Plastic L	$imit = \pm 0.200$	8	
	11		Liq	uid Limit =			Plastic L	.imit =		
Note: The reported exp	banded unce	ertainty is l	based on a	combined	uncertainty	by a cove	rage factor of k=	2, providing a l	evel of confid	ence
of approximately 95%.									LAB.FILE I	NO.:AL-10-654
SAMPLE SUBMITTED B	Υ:					REMARKS	:			
Walk-in Clients	🔽 GPI	I Field Ope	rator							
R. POLIDAN										
COMPUTER PRINT-OU By:MARIA AN	T TONIETTE F Encoder	P. CUNAHA	۱P		.					
	LIICOUCI				IE	STED BY	·	ARTURO Q.	AQUINU	

LABORATORY TECHNICIAN

AUTHORIZED SIGNATORY

CERTIFIED BY :	

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119 Sauyo Road, Novaliches, Quezon City



Client...... MOHRI, ARCHITECT & ASSOCIATES, INC. Project..... Proposed Mayon Evacuation Center (Oas South Central School) Location.... Brgy. Ilaor Norte, Province of Albay

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

ASTM D 4318 - 05

Method : A 🗹 Wet Preparation 🔲 Dry Preparation

BOREHOLE NO	BH-2		DEPTH (m))	0.55-1.00		S	SOIL DESCI	RIPTION		
SAMPLE NO	S-1		USCS CLAS	SS	ML		5	Sandy SILT			
MOISTURE CONTENT DETERMINATION	L TRIAL 1	IQUID LIMI TRIAL 2	T TRIAL 3	PLASTI TRIAL 1	C LIMIT TRIAL 2		49 —				
DISH NUMBER	C55	C26	C99	D49	D33	nt (%)	48 - 47 -	•			
WET SOIL + DISH (g) DRY SOIL + DISH (g)	32.77 25.81	35.44 27.32	38.28 29.04	22.69 19.44	22.70 19.42	Content	46 -				
WATER (g)	6.96	8.12	9.24	3.25	3.28		45 - 44 -		$ \mathbf{X} $		
DISH MASS (g) DRY SOIL (q)	9.63 16.18	9.68 17.64	9.80 19.24	9.49 9.95	9.46 9.96	Moisture	44 -				
MOISTURE CONTENT	43.02	46.03	48.02	32.66	32.93		42 -				
NUMBER OF BLOWS	31	22	15	3	3		10)	No. of Blows		100
% RETAINED ON 0.42	5mm				27.01		LL =	45	PL = 33	PI =	12

BOREHOLE NO	BH-2		DEPTH (m))	1.55-2.00		S	OIL DES	CRIPTION
SAMPLE NO	S-2		USCS CLAS	S	СН		Fa	at CLAY	
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		69 _T		
DETERMINATION	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2		68 -	•	
DISH NUMBER	D52	D31	D37	C95	C69	t (%)	67 -		
WET SOIL + DISH (g)	32.49	35.27	38.19	22.64	22.66	Content	66 -		
DRY SOIL + DISH (g)	23.65	25.12	26.66	19.45	19.46	-	65 -		
WATER (g)	8.84	10.15	11.53	3.19	3.20	ture			*
DISH MASS (g)	9.62	9.74	9.84	9.42	9.45	Moisture	64 -		
DRY SOIL (g)	14.03	15.38	16.82	10.03	10.01	2	63 -		
MOISTURE CONTENT	63.01	65.99	68.55	31.80	31.97		62 +		
NUMBER OF BLOWS	31	22	15	3	2		10		No. of Blows 100
% RETAINED ON 0.42	5mm				1.67		LL =	65	PL = 32 PI = 33

Uncertainty Results: I	Liquid Limit = ± 0.1229	Plastic Limit = ± 0.2020
П	Liquid Limit = ± 0.1412	Plastic Limit = \pm 0.1999
Note: The reported expanded uncertainty is based	on a combined uncertainty by a coverage	factor of k=2, providing a level of confidence
of approximately 95%.		LAB.FILE NO.:AL-10-655
SAMPLE SUBMITTED BY :	REMARKS:	
Walk-in Clients GPI Field Operator		
R. POLIDAN		
COMPUTER PRINT-OUT		
By:MARIA ANTONIETTE P. CUNAHAP		
Encoder	TESTED BY :	ARTURO Q. AQUINO
Data Checked by:ABA / MRR		LABORATORY TECHNICIAN

CERTIFIED BY :		

AUTHORIZED SIGNATORY

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Quality Assurance

Date Issued:





119 Sauyo Road, Novaliches, Quezon City



Client...... MOHRI & PA ASSOCIATES, INC. Project..... Proposed Mayon Evacuation Center (Oas South Central School)

Location.... Brgy. Ilaor Norte, Province of Albay

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

ASTM	D 4318 -	05
7.01101	0 1010	00

Method : A 🗹 Wet Preparation 🗌 Dry Preparation

BOREHOLE NO	BH-2		DEPTH (m)	2.55-3.00			SOIL DES	CRIPTION		
SAMPLE NO	S-3		USCS CLAS	SS	MH			Elastic SIL	.T		
MOISTURE CONTENT					C LIMIT		58 –				
DETERMINATION	<u>TRIAL 1</u>	<u>TRIAL 2</u>	<u>TRIAL 3</u>	<u>TRIAL 1</u>	<u>TRIAL 2</u>	() ()	57 -		\setminus		
DISH NUMBER	C33	C71	C38	D5	D38	t (%)	56 -		\mathbf{N}		
WET SOIL + DISH (g)	33.10	35.48	38.28	22.67	22.70	Content	55 -				
DRY SOIL + DISH (g)	25.08	26.34	27.92	19.43	19.47	Con					
WATER (g)	8.02	9.14	10.36	3.24	3.23	ure	54 -		×		
DISH MASS (g)	9.65	9.72	9.90	9.45	9.47	Moisture	53 -				
DRY SOIL (g)	15.43	16.62	18.02	9.98	10.00	Σ	52 -		►		
MOISTURE CONTENT	51.98	54.99	57.49	32.46	32.30		51 -				
NUMBER OF BLOWS	31	22	15	3	2		10	D	No. of Blows		100
% RETAINED ON 0.42	5mm				15.64		LL =	54	PL = 32	PI =	22

BOREHOLE NO	BH-2		DEPTH (m))	7.55-8.00		SC	OIL DES	CRIPTION
SAMPLE NO	S-8		USCS CLAS	S	ML		Sa	andy SIL	.T
MOISTURE CONTENT DETERMINATION	L TRIAL 1	IQUID LIMI TRIAL 2	T TRIAL 3	PLASTI TRIAL 1	C LIMIT TRIAL 2	5		•	
DISH NUMBER	D72	D51	D42	C87	C45	%) _	2 - 1 -		
WET SOIL + DISH (g)	33.08	35.27	37.98	22.71	22.74	Content	0 -		
DRY SOIL + DISH (g) WATER (g)	25.57 7.51	26.74 8.53	28.28 9.70	19.53 3.18	19.54 3.20		9 -		$ \mathbf{x} $
DISH MASS (g)	9.61	9.70	9.80	9.58	9.56	loi	8 -		
DRY SOIL (g)	15.96	17.04	18.48	9.95	9.98	4			
MOISTURE CONTENT	47.06	50.06	52.49	31.96	32.06	4			
NUMBER OF BLOWS	32	21	15	3	2		10		No. of Blows 100
% RETAINED ON 0.42	5mm				26.65	LL	=	49	PL = 32 PI = 17

Uncertainty Results: I	Liquid Limit = ± 0.1287	Plastic Limit = ± 0.2013
II	Liquid Limit = ± 0.1250	Plastic Limit = ± 0.2016
Note: The reported expanded uncertainty is based	on a combined uncertainty by a coverage	factor of k=2, providing a level of confidence
of approximately 95%.		LAB.FILE NO.:AL-10-656
SAMPLE SUBMITTED BY :	REMARKS:	
Walk-in Clients GPI Field Operator		
R. POLIDAN		
COMPUTER PRINT-OUT		
By: MARIA ANTONIETTE P. CUNAHAP		
Encoder	TESTED BY :	ARTURO Q. AQUINO
Data Checked by: ABA / MRR		LABORATORY TECHNICIAN
Quality Assurance	—	
	CERTIFIED BY :	
Date Issued:		AUTHORIZED SIGNATORY





SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007) BH / SAMPLE NO..... <u>BH-1</u> <u>01</u> □ 2 <u>Δ</u> <u>3</u> 0.55-1.00 1.55-2.00 2.55-3.00 DEPTH (m)..... SOIL DESCRIPTION...... Sandy SILT Fat CLAY Fat CLAY SIEVE SIZE Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent inches Retained (g) Retained Finer Retained (g) Retained Finer Retained (g) Retained Finer mm 2 1/2 62.5 2 50.0 1 1/2 37.5 25.0 1 3/4 19.0 3/8 100 95 4 75 98 1.54 2.21 0.10 0.15 100 4 96 3.08 10 2.0 4.42 0.43 0.64 99 0.23 100 20 0.8 8.45 12.12 88 0.12 1.54 2.30 98 0.425 23.85 0.50 0.95 99 40 16.63 76 2.81 4.20 96 60 0.25 32.44 1.02 1.95 98 5 29 95 22.62 68 3.54 140 0.105 2.08 3.97 5.18 7 74 92 32.43 46.51 53 96 200 0.075 34.67 49.72 50 2.80 95 9.37 91 5.34 6.27 OVEN DRIED MASS 69.73 gms 66.95 gms 52.42 gms 1 1/2 #140 2 1/2" #10 #200 2" 3/8 #20 #40 3/4 # #60 HYDROMETER 100 ÷. 90 80 ŝ 70 ŝ Percent Passing 60 50 40 ÷. 30 ł į. 20 i, 10 0 COARSE COARSE MEDIUM FINE 0.01 FINES (SILT OR CLAY) 100 10 Particle Size (mm) 0.1 0.001 COBBLES SAND GRAVEL - with Hydrometer **REMARKS** : SAMPLE SUBMITTED BY: □ Walk-in Clients GPI Field Operator R. POLIDAN TESTED BY : ARTURO Q. AQUINO COMPUTER PRINT-OUT By: MARIA ANTONIETTE P. CUNAHAP LABORATORY TECHNICIAN Encoder CERTIFIED BY : Data Checked by: ABA/MRR AUTHORIZED SIGNATORY **Quality Assurance** Uncertainty Results: % Finer = ± 0.0469 LAB.FILE NO.:GSA-10-406 Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage Date Issued: factor of k=2, providing a level of confidence of approximately 95%.

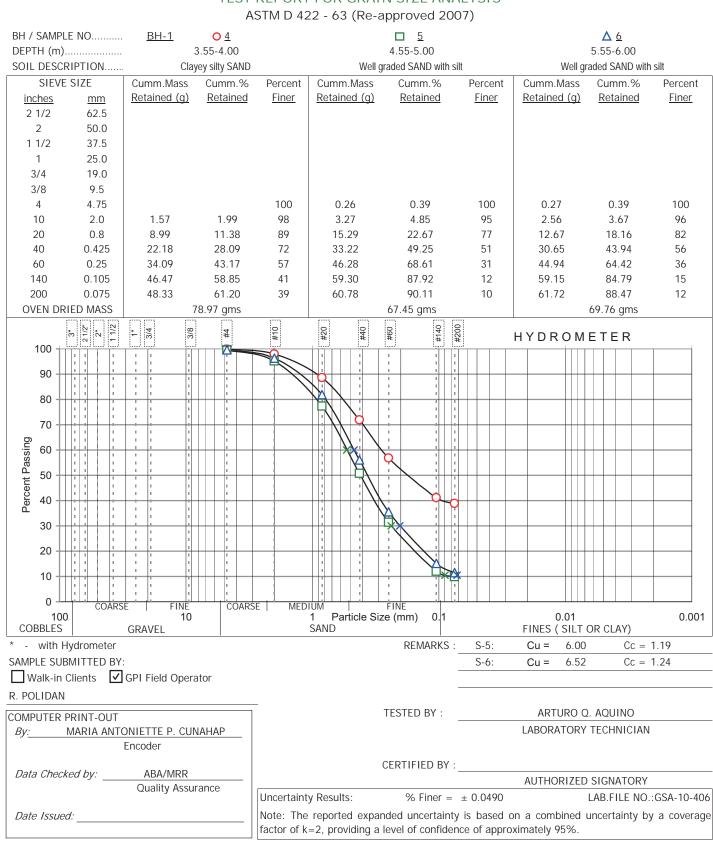




SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS







SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007) BH / SAMPLE NO..... <u>BH-1</u> <u>0</u>7 **D** 8 <u>Δ9</u> 6.55-7.00 7.55-8.00 8.55-9.00 DEPTH (m)..... SOIL DESCRIPTION Well graded SAND with silt Silty SAND Elastic SILT SIEVE SIZE Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Retained (g) Retained Finer Retained (q) Retained Finer Retained (g) Retained Finer inches mm 2 1/2 62.5 2 50.0 1 1/2 37.5 25.0 1 3/4 19.0 3/8 95 100 100 4.75 0.53 99 3.96 100 0.40 3.16 Δ 96 4.94 10.36 12.97 10 20 0.34 0.58 99 6.53 93 87 2.25 96 26.37 34.85 32.94 20 0.8 3.82 65 26.31 67 0.425 6.15 10 44 90 50 13 66.26 44 29 55.45 40 34 45 0.25 10 07 17.10 83 58 49 77.31 53 95 67.55 60 23 32 140 0 105 18.14 64.80 85.65 20 30.80 69 14 64.26 80.46 200 0.075 21.16 87.51 35.93 64 66.21 12 66.56 83.34 17 OVEN DRIED MASS 58.89 gms 75.66 gms 79.87 gms 1 1/2 #140 #200 #10 3/8 #20 #40 2 3/4 # ¢60 HYDROMETER 100 ŝ 90 80 70 ÷. Percent Passing 60 50 40 ŝ 30 į. 20 10 0 COARSE COARSE MEDIUM FINE Particle Size (mm) 100 10 0.1 0.01 0.001 COBBLES SAND FINES (SILT OR CLAY) GRAVEL - with Hydrometer S-7: Cu = 10.79 Cc = 2.67**REMARKS** : SAMPLE SUBMITTED BY: □ Walk-in Clients GPI Field Operator R. POLIDAN **TESTED BY** : ARTURO Q. AQUINO COMPUTER PRINT-OUT By: MARIA ANTONIETTE P. CUNAHAP LABORATORY TECHNICIAN Encoder CERTIFIED BY : Data Checked by: ABA/MRR AUTHORIZED SIGNATORY **Quality Assurance** Uncertainty Results: % Finer = ± 0.0443 LAB.FILE NO .: GSA-10-406 Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage Date Issued: factor of k=2, providing a level of confidence of approximately 95%.



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GEOTECHNICS PHILIPPINES, INC.

SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007)

BH / SAMPLE NO..... <u>BH-1</u> <u>010</u> Δ 9.55-10.00 DEPTH (m)..... SOIL DESCRIPTION Elastic SILT SIEVE SIZE Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Finer inches Retained (q) Retained Finer Retained (g) Retained Finer Retained (g) Retained mm 2 1/2 62.5 2 50.0 1 1/2 37.5 25.0 1 3/419.0 3/8 95 100 4.75 2.98 1.60 97 Δ 10 2.0 2.65 4.94 95 3.59 6.69 20 0.8 93 8.50 0.425 92 40 4.56 0.25 5.83 89 60 10.86 140 0.105 7.98 14.87 85 0.075 9.80 18.26 200 82 OVEN DRIED MASS 53.66 gms 1 1/2 #140 #10 #200 2 1/2" #40 #60 3/4 3/8 # #20 5 HYDROMETER 100 i. 90 ŝ. 80 i. 70 į. ŝ Percent Passing 60 i. 50 40 į. 30 i. ł 20 10 0 COARSE COARSE MEDIUM FINE FINE 0.01 FINES (SILT OR CLAY) 100 10 Particle Size (mm) 0.1 0.001 COBBLES GRAVEL SAND - with Hydrometer **REMARKS** : SAMPLE SUBMITTED BY: Walk-in Clients ✓ GPI Field Operator R. POLIDAN TESTED BY : ARTURO Q. AQUINO COMPUTER PRINT-OUT By:_____MARIA ANTONIETTE P. CUNAHAP LABORATORY TECHNICIAN Encoder CERTIFIED BY : Data Checked by: ___ ABA/MRR AUTHORIZED SIGNATORY **Quality Assurance** Uncertainty Results: % Finer = ± 0.0466 LAB.FILE NO .: GSA-10-406 Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage Date Issued: factor of k=2, providing a level of confidence of approximately 95%. This report should not be copied, divulged or reproduced, in full or in part, without prior advice to and written approval from GPI-SMTL.





GEOTECHNICS PHILIPPINES, INC.

SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



Client...... MOHRI, ARCHITECT & ASSOCIATES, INC. Project...... Proposed Mayon Evacuation Center (Oas South Central School) Date of Receipt...... October 27, 2010 Date of Test..... October 28, 2010 Location...... Brgy. Ilaor Norte, Province of Albay

TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007)

DEPTH	AMPLE NO (m)		<mark>0 <u>1</u> 0.55-1.00</mark>		,	□ <u>2</u> 1.55-2.00	,		<u>∆</u> <u>3</u> 2.55-3.00	
SOIL D	ESCRIPTION		Sandy SILT			Fat CLAY			Elastic SILT	
S	IEVE SIZE	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent
inch		Retained (g)	Retained	Finer	Retained (g)	<u>Retained</u>	Finer	Retained (g)	<u>Retained</u>	Finer
2 1/										
2	50.0									
1 1/										
1	25.0									
3/4										
3/8				100						
4	4.75	1.60	1.78	98				0.10	0.15	100
10		5.15	5.72	94			100	1.75	2.61	97
20		13.30	14.76	85	0.47	0.82	99	5.65	8.43	92
40		24.34	27.01	73	0.96	1.67	98	10.48	15.64	84
60		32.89	36.50	64	1.80	3.14	97	13.31	19.87	80
140		43.40	48.16	52	3.10	5.40	95	16.50	24.63	75
200	0.075	45.33	50.31	50	4.60	8.02	92	18.48	27.58	72
OVE	N DRIED MASS		90.11 gms			57.36 gms			67.00 gms	
10	3" 21/2" 2" 11/2	1" 3/4 3/8	#4	#10	#20	#140	007#	HYDROM	ETER	
10					╡╝╡┽┼┖┇╾┥					
g	0	1 1 1 1 1	1	\rightarrow						
8	0									
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Percent Passing	i0	: : :	1			₽: :				
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cel		: : :				: : : : : : : : : : : : : : : : : : : :				
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						: : :				
2	20	1 I I	I I			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
1	0									
	0									
	100 COARS	E FINE 10	COARS		1 Particle Siz	FINE ze (mm) 0.1		0.01		0.001
COBB		GRAVEL			SAND			FINES (SILT	OR CLAY)	0.001
* - W	ith Hydrometer					REMARKS :				
SAMPLE	SUBMITTED BY:	:								
	k-in Clients 🔽		ator							
R. POLI	DAN			_						
COMPU	TER PRINT-OUT					TESTED BY :		ARTURO Q		
Ву:	MARIA ANTO	ONIETTE P. CU	NAHAP					LABORATORY	TECHNICIAN	
		Encoder								
						CERTIFIED BY :				
Data C	Checked by:	ABA/MRR						AUTHORIZED	SIGNATORY	
		Quality Assu	rance	Uncertaint	v Results	% Finer =	+ 0.0430		LAB.FILE NO.	GSA-10-407
Det	a a construction of the				-					
Date I	ssued:					nded uncertainty level of confider			incertainty by	a coverage
				Iduitor OF K	.=z, providing a	level of confider	ice or appro	Annalery 93%.		
This repo	ort should not be co	pied, divulged or	reproduced, ir	n full or in par	t, without prior ad	dvice to and writter	n approval fro	m GPI-SMTL.		

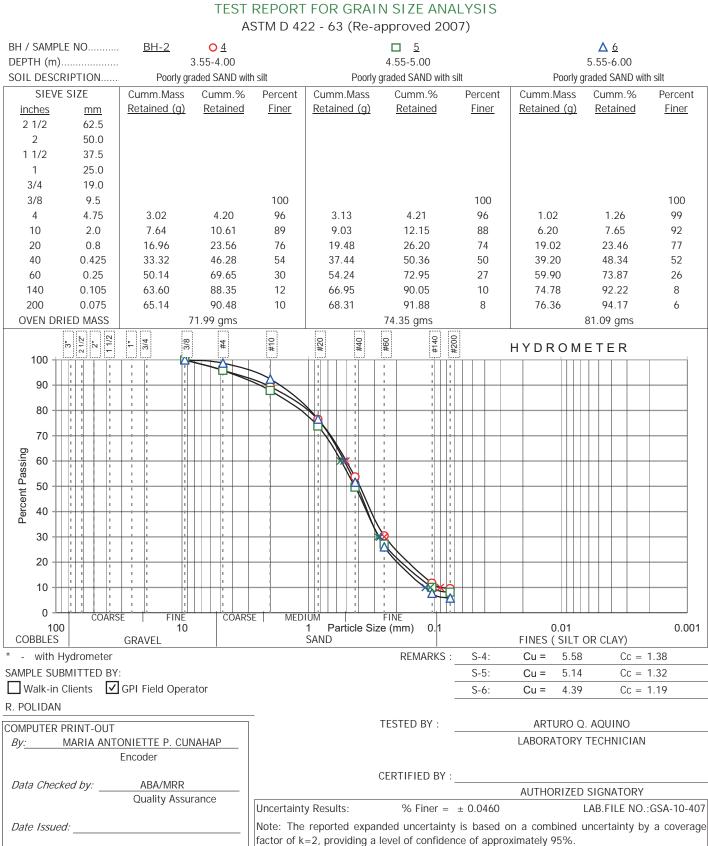




SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



Client...... MOHRI, ARCHITECT & ASSOCIATES, INC. Project...... Proposed Mayon Evacuation Center (Oas South Central School) Date of Receipt...... October 27, 2010 Location...... Brgy. Ilaor Norte, Province of Albay Date of Test..... October 28, 2010







SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS ASTM D 422 - 63 (Re-approved 2007) BH / SAMPLE NO..... BH-2 <u>0</u>7 <u>□</u> 8 <u>Δ9</u> 7.55-8.00 6.55-7.00 8.55-9.00 DEPTH (m)..... SOIL DESCRIPTION Well graded SAND with silt Sandy SILT Silty SAND SIEVE SIZE Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Retained (g) Retained Finer Retained (g) Retained Finer Retained (g) Retained Finer inches mm 2 1/2 62.5 2 50.0 1 1/2 37.5 25.0 1 100 3/4 19.0 3/8 1.95 100 95 1.64 98 95 95 4.75 4.42 5.26 3.10 5.35 100 4 14.24 16.93 11.30 10 2.0 83 6.55 89 1.10 1.35 99 9.20 20 0.8 31.06 36.93 10.34 17.85 82 11.30 89 63 0.425 50.76 15.44 26.65 73 28.76 35.34 65 40 60.35 40 60 78 90 21 20.14 34 76 44 80 55 04 45 0.25 66.36 65 75.95 43.58 60.85 74 76 25 140 0.105 90.30 10 25.25 56 77.24 91.83 64.02 200 0.075 8 26.84 46.32 54 78.66 21 OVEN DRIED MASS 57.94 gms 81.39 gms 84.11 gms 1 1/2 #140 #200 #10 2 #20 #40 3/4 8/8 4 #60 HYDROMETER 100 90 80 70 ÷. É Percent Passing 60 50 Δ 40 30 ŝ 20 10 0 COARSE COARSE MEDIUM FINE Particle Size (mm) 100 10 0.1 0.01 0.001 COBBLES GRAVEL SAND FINES (SILT OR CLAY) - with Hydrometer Cu = 7.08 Cc = 1.36**REMARKS** : S-7: SAMPLE SUBMITTED BY: □ Walk-in Clients GPI Field Operator R. POLIDAN **TESTED BY** : ARTURO Q. AQUINO COMPUTER PRINT-OUT By: MARIA ANTONIETTE P. CUNAHAP LABORATORY TECHNICIAN Encoder CERTIFIED BY : Data Checked by: ABA/MRR AUTHORIZED SIGNATORY **Quality Assurance** Uncertainty Results: % Finer = ± 0.0467 LAB.FILE NO.:GSA-10-407 Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage Date Issued:







SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007)

	MPLE NO (m)		<u>010</u> 9.55-10.00						Δ			
	ESCRIPTION		Silty SAND									
	IEVE SIZE	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent		
inche		Retained (q)	Retained	Finer	Retained (q)	Retained	Finer	Retained (q)	Retained	Finer		
2 1/2												
2	50.0											
1 1/2												
1	25.0											
3/4	19.0											
3/8												
4	4.75			100								
10	2.0	1.18	1.41	99								
20	0.8	11.41	13.66	86								
40	0.425	33.76	40.42	60								
60	0.25	53.37	63.89	36								
140		67.81	81.18	19								
200		70.10	83.92	16								
	I DRIED MASS		83.53 gms									
100	2 ^{1/2}	3/4	#	#10	#20	#60		HYDROM	ETER			
100												
90	0	1 I I				· · · ·						
80					M $ I $							
0												
70	0				: N :							
					$ \chi $							
90 Sin	0											
5 Day					N							
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Percent Passing	0 +++++++++++++++++++++++++++++++++++++				: : `	<u>∖</u> :						
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30	0	1 1 1	1									
20												
2.						: 40						
1(0	1 I I I	1 1			· · · ·						
	0 COARS		COAR	SE MED		FINE						
COBBI	100 FS	10 GRAVEL			1 Particle Si SAND	ze (mm) 0.1		0.01 FINES (SILT		0.001		
	ith Hydrometer	GRAVEL			SAND							
						REMARKS :						
	SUBMITTED BY		- 1			-						
	k-in Clients 🔽	GPI Field Operation	ator			-						
R. POLIE	DAN			_								
COMPUT	ER PRINT-OUT]		TESTED BY :		ARTURO Q				
Ву:	MARIA ANT	ONIETTE P. CUI	NAHAP					LABORATORY	TECHNICIAN			
		Encoder										
Data C.	hecked by:	ABA/MRR				CERTIFIED BY :						
		Quality Assu	rance			o		AUTHORIZED				
		2		Uncertaint	-	% Finer =			LAB.FILE NO.			
Date Is	ssued:					nded uncertainty			uncertainty by	y a coverage		
				factor of k	=2, providing a	level of confiden	ce of appro	ximately 95%.				
	rt should not be co		reproduced, i	n full or in par	t, without prior ad	dvice to and written	approval fro	m GPI-SMTL.				

Final Report Form - 3&4

FINAL REPORT

SUBSURFACE INVESTIGATION PROPOSED MAYON EVACUATION CENTER (2-STOREY) MANITO CENTRAL SCHOOL BRGY.MANITO, PROVINCE OF ALBAY

MOHRI, ARCHITECT & ASSOCIATES, INC.

OCTOBER 2010 JOB NO. 2209-10.R1





FINAL REPORT

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Geotechnical Contractor

119 Sauyo Road, Novaliches Quezon City, Philippines

Business development Customer Service Fax Homepage Emall 9306555 9382124/9353730 4561140 www.geophil.com jmcgpi@gmail.com

FINAL REPORT

SUB-SURFACE INVESTIGATION FOR THE PROPOSED MAYON EVACUATION CENTER (2-STOREY) LOCATED AT MANITO CENTRAL SCHOOL, BRGY. MANITO, PROVINCE OF ALBAY

1.0 INTRODUCTION

Geotechnics Philippines, Incorporated (GPI) completed the subsurface soil investigation for the proposed Mayon Evacuation Center. The proposed site explored is located at Manito Central School, Brgy. Manito, Province of Albay.

Two (2) boreholes were drilled at the proposed site from October 23 to October 24, 2010. Borings were undertaken down to 8.45m and 8.00 m respectively for both BH-1 and BH-2 below existing natural ground line. Borehole locations are as indicated on the accompanying Boring Plan and Soil Profile Sheets.

The subsurface soil exploration was undertaken upon the request of Mohri, Architect & Associates, Inc. in order to gain information on the subsurface conditions and bearing characteristics of the underlying soils at site.

The undersigned was tasked to evaluate the results of the completed subsurface soil exploration and to recommend a suitable foundation solution for the proposed structure.

This report embodies the undersigned's engineering analysis and recommendations based mainly on the results of the geotechnical soil borings and pertinent laboratory tests performed on extracted samples.

The results of geotechnical soil borings and laboratory tests can be referred to in the Attachments accompanying this report.

2.0 OBJECTIVES

The geotechnical investigation aims to determine the following:

- Soil Profile
- Engineering properties of the Soil Strata
- Bearing Capacities and Foundation Types
- Settlement conditions of critical areas
- Comment on ground stability and liquefaction potential of the site
- Recommend ground improvement when necessary
- Provide Excavation and Fill Guidelines

In addition to the above mentioned items, matters on implementation and construction shall be given as required.

3.0 FIELD EXPLORATION AND INVESTIGATION

The field exploration implored continuous was boring as the Standard Penetration Test (SPT) was performed at the last 45cm of every change strata or 1.0 meter intervals. The blow counts (N value or NB) were recorded as disturbed samples from the split spoon sampler were retrieved for laboratory testing. The recovered samples were described semi qualitative in terms of extracted length. The extracted soil samples were wrapped in double plastiv bags for moisture and sample protection and were transported to the laboratory for further testing of engineering properties.

Advancing through the hard strata, the same technique was implored. Hard strata are defined over a series of high blow count layers of more than 50 blows or the inability of driving the hammer to penetrate at high blow counts termed as refusal.

3.1 Standard Penetration Test

The Standard Penetration Test (SPT) is a field test used in determining the shear strength of soils from an established correlation. The SPT requires the count of the number of blows that it would take a standard split spoon sampler to penetrate its last 30.5cm (12inches) of the sampler. The standard mass is 63.5 kilograms and the height of the drop is 76.2cm specified as a free drop.

3.2 Hard Strata and Soft Strata Sampling

Hard strata are defined as a consecutive ground resistance of refusal to the standard penetration test of blow counts of 50 with a penetration less than or equal to 25.4mm, This is in accordance to the American Standard for Testing Materials (ASTM) Designated D 1586. Coring techniques were not conducted in the investigation. Sampling of undisturbed samples for soft cohesive soils was not conducted via pressing the sampler.

3.3 Ground Water Table

The ground water table (GWT) elevation was observed at least 4 hours from the completion of the borehole up to demobilization.

4.0 LABORATORY INVESTIGATION

The retrieved samples were brought to the laboratory in Sauyo Road, Novaliches, Quezon City. Various tests were conducted on all extracted samples with test procedures conforming to the American Standards for Testing Materials (ASTM). The following are the laboratory tests conducted on the soil samples.

Type of Test	ASTM Designation	Description of Test				
Soil Classification for Engineering Purposes – Unified Soil Classification System	ASTM D 2487-05	 Standard in classifying the type of soil based on composition and physical properties These were classified in accordance to grain size, composition, percentage of size in the distribution 				

Particle Size Distribution – Sieve Analysis	ASTM D 422-63 (Reapproved 2002)	 The test allows the dried or wet soil to pass through a series of sieves in order to determine the distribution of grain sizes. The distributions of the particles are graphed on a semi log scale This test aids the previous test in classification
Moisture Content	ASTM D 2216-05	 The test aims to determine the natural content of water in the soil This is taken as the ratio of water to the ratio of the soil particles The test uses a weighing scale measuring the initial weight of the soil and the final weight of the soil after drying it in the oven
Atterberg Limits Liquid Limit, Plastic Limit and Plasticity Index	ASTM D4318-05	 Tests determining the limits of cohesive soils in behaving as a plastic or a flowing medium by incrementally changing the water content The plastic limit is determined by rolling a clay sample to around 1/8 of an inch or 3mm The liquid limit uses the liquid limit device and determines the number of blows it would take for the slit to close Correlative values can be used for settlement relations

The results of the laboratory investigation are appended.

5.0 BOREHOLE STATIGRAPHY

Two (2) boreholes were driven to investigate the subsurface. The following are the findings:

5.1 Borehole BH-1

Borehole BH-1 extends 8.45 meters obtaining the following stratification: Very stiff elastic silt with sand at 0-2 meters, very dense clayey silty sand at 2-2.7 meters, very dense gravel to cobbles at 2.7-3.2 meters, dense clayey sand at 3.2-3.65 meters, very stiff elastic silt at 3.65-4.65 meters, very stiff fat clay at 4.65-5.65 meters, medium very dense poorly graded sand at 5.65-6.35 meters, very dense gravel to cobbles at 6.35-8.45 meters, the extent of the borehole.

The ground water was detected at 3.0 meters from the existing grade.

5.2 Borehole BH-2

Borehole BH-2 extends 8 meters obtaining the following subsurface stratification: Hard fat clay with few sand at 0-2 meter, hard elastic silt at 2-7 meters, hard gravel to cobble at 7-8 meters, the extent of the borehole.

The ground water table was detected at 3.0 meters from the existing grade.

6.0 SOIL PROPERTIES

The following are the adapted soi	l properties for the investigated strata:
-----------------------------------	---

Soil Parameters			
Gravels, Sands, Silty S	ands and Clayey Sand	ls (No	n-cohesive)
Sands	c	φ	γ (kcf)
Very Loose	0	26	.0.085
Loose	0	28	0.100
Medium Dense	0	30	0.110
Dense	0	32	0.120
Very Dense	0	35	0,130
Silts Silts and Clays	and Clays (Cohesive)	φ	γ (kcf)
Very Soft		0	0.100
Soft		0	0.105
Firm	=(N*10)/2	0	0.115
Stiff	from Braja Das	0	0,120
Very Stiff	- Druju Dub	0	0.125
Hard		0	0.130

7.0 LIQUEFACTION POTENTIAL

The two (2) boreholes showed no potential for liquefaction due to dense and stiff layer underneath.

8.0 BEARING CAPACITY AND FOUNDATION TYPE

Shallow Foundations have good bearing capacities. The following are the allowable net bearing capacities based on Terzaghi's Bearing Capacity Equation:

BH-1

Depth	Bearing Capacity (kPa)
0.5	144
1.0	192

BH-2:

Depth	Bearing Capacity (kPa)
0.5	144
1.0	192

The associated settlement on the other hand is within the tolerable engineering settlement of 25mm. Although the soil bearing capacity is competent, the structural tie beam proved to be efficient during major carthquake.

9.0 EXCAVATION AND FILL

Fill for the excavation for footings may utilize the same materials. On the other hand, grade and subgrade materials should be sandy frictional materials.

Fill should be compacted at 95% its maximum dry density. Should the amount of soil be inept, sandy fill may be utilized and should be compacted in the same degree.

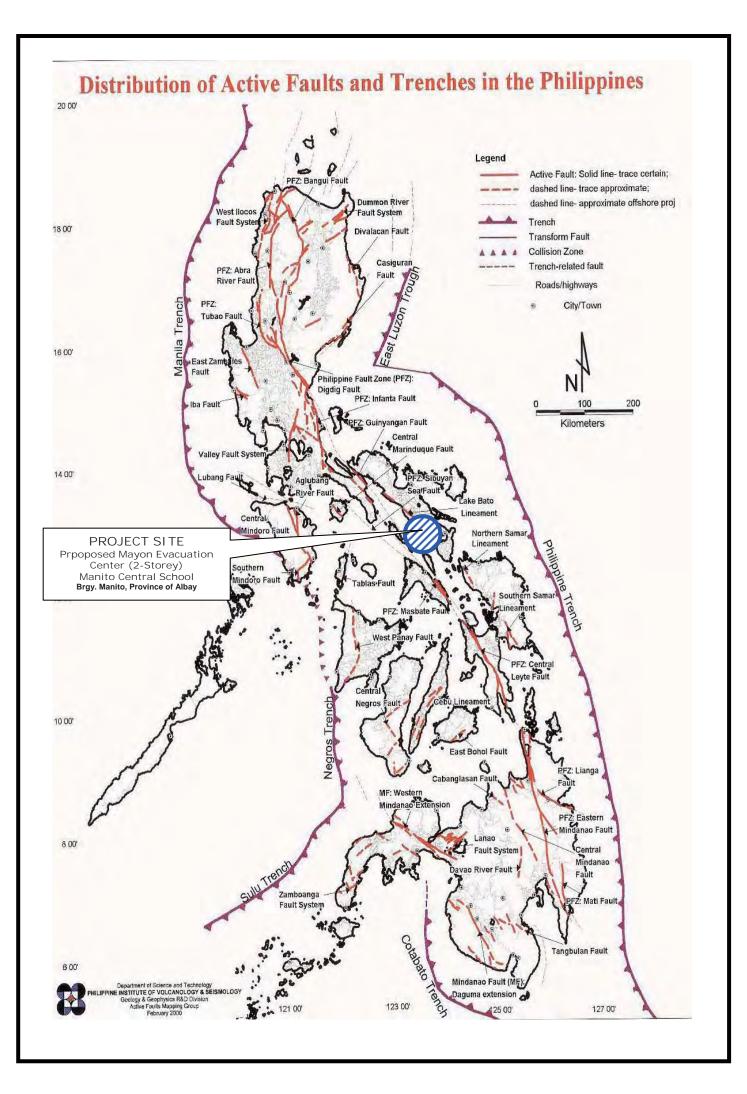
Borehole Conclusions and Recommendations

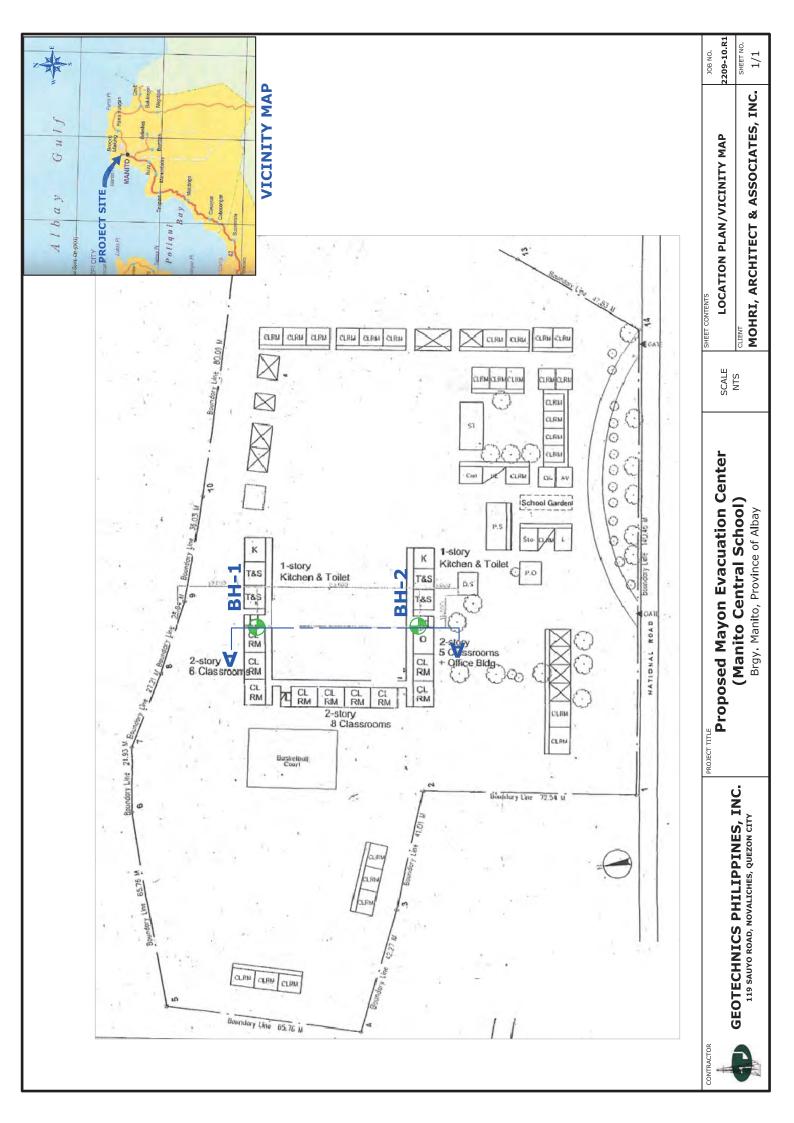
The conclusions and recommendations are based on the data of two (2) boreholes and the geologic map. Deviations from these are expected and should be minimal as the boreholes are typical of an alluvial formation. Should there be any major deviation in the substrata be detected during the excavation phase, may the undersigned through Geotechnics Philippines Inc (02-930-6555) be approached immediately for proper reassessment.

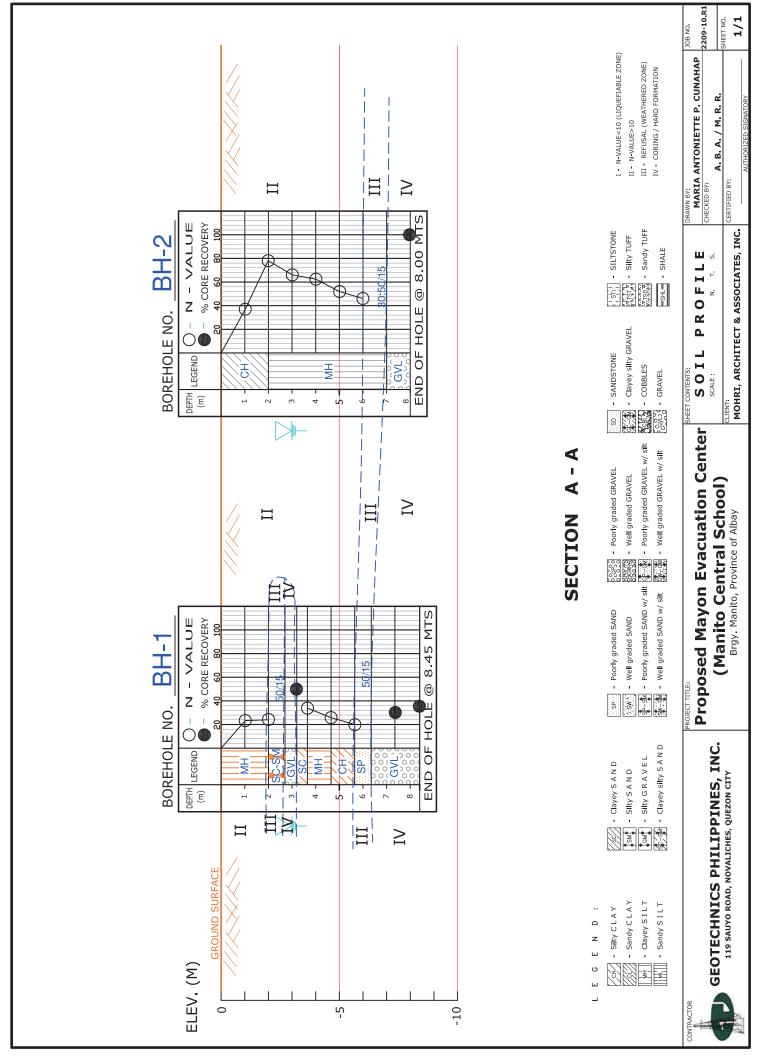
DIOSDADO A. UREÑA CE REG No. 053884 PTR No. 3228274 Issued on January 8, 2010 Issued at Quezon City

APPENDICES









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GEOTECHNICS PHILIPPINES, INCORPORATED

SOILS AND MATERIALS TESTING LABORATORY 119 SAUYO ROAD, NOVALICHES, QUEZON CITY TEL. NO. 938-2124 \ 456-1140 \ 930-6555



CLIENT	MOHRI, ARCHITECT & ASSOCIATES, INC.			BOREHOLE NO.	3H- 1
PROJECT	Proposed Mayon Evacuation Center (Manito Central School)			^{JOB NO.} 2209	-10.R1-FBL-01
LOCATION	Brgy. Manito, Province of Albay	DRILLED	R. POLIDAN	SHEET	1 of 1
RIG	KSK SMALL	LOGGED	R. POLIDAN	0.00 t	o 8.45 meters
	Hammer Weight 63.50 Kg.	DATE STARTED	Oct. 23, 2010	GROUND LEVEL	- m.
	Fall Height 76.20 cm.	DATE COMPLETED	Oct. 23, 2010	WATER LEVEL	3.00 m.
METHOD	WASH BORING	NORTHING	-	EASTING	-

FINAL BORING LOG DEPTH SOIL SAMPLE TYPE OF REC RQD PL NMC LL O - N - VALUE OTHER ΡI CONSISTENCY SOIL DESCRIPTION TEST Т -0- % Core Recovery - 1 0 NUMBER SAMPLING (%) (m) SYMBOL (cm) (MH) Elastic SILT with little amount of sand, grayish brown, very moist NB: (10)(10)(13) S-1 SPT 45 31 23 1.00 VERY STIFF (MH)...with few sand NB: (9)(10)(14) S-2 SPT 45 26 24 2.00 Clayey silty SAND with some gravel, light brown, moist VERY DENSE NB: (50/15) S-3 SPT 15 GRAVEL to COBBLES, Ahigh strength, andesitic rock fragments, ranges: 2.2cm-20.3cm with iron oxide ¥ \bigcirc 3.00 0 C-1 CRG 25 50 and silt on rough surfaces, brown to dark gray 8 DENSE S-4 SPT 45 34 (SC) Clayey SAND with little samount of gravel, light brown, very moist NB: (12)(15)(19) 4.00 (MH) Elastic SILT with some sand and traces of gravel, light brown, very moist S-5 SPT 40 24 VERY STIFF 26 NB: (18)(15)(11) (CH) Fat CLAY with few sand, light brown, 5.00 very moist NB: (13)(10)(10) 20 S-6 SPT 40 33 (SP) Poorly graded SANDwith gravel, light 6.00 brown, moist NB: (50/15) VERY DENSE S-7 CRG 15 NP \bigcirc GRAVEL to COBBLES, Ahigh strength, andesitic rock fragments, ranges: 2.3cm-5.0cm with iror \bigcirc oxide and silt on rough surfaces, brown to dark 7.00 gray \bigcirc C-2 CRG 30 0 30 Ð \bigcirc ħ ...core ranges: 3.1cm-11.5cm \bigcirc 8.00 Ð \bigcirc C-3 CRG 35 0 35 END OF BORING AT 8.45 METERS 9.00 Type of Sampling Type of Soil CONSISTENCY MOISTURE PERCENTAGE Silty CLAY Silty GRAVEL COHESIVE SOILS COHENSIONLESS SOILS MOISTURE CONTENT % of SAND and GRAVEL STANDARD PENETRATION TEST (SPT) <u>N-VALUE</u> <u>CONSISTENCY</u> N-VALUE CONSISTENCY RANGES VALUES RANGES VALUES Clayey SILT Well graded GRAVEL with silt 0 - 2 -VERY SOFT 0 - 4 - VERY LOOSE 0 - 10 DRY 0 - 5 - TRACES Clayey SAND GRAVEL 4 - 10 - LOOSE 6 - 10 - FEW 2 - 4 SOFT 10 - 30 _ MOIST INDISTURBE SAMPLING (UDS) 9 e 4 - 8 FIRM 10 - 30 - MEDIUM DENSE VERY MOIST 11 - 25 - LITTLE _ 30 - 70 -SIIty SAND SILTSTONE 30 - 50 - DENSE 70 - 100 - WET 26 - 35 - SOME 8 - 15 - STIFF 15 - 30 - VERY STIFF > 50 - VERY DENSE SATURATED 36 - 45 - WITH Clayey silty SAND TUFF > 100 CORING (CRG) HARD > 30 Tuffeceous SILTSTONE SAND REMARKS: Prepared by : Rec = Recovery in Centimeters NB = No. of BlowsHW = Hammer Weight **R. T. LUSTRE** Checked by : 10 cm. >#3>3cm. #5 <1cm. Reference Joint Spacing: #1 >30cm. A.B.A. / M.R.R. Certified by : 30 cm.>#2>10cm. 3 cm. >#4>1cm. RQD = Rock Quality Designation SCR = Solid Core Recovery AUTHORIZED SIGNATORY Date Issued : Description of Strata is according to Unified Soil Classification System



GEOTECHNICS PHILIPPINES, INCORPORATED SOILS AND MATERIALS TESTING LABORATORY 119 SAUYO ROAD, NOVALICHES, QUEZON CITY TEL. NO. 938-2124 \ 456-1140 \ 930-6555



	<u>pro</u>		Drwn-bk5 Accieuter
CLIENT	MOHRI, ARCHITECT & ASSOCIATES, INC.		BOREHOLE NO. BH- 2
PROJECT	Proposed Mayon Evacuation Center (Manito Central School)	^{JOB NO.} 2209-10.R1-FBL-02	
LOCATION	Brgy. Manito, Province of Albay	DRILLED R. POLIDAN	SHEET 1 of 1
RIG	KSK SMALL	R. POLIDAN	0.00 to 8.00 meters
	Hammer Weight 63.50 Kg.	DATE STARTED Oct. 24, 2010	GROUND LEVEL - m.
	Fall Height 76.20 cm.	DATE COMPLETED Oct. 24, 2010	WATER LEVEL 3.00 m.
METHOD	WASH BORING	NORTHING	EASTING _
	FINAL BO	RING LOG	
DEPTH (m)	SOIL SAMPLE TYPE OF REC RQD PL NMC LL SYMBOL NUMBER SAMPLING (cm) (%) 20 40 60 80 100	Y O - N - V A L U E ● - % Core Recovery 0 20 40 60 80 100 0 20 40 60 80 100	IL DESCRIPTION OTHE TEST DATA
	S-1 SPT 45 - 33	(CH) Fat CLAY moist NB: (12)(17)(2 (CH)very moi NB: (22)(35)(4	ist

	ENH		SAMPLE							I	PI	CONSISTENCY	0-					very	9	SOIL DESCRIPTION		OTHER TEST DATA	
	(m)	SYMBOL	NUMBER	SAMPLING	G (cm)	(%)	20	40	60 E	30 100				0 20	40	60	80	100				DATA	
	 - 1.00 -		S-1	SPT	45	-					33		37	$\left \right\rangle$					(CH) Fat CLA moist NB: (12)(17)(Y with few sand, (20)	brownish gray,		
			S-2	SPT	45	_					33		78						(CH)very m NB: (22)(35)(
 ¥	- 2.00 -		S-3	SPT	45	_					28		67							SILT with little am gravel, brownish (35)			
	- 3.00 - - 4.00 -		S-4	SPT	45	_					31	HARD	62						(MH)light brown NB: (20)(23)(39)				
			S-5	SPT	45	-					24		51							1H)with some sand B: (19)(22)(29)			
	 		S-6	SPT	40	_					24		46							IH)with few gravel 3: (21)(23)(23)			
	 		S-7	SPT	40	-					_				30;	50	0/1	5	(MH)with traces of gravel NB: (25)(30)(50/15)				
	 		C-1	CRG	100	0					_		100 GRAVEL to COBBLE, high strength, andesitic rock fragments, ranges:2.2cm-20.3cm with iron oxide and silt n rough surfaces, brown to dark gray										
	- 8.00 - - 9.00 - 										END OF BORING AT 8.00 METERS												
Ту	10.00 Image: Image of Soil Image of Soil Image of Soil CONSISTENCY MOISTURE PERCENTAGE																						
		ANDARD NETRATION ST (SPT) DISTURBED MPLING DS) RING		Silty CLAY Clayey SILT Clayey SAND Silty SAND Clayey silty S SAND	SAND S		Well g with s GRAVI SILTS TUFF	EL	i gra	STONE	N-VALUE CONSISTENCY N-VALUE CONSISTENCY RANGES VALUES RANGES V 0 - 2 - VERY SOFT 0 - 4 - VERY LOOSE 0 - 10 - DRY 0 - 5 - TRA 2 - 4 - SOFT 4 - 10 - LOOSE 10 - 30 - MOIST 6 - 10 - FEW 4 - 8 - FIRM 10 - 30 - MEDIUM DENSE 30 - 70 - VERY MOIST 11 - 25 - LIT 8 - 15 - STIFF 30 - 50 - DENSE 70 - 100 - WET 26 - 35 - SOIT 15 - 30 - HARD - VERY DENSE > 100 - SATURATED 36 - 45 - WIT						% of SAND and G	<u>GRAVEL</u> LUES JES LE					
RE	1ARKS:			ery in C				Ν	В =	= No	o. of E							-			T. LUSTRE		
	Refe	rence	Joint S	pacing:								m. >#3>3cm		#	5 ·	<1	Lcr	n.			B.A. / M.R.R.		
			- Daal		30 cm							m. >#4>1cm								Certified by :			
	orintia			Quality								Core Recover	У								JTHORIZED SIGNATC	DRY	
De	escription of Strata is according to Unified Soil Classification System Date Issued :																						

GEOTECHNICS PHILIPPINES, INC. SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



CLIENT....... MOHRI, ARCHITECT & ASSOCIATES, INC. PROJECT...... Proposed Mayon Evacuation Center (Manito Central School) LOCATION.... Brgy. Manito, Province of Albay SUMMARY OF LABORATORY TESTS

SAMPLE	DEPTH	NMC	ATTE	RBERG (%)	LIMIT,	USCS		SI	eve an	ALYSIS	(% FIN	ier) pas	SSING S	SIEVE N	0.		Remarks
NUMBER	(m)	(%)	LL	PL	ΡI	Class.	1	³ / ₄	³ / ₈	4	10	20	40	60	140	200	
BH-1																	
1	0.55 - 1.00	44	63	32	31	MH					100	98	96	93	89	88	-
2	1.55 - 2.00	32	58	32	26	MH		100	96	92	87	84	81	79	75	74	-
3	2.55 - 2.70	26	INS	UFFIC	IENT S	SAMPLE	100	85	77	71	60	52	46	42	36	35	-
4	3.20 - 3.65	31	41	33	8	SC		100	87	80	72	64	58	53	47	46	-
5	4.20 - 4.65	34	56	32	24	MH			100	95	85	80	76	72	67	65	-
6	5.20 - 5.65	40	65	32	33	СН					100	99	98	95	93	91	-
7	6.20 - 6.35	29	-	NP	-	SP		100	65	59	46	34	18	8	3	2	-
BH-2																	
1	0.55 - 1.00	27	64	31	33	СН				100	99	97	95	93	91	90	-
2	1.55 - 2.00	31	65	32	33	СН					100	98	96	94	92	91	-
3	2.55 - 3.00	35	60	32	28	MH			100	99	96	91	85	82	78	76	-
4	3.55 - 4.00	40	63	32	31	MH			100	99	98	94	88	85	81	80	-
5	4.55 - 5.00	30	56	32	24	MH			100	96	87	81	75	72	68	67	-
6	5.55 - 6.00	30	56	32	24	MH		100	97	93	88	83	79	76	73	72	-
7	6.55 - 7.00	32	INS	UFFIC	IENT S	SAMPLE			100	97	92	84	78	73	64	61	-
SAMPLE SUBI	lients 🔽 🗸	GPI Fiel	d Oper	ator		2	<u>.</u>	<u> </u>	1	1	REM	ARKS:		* witl	n hydr	omete	-
COMPUTER <i>By: <u>MAR</u></i>	PRINT-OUT I <u>A ANTONIETTE F</u> Encoder	P. CUN	AHAP														

CERTIFIED BY:

AUTHORIZED SIGNATORY

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ABA / MRR

Quality Assurance

Data Chkd by: .

Date Issued



BOREHOLE NO...BH-1



GEOTECHNICS PHILIPPINES, INC. SOILS AND MATERIALS TESTING LABORATORY



119 Sauyo Road, Novaliches, Quezon City

Job Number...... 2209-10.R1-NMC-01-1 Client...... MOHRI, ARCHITECT & ASSOCIATES, INC. Project...... Proposed Mayon Evacuation Center (Manito Central School) Date of Receipt..... October 27, 2010 Location......Brgy. Manito, Province of Albay Date of Test..... October 27-28, 2010

TEST REPORT FOR LABORATORY DETERMINATION OF WATER (MOISTURE) CONTENT OF SOIL & ROCK BY MASS

ASTM D 2216 - 05 Test Method 🗹 A 🛛 B

 AMPLE JMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	WATER CONTENT (%)	REMARKS
				N	IATURAL M	OISTURE C	ONTENT	
1	0.55-1.00	96.86	70.39	26.47	10.45	59.94	44	
2	1.55-2.00	100.00	77.94	22.06	9.60	68.34	32	
3	2.55-2.70	109.30	88.84	20.46	9.68	79.16	26	
4	3.20-3.65	113.62	89.13	24.49	9.67	79.46	31	
5	4.20-4.65	116.00	88.91	27.09	9.68	79.23	34	
6	5.20-5.65	111.00	82.09	28.91	9.59	72.50	40	
7	6.20-6.35	59.00	48.11	10.89	10.60	37.51	29	

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS ASTM Designation : D 4318 - 05, Method B

SAMPLE	DEPTH (m)	BLOWS	WET SOIL		WATER	DISH	DRY SOIL	% Retained	ATTERBE	RG LIMIT	REMARKS
NUMBER		DEGWS	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	on 0.425 mm	LL	PL	REMARKS
					LIC	DUID LIMIT	-				
					PLA	STIC LIMI	Г				
L						L					
Uncertainty			tent (%) =			uid Limit =			stic Limit =		
Note: The re	eported expanded u	incertainty	is based on	a combine	d uncertair	nty by a cov	verage facto	or of k=2, p	providing a	level of con	fidence of
approximate	ly 95%.									_AB.FILE NO	D.:NMC-10-508
	BMITTED BY :					REMARKS:					
Walk-in	Clients 🗸 Gl	PI Field Op	erator								
R. POLIDAN				~							
COMPUTER											
By:	ARIA ANTONIETT Encode		HAP		т			٨٢	RTURO Q. A		
					10	LOIED DI .			RATORY TE		
Data Checi	ked by: AE	BA/MRR ality Assura	n co					LADO			
	Qua	iiity Assula	nce		CERT	IFIED BY :					
Date Issue	d:								IORIZED SI		
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Final Repo	rt Form - 1									Re	v.6 / Oct. 2010



BOREHOLE NO...BH-2



GEOTECHNICS PHILIPPINES, INC. SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



Client....... MOHRI, ARCHITECT & ASSOCIATES, INC. Project...... Proposed Mayon Evacuation Center (Manito Central School) Location......Brgy. Manito, Province of Albay

TEST REPORT FOR LABORATORY DETERMINATION OF WATER (MOISTURE) CONTENT OF SOIL & ROCK BY MASS ASTM D 2216 - 05

Test Method 🗹 A 🗌 B

SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	WATER CONTENT (%)	REMARKS
				N	IATURAL M	OISTURE C	ONTENT	
1	0.55-1.00	81.94	66.46	15.48	9.56	56.90	27	
2	1.55-2.00	84.39	66.71	17.68	9.70	57.01	31	
3	2.55-3.00	95.10	72.88	22.22	9.69	63.19	35	
4	3.55-4.00	89.40	66.63	22.77	10.02	56.61	40	
5	4.55-5.00	103.10	81.45	21.65	9.67	71.78	30	
6	5.55-6.00	98.30	77.66	20.64	9.92	67.74	30	
7	6.55-7.00	92.80	72.68	20.12	9.64	63.04	32	

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS ASTM Designation : D 4318 - 05, Method B

SAMPLE	DEPTH (m)	BLOWS	WET SOIL	DRY SOIL	WATER	DISH	DRY SOIL	% Retained	ATTERBE	RG LIMIT	REMARKS	
NUMBER		BLUW3	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	on 0.425 mm	LL	PL	REWIARNS	
					LIC	2010 LIMIT						
					PI A	STIC LIMI	-					
Uncertainty	Results:	Water Con	tent (%) =	± 0.0364	Liq	uid Limit =		Pla	stic Limit =			
Note: The re	eported expanded u	uncertainty	is based on	a combine	d uncertair	nty by a cov	verage facto	or of k=2, p	providing a	level of con	fidence of	
approximate	ely 95%.								l	_AB.FILE NO	D.:NMC-10-509	
	BMITTED BY :					REMARKS:						
Walk-in		PI Field Op	erator									
R. POLIDAN				~								
COMPUTER												
By:	MARIA ANTONIETT Encod		HAP		т	STED BV -		٨٥	RTURO Q. A			
						JILD DI .			RATORY TE			
Data Chec	ked by: Al	BA/MRR ality Assura	n co					ENDO				
	Que	anty Assura	nce		CERT	IFIED BY :						
Date Issue	ed:							AUTHORIZED SIGNATORY				
This report sh Final Repo	ould not be copied, di	vulged or rep	produced, in	full or in part	, without pri	or advice to	and written a	pproval from	n GPI-SMTL.	Po	v.6 / Oct. 2010	





119 Sauyo Road, Novaliches, Quezon City



Client.......MOHRI, ARCHITECT & ASSOCIATES, INC.JobProject.....Proposed Mayon Evacuation Center (Manito Central School)DaLocation....Brgy. Manito, Province of AlbayDa

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

ASTM	D 4318 ·	- 05
7.51101	D 4010	00

Method : A 🗹 Wet Preparation 🗌 Dry Preparation

BOREHOLE NO	BOREHOLE NO BH-1 DEPTH (m)							SOIL DESC	RIPTION		
SAMPLE NO	USCS CLAS	SS	MH		E	Elastic SILT	Γ				
MOISTURE CONTENT	L	IQUID LIMI	IT	PLASTI	C LIMIT		68 _T				
DETERMINATION	TRIAL 1	TRIAL 2	TRIAL 3	<u>TRIAL 1</u>	TRIAL 2		67 -	٨			
DISH NUMBER	A33	A4	A12	B5	B82	t (%)	66 -	\	\setminus		
WET SOIL + DISH (g)	32.40	35.26	38.50	22.69	22.67	Content	65 -				
DRY SOIL + DISH (g)	23.72	25.25	27.00	19.50	19.47	Con					
WATER (g)	8.68	10.01	11.50	3.19	3.20	are	64 -				
DISH MASS (g)	9.60	9.73	9.85	9.51	9.49	Moisture	63 -				
DRY SOIL (g)	14.12	15.52	17.15	9.99	9.98	Š	62 -				
MOISTURE CONTENT	61.47	64.50	67.06	31.93	32.06		61 🗕				
NUMBER OF BLOWS	32	22	15	3	2		10	1	No. of Blows		100
% RETAINED ON 0.42			4.07		LL =	63	PL = 32	PI =	31		

BOREHOLE NO	BH-1		DEPTH (m)	1.55-2.00		SC	DIL DES	CRIPTION		
SAMPLE NO		USCS CLAS	SS	MH		El	astic SIL	.Т			
MOISTURE CONTENT	L	IQUID LIM	IT	PLASTI	C LIMIT		63 —				
DETERMINATION	TRIAL 1	TRIAL 2	TRIAL 3	<u>TRIAL 1</u>	TRIAL 2		62 -	6			
DISH NUMBER	B17	B7	B56	A32	A91	t (%)	61 -		\setminus		
WET SOIL + DISH (g)	32.65	35.41	37.97	22.70	22.68	Content	60 -				
DRY SOIL + DISH (g)	24.39	25.86	27.18	19.49	19.45	Con	59 -				
WATER (g)	8.26	9.55	10.79	3.21	3.23	ture	58 -		×		
DISH MASS (g)	9.63	9.68	9.77	9.55	9.50	Moisture	57 -				
DRY SOIL (g)	14.76	16.18	17.41	9.94	9.95	2	56 -				
MOISTURE CONTENT	55.96	59.02	61.98	32.29	32.46		55 +				
NUMBER OF BLOWS	32	22	15	3	2		10		No. of Blows		100
% RETAINED ON 0.42	5mm				19.07		LL =	58	PL = 32	PI =	26

Uncertainty Results: I	Liquid Limit = ± 0.1409	Plastic Limit = ± 0.2008
II	Liquid Limit = ± 0.1349	Plastic Limit = ± 0.2020
Note: The reported expanded uncertainty is based	on a combined uncertainty by a coverage	ge factor of k=2, providing a level of confidence
of approximately 95%.		LAB.FILE NO.:AL-10-657
SAMPLE SUBMITTED BY :	REMARKS:	
Walk-in Clients GPI Field Operator	_	
R. POLIDAN		
COMPUTER PRINT-OUT		
By: MARIA ANTONIETTE P. CUNAHAP		
Encoder	TESTED BY :	ARTURO Q. AQUINO
Data Checked by: ABA / MRR	_	LABORATORY TECHNICIAN
Quality Assurance	—	
	CERTIFIED BY :	
Date Issued:		AUTHORIZED SIGNATORY





119 Sauyo Road, Novaliches, Quezon City



Client....... MOHRI, ARCHITECT & ASSOCIATES, INC.JacProject...... Proposed Mayon Evacuation Center (Manito Central School)DLocation.... Brgy. Manito, Province of AlbayD

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

ASTM D 4318 - 05

Method : A 🗹 Wet Preparation 🗌 Dry Preparation

BOREHOLE NO	30REHOLE NO BH-1 DEPTH (m)							SOIL	DESCRIP	TION			
SAMPLE NO S-4 USCS CLASS SC								Claye	ey SAND				
MOISTURE CONTENT	T	PLASTIC LIMIT			46 T								
DETERMINATION	<u>TRIAL 1</u>	<u>TRIAL 2</u>	<u>TRIAL 3</u>	<u>TRIAL 1</u>	<u>TRIAL 2</u>	(%)	45 -		À				
DISH NUMBER	A62	A59	A80	B51	B7		44 -						
WET SOIL + DISH (g)	32.84	35.64	38.28	22.75	22.78	Content	43 -		```				
DRY SOIL + DISH (g)	26.20	27.90	29.44	19.49	19.50		42 -			× .			
WATER (g)	6.64	7.74	8.84	3.26	3.28	ure							
DISH MASS (g)	9.60	9.70	9.80	9.51	9.49	Moisture	41 -			$ $ \backslash			
DRY SOIL (g)	16.60	18.20	19.64	9.98	10.01	Σ	40 -						
MOISTURE CONTENT	40.00	42.53	45.01	32.67	32.77		39 -						
NUMBER OF BLOWS	31	22	15	3	3		10	0		No. (of Blows		100
% RETAINED ON 0.42	6 RETAINED ON 0.425mm								41	PL =	33	PI =	8

BOREHOLE NO)	4.20-4.65		S	OIL DESC	RIPTION					
SAMPLE NO	MH		EI	lastic SILT	F						
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		61 _T				
DETERMINATION	<u>TRIAL 1</u>	TRIAL 2	TRIAL 3	TRIAL 1	<u>TRIAL 2</u>		60 -	À			
DISH NUMBER	B52	B21	B39	A48	A24	t (%)	59 -	```	\setminus		
WET SOIL + DISH (g)	32.57	35.22	38.14	22.68	22.70	Conten	58 -				
DRY SOIL + DISH (g)	24.53	25.95	27.51	19.46	19.47	Cor	57 -				
WATER (g)	8.04	9.27	10.63	3.22	3.23	ture	56 -		$ \mathbf{x} $		
DISH MASS (g)	9.63	9.70	9.81	9.48	9.49	Moisture	55 -				
DRY SOIL (g)	14.90	16.25	17.70	9.98	9.98	2	54 -		\mathbf{i}		
MOISTURE CONTENT	53.96	57.05	60.06	32.26	32.36		53 +				
NUMBER OF BLOWS	31	22	14	3	2		10)	No. of Blows		100
% RETAINED ON 0.42			24.47	L	L =	56	PL = 32	PI =	24		

Uncertainty Results: I	Liquid Limit = ± 0.1198	Plastic Limit = ± 0.2014
II	Liquid Limit = ± 0.1331	Plastic Limit = ± 0.2012
Note: The reported expanded uncertainty is based	on a combined uncertainty by a coverage f	actor of k=2, providing a level of confidence
of approximately 95%.		LAB.FILE NO.:AL-10-658
SAMPLE SUBMITTED BY :	REMARKS:	
R. POLIDAN		
COMPUTER PRINT-OUT By:MARIA ANTONIETTE P. CUNAHAP		
Encoder	TESTED BY :	ARTURO Q. AQUINO
Data Checked by:ABA / MRR Quality Assurance	_	LABORATORY TECHNICIAN
	CERTIFIED BY :	
Date Issued:	-	AUTHORIZED SIGNATORY

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119 Sauyo Road, Novaliches, Quezon City



Client.......MOHRI, ARCHITECT & ASSOCIATES, INC.Job NurProject.....Proposed Mayon Evacuation Center (Manito Central School)Date ofLocation....Brgy. Manito, Province of AlbayDate of

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

ASTM	D 4318 -	05
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Method : A 🗹 Wet Preparation 🗌 Dry Preparation

BOREHOLE NO	BH-1		DEPTH (m)5.20-5.65					SOIL	DESCRIP	TION			
SAMPLE NO	USCS CLAS	SS			Fat (CLAY							
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		70 -						
DETERMINATION	<u>TRIAL 1</u>	<u>TRIAL 2</u>	<u>TRIAL 3</u>	<u>TRIAL 1</u>	TRIAL 2		69 -		À				
DISH NUMBER	A100	A16	A5	B32	B55	t (%)	68 -						
WET SOIL + DISH (g)	32.42	35.34	38.29	22.67	22.71	Content	67 -		```	$\langle \rangle$			
DRY SOIL + DISH (g)	23.60	25.16	26.70	19.51	19.53	Con	66 -						
WATER (g)	8.82	10.18	11.59	3.16	3.18	ure	65 -			$ \times$			
DISH MASS (g)	9.60	9.75	9.90	9.53	9.55	Moisture	64 -						
DRY SOIL (g)	14.00	15.41	16.80	9.98	9.98	Σ	63 -						
MOISTURE CONTENT	63.00	66.06	68.99	31.66	31.86		62 -						
NUMBER OF BLOWS	31	22	15	3	32		1	0		No. (of Blows		100
% RETAINED ON 0.42	RETAINED ON 0.425mm								65	PL =	32	PI =	33

BOREHOLE NO			DEPTH (m	DEPTH (m) SOIL DESCRIPTION									
SAMPLE NO			USCS CLAS	SS									
MOISTURE CONTENT	L	IQUID LIM	IT	PLASTI	C LIMIT	2	2						
DETERMINATION	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2	0							
DISH NUMBER						Moisture Content (%)							
WET SOIL + DISH (g)						Itent							
DRY SOIL + DISH (g)						Con	-						
WATER (g)						iure							
DISH MASS (g)						loist							
DRY SOIL (g)						2							
MOISTURE CONTENT						(
NUMBER OF BLOWS							10	No. of Blows		100			
% RETAINED ON 0.42	5mm					LL	=	PL =	PI =				
Uncertainty Results:	I		Liq	uid Limit =	± 0.1415			Plastic Limit = ± 0.2008					
	П		Liq	uid Limit =				Plastic Limit =					
Note: The reported exp	banded unc	ertainty is	based on a	combined	uncertainty	by a cov	erage	factor of k=2, providing a leve	el of confide	ence			
of approximately 95%.									LAB.FILE N	NO.:AL-10-658			
SAMPLE SUBMITTED BY :							S:						
Walk-in Clients	GP GP	PI Field Ope	erator										

COMPUTER PRINT-OUT By: MARIA ANTONIETTE P. CUNAHAP		
Encoder	TESTED BY :	ARTURO Q. AQUINO
Data Checked by:ABA / MRR Quality Assurance	-	LABORATORY TECHNICIAN
	CERTIFIED BY :	
Date Issued:	_	AUTHORIZED SIGNATORY

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119 Sauyo Road, Novaliches, Quezon City



Client......MOHRI, ARCHITECT & ASSOCIATES, INC.JoProject.....Proposed Mayon Evacuation Center (Manito Central School)DaLocation....Brgy. Manito, Province of AlbayDa

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

Method : A 🗹 Wet Preparation 🗌 Dry Preparation

BOREHOLE NO	BH-2		DEPTH (m)	0.55-1.00		S	SOIL DESC	RIPTION		
SAMPLE NO	S-1		USCS CLAS	SS	СН		F	at CLAY			
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		68 —	\			
DETERMINATION	<u>TRIAL 1</u>	TRIAL 2	TRIAL 3	<u>TRIAL 1</u>	<u>TRIAL 2</u>		67 -				
DISH NUMBER	C28	C11	C37	B30	B76	t (%)	66 -				
WET SOIL + DISH (g)	33.06	35.41	38.22	22.70	22.72	Content	65 -				
DRY SOIL + DISH (g)	24.08	25.27	26.74	19.59	19.60	Con					
WATER (g)	8.98	10.14	11.48	3.11	3.12	ure	64 -		X		
DISH MASS (g)	9.60	9.67	9.75	9.57	9.58	Moisture	63 -				
DRY SOIL (g)	14.48	15.60	16.99	10.02	10.02	Š	62 -				
MOISTURE CONTENT	62.02	65.00	67.57	31.04	31.14		61 🗕				
NUMBER OF BLOWS	31	22	16	3	81		10		No. of Blows		100
% RETAINED ON 0.42	5mm				5.10		LL =	64	PL = 31	PI =	33

BOREHOLE NO	BH-2		DEPTH (m) 1.55-2.00				SC	DIL DES	CRIPTION		
SAMPLE NO	S-2		USCS CLAS	S	СН		Fa	at CLAY			
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		69 —				
DETERMINATION	<u>TRIAL 1</u>	<u>TRIAL 2</u>	TRIAL 3	<u>TRIAL 1</u>	<u>TRIAL 2</u>		68 -				
DISH NUMBER	D64	D1	D42	C23	C73	t (%)	67 -		\mathbf{X}		
WET SOIL + DISH (g)	32.57	35.28	38.16	22.68	22.71	Content	66 -				
DRY SOIL + DISH (g)	23.70	25.11	26.63	19.50	19.51	-	65 -				
WATER (g)	8.87	10.17	11.53	3.18	3.20	Moisture					
DISH MASS (g)	9.62	9.70	9.80	9.54	9.55	lois	64 -				
DRY SOIL (g)	14.08	15.41	16.83	9.96	9.96	2	63 -				
MOISTURE CONTENT	63.00	66.00	68.51	31.93	32.13		62 +				
NUMBER OF BLOWS	31	22	15	3	2		10		No. of Blows		100
% RETAINED ON 0.42	5mm				4.32		LL =	65	PL = 32	PI =	33

Uncertainty Results: I		Liquid Limit = ± 0.1369	Plastic Limit = ± 0.2005
11		Liquid Limit = ± 0.1407	Plastic Limit = ± 0.2014
Note: The reported expan	nded uncertainty is based	on a combined uncertainty by a cove	erage factor of k=2, providing a level of confidence
of approximately 95%.			LAB.FILE NO.:AL-10-659
SAMPLE SUBMITTED BY	:	REMARKS	S:
Walk-in Clients	GPI Field Operator		
R. POLIDAN			
COMPUTER PRINT-OUT			
By: MARIA ANTO	ONIETTE P. CUNAHAP		
	Encoder	TESTED BY	: ARTURO Q. AQUINO
Data Checked by:	ABA / MRR		LABORATORY TECHNICIAN
	Quality Assurance	—	
		CERTIFIED BY	· :
Date Issued:			AUTHORIZED SIGNATORY

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119 Sauyo Road, Novaliches, Quezon City



Client.......MOHRI, ARCHITECT & ASSOCIATES, INC.JotProject.....Proposed Mayon Evacuation Center (Manito Central School)DaLocation....Brgy. Manito, Province of AlbayDa

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

ASTM	D 4318 ·	- 05
7.51101	D 4010	00

Method : A 🗹 Wet Preparation 🗌 Dry Preparation

BOREHOLE NO	BH-2		DEPTH (m)2.55-3.00					SOIL DE	SCRIPTION			
SAMPLE NO	S-3		USCS CLAS	SCS CLASS MH				Elastic S	SILT			
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		65 -					
DETERMINATION	TRIAL 1	TRIAL 2	TRIAL 3	<u>TRIAL 1</u>	TRIAL 2	(64 -					
DISH NUMBER	C55	C91	C31	B49	B98	t (%)	63 -		\setminus			
WET SOIL + DISH (g)	32.49	35.26	38.20	22.67	22.73	tent	62 -					
DRY SOIL + DISH (g)	24.10	25.58	27.12	19.47	19.53	Con	61 -					
WATER (g)	8.39	9.68	11.08	3.20	3.20	ure	60 -					
DISH MASS (g)	9.63	9.71	9.82	9.52	9.54	Moisture	59 -					
DRY SOIL (g)	14.47	15.87	17.30	9.95	9.99	Σ	58 -			·		
MOISTURE CONTENT	57.98	61.00	64.05	32.16	32.03		57 -					
NUMBER OF BLOWS	31	21	14	3	2		1	0	No. of	Blows		100
% RETAINED ON 0.42	5mm				14.53		LL =	60	PL =	32	PI =	28

BOREHOLE NO	BH-2		DEPTH (m) 3.55-4.00				SC	DIL DES	CRIPTION			
SAMPLE NO	S-4		USCS CLAS	S	MH		El	astic SIL				
MOISTURE CONTENT				PLASTI			68 ⊤					
DETERMINATION	<u>TRIAL 1</u>	TRIAL 2	<u>TRIAL 3</u>	<u>TRIAL 1</u>	<u>TRIAL 2</u>		67 -	·	X			
DISH NUMBER	D60	D31	D3	C40	C87	t (%	66 -		\backslash			
WET SOIL + DISH (g)	32.50	35.39	38.41	22.68	22.72	Content	65 -		X			
DRY SOIL + DISH (g)	23.83	25.38	26.98	19.52	19.54		64 -					
WATER (g)	8.67	10.01	11.43	3.16	3.18	ture	63 -		X			
DISH MASS (g)	9.63	9.74	9.92	9.56	9.58	Moisture	62 -					
DRY SOIL (g)	14.20	15.64	17.06	9.96	9.96	2	61 -			R		
MOISTURE CONTENT	61.06	64.00	67.00	31.73	31.93		60 +		1			
NUMBER OF BLOWS	31	22	16	3	2		10		No. c	of Blows		100
% RETAINED ON 0.42	5mm				11.73		LL =	63	PL =	32	PI =	31

Liquid Limit = ± 0.1370	Plastic Limit = ± 0.2017
Liquid Limit = ± 0.1395	Plastic Limit = ± 0.2012
sed on a combined uncertainty by a coverage	e factor of k=2, providing a level of confidence
	LAB.FILE NO.:AL-10-660
REMARKS:	
TESTED BY :	ARTURO Q. AQUINO
	LABORATORY TECHNICIAN
CERTIFIED BY :	
	AUTHORIZED SIGNATORY
	Liquid Limit = ± 0.1395 sed on a combined uncertainty by a coverage REMARKS:

Final Report Form - 2





119 Sauyo Road, Novaliches, Quezon City



Client......MOHRI, ARCHITECT & ASSOCIATES, INC.JobProject.....Proposed Mayon Evacuation Center (Manito Central School)DateLocation....Brgy. Manito, Province of AlbayDate

TEST REPORT FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS

ASTM D 4318 - 05

Method : A 🗹 Wet Preparation 🗌 Dry Preparation

BOREHOLE NO	BH-2		DEPTH (m))	4.55-5.00		0	SOIL DESC			
SAMPLE NO	S-5		USCS CLAS	SS	MH		E	Elastic SILT	-		
MOISTURE CONTENT	L	IQUID LIMI	IT	PLASTI	C LIMIT		61 —				
DETERMINATION	<u>TRIAL 1</u>	<u>TRIAL 2</u>	<u>TRIAL 3</u>	<u>TRIAL 1</u>	TRIAL 2	\sim	60 -	6			
DISH NUMBER	C68	C52	C77	D18	D30	t (%)	59 -	7			
WET SOIL + DISH (g)	33.10	35.22	38.44	22.67	22.70	Content	58 -		\mathbf{N}		
DRY SOIL + DISH (g)	24.81	25.95	27.70	19.49	19.49	Con					
WATER (g)	8.29	9.27	10.74	3.18	3.21	ure	57 -				
DISH MASS (g)	9.60	9.68	9.80	9.58	9.57	Moisture	56 -				
DRY SOIL (g)	15.21	16.27	17.90	9.91	9.92	Š	55 -				
MOISTURE CONTENT	54.50	56.98	60.00	32.09	32.36		54 -				
NUMBER OF BLOWS	32	22	15	3	2		10)	No. of Blows		100
% RETAINED ON 0.42	5mm				24.52		LL =	56	PL = 32	PI =	24

BOREHOLE NO	BH-2		DEPTH (m)	5.55-6.00		S	DIL DE	SCRIPTION
SAMPLE NO	S-6		USCS CLAS	CLASS MH			EI	astic S	ILT
MOISTURE CONTENT DETERMINATION	L TRIAL 1	IQUID LIMI TRIAL 2	T TRIAL 3	PLASTI TRIAL 1	C LIMIT TRIAL 2	6	1 T		
DISH NUMBER	C68	C52	C77	D18	D30	% 5	0 - 9 -		
WET SOIL + DISH (g)	33.10	35.22	38.44	22.67	22.70	L U	8 -		
DRY SOIL + DISH (g)	24.81	25.95	27.70	19.49	19.49	- 6	7 -		
WATER (g)	8.29	9.27	10.74	3.18	3.21	ture			
DISH MASS (g)	9.60	9.68	9.80	9.58	9.57	10	6 -		
DRY SOIL (g)	15.21	16.27	17.90	9.91	9.92	≥ 5	5 -		
MOISTURE CONTENT	54.50	56.98	60.00	32.09	32.36	5			
NUMBER OF BLOWS	32	22	15	3	2		10		No. of Blows 100
% RETAINED ON 0.42	5mm				20.81	LL	=	56	PL = 32 PI = 24

Liquid Limit = ± 0.1310 Uncertainty Results: Т Plastic Limit = ± 0.2025 П Liquid Limit = ± 0.1310 Plastic Limit = ± 0.2025 Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage factor of k=2, providing a level of confidence LAB.FILE NO.:AL-10-660 of approximately 95%. SAMPLE SUBMITTED BY : REMARKS: GPI Field Operator Walk-in Clients R. POLIDAN COMPUTER PRINT-OUT By: MARIA ANTONIETTE P. CUNAHAP Encoder TESTED BY : _____ ARTURO Q. AQUINO LABORATORY TECHNICIAN Data Checked by: ABA / MRR Quality Assurance CERTIFIED BY : Date Issued: AUTHORIZED SIGNATORY

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SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number
Project Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt October 27, 2010
Location Brgy. Manito, Province of Albay	Date of Test October 28, 2010

TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007) BH / SAMPLE NO..... <u>BH-1</u> <u>01</u> <u>□</u> <u>2</u> <u>Δ</u> <u>3</u> 1.55-2.00 0.55-1.00 2.55-3.00 DEPTH (m)..... SOIL DESCRIPTION...... Elastic SILT Elastic SILT Clayey silty SAND SIEVE SIZE Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent inches Retained (g) Retained Finer Retained (g) Retained Finer Retained (g) Retained Finer mm 2 1/2 62.5 2 50.0 1 1/2 37.5 25.0 1 100 100 11.60 3/4 19.0 14.65 85 18.39 3/8 95 2 76 4.04 22.23 77 96 4 75 5.48 8.02 92 22.66 28.63 71 4 0.25 100 8.96 13.11 31.34 39.59 60 10 2.0 0.15 87 0.92 1.53 98 11.00 16.10 37.86 47.83 20 0.8 84 52 96 19.07 0.425 2.44 4.07 13.03 81 42.80 54.07 40 46 6.71 93 0.25 4.02 21.45 79 46.30 58.49 42 60 14.66 140 0.105 11.09 89 16.90 24.73 75 50.30 63.54 6.65 36 200 0.075 7.34 12.25 88 17.46 25.55 74 51.16 35 64.63 OVEN DRIED MASS 59.94 gms 68.34 gms 79.16 gms 1 1/2 #140 #200 2 1/2" #10 2" ÷ 3/4 3/8 #20 #40 # #60 HYDROMETER 100 Д ÌΓ. 90 80 ŝ 70 ÷. ł Percent Passing 60 50 40 ÷. 30 ÷. ł 20 ŝ. 10 0 COARSE COARSE MEDIUM FINE 0.01 FINES (SILT OR CLAY) 100 10 Particle Size (mm) 0.1 0.001 COBBLES SAND GRAVEL - with Hydrometer **REMARKS** : SAMPLE SUBMITTED BY: □ Walk-in Clients GPI Field Operator R. POLIDAN TESTED BY : ARTURO Q. AQUINO COMPUTER PRINT-OUT By:_____MARIA ANTONIETTE P. CUNAHAP LABORATORY TECHNICIAN Encoder CERTIFIED BY : Data Checked by: ABA/MRR AUTHORIZED SIGNATORY **Quality Assurance** Uncertainty Results: % Finer = ± 0.0413 LAB.FILE NO.:GSA-10-409 Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage Date Issued: factor of k=2, providing a level of confidence of approximately 95%.





SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number
Project Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt October 27, 2010
Location Brgy. Manito, Province of Albay	Date of Test October 28, 2010

TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007) BH / SAMPLE NO..... <u>□</u> <u>5</u> <u>BH-1</u> <u>0</u> <u>Δ</u> 6 5.20-5.65 3.20-3.65 4.20-4.65 DEPTH (m)..... SOIL DESCRIPTION Clayey SAND Elastic SILT Fat CLAY SIEVE SIZE Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent <u>mm</u> Retained (g) Retained Finer Retained (g) Retained Finer Retained (g) Retained Finer inches 2 1/2 62.5 2 50.0 1 1/2 37.5 25.0 1 19.0 100 3/4 3/8 95 13.34 100 10.60 87 4.75 16.23 20.43 4.07 95 80 5.14 100 4 22.19 27.93 11.56 14.59 85 10 2.0 72 0.30 0.41 100 28.78 15.88 20.04 0.80 20 0.8 36.22 80 1.10 99 64 0.425 33.18 41 76 58 19.39 24.47 1.71 2.36 98 40 76 60 0.25 37.16 46.77 53 22.31 28.16 72 3.27 4.51 95 140 0.105 41.90 52.73 5.23 7 21 93 47 26.48 33.42 67 200 0.075 43.23 54.40 27.55 34.77 91 46 65 6.40 8.83 OVEN DRIED MASS 79.23 gms 72.50 gms 79.46 gms 1 1/2 #140 #200 #10 #40 3/4 #20 2 ÷ 3/8 # 09# 2 HYDROMETER 100 ŝ ∽ 90 80 ŝ 70 ÷. ļ Percent Passing 60 i i 50 40 ŝ 30 į. i. 20 į 10 0 COARSE COARSE MEDIUM FINE 0.01 FINES (SILT OR CLAY) 100 10 Particle Size (mm) 0.1 0.001 COBBLES SAND GRAVEL - with Hydrometer **REMARKS** : SAMPLE SUBMITTED BY: □ Walk-in Clients GPI Field Operator R. POLIDAN **TESTED BY** : ARTURO Q. AQUINO COMPUTER PRINT-OUT By: MARIA ANTONIETTE P. CUNAHAP LABORATORY TECHNICIAN Encoder CERTIFIED BY : ABA/MRR Data Checked by: AUTHORIZED SIGNATORY **Quality Assurance** Uncertainty Results: % Finer = ± 0.0352 LAB.FILE NO .: GSA-10-409 Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage Date Issued: factor of k=2, providing a level of confidence of approximately 95%.





119 Sauyo Road, Novaliches, Quezon City



Project..... Proposed Mayon Evacuation Center (Manito Central School) Location...... Brgy. Manito, Province of Albay Date of Test..... October 28, 2010

Job Number	2209-10.R1-GSA-01-3
Date of Receipt	October 27, 2010
Data of Tost	October 28, 2010

TEST REPORT FOR GRAIN SIZE ANALYSIS ASTM D 422 - 63 (Re-approved 2007)

BH / SAMPLE NO..... <u>BH-1</u> <u>0</u>7 Δ 6.20-6.35 DEPTH (m)..... SOIL DESCRIPTION...... Poorly graded SAND SIEVE SIZE Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent inches Retained (g) Retained Finer Retained (g) Retained Finer Retained (g) Retained Finer mm 2 1/2 62.5 2 50.0 1 1/2 37.5 25.0 1 100 3/4 19.0 3/8 35.06 95 13 15 65 4.75 41.24 15.47 59 4 20.25 53.99 10 2.0 46 24.78 20 0.8 66.06 34 0.425 30.62 81.63 40 18 0.25 34.56 92 14 60 8 140 0.105 96.51 36.20 3 200 0.075 97.63 36.62 2 OVEN DRIED MASS 37.51 gms 1 1/2 #140 2 1/2" #10 #200 3/4 3/8 #20 #40 09# ۳<u>،</u> Ę # HYDROMETER 100 ÷. 90 80 70 ŝ j Percent Passing 60 50 40 ÷. 30 i. į. 20 i, 10 0 COARSE COARSE MEDIUM FINE 0.01 100 10 Particle Size (mm) 0.1 0.001 COBBLES SAND FINES (SILT OR CLAY) GRAVEL - with Hydrometer S-7: Cu = 21.53 Cc = 0.26**REMARKS** : SAMPLE SUBMITTED BY: □ Walk-in Clients GPI Field Operator R. POLIDAN TESTED BY : ARTURO Q. AQUINO COMPUTER PRINT-OUT By:_____MARIA ANTONIETTE P. CUNAHAP LABORATORY TECHNICIAN Encoder CERTIFIED BY : Data Checked by: ABA/MRR AUTHORIZED SIGNATORY **Quality Assurance** Uncertainty Results: % Finer = ± 0.0916 LAB.FILE NO.:GSA-10-409 Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage Date Issued: factor of k=2, providing a level of confidence of approximately 95%.





SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



Client...... MOHRI, ARCHITECT & ASSOCIATES, INC. Project..... Proposed Mayon Evacuation Center (Manito Central School) Date of Receipt..... October 27, 2010 Location...... Brgy. Manito, Province of Albay Date of Test..... October 30, 2010

TEST REPORT FOR GRAIN SIZE ANALYSIS ASTM D 422 - 63 (Re-approved 2007) BH / SAMPLE NO..... <u>BH-2</u> <u>01</u> <u>□</u> <u>2</u> <u>Δ</u> <u>3</u> 0.55-1.00 1.55-2.00 2.55-3.00 DEPTH (m)..... SOIL DESCRIPTION Fat CLAY Fat CLAY Elastic SILT SIEVE SIZE Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Retained (g) Retained Finer Retained (g) Retained Finer Retained (g) Retained Finer inches mm 2 1/2 62.5 2 50.0 1 1/2 37.5 25.0 1 3/4 19.0 3/8 95 100 4.75 0.80 100 1.27 99 Δ 100 2.72 96 10 2.0 0.34 0.60 99 0.28 0.49 4.30 2.55 2.39 98 20 0.8 1.45 97 1.36 5.94 9.40 91 9.18 0.425 2 90 5.10 95 4.32 96 14.53 40 2.46 85 0.25 93 3 21 94 18.25 60 3.85 6.77 5.63 11.53 82 140 0.105 91 7.54 92 78 5.319.33 4.30 14.20 22.47 200 0.075 90 4.85 8.51 91 14.87 5.82 10.23 23.53 76 OVEN DRIED MASS 56.90 gms 57.01 gms 63.19 gms 1 1/2 #140 #200 #10 #40 3/8 #20 2 3/4 # ¢60 HYDROMETER 100 į. 90 80 ŝ i. 70 ÷. ļ Percent Passing 60 ÷. 50 40 ŝ 30 ł į. 20 10 0 FINE COARSE COARSE MEDIUM 0.01 FINES (SILT OR CLAY) Particle Size (mm) 100 10 0.1 0.001 COBBLES SAND GRAVEL - with Hydrometer **REMARKS** : SAMPLE SUBMITTED BY: □ Walk-in Clients GPI Field Operator R. POLIDAN **TESTED BY** : ARTURO Q. AQUINO COMPUTER PRINT-OUT By: MARIA ANTONIETTE P. CUNAHAP LABORATORY TECHNICIAN Encoder CERTIFIED BY : ABA/MRR Data Checked by: AUTHORIZED SIGNATORY **Quality Assurance** Uncertainty Results: % Finer = ± 0.0434 LAB.FILE NO .: GSA-10-410 Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage Date Issued: factor of k=2, providing a level of confidence of approximately 95%.





SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007) BH / SAMPLE NO..... <u>□</u> <u>5</u> <u>BH-2</u> <u>0</u> <u>4</u> 5.55-6.00 3.55-4.00 4.55-5.00 DEPTH (m)..... SOIL DESCRIPTION Elastic SILT Elastic SILT Elastic SILT SIEVE SIZE Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent inches Retained (g) Retained Finer Retained (g) Retained Finer Retained (g) Retained Finer mm 2 1/2 62.5 2 50.0 1 1/2 37.5 25.0 1 3/4 19.0 100 3/8 100 1.71 2 5 2 95 100 97 7.22 2 7 9 3.89 4.75 0.36 0.64 99 96 4.89 93 4 1.34 98 12.62 10 2.0 2.37 9.06 87 8.46 12.49 88 19.38 20 0.8 3.64 6.43 94 13.91 81 11.26 16.62 83 0.425 88 24.52 75 20.81 79 40 6.64 11.73 17.60 14.10 60 8 54 85 28.14 72 16 17 0.25 15.09 20.20 23.87 76 140 10.70 18.90 32.22 68 18 14 26.78 0.105 81 23.13 73 11.25 80 33.16 67 18 94 27.96 200 0.075 19.87 23.80 72 OVEN DRIED MASS 71.78 gms 67.74 gms 56.61 gms 1 1/2 #140 #200 #10 2 #20 #40 3/4 3/8 4 #60 HYDROMETER 100 90 80 70 ÷. Percent Passing 60 ÷. 50 40 30 ŝ ł 20 10 0 COARSE COARSE MEDIUM FINE 0.01 FINES (SILT OR CLAY) 100 10 Particle Size (mm) 0.1 0.001 COBBLES GRAVEL SAND - with Hydrometer **REMARKS** : SAMPLE SUBMITTED BY: □ Walk-in Clients GPI Field Operator R. POLIDAN **TESTED BY** : ARTURO Q. AQUINO COMPUTER PRINT-OUT By: MARIA ANTONIETTE P. CUNAHAP LABORATORY TECHNICIAN Encoder CERTIFIED BY : Data Checked by: ABA/MRR AUTHORIZED SIGNATORY **Quality Assurance** Uncertainty Results: % Finer = ± 0.0443 LAB.FILE NO.:GSA-10-410 Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage Date Issued: factor of k=2, providing a level of confidence of approximately 95%.





SOILS AND MATERIALS TESTING LABORATORY 119 Sauyo Road, Novaliches, Quezon City



TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007)

	LE NO	BH-2 O Z C C C C C C C C C C C C C C C C C C							Δ					
. ,	RIPTION		Elastic SILT											
SIEVE	E SIZE	Cumm.Mass	Cumm.%	Percent		Cumm.Mass		Cumm.%			mm.Mass		Cumm.%	Percent
inches	<u>mm</u>	Retained (g) Retained		d <u>Finer</u>	<u>Retai</u>	<u>ned (g)</u>	Re	tained	<u>Finer</u>	Ret	tained (g)		<u>Retained</u>	Finer
2 1/2	62.5													
2	50.0													
1 1/2	37.5													
1	25.0													
3/4	19.0													
3/8	9.5			100										
4	4.75	1.70	2.70	97										
10	2.0	5.07	8.04	92										
20	0.8	9.90	15.70	84										
40	0.425	14.18	22.49	78										
60	0.25	16.95	26.89	73										
140	0.105	22.70	36.01	64										
200	0.075	24.55	38.94	61										
OVEN DR	RIED MASS	6	63.04 gms											
100 +	3" 2 1/2" 2" 1 1/2	3/4	#	#10	#20	#40	#60	#140		HYDROMETER				
100 -						-								
90 +		1 I I			1		1	1 1				++		
80 +						0								
70 +							<u>v</u>	1 1						
Percent Passing		1 1 1	i		1		1					+		
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20 +												++		
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10	0	10				article Si		n) 0.1			0.01			0.001
COBBLES		SAND						FINES (SILT OR CLAY)						
- with I	Hydrometer						R	EMARKS :						
AMPLE SUI	BMITTED BY:													
Walk-in	Clients 🔽	GPI Field Operation	ator					-						
. POLIDAN	I							-						
							TEST	D BY :			ARTURO	0.	AOUINO	
COMPUTER PRINT-OUT By: MARIA ANTONIETTE P. CUNAHAP									LABORATORY TECHNICIAN					
Ву:		Encoder									20101101		LOUNION	•
		LICUUEI												
Data Chec	Data Checked by:ABA/MRR Quality Assurance			CERTIFIED BY :										
										AU	ITHORIZE		IGNATORY	
				Uncertaint	y Resul	lts:	9	6 Finer =	± 0.0418		LAB.FILE NO.:GSA-10-41			
Date Issue	ed:			Note: The	report	ed expa	nded u	incertainty	is based	ona	combined	un	certainty b	y a coverag
				factor of k									2	0