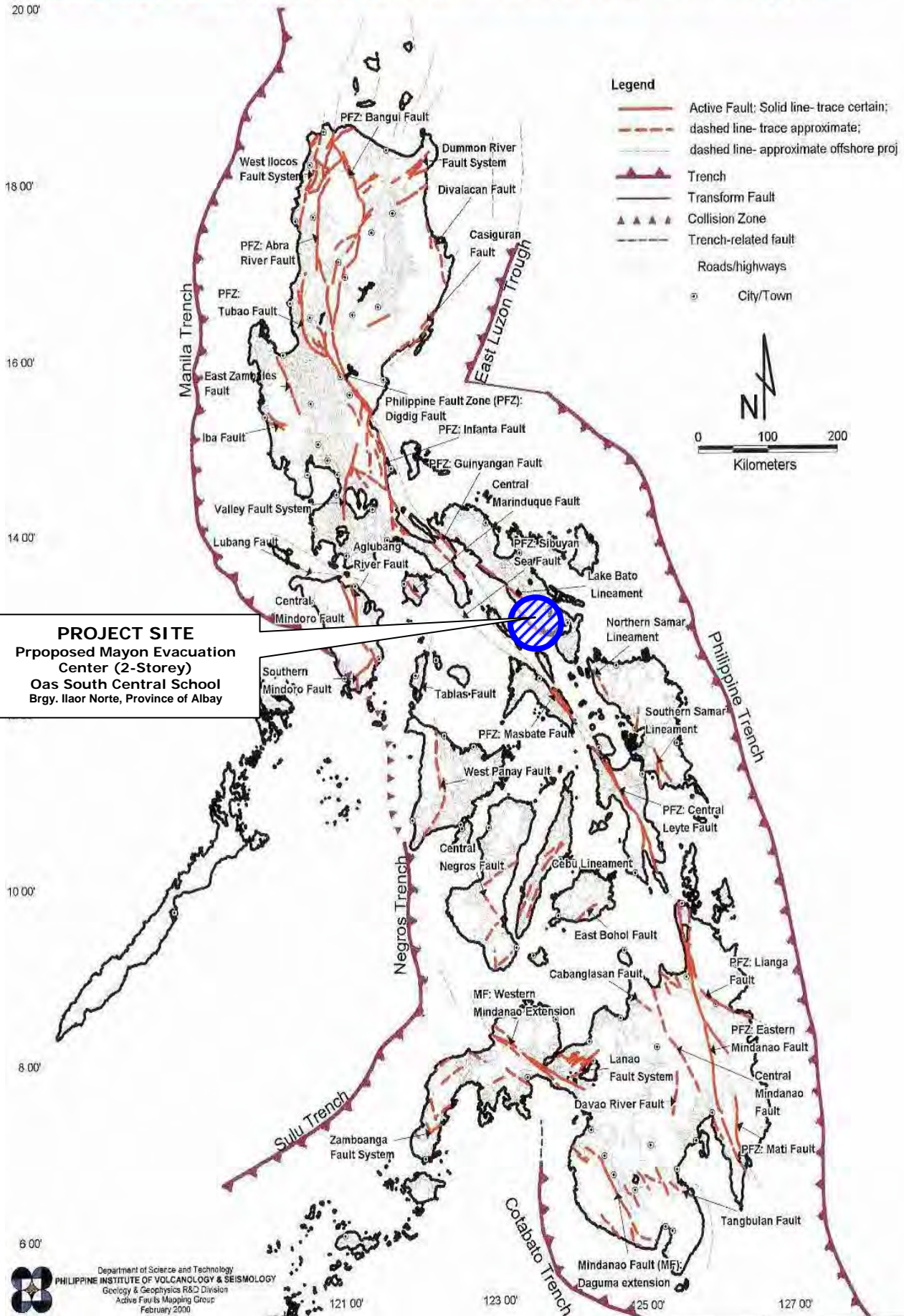


APPENDICES



Distribution of Active Faults and Trenches in the Philippines





VICINITY MAP

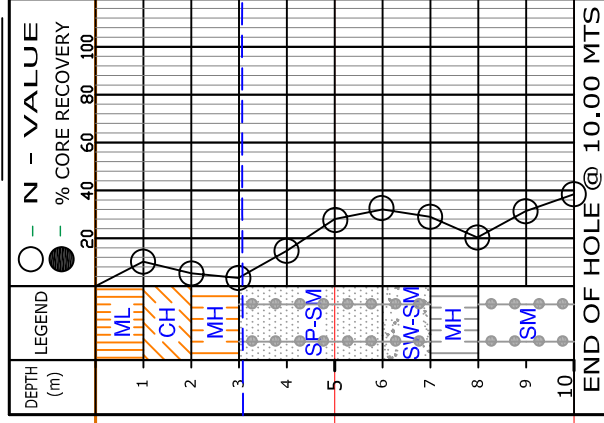
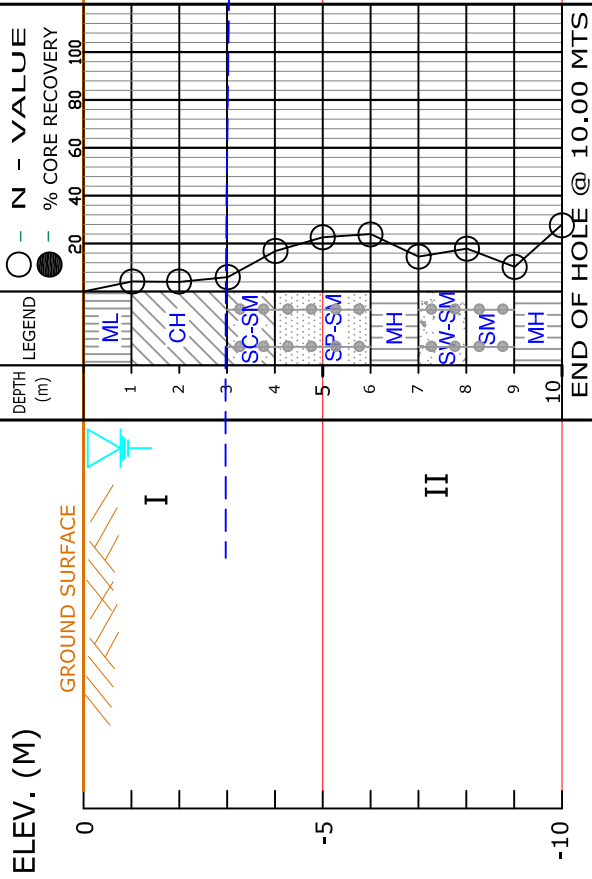


CONTRACTOR GEOTECHNICS PHILIPPINES, INC. 119 SAUYO ROAD, NOVALICHES, QUEZON CITY	PROJECT TITLE Proposed Mayon Evacuation Center (Oas Central School) Brgy. Ilaor Norte, Province of Albay	SCALE NTS	SHEET CONTENTS LOCATION PLAN/VICINITY MAP	JOB NO. 2209-10-R1
	GEOTECHNICS PHILIPPINES, INC. 119 SAUYO ROAD, NOVALICHES, QUEZON CITY	CLIENT MOHRI, ARCHITECT & ASSOCIATES, INC.	SHEET NO. 1/1	



BOREHOLE NO. **BH-1**

BOREHOLE NO. **BH-2**



L E G E N D :

- Silty CLAY
- Silty SAND
- Clayey SILT
- Sandy SILT
- Clayey SAND
- Silty SAND
- Silty GRAVEL
- Clayey silty SAND

- Poorly graded SAND
- Well graded SAND
- Poorly graded SAND w/ silt
- Well graded SAND w/ silt

- Poorly graded GRAVEL
- Well graded GRAVEL
- Poorly graded GRAVEL w/ silt
- Well graded GRAVEL w/ silt

- SANDSTONE
- Clayey silty GRAVEL
- COBBLES
- GRAVEL
- SILTSTONE
- Silty TUFF
- Sandy TUFF
- SHALE

- I - N-VALUE < 10 (LIQUEFIABLE ZONE)
- II - N-VALUE > 10
- III - REFUSAL (WEATHERED ZONE)
- IV - CORING / HARD FORMATION

SECTION A - A

CONTRACTOR



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

PROJECT TITLE:

**Proposed Mayon Evacuation Center
(Oas South Central School)**
Brgy. Ilaor Norte, Province of Albay

SHEET CONTENTS:

SOIL PROFILE
SCALE: N. T. S.

DRAWN BY:

MARIA ANTONIETTE P. CUNAHAP

CHECKED BY:

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

CERTIFIED BY:

AUTHORIZED SIGNATORY

JOB NO.

2209-10-R

SHEET NO.

1/1



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

FINAL BORING LOG

DEPTH (m)	SOIL SYMBOL	SAMPLE NUMBER	TYPE OF SAMPLING	REC (cm)	RQD (%)	PL 20	NMC 40	LL 60	PI	CONSISTENCY	N - VALUE		SOIL DESCRIPTION	OTHER TEST DATA
											0	20		
1.00		S-1	SPT	45	-				11	FIRM	4	4	(ML) Sandy SILT with traces of gravel, dark gray, moist NB: (3)(2)(2)	
2.00		S-2	SPT	45	-				35	FIRM	4	4	(CH) Fat CLAY with traces of sand, greenish gray, very moist NB: (4)(2)(2)	
3.00		S-3	SPT	45	-				33	FIRM	6	6	(CH)...with few sand NB: (5)(3)(3)	
4.00		S-4	SPT	45	-				5	MEDIUM DENSE	17	17	(SC-SM) Clayey silty SAND, dark gray, very moist NB: (5)(8)(9)	
5.00		S-5	SPT	45	-				NP	MEDIUM DENSE	23	23	(SW-SM) Well graded SAND with silt, dark gray, moist NB: (8)(10)(13)	
6.00		S-6	SPT	45	-				NP	MEDIUM DENSE	24	24	(SW-SM) NB: (9)(11)(13)	
7.00		S-7	SPT	45	-				20	STIFF	15	15	(MH) Elastic SILT with some sand, greenish gray, very moist NB: (3)(5)(10)	
8.00		S-8	SPT	45	-				NP	MEDIUM DENSE	18	18	(SW-SM) Well graded SAND with silt and traces of gravel, dark gray, moist NB: (8)(9)(9)	
9.00		S-9	SPT	40	-				NP	MEDIUM DENSE	10	10	(SM) Silty SAND, fine to coarse grained with traces of gravel, dark gray, very moist NB: (7)(5)(5)	
10.00		S-10	SPT	40	-				27	VERY STIFF	28	28	(MH) Elastic SILT with little amount of sand and traces of gravel, dark gray, very moist NB: (9)(10)(18) END OF BORING AT 10.00 METERS	

Type of Sampling	Type of Soil	CONSISTENCY		MOISTURE		PERCENTAGE	
STANDARD PENETRATION TEST (SPT)	Silty CLAY	COHESIVE SOILS		COHENSIONLESS SOILS		MOISTURE CONTENT	
UNDISTURBED SAMPLING (UDS)	Clayey SILT	<u>N-VALUE</u>	<u>CONSISTENCY</u>	<u>N-VALUE</u>	<u>CONSISTENCY</u>	<u>RANGES</u>	<u>VALUES</u>
CORING (CRG)	Clayey SAND	0 - 2	VERY SOFT	0 - 4	VERY LOOSE	0 - 10	DRY
	Silty SAND	2 - 4	SOFT	4 - 10	LOOSE	10 - 30	MOIST
	Clayey silty SAND	4 - 8	FIRM	10 - 30	MEDIUM DENSE	30 - 70	VERY MOIST
	SAND	8 - 15	STIFF	30 - 50	DENSE	70 - 100	WET
	Silty GRAVEL	15 - 30	VERY STIFF	> 50	VERY DENSE	> 100	SATURATED
	Well graded GRAVEL with silt	> 30	HARD				
	GRAVEL						
	SILTSTONE						
	TUFF						
	Tuffaceous SILTSTONE						

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



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



CLIENT	MOHRI, ARCHITECT & ASSOCIATES, INC.	BOREHOLE NO.	BH- 2
PROJECT	Proposed Mayon Evacuation Center (Oas South Central School)	JOB NO.	2209-10.R1-FBL-02
LOCATION	Brgy. Ilaor Norte, Province of Albay	DRILLED	R. POLIDAN
RIG	KSK SMALL	LOGGED	R. POLIDAN
	Hammer Weight 63.50 Kg.	DATE STARTED	Oct. 19, 2010
	Fall Height 76.20 cm.	DATE COMPLETED	Oct. 19, 2010
METHOD	WASH BORING	NORTHING	-
		EASTING	-
		GROUND LEVEL	- m.
		WATER LEVEL	0.71 m.

FINAL BORING LOG

DEPTH (m)	SOIL SYMBOL	SAMPLE NUMBER	TYPE OF SAMPLING	REC (cm)	RQD (%)	PL 20	NMC 40	LL 60	PI	CONSISTENCY	N - VALUE		SOIL DESCRIPTION	OTHER TEST DATA
											0	20		
1.00		S-1	SPT	45	-				12	STIFF	10		(ML) Sandy SILT with traces of gravel, grayish brown, moist NB: (3)(4)(6)	
2.00		S-2	SPT	45	-				33	FIRM	5		(CH) Fat CLAY with few sand, grayish brown, very moist NB: (2)(2)(3)	
3.00		S-3	SPT	45	-				22		4		(MH) Elastic SILT with some sand, grayish brown, very moist NB: (5)(3)(1)	
4.00		S-4	SPT	32	-				NP	MEDIUM DENSE	15		(SP-SM) Poorly graded SAND with silt and traces of gravel, dark gray, moist NB: (5)(6)(9)	
5.00		S-5	SPT	45	-				NP		28		(SP-SM) NB: (11)(13)(15)	
6.00		S-6	SPT	37	-				NP	DENSE	32		(SP-SM)...moist NB: (12)(15)(17)	
7.00		S-7	SPT	40	-				NP	MEDIUM DENSE	29		(SW-SM) Well graded SAND with silt and traces of gravel, dark gray, moist NB: (10)(14)(15)	
8.00		S-8	SPT	30	-				17	VERY STIFF	20		(ML) Sandy SILT with traces of gravel, dark gray, very moist NB: (7)(10)(10)	
9.00		S-9	SPT	39	-				NP	DENSE	31		(SM) Silty SAND, fine to coarse grained, dark gray, moist NB: (10)(14)(17)	
10.00		S-10	SPT	41	-				NP		38		(SM) NB: (17)(18)(20)	

END OF BORING AT 10.00 METERS

Type of Sampling	Type of Soil	CONSISTENCY		MOISTURE		PERCENTAGE	
STANDARD PENETRATION TEST (SPT)	Silty CLAY	COHESIVE SOILS		COHENSIONLESS SOILS		MOISTURE CONTENT	
UNDISTURBED SAMPLING (UDS)	Clayey SILT	<u>N-VALUE</u>	<u>CONSISTENCY</u>	<u>N-VALUE</u>	<u>CONSISTENCY</u>	<u>RANGES</u>	<u>VALUES</u>
CORING (CRG)	Clayey SAND	0 - 2 - VERY SOFT	2 - 4 - SOFT	0 - 4 - VERY LOOSE	4 - 10 - LOOSE	0 - 10 - DRY	0 - 5 - TRACES
	Silty SAND	4 - 8 - FIRM	8 - 15 - STIFF	10 - 30 - MEDIUM DENSE	30 - 70 - VERY MOIST	10 - 30 - MOIST	6 - 10 - FEW
	Clayey silty SAND	15 - 30 - VERY STIFF	> 30 - HARD	30 - 50 - DENSE	> 70 - WET	30 - 70 - VERY MOIST	11 - 25 - LITTLE
	SAND			> 50 - VERY DENSE	> 100 - SATURATED	> 100 - SATURATED	26 - 35 - SOME
	Silty GRAVEL						36 - 45 - WITH
	Well graded GRAVEL with silt						
	GRAVEL						
	SILTSTONE						
	TUFF						
	Tuffaceous SILTSTONE						

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



CLIENT..... **MOHRI, ARCHITECT & ASSOCIATES, INC.** JOB NUMBER..... 2209-10.R1-SUM-1
 PROJECT..... **Proposed Mayon Evacuation Center (Oas South Central School)** DATE OF RECEIPT.... October 27, 2010
 LOCATION.... Brgy. Ilaor Norte, Province of Albay DATE OF TEST..... Oct. 27-Nov. 2, 2010

SUMMARY OF LABORATORY TESTS

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

SAMPLE SUBMITTED BY :

Walk-in Clients GPI Field Operator

R. POLIDAN

REMARKS: * with hydrometer

COMPUTER PRINT-OUT

By: MARIA ANTONIETTE P. CUNAHAP
Encoder

Data Chkd by: ABA / MRR
Quality Assurance

Date Issued _____

CERTIFIED BY:

AUTHORIZED SIGNATORY



Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-NMC-01-1
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Ilaor Norte, Province of Albay	Date of Test..... October 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
NATURAL MOISTURE CONTENT								
1	0.55-1.00	99.00	79.40	19.60	9.67	69.73	28	
2	1.55-2.00	92.00	62.19	29.81	9.77	52.42	57	
3	2.55-3.00	113.54	76.74	36.80	9.79	66.95	55	
4	3.55-4.00	116.15	88.45	27.70	9.48	78.97	35	
5	4.55-5.00	96.80	77.09	19.71	9.64	67.45	29	
6	5.55-6.00	98.30	79.41	18.89	9.65	69.76	27	

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

ASTM Designation : D 4318 - 05, Method B

SAMPLE NUMBER	DEPTH (m)	BLOWS	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	% Retained on 0.425 mm	ATTERBERG LIMIT		REMARKS
									LL	PL	
LIQUID LIMIT											
4	3.55-4.00	20	38.10	30.41	7.69	10.67	19.74		38		38
		20	38.24	30.44	7.80	10.36	20.08		38		
PLASTIC LIMIT											
4	3.55-4.00	P	22.70	19.42	3.28	9.56	9.86			33	33
		P	22.74	19.48	3.26	9.55	9.93			33	

Uncertainty Results: Water Content (%) = ± 0.0419 Liquid Limit = ± 0.0947 Plastic Limit = ± 0.2042
 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.:NMC-10-504

SAMPLE SUBMITTED BY :	REMARKS:
<input type="checkbox"/> Walk-in Clients <input checked="" type="checkbox"/> GPI Field Operator	_____
R. POLIDAN	_____
COMPUTER PRINT-OUT	TESTED BY : <u>ARTURO Q. AQUINO</u>
By: <u>MARIA ANTONIETTE P. CUNAHAP</u>	LABORATORY TECHNICIAN
Encoder	
Data Checked by: <u>ABA/MRR</u>	CERTIFIED BY : _____
Quality Assurance	AUTHORIZED SIGNATORY
Date Issued: _____	



Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-NMC-01-2
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Ilaor Norte, Province of Albay	Date of Test..... October 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
NATURAL MOISTURE CONTENT								
7	6.55-7.00	96.15	68.54	27.61	9.65	58.89	47	
8	7.55-8.00	106.10	85.25	20.85	9.59	75.66	28	
9	8.55-9.00	114.70	89.43	25.27	9.56	79.87	32	
10	9.55-10.00	89.02	63.15	25.87	9.49	53.66	48	

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

ASTM Designation : D 4318 - 05, Method B

SAMPLE NUMBER	DEPTH (m)	BLOWS	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	% Retained on 0.425 mm	ATTERBERG LIMIT		REMARKS
									LL	PL	
LIQUID LIMIT											
PLASTIC LIMIT											

Uncertainty Results: Water Content (%) = ± 0.0395 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.:NMC-10-504

SAMPLE SUBMITTED BY : Walk-in Clients GPI Field Operator REMARKS: _____
 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



ACCREDITED TESTING
LABORATORY
PNS ISO/IEC 17025:2005
LA-2006-097B



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



DPWH-BRS Accredited

Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-NMC-02-1
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Ilaor Norte, Province of Albay	Date of Test..... October 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-2

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

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

ASTM Designation : D 4318 - 05, Method B

SAMPLE NUMBER	DEPTH (m)	BLOWS	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	% Retained on 0.425 mm	ATTERBERG LIMIT		REMARKS
									LL	PL	
LIQUID LIMIT											
PLASTIC LIMIT											

Uncertainty Results: Water Content (%) = ± 0.0382 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.:NMC-10-505

SAMPLE SUBMITTED BY : Walk-in Clients GPI Field Operator REMARKS: _____
 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



ACCREDITED TESTING
LABORATORY
PNS ISO/IEC 17025:2005
LA-2006-097B



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



DPWH-BRS Accredited

Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-NMC-02-2
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Ilaor Norte, Province of Albay	Date of Test..... October 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-2

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

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

ASTM Designation : D 4318 - 05, Method B

SAMPLE NUMBER	DEPTH (m)	BLOWS	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	% Retained on 0.425 mm	ATTERBERG LIMIT		REMARKS
									LL	PL	
LIQUID LIMIT											
PLASTIC LIMIT											

Uncertainty Results: Water Content (%) = ± 0.0363 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.:NMC-10-505

SAMPLE SUBMITTED BY : Walk-in Clients GPI Field Operator
 R. POLIDAN

REMARKS: _____

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

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ACCREDITED TESTING
LABORATORY
PNS ISO/IEC 17025:2005
LA-2006-097B



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



DPWH-BRS Accredited

Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-AL-01-1
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location.... Brgy. Ilaor Norte, Province of Albay	Date of Test..... October 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-1	DEPTH (m)..... 0.55-1.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-1	USCS CLASS..... ML	Sandy SILT

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	A33	A8	A80	B30	B76
WET SOIL + DISH (g)	32.70	35.42	38.22	22.67	22.70
DRY SOIL + DISH (g)	25.87	27.44	29.07	19.44	19.46
WATER (g)	6.83	7.98	9.15	3.23	3.24
DISH MASS (g)	9.60	9.70	9.80	9.57	9.58
DRY SOIL (g)	16.27	17.74	19.27	9.87	9.88
MOISTURE CONTENT	41.98	44.98	47.48	32.73	32.79
NUMBER OF BLOWS	31	22	15	33	

% RETAINED ON 0.425mm 23.85

BOREHOLE NO..... BH-1	DEPTH (m)..... 1.55-2.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-2	USCS CLASS..... CH	Fat CLAY

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	B62	B7	B86	C5	C97
WET SOIL + DISH (g)	32.47	35.22	38.49	22.64	22.66
DRY SOIL + DISH (g)	23.38	24.79	26.46	19.34	19.35
WATER (g)	9.09	10.43	12.03	3.30	3.31
DISH MASS (g)	9.62	9.68	9.76	9.31	9.32
DRY SOIL (g)	13.76	15.11	16.70	10.03	10.03
MOISTURE CONTENT	66.06	69.03	72.04	32.90	33.00
NUMBER OF BLOWS	32	22	16	33	

% RETAINED ON 0.425mm 0.95

Uncertainty Results: I	Liquid Limit = ± 0.1222	Plastic Limit = ± 0.2037
II	Liquid Limit = ± 0.1445	Plastic Limit = ± 0.2005

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-10-653

SAMPLE SUBMITTED BY : Walk-in Clients GPI Field Operator

REMARKS: _____

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



ACCREDITED TESTING
LABORATORY
PNS ISO/IEC 17025:2005
LA-2006-097B



GEOTECHNICS PHILIPPINES, INC.

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



DPWH-BRS Accredited

Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-AL-01-2
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location.... Brgy. Ilaor Norte, Province of Albay	Date of Test..... October 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-1	DEPTH (m)..... 2.55-3.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-3	USCS CLASS..... ML	Sandy SILT

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	A100	A90	A12	B2	B51
WET SOIL + DISH (g)	32.28	35.18	37.94	22.69	22.72
DRY SOIL + DISH (g)	23.51	25.05	26.52	19.50	19.50
WATER (g)	8.77	10.13	11.42	3.19	3.22
DISH MASS (g)	9.60	9.71	9.85	9.49	9.51
DRY SOIL (g)	13.91	15.34	16.67	10.01	9.99
MOISTURE CONTENT	63.05	66.04	68.51	31.87	32.23
NUMBER OF BLOWS	31	22	15	32	

Moisture Content (%)

No. of Blows

LL = 65 PL = 32 PI = 33

% RETAINED ON 0.425mm 4.20

BOREHOLE NO..... BH-1	DEPTH (m)..... 6.55-7.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-7	USCS CLASS..... MH	Elastic SILT

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	A29	A16	A21	C54	C92
WET SOIL + DISH (g)	32.67	35.38	38.24	22.69	22.73
DRY SOIL + DISH (g)	25.00	26.55	28.16	19.51	19.53
WATER (g)	7.67	8.83	10.08	3.18	3.20
DISH MASS (g)	9.65	9.75	9.85	9.52	9.56
DRY SOIL (g)	15.35	16.80	18.31	9.99	9.97
MOISTURE CONTENT	49.97	52.56	55.05	31.83	32.10
NUMBER OF BLOWS	31	22	15	32	

Moisture Content (%)

No. of Blows

LL = 52 PL = 32 PI = 20

% RETAINED ON 0.425mm 10.44

Uncertainty Results: I	Liquid Limit = ± 0.1424	Plastic Limit = ± 0.2003
II	Liquid Limit = ± 0.1293	Plastic Limit = ± 0.2007

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-10-654

SAMPLE SUBMITTED BY : Walk-in Clients GPI Field Operator

REMARKS: _____

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



ACCREDITED TESTING
LABORATORY
PNS ISO/IEC 17025:2005
LA-2006-097B



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



DPWH-BRS Accredited

Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-AL-01-3
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location.... Brgy. Ilaor Norte, Province of Albay	Date of Test..... October 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-1	DEPTH (m)..... 9.55-10.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-10	USCS CLASS..... MH	Elastic SILT
MOISTURE CONTENT DETERMINATION	LIQUID LIMIT TRIAL 1 TRIAL 2 TRIAL 3	PLASTIC LIMIT TRIAL 1 TRIAL 2
DISH NUMBER	B100 B66 B39	D68 D41
WET SOIL + DISH (g)	32.46 35.24 37.98	22.78 22.69
DRY SOIL + DISH (g)	24.17 25.65 27.14	19.62 19.50
WATER (g)	8.29 9.59 10.84	3.16 3.19
DISH MASS (g)	9.62 9.68 9.81	9.64 9.55
DRY SOIL (g)	14.55 15.97 17.33	9.98 9.95
MOISTURE CONTENT	56.98 60.05 62.55	31.66 32.06
NUMBER OF BLOWS	31 21 16	32
% RETAINED ON 0.425mm	8.50	

Moisture Content (%)

No. of Blows

LL = 59 PL = 32 PI = 27

BOREHOLE NO.....	DEPTH (m).....	SOIL DESCRIPTION.....
SAMPLE NO.....	USCS CLASS.....	
MOISTURE CONTENT DETERMINATION	LIQUID LIMIT TRIAL 1 TRIAL 2 TRIAL 3	PLASTIC LIMIT TRIAL 1 TRIAL 2
DISH NUMBER		
WET SOIL + DISH (g)		
DRY SOIL + DISH (g)		
WATER (g)		
DISH MASS (g)		
DRY SOIL (g)		
MOISTURE CONTENT		
NUMBER OF BLOWS		
% RETAINED ON 0.425mm		

Moisture Content (%)

No. of Blows

LL = PL = PI =

Uncertainty Results: I Liquid Limit = ± 0.1363 Plastic Limit = ± 0.2008
 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-10-654

SAMPLE SUBMITTED BY : REMARKS: _____
 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



ACCREDITED TESTING
LABORATORY
PNS ISO/IEC 17025:2005
LA-2006-097B



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



DPWH-BRS Accredited

Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-AL-02-1
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location.... Brgy. Ilaor Norte, Province of Albay	Date of Test..... Oct. 30-Nov. 2, 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 DESCRIPTION.....
SAMPLE NO..... S-1	USCS CLASS..... ML	Sandy SILT

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	C55	C26	C99	D49	D33
WET SOIL + DISH (g)	32.77	35.44	38.28	22.69	22.70
DRY SOIL + DISH (g)	25.81	27.32	29.04	19.44	19.42
WATER (g)	6.96	8.12	9.24	3.25	3.28
DISH MASS (g)	9.63	9.68	9.80	9.49	9.46
DRY SOIL (g)	16.18	17.64	19.24	9.95	9.96
MOISTURE CONTENT	43.02	46.03	48.02	32.66	32.93
NUMBER OF BLOWS	31	22	15	33	

Moisture Content (%)

No. of Blows

LL = 45 PL = 33 PI = 12

% RETAINED ON 0.425mm 27.01

BOREHOLE NO..... BH-2	DEPTH (m)..... 1.55-2.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-2	USCS CLASS..... CH	Fat CLAY

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	D52	D31	D37	C95	C69
WET SOIL + DISH (g)	32.49	35.27	38.19	22.64	22.66
DRY SOIL + DISH (g)	23.65	25.12	26.66	19.45	19.46
WATER (g)	8.84	10.15	11.53	3.19	3.20
DISH MASS (g)	9.62	9.74	9.84	9.42	9.45
DRY SOIL (g)	14.03	15.38	16.82	10.03	10.01
MOISTURE CONTENT	63.01	65.99	68.55	31.80	31.97
NUMBER OF BLOWS	31	22	15	32	

Moisture Content (%)

No. of Blows

LL = 65 PL = 32 PI = 33

% RETAINED ON 0.425mm 1.67

Uncertainty Results: I	Liquid Limit = ± 0.1229	Plastic Limit = ± 0.2020
II	Liquid Limit = ± 0.1412	Plastic Limit = ± 0.1999

Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage factor of k=2, providing a level of confidence of approximately 95%. LAB.FILE NO.:AL-10-655

SAMPLE SUBMITTED BY : Walk-in Clients GPI Field Operator

REMARKS: _____

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



ACCREDITED TESTING
LABORATORY
PNS ISO/IEC 17025:2005
LA-2006-097B



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



DPWH-BRS Accredited

Client..... MOHRI & PA ASSOCIATES, INC.	Job Number..... 2209-10-AL-02-2
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location.... Brgy. Ilaor Norte, Province of Albay	Date of Test..... Oct. 30-Nov. 2, 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 DESCRIPTION.....
SAMPLE NO..... S-3	USCS CLASS..... MH	Elastic SILT

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	C33	C71	C38	D5	D38
WET SOIL + DISH (g)	33.10	35.48	38.28	22.67	22.70
DRY SOIL + DISH (g)	25.08	26.34	27.92	19.43	19.47
WATER (g)	8.02	9.14	10.36	3.24	3.23
DISH MASS (g)	9.65	9.72	9.90	9.45	9.47
DRY SOIL (g)	15.43	16.62	18.02	9.98	10.00
MOISTURE CONTENT	51.98	54.99	57.49	32.46	32.30
NUMBER OF BLOWS	31	22	15	32	

Moisture Content (%)

No. of Blows

LL = 54 PL = 32 PI = 22

% RETAINED ON 0.425mm 15.64

BOREHOLE NO..... BH-2	DEPTH (m)..... 7.55-8.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-8	USCS CLASS..... ML	Sandy SILT

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	D72	D51	D42	C87	C45
WET SOIL + DISH (g)	33.08	35.27	37.98	22.71	22.74
DRY SOIL + DISH (g)	25.57	26.74	28.28	19.53	19.54
WATER (g)	7.51	8.53	9.70	3.18	3.20
DISH MASS (g)	9.61	9.70	9.80	9.58	9.56
DRY SOIL (g)	15.96	17.04	18.48	9.95	9.98
MOISTURE CONTENT	47.06	50.06	52.49	31.96	32.06
NUMBER OF BLOWS	32	21	15	32	

Moisture Content (%)

No. of Blows

LL = 49 PL = 32 PI = 17

% RETAINED ON 0.425mm 26.65

Uncertainty Results: I Liquid Limit = ± 0.1287 Plastic Limit = ± 0.2013
 II Liquid Limit = ± 0.1250 Plastic Limit = ± 0.2016

Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage factor of k=2, providing a level of confidence of approximately 95%. LAB.FILE NO.:AL-10-656

SAMPLE SUBMITTED BY : Walk-in Clients GPI Field Operator

REMARKS: _____

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

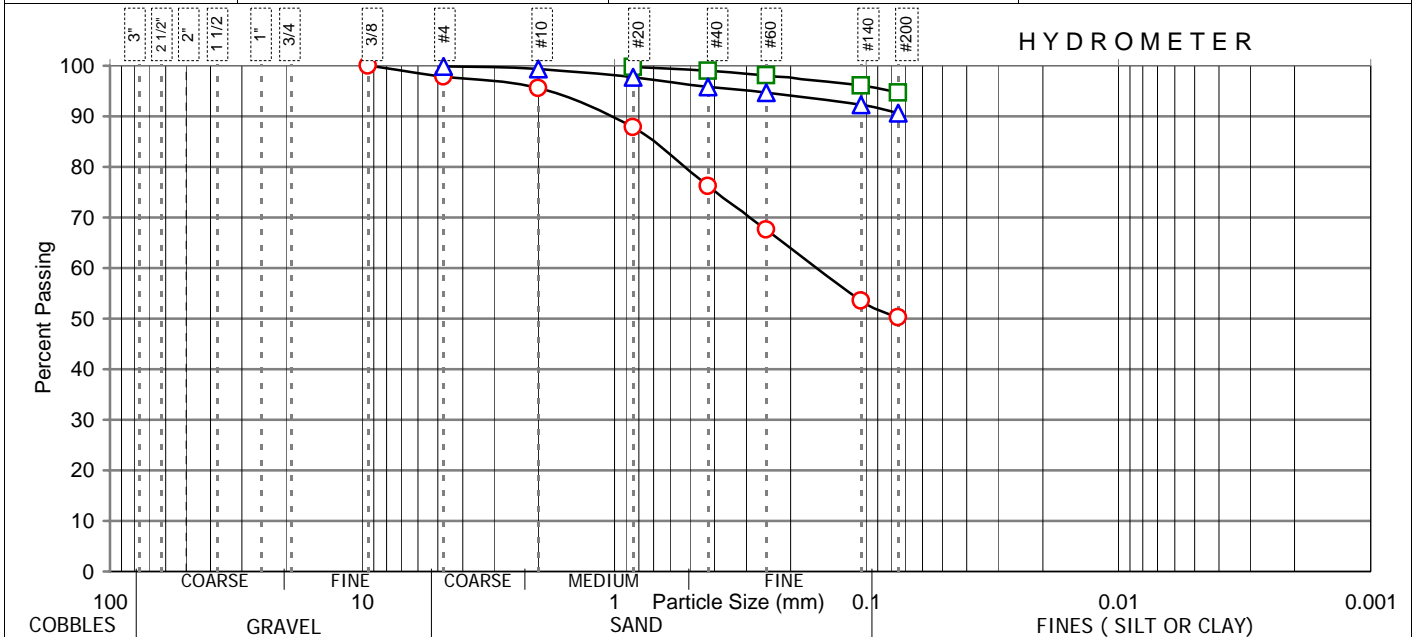


Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-GSA-01-1
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Ilaor Norte, Province of Albay	Date of Test..... October 28, 2010

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

BH / SAMPLE NO.....	BH-1	○ 1	□ 2	△ 3
DEPTH (m).....		0.55-1.00	1.55-2.00	2.55-3.00
SOIL DESCRIPTION.....		Sandy SILT	Fat CLAY	Fat CLAY

SIEVE SIZE		Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer
inches	mm									
2 1/2	62.5									
2	50.0									
1 1/2	37.5									
1	25.0									
3/4	19.0									
3/8	9.5			100						
4	4.75	1.54	2.21	98				0.10	0.15	100
10	2.0	3.08	4.42	96				0.43	0.64	99
20	0.8	8.45	12.12	88	0.12	0.23	100	1.54	2.30	98
40	0.425	16.63	23.85	76	0.50	0.95	99	2.81	4.20	96
60	0.25	22.62	32.44	68	1.02	1.95	98	3.54	5.29	95
140	0.105	32.43	46.51	53	2.08	3.97	96	5.18	7.74	92
200	0.075	34.67	49.72	50	2.80	5.34	95	6.27	9.37	91
OVEN DRIED MASS		69.73 gms			52.42 gms			66.95 gms		



* - with Hydrometer

REMARKS : _____

SAMPLE SUBMITTED BY:

Walk-in Clients GPI Field Operator

R. POLIDAN

TESTED BY : ARTURO Q. AQUINO
LABORATORY TECHNICIAN

COMPUTER PRINT-OUT
By: MARIA ANTONIETTE P. CUNAHAP
Encoder

Data Checked by: ABA/MRR
Quality Assurance

Date Issued: _____

CERTIFIED BY : _____
AUTHORIZED SIGNATORY

Uncertainty Results: % Finer = ± 0.0469 LAB.FILE NO.:GSA-10-406
Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage factor of k=2, providing a level of confidence of approximately 95%.

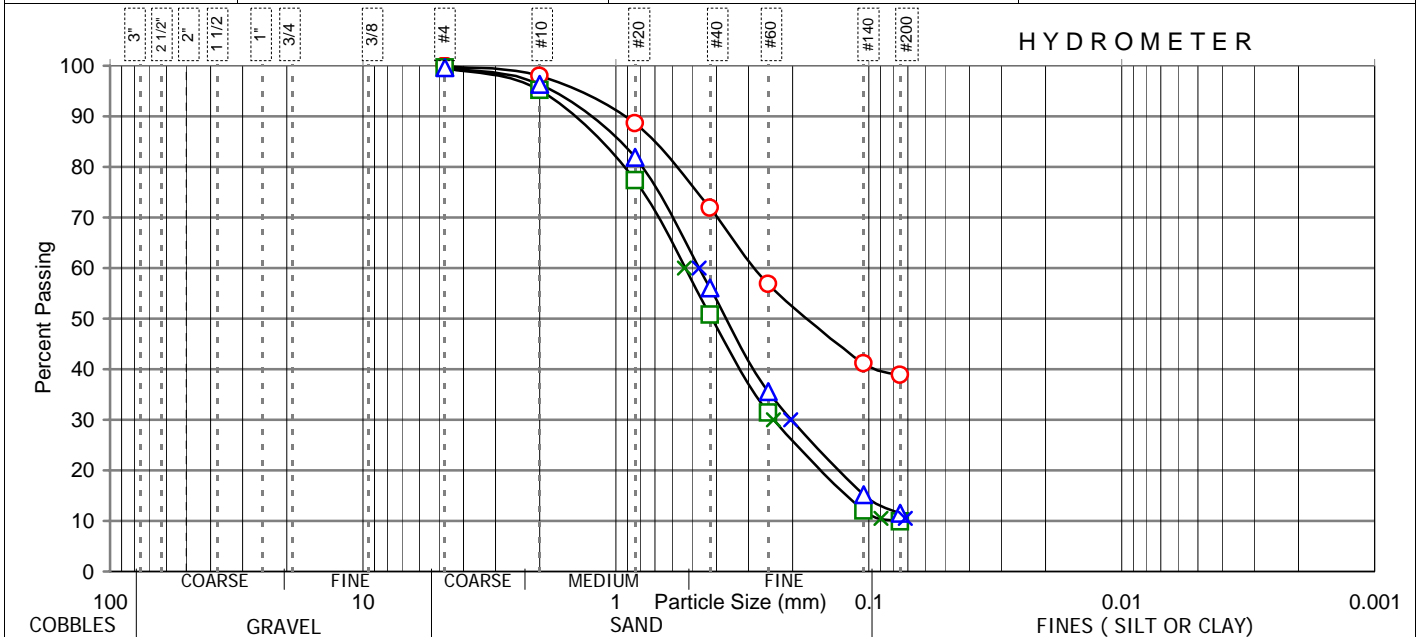


Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-GSA-01-2
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Ilaor Norte, Province of Albay	Date of Test..... October 28, 2010

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

BH / SAMPLE NO..... **BH-1** **○ 4** **□ 5** **△ 6**
 DEPTH (m)..... 3.55-4.00 4.55-5.00 5.55-6.00
 SOIL DESCRIPTION..... Clayey silty SAND Well graded SAND with silt Well graded SAND with silt

SIEVE SIZE inches mm	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer
2 1/2 62.5									
2 50.0									
1 1/2 37.5									
1 25.0									
3/4 19.0									
3/8 9.5									
4 4.75			100	0.26	0.39	100	0.27	0.39	100
10 2.0	1.57	1.99	98	3.27	4.85	95	2.56	3.67	96
20 0.8	8.99	11.38	89	15.29	22.67	77	12.67	18.16	82
40 0.425	22.18	28.09	72	33.22	49.25	51	30.65	43.94	56
60 0.25	34.09	43.17	57	46.28	68.61	31	44.94	64.42	36
140 0.105	46.47	58.85	41	59.30	87.92	12	59.15	84.79	15
200 0.075	48.33	61.20	39	60.78	90.11	10	61.72	88.47	12
		78.97 gms			67.45 gms			69.76 gms	



* - with Hydrometer
 REMARKS : S-5: Cu = 6.00 Cc = 1.19
 S-6: Cu = 6.52 Cc = 1.24

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 = ± 0.0490 LAB.FILE NO.:GSA-10-406
 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%.

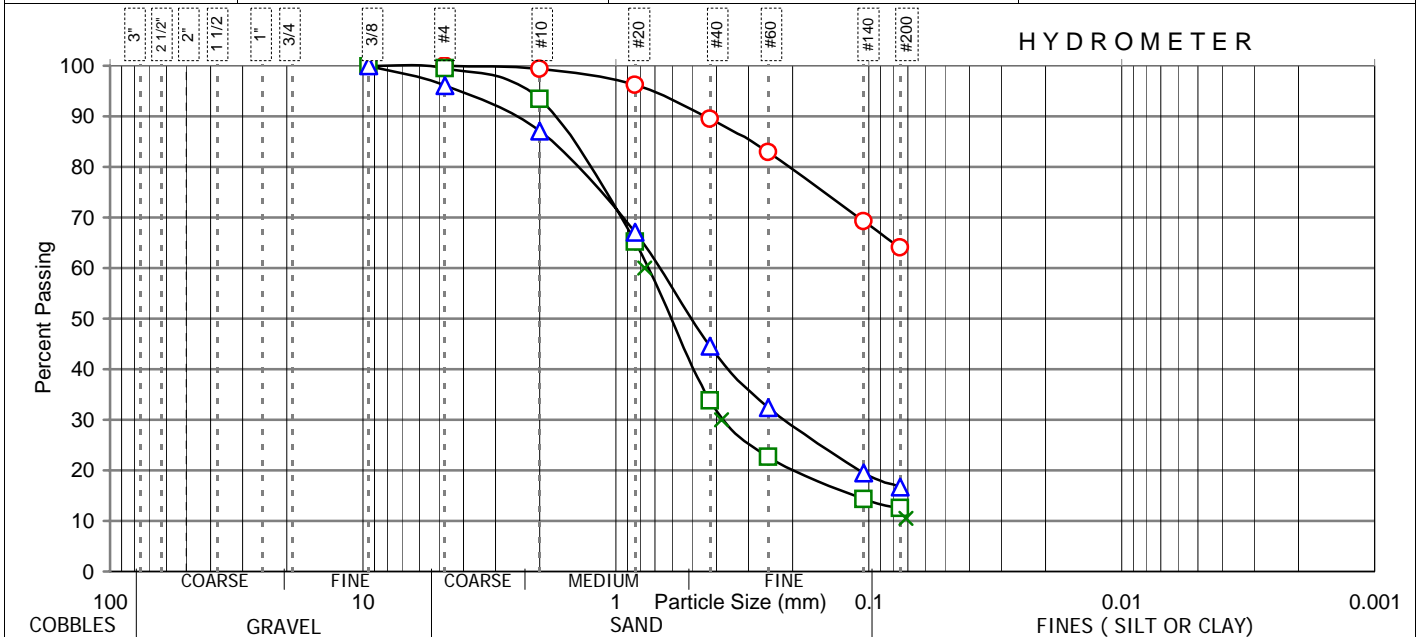


Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-GSA-01-3
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Ilaor Norte, Province of Albay	Date of Test..... October 28, 2010

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

BH / SAMPLE NO.....	BH-1	○ Z	□ g	△ 9
DEPTH (m).....	6.55-7.00		7.55-8.00	8.55-9.00
SOIL DESCRIPTION.....	Elastic SILT		Well graded SAND with silt	Silty SAND

SIEVE SIZE inches mm	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer
2 1/2 62.5									
2 50.0									
1 1/2 37.5									
1 25.0									
3/4 19.0									
3/8 9.5						100			100
4 4.75			100	0.40	0.53	99	3.16	3.96	96
10 2.0	0.34	0.58	99	4.94	6.53	93	10.36	12.97	87
20 0.8	2.25	3.82	96	26.37	34.85	65	26.31	32.94	67
40 0.425	6.15	10.44	90	50.13	66.26	34	44.29	55.45	45
60 0.25	10.07	17.10	83	58.49	77.31	23	53.95	67.55	32
140 0.105	18.14	30.80	69	64.80	85.65	14	64.26	80.46	20
200 0.075	21.16	35.93	64	66.21	87.51	12	66.56	83.34	17
OVEN DRIED MASS	58.89 gms			75.66 gms			79.87 gms		



* - with Hydrometer REMARKS : S-7: Cu = 10.79 Cc = 2.67

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 = ± 0.0443 LAB.FILE NO.:GSA-10-406
 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%.



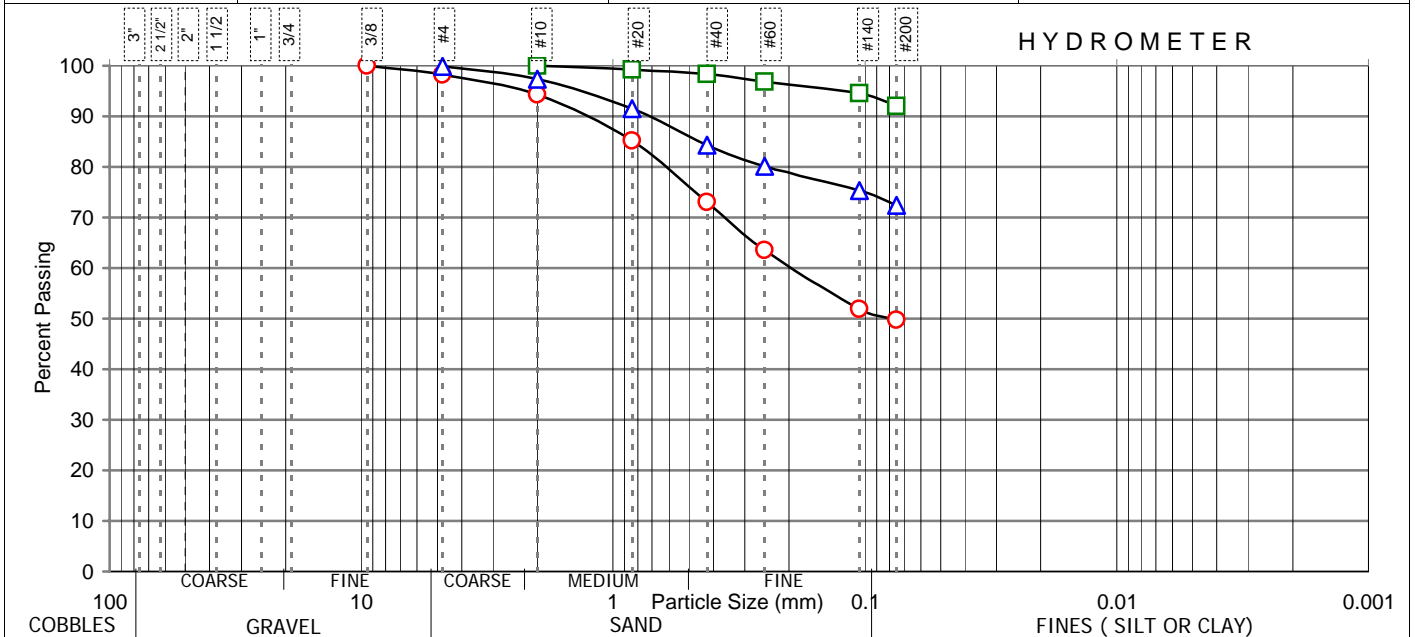
Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-GSA-02-1
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Ilaor Norte, Province of Albay	Date of Test..... October 28, 2010

TEST REPORT FOR GRAIN SIZE ANALYSIS

ASTM D 422 - 63 (Re-approved 2007)

BH / SAMPLE NO.....	BH-2	○ 1	□ 2	△ 3
DEPTH (m).....	0.55-1.00		1.55-2.00	2.55-3.00
SOIL DESCRIPTION.....	Sandy SILT		Fat CLAY	Elastic SILT

SIEVE SIZE	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer
2 1/2									
2									
1 1/2									
1									
3/4									
3/8			100						
4	1.60	1.78	98				0.10	0.15	100
10	5.15	5.72	94			100	1.75	2.61	97
20	13.30	14.76	85	0.47	0.82	99	5.65	8.43	92
40	24.34	27.01	73	0.96	1.67	98	10.48	15.64	84
60	32.89	36.50	64	1.80	3.14	97	13.31	19.87	80
140	43.40	48.16	52	3.10	5.40	95	16.50	24.63	75
200	45.33	50.31	50	4.60	8.02	92	18.48	27.58	72
OVEN DRIED MASS	90.11 gms			57.36 gms			67.00 gms		



* - 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 = ± 0.0430 LAB.FILE NO.:GSA-10-407

 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%.

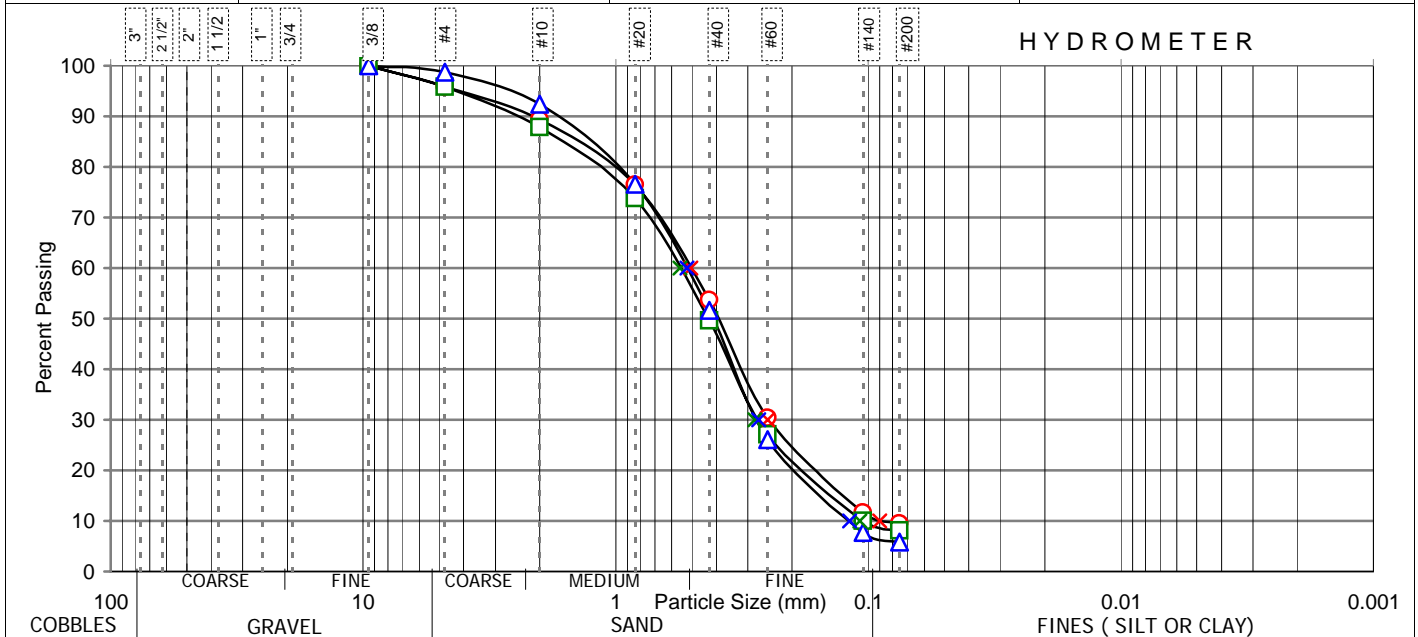


Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-GSA-02-2
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Ilaor Norte, Province of Albay	Date of Test..... October 28, 2010

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

BH / SAMPLE NO.....	BH-2	4	5	6
DEPTH (m).....	3.55-4.00	4.55-5.00	5.55-6.00	
SOIL DESCRIPTION.....	Poorly graded SAND with silt	Poorly graded SAND with silt	Poorly graded SAND with silt	

SIEVE SIZE	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer
2 1/2									
2									
1 1/2									
1									
3/4									
3/8			100			100			100
4	3.02	4.20	96	3.13	4.21	96	1.02	1.26	99
10	7.64	10.61	89	9.03	12.15	88	6.20	7.65	92
20	16.96	23.56	76	19.48	26.20	74	19.02	23.46	77
40	33.32	46.28	54	37.44	50.36	50	39.20	48.34	52
60	50.14	69.65	30	54.24	72.95	27	59.90	73.87	26
140	63.60	88.35	12	66.95	90.05	10	74.78	92.22	8
200	65.14	90.48	10	68.31	91.88	8	76.36	94.17	6
OVEN DRIED MASS	71.99 gms			74.35 gms			81.09 gms		



* - with Hydrometer

SAMPLE SUBMITTED BY: Walk-in Clients GPI Field Operator

R. POLIDAN

REMARKS : S-4: Cu = 5.58 Cc = 1.38
S-5: Cu = 5.14 Cc = 1.32
S-6: Cu = 4.39 Cc = 1.19

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 = ± 0.0460 LAB.FILE NO.:GSA-10-407

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%.

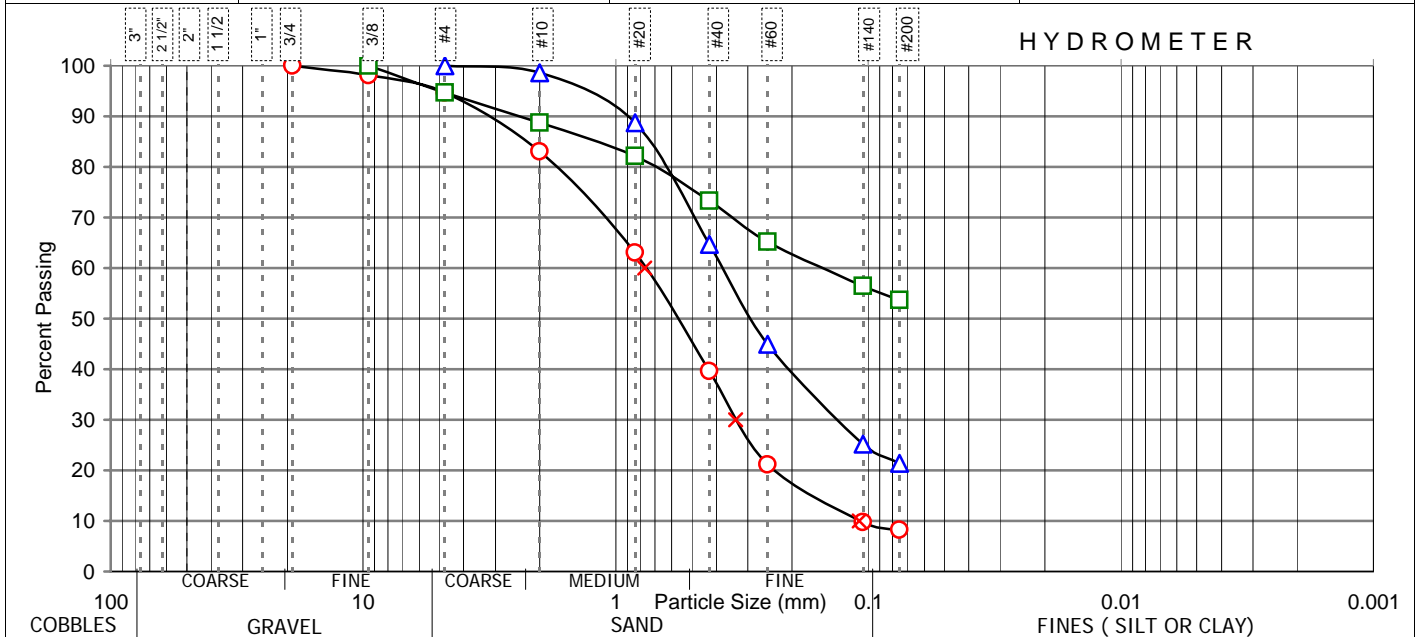


Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-GSA-02-3
Project..... Proposed Mayon Evacuation Center (Oas South Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Ilaor Norte, Province of Albay	Date of Test..... October 28, 2010

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

BH / SAMPLE NO.....	BH-2	○ 7	□ 8	△ 9
DEPTH (m).....	6.55-7.00		7.55-8.00	8.55-9.00
SOIL DESCRIPTION.....	Well graded SAND with silt		Sandy SILT	Silty SAND

SIEVE SIZE		Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer
inches	mm									
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	1.64	1.95	98			100			
4	4.75	4.42	5.26	95	3.10	5.35	95			
10	2.0	14.24	16.93	83	6.55	11.30	89	1.10	1.35	99
20	0.8	31.06	36.93	63	10.34	17.85	82	9.20	11.30	89
40	0.425	50.76	60.35	40	15.44	26.65	73	28.76	35.34	65
60	0.25	66.36	78.90	21	20.14	34.76	65	44.80	55.04	45
140	0.105	75.95	90.30	10	25.25	43.58	56	60.85	74.76	25
200	0.075	77.24	91.83	8	26.84	46.32	54	64.02	78.66	21
OVEN DRIED MASS		84.11 gms			57.94 gms			81.39 gms		



* - with Hydrometer
REMARKS : S-7: Cu = 7.08 Cc = 1.36

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 = ± 0.0467 LAB.FILE NO.:GSA-10-407
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

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

MOHRI, ARCHITECT & ASSOCIATES, INC.

OCTOBER 2010
JOB NO. 2209-10.R1



GEOTECHNICS PHILIPPINES, INC.
GEOTECHNICAL & FOUNDATION CONSULTANTS



DPWH-BRS Accredited

FINAL REPORT

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FINAL REPORT

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

1.0 INTRODUCTION

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

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

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

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

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

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

2.0 OBJECTIVES

The geotechnical investigation aims to determine the following:

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

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

3.0 FIELD EXPLORATION AND INVESTIGATION

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

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

3.1 Standard Penetration Test

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

3.2 Hard Strata and Soft Strata Sampling

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

3.3 Ground Water Table

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

4.0 LABORATORY INVESTIGATION

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

Type of Test	ASTM Designation	Description of Test
Soil Classification for Engineering Purposes - Unified Soil Classification System	ASTM D 2487-05	<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Tests determining the limits of cohesive soils in behaving as a plastic or a flowing medium by incrementally changing the water content. • The plastic limit is determined by rolling a clay sample to around 1/8 of an inch or 3mm • The liquid limit uses the liquid limit device and determines the number of blows it would take for the slit to close • Correlative values can be used for settlement relations

The results of the laboratory investigation are appended.

5.0 BOREHOLE STATIGRAPHY

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

5.1 Borehole BH-1

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

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

5.2 Borehole BH-2

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

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

6.0 SOIL PROPERTIES

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

Soil Parameters			
Gravels, Sands, Silty Sands and Clayey Sands (Non-cohesive)			
Sands	c	ϕ	γ (kef)
Very Loose	0	26	0.085
Loose	0	28	0.100
Medium Dense	0	30	0.110
Dense	0	32	0.120
Very Dense	0	35	0.130
Silts and Clays (Cohesive)			
Silts and Clays	c	ϕ	γ (kef)
Very Soft	=-(N*10)/2 from Braja Das	0	0.100
Soft		0	0.105
Firm		0	0.115
Stiff		0	0.120
Very Stiff		0	0.125
Hard		0	0.130

7.0 LIQUEFACTION POTENTIAL

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

8.0 BEARING CAPACITY AND FOUNDATION TYPE

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

BH-1:

Depth	Bearing Capacity (kPa)
0.5	144
1.0	192

BH-2:

Depth	Bearing Capacity (kPa)
0.5	144
1.0	192

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

9.0 EXCAVATION AND FILL

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

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

Borehole Conclusions and Recommendations

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



DIOSDADO A. UREÑA

CE REG No. 053884

PTR No. 3228274

Issued on January 8, 2010

Issued at Quezon City

APPENDICES



Distribution of Active Faults and Trenches in the Philippines

20 00'

18 00'

16 00'

14 00'

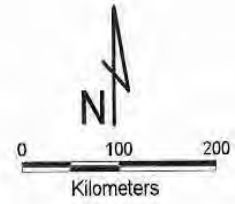
10 00'

8 00'

6 00'

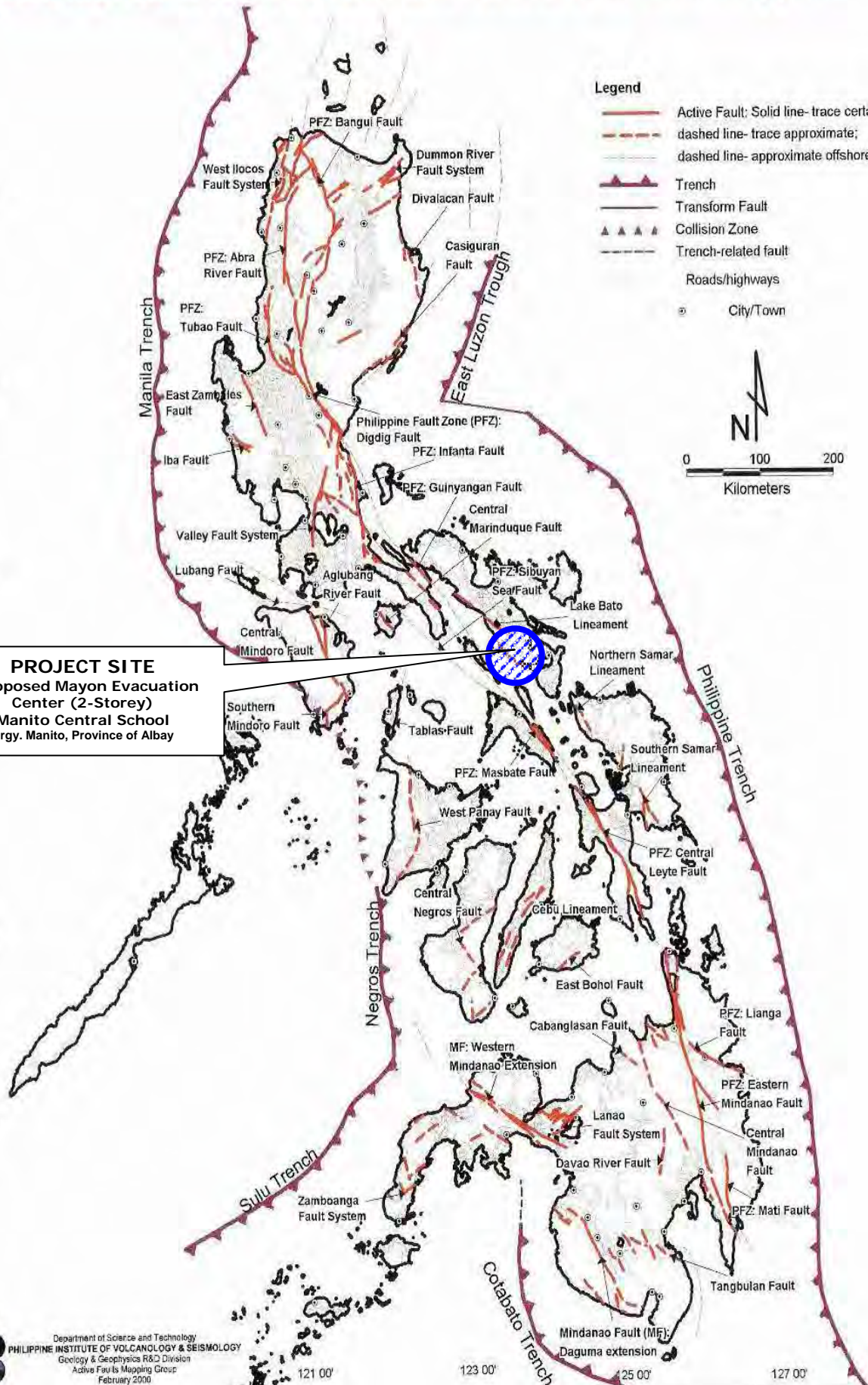
Legend

- Active Fault; Solid line- trace certain;
- dashed line- trace approximate;
- dashed line- approximate offshore proj
- Trench
- Transform Fault
- Collision Zone
- Trench-related fault
- Roads/highways
- City/Town



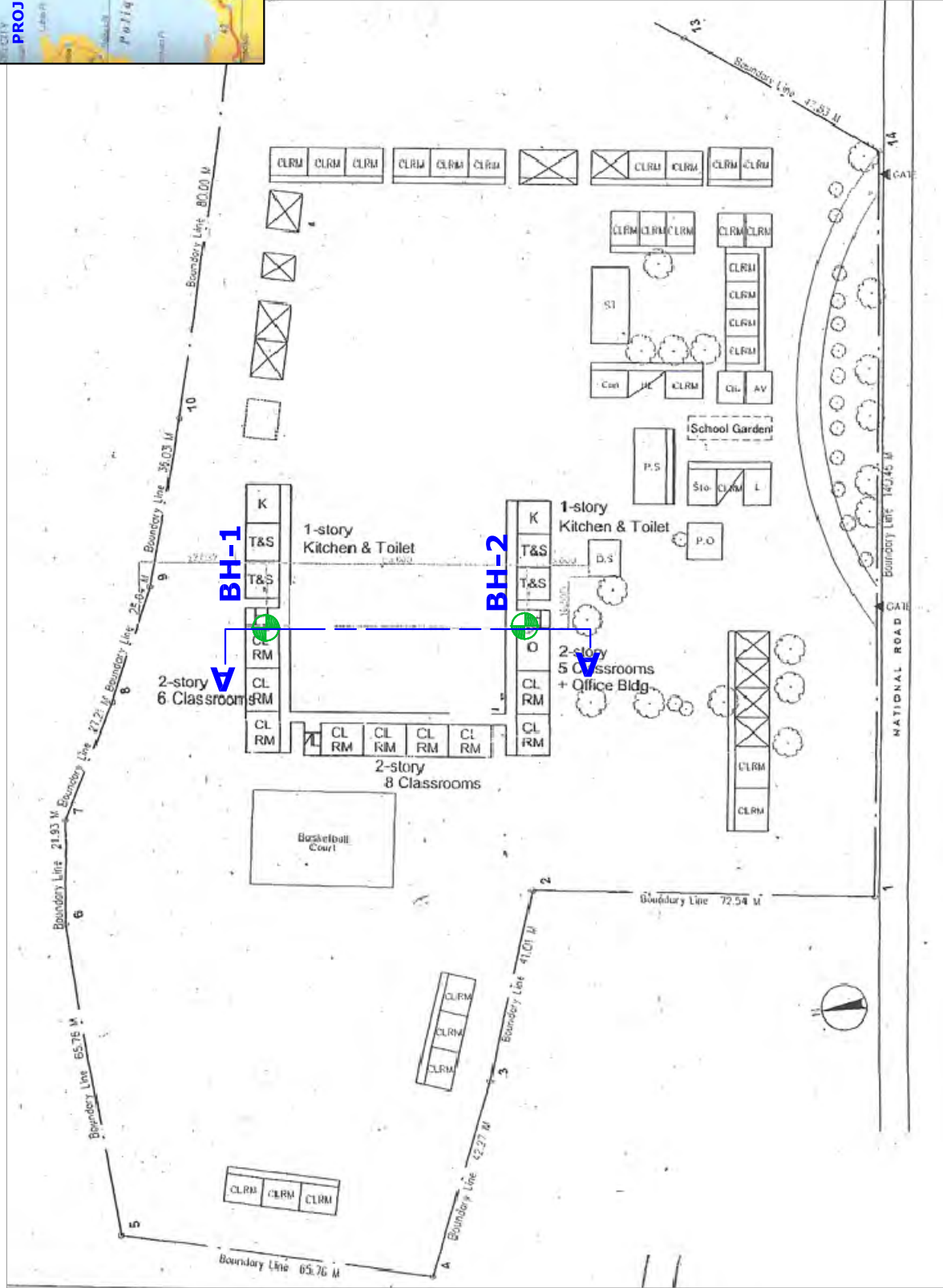
PROJECT SITE
 Proposed Mayon Evacuation
 Center (2-Storey)
 Manito Central School
 Brgy. Manito, Province of Albay

121 00' 123 00' 125 00' 127 00'





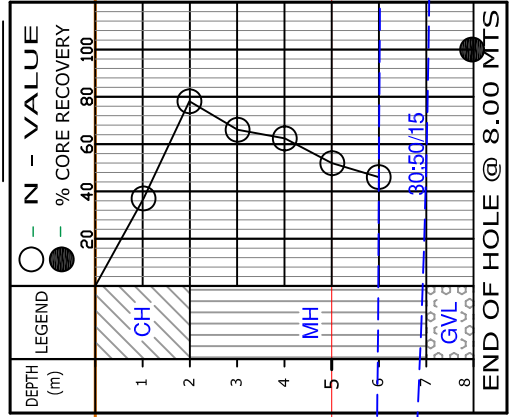
VICINITY MAP



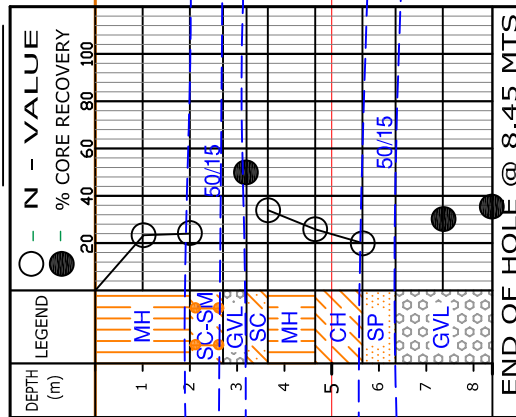
CONTRACTOR GEOTECHNICS PHILIPPINES, INC. 119 SAUYO ROAD, NOVALICHES, QUEZON CITY	PROJECT TITLE Proposed Mayon Evacuation Center (Manito Central School) Brgy. Manito, Province of Albay	SCALE NTS	SHEET CONTENTS LOCATION PLAN/VICINITY MAP	JOB NO. 2209-10.R1
	GEOTECHNICS PHILIPPINES, INC. 119 SAUYO ROAD, NOVALICHES, QUEZON CITY	MOHRI, ARCHITECT & ASSOCIATES, INC.	CLIENT	SHEET NO. 1/1



BOREHOLE NO. BH-1



BOREHOLE NO. BH-2



SECTION A - A

- LEGEND:**
- Clayey SAND
 - Silty CLAY
 - Sandy CLAY
 - Clayey SILT
 - Sandy SILT
 - Poorly graded SAND
 - Well graded SAND
 - Poorly graded SAND w/ silt
 - Well graded SAND w/ silt
 - Clayey silty SAND
 - Silty SAND
 - Silty GRAVEL
 - Poorly graded GRAVEL
 - Well graded GRAVEL
 - Poorly graded GRAVEL w/ silt
 - Well graded GRAVEL w/ silt
 - SANDSTONE
 - Clayey silty GRAVEL
 - COBBLES
 - GRAVEL
 - SILTSTONE
 - Silty TUFF
 - Sandy TUFF
 - SHALE

- I - N-VALUE < 10 (LIQUEFIABLE ZONE)
- II - N-VALUES > 10
- III - REFUSAL (WEATHERED ZONE)
- IV - CORING / HARD FORMATION

CONTRACTOR  GEOTECHNICS PHILIPPINES, INC. 119 SAUYO ROAD, NOVALICHES, QUEZON CITY	PROJECT TITLE: Proposed Mayon Evacuation Center (Manito Central School) Brgy. Manito, Province of Albay	SHEET CONTENTS: SOIL PROFILE SCALE: N. T. S. CLIENT: MOHRI, ARCHITECT & ASSOCIATES, INC.	DRAWN BY: MARIA ANTONIETTE P. CUNAHAP CHECKED BY: A. B. A. / M. R. R. CERTIFIED BY: AUTHORIZED SIGNATORY	JOB NO. 2209-10-R1 SHEET NO. 1/1
	AUTHORIZED SIGNATORY			



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



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

FINAL BORING LOG

DEPTH (m)	SOIL SYMBOL	SAMPLE NUMBER	TYPE OF SAMPLING	REC (cm)	RQD (%)	PL 20	NMC 40	LL 60	PI	CONSISTENCY	N - VALUE		SOIL DESCRIPTION	OTHER TEST DATA
											○ -	● - % Core Recovery		
1.00		S-1	SPT	45	-				31	VERY STIFF	23		(MH) Elastic SILT with little amount of sand, grayish brown, very moist NB: (10)(10)(13)	
2.00		S-2	SPT	45	-				26		24		(MH)...with few sand NB: (9)(10)(14)	
3.00		S-3	SPT	15	-				-	VERY DENSE	50/15		Clayey silty SAND with some gravel, light brown, moist NB: (50/15)	
3.00		C-1	CRG	25	0				-		50		GRAVEL to COBBLES, Ahigh strength, andesitic rock fragments, ranges: 2.2cm-20.3cm with iron oxide and silt on rough surfaces, brown to dark gray	
4.00		S-4	SPT	45	-				8	DENSE	34		(SC) Clayey SAND with little amount of gravel, light brown, very moist NB: (12)(15)(19)	
5.00		S-5	SPT	40	-				24	VERY STIFF	26		(MH) Elastic SILT with some sand and traces of gravel, light brown, very moist NB: (18)(15)(11)	
6.00		S-6	SPT	40	-				33		20		(CH) Fat CLAY with few sand, light brown, very moist NB: (13)(10)(10)	
7.00		S-7	CRG	15	-				NP	VERY DENSE	50/15		(SP) Poorly graded SANDwith gravel, light brown, moist NB: (50/15)	
8.00		C-2	CRG	30	0				-		30		GRAVEL to COBBLES, Ahigh strength, andesitic rock fragments, ranges: 2.3cm-5.0cm with iron oxide and silt on rough surfaces, brown to dark gray	
8.00		C-3	CRG	35	0				-		35		...core ranges: 3.1cm-11.5cm	
9.00													END OF BORING AT 8.45 METERS	

Type of Sampling	Type of Soil	CONSISTENCY		MOISTURE		PERCENTAGE	
STANDARD PENETRATION TEST (SPT)	Silty CLAY	COHESIVE SOILS		COHENSIONLESS SOILS		MOISTURE CONTENT	
UNDISTURBED SAMPLING (UDS)	Clayey SILT	<u>N-VALUE</u>	<u>CONSISTENCY</u>	<u>N-VALUE</u>	<u>CONSISTENCY</u>	<u>RANGES</u>	<u>VALUES</u>
CORING (CRG)	Clayey SAND	0 - 2	VERY SOFT	0 - 4	VERY LOOSE	0 - 10	DRY
	Silty SAND	2 - 4	SOFT	4 - 10	LOOSE	10 - 30	MOIST
	Clayey silty SAND	4 - 8	FIRM	10 - 30	MEDIUM DENSE	30 - 70	VERY MOIST
	SAND	8 - 15	STIFF	30 - 50	DENSE	70 - 100	WET
	Silty GRAVEL	15 - 30	VERY STIFF	> 50	VERY DENSE	> 100	SATURATED
	Well graded GRAVEL with silt	> 30	HARD				
	GRAVEL						
	SILTSTONE						
	TUFF						
	Tuffaceous SILTSTONE						

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



CLIENT	MOHRI, ARCHITECT & ASSOCIATES, INC.	BOREHOLE NO.	BH- 2
PROJECT	Proposed Mayon Evacuation Center (Manito Central School)	JOB NO.	2209-10.R1-FBL-02
LOCATION	Brgy. Manito, Province of Albay	DRILLED	R. POLIDAN
RIG	KSK SMALL	LOGGED	R. POLIDAN
	Hammer Weight 63.50 Kg.	DATE STARTED	Oct. 24, 2010
	Fall Height 76.20 cm.	DATE COMPLETED	Oct. 24, 2010
METHOD	WASH BORING	NORTHING	-
		EASTING	-
		GROUND LEVEL	- m.
		WATER LEVEL	3.00 m.

FINAL BORING LOG

DEPTH (m)	SOIL SYMBOL	SAMPLE NUMBER	TYPE OF SAMPLING	REC (cm)	RQD (%)	PL 20	NMC 40	LL 60	PI	CONSISTENCY	N - VALUE		SOIL DESCRIPTION	OTHER TEST DATA
											○ -	● - % Core Recovery		
1.00		S-1	SPT	45	-				33		37	(CH) Fat CLAY with few sand, brownish gray, moist NB: (12)(17)(20)		
2.00		S-2	SPT	45	-				33		78	(CH)...very moist NB: (22)(35)(43)		
3.00		S-3	SPT	45	-				28		67	(MH) Elastic SILT with little amount of sand and traces of gravel, brownish gray, very moist NB: (28)(32)(35)		
4.00		S-4	SPT	45	-				31	HARD	62	(MH)...light brown NB: (20)(23)(39)		
5.00		S-5	SPT	45	-				24		51	(MH)...with some sand NB: (19)(22)(29)		
6.00		S-6	SPT	40	-				24		46	(MH)...with few gravel NB: (21)(23)(23)		
7.00		S-7	SPT	40	-				-		30;50/15	(MH)...with traces of gravel NB: (25)(30)(50/15)		
8.00		C-1	CRG	100	0				-		100	GRAVEL to COBBLE, high strength, andesitic rock fragments, ranges:2.2cm-20.3cm with iron oxide and silt n rough surfaces, brown to dark gray		
												END OF BORING AT 8.00 METERS		

Type of Sampling	Type of Soil	CONSISTENCY		MOISTURE		PERCENTAGE	
 STANDARD PENETRATION TEST (SPT) UNDISTURBED SAMPLING (UDS) CORING (CRG)	 Silty CLAY Clayey SILT Clayey SAND Silty SAND Clayey silty SAND SAND	 Silty GRAVEL Well graded GRAVEL with silt GRAVEL SILTSTONE TUFF Tuffaceous SILTSTONE	COHESIVE SOILS <u>N-VALUE</u> <u>CONSISTENCY</u> 0 - 2 - VERY SOFT 2 - 4 - SOFT 4 - 8 - FIRM 8 - 15 - STIFF 15 - 30 - VERY STIFF > 30 - HARD	COHENSIONLESS SOILS <u>N-VALUE</u> <u>CONSISTENCY</u> 0 - 4 - VERY LOOSE 4 - 10 - LOOSE 10 - 30 - MEDIUM DENSE 30 - 50 - DENSE > 50 - VERY DENSE	MOISTURE CONTENT <u>RANGES</u> <u>VALUES</u> 0 - 10 - DRY 10 - 30 - MOIST 30 - 70 - VERY MOIST 70 - 100 - WET > 100 - SATURATED	% of SAND and GRAVEL <u>RANGES</u> <u>VALUES</u> 0 - 5 - TRACES 6 - 10 - FEW 11 - 25 - LITTLE 26 - 35 - SOME 36 - 45 - WITH	

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



CLIENT..... **MOHRI, ARCHITECT & ASSOCIATES, INC.** JOB NUMBER..... 2209-10.R1-SUM-1
 PROJECT..... **Proposed Mayon Evacuation Center (Manito Central School)** DATE OF RECEIPT.... October 27, 2010
 LOCATION.... Brgy. Manito, Province of Albay DATE OF TEST..... Oct. 27-Nov. 3, 2010

SUMMARY OF LABORATORY TESTS

SAMPLE NUMBER	DEPTH (m)	NMC (%)	ATTERBERG LIMIT, (%)			USCS Class.	SIEVE ANALYSIS (% FINER) PASSING SIEVE NO.										Remarks	
			LL	PL	PI		1	3/4	3/8	4	10	20	40	60	140	200		
BH-1																		
1	0.55 - 1.00	44	63	32	31	MH						100	98	96	93	89	88	-
2	1.55 - 2.00	32	58	32	26	MH		100	96	92	87	84	81	79	75	74		-
3	2.55 - 2.70	26	INSUFFICIENT SAMPLE				100	85	77	71	60	52	46	42	36	35		-
4	3.20 - 3.65	31	41	33	8	SC		100	87	80	72	64	58	53	47	46		-
5	4.20 - 4.65	34	56	32	24	MH			100	95	85	80	76	72	67	65		-
6	5.20 - 5.65	40	65	32	33	CH					100	99	98	95	93	91		-
7	6.20 - 6.35	29	-	NP	-	SP		100	65	59	46	34	18	8	3	2		-
BH-2																		
1	0.55 - 1.00	27	64	31	33	CH				100	99	97	95	93	91	90		-
2	1.55 - 2.00	31	65	32	33	CH					100	98	96	94	92	91		-
3	2.55 - 3.00	35	60	32	28	MH			100	99	96	91	85	82	78	76		-
4	3.55 - 4.00	40	63	32	31	MH			100	99	98	94	88	85	81	80		-
5	4.55 - 5.00	30	56	32	24	MH			100	96	87	81	75	72	68	67		-
6	5.55 - 6.00	30	56	32	24	MH		100	97	93	88	83	79	76	73	72		-
7	6.55 - 7.00	32	INSUFFICIENT SAMPLE						100	97	92	84	78	73	64	61		-

SAMPLE SUBMITTED BY :
 Walk-in Clients GPI Field Operator
 R. POLIDAN

REMARKS: * with hydrometer

COMPUTER PRINT-OUT
 By: MARIA ANTONIETTE P. CUNAHAP
 Encoder
 Data Chkd by: ABA / MRR
 Quality Assurance
 Date Issued _____

CERTIFIED BY: _____
 AUTHORIZED SIGNATORY



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

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

ASTM D 2216 - 05

Test Method A B

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
NATURAL MOISTURE CONTENT								
1	0.55-1.00	96.86	70.39	26.47	10.45	59.94	44	
2	1.55-2.00	100.00	77.94	22.06	9.60	68.34	32	
3	2.55-2.70	109.30	88.84	20.46	9.68	79.16	26	
4	3.20-3.65	113.62	89.13	24.49	9.67	79.46	31	
5	4.20-4.65	116.00	88.91	27.09	9.68	79.23	34	
6	5.20-5.65	111.00	82.09	28.91	9.59	72.50	40	
7	6.20-6.35	59.00	48.11	10.89	10.60	37.51	29	

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

ASTM Designation : D 4318 - 05, Method B

SAMPLE NUMBER	DEPTH (m)	BLOWS	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	% Retained on 0.425 mm	ATTERBERG LIMIT		REMARKS
									LL	PL	
LIQUID LIMIT											
PLASTIC LIMIT											

Uncertainty Results: Water Content (%) = ± 0.0530 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.:NMC-10-508

SAMPLE SUBMITTED BY : Walk-in Clients GPI Field Operator REMARKS: _____
 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



Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-NMC-02-1
Project..... Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Manito, Province of Albay	Date of Test..... October 27-28, 2010

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

ASTM D 2216 - 05

Test Method A B

BOREHOLE NO...BH-2

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

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

ASTM Designation : D 4318 - 05, Method B

SAMPLE NUMBER	DEPTH (m)	BLOWS	WET SOIL DISH (g)	DRY SOIL DISH (g)	WATER (g)	DISH MASS (g)	DRY SOIL (g)	% Retained on 0.425 mm	ATTERBERG LIMIT		REMARKS
									LL	PL	
LIQUID LIMIT											
PLASTIC LIMIT											

Uncertainty Results: Water Content (%) = ± 0.0364 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.:NMC-10-509

SAMPLE SUBMITTED BY : _____ REMARKS: _____

 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



ACCREDITED TESTING
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LA-2006-097B



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



DPWH-BRS Accredited

Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-AL-01-1
Project..... Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt..... October 27, 2010
Location.... Brgy. Manito, 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-1	DEPTH (m)..... 0.55-1.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-1	USCS CLASS..... MH	Elastic SILT

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	A33	A4	A12	B5	B82
WET SOIL + DISH (g)	32.40	35.26	38.50	22.69	22.67
DRY SOIL + DISH (g)	23.72	25.25	27.00	19.50	19.47
WATER (g)	8.68	10.01	11.50	3.19	3.20
DISH MASS (g)	9.60	9.73	9.85	9.51	9.49
DRY SOIL (g)	14.12	15.52	17.15	9.99	9.98
MOISTURE CONTENT	61.47	64.50	67.06	31.93	32.06
NUMBER OF BLOWS	32	22	15	32	

% RETAINED ON 0.425mm 4.07

BOREHOLE NO..... BH-1	DEPTH (m)..... 1.55-2.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-2	USCS CLASS..... MH	Elastic SILT

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	B17	B7	B56	A32	A91
WET SOIL + DISH (g)	32.65	35.41	37.97	22.70	22.68
DRY SOIL + DISH (g)	24.39	25.86	27.18	19.49	19.45
WATER (g)	8.26	9.55	10.79	3.21	3.23
DISH MASS (g)	9.63	9.68	9.77	9.55	9.50
DRY SOIL (g)	14.76	16.18	17.41	9.94	9.95
MOISTURE CONTENT	55.96	59.02	61.98	32.29	32.46
NUMBER OF BLOWS	32	22	15	32	

% RETAINED ON 0.425mm 19.07

Uncertainty Results: I	Liquid Limit = ± 0.1409	Plastic Limit = ± 0.2008
II	Liquid Limit = ± 0.1349	Plastic Limit = ± 0.2020

Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage factor of k=2, providing a level of confidence of approximately 95%. LAB.FILE NO.:AL-10-657

SAMPLE SUBMITTED BY : Walk-in Clients GPI Field Operator

REMARKS: _____

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



ACCREDITED TESTING
LABORATORY
PNS ISO/IEC 17025:2005
LA-2006-097B



GEOTECHNICS PHILIPPINES, INC.

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



DPWH-BRS Accredited

Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-AL-01-2
Project..... Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt..... October 27, 2010
Location.... Brgy. Manito, 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-1	DEPTH (m)..... 3.20-3.65	SOIL DESCRIPTION.....
SAMPLE NO..... S-4	USCS CLASS..... SC	Clayey SAND

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	A62	A59	A80	B51	B7
WET SOIL + DISH (g)	32.84	35.64	38.28	22.75	22.78
DRY SOIL + DISH (g)	26.20	27.90	29.44	19.49	19.50
WATER (g)	6.64	7.74	8.84	3.26	3.28
DISH MASS (g)	9.60	9.70	9.80	9.51	9.49
DRY SOIL (g)	16.60	18.20	19.64	9.98	10.01
MOISTURE CONTENT	40.00	42.53	45.01	32.67	32.77
NUMBER OF BLOWS	31	22	15	33	

% RETAINED ON 0.425mm 41.76

BOREHOLE NO..... BH-1	DEPTH (m)..... 4.20-4.65	SOIL DESCRIPTION.....
SAMPLE NO..... S-5	USCS CLASS..... MH	Elastic SILT

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	B52	B21	B39	A48	A24
WET SOIL + DISH (g)	32.57	35.22	38.14	22.68	22.70
DRY SOIL + DISH (g)	24.53	25.95	27.51	19.46	19.47
WATER (g)	8.04	9.27	10.63	3.22	3.23
DISH MASS (g)	9.63	9.70	9.81	9.48	9.49
DRY SOIL (g)	14.90	16.25	17.70	9.98	9.98
MOISTURE CONTENT	53.96	57.05	60.06	32.26	32.36
NUMBER OF BLOWS	31	22	14	32	

% RETAINED ON 0.425mm 24.47

Uncertainty Results: I	Liquid Limit = ± 0.1198	Plastic Limit = ± 0.2014
II	Liquid Limit = ± 0.1331	Plastic Limit = ± 0.2012

Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage factor of k=2, providing a level of confidence of approximately 95%. LAB.FILE NO.:AL-10-658

SAMPLE SUBMITTED BY : Walk-in Clients GPI Field Operator

REMARKS: _____

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



ACCREDITED TESTING
LABORATORY
PNS ISO/IEC 17025:2005
LA-2006-097B



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



DPWH-BRS Accredited

Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-AL-01-3
Project..... Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt..... October 27, 2010
Location.... Brgy. Manito, 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-1	DEPTH (m)..... 5.20-5.65	SOIL DESCRIPTION.....
SAMPLE NO..... S-6	USCS CLASS..... CH	Fat CLAY
MOISTURE CONTENT DETERMINATION	LIQUID LIMIT TRIAL 1 TRIAL 2 TRIAL 3	PLASTIC LIMIT TRIAL 1 TRIAL 2
DISH NUMBER	A100 A16 A5	B32 B55
WET SOIL + DISH (g)	32.42 35.34 38.29	22.67 22.71
DRY SOIL + DISH (g)	23.60 25.16 26.70	19.51 19.53
WATER (g)	8.82 10.18 11.59	3.16 3.18
DISH MASS (g)	9.60 9.75 9.90	9.53 9.55
DRY SOIL (g)	14.00 15.41 16.80	9.98 9.98
MOISTURE CONTENT	63.00 66.06 68.99	31.66 31.86
NUMBER OF BLOWS	31 22 15	32
% RETAINED ON 0.425mm	2.36	

Moisture Content (%)

No. of Blows

LL = 65 PL = 32 PI = 33

BOREHOLE NO.....	DEPTH (m).....	SOIL DESCRIPTION.....
SAMPLE NO.....	USCS CLASS.....	
MOISTURE CONTENT DETERMINATION	LIQUID LIMIT TRIAL 1 TRIAL 2 TRIAL 3	PLASTIC LIMIT TRIAL 1 TRIAL 2
DISH NUMBER		
WET SOIL + DISH (g)		
DRY SOIL + DISH (g)		
WATER (g)		
DISH MASS (g)		
DRY SOIL (g)		
MOISTURE CONTENT		
NUMBER OF BLOWS		
% RETAINED ON 0.425mm		

Moisture Content (%)

No. of Blows

LL = PL = PI =

Uncertainty Results: I Liquid Limit = ± 0.1415 Plastic Limit = ± 0.2008
 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-10-658

SAMPLE SUBMITTED BY : REMARKS: _____
 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



ACCREDITED TESTING
LABORATORY
PNS ISO/IEC 17025:2005
LA-2006-097B



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



DPWH-BRS Accredited

Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-AL-02-1
Project..... Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt..... October 27, 2010
Location.... Brgy. Manito, 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 DESCRIPTION.....
SAMPLE NO..... S-1	USCS CLASS..... CH	Fat CLAY

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	C28	C11	C37	B30	B76
WET SOIL + DISH (g)	33.06	35.41	38.22	22.70	22.72
DRY SOIL + DISH (g)	24.08	25.27	26.74	19.59	19.60
WATER (g)	8.98	10.14	11.48	3.11	3.12
DISH MASS (g)	9.60	9.67	9.75	9.57	9.58
DRY SOIL (g)	14.48	15.60	16.99	10.02	10.02
MOISTURE CONTENT	62.02	65.00	67.57	31.04	31.14
NUMBER OF BLOWS	31	22	16	31	

Moisture Content (%)

No. of Blows

LL = 64 PL = 31 PI = 33

% RETAINED ON 0.425mm 5.10

BOREHOLE NO..... BH-2	DEPTH (m)..... 1.55-2.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-2	USCS CLASS..... CH	Fat CLAY

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	D64	D1	D42	C23	C73
WET SOIL + DISH (g)	32.57	35.28	38.16	22.68	22.71
DRY SOIL + DISH (g)	23.70	25.11	26.63	19.50	19.51
WATER (g)	8.87	10.17	11.53	3.18	3.20
DISH MASS (g)	9.62	9.70	9.80	9.54	9.55
DRY SOIL (g)	14.08	15.41	16.83	9.96	9.96
MOISTURE CONTENT	63.00	66.00	68.51	31.93	32.13
NUMBER OF BLOWS	31	22	15	32	

Moisture Content (%)

No. of Blows

LL = 65 PL = 32 PI = 33

% RETAINED ON 0.425mm 4.32

Uncertainty Results: I	Liquid Limit = ± 0.1369	Plastic Limit = ± 0.2005
II	Liquid Limit = ± 0.1407	Plastic Limit = ± 0.2014

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-10-659

SAMPLE SUBMITTED BY : Walk-in Clients GPI Field Operator

REMARKS: _____

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



ACCREDITED TESTING
LABORATORY
PNS ISO/IEC 17025:2005
LA-2006-097B



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



DPWH-BRS Accredited

Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-AL-02-2
Project..... Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt..... October 27, 2010
Location.... Brgy. Manito, 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)..... 2.55-3.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-3	USCS CLASS..... MH	Elastic SILT

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	C55	C91	C31	B49	B98
WET SOIL + DISH (g)	32.49	35.26	38.20	22.67	22.73
DRY SOIL + DISH (g)	24.10	25.58	27.12	19.47	19.53
WATER (g)	8.39	9.68	11.08	3.20	3.20
DISH MASS (g)	9.63	9.71	9.82	9.52	9.54
DRY SOIL (g)	14.47	15.87	17.30	9.95	9.99
MOISTURE CONTENT	57.98	61.00	64.05	32.16	32.03
NUMBER OF BLOWS	31	21	14	32	

LL = 60 PL = 32 PI = 28

BOREHOLE NO..... BH-2	DEPTH (m)..... 3.55-4.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-4	USCS CLASS..... MH	Elastic SILT

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	D60	D31	D3	C40	C87
WET SOIL + DISH (g)	32.50	35.39	38.41	22.68	22.72
DRY SOIL + DISH (g)	23.83	25.38	26.98	19.52	19.54
WATER (g)	8.67	10.01	11.43	3.16	3.18
DISH MASS (g)	9.63	9.74	9.92	9.56	9.58
DRY SOIL (g)	14.20	15.64	17.06	9.96	9.96
MOISTURE CONTENT	61.06	64.00	67.00	31.73	31.93
NUMBER OF BLOWS	31	22	16	32	

LL = 63 PL = 32 PI = 31

Uncertainty Results: I	Liquid Limit = ± 0.1370	Plastic Limit = ± 0.2017
II	Liquid Limit = ± 0.1395	Plastic Limit = ± 0.2012

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-10-660

SAMPLE SUBMITTED BY : Walk-in Clients GPI Field Operator

REMARKS: _____

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



ACCREDITED TESTING
LABORATORY
PNS ISO/IEC 17025:2005
LA-2006-097B



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



DPWH-BRS Accredited

Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-AL-02-3
Project..... Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt..... October 27, 2010
Location.... Brgy. Manito, 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)..... 4.55-5.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-5	USCS CLASS..... MH	Elastic SILT

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	C68	C52	C77	D18	D30
WET SOIL + DISH (g)	33.10	35.22	38.44	22.67	22.70
DRY SOIL + DISH (g)	24.81	25.95	27.70	19.49	19.49
WATER (g)	8.29	9.27	10.74	3.18	3.21
DISH MASS (g)	9.60	9.68	9.80	9.58	9.57
DRY SOIL (g)	15.21	16.27	17.90	9.91	9.92
MOISTURE CONTENT	54.50	56.98	60.00	32.09	32.36
NUMBER OF BLOWS	32	22	15	32	

LL = 56 PL = 32 PI = 24

BOREHOLE NO..... BH-2	DEPTH (m)..... 5.55-6.00	SOIL DESCRIPTION.....
SAMPLE NO..... S-6	USCS CLASS..... MH	Elastic SILT

MOISTURE CONTENT DETERMINATION	LIQUID LIMIT			PLASTIC LIMIT	
	TRIAL 1	TRIAL 2	TRIAL 3	TRIAL 1	TRIAL 2
DISH NUMBER	C68	C52	C77	D18	D30
WET SOIL + DISH (g)	33.10	35.22	38.44	22.67	22.70
DRY SOIL + DISH (g)	24.81	25.95	27.70	19.49	19.49
WATER (g)	8.29	9.27	10.74	3.18	3.21
DISH MASS (g)	9.60	9.68	9.80	9.58	9.57
DRY SOIL (g)	15.21	16.27	17.90	9.91	9.92
MOISTURE CONTENT	54.50	56.98	60.00	32.09	32.36
NUMBER OF BLOWS	32	22	15	32	

LL = 56 PL = 32 PI = 24

Uncertainty Results: I	Liquid Limit = ± 0.1310	Plastic Limit = ± 0.2025
II	Liquid Limit = ± 0.1310	Plastic Limit = ± 0.2025

Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage factor of k=2, providing a level of confidence of approximately 95%. LAB.FILE NO.:AL-10-660

SAMPLE SUBMITTED BY : Walk-in Clients GPI Field Operator

REMARKS: _____

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

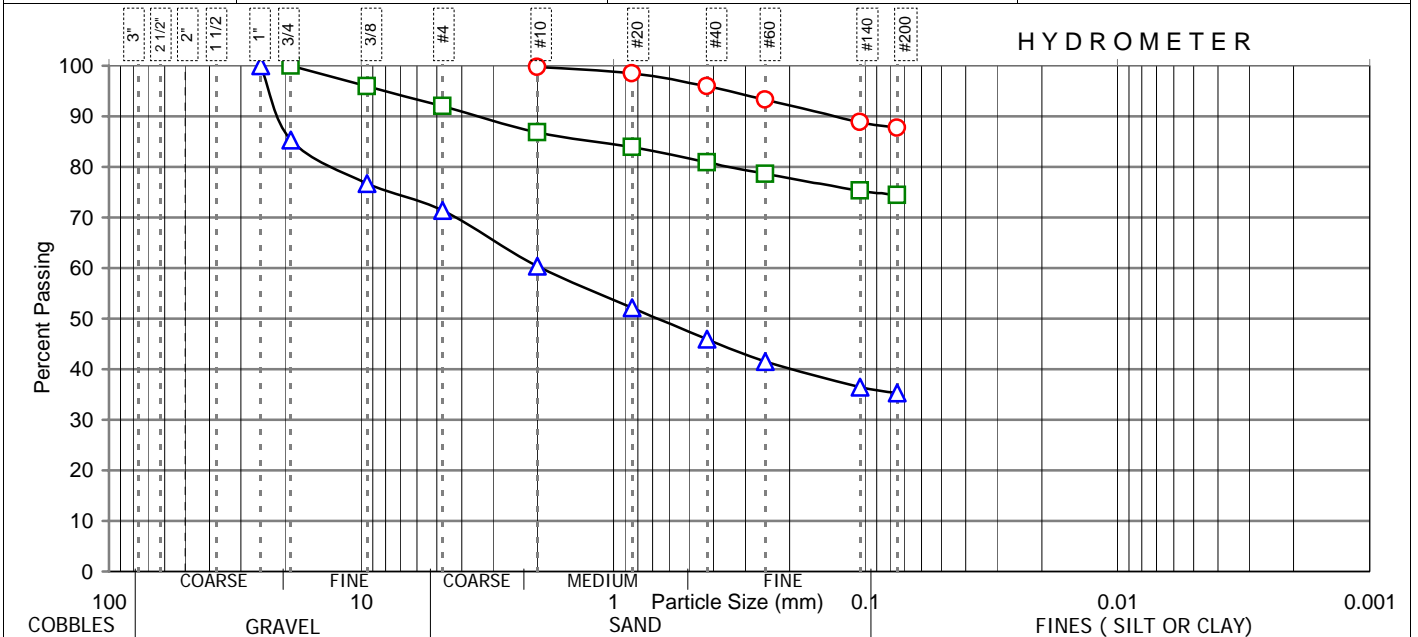


Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-GSA-01-1
Project..... Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Manito, Province of Albay	Date of Test..... October 28, 2010

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

BH / SAMPLE NO.....	BH-1	○ 1	□ 2	△ 3
DEPTH (m).....		0.55-1.00	1.55-2.00	2.55-3.00
SOIL DESCRIPTION.....		Elastic SILT	Elastic SILT	Clayey silty SAND

SIEVE SIZE		Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer
inches	mm									
2 1/2	62.5									100
2	50.0									
1 1/2	37.5									
1	25.0									
3/4	19.0						100	11.60	14.65	85
3/8	9.5				2.76	4.04	96	18.39	23.23	77
4	4.75				5.48	8.02	92	22.66	28.63	71
10	2.0	0.15	0.25	100	8.96	13.11	87	31.34	39.59	60
20	0.8	0.92	1.53	98	11.00	16.10	84	37.86	47.83	52
40	0.425	2.44	4.07	96	13.03	19.07	81	42.80	54.07	46
60	0.25	4.02	6.71	93	14.66	21.45	79	46.30	58.49	42
140	0.105	6.65	11.09	89	16.90	24.73	75	50.30	63.54	36
200	0.075	7.34	12.25	88	17.46	25.55	74	51.16	64.63	35
OVEN DRIED MASS		59.94 gms			68.34 gms			79.16 gms		



* - with Hydrometer

REMARKS : _____

SAMPLE SUBMITTED BY:

Walk-in Clients GPI Field Operator

R. POLIDAN

TESTED BY : ARTURO Q. AQUINO
LABORATORY TECHNICIAN

COMPUTER PRINT-OUT
By: MARIA ANTONIETTE P. CUNAHAP
Encoder

Data Checked by: ABA/MRR
Quality Assurance

Date Issued: _____

CERTIFIED BY : _____
AUTHORIZED SIGNATORY

Uncertainty Results: % Finer = ± 0.0413 LAB. FILE NO.: GSA-10-409
Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage factor of k=2, providing a level of confidence of approximately 95%.

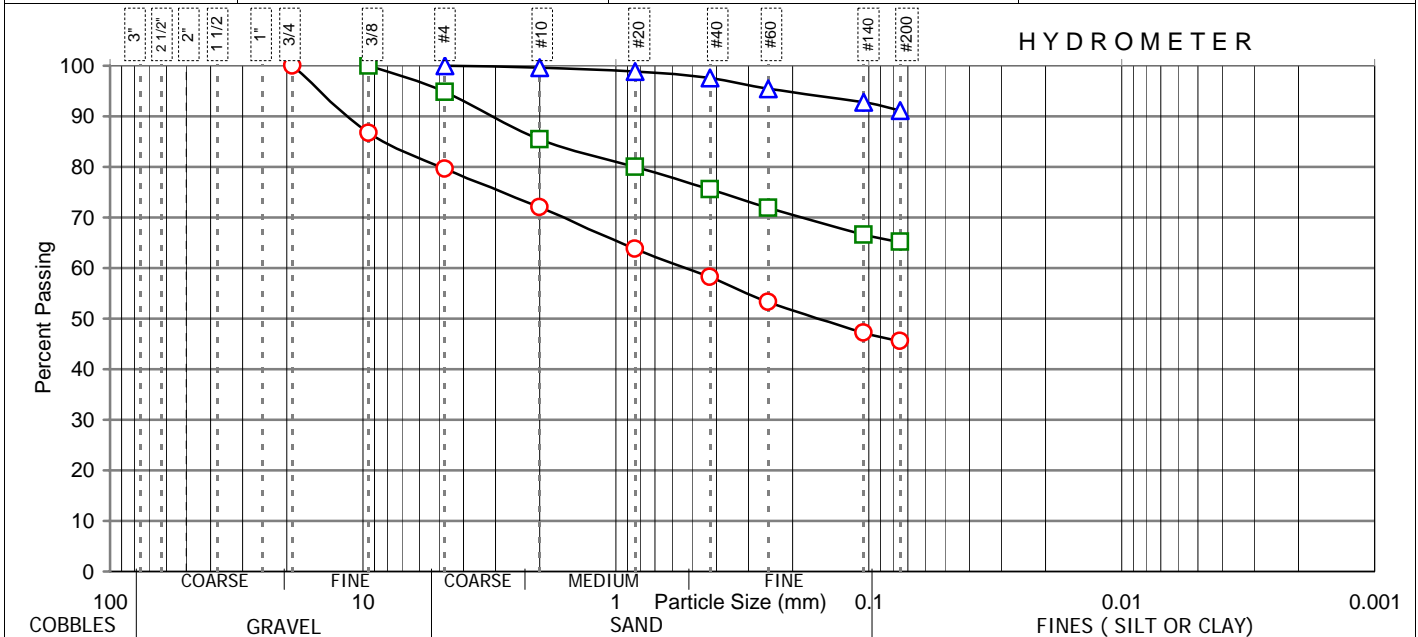


Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-GSA-01-2
Project..... Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Manito, Province of Albay	Date of Test..... October 28, 2010

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

BH / SAMPLE NO.....	BH-1	○ 4	□ 5	△ 6
DEPTH (m).....		3.20-3.65	4.20-4.65	5.20-5.65
SOIL DESCRIPTION.....		Clayey SAND	Elastic SILT	Fat CLAY

SIEVE SIZE	Cumm. Mass Retained (g)	Cumm. % Retained	Percent Finer	Cumm. Mass Retained (g)	Cumm. % Retained	Percent Finer	Cumm. Mass Retained (g)	Cumm. % Retained	Percent Finer
inches mm									
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	10.60	13.34	87			100			
4 4.75	16.23	20.43	80	4.07	5.14	95			
10 2.0	22.19	27.93	72	11.56	14.59	85	0.30	0.41	100
20 0.8	28.78	36.22	64	15.88	20.04	80	0.80	1.10	99
40 0.425	33.18	41.76	58	19.39	24.47	76	1.71	2.36	98
60 0.25	37.16	46.77	53	22.31	28.16	72	3.27	4.51	95
140 0.105	41.90	52.73	47	26.48	33.42	67	5.23	7.21	93
200 0.075	43.23	54.40	46	27.55	34.77	65	6.40	8.83	91
OVEN DRIED MASS	79.46 gms			79.23 gms			72.50 gms		



* - 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 = ± 0.0352 LAB.FILE NO.:GSA-10-409
 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%.



Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-GSA-01-3
Project..... Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Manito, Province of Albay	Date of Test..... October 28, 2010

TEST REPORT FOR GRAIN SIZE ANALYSIS

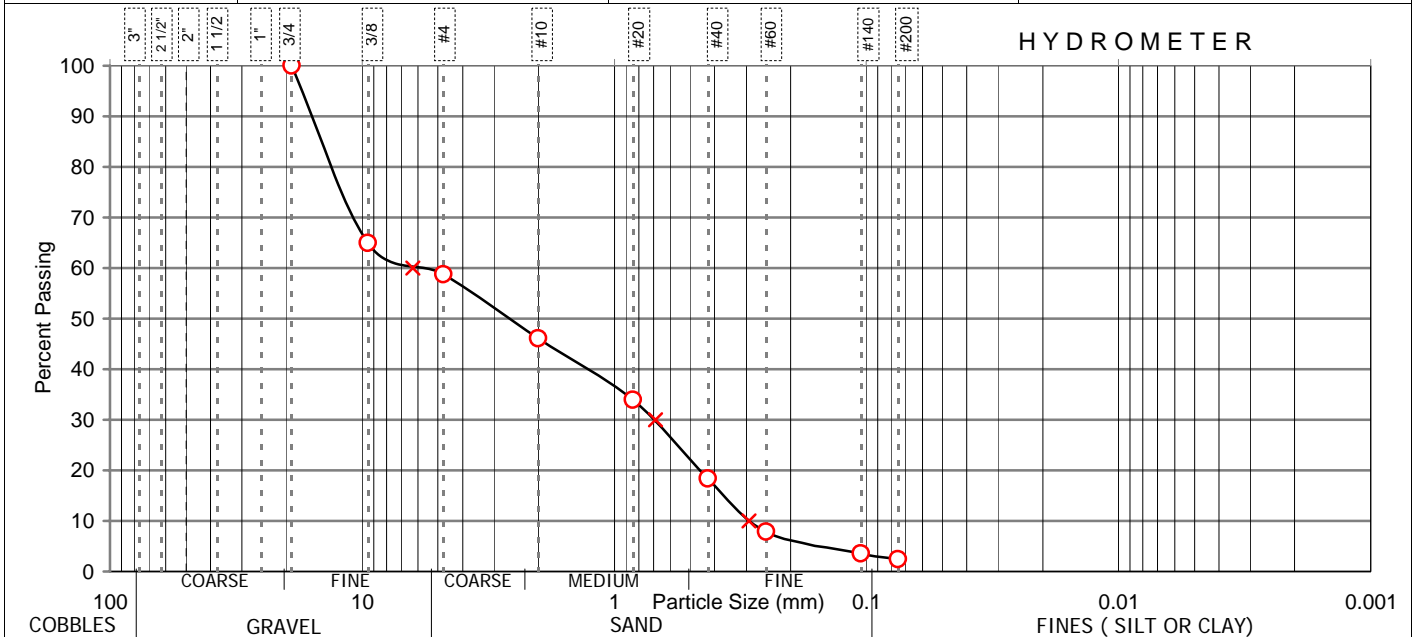
ASTM D 422 - 63 (Re-approved 2007)

BH / SAMPLE NO..... **BH-1** ○ Z □ △

 DEPTH (m)..... 6.20-6.35

 SOIL DESCRIPTION..... Poorly graded SAND

SIEVE SIZE		Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent	Cumm.Mass	Cumm.%	Percent
inches	mm	Retained (g)	Retained	Finer	Retained (g)	Retained	Finer	Retained (g)	Retained	Finer
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	13.15	35.06	65						
4	4.75	15.47	41.24	59						
10	2.0	20.25	53.99	46						
20	0.8	24.78	66.06	34						
40	0.425	30.62	81.63	18						
60	0.25	34.56	92.14	8						
140	0.105	36.20	96.51	3						
200	0.075	36.62	97.63	2						
OVEN DRIED MASS		37.51 gms								



* - with Hydrometer REMARKS : S-7; Cu = 21.53 Cc = 0.26

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 = ± 0.0916 LAB. FILE NO.: GSA-10-409

 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%.

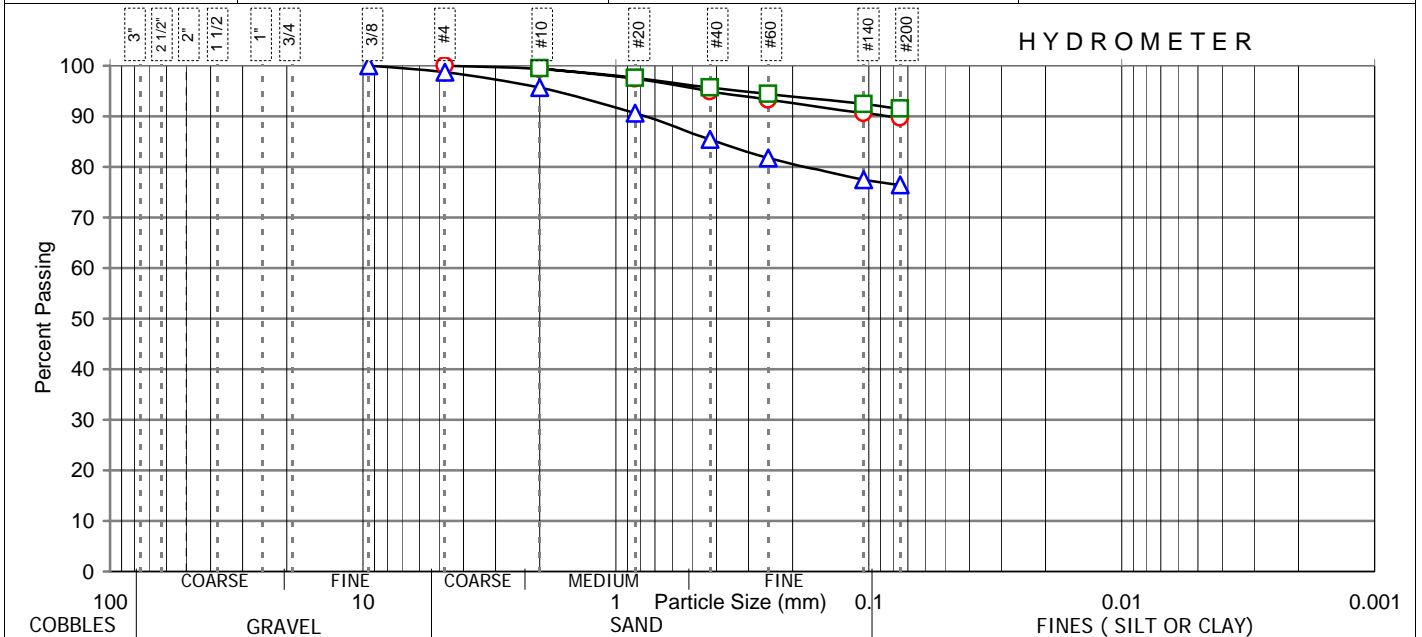


Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-GSA-02-1
Project..... Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Manito, Province of Albay	Date of Test..... October 30, 2010

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

BH / SAMPLE NO..... BH-2	○ 1	□ 2	△ 3
DEPTH (m).....	0.55-1.00	1.55-2.00	2.55-3.00
SOIL DESCRIPTION.....	Fat CLAY	Fat CLAY	Elastic SILT

SIEVE SIZE	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer
inches mm									
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				0.80	1.27	99
10 2.0	0.34	0.60	99	0.28	0.49	100	2.72	4.30	96
20 0.8	1.45	2.55	97	1.36	2.39	98	5.94	9.40	91
40 0.425	2.90	5.10	95	2.46	4.32	96	9.18	14.53	85
60 0.25	3.85	6.77	93	3.21	5.63	94	11.53	18.25	82
140 0.105	5.31	9.33	91	4.30	7.54	92	14.20	22.47	78
200 0.075	5.82	10.23	90	4.85	8.51	91	14.87	23.53	76
OVEN DRIED MASS	56.90 gms			57.01 gms			63.19 gms		



* - 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 = ± 0.0434 LAB.FILE NO.:GSA-10-410
 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%.

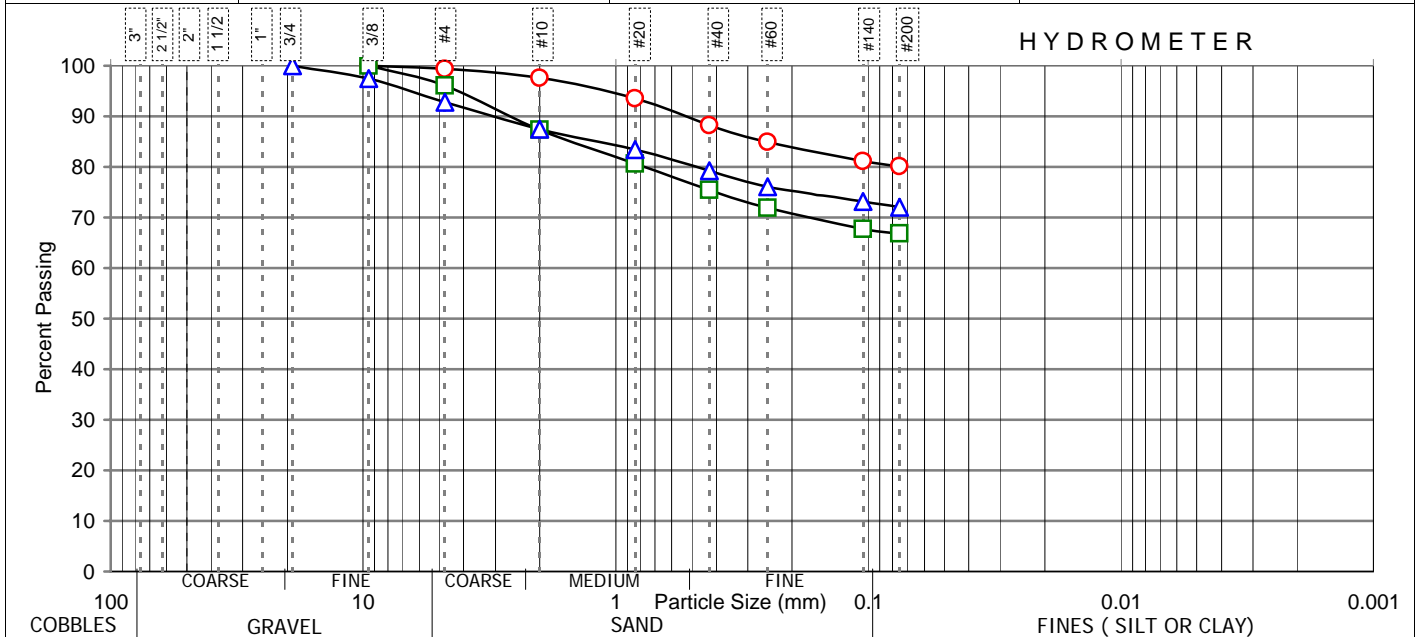


Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-GSA-02-2
Project..... Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Manito, Province of Albay	Date of Test..... October 30, 2010

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

BH / SAMPLE NO.....	BH-2	○ 4	□ 5	△ 6
DEPTH (m).....	3.55-4.00		4.55-5.00	5.55-6.00
SOIL DESCRIPTION.....	Elastic SILT		Elastic SILT	Elastic SILT

SIEVE SIZE inches mm	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer
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	1.71	2.52	97
4 4.75	0.36	0.64	99	2.79	3.89	96	4.89	7.22	93
10 2.0	1.34	2.37	98	9.06	12.62	87	8.46	12.49	88
20 0.8	3.64	6.43	94	13.91	19.38	81	11.26	16.62	83
40 0.425	6.64	11.73	88	17.60	24.52	75	14.10	20.81	79
60 0.25	8.54	15.09	85	20.20	28.14	72	16.17	23.87	76
140 0.105	10.70	18.90	81	23.13	32.22	68	18.14	26.78	73
200 0.075	11.25	19.87	80	23.80	33.16	67	18.94	27.96	72
OVEN DRIED MASS	56.61 gms			71.78 gms			67.74 gms		



* - with Hydrometer REMARKS : _____

SAMPLE SUBMITTED BY:
 Walk-in Clients GPI Field Operator

R. POLIDAN TESTED BY : ARTURO Q. AQUINO
 LABORATORY TECHNICIAN

COMPUTER PRINT-OUT
 By: MARIA ANTONIETTE P. CUNAHAP
 Encoder
 Data Checked by: ABA/MRR
 Quality Assurance
 Date Issued: _____

CERTIFIED BY : _____
 AUTHORIZED SIGNATORY

Uncertainty Results: % Finer = ± 0.0443 LAB.FILE NO.:GSA-10-410
 Note: The reported expanded uncertainty is based on a combined uncertainty by a coverage factor of k=2, providing a level of confidence of approximately 95%.

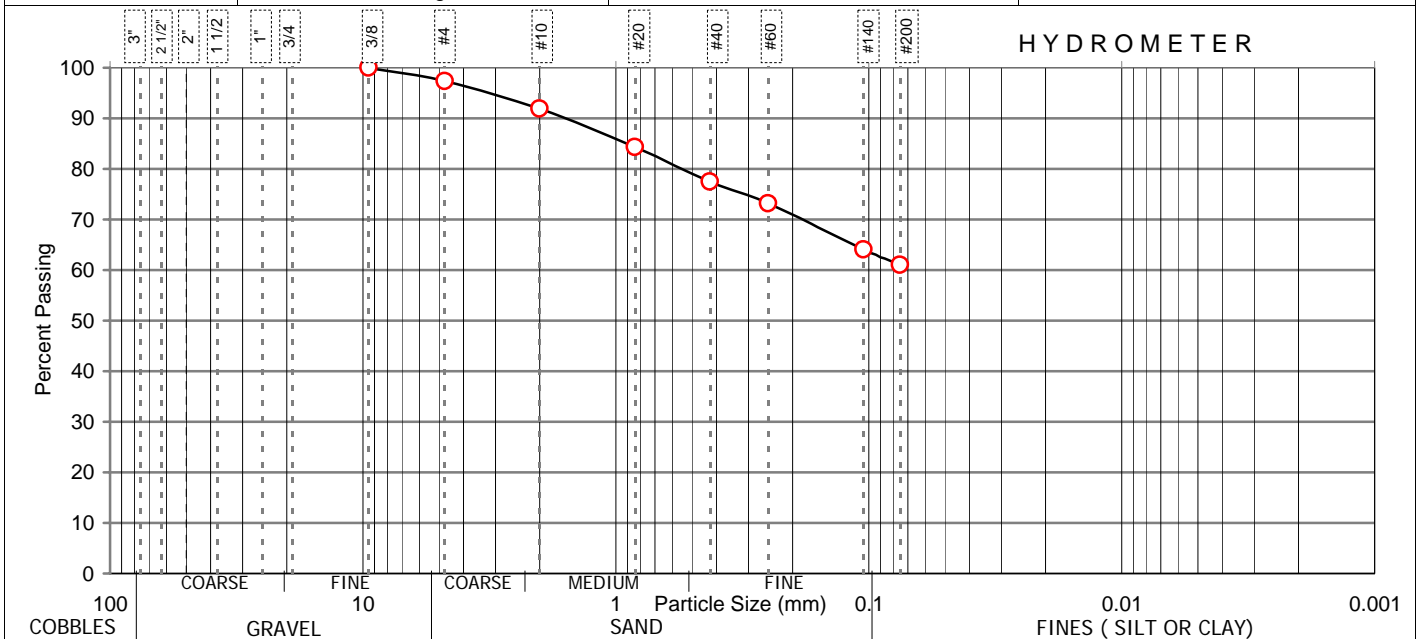


Client..... MOHRI, ARCHITECT & ASSOCIATES, INC.	Job Number..... 2209-10.R1-GSA-02-3
Project..... Proposed Mayon Evacuation Center (Manito Central School)	Date of Receipt..... October 27, 2010
Location..... Brgy. Manito, Province of Albay	Date of Test..... October 30, 2010

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

BH / SAMPLE NO..... **BH-2** **○ Z** **□** **△**
 DEPTH (m)..... 6.55-7.00
 SOIL DESCRIPTION..... Elastic SILT

SIEVE SIZE		Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer	Cumm.Mass Retained (g)	Cumm.% Retained	Percent Finer
inches	mm									
2 1/2	62.5									
2	50.0									
1 1/2	37.5									
1	25.0									
3/4	19.0									
3/8	9.5			100						
4	4.75	1.70	2.70	97						
10	2.0	5.07	8.04	92						
20	0.8	9.90	15.70	84						
40	0.425	14.18	22.49	78						
60	0.25	16.95	26.89	73						
140	0.105	22.70	36.01	64						
200	0.075	24.55	38.94	61						
OVEN DRIED MASS		63.04 gms								



* - with Hydrometer

REMARKS : _____

SAMPLE SUBMITTED BY:

Walk-in Clients GPI Field Operator

R. POLIDAN

TESTED BY : ARTURO Q. AQUINO
LABORATORY TECHNICIAN

COMPUTER PRINT-OUT
 By: MARIA ANTONIETTE P. CUNAHAP
Encoder
 Data Checked by: ABA/MRR
Quality Assurance
 Date Issued: _____

CERTIFIED BY : _____
AUTHORIZED SIGNATORY

Uncertainty Results: % Finer = ± 0.0418 LAB.FILE NO.:GSA-10-410
 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

SUBSURFACE INVESTIGATION **PROPOSED MAYON EVACUATION CENTER (2-STOREY)**

STO. DOMINGO CENTRAL SCHOOL
BRGY. NAGSYA, PROVINCE OF ALBAY

MOHRI, ARCHITECT & ASSOCIATES, INC.

OCTOBER 2010
JOB NO. 2209-10.R1



GEOTECHNICS PHILIPPINES, INC.
GEOTECHNICAL & FOUNDATION CONSULTANTS



DPWH-BRS Accredited

FINAL REPORT

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GEOTECHNICS PHILIPPINES, INC.
Geotechnical Contractor

119 Sauyo Road, Novaliches
Quezon City, Philippines

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

FINAL REPORT

**SUB-SURFACE INVESTIGATION FOR THE
PROPOSED MAYON EVACUATION CENTER (2-STOREY)
LOCATED AT STO. DOMINGO CENTRAL SCHOOL BRGY. NAGSYA,
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 Sto. Domingo Central School, Brgy. Nagsya, Province of Albay.

Two (2) boreholes were drilled at the proposed site from October 20 to October 22, 2010. Borings were undertaken down to 8.45m to 8.25m respectively for both BH-1 and BH-2 below existing natural ground line. Borehole locations are as indicated on the accompanying Boring Plan and Soil Profile Sheets.

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

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

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

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

2.0 OBJECTIVES

The geotechnical investigation aims to determine the following:

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

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

3.0 FIELD EXPLORATION AND INVESTIGATION

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

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

3.1 Standard Penetration Test

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

3.2 Hard Strata and Soft Strata Sampling

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

3.3 Ground Water Table

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

4.0 LABORATORY INVESTIGATION

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

Type of Test	ASTM Designation	Description of Test
Soil Classification for Engineering Purposes – Unified Soil Classification System	ASTM D 2487-05	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Tests determining the limits of cohesive soils in behaving as a plastic or a flowing medium by incrementally changing the water content • The plastic limit is determined by rolling a clay sample to around 1/8 of an inch or 3mm • The liquid limit uses the liquid limit device and determines the number of blows it would take for the slit to close • Correlative values can be used for settlement relations

The results of the laboratory investigation are appended.

5.0 BOREHOLE STATIGRAPHY

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

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5.1 Borehole BH-1

Borehole BH-1 extends 8.45 meters obtaining the following stratification: Medium dense silty sand at 0-1 meter, very dense poorly graded sand at 1-1.85 meters, sludge at 1.85-2.85 meters, very dense poorly graded sand at 2.85-3 meters, very dense gravel to cobbles at 3-4 meters, no recovery at 4-5 meters, very dense well graded sand at 5-5.15 meters, very dense cobble at 5.15-6.15 meters, sludge at 6.15-7.15 meters, very dense well graded sand at 7.15-7.3 meters, sludge at 7.3-8.3 meters, very dense well graded sand at 8.3-8.45 meters, the extent of the borehole.

The ground water was detected at 2.31 meters from the existing grade.

5.2 Borehole BH-2

Borehole BH-2 extends 8.25 meters obtaining the following subsurface stratification: Medium dense silty sand at 0-0.85 meters, very dense gravel to cobble at 0.85-1.35 meters, sludge at 1.35-2.35 meters, very dense poorly graded sand at 2.35-2.45 meters, sludge at 2.45-3.5 meters, very dense poorly graded sand at 3.5-6.85 meters, very dense well graded sand at 6.85-8.1, very dense well graded sand at 8.1-8.25 meters, the extent of the borehole.

The ground water table was detected at 0.73 meters from the existing grade.

6.0 SOIL PROPERTIES

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

Soil Parameters			
Gravels, Sands, Silty Sands and Clayey Sands (Non-cohesive)			
Sands	c	ϕ	γ (kcf)
Very Loose	0	26	0.085
Loose	0	28	0.100
Medium Dense	0	30	0.110
Dense	0	32	0.120
Very Dense	0	35	0.130
Silts and Clays (Cohesive)			
Silts and Clays	c	ϕ	γ (kcf)
Very Soft	= (N*10)/2 from Braja Das	0	0.100
Soft		0	0.105
Firm		0	0.115
Stiff		0	0.120
Very Stiff		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 layers found until the end of boreholes.

8.0 BEARING CAPACITY AND FOUNDATION TYPE

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

BH-1:

Depth	Bearing Capacity (kPa)
1.0	96

BH-2:

Depth	Bearing Capacity (kPa)
1.0	96

The associated settlement on the other hand is within the tolerable engineering settlement of 25mm.

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. 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 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.



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