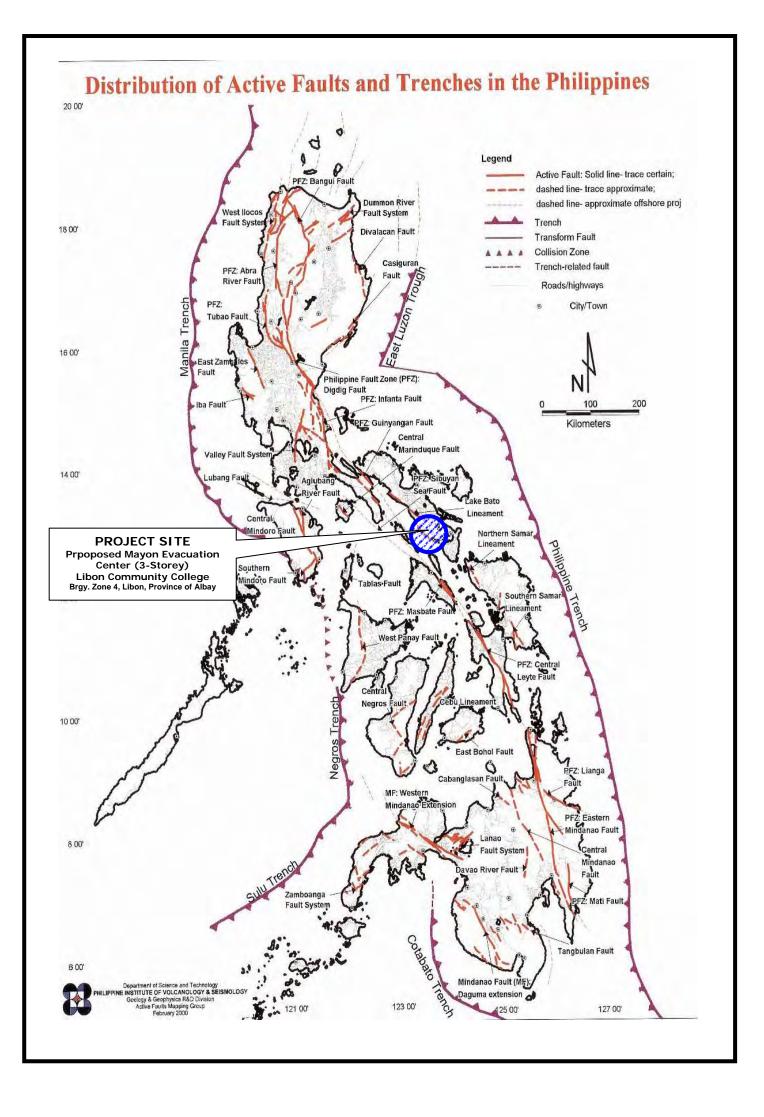
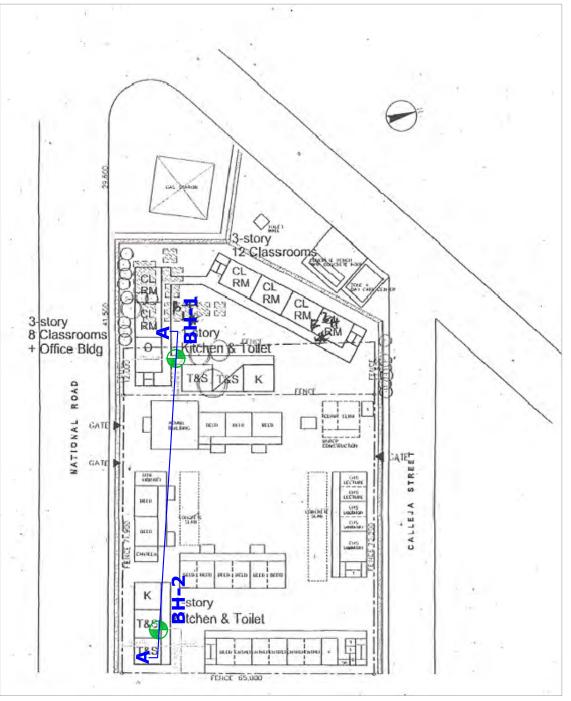
APPENDICES







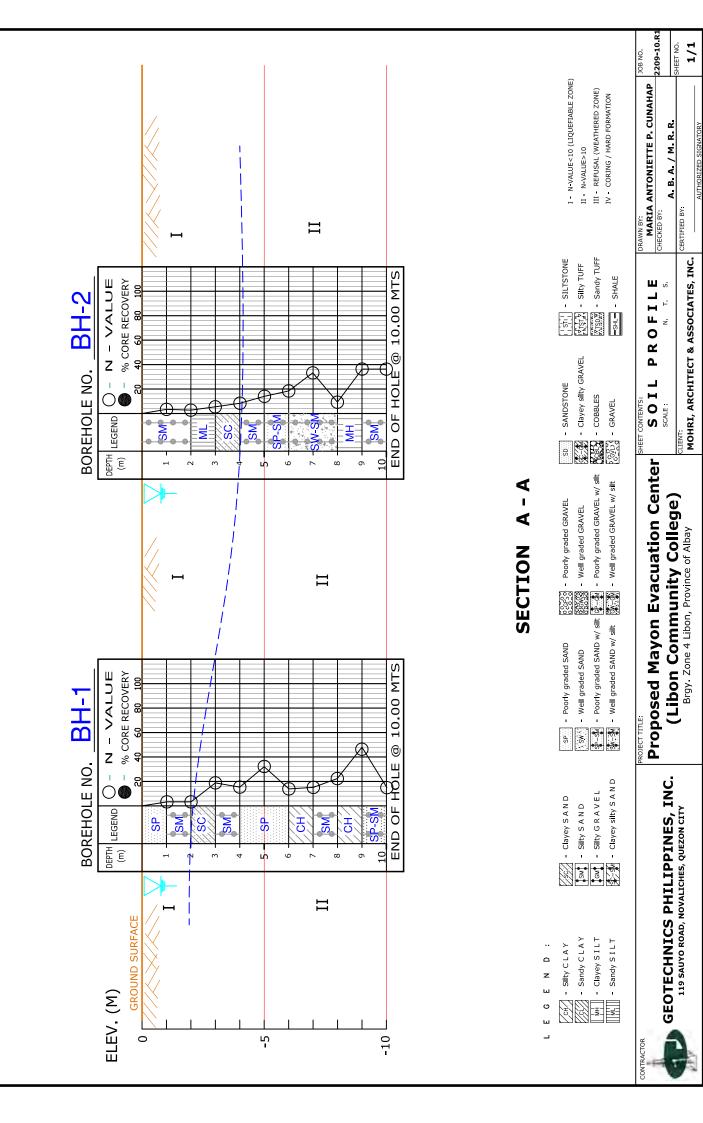


GEOTECHNICS PHILIPPINES, INC. 119 SAUYO ROAD, NOVALICHES, QUEZON CITY

Proposed Mayon Evacuation Center

SCALE NTS (Libon Community College)
Brgy. Zone 4 Libon, Province of Albay

2209-10 R1 SHEET NO. JOB NO. 1/1 MOHRI, ARCHITECT & ASSOCIATES, INC. LOCATION PLAN/VICINITY MAP





Description of Strata is according to Unified Soil Classification System

GEOTECHNICS PHILIPPINES, INCORPORATED SOILS AND MATERIALS TESTING LABORATORY 119 SAUVO ROAD, NOVALICHES, QUEZON CITY



						7	n y	2					119 SAUYO R TEL. NO. 93	OAD,	NO	VAL	.IC	HES	, Qu	JEZ	ON CITY			DPWH-BR	RS Accredited
CLIEN	Т	MOHR	I, ARC	HITECT	& ASS	OCI	ATE	ES,	IN	C.													BOREHOLE NO.	BH- 1	
PROJE	СТ	Propos	sed Ma	yon Eva	cuatio	n Ce	ente	er (Lib	on	Со	mm	unity Colleg	e)									JOB NO. 22	09-10.R1-FBL-(01
LOCAT	ION	Brgy.	Zone 4	4 Libon,	Provir	ice o	fΑ	lba	у					DRIL	LED	l			R.	. Р	OLIDAN		SHEET	1 of 1	
RIG		KSK S	MALL											LOGO	SED				R.	. P	OLIDAN		0.0	0 to 10.00 meters	
		Hamme	r Weight	63.50 Kg.										DATE	ST	ART	ED		0	ct.	16, 201	LO	GROUND LEVEL	- m.	
		Fall Heig	ght 76.2	0 cm.										DATE	CC	MPL	LET	ED	0	ct.	16, 201	LO	WATER LEVEL	0.75 m.	
METHO	DD	WASH	BORI	NG										NORT	THI	NG			-				EASTING	-	
												FI	NAL BOR	RIN	G	L	00	G					•		
DEP	ТН	SOIL	SAMPLE	TYPE OF	REC	RQD	PL	L ſ	VMC	L	L	PI	CONSISTENCY	0	- 1	v - v	/ A	LU	E				SOIL DESCRIPTION		OTHER
(m)	SYMBOL	NUMBER	SAMPLING	G (cm)	(%)	20		-O-	80 10	- 1	L1	CONSISTENCI	•	0			Rec		· 1			OIL DESCRIPTION		TEST DATA
- 7 -	-		S-1	SPT	45	-						NP	VERY LOOSE	. 4								dark g	raded SAND with gray; dry	traces of	
-	1.00 -	• • • •	S-2	SPT	45	_						NP		4							(SM) Si dark gr NB: (3)	ay, m		ım grained;	
-	2.00 -		S-3	SPT	45	-						8	MEDIUM DENS	SE 18	3						(SC) Cl gray; v NB: (6)	ery mo		of gravel; dark	
-	3.00 - - - 4.00 -		S-4	SPT	42	-						NP		1!	5							of grav	ND fine to coarse el; dark gray; m		
-	4.00 = - - - 5.00 =		S-5	SPT	39	-						NP	DENSE	32	2							dark g	raded SAND with gray; moist 17)	fine to coarse	
-	- - - 6.00 -		S-6	SPT	45	-						NP	MEDIUM DENS	SE 14	1						with NB: (8)	_	ravel		
-	- - - 7.00 -		S-7	SPT	45	-						37	STIFF	15	5						(CH) Fa moist NB: (3)		with few sand;	dark gray; very	
-	- - -	• • • •	S-8	SPT	37	-			<i>/</i>			NP	MEDIUM DENS	SE 23							. ,	of grav	ND fine to coarse el; dark gray; ve)	_	
-	8.00 - - - 9.00 -		S-9	SPT	45	-						38	HARD	46	5		\setminus				(CH) Fa moist NB: (16		with few sand;	dark gray; very	
-	-		S-10	SPT	45	_			/T:			NP	MEDIUM DENS	SE 1!	5		1				gray; m NB: (12	noist !)(6)(9	y graded SAND v) ORING AT 10.0	·	
Туре	of Sar	npling			Type of S	Soil		9—			"		!	ONS	_	LEV	۸C.	Ϋ́		ш			MOISTURE	PERCENTA	.GE
	PEI TE	ANDARD NETRATION ST (SPT) DISTURBED		Silty CLAY Clayey SILT Clayey SAND			Silty Well of with s	grade silt		AVEL		<u>N-V</u>	COHESIVE SOII ALUE CONSIS - 2 - VERY S - 4 - SOFT	LS TENC	<u>c</u>	<u>N-V</u>	EN /AL	ISIC UE	<u>CC</u> - VE	ONS ERY	S SOILS SISTENCY LOOSE	MOIS RANG	ES VALUES O - DRY	% of SAND and 0	GRAVE LUES CES
	(UI	MPLING DS) RING RG)		Silty SAND Clayey silty S		V V V	SILTS TUFF Tuffe			rstor	NE	15	- 8 - FIRM - 15 - STIFF - 30 - VERY S 30 - HARD	TIFF		10 30	- 3 - 5	30 - 50 -	- MI - DI	EDI ENS	IUM DENSE	30 - 7	70 - VERY MOIST 00 - WET	11 - 25 — LITTI 26 - 35 — SOM 36 - 45 — WITH	LE E
REMAR	RKS:	Rec =	Recov	ery in C	entim	eters	s	N	IB :	= N	<u></u> Ю.	of F	Blows HW	= H	an	nme	er	We	eiał	ht			Prepared by : M	P. CUNAHAP	
	Refe			pacing									cm. >#3>3c					<10	_			1	GL 1 11	B.A. / M.R.R.	
					30 cm			10	cm				:m. >#4>1c										Certified by :	/	
		RQD =	Rock	Quality							S		Core Recove											JTHORIZED SIGNATO	ORY.
				/	9					_													Date Issued :	JINORIZED SIGNATO	JI(1

Date Issued :



GEOTECHNICS PHILIPPINES, INCORPORATED SOILS AND MATERIALS TESTING LABORATORY



AUTHORIZED SIGNATORY

Date Issued :

.IEN	NT	MOH	DT AD	LITECT	. O. V.C.C	COCI	AT	-	TNI	_												BOREHOLE NO.	BH- 2	
	ECT			HITECT									·····it·· Callan									100 NO		0.2
	TION			-					_	юп		mmc	unity College	ORILLE	D			_			1	SHEET	09-10.R1-FBL-(02
G				4 Libon,	Provii	ice c)I P	IDa	У					OGGE	D					POLIDAN			1 of 1	
			SMALL or Wolgh	t 63.50 Kg										DATE S	STAF	RTE				POLIDAN		GROUND LEVEL	to 10.00 meters	
			ight 76.2		, .									DATE (_		16, 20 16, 20		WATER LEVEL	- m.	
ΞТН	IOD		H BORI											NORTH					JCL	. 16, 20	10	EASTING	1.57 m.	
		WASI	II DOM	110											_	_	_							
												FI	NAL BOR	ING	3 L	_0	G							
	PTH n)	SOIL	SAMPLE	TYPE OF		(%)		L —	-0-	_	.	PI	CONSISTENCY	0 -	%		e Re	eco			Ş	SOIL DESCRIPTION		OTI TE DA
Ť	'''/ -	1	LINOPIBLE	SAMPLIN	(CIII)	(/0)	T	ĬΪ	Ϋ́	ΪÌ	ĬĦ				ĬΤ	أآآأ	TŤ	Ť	Ť	(SM) S	ilty CA	ND fine to mediu	m grained:	
-	-		S-1	SPT	45							NP	VERY LOOSE							dark gi NB: (2	ray, m	oist	m grameu,	
t	1.00 -	▋▋▐	3-1	SPI	45	1	#	\vdash	H	\dagger	Ш	NP	VERT LOOSE	3		Н	+	H	+					
-	-		S-2	SPT	45							NP		2						fine NB: (2		rse grained with	traces of gravel	
F	2.00 -		32	311	73		Ħ	\bigvee		Ħ	Ш	141					\parallel					ILT; dark gray; v	ery moist	
Ė	-	<u>-</u>						\setminus												NB: (5))(3)(3)			
ŀ	3.00 -		S-3	SPT	45	-	+	⊣₩	Н	+	Н	16	FIRM	6	₩	Н	+	$^{+}$	+	(56) 6	laviavi C	CAND with two co.	of augusts doubt	1
ļ			1								Ш				Ш					gray, v		SAND with traces pist	oi gravei; dark	
Ė	- 4.00 -		S-4	SPT	45	_					Ш	11	LOOSE	8						NB: (10	0)(5)(3	3)		
ŀ								Ī							$\ $							ND fine to coarse vel; dark gray; ve		
ŀ	-	▋▋₿																		NB: (9)			iry moisc	
F	5.00 -	9 9	S-5	SPT	45	-	+	ϕ	Н	+	Н	NP	MEDIUM DENS	13	┢	Н	+	+	+					
	-							/													of grav	ly graded SAND v vel; dark gray; m 9)		
ŀ	6.00 -		S-6	SPT	45	-	+	\mathbb{H}		$^{\rm H}$	Н	NP		18	+4	₩	$^{\parallel}$	H	+					
-																$\ $				(SW-SN dark gr NB: (13	ay; mo		ith few gravel;	
Ė	7.00 -		S-7	SPT	45	-	#	\parallel		$^{+}$	Ш	NP	DENSE	32	\parallel	þ	#	\parallel	\bot		, ,	•		
F			:												Ш	И				with NB: (6)		of gravel		
F			S-8	SPT	45	-						NP	LOOSE	9	\int					ND. (0)	(3)(4)			
F	8.00 -	1111						M			Ш				M							SILT with some sa	and; dark gray;	
ţ	-	1						N							Ш'	M				very m NB: (1		(19)		
ŀ	-		S-9	SPT	45	-			Ш			26	HARD	36		IД					, ,	` ,		
-	9.00 - -								P											traces	of grav	ND fine to coarse		
F	10.00	∤ ‡‡	S-10	SPT	45	_		$\ $				NP	DENSE	36						NB: (14 ENI		.20) BORING AT 10.0	0 METERS\	
pe	of Sar	npling			Type of S	Soil		ΦТ	ш		"		!	NSI	STE	- (CY			. /		MOISTURE	PERCENTA	GE
_		ANDARD		Silty CLAY		*	Silty	GRA	/EL		Ì	<u>c</u>	OHESIVE SOIL	<u>S</u>	CO	HE	NSI	101	ILES	SS SOILS	MOIS	STURE CONTENT	% of SAND and G	GRA
	PE	NETRATION ST (SPT)	'│ ∭	Clayey SILT	-		Well	grade silt	d GR	AVEL		N-V	ALUE CONSIST					_		SISTENCY	RANG			LUE
	ñи	IDISTURBE	, 🏻	Clayey SANI	D	0000	GRA					0 2	- 2 - VERY SO - 4 - SOFT)FT		4 -	10	-	LOOS		10 - 3		0 - 5 — TRAC 6 - 10 — FEW	
	SA	MPLING DS)	9 9	SIIty SAND	Ī		SILT	STON	E			4 g	- 8 - FIRM - 15 - STIFF						MED:	IUM DENSE SE	l	70 – VERY MOIST .00 – WET	11 - 25 — LITTI 26 - 35 — SOM	
		RING RG)		Clayey silty	, ,	↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑ ↑	TUF	=				15	- 30 - VERY ST	IFF	3					Y DENSE	> 10		36 - 45 — WITH	
		,		SAND	į.	7. V. V. V. V. V	Tuff	eceou	s SIL	rsto	NE	>	30 — HARD											
МΑ	RKS:	Rec =	= Recov	ery in C	Centim	eter	s	ľ	ΙB	= [ا	of E	Blows HW	= Ha	mr	nei	r W	/ei	ght		<u> </u>	Prepared by : M.	P. CUNAHAP	
_				pacing:									m. >#3>3cr			#5						Checked by : A		

SCR = Solid Core Recovery

RQD = Rock Quality Designation

Description of Strata is according to Unified Soil Classification System



CLIENT....... MOHRI, ARCHITECT & ASSOCIATES, INC.

PROJECT..... Proposed Mayor Evacuation Center (Libon Community College)

LOCATION... Brgy. Zone 4 Libon, Province of Albay

DATE OF TEST...... October 21-28, 2010

SUMMARY OF LABORATORY TESTS

SAMPLE	DEPTH	NMC	ATTE	RBERG (%)	LIMIT,	USCS		SI	EVE AN	ALYSIS	(% FIN	IER) PAS	SSING S	SIEVE N	10.		Remarks
NUMBER	(m)	(%)	LL	PL	PI	Class.	1	³ / ₄	3/8	4	10	20	40	60	140	200	
BH-1																	
1	0.55 - 1.00	9	-	NP	-	SP			100	95	83	63	33	12	5	3	_
2	1.55 - 2.00	29	-	NP	-	SM				100	97	90	74	56	21	14	-
3	2.55 - 3.00	36	40	32	8	SC		100	98	97	94	85	75	65	47	45	_
4	3.55 - 4.00	30	-	NP	-	SM			100	96	91	81	57	34	18	16	-
5	4.55 - 5.00	17	-	NP	-	SP	100	83	70	60	52	40	25	11	3	2	_
6	5.55 - 6.00	21	-	NP	-	SP		100	75	58	46	34	21	12	5	4	-
7	6.55 - 7.00	59	69	32	37	СН					100	99	98	96	91	90	-
8	7.55 - 8.00	35	-	NP	-	SM			100	99	98	96	87	73	30	24	_
9	8.55 - 9.00	60	70	32	38	СН						100	99	97	94	92	-
10	9.55 - 10.00	23	-	NP	-	SP-SM	***************************************			100	99	94	54	20	6	5	_
BH-2																	
1	0.55 - 1.00	23	-	NP	-	SM				100	98	95	85	65	30	25	-
2	1.55 - 2.00	23	-	NP	-	SM			100	98	94	84	68	47	27	23	
3	2.55 - 3.00	40	48	32	16	ML				100	98	93	83	73	62	58	_
4	3.55 - 4.00	39	44	33	11	SC			100	99	98	93	83	70	50	47	-
5	4.55 - 5.00	30	-	NP	-	SM		100	99	98	97	93	84	61	29	24	-
6	5.55 - 6.00	19	-	NP	-	SP-SM			100	99	97	81	42	22	9	7	-
7	6.55 - 7.00	20	-	NP	-	SW-SM			100	93	82	58	31	18	8	7	_
8	7.55 - 8.00	20	-	NP	-	SW-SM		100	99	95	89	73	45	25	11	8	
9	8.55 - 9.00	50	58	32	26	MH				100	99	97	94	89	73	67	_
10	9.55 - 10.00	28	-	NP	-	SM			100	99	99	98	90	66	28	22	-
				***************************************			***************************************						***************************************	***************************************			

				ļ				 					
SAMPLE SUE	MITTED BY :			<u> </u>	1							<u> </u>	
☐ Walk-in	Clients	✓ GPI	Field Oper	ator				REMA	ARKS:	* witl	h hydr	omete	r
R. POLIDA	N				_								
1	PRINT-OUT RIA ANTONIE Enc	TTE P. C	CUNAHAP							 			
Data Chkd	<i>by:</i> AB	A / MRR ality Assur						CERTIF	IED BY:		AUTHO	RIZED S	IGNATORY
Date Issue	ed												

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ACCREDITED LABORATO PNS ISO/IEC 17 LA-2006-0	ORY 025:2005			SOILS AND) MATERIA	LS TESTING valiches, Qu	G LABORAT	•		DPWH-E	BRS Accredited
Client	MOHRI, ARCH	HITECT &	ASSOCIA	TES, INC				Job Numbe	er	2209-10. l	R1-NMC-01-1
_	Proposed May			-	on Comm	unity Col	llege)	Date of Re	ceipt	. October 1	19, 2010
Location	Brgy. Zone 4 Li	bon, Provin	ice of Alba	У				Date of Te	st	. October 2	21-22, 2010
	PORT FOR LAE	BORATORY		MINATIO ASTM D Method	2216 - 0	-	ISTURE)	CONTEN	T OF SO	IL & ROCI	K BY MASS
SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)		CONTENT %)		REMARK	(S
	I			1	NATURAL M	OISTURE C	CONTENT		l		
1	0.55-1.00	105.98	98.22	7.76	9.74	88.48		9			
2	1.55-2.00	95.35	76.15	19.20	9.91	66.24	2	29			
3	2.55-3.00	100.31	76.36	23.95	9.56	66.80	3	86			
4	3.55-4.00	111.50	88.05	23.45	9.53	78.52	3	80			
5	4.55-5.00	117.08	101.57	15.51	10.29	91.28	1	7			
6	5.55-6.00	122.28	102.55	19.73	9.84	92.71	2	21			
SAMPLE	DEDTU ()	DLOWE		Designation DRY SOIL		1318 - 05 DISH	, Method DRY SOIL	B % Retained	ATTERBI	ERG LIMIT	DEMARKS
NUMBER	DEPTH (m)	BLOWS	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	on 0.425 mm	LL	PL	REMARKS
			T	Ī	LIC	QUID LIMIT		T	T		T
-					PLA	ASTIC LIMIT	Γ				1
Uncertainty I	Results:	Water Con	tent (%) =	± 0.0304	Liq	uid Limit =		Plas	stic Limit =	:	

Uncertainty Results:	Water Content (%	$) = \pm 0.0304$	Liquid	Limit =		Plas	stic Limit =		
Note: The reported ex	panded uncertainty is based	l on a combined	d uncertainty b	y a cov	erage facto	r of k=2, pr	oviding a l	evel of con	fidence of
approximately 95%.							I	LAB.FILE N	O.:NMC-10-498
SAMPLE SUBMITTED I	BY :		REI	MARKS:					
☐ Walk-in Clients	✓ GPI Field Operator								
R. POLIDAN									
COMPUTER PRINT-OU	IT								
By: MARIA AN	TONIETTE P. CUNAHAP								
	Encoder		TEST	ED BY :		AR	TURO Q. A	QUINO	
Data Checked by:	ABA/MRR					LABO	RATORY TE	CHNICIAN	
Data officered by	Quality Assurance								
	-		CERTIFI	ED BY :					
Date Issued:						AUTH	IORIZED SI	IGNATORY	

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LABORATO PNS ISO/IEC 17 LA-2006-0	025:2005					LS TESTINO raliches, Qu		ORY		DPWH-E	BRS Accredited
Client	MOHRI, ARCH	ITECT &	ASSOCIA	TES. INC	:			Job Numbe	er	.2209-10.1	R1-NMC-01-2
	Proposed May					unity Co	lleae)			October 1	
_	Brgy. Zone 4 Lik			-					•		21-22, 2010
	PORT FOR LAB			<u> </u>	N OF WA	TER (MO	ISTURE)				
				ASTM D	2216 - 0	5					
BOREHOLE	NOBH-1		Test	Method	✓ A	В	1		T		
SAMPLE		WET SOIL	DRY SOIL	WATER	DISH	DRY SOIL	WATER	CONTENT			
NUMBER	DEPTH (m)	DISH (g)	DISH (g)	(g)	MASS (g)	(g)		%)		REMARK	(S
	(55 7 00	00.10				OISTURE (1	-0			
7	6.55-7.00	83.18	55.90	27.28	9.82	46.08		59			
8	7.55-8.00	118.20	89.93	28.27	9.53	80.40		35			
9	8.55-9.00	103.70	68.40	35.30	9.58	58.82		50			
10	9.55-10.00	116.13	95.93	20.20	9.42	86.51	2	23			
	TEST DEDOD	T FOR I	IOHIDI	IMIT DI	ACTIC	1 1841T A		STICITY	INDEV	OE SOLL	c
	TEST REPOR	IFURL		-					INDEX	OF SOIL	3
			ASTIVI	Designa	tion : D 4	318 - 05	, ivietnoa	В			
								%	ATTERRE	DO LIMIT	
SAMPLE	DEPTH (m)	BLOWS		DRY SOIL	WATER	DISH	DRY SOIL	Retained	ATTERBE	RG LIMIT	REMARKS
NUMBER	DEI III (III)	DLOWS	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	on 0.425	LL	PL	KLWAKKS
					1.14		-	mm			
					LIC	QUID LIMIT					
					PL <i>F</i>	ASTIC LIMIT	Γ		1		
Uncertainty	Dogulto	Water Con	tent (%) =	. 0.0402	Lie	u id Limit		Dlag	stic Limit =		
Uncertainty						uid Limit =					idoneo of
	ported expanded ι	incertainty	is based on	a combine	u uncertain	ity by a cov	erage racio	ιι Οι K=2, μι			
approximate										LAB.FILE NO	O.:NMC-10-498
	BMITTED BY :	D. F				REMARKS:	-				
☐ Walk-in	Ulients ☑ G	PI Field Op	erator				-				
R. POLIDAN				_							
COMPUTER											
<i>By:</i> N	IARIA ANTONIETT	e P. Cunah	AP								

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Encoder

Data Checked by:
ABA/MRR
Quality Assurance

Date Issued:

TESTED BY : ARTURO Q. AQUINO

LABORATORY TECHNICIAN

AUTHORIZED SIGNATORY

CERTIFIED BY :



COMPUTER PRINT-OUT

Date Issued: ____

By: MARIA ANTONIETTE P. CUNAHAP

Data Checked by: ABA/MRR

Encoder

Quality Assurance





LABORAT PNS ISO/IEC 17 LA-2006-0	7025:2005					LS TESTINO valiches, Qu		ORY		DPWH-I	BRS Accredited
Client	.MOHRI, ARCI	HITECT &	ASSOCIA	TES INC	<u> </u>			Joh Numbe	or	2209-10	R1-NMC-02-1
	Proposed Ma					nunity Co	llege)			October 1	
-	. Brgy. Zone 4 Li	•		-	311 0011111	idinity 00	ilege)		•		26-27, 2010
Location	. bigy. Zone + Li	ibon, movii	ice of Alba	ı y				Date of Te	31	OCTODO 2	20 27, 2010
TEST RE	PORT FOR LAI	BORATOR		ASTM D	2216 - 0	5	ISTURE)	CONTEN	T OF SOI	L & ROCI	K BY MASS
BOREHOLI	E NO…BH-2		Test	Method	✓ A	∐ В					
SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)		CONTENT %)		REMARK	(S
NOWIDER		Distr (g)	D1311 (g)	(9)	WASS (g)	(9)	(70)			
				ı	NATURAL M	OISTURE O	CONTENT				
1	0.55-1.00	110.73	91.53	19.20	9.53	82.00	2	23			
2	1.55-2.00	123.74	102.59	21.15	9.54	93.05	2	23			
3	2.55-3.00	117.60	86.96	30.64	9.72	77.24	4	10			
4	3.55-4.00	105.90	79.03	26.87	9.60	69.43	3	39			
5	4.55-5.00	122.70	96.31	26.39	9.60	86.71	3	30			
6	5.55-6.00	103.77	88.73	15.04	9.57	79.16	-	19			
SAMDI E				Designa DRY SOIL		1318 - 05 DISH	, Method	%	ATTERBE	ERG LIMIT	
SAMPLE NUMBER	DEPTH (m)	BLOWS	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	Retained on 0.425 mm	LL	PL	REMARKS
		L			LIC	QUID LIMIT	-		<u>I</u>		
					PL <i>F</i>	⊥ ASTIC LIMI [™]	<u> </u> Г				
Uncertainty	Results:	Water Con	itent (%) =	$\pm~0.0295$	Liq	quid Limit =		Plas	stic Limit =		
Note: The re	eported expanded	uncertainty	is based on	a combine	d uncertain	nty by a cov	erage facto	or of k=2, pi	oviding a l	evel of cont	fidence of
approximate	ely 95%.									LAB.FILE N	O.:NMC-10-49
SAMPLE SUF	BMITTED BY :					REMARKS:					
☐ Walk-in		GPI Field Op	erator								
R. POLIDAN											

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TESTED BY : ARTURO Q. AQUINO

LABORATORY TECHNICIAN

AUTHORIZED SIGNATORY

CERTIFIED BY :







LABORATO PNS ISO/IEC 17 LA-2006-09	025:2005					LS TESTING aliches, Qu		ORY		DPWH-E	BRS Accredited
Client	MOHRI, ARCH	ITECT &	ASSOCIA	TES. INC	_			Job Numbe	er	.2209-10.1	R1-NMC-02-2
	Proposed May					unity Col	lleae)			October 1	
_	Brgy. Zone 4 Lik			-			3-,		•		26-27, 2010
	PORT FOR LAB			<u> </u>	N OF WA	TED (MO	ISTLIDE)				
IESI KEI	PORT FOR LAB	ORATOR		ASTM D		-	131UKE)	CONTEN	1 05 301	L & RUCI	C DT IVIA33
BOREHOLE	NOBH-2			Method		В					
SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)		CONTENT %)		REMARK	(S
						IO IOTUBE O	CNITENIT				
7	4 FF 7 00	115 10	07.24			OT F4		20			
7	6.55-7.00 7.55-8.00	115.10 119.05	97.26	17.84	9.70	87.56 91.54		20 20			
8	8.55-9.00	111.70	101.05 77.75	18.00 33.95	9.51 9.63	68.12		50			
10	9.55-10.00	115.43	91.96		9.63	82.59		28			
10	7.55-10.00	115.43	91.90	23.47	9.37	82.59		.0			
	TEST REPOR	T FOR L		-					INDEX	OF SOIL	S
			ASTM	Designat	tion : D 4	318 - 05	, Method	В			
CAMPLE			WET COLL	DDV COII	WATER	DIGII	DDV COII	%	ATTERBE	RG LIMIT	
SAMPLE NUMBER	DEPTH (m)	BLOWS	DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	Retained on 0.425	LL	PL	REMARKS
					1.10	UID LIMIT		mm	LL	FL	
					LIC	201D LIWIT					
					 PLA	STIC LIMIT	<u> </u> 				
Uncertainty F	Results:	Water Con	tent (%) =	± 0.0313	Liq	uid Limit =		Plas	stic Limit =		
Note: The re	ported expanded (uncertainty	is based on	a combine	d uncertain	ty by a cov	erage facto	r of k=2, p	roviding a l	evel of conf	idence of
approximatel	ly 95%.									LAB.FILE NO	O.:NMC-10-499
SAMPLE SUB	MITTED BY :					REMARKS:					
☐ Walk-in (Clients 🗸 G	SPI Field Op	erator								
R. POLIDAN				-							
COMPUTER F	PRINT-OUT IARIA ANTONIETT	e p. cunah	AP								

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Encoder

Data Checked by:
ABA/MRR
Quality Assurance

Date Issued: ____

TESTED BY : ARTURO Q. AQUINO

LABORATORY TECHNICIAN

AUTHORIZED SIGNATORY

CERTIFIED BY :





Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number	. 2209-10.R1-AL-01-1
Project Proposed Mayon Evacuation Center (Libon Community College)	Date of Receipt	October 19, 2010

Location....Brgy. Zone 4 Libon, Province of Albay Date of Test...... October 25-26, 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))	2.55-3.00			SOIL DESC	RIPTION			
SAMPLE NO	S-3		USCS CLAS	S	SC			Clayey SAN	ID			
MOISTURE CONTENT		IQUID LIMI			C LIMIT		44]	•				
DETERMINATION DISH NUMBER	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2	(%)	43 -					
DISH NUMBER WET SOIL + DISH (g)	A2 33.84	A37 35.97	A82 38.16	B32 22.81	B5 22.78	ınt	42 -					
DRY SOIL + DISH (g)	27.17	28.33	29.56	19.59	19.56	Conte	41 -					
WATER (g)	6.67	7.64	8.60	3.22	3.22	ure	40 -		X			
DISH MASS (g)	9.64	9.70	9.80	9.53	9.51	Moistu	39 -					
DRY SOIL (g)	17.53	18.63	19.76	10.06	10.05	Ž	38 -			\		
MOISTURE CONTENT	38.05	41.01	43.52	32.01	32.04		37					
NUMBER OF BLOWS	31	22	14	3	2		1	0	No. of	Blows		100
% RETAINED ON 0.42	5mm				24.63		LL =	40	PL =	32	PI =	8

BOREHOLE NO	BH-1		DEPTH (m))	6.55-7.00		S	OIL DES	CRIPTION		
SAMPLE NO	S-7		USCS CLAS	S	СН		Fa	at CLAY			
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		74 _T				
<u>DETERMINATION</u>	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2	(73 -	`			
DISH NUMBER	B17	B24	B90	C73	C40	(%)	72 -		\setminus		
WET SOIL + DISH (g)	32.47	35.59	38.24	22.68	22.72	tent	71 -				
DRY SOIL + DISH (g)	23.31	24.94	26.25	19.52	19.55	Con	70 -				
WATER (g)	9.16	10.65	11.99	3.16	3.17	ture	69 -				
DISH MASS (g)	9.63	9.72	9.83	9.55	9.56	Moistu	68 -				
DRY SOIL (g)	13.68	15.22	16.42	9.97	9.99	2	67 -				
MOISTURE CONTENT	66.96	69.97	73.02	31.70	31.73		66 +				
NUMBER OF BLOWS	32	21	15	3	2		10)	No. of Blows		100
% RETAINED ON 0.425	5mm				1.78	I	L =	69	PL = 32	PI =	37

Uncertainty Results: I	Liquid Limit = ± 0.1137	Plastic Limit = \pm 0.1994
II	Liquid Limit = \pm 0.1453	Plastic Limit = ± 0.2010
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-10-646
SAMPLE SUBMITTED BY :	REMARKS:	
☐ Walk-in Clients		
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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Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number2209-10.R1-AL-01-2
Project Proposed Mayon Evacuation Center (Libon Community College)	Date of Receipt October 19, 2010
Location Brgy. Zone 4 Libon, Province of Albay	Date of Test October 25-26, 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))	8.55-9.00		S	OIL DESCRI	PTION			
SAMPLE NO S-9 USCS CLASS							F	at CLAY				
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		75 —					
<u>DETERMINATION</u>	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2	_	74 -	``				
DISH NUMBER	A29	A11	A21	B49	B55	(%)	73 -					
WET SOIL + DISH (g)	32.54	35.74	38.40	22.69	22.75	tent	72 -	\	$\sqrt{}$			
DRY SOIL + DISH (g)	23.27	24.94	26.26	19.48	19.55	Con	71 -		•			
WATER (g)	9.27	10.80	12.14	3.21	3.20	re	70 -		×			
DISH MASS (g)	9.65	9.74	9.85	9.52	9.55	Moist	69 -		\			
DRY SOIL (g)	13.62	15.20	16.41	9.96	10.00	Š	68 -					
MOISTURE CONTENT	68.06	71.05	73.98	32.23	32.00		67					
NUMBER OF BLOWS	31	22	15	3	2		10		No.	of Blows		100
% RETAINED ON 0.42	5mm				1.09		LL =	70	PL =	32	PI =	38

BOREHOLE NO		DEPTH (m	ı)		SOIL	DESCRIPTION	
SAMPLE NO		USCS CLA	SS				
MOISTURE CONTENT DETERMINATION DISH NUMBER WET SOIL + DISH (g) DRY SOIL + DISH (g) WATER (g) DISH MASS (g) DRY SOIL (g) MOISTURE CONTENT NUMBER OF BLOWS	LIQUID LI TRIAL 1 TRIAL 2		PLASTI TRIAL 1	C LIMIT TRIAL 2	Moisture Content (%)	No. of Blows	100
% RETAINED ON 0.425					LL =	PL =	PI =

Uncertainty Results: I	Liquid Limit = ± 0.1454	Plastic Limit = \pm 0.2015
II	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-10-646
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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Rev.5/ Dec.2009

Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number2209-10.R1-AL-02-1
Project Proposed Mayon Evacuation Center (Libon Community College)	Date of Receipt October 19, 2010
Location Brgy. Zone 4 Libon, Province of Albay	Date of Test October 27-28, 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))	2.55-3.00			SOIL DESCRI	PTION			
SAMPLE NO	S-3	USCS CLASS ML					9	Sandy SILT				
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		53 _T					
<u>DETERMINATION</u>	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2	~	52 -	>				
DISH NUMBER	A29	A86	A6	B51	B2	(%)	51 -	1				
WET SOIL + DISH (g)	32.56	35.41	38.24	22.69	22.72	Content	50 -	\				
DRY SOIL + DISH (g)	25.29	26.97	28.53	19.46	19.49	Son						
WATER (g)	7.27	8.44	9.71	3.23	3.23	nre	49 -					
DISH MASS (g)	9.65	9.74	9.85	9.51	9.49	Moist	48 -		^			
DRY SOIL (g)	15.64	17.23	18.68	9.95	10.00	Š	47 -		`	/		
MOISTURE CONTENT	46.48	48.98	51.98	32.46	32.30		46					
NUMBER OF BLOWS	32	22	15	3	2		10)	No.	of Blows		100
% RETAINED ON 0.425	5mm				16.56		LL =	48	PL =	32	PI =	16

BOREHOLE NO	BH-2	-2 DEPTH (m)						OIL DESC	RIPTION		
SAMPLE NO S-4 USCS CLASS SC							CI	ayey SAN	ID		
MOISTURE CONTENT	L	IQUID LIMI	T	PLASTI	C LIMIT		48 —				\neg
<u>DETERMINATION</u>	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2	_	47 -	À			
DISH NUMBER	B62	B21	В9	A48	A91	t (%)	46 -				
WET SOIL + DISH (g)	32.62	35.54	38.32	22.70	22.73	ntent	45 -		\		
DRY SOIL + DISH (g)	25.82	27.52	29.15	19.43	19.45	S	44 -				
WATER (g)	6.80	8.02	9.17	3.27	3.28	ture			*		
DISH MASS (g)	9.62	9.70	9.85	9.48	9.50	Moist	43 -				
DRY SOIL (g)	16.20	17.82	19.30	9.95	9.95	2	42 -		<u> </u>		
MOISTURE CONTENT	41.98	45.01	47.51	32.86	32.96		41 +				
NUMBER OF BLOWS	31	22	15	3	3		10	1	No. of Blows		100
% RETAINED ON 0.425	5mm				16.56		LL =	44	PL = 33	PI =	11

Uncertainty Results: I	Liquid Limit = \pm 0.1275	Plastic Limit = \pm 0.2019
II	Liquid Limit = \pm 0.1227	Plastic Limit = ± 0.2021
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-10-647
SAMPLE SUBMITTED BY :	REMARKS:	
☐ Walk-in Clients		
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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Rev.5/ Dec.2009

Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number2209-10.R1-AL-02-2
Project Proposed Mayon Evacuation Center (Libon Community College)	Date of Receipt October 19, 2010
Location Brgy. Zone 4 Libon, Province of Albay	Date of Test October 27-28, 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))	8.55-9.00		S	SOIL DESCR	IPTION		
SAMPLE NO S-9 USCS CLASSMH					MH		E	Elastic SILT			
MOISTURE CONTENT	L	IQUID LIMI	T	PLASTI	C LIMIT		63 _T				\neg
<u>DETERMINATION</u>	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2	~	62 -	`			
DISH NUMBER	A43	A8	A93	B82	B5	t (%)	61 -				
WET SOIL + DISH (g)	32.47	35.28	38.22	22.68	22.74	ontent	60 -	`	$\setminus $		
DRY SOIL + DISH (g)	24.23	25.79	27.34	19.49	19.54	Con			7		
WATER (g)	8.24	9.49	10.88	3.19	3.20	nre	59 -				
DISH MASS (g)	9.60	9.70	9.80	9.49	9.51	Moist	58 -		\ \		
DRY SOIL (g)	14.63	16.09	17.54	10.00	10.03	Σ	57 -				
MOISTURE CONTENT	56.32	58.98	62.03	31.90	31.90		56		 		Щ
NUMBER OF BLOWS	31	21	15	3	2		10		No. of Blows	3	100
% RETAINED ON 0.42	5mm				6.34		LL =	58	PL = 32	PI =	26

BOREHOLE NO		DEPTH (m	ı)		SOIL	DESCRIPTION	
SAMPLE NO		USCS CLA	SS				
MOISTURE CONTENT DETERMINATION DISH NUMBER WET SOIL + DISH (g) DRY SOIL + DISH (g) WATER (g) DISH MASS (g) DRY SOIL (g) MOISTURE CONTENT NUMBER OF BLOWS	LIQUID LI TRIAL 1 TRIAL 2		PLASTI TRIAL 1	C LIMIT TRIAL 2	Moisture Content (%)	No. of Blows	100
% RETAINED ON 0.425					LL =	PL =	PI =

Uncertainty Results: I	Liquid Limit = ± 0.1355	Plastic Limit = ± 0.2005
II	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-10-647
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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ClientMOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number2209-10.R1-GSA-01-1
ProjectProposed Mayon Evacuation Center (Libon Community College)	Date of Receipt October 19, 2010
Location Brgy. Zone 4 Libon, Province of Albay	Date of Test October 22, 2010

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

DEPTH (m	PLE NO n)		<u>O</u> <u>1</u> 0.55-1.00			□ <u>2</u> 1.55-2.00		△ <u>3</u> 2.55-3.00				
	CRIPTION	Poo	ly graded SAND)		Silty SAND		1	Clayey SAND			
SIEV	VE SIZE	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent		
inches	<u>mm</u>	Retained (g)	Retained	<u>Finer</u>	Retained (g)	Retained	<u>Finer</u>	Retained (g)	Retained	<u>Finer</u>		
2 1/2	62.5											
2	50.0											
1 1/2	37.5											
1	25.0											
3/4	19.0									100		
3/8	9.5			100				1.16	1.74	98		
4	4.75	4.34	4.91	95			100	1.93	2.89	97		
10	2.0	15.39	17.39	83	1.96	2.96	97	3.97	5.94	94		
20	0.8	33.02	37.32	63	6.73	10.16	90	9.89	14.81	85		
40	0.425	59.43	67.17	33	17.01	25.68	74	16.45	24.63	75		
60	0.25	77.49	87.58	12	29.09	43.92	56	23.59	35.31	65		
140	0.105	84.00	94.94	5	52.05	78.58	21	35.62	53.32	47		
200	0.075	85.42	96.54	3	56.68	85.57	14	37.03	55.43	45		
OVEN D	DRIED MASS	10000, 10000, 10000	88.48 gms	,,	10000 10000 100	66.24 gms	•		66.80 gms			
100 -	3" 2 1/2" 2" 1 1/2	3/8	4	#10	#40	#140		HYDROM	ETER			
100						: : :						
90 -	 	1 1	+++			: : : : : : : : : : : : : : : : : : : :						
00				\d [:						
80 -						: : : : :						
70 -												
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- 60 -	 	: :	 									
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Percent Passing					 	:\ \						
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30 -	 	: : :			 : 	:						
20 -		: : :				:						
20						<u>:</u>	1					
10 -	 		1		 	}	-					
0 -	COARS		COARS		IUM	FINE		0.04		0.004		
COBBLES	00	10 GRAVEL		1	Particle Size SAND	e (mm) 0.1		0.01 FINES (SILT	OR CLAY)	0.001		
	Hydrometer	OKAVLL			071112	REMARKS :	S-1:	Cu = 3.56		0.00		
	i riyurometel UBMITTED BY:					KLWAKKS.	J-1.	Ou = 3.00	- CC =	0.70		
_		GPI Field Oper	ator			=						
		ori riela Oper	aiUI			-						
R. POLIDA	IN			_								
COMPUTER	R PRINT-OUT					TESTED BY :						
Ву:	MARIA ANTO	ONIETTE P. CU	NAHAP					LABORATORY	TECHNICIAN			
		Encoder										
					CE	RTIFIED BY :						
Data Che	Data Checked by: ABA/MRR					=		AUTHORIZED	SIGNATORY			
		Quality Assu	rance	Uncertaint	y Results:	% Finer =	± 0.0488		LAB.FILE NO.	:GSA-10-400		
Date Issu	ıed:				=			on a combined				
								proximately 95%		, , , , , , , , , , , , ,		
							·	-				

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Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number	2209-10.R1-GSA-01-2
Project Proposed Mayon Evacuation Center (Libon Community College)	Date of Receipt	October 19, 2010
Location Brgy. Zone 4 Libon, Province of Albay	Date of Test	October 22, 2010

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

BH / SAMPLE NO..... <u>BH-1</u> O <u>4</u> □ 5 3.55-4.00 4.55-5.00 5.55-6.00 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 (q) Retained <u>Finer</u> Retained (q) Retained <u>Finer</u> Retained (g) Retained mm 2 1/2 62.5 2 50.0 1 1/2 37.5 25.0 100 1 19.0 15.10 100 3/4 16.54 83 3/8 9.5 27.52 30.15 70 23 58 25.43 100 75 4.75 2.89 40.16 38.81 41.86 3.68 96 36.66 60 58 4 10 6.74 8.58 91 43.81 48.00 52 50.07 54.01 2.0 46 20 15.28 19.46 59.90 40 60.94 65.73 0.8 81 54.68 34 25 40 0.425 34.04 43 35 57 68.55 75 10 72.80 78 52 21 0.25 51.72 65.87 34 88.08 88.61 11 81.60 88 02 60 12 140 0.105 81.66 18 88.65 97.12 88.20 95 14 64.12 3 5 89.03 200 0.075 65.86 83.88 97.54 2 88.78 95.76 4 16 OVEN DRIED MASS 92.71 gms 78.52 gms 91.28 gms #200 #20 #40 09# 3/4 3/8 HYDROMETER 100 90 80 70 Percent Passing 60 50 40 30 20 10 0 COARSE 100 10 Particle Size (mm) 0.01 0.001 **COBBLES** SAND **GRAVEL** FINES (SILT OR CLAY) * - with Hydrometer **REMARKS:** S-5: Cc = 0.37Cu = 23.17SAMPLE SUBMITTED BY: S-6: Cu = 22.34 Cc = 0.26Walk-in Clients ✓ GPI Field Operator R. POLIDAN TESTED BY: ARTURO Q. AQUINO COMPUTER PRINT-OUT LABORATORY TECHNICIAN MARIA ANTONIETTE P. CUNAHAP Encoder CERTIFIED BY: Data Checked by: ___ ABA/MRR **AUTHORIZED SIGNATORY Quality Assurance** Uncertainty Results: % Finer = ± 0.0408 LAB.FILE NO.:GSA-10-400 Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage Date Issued:

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factor of k=2, providing a level of confidence of approximately 95%.







Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number2209-10.R1-GSA-01-3
Project Proposed Mayon Evacuation Center (Libon Community College)	Date of ReceiptOctober 19, 2010
Location Brgy. Zone 4 Libon, Province of Albay	Date of Test October 22, 2010

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

BH / SAMPLE NO <u>BH-1</u> DEPTH (m) SOIL DESCRIPTION				O Z 6.55-7.00 Fat CLAY								(110		- [7.5!	□ <u>8</u> 5-8.00 y SAND		,						<u>∆</u> <u>9</u> 55-9	9.00)					
3012		E SIZE	J14		mm.Ma	228		umm	%	P	ercent	t	Сп	mm	ı.Ma			umm.%		Percent	(umm	Ma	99		Cum		%	Perc	ent
inc	ches		<u>nm</u>		ained			etain			<u>Finer</u>				ed (Retained		<u>Finer</u>		etain				Reta			Fine	
	1/2		2.5			<u> </u>				-					•						-		•					_		_
	2		0.0																											
	1/2		7.5																											
	1		5.0																											
	3/4		9.0																											
	3/8		9.5																	100										
	4		.75											0.	50			0.62		99										
	10		2.0								100			1.				2.20		98										
	20		0		0.30			0.65			99			3.				4.13		96		0.1	0			Λ	17		10	Λ
	40		425		0.82			1.78			98			10				13.41		87		0.6					09		99	
	60		.25		1.81			3.93			96			22				27.43		73		1.7					89		97	
	140		105		4.00			8.68			91			55.				69.58		30		3.8					46		94	
	200		075		4.68			10.16			90			60				75.63		24		4.7					.08		92	
		RIED N			4.00			10.10 3 gm			70			00.	.01	ç		40 gms		24		4.7	J		5.0	.82		c	72	-
	/LIV D	3"	1/2	1 2/2	t	3/8	10.0	4 3 gm		#10		00#	120		#40	09#			#200		н	Y D F	2 O					J		
	100 -			البال	<u>.i</u> :			P	_	- p		#			<u> </u>	4			1						_ 					
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Percent Passing	50 -	 	 	+	1	+		+		+		-	+	+	+	++	\top	+	+				-	Н	+	+				
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COI	10 BBLES				VEL	10				- '		1	P SANI		cle S	Size	(m	m) 0.1	ı		F	INES	0.0 (SI		OR	CL/	AY)		0	.001
* -	with	Hydror	neter														RE	EMARKS	:											
		JBMITT		:																										
\square w	/alk-ir	n Clients	s 🔽	GPI I	Field C	per	ator																							
R. PO						-																								
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<i>By:</i> _		MARI	A ANT	Enco		CUI	NAI.	пΓ	-												_	,DOIN		, I	, L	-0111	110	., V		
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Data	a Chei	cked by	<i>':</i>	,	ABA/M	RR										CEF	K I II	FIED BY	:									D.:		
		. ,			uality A		ranc	e					_				_	. =:				UTHO	JKIZ						001	
					=						certai	-						6 Finer =											GSA-10	
Date	e Issu	red:							_									d uncerta								cert	aint	ty by	a cov	erage
										fac	tor of	k=	2, p	oro	vidin	g a	leve	el of cor	nfider	nce of a	ppro	ximat	ely	95%	6.					

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ClientMOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number	. 2209-10.R1-GSA-01-4
ProjectProposed Mayon Evacuation Center (Libon Community College)	Date of Receipt	October 19, 2010
Location Brgy. Zone 4 Libon, Province of Albay	Date of Test	. October 22, 2010

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

BH / SAMPLE NO..... Δ <u>BH-1</u> <u>O10</u> 9.55-10.00 DEPTH (m)..... SOIL DESCRIPTION..... Poorly graded SAND with silt SIEVE SIZE Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent inches Retained (q) Retained <u>Finer</u> Retained (q) Retained <u>Finer</u> Retained (g) Retained Finer <u>mm</u> 2 1/2 62.5 2 50.0 1 1/2 37.5 25.0 1 19.0 3/4 3/8 9.5 4.75 0.40 0.46 100 4 10 2.0 0.94 1.09 99 20 5.11 5.91 94 8.0 39.51 40 0.425 45.67 54 79.90 20 0.25 69.12 60 80.90 140 0.105 93.52 6 81.94 200 0.075 94.72 5 OVEN DRIED MASS 86.51 gms #200 3/4 HYDROMETER 100 90 80 70 Percent Passing 60 50 40 30 20 10 0 COARSE Particle Size (mm) 100 10 0.01 0.001 COBBLES SAND FINES (SILT OR CLAY) **GRAVEL** * - with Hydrometer REMARKS : S-10: Cu = 3.16 Cc = 1.35SAMPLE 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 = ± 0.0391 LAB.FILE NO.:GSA-10-400 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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SIEVE SIZE

mm

inches

Cumm.Mass

Retained (q)

Cumm.%

Retained





Percent Finer

ClientMOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number	2209-10.R1-GSA-02-1
Project Proposed Mayon Evacuation Center (Libon Community College)	Date of Receipt	October 19, 2010
Location Brgy. Zone 4 Libon, Province of Albay	Date of Test	October 27, 2010

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

Cumm.Mass

Retained (q)

Cumm.%

Retained

Percent

<u>Finer</u>

Cumm.Mass

Retained (q)

Cumm.%

Retained

BH / SAMPLE NO	BH-2 O 1	□ <u>2</u>	<u> </u>
DEPTH (m)	0.55-1.00	1.55-2.00	2.55-3.00
SOIL DESCRIPTION	Silty SAND	Silty SAND	Sandy SILT

Percent

<u>Finer</u>

	11101103						<u> </u>		<u></u>	111111111111111111111111111111111111111		
	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			100	1.91	2.05		98			100
	10	2.0	1.41	1.72	98	5.83	6.27		94	1.37	1.77	98
	20	0.8	4.38	5.34	95	14.85	15.96)	84	5.47	7.08	93
	40	0.425	12.42	15.15	85	29.37	31.56)	68	12.79	16.56	83
	60	0.25	28.51	34.77	65	49.55	53.25	·	47	21.13	27.36	73
	140	0.105	57.11	69.65	30	68.22	73.32	<u>)</u>	27	29.40	38.06	62
	200	0.075	61.65	75.18	25	71.75	77.11		23	32.38	41.92	58
	OVEN D	RIED MASS		82.00 gms			93.05 gm				77.24 gms	
		3" 2 1/2" 2" 1 1/2	3/4	6 0 4 4	#10	#20	30	#140				
	100 ⊣	2 7	, E	2 #	#	# #	#60	# #		HYDROM	IEIEK	
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	70 -			:		: \	X	: :				
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	Percent Passing 6 0 0						:\\	: :				
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	0 -	COARS		COAR		IÚM Darriar	FINE	~4		0.04		0.004
	10 COBBLES		10 GRAVEL)	1	Particle S	Size (mm)	0.1		0.01 FINES (SILT		0.001
ļ		Hydrometer	OIMVLL			U VD	REMARI	/S ·		1 11423 (3121	OR OLAT)	
	- vvitti	rryurumeter					KLIVIAKI	\ J.				

* - with Hydrometer REMARKS :

SAMPLE SUBMITTED BY:

Walk-in Clients GPI Field Operator

R. POLIDAN

COMPUTER PRINT-OUT

By: MARIA ANTONIETTE P. CUNAHAP

Encoder

Data Checked by: ABA/MRR

Quality Assurance

Date Issued:

TESTED BY : ARTURO Q. AQUINO

LABORATORY TECHNICIAN

CERTIFIED BY :

AUTHORIZED SIGNATORY

Uncertainty Results: % Finer = ± 0.0375

LAB.FILE NO.:GSA-10-401

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%.

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BH / SAMPLE NO.....

<u>BH-2</u>

<u>O</u> <u>4</u>





ClientMOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number2209-10.R1-GSA-02-2
Project Proposed Mayon Evacuation Center (Libon Community College)	Date of Receipt October 19, 2010
Location Brgy. Zone 4 Libon, Province of Albay	Date of Test October 27, 2010

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

<u> 5</u>

DEPTH (n	n)	<u>51. 2</u>	3.55-4.00			4.55-5.00			5.55-6.00		
-	CRIPTION	С	layey SAND			Silty SAND		Poorly g	raded SAND wit	h silt	
SIE	VE SIZE	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent	
inches	<u>mm</u>	Retained (g)	Retained	<u>Finer</u>	Retained (g)	Retained	<u>Finer</u>	Retained (g)	Retained	<u>Finer</u>	
2 1/2	62.5										
2	50.0										
1 1/2	37.5										
1	25.0										
3/4	19.0						100				
3/8	9.5			100	1.12	1.29	99			100	
4	4.75	0.61	0.88	99	2.00	2.31	98	0.50	0.63	99	
10	2.0	1.47	2.12	98	2.71	3.13	97	2.48	3.13	97	
20	8.0	5.04	7.26	93	5.96	6.87	93	15.23	19.24	81	
40	0.425	11.50	16.56	83	14.10	16.26	84	45.91	58.00	42	
60	0.25	20.64	29.73	70	33.58	38.73	61	61.89	78.18	22	
140	0.105	34.90	50.27	50	61.72	71.18	29	72.20	91.21	9	
200	0.075	36.52	52.60	47	65.52	75.56	24	73.80	93.23	7	
OVEN D	DRIED MASS	6	59.43 gms	11	10000 10000 10000	36.71 gms			79.16 gms		
100 -	3" 2 1/2" 2" 1 1/2	3/8	4#	#10	#40	#140		HYDROM	ETER		
90 -											
80 -	 	: : :	1		X 5 :						
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70					11 / 1 : / /						
ig 60 -			!								
ass					13 I IN 3 1 3	$\setminus \setminus $					
Percent Passing						/ p/					
9 40 -											
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10 -		: : :									
10						7					
0 -	COARS		COAR	SE MED		FINE					
COBBLE	00 S	10 GRAVEL			l Particle Size SAND	(mm) 0.1		0.01 FINES (SILT	OR CLAY)	0.001	
* - with	Hydrometer					REMARKS :	S-6:	Cu = 4.95	Cc =	1.66	
SAMPLE SI	UBMITTED BY:					-					
☐ Walk-i	n Clients 🔽	GPI Field Opera	ator			-					
R. POLIDA						-					
-	R PRINT-OUT]		TESTED BY :		ARTURO C	. AQUINO		
By:		ONIETTE P. CUI	NAHAP			-		LABORATORY			
-7:		Encoder									
					CEI	TIFIFD RV ·					
Data Che	ecked by:				CER	. זט טבו וויט		AUTHORIZED SIGNATORY			
		Quality Assur	rance	Uncertaint	v Results:	% Finer =	+ 0 0424		LAB.FILE NO.	·GSA-10 401	
Data 1:	uad.				-						
Date ISSU					reported expan =2, providing a					y a coverage	
				1 1							

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ClientMOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number2209-10.R1-GSA-02-3
Project Proposed Mayon Evacuation Center (Libon Community College)	Date of ReceiptOctober 19, 2010
Location Brgy. Zone 4 Libon, Province of Albay	Date of Test October 27, 2010

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

			7.0	1101 10 122	05 (itc-ap	p. 0 v c u 2 0	0.,			
BH / SAMI	PLE NO	<u>BH-2</u>	<u> </u>			□ 8			<u> </u>	
,	າ)		6.55-7.00			7.55-8.00			8.55-9.00	
	CRIPTION		ded SAND with	silt	1	ided SAND with s	silt		Elastic SILT	
	/E SIZE	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent
<u>inches</u>	<u>mm</u>	Retained (g)	<u>Retained</u>	<u>Finer</u>	Retained (g)	<u>Retained</u>	<u>Finer</u>	Retained (g)	<u>Retained</u>	<u>Finer</u>
2 1/2	62.5									
2	50.0									
1 1/2	37.5									
1	25.0									
3/4	19.0						100			
3/8	9.5			100	1.24	1.35	99			
4	4.75	6.48	7.40	93	4.25	4.64	95			100
10	2.0	15.66	17.88	82	9.87	10.78	89	0.46	0.68	99
20	0.8	36.63	41.83	58	24.54	26.81	73	2.05	3.01	97
40	0.425	60.47	69.06	31	50.78	55.47	45	4.32	6.34	94
60	0.25	72.10	82.34	18	69.02	75.40	25	7.41	10.88	89
140 200	0.105 0.075	80.38 81.45	91.80 93.02	8 7	81.66 84.35	89.21 92.15	11 8	18.53 22.25	27.20 32.66	73 67
	O.075 ORIED MASS			,		92.15 91.54 gms	0	22.23		07
OVEND	10000 10000 10000 10000	FTT FTT FTT	37.56 gms	(***)			1		68.12 gms	
100 -	3" 2 1/2" 2" 1 1/2	3/8	4	#10	#40			HYDROM	ETER	
100					₩ :					
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10 -		: : :				× × × L				
0 -										
1(COARS	E FINE 10	COARS	E		FINE (mm) 0.1		0.01		0.001
COBBLES	S	GRAVEL			SAND	()		FINES (SILT	OR CLAY)	
* - with	Hydrometer					REMARKS:	S-7:	Cu = 7.01	Cc =	1.47
SAMPLE SU	JBMITTED BY:					_	S-8:	Cu = 6.27	Cc =	1.62
		GPI Field Opera	ator			=				
R. POLIDA		•				=				
				_		TESTED BY :		ARTURO C) AOIIINO	
COMPUTER	R PRINT-OUT					- 12312001		ANTONO		

COMPUTER PRINT-OUT

By: MARIA ANTONIETTE P. CUNAHAP

Encoder

Data Checked by: ABA/MRR

Date Issued:

Quality Assurance

LABORATORY TECHNICIAN

CERTIFIED BY :

AUTHORIZED SIGNATORY

Uncertainty Results:

% Finer = ± 0.0383

LAB.FILE NO.:GSA-10-401

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%.

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Date Issued:





	O/IEC 17025:2005 A-2006-097B		A FIT	119 Saus	o Roau, Novalici	ies, Quezon	City			BRS Accredited
Client.	MOHRI,	ARCHITECT	& ASSOC	IATES, IN	IC.		Job Numbe	r	2209-10.R1	-GSA-02-4
Project	tProposed	l Mayon Evac	uation Cer	nter (Libor	Community (College)	Date of Rec	eipt	October 19	, 2010
Locatio	on Brgy. Zon	ie 4 Libon, Pro	ovince of A	lbay			Date of Tes	t	October 27	, 2010
			TEST I	REPORT	FOR GRAIN	SIZE AN	IALYSIS			
					2 - 63 (Re-ap					
BH / S	SAMPLE NO	<u>BH-2</u>	<u>010</u>						Δ	
DEPTI	H (m)	9	.55-10.00							
	DESCRIPTION	1	Silty SAND							
	SIEVE SIZE	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent
<u>incl</u> 2 1		Retained (g)	Retained	<u>Finer</u>	Retained (g)	Retained	<u>Finer</u>	Retained (g)	Retained	<u>Finer</u>
2 1										
1 1										
1										
3/										
3/		0.50	0.41	100 99						
1		1.03	0.61 1.25	99 99						
2		1.98	2.40	98						
4	0 0.425	8.00	9.69	90						
6		28.14	34.07	66						
14 20		59.65 64.74	72.22 78.39	28 22						
	EN DRIED MASS		76.39 32.59 gms	22						
	3" 1/2" 1/2	mm m	m	0	0 0	9	0			
1	1 2 2 3	3/4	#	#10	#20	#140	#200	HYDROM	ETER	
1			Y	-	9	:				
	90				1112		!			
	80									
		: : :			: : \:					
	70									
ssing	60					$\forall \exists \exists$				
Percent Passing	50	: : :					1			
cent						$\parallel \setminus \parallel \parallel$				
Per	40	 			 	+ \ :	:			
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	10		++:++		 	- :	1			
	O III COADS	FINE	COAD	CE MED		FINE				
	100	10	COAR		Particle Size	FINE (mm) 0.1		0.01		0.001
	BLES	GRAVEL			SAND			FINES (SILT		
	with Hydrometer					REMARKS	:			
	E SUBMITTED BY alk-in Clients		ator							
R. POL		or rricia opera	1101							
				<u> </u>		TESTED BY	:	ARTURO C	. AOUINO	
	JTER PRINT-OUT MARIA ANTO	ONIETTE P. CUM	NAHAP					LABORATORY		
<i></i>		Encoder								
					CER	TIFIED BY	:			
Data	Checked by:	ABA/MRR Quality Assur	rance					AUTHORIZED	SIGNATORY	
		Quality Assul	ance	Uncertaint	y Results:	% Finer =	± 0.0378		LAB.FILE NO.	:GSA-10-401

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%.

FINAL REPORT

PROPOSED MAYON EVACUATION CENTER (2-STOREY)

POLANGUI NORTH CENTRAL SCHOOL CENTRO ORIENTAL, PROVINCE OF ALBAY

MOHRI, ARCHITECT & ASSOCIATES, INC.

OCTOBER 2010 JOB NO. 2209-10.R1





FINAL REPORT

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FINAL REPORT

SUB-SURFACE INVESTIGATION FOR THE PROPOSED MAYON EVACUATION CENTER (2-STOREY) LOCATED AT POLANGUI NORTH CENTRA SCHOOL, CENTRO ORIENTAL, 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 Centro Oriental, Province of Albay.

Two (2) boreholes were drilled at the proposed site from October 17 to October 18, 2010. Borings were undertaken down to 10m 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.
- · 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 and the Standard Penetration Test (SPT) were 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 plastic bags for moisture and sample protection and were transported to the laboratory for further testing of engineering properties.

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 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 Stratigraphy

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

5.1 Borehole BH-1

Depth (m)	Soil Classification	Consistency	N-Value
0.00 - 1.00	Elastic SILT	Very Stiff	26
1.00 - 4.00	Silty SAND	Firm	11~18
4.00 - 5.00	Silty SAND	Loose	7
5.00 - 10.00	Poorly graded	Dense - Firm	18 ~ 31

The ground water was measured at 1.05 meters from the existing ground.

5.2 Borehole - BH-2

Depth (m)	Soil Classification	Consistency	N-Value
0.00 - 1.00	Elastic SILT	Stiff	13
1.00 - 2.00	Elastic SILT	Firm	8
2.00 - 4.00	Silty SAND	Firm	13 ~ 25
4.00 - 5.00	Silty SAND	Loose	8
5.00 - 6.00	Silty SAND	Firm	27
6.00 - 7.00	Elastic SILT	Very Stiff	16
7.00 - 10.00	SAND	Dense to Firm	10~32

The ground water was measured at 1.05 meters from the existing ground.

6.0 Soil Properties

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

Soil Parameters			
Gravels, Sands, S	ilty Sands and Cl lon-cohesive)	ayey	Sands
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
	d Clays (Cohesiv	e)	
Silts and Clays	С	φ	y (kcf)
Very Soft		0	0.100
Soft	7818483 77	0	0.105
Sands Very Loose Loose Medium Dense Dense Very Dense Silts and Silts and Clays Very Soft Soft Firm Stiff Very Stiff	=(N*10)/2	0	0.115
Stiff	From Braja Das	0	0.120
Very Stiff	Das	0	0.125
Hard		0	0.130

7.0 Liquefaction Potential

The boreholes showed thin layer of potentially liqueflable layer between 4~5 meters deep. However, the impact would be minimal as dense layer are found in between loose formation.

8.0 Bearing Capacity and Foundation Type

Shallow Foundations

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

BH-1:

Depth (m)	Bearing Capacity (kPa)
1.0	96
1.5	96

BH-2:

Depth	Bearing Capacity (kPa)
1.0	96
1.5	96

The associated settlement on the other hand is within the tolerable engineering settlement of 25mm. It is suggested that structural tie beam be installed to hold the foundation rigid during major earthquakes.

9.0 Excavation and Fill

The contractor of the proposed structure is advised to rail the excavation at night and during break times so as to ensure the general safety of the public specially childrens. Existing structures, whether temporary or permanent that are adjacent, the excavation should be protected from damages. Dewatering shall be necessary as the water table is shallow.

Fill for the excavation for footings and 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. In both cases, the height of fill should be reviewed and adjusted accordingly to adapt minimal settlements.

Borehole Conclusions and Recommendations

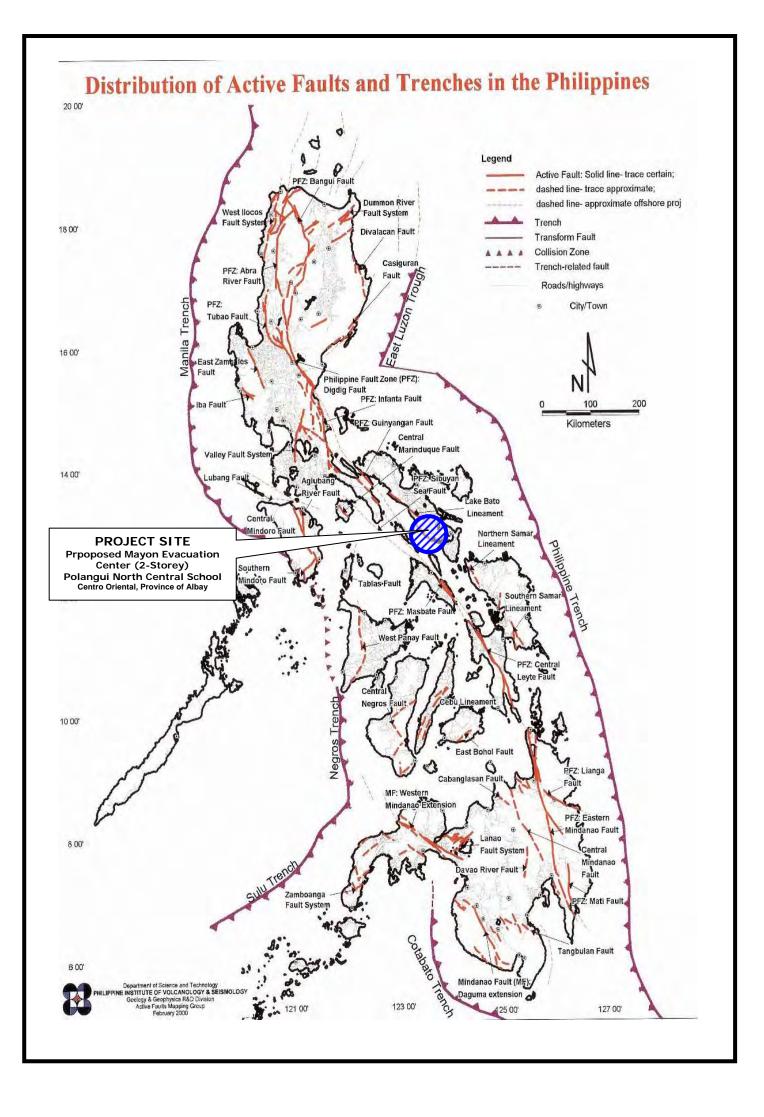
The conclusions and recommendations are based on the data of two (2) boreholes. Deviations from these are expected and should be minimal as the boreholes are typical of an alluvial formation. Should there be any major deviation in the substrata be detected during the excavation phase, may the undersigned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

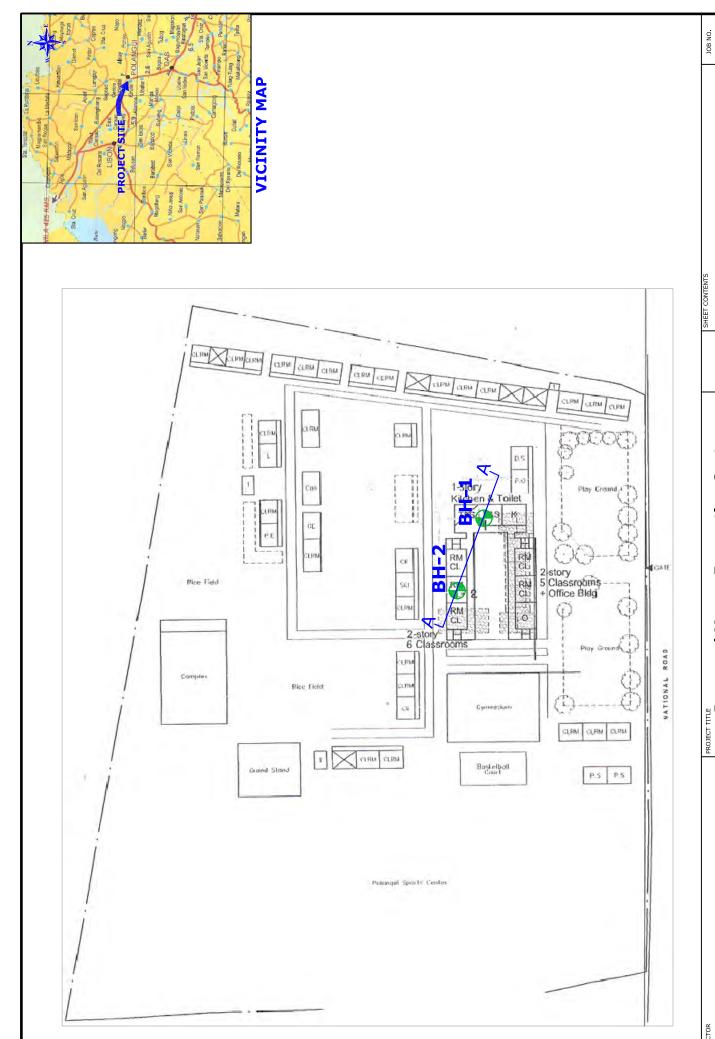
DIOSDADO A. URENA

CE Reg. No. 053884 PTR No. 3228274 Issued on January 8, 2010 Issued at Quezon City

APPENDICES







Proposed Mayon Evacuation Center (Polangui North Central School) Centro Oriental, Province of Albay

2209-10.R1 SHEET NO.

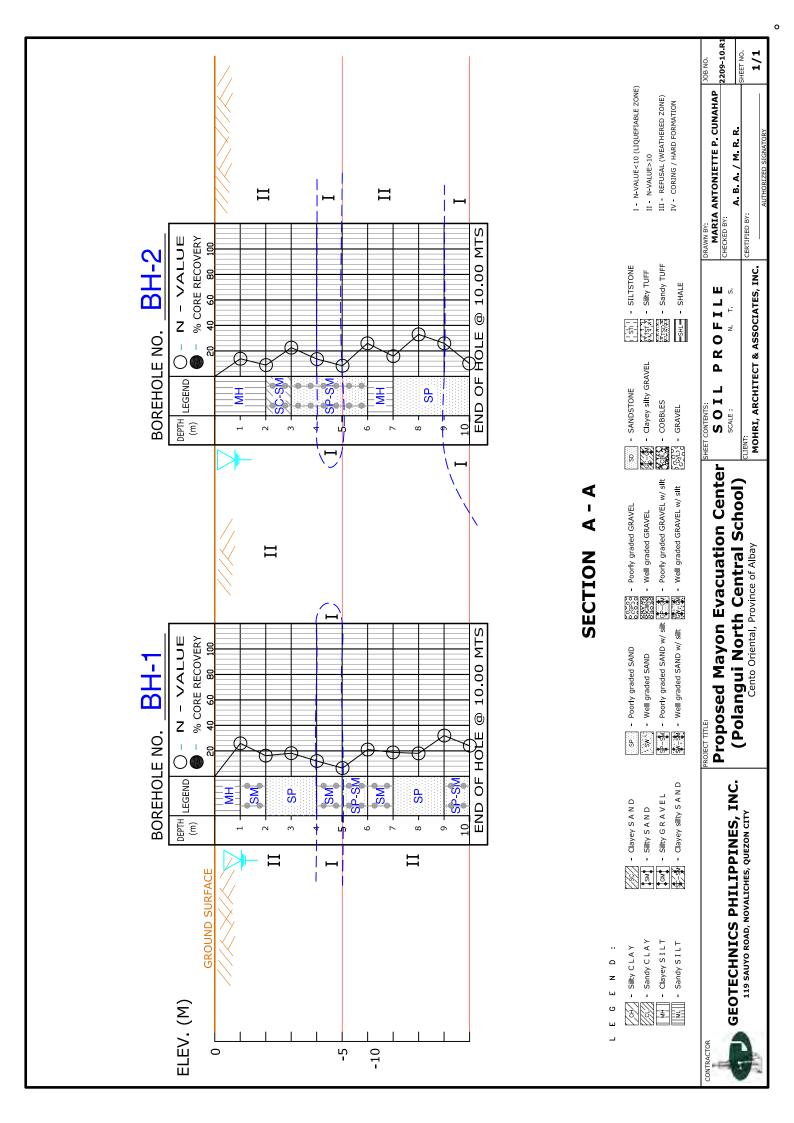
1/1

MOHRI, ARCHITECT & ASSOCIATES, INC.

LOCATION PLAN/VICINITY MAP

SCALE NTS

GEOTECHNICS PHILIPPINES, INC. 119 SAUVO ROAD, NOVALICHES, QUEZON CITY





Description of Strata is according to Unified Soil Classification System

GEOTECHNICS PHILIPPINES, INCORPORATED



							100	2	7			ILS AND MA 119 SAUYO TEL. NO. 9	ROAI	D, N	OVAL	LIC	HES,	, QU	IEZO	N CITY			DPWH-BR	S Accredited
CLIE	ENT	MOHR	I, ARC	HITECT	& ASS	OCI	ATI	S,	IN	C.												BOREHOLE NO.	BH- 1	
PRO	JECT	Propo	sed Ma	ayon Eva	cuatio	on Ce	ente	<u> </u>	Pol	ane	gui N	orth Central	Sch	ool)							JOB NO. 22	09-10.R1-FBL-0	01
LOC	ATION	Centro	o Orier	ntal, Pro	vince o	of All	bay	<u> </u>					DR:	ILLE)			R.	PC	DLIDAN		SHEET	1 of 1	
RIG		KSK S		· ·									LOC	GGEI)			R.	PC	DLIDAN		0.0	0 to 10.00 meters	
				t 63.50 Kg									DA	TE S	TART	ΓED				17, 201	.0	GROUND LEVEL	- m.	
		Fall Hei	ght 76,2	0 cm.									DA ⁻	TE C	ОМРІ	LET	ED					WATER LEVEL	1.05 m.	
MET	HOD	WASH	BORI	NG									NO	RTH:	NG			_				EASTING	_	
											F)	NAL BOI	RII	١G	L	00	<u> </u>							
DI	EPTH	SOIL	SAMPLE	TYPE OF	REC	RQD	P	L N	NMC	LI	- PI	CONSISTENC	, [o -	N - \	V A	L U	E	T			OIL DESCRIPTION		OTHER
	(m)	SYMBOL	NUMBER	SAMPLIN	G (cm)	(%)	21		-	— 80 10		CONSISTENC	<u> </u>	9 -	% C			over	´ I			OIL DESCRIPTION		TEST DATA
∇	- - - - 1.00 ·	- - - -	S-1	28	VERY STIFF	F	26					Ш		ces of	ILT with little ar gravel, dark gra 4)									
¥	- - -		S-2	SPT	45	-					NF			16							of grav	ND, fine to coars		
	- 2.00 · - - -		S-3	SPT	45	 -					NF	MEDIUM DEN	ISE	18					Ш		dark g	aded SAND with ray, moist	little amount of	
	- 3.00 · - - -		S-4	SPT	45	_					NF			11						(SP-SM) NB: (8)		st		
	- 4.00 · - - -		S-5	SPT	45	_					2	LOOSE		7					Ш	(SM) Sil dark gra NB: (5)	ay, ver	ND, fine to mediony moist	um grained,	
	- 5.00 · - - - - 6.00 ·		S-6	SPT	45	-					NF			21					Ш		ount o	y graded SAND f gravel, dark g)		
	- - -		S-7	SPT	45	ı	۱۹				NF	MEDIUM DEN		19					Ш	(SM) Sil traces c NB: (5)	of grav		e grained with	
	- 7.00 · - - - - 8.00 ·		S-8	SPT	39	-					NF			18					Ш	(SP) Poo dark gra NB: (8)	ay, mo		some gravel,	
	- - -		S-9	SPT	45	-					NF	DENSE		31						(SP)w NB: (10				
	- 9.00 · - - -		S-10	SPT	45	-					NF	MEDIUM DEN	ISE	25					11.	traces on NB: (9)	f grav (11)(1	y graded SAND vel, dark gray, m 4) ORING AT 10.0	oist	
Тур	10.00 oe of Sa	mpling			Type of S	Soil	ш	ـــــــ	ш	ш	+		CON		ц ф ;TFN	AC,	 Y	ш		7		MOISTURE	PERCENTA	GF
	ST PE	FANDARD NETRATION EST (SPT) NDISTURBED AMPLING IDS) DRING ERG)		Silty CLAY Clayey SILT Clayey SAND Silty SAND Clayey silty	SAND	00000000000000000000000000000000000000	Well with GRAV SILT: TUFF	/EL STONI	d GR/	VEL STON	N- 0 2 4 8	COHESIVE SOI VALUE CONSIS - 2 - VERY - 4 - SOFT - 8 - FIRM - 15 - STIFF 5 - 30 - VERY > 30 - HARD	ILS STEN SOFT	ICY	0 4 10 30	/ALI - 4 - 1 - 3	SIC UE 4 - .0 - 30 -	CO - VE - LO - ME - DE	NSI RY L OOSE EDIU	IM DENSE	MOIS RANGI 0 - 1 10 - 3 30 - 7	TURE CONTENT S VALUES O - DRY O - MOIST O - VERY MOIST O - WET	% of SAND and G	GRAVEL LUES CES LE
REM	ARKS:	Poc -	Poss			***						Blows HW		<u></u>	n~	or	١٨/ -	ia h	nt.			Prepared by : D	TILLETEE	
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		RQD =	= Rock	Quality								Core Recov									\neg	Δ	UTHORIZED SIGNATO	ORY
D		of Strat								_												Date Issued :		

Date Issued :



Reference Joint Spacing: #1 > 30cm.

RQD = Rock Quality Designation

Description of Strata is according to Unified Soil Classification System

30 cm.>#2>10cm.

GEOTECHNICS PHILIPPINES, INCORPORATED SOILS AND MATERIALS TESTING LABORATORY



LIE	NT	МОНЕ	RT. ARC	HITECT	& ASS	SOCI	ATE	S. 1	INC	_											BOREHOLE NO.	BH- 2		
ROJ	ECT										ui Na	rth Central	Schoo	n							JOB NO. 22	09-10.R1-FBL-(02	
OCA	TION			Orienta				<u> </u>		9		Ten ochtran	DRILL				F	R. P	OLIDAN		SHEET	1 of 1		
.IG		KSK S		o i i ci i ca	,	******		,	,,,				LOGG	Đ					OLIDAN		0,00 to 10,00 meters			
				63.50 Kg.									DATE	STA	RTE	D			. 18, 20		GROUND LEVEL	- m.		
		Fall Hei	ght 76.2	0 cm.									DATE	COI	MPLE	TED			. 18, 20	WATER LEVEL	0.97 m.			
1ETH	HOD	WASH	1 BORI	NG									NORTI	HIN	G		_	-			EASTING	-		
											FI	NAL BO	RING	G	LC	G					•			
DE	PTH	SOIL	SAMPLE	TYPE OF	REC	RQD	-		мс 0 —		PI	CONSISTENC			- V					S	OIL DESCRIPTION		OT TI	
(r	m) _	SYMBOL	NUMBER	SAMPLING	3 (cm)	(%)	20	40	60 80	100				Î	20 4	0 60	80	100					D.	
<u> </u> - -	- - - 1.00 -		S-1	SPT	40	_					25	STIFF	13							dark g	ILT with sand and ray, very moist	nd traces of		
-			S-2	SPT	45	_					28	FIRM	8						(MH) NB: (4)		me sand			
-	- 2.00 - - -		S-3	SPT	45	_					4		23	١						dark g	ey silty SAND wi ray, very moist 13)	th traces of		
3.00				4 SPT 45 -						NP	MEDIUM DEN	13							of grave	y graded SAND vel, dark gray, ve				
-	- 4.00 - - -		S-5	SPT	45	_					NP	LOOSE	8						(SP-SM NB: (2)) moist (3)(5)				
-	- 5.00 - - - - 6.00 -		S-6	SPT	45	_					NP	MEDIUM DEN	SE 27	9					(SP-SM NB: (10					
-	- 0.00 - - - 7.00 -		S-7	S-7 SPT 45 -					24	VERY STIFF	: 16							h gray	ILT with little an , very moist)	nount of sand,				
-	•		S-8	SPT	45					N		DENSE	32							dark gı	ray, moist	little amount of		
-	- 8.00 -		S-9	SPT	45	_					26	MEDIUM DEN	SE 27						(SP)v NB: (10		ces of gravel 15)			
	- 9.00 - - - -		S-10	SPT	45						NP		10						(SP)c NB: (7)	(5)(5)	oring at 10.0	O METERS\		
Туре	10.00 e of Sar	npling	3-10		ype of s	L - Soil	Щ	ЬШ	Ш		H INP		10 ONSI	6	EN,	CV CV	Ш	Ш	I / EINL		MOISTURE	PERCENTA	L AGE	
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		RG)		SAND	, ,	A A A	Tuffed	eous	SILTS	TONE	Ι.	30 - HARD	- 1 2 1 1			20	_	v L N 1	. DENSE	~ 101	SATURATED	20 42 - MIL	.,	

10 cm. >#3>3cm.

3 cm. >#4>1cm.

SCR = Solid Core Recovery

#5 <1cm.

Certified by :

Date Issued :

A.B.A. / M.R.R.

AUTHORIZED SIGNATORY



CLIENTMOHRI, ARCHITECT & ASSOCIATES, INC.	JOB NUMBER 2209-10.R1-SUM-1
PROJECT Proposed Mayon Evacuation Center (Polangui North Central School)	DATE OF RECIEPT October 27, 2010
LOCATION Centro Oriental, Province of Albay	DATE OF TEST October 27-30, 2010

SUMMARY OF LABORATORY TESTS

SAMPLE	DEPTH (m)	NMC (%)	ATTERBERG LIMIT, (%)			USCS	SIEVE ANALYSIS (% FINER) PASSING SIEVE NO.										Remarks
NUMBER			LL	PL	PI	Class.	1	3/4	3/8	4	10	20	40	60	140	200	
BH-1																	
11	0.55 - 1.00	45	60	32	28	МН			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	МН			100	98	95	86	78	72	69	67	-
2	1.55 - 2.00	50	60	32	28	МН			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	МН					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	

REMARKS:	* with hydrometer				
CERTIFIED BY:	AUTHORIZED SIGNATORY				







Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number2209-10.R1-NMC-01-1
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 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

BOREHOLE NO...BH-1

SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	WATER CONTENT (%)	REMARKS
				ľ	NATURAL 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	WET SOIL	DRY SOIL	WATER	DISH	DRY SOIL	% Retained	ATTERBE	RG LIMIT	DEMADES
NUMBER	DEFIN (III)	BLOWS	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	on 0.425 mm	LL	PL	PL REMARKS
					LIC	QUID LIMIT					
5	4.55-5.00	20	37.64	30.35	7.29	10.04	20.31		35		35
J	4.55-5.00	20	37.80	30.46	7.34	10.00	20.46		35		33
					PLA	STIC LIMIT	Γ				
5	4.55-5.00	Р	22.78	19.47	3.31	9.49	9.98			33	33
J	4.55-5.00	Р	22.80	19.50	3.30	9.50	10.00			33	33

Uncertainty Results:	Water Content (%) = ± 0.0360	Liquid Limit = ± 0.0922	Plastic Limit = ± 0.2017
Note: The reported expanded	I uncertainty is based on a combin-	ed uncertainty by a coverage facto	or of k=2, providing a level of confidence of
approximately 95%.			LAB.FILE NO.:NMC-10-502
SAMPLE SUBMITTED BY : Walk-in Clients	GPI Field Operator	REMARKS:	
R. POLIDAN			
COMPUTER PRINT-OUT By: MARIA ANTONIET	TE P. CUNAHAP		
Enco	oder	TESTED BY:	ARTURO Q. AQUINO
	NBA/MRR uality Assurance		LABORATORY TECHNICIAN
	,	CERTIFIED BY:	
Date Issued:			AUTHORIZED SIGNATORY







LABORATO PNS ISO/IEC 17 LA-2006-0	025:2005					LS TESTINO valiches, Qu		ORY		DPWH-E	BRS Accredited
_	MOHRI & PA	ASSOCIAT	TES, INC.					Job Numbe	er	.2209-10.I	R1-NMC-01-2
	Proposed May		-		gui North	Central S	School)			October 2	
Location	Centro Oriental	Province of	of Albay					Date of Te	st	October 2	27-28, 2010
TEST RE	PORT FOR LAB	ORATOR		MINATIO ASTM D			ISTURE)	CONTEN	T OF SOI	L & ROCI	K BY MASS
BOREHOLE	NOBH-1		Test	Method	✓ A	□В					
SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)		CONTENT %)		REMARK	(S
	I			ı	NATURAL M	MOISTURE (CONTENT		I.		
7	6.55-7.00	106.18	84.64	21.54	9.68	74.96	2	29			
8	7.55-8.00	106.20	88.30	17.90	9.65	78.65	2	23			
9	8.55-9.00	100.58	82.29	18.29	9.49	72.80	2	25			
10	9.55-10.00	100.10	81.67	18.43	9.73	71.94	2	26			
	TEST REPOR	T FOR L		-		LIMIT A 1318 - 05		В	INDEX	OF SOIL	S
SAMPLE	DEPTH (m)	BLOWS		DRY SOIL	WATER	DISH	DRY SOIL	% Retained	ATTERBE	RG LIMIT	REMARKS
NUMBER	DEI III (III)	DLOWS	DISH (g)	DISH (g)	(g)	MASS (g)	(g)	on 0.425 mm	LL	PL	KEWAKKS
	1		1		LIC	QUID LIMIT	-				
					PL <i>E</i>	ASTIC LIMIT	 Г				
Uncertainty Note: The reapproximate	ported expanded		tent (%) =			uid Limit =				evel of conf	fidence of O.:NMC-10-50
	BMITTED BY :	NO FIRM C				REMARKS:					
☐ Walk-in (uients 🔽 (GPI Field Op	erator								
COMPUTER	PRINT-OUT			=							

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By: MARIA ANTONIETTE P. CUNAHAP Encoder

Data Checked by:
ABA/MRR
Quality Assurance

Date Issued: ____

TESTED BY : ARTURO Q. AQUINO

CERTIFIED BY :

LABORATORY TECHNICIAN

AUTHORIZED SIGNATORY



1

2

0.55-1.00

1.55-2.00

2.55-3.00

109.70

93.90

121.90

77.86

65.88

92.02

31.84

28.02

29.88





PNS ISO/IEC 17 LA-2006-0	025:2005	DPWH-BRS Accredited								
Client	MOHRI, ARCH	ITECT &	ASSOCIA	TES, INC			Job Num	ber2209-10.R1-NMC-02-1		
Project	Proposed Mayo	n Evacua	tion Cente	er (Polan	gui North	Central S	chool) Date of I	Date of Receipt October 27, 2010		
Location	Centro Oriental,	Province of	of Albay				Date of	Test October 27-28, 2010		
	PORT FOR LAB	ORATOR			2216 - 0	•	ISTURE) CONTE	NT OF SOIL & ROCK BY MASS		
SAMPLE NUMBER	DEPTH (m)	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	WATER CONTENT (%)	REMARKS		
					MATHDAL M	OISTUDE C	ONTENT			

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

9.84

9.65

9.54

68.02

56.23

82.48

47

50

36

% ATTERBERG LIMIT WET SOIL DRY SOIL WATER DRY SOIL SAMPLE DISH Retained **BLOWS** DEPTH (m) **REMARKS** NUMBER DISH (g) DISH (g) MASS (g) on 0.425 (g) (g) LL PLmm LIQUID LIMIT 10.10 20 38.10 30.25 7.85 20.15 38 3 2.55-3.00 38 20 37.94 30.14 7.80 10.08 20.06 38 PLASTIC LIMIT 9.56 Ρ 22.78 19.45 3.33 9.89 34 2.55-3.00 3 34 22.81 19.45 3.36 9.55 9.90 34

<u> </u>					<u> </u>
Uncertainty Results:	Water Content (%)	= ± 0.0380	Liquid Limit = :	± 0.0932	Plastic Limit = ± 0.2038
Note: The reported expand	ded uncertainty is based o	n a combined unc	ertainty by a cove	rage factor of I	k=2, providing a level of confidence of
approximately 95%.					LAB.FILE NO.:NMC-10-503
SAMPLE SUBMITTED BY :	_		REMARKS:		
Walk-in Clients	✓ GPI Field Operator		_		
R. POLIDAN		<u>—</u>	=		
COMPUTER PRINT-OUT			=		
By: MARIA ANTON	IETTE P. CUNAHAP				
E	ncoder		TESTED BY :		ARTURO Q. AQUINO
Data Checked by:	ABA/MRR				LABORATORY TECHNICIAN
Data Checked by.	Quality Assurance				
	,		CERTIFIED BY :		
Date Issued:			-		AUTHORIZED SIGNATORY







Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number	. 2209-10.R1-AL-01-1
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 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 DESCRI	PTION			
SAMPLE NO	S-1		USCS CLAS	S	MH			Elastic SILT				
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		65 -					
<u>DETERMINATION</u>	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2	(64 -	``				
DISH NUMBER	A 2	A37	A82	B32	B98	(%)	63 -					
WET SOIL + DISH (g)	32.75	35.28	38.40	22.71	22.74	tent	62 -	`	$\sqrt{}$			
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	are	60 -		\ x			
DISH MASS (g)	9.64	9.70	9.80	9.53	9.54	Moist	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	0	No.	of Blows		100
% RETAINED ON 0.425	5mm				12.48		LL =	60	PL =	32	PI =	28

BOREHOLE NO			DEPTH (m))			SOIL DESCRIPTION	l		
SAMPLE NO	••		USCS CLAS	SS						
MOISTURE CONTENT DETERMINATION DISH NUMBER WET SOIL + DISH (g) DRY SOIL + DISH (g)		QUID LIMI <u>TRIAL 2</u>	T TRIAL 3	PLASTI TRIAL 1	C LIMIT TRIAL 2	Content (%)				
WATER (g) DISH MASS (g) DRY SOIL (g) MOISTURE CONTENT						Moisture				100
NUMBER OF BLOWS							10 ı	No. of Blows		100
% RETAINED ON 0.425	5mm					LL =	: PL	=	PI =	

Liquid Limit = + 0.1355	Plastic Limit = ± 0.2008
'	Plastic Limit =
'	e factor of k=2, providing a level of confidence
, , , ,	LAB.FILE NO.:AL-10-650
REMARKS:	
. —	
TESTED BY :	ARTURO Q. AQUINO
	LABORATORY TECHNICIAN
	
CERTIFIED BY :	
	AUTHORIZED SIGNATORY
	REMARKS:

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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		(SOIL DESCRI	IPTION						
SAMPLE NO	S-1		USCS CLAS	S	МН		E	Elastic SILT							
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		61 _T					\neg			
<u>DETERMINATION</u>	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2	_	60 -	•							
DISH NUMBER	A43	A68	A14	B75	B25	%	59 -								
WET SOIL + DISH (g)	32.44	35.27	38.18	22.58	22.61	Content	58 -	`	\bigvee						
DRY SOIL + DISH (g)	24.33	25.94	27.55	19.38	19.39	Con			•						
WATER (g)	8.11	9.33	10.63	3.20	3.22	re	57 -		X						
DISH MASS (g)	9.60	9.72	9.85	9.39	9.38	Moist	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					Щ			
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	RIPTION		
SAMPLE NO	SAMPLE NO S-2			S	МН		El	lastic SIL7	Ī		
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		65 _T				
<u>DETERMINATION</u>	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2	_	64 -	•			
DISH NUMBER	B17	B24	B90	A48	A32	%	63 -	`			
WET SOIL + DISH (g)	32.52	35.40	38.34	22.68	22.74	tent	62 -				
DRY SOIL + DISH (g)	24.12	25.67	27.21	19.51	19.56	S	61 -		•		
WATER (g)	8.40	9.73	11.13	3.17	3.18	ture	60 -		🗙		
DISH MASS (g)	9.63	9.72	9.83	9.48	9.55	Moist	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 Blo	WS	100
% RETAINED ON 0.425	5mm				18.94	I	L =	60	PL = 32	PI =	= 28

Uncertainty Results: I	Liquid Limit = ± 0.1346	Plastic Limit = ± 0.2008
II	Liquid Limit = ± 0.1368	Plastic Limit = ± 0.1998
Note: The reported expanded uncertainty is based	on a combined uncertainty by a coverag	e 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 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







Rev.5/ Dec.2009

Client MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number	2209-10.R1-AL-02-2
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))	6.55-7.00		(SOIL DESCRI	PTION			
SAMPLE NO	S-7		USCS CLAS	S	МН		Elastic SILT					
MOISTURE CONTENT	L	IQUID LIMI	Т	PLASTI	C LIMIT		61 _T					\neg
<u>DETERMINATION</u>	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2	_	60 -	•				
DISH NUMBER	B52	B21	B63	C85	C57	(%)	59 -					
WET SOIL + DISH (g)	32.70	35.49	38.50	22.67	22.71	tent	58 -	`	\setminus			
DRY SOIL + DISH (g)	24.61	26.12	27.74	19.47	19.49	Con	57 -		•			
WATER (g)	8.09	9.37	10.76	3.20	3.22	re	56 -		X			
DISH MASS (g)	9.63	9.70	9.82	9.52	9.54	Moist	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					Щ
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

BOREHOLE NO			DEPTH (m))		SOIL DESCRIPTION						
SAMPLE NO	••		USCS CLAS	SS								
MOISTURE CONTENT <u>DETERMINATION</u>				PLASTI TRIAL 1	C LIMIT TRIAL 2	2						
DISH NUMBER						(%) 1						
WET SOIL + DISH (g)						Content 1						
DRY SOIL + DISH (g)						U 1	-					
WATER (g)						ture						
DISH MASS (g)						Moistu						
DRY SOIL (g)						2						
MOISTURE CONTENT						0	+					
NUMBER OF BLOWS							10	No. of B	lows		100	
% RETAINED ON 0.425	5mm					LL :	=.	PL =		PI =		

Uncertainty Results: I	Liquid Limit = ± 0.1330	Plastic Limit = \pm 0.2017
II	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		
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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Final Report Form - 2







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

BH / SAMPLE NO BH-1 0 1 DEPTH (m) 0.55-1.00 SOIL DESCRIPTION Elastic SILT SIEVE SIZE Cumm.Mass Cumm.%						☐ <u>2</u> 1.55-2.00 Silty SAND			△ 3 2.55-3.00 Poorly graded SAND			
SIEVE	SIZE	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	s Cumm.%	Percent	Cumm.N	Mass	Cumm.%	Percent	
inches	<u>mm</u>	Retained (g)	Retained	<u>Finer</u>	Retained (g	<u>Retained</u>	<u>Finer</u>	Retained	d (g)	Retained	<u>Finer</u>	
2 1/2	62.5											
2	50.0											
1 1/2	37.5											
1	25.0											
3/4	19.0										100	
3/8	9.5			100			100	8.95	5	13.14	87	
4	4.75	1.33	2.29	98	3.64	5.36	95	14.80		21.73	78	
10	2.0	2.03	3.49	97	13.08	19.27	81	24.60		36.12	64	
20	0.8	4.22	7.26	93	26.71	39.34	61	37.70		55.35	45	
40	0.425	7.25	12.48	88	38.38	56.53	43	51.4		75.58	24	
60	0.25	9.98	17.18	83	46.11	67.92	32	61.19		89.84	10	
140	0.23	13.08	22.52	77	50.79	74.81	25	65.80		96.61	3	
200	0.105	14.10	24.27	7 <i>7</i> 76	50.79	74.61 75.89	25 24	66.2		97.30	3	
	IED MASS			70	51.52	67.89 gms	24	00.2			3	
OVEN DR	11 2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2			#10	#20		#200			68.11 gms		
100 +	- 5		* O	*	# #	# F	*	HYDR	YDROMET			
90 +					9		:					
		*		\searrow		√						
80 +			*	1			Ż					
70 +												
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30 +		: : :	1111		 		<u>:</u>		1111			
20 📙												
20												
10 +		: : : :	1		 	*	:		++++			
0 ⊥	COARSI	FINE	COARS	SE MED	IUM	FINE	<u> </u>					
100 COBBLES		10 GRAVEL			1 Particle S SAND	Size (mm) 0.1).01 SILT (OR CLAY)	0.0	
- with H	Hydrometer					REMARKS	S-3:	Cu =	6.64	Cc =	0.61	
MPLE SUE	BMITTED BY:											
] Walk-in	Clients 🔽	GPI Field Opera	ator									
POLIDAN		or resid opera										
				_		TESTED BY :		ΔRTI	IRO O	. AQUINO		
	PRINT-OUT	MUETTE D. OUI	IALIAD			TESTED DI .				TECHNICIAN		
<i>By:</i>		NIETTE P. CUN	IAHAP					LABUKA	IOKY	ICOMINICIAN		
	l	Encoder										
Data Char	kad bu	V D V /V / D D				CERTIFIED BY						
лата Спест	кей by:	ABA/MRR Quality Assur						AUTHORIZED SIGNATORY				
								0503 LAB.FILE NO.:GSA-10-40				

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factor of k=2, providing a level of confidence of approximately 95%.







ClientMOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number	. 2209-10.R1-GSA-01-2
ProjectProposed Mayon Evacuation Center (Polangui North Central School)	Date of Receipt	October 27, 2010
Location Centro Oriental, Province of Albay	Date of Test	October 28, 2010

		LE NO	<u>BH-1</u>	O <u>4</u> 3.55-4.00			•	□ <u>5</u> 4.55-5.00		·			△ 5.55-			
		RIPTION	Poo	rly graded SAND				Silty SAND				Poorly (vith silt	
	SIEVI	E SIZE	Cumm.Mass		Percent	Cumi	m.Mass		, o	Percent	Cumm.			nm.%		
inc	hes	<u>mm</u>	Retained (g)		<u>Finer</u>		ined (g)			<u>Finer</u>	Retaine	ed (g)		ained	Percent Fi	<u>ner</u>
2 1	1/2	62.5														
1	2	50.0														
1 1	1/2	37.5														
-	1	25.0														
3,	/4	19.0			100										100	
3,	/8	9.5	7.71	9.50	90						5.5	1	6.	.01	94	
4	4	4.75	16.71	20.60	79	0).16	0.21		100	14.5	54	15	.85	84	
1	10	2.0	26.91	33.17	67	1	.00	1.30		99	23.3	30	25	.41	75	
2	20	0.8	43.29	53.37	47	6	.68	8.66		91	44.0			3.00	52	
4	10	0.425	63.22	77.93	22		1.73	28.17		72	71.2		77	.72	22	
6	50	0.25	73.25	90.30	10		3.98	44.06		56	80.5			.80	12	
	40	0.105	78.10	96.28	4		1.07	66.21		34	85.5			3.23	7	
20	00	0.075	78.82	97.16	3	52	2.20	67.68		32	86.5	57	94	.40	6	
OVI	EN DF	RIED MASS	t t	81.12 gms	f3.		(0000	77.13 gms					91.71	gms		
	100			#	#10	#20	#40	#60	#200		HYDR	ОМ	ETE	R		
'	100 T				Ψ_											
	90 +	1 1 1				T.	1	1	++							
						: N										
	80 +				$\overline{}$		/:	1								
	70 \					1:11	<u> </u>		11:1			-				
p					Q \		: \									
Percent Passing	60 +		: : :		\rightarrow		-	14	+++							
Ра	50 +				\											
ent						$ \nabla $										
) erc	40 +					++	++-									
_	30 +								1-0							
	30			1 1			\	1 1								
	20 +			:			*									
	10 +			i				XXX								
	0								}							
	10	COARS 0	E FINE			IUM 1 Pa	article S	FINE Size (mm) 0	0.1			0.01			0.00	01
COB	BLES		GRAVEL			SAND		- (FINES		OR CL	AY)		
* -	with I	Hydrometer						REMARK	(S:_	S-4:	Cu =	5.68		Cc =	0.74	
		BMITTED BY:							_	S-6:	Cu =	5.57		Cc =	1.19	
☐ Wa	alk-in	Clients <	GPI Field Ope	rator					_							
R. POL	LIDAN	J			=											
COMPL	UTER	PRINT-OUT						TESTED BY	': _		ART	TURO C). AQU	JINO		
By:			ONIETTE P. CL	JNAHAP							LABOR	ATORY	TECH	INICIA	N	
			Encoder													
Data	Chec	rked hv	ΔΒΔ/ΜΡΡ					CERTIFIED B	BY : _							
Data	Data Checked by: ABA/MRR Quality Assurance										AUTH	ORIZED				
	·					y Resu	lts:	% Finer	_ ±	0.0422			LAB.F	ILE N	O.:GSA-10-4	404
Date	Issue	ed:						anded uncert					uncer	tainty	by a covera	age
					factor of k	=2, pro	oviding	a level of con	ifiden	ce of app	roximately	95%.				

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GEOTECHNICS PHILIPPINES, INC.

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



ClientMOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number	. 2209-10.R1-GSA-01-3
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 28, 2010

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

	SAMPLE NO		<u>0 7</u>		·	<u> </u>	<u>∆</u> <u>9</u>				
	H (m)		6.55-7.00		Do	7.55-8.00		De	8.55-9.00	ND	
	DESCRIPTION		Silty SAND	D		oorly graded SAND	Demonst		oorly graded SAI	ND	
	SIEVE SIZE	Cumm.Mass Retained (q)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% <u>Retained</u>	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	
<u>inch</u> 2 1		Retained (g)	Retaineu	<u>FILIEL</u>	Ketaineu (g)	Retained	<u>riner</u>	Retained (g)	Retaineu		
2 1											
11											
1											
3/							100			100	
3/				100	10.82	13.76	86	3.37	4.63	95	
4		1.58	2.11	98	24.26	30.85	69	5.88	8.08	92	
10		3.05	4.07	96	34.63	44.03	56	13.14	18.05	82	
20		11.89	15.86	84	43.74	55.61	44	26.35	36.20	64	
40		31.58	42.13	58	58.67	74.60	25	51.89	71.28	29	
60		45.02	60.06	40	69.16	87.93	12	65.23	89.60	10	
14		56.50	75.37	25	74.82	95.13	5	69.20	95.05	5	
20		58.44	77.96	22	75.56	96.07	4	70.00	96.15	4	
	N DRIED MASS		74.96 gms			78.65 gms			72.80 gms		
	3" 2 1/2" 2" 1 1/2	3/8	#	#10	#40	#140		HYDROM	IETER		
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				7							
	80	 	N		H:N -						
	70										
	, o										
Percent Passing	60			$\times \bot$	 						
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tu l	50	: : :									
) Sice	40		!								
٣						[: : :					
	30	1 1			 : 						
	20	: : :									
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	OARS		I COAD	MED		FINE	4 2				
000	100	10	COARS	SE MED	1 Particle S			0.01	00 01 110	0.001	
	BLES with Hydrometer	GRAVEL			SAND	REMARKS :	S-8:	FINES (SILT		0.38	
	with Hydrometer E SUBMITTED BY:					REIVIARNS .		Cu = 10.19			
	alk-in Clients 🔽		ator			-	S-9:	Cu = 3.56) CC =	1.19	
R. POL		GFT FIEIG Oper	atui			-					
				_ 		TESTED BY :		ARTHR∩	Q. AQUINO		
	JTER PRINT-OUT	ONIETTE D. CIII	NIALIAD			-			Y TECHNICIA	N	
<i>By:</i>		ONIETTE P. CU Encoder	IVALIAL					LABORATOR	. ILOHINIOIP		
						CERTIFIED BY :					
Data	Checked by:		ranco			-			D SIGNATOR	Υ	
		Quality Assu	ii ance	Uncertaint	y Results:	% Finer =	± 0.0468			O.:GSA-10-404	
Date	Issued:				=	anded uncertaint	v is based	on a combined			
2010						a level of confider				.,	
					. 3		1.1				







ClientMOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number	2209-10.R1-GSA-01-4
ProjectProposed Mayon Evacuation Center (Polangui North Central School)	Date of Receipt	October 27, 2010
Location Centro Oriental, Province of Albay	Date of Test	October 28, 2010

BH / SAMPLE NO..... Δ <u>BH-1</u> <u>010</u> 9.55-10.00 DEPTH (m)..... SOIL DESCRIPTION..... Poorly graded SAND with silt SIEVE SIZE Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Cumm.Mass Cumm.% Percent Finer inches Retained (q) Retained <u>Finer</u> Retained (q) Retained <u>Finer</u> Retained (q) Retained <u>mm</u> 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 1.56 2.17 4 10 2.0 7.69 10.69 29 25.83 35.90 20 0.8 64 0.425 71.10 40 51.15 29 0.25 62.52 86.91 60 13 140 0.105 67.14 93.33 7 200 0.075 68.33 94.98 5 OVEN DRIED MASS 71.94 gms #200 #10 #40 09# HYDROMETER 100 90 80 70 Percent Passing 60 50 40 30 20 10 n COARSE Particle Size (mm) 100 10 0.01 0.001 COBBLES SAND FINES (SILT OR CLAY) GRAVEL * - with Hydrometer **REMARKS**: S-10: Cu = 3.99 Cc = 1.26SAMPLE 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 = ± 0.0471 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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ClientMOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number	. 2209-10.R1-GSA-02-1
ProjectProposed Mayon Evacuation Center (Polangui North Central School)	Date of Receipt	October 27, 2010
Location Centro Oriental, Province of Albay	Date of Test	October 28, 2010

E NO	<u>BH-2</u>	<u>0 1</u>						<u> </u>	
RIPTION		0.55-1.00			□ <u>2</u> 1.55-2.00			2.55-3.00	
		lastic SILT			Elastic SILT		CI	ayey silty SAND	
SIZE	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent
<u>mm</u>	Retained (g)	Retained	<u>Finer</u>	Retained (g)	<u>Retained</u>	<u>Finer</u>	Retained (g)	<u>Retained</u>	<u>Finer</u>
62.5									
			100			100			100
	1 15	1 40		2 51	1 14		2 21	2.00	100 97
									97 91
									82
									71
									60
									39
									37
IED MASS					56.23 gms		02.00	82.48 gms	
3" 21/2" 2" 11/2	3/4	4	#10	#20	,	#200	HYDROM		
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	: : : ::	++++		 	, or				
					×				
	1 1 1				: \ ;				
	: : :								
						<u> </u>			
		COARS			FINE				
								OR CLAY)	0.001
=					REMARKS				
BMITTED BY:									
Clients ✓	GPI Field Opera	itor							
			_						
PRINT-OUT					TESTED BY :		ARTURO C	. AQUINO	
	NIETTE P. CUN	IAHAP				.	LABORATORY	TECHNICIAN	-
I	Encoder								
				(ERTIFIED BY				
red by:								SIGNATORY	
	Quality Assur	ance	Uncertaint	y Results:	% Finer =	± 0.0454			GSA-10-40
d:									
	50.0 37.5 25.0 19.0 9.5 4.75 2.0 0.8 0.425 0.25 0.105 0.075 ED MASS COARS ydrometer MITTED BY: Clients PRINT-OUT MARIA ANTO ed by:	50.0 37.5 25.0 19.0 9.5 4.75 1.15 2.0 3.31 0.8 9.30 0.425 14.66 0.25 19.05 0.105 21.10 0.075 22.40 ED MASS 6 COARSE FINE 10 GRAVEL COARSE FINE 10 GRAVEL	50.0 37.5 25.0 19.0 9.5 4.75 1.15 1.69 2.0 3.31 4.87 0.8 9.30 13.67 0.425 14.66 21.55 0.25 19.05 28.01 0.105 21.10 31.02 0.075 22.40 32.93 ED MASS 68.02 gms COARSE FINE COARSE FINE COARSE OGRAVEL OG	50.0 37.5 25.0 19.0 9.5 1.15 1.69 98 2.0 3.31 4.87 95 0.8 9.30 13.67 86 0.425 14.66 21.55 78 0.25 19.05 22.40 32.93 67 ED MASS 68.02 gms COARSE FINE 10 GRAVEL GRAV	50.0 37.5 25.0 19.0 9.5 1.15 1.69 98 2.51 2.0 3.31 4.87 95 6.56 0.8 9.30 13.67 86 8.53 0.425 14.66 21.55 78 10.65 0.25 19.05 22.10 31.02 69 15.20 0.075 22.40 32.93 67 15.97 ED MASS 68.02 gms 68.02 gms 68.02 gms 68.02 gms 69.02 gms 69.02 gms 69.02 gms 60.02 g	50.0 37.5 25.0 19.0 19.0 9.5 1.15 1.69 98 2.51 4.46 2.0 3.31 4.87 95 6.56 11.67 0.8 9.30 13.67 86 8.53 15.17 0.425 14.66 21.55 78 10.65 18.94 0.25 19.05 22.40 32.93 67 15.97 28.40 ED MASS 68.02 gms 68.02 gms 68.02 gms 68.02 gms 68.02 gms 68.02 gms 68.02 gms 68.02 gms 68.02 gms 68.02 gms 68.02 gms 68.02 gms 68.02 gms 68.02 gms 72 12.80 19.02 19.03 1	50.0 37.5 25.0 19.0 19.0 9.5 4.75 1.15 1.69 98 2.51 4.46 96 2.0 3.31 4.87 95 6.56 11.67 88 0.8 9.30 13.67 86 8.53 15.17 85 0.425 14.66 21.55 78 10.65 18.94 81 0.25 19.05 22.10 31.02 69 15.20 27.03 73 0.075 22.40 32.93 67 15.97 28.40 72 EDMASS EDM	50.0 37.5 25.0 19.0 9.5 19.0 9.5 1.15 1.69 98 2.51 4.46 96 2.31 4.73 0.8 9.30 13.67 86 8.53 15.17 85 14.93 0.425 14.66 21.55 78 10.65 18.94 81 24.08 0.25 19.05 28.01 72 12.80 22.76 77 32.89 0.105 21.10 31.02 69 15.20 27.03 73 50.60 0.075 22.40 32.93 67 15.97 28.40 72 52.30 ED MASS 68.02 gms 50.23 gms FINE GRAVEL COARSE FINE GRAVEL GRAV	50.0 37.5 25.0 19.0 9.5 1.15 1.69 98 2.51 4.46 96 2.31 2.80 0.8 9.30 13.67 86 8.53 15.17 85 14.93 18.10 0.425 14.66 21.55 78 10.65 18.94 81 24.08 29.19 0.25 19.05 22.40 32.93 67 15.20 27.03 73 50.60 61.35 0.075 22.40 32.93 67 15.97 28.40 72 28.40 72 52.30 63.41 EDMASS 68.02 gms EDMASS 68.02 gms EDMASS EDMA

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ClientMOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number	. 2209-10.R1-GSA-02-2
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 28, 2010

	PLE NO		<u>o</u> <u>4</u> 3.55-4.00		·	□ <u>5</u> 4.55-5.00		•	<u>△</u> <u>6</u> 5.55-6.00				
	CRIPTION	Poorly g	raded SAND wi	th silt	Poorly	y graded SAND	with sil	t	Poorly graded SAND with silt			th silt	
SIEV	/E SIZE	Cumm.Mass	Cumm.%	Percent	Cumm.Mass			Percent	Cumm.		Cumm.%	Percent	
inches	<u>mm</u>	Retained (g)	Retained	<u>Finer</u>	Retained (g)	Retaine	<u>d</u>	<u>Finer</u>	Retaine	<u>ed (g)</u>	Retained	<u>Finer</u>	
2 1/2	62.5												
2	50.0												
1 1/2	37.5												
1	25.0												
3/4	19.0			100									
3/8	9.5	1.08	1.86	98				100					
4	4.75	2.18	3.75	96	1.77	2.32		98				100	
10	2.0	5.93	10.20	90	6.26	8.20		92	2.2	4	3.08	97	
20	0.8	15.46	26.60	73	18.86	24.72		75	13.6	66	18.75	81	
40	0.425	32.88	56.58	43	48.34	63.36		37	43.8	34	60.19	40	
60	0.25	48.30	83.12	17	65.10	85.32		15	59.9	96	82.32	18	
140	0.105	54.70	94.13	6	72.00	94.36		6	67.8	30	93.08	7	
200	0.075	55.45	95.42	5	72.50	95.02		5	68.5	52	94.07	6	
OVEN D	RIED MASS		58.11 gms			76.30 gms					72.84 gms		
100	3" 21/2" 2" 11/2	3/4	##	#10	#20	#60	#140		HYDR	ОМ	ETER		
100 -													
90 -										$+\!\!+\!\!+\!\!+$			
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80 -		: : :	1		V								
70 -		: : :	!!!!		 					Ш			
					 								
Percent Passing	 				 								
as													
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90 40 -													
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10 -		: : :	1 1		 : : 	Т	1						
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0 -	COARS		COAR			FINE							
COBBLES	00	10 GRAVEL			1 Particle S SAND	ize (mm) 0	.1			0.01 (SILT (OR CLAY)	0.001	
	Hydrometer	GRAVEL			SAND	REMAR	/C ·	S-4:	Cu =	4.37		1.17	
	JBMITTED BY:					ILIVIAN		S-5:	Cu =	3.19			
		GPI Field Opei	rator				_					1.22	
		GPT Fleid Opei	atui				_	S-6:	Cu =	3.47	CC =	1.32	
R. POLIDAI				_		TECTED O	, .		ADT	LIDO O	AOLUNO		
	R PRINT-OUT					TESTED BY	r: _				. AQUINO		
<i>By:</i>		ONIETTE P. CU	NAHAP						LABORA	ATORY	TECHNICIAN		
		Encoder											
Data Cho	cked by:	ABA/MRR				CERTIFIED I	BY :						
Data Office		Quality Assu	urance						AUTHO		SIGNATORY		
				Uncertaint	y Results:	% Fine	r = ±	0.0584		I	LAB.FILE NO	:GSA-10-405	
Date Issu	ıed:				reported expa						uncertainty b	y a coverage	
				factor of k	=2, providing	a level of cor	nfiden	ce of appi	roximately	95%.			

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FINAL REPORT

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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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 clayer 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 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.

6.0 SOIL PROPERTIES

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

Se	oil Parameters		
Gravels, Sands, Sil	ty Sands and Clayey cohesive)	Sanç	is (Non-
Sands	C	φ	y (kcf)
Very Loose	()	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	-/NI\$1/W/2	0	0.105
Firm	=(N*10)/2 from	0	0.115
Stiff	3777	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

Depth

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)
	1.0	96
H-2:		

	1.0					96					
The associated	settlement (on the	other	hand	is	within	the	tolerable	engineering	settlement	of

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.

Bearing Capacity (kPa)

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.

WILLIA

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