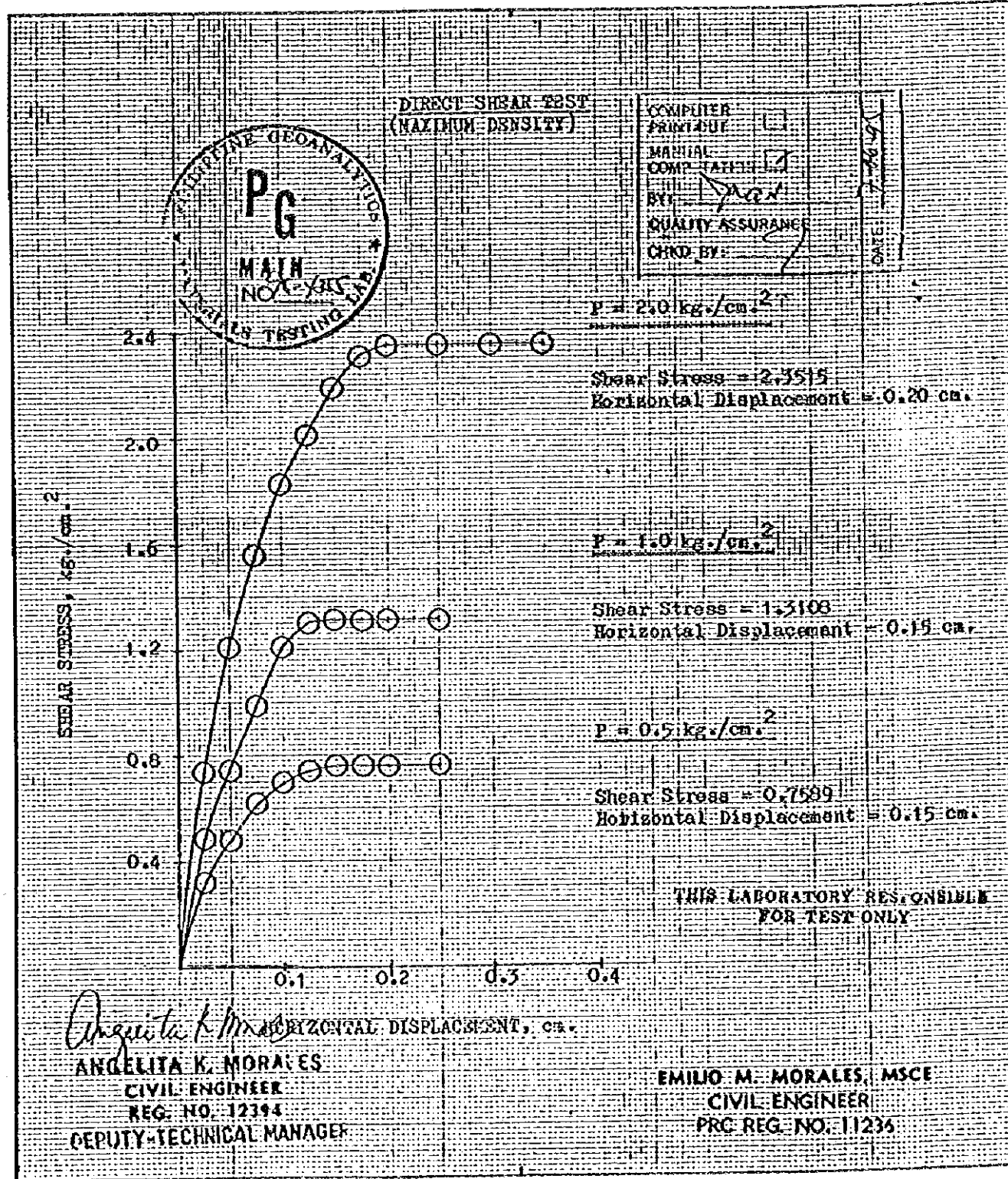


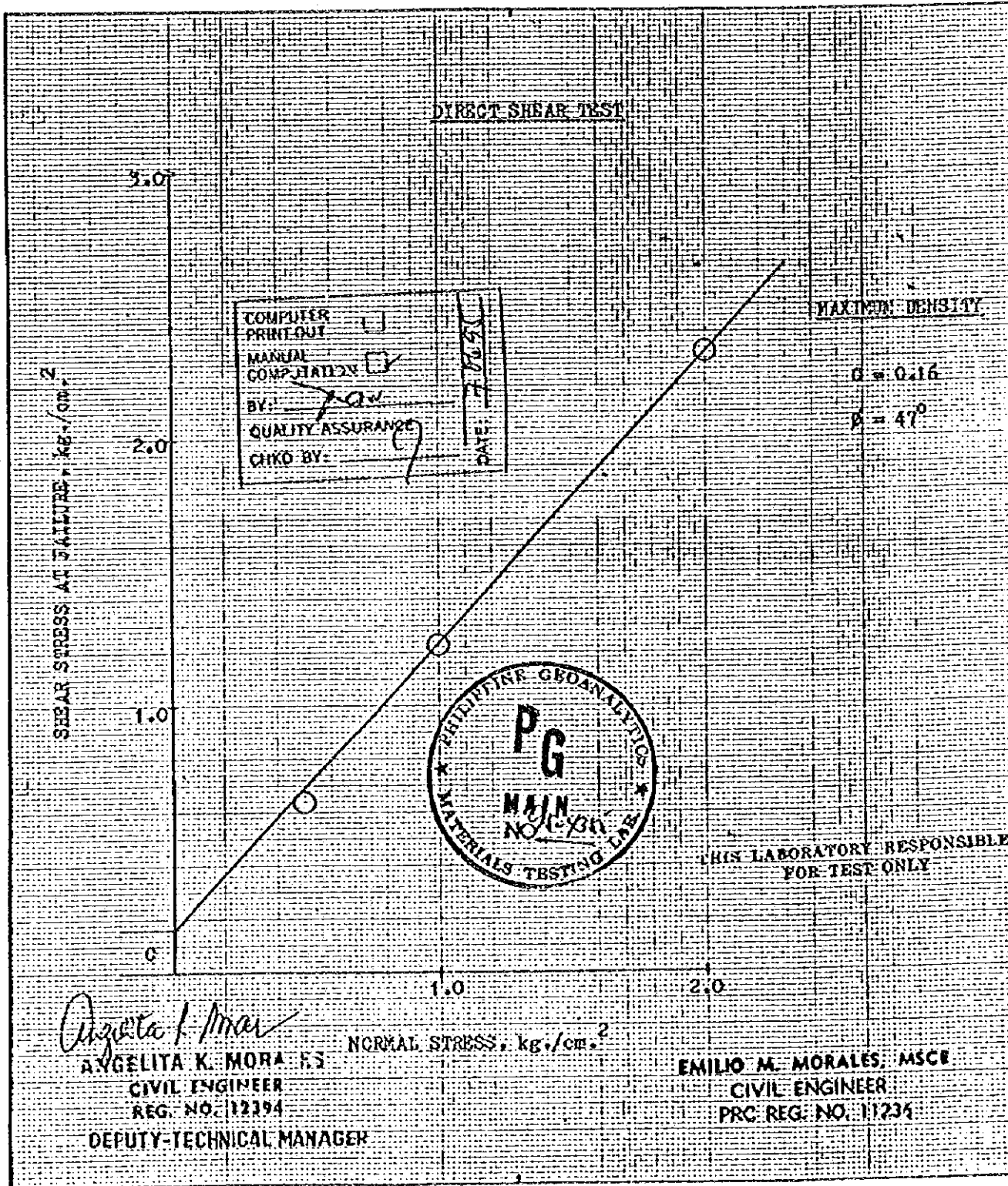
PHILIPPINE GEOTECHNICAL ANALYTICS PROJECT: PINATUBO LOCATION: TM-1 SABO DAM SAMPLE: BH-3 DEPTH: 5.00 M.	COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET <u>3</u> OF <u>3</u>
	JOB NO.:	CROSS REFERENCE:
	TESTED BY: CAM	CHECKED BY: JEV
	DATE TESTED: 07-04-95	DATE FINISHED: 07-04-95



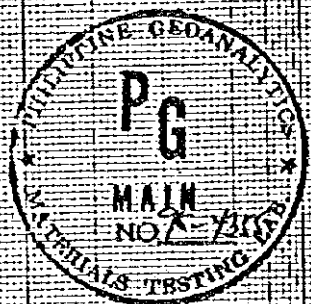
Angelita K. Morales
ANGELITA K. MORALES
 CIVIL ENGINEER
 REG. NO. 12394
 DEPUTY-TECHNICAL MANAGER

EMILIO M. MORALES, MSCE
 CIVIL ENGINEER
 PRC REG. NO. 11236

PHILIPPINE GEOTECHNICAL ANALYTICS		COMPUTER PRINTOUT <input type="checkbox"/>	SHEET <u>2</u> of <u>3</u>
PROJECT: <u>PINATUBO</u>		DETAILS PREPARED <input type="checkbox"/>	CROSS REFERENCE:
LOCATION: <u>TM-1SABO DAM</u>		JOB NO:	CHECKED BY: <u>JEV</u>
SAMPLE: <u>BH-3</u>	DEPTH: <u>10.00 M.</u>	TESTED BY: <u>CAM</u>	DATE FINISHED: <u>07-04-95</u>
		DATE TESTED: <u>07-04-95</u>	

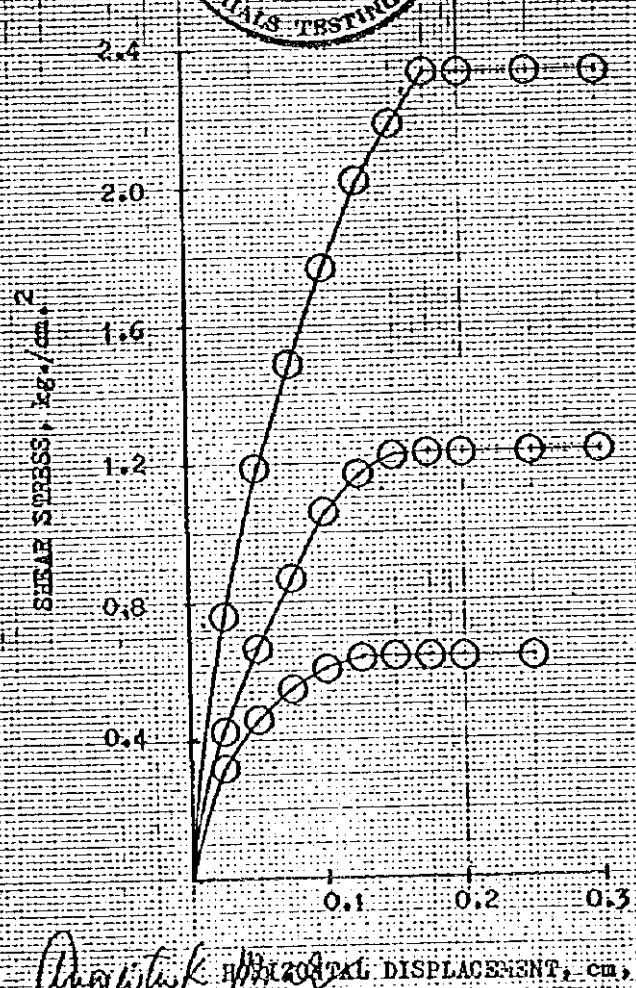


PHILIPPINE GEOTECHNICAL ANALYTICS PROJECT: PINATUBO - LOCATION : TM-1 SABO DAM SAMPLES : BH-3 DEPTH : 10.00 M.	COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET <u>3</u> of <u>3</u>
	JOB NO:	CROSS REFERENCE:
	TESTED BY: CAM	CHECKED BY: JSV
	DATE TESTED: 07-04-95	DATE FINISHED: 07-04-95



**DIRECT SHEAR TEST
(MAXIMUM DENSITY)**

COMPUTER PRINTOUT	<input type="checkbox"/>
TESTED BY	<i>JSV</i>
QUALITY ASSURANCE	<input type="checkbox"/>
CHECKED BY	<i>JSV</i>
DATE	<i>7/06/95</i>



$P = 2.0 \text{ kg/cm}^2$
 Shear Stress = 2.3342
 Horizontal Displacement = 0.175 cm.

$P = 1.0 \text{ kg/cm}^2$
 Shear Stress = 1.2275
 Horizontal Displacement = 0.175 cm.

$P = 0.5 \text{ kg/cm}^2$
 Shear Stress = 0.6411
 Horizontal Displacement = 0.15 cm.

THIS LABORATORY RESPONSIBLE FOR TEST ONLY

Angelita K. Morales
 ARGELITA K. MORALES
 CIVIL ENGINEER
 REG. NO. 12394
 DEPUTY-TECHNICAL MANAGER

EMILIO M. MORALES, MSCE
 CIVIL ENGINEER
 PRC REG. NO. 11236

COMPACTION TEST
PINATUBO

Page 1 of 3 pages
DEPTH : 5.00 M.

Project SABO DAM #6 Job No. 1
 Location of Project _____ Boring No. _____ Sample No. _____
 Description of Soil C.A.M. Date of Test 07-04-95
 Test Performed By 50 No. of Layers 2 Wt. of Hammer 349 g.
 Blows/Layer _____ Hi. 2 cm. Vol. 72 cu.cm.
 Mold dimensions: Diam. 6 X 6 cm.

DATE RECEIVED :
DATE RELEASED : **07 JUL 1995**

Water Content Determination

Sample no.	1	2	3	4	5	6
Moisture can no.						
Wt. of can + wet soil						
Wt. of can + dry soil						
Wt. of water						
Wt. of can						
Wt. of dry soil						
Water content, w%						

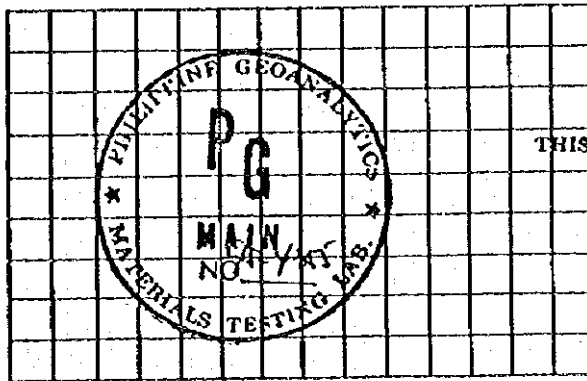
COMPILED
 PRINT-OUT
 MANUAL
 COMPUTATION
 BY: [Signature]
 QUALITY ASSURANCE
 CHKD BY: [Signature]
 DATE: 7-06-95

MAXIMUM DENSITY

Density Determination

	1	2	3	4	5	6
Assumed water content	-	-	-	-	-	-
Water content, w%	-	-	-	-	-	-
Wt. of soil + mold	2,652	2,654	2,655	-	-	-
Wt. of mold	2,514	2,514	2,514	-	-	-
Wt. of soil in mold	138	140	141	-	-	-
Wet density, g/cc	1.917	1.944	1.958	-	-	-
Dry density γ , g/cc	Average = 1.940			-	-	-

Angelita K. Morales
ANGELITA K. MORALES
 CIVIL ENGINEER
 REG. NO. 12394
 DEPUTY-TECHNICAL MANAGER



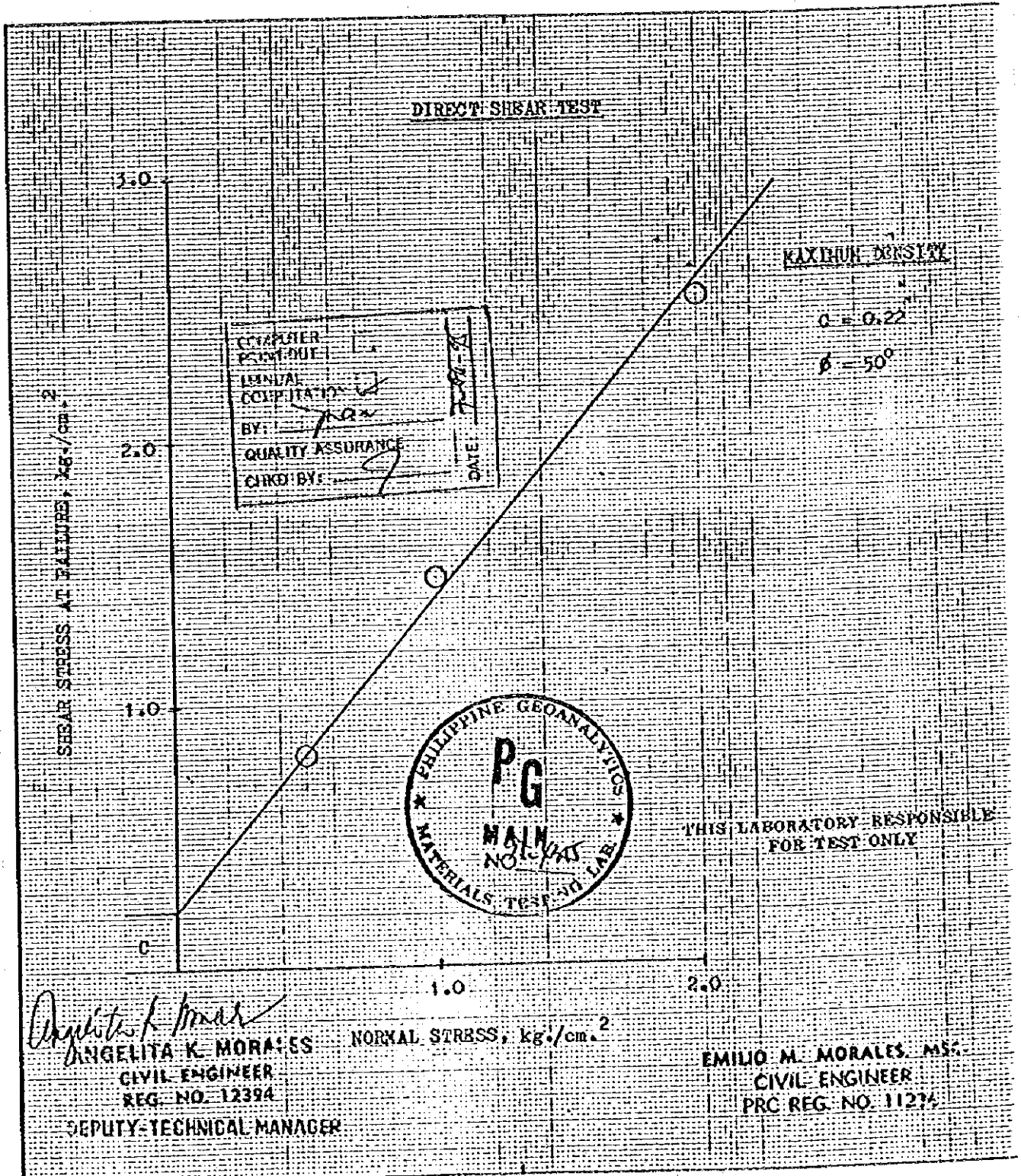
THIS LABORATORY RESPONSIBLE
FOR TEST ONLY

EMILIO M. MORALES, MSCE
 CIVIL ENGINEER
 PRC REG. NO. 11274

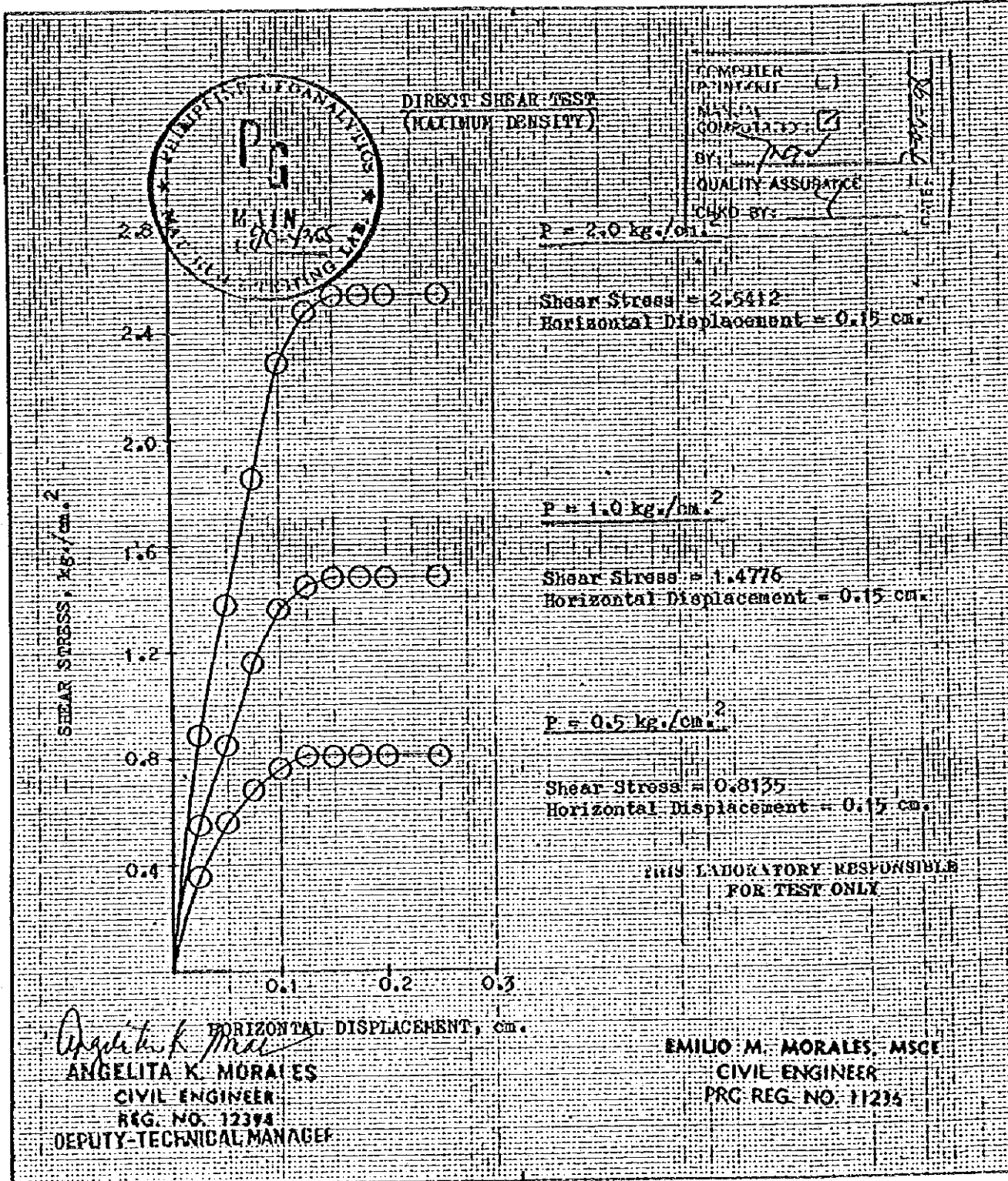
Optimum moisture = _____ % Maximum dry density = _____ g/cc

PHILIPPINE
GEOANALYTICS

PHILIPPINE GEONALYTICS		COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET <u>2</u> OF <u>3</u>
PROJECT: PINATUBO.		JOB NO:	CROSS REFERENCE:
LOCATION: SABO DAM NO.6		TESTED BY: CAM	CHECKED BY: JEV
SAMPLE: BH-1 DEPTH: 5.00 M.		DATE TESTED: 07-04-95	DATE FINISHED: 07-04-95



PHILIPPINE GEOANALYTICS PROJECT: PINATUBO LOCATION : SABO DAM NO. 6 SAMPLE : BH-1 DEPTH : 5.00 M.	COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET <u>3</u> OF <u>3</u>
	JOB NO:	CROSS REFERENCE:
	TESTED BY: CAM	CHECKED BY: JSV
	DATE TESTED: 07-04-95	DATE FINISHED: 07-04-95



1 KN = 101.971 Kg
 1 MPa = 10.1971 MPa

COMPACTION TEST
PINATUBO

Page 1 of 3 pages
DEPTH : 10.00 M.

Project SABO DAM #5 Job No. 1
 Location of Project SABO DAM #5 Boring No. 1 Sample No. 1
 Description of Soil C.A.M. Date of Test 07-05-95
 Test Performed By 50 No. of Layers 2 Wt. of Hammer 349 g.
 Blows/Layer 50 No. of Layers 2 Wt. of Hammer 349 g.
 Mold dimensions: Diam. 6 X 6 cm. Ht. 2 cm. Vol. 72 cu.cm.

DATE RECEIVED :
DATE RELEASED : **07 JUL 1995**

Water Content Determination

Sample no.	1	2	3	4	5	6
Moisture can no.						
Wt. of can + wet soil						
Wt. of can + dry soil						
Wt. of water						
Wt. of can						
Wt. of dry soil						
Water content, w%						

COMPUTER PRINT OUT
 MANUAL COMPUTATION
 BY: EM
 QUALITY ASSURANCE
 CHKG BY: EM

DATE: 7-6-95

MAXIMUM DENSITY

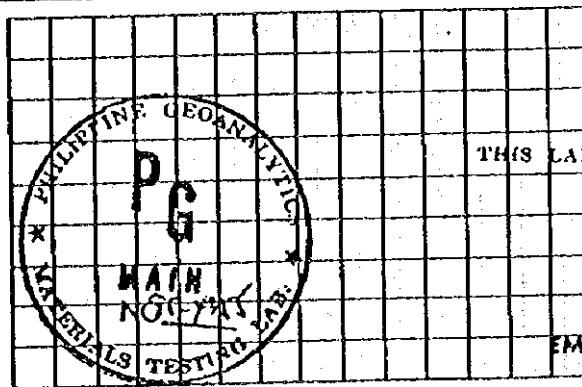
Density Determination

	1	2	3	4	5	6
Assumed water content	-	-	-	-	-	-
Water content, w%	-	-	-	-	-	-
Wt. of soil + mold	2,661	2,663	2,660	-	-	-
Wt. of mold	2,514	2,514	2,514	-	-	-
Wt. of soil in mold	147	149	146	-	-	-
Wet density, g/cc	2.042	2.069	2.028	-	-	-
Dry density γ , g/cc	Average = 2.046			-	-	-

Angelita K. Mora
ANGELITA K. MORA
CIVIL ENGINEER
REG. NO. 12394

DEPUTY-TECHNICAL MANAGER

Dry density $\gamma_{d, g/cc}$

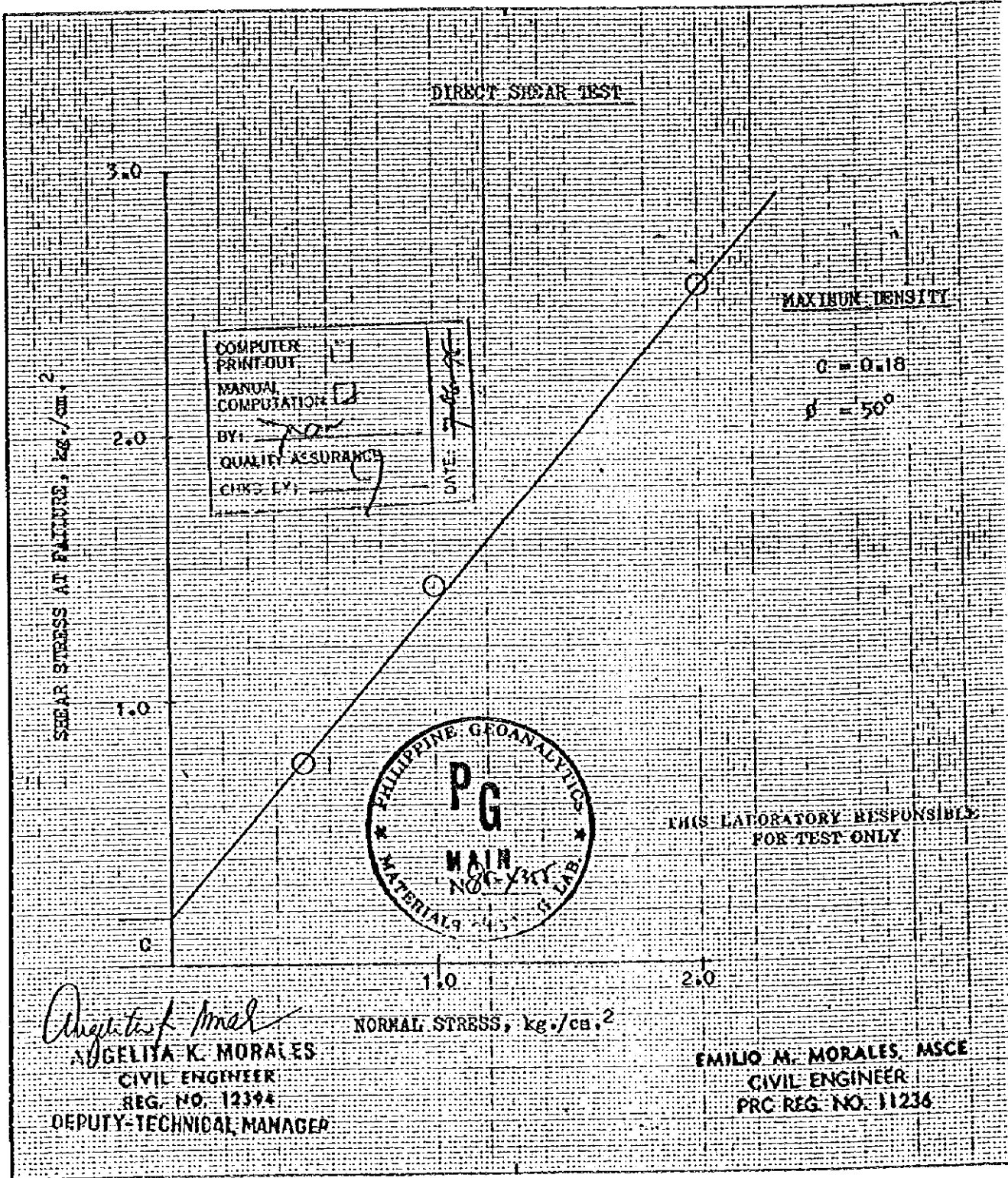


THIS LABORATORY RESPONSIBLE FOR TEST ONLY

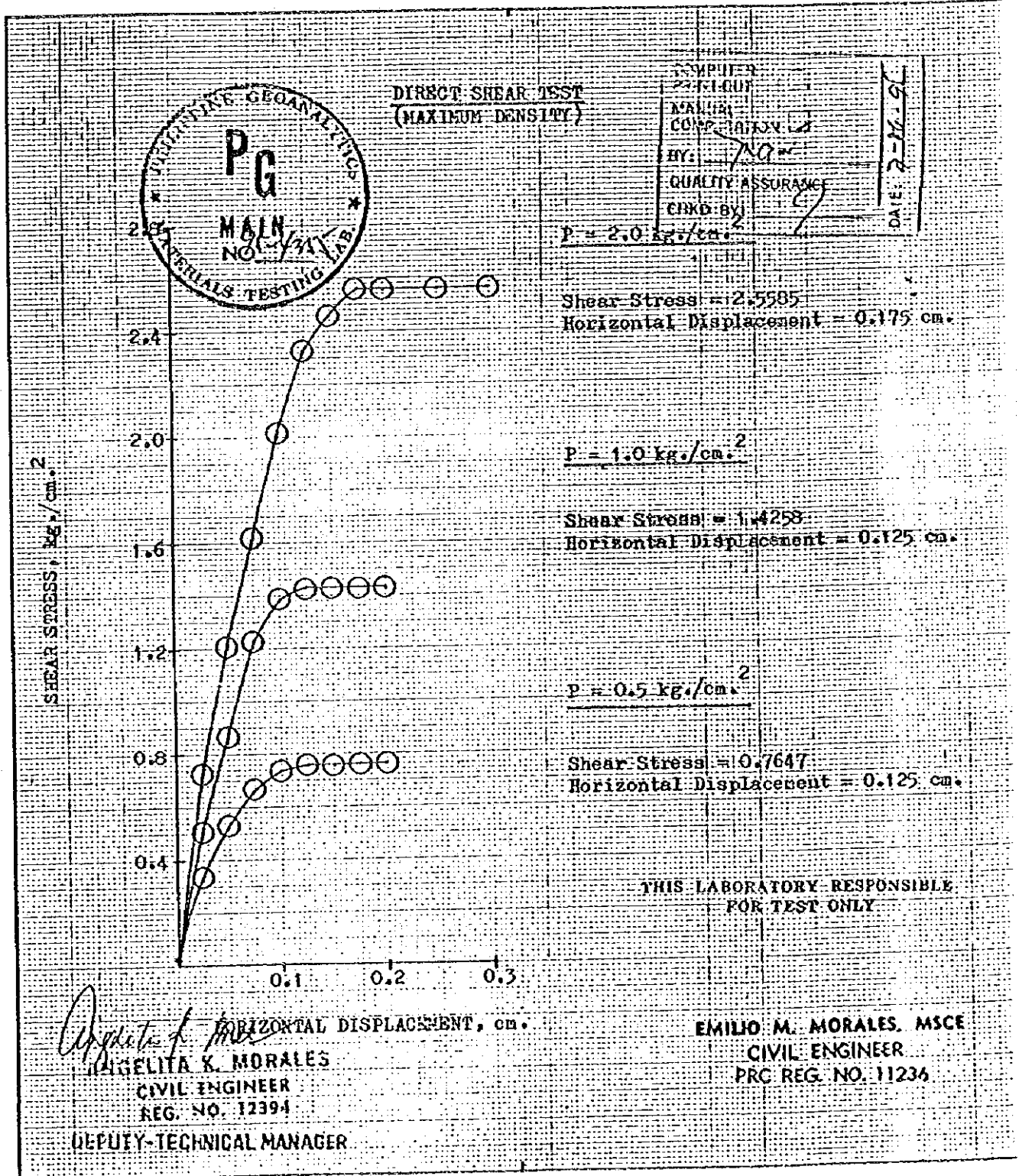
EMILIO M. MORALES, MSCE
CIVIL ENGINEER
PRC REG. NO. 11236

Optimum moisture = _____ % Maximum dry density = _____ g/cc

PHILIPPINE GEOANALYTICS PROJECT: PINATUBO LOCATION : SABO DAM NO.6 SAMPLE : BH-1 DEPTH : 10.00 M.	COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET <u>2</u> OF <u>3</u>
	JOB NO:	CROSS REFERENCE:
	TESTED BY: <u>CAM</u>	CHECKED BY: <u>JEV</u>
	DATE TESTED: <u>07-05-95</u>	DATE FINISHED: <u>07-05-95</u>



PHILIPPINE GEOANALYTICS	COMPUTER PANTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET <u>3</u> OF <u>3</u>
	PROJECT: PINATUBO	JOB NO.:
LOCATION: SABO DAM NO.6	TESTED BY: CAM	CHECKED BY: JEV
SAMPLE: BH-1 DEPTH: 10.00 M.	DATE TESTED: 07-05-95	DATE FINISHED: 07-05-95



COMPACTION TEST
PINATUBO

Page 1 of 3 pages
DEPTH : 5.00 M.

Project SABO DAM #6 Job No. 2
 Location of Project _____ Boring No. _____ Sample No. _____
 Description of Soil C.A.M. Date of Test 07-05-95
 Test Performed By _____ No. of Layers 2 Wt. of Hammer 349 g.
 Blows/Layer 50 Hi. 2 cm. Vol. 72 cu.cm.
 Mold dimensions: Diam. 6 X 6 cm.

DATE RECEIVED : _____
DATE RELEASED : **07 JUL 1995**

Water Content Determination

Sample no.	1	2	3	4	5	6
Moisture can no.						
Wt. of can + wet soil						
Wt. of can + dry soil						
Wt. of water						
Wt. of can						
Wt. of dry soil						
Water content, w%						

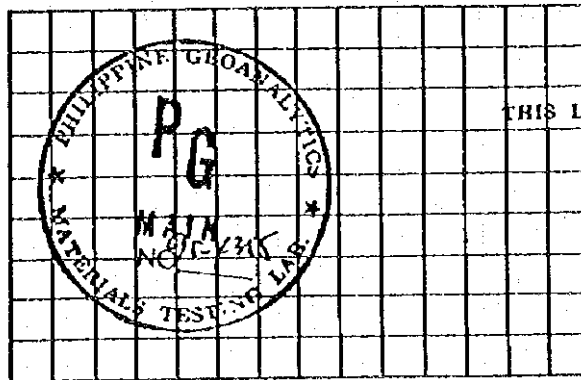
COMPUTER
PRINT-OUT
MAXIMAL
COPY AT
BY: PCW
QUALITY ASSURANCE
CHECK BY: _____
DATE: 7-5-95

MAXIMUM DENSITY

Density Determination

	1	2	3	4	5	6
Assumed water content	-	-	-	-	-	-
Water content, w%	-	-	-	-	-	-
Wt. of soil + mold	2,651	2,653	2,652	-	-	-
Wt. of mold	2,514	2,514	2,514	-	-	-
Wt. of soil in mold	137	139	138	-	-	-
Wet density, g/cc	1.903	1.931	1.917	-	-	-
Dry density γ , g/cc	Average = 1.917			-	-	-

Emilio M. Morales
EMILIO M. MORALES
CIVIL ENGINEER
REG. NO. 12394
QUALITY-TECHNICAL MANAGER

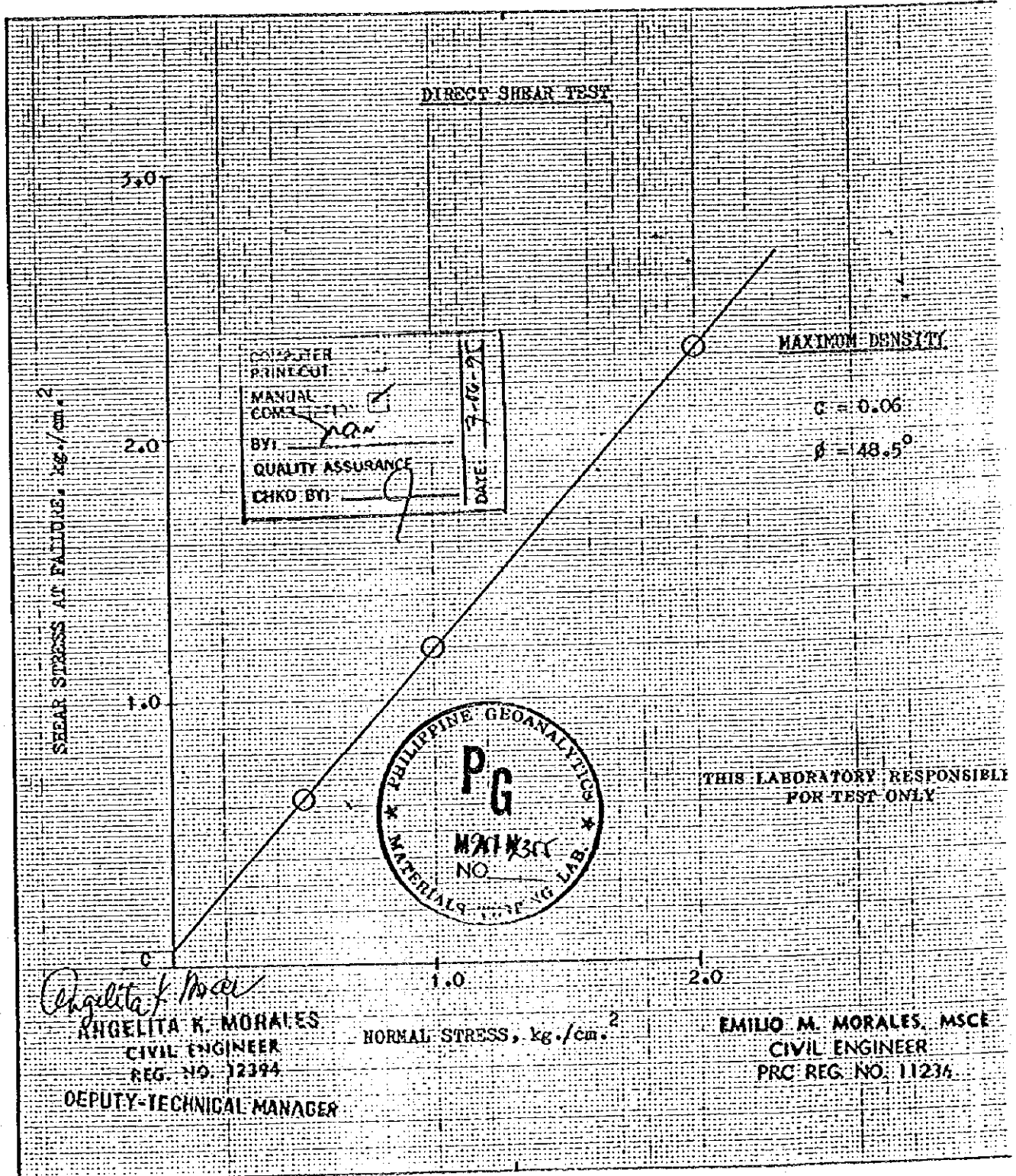


THIS LABORATORY RESPONSIBLE
FOR TEST ONLY

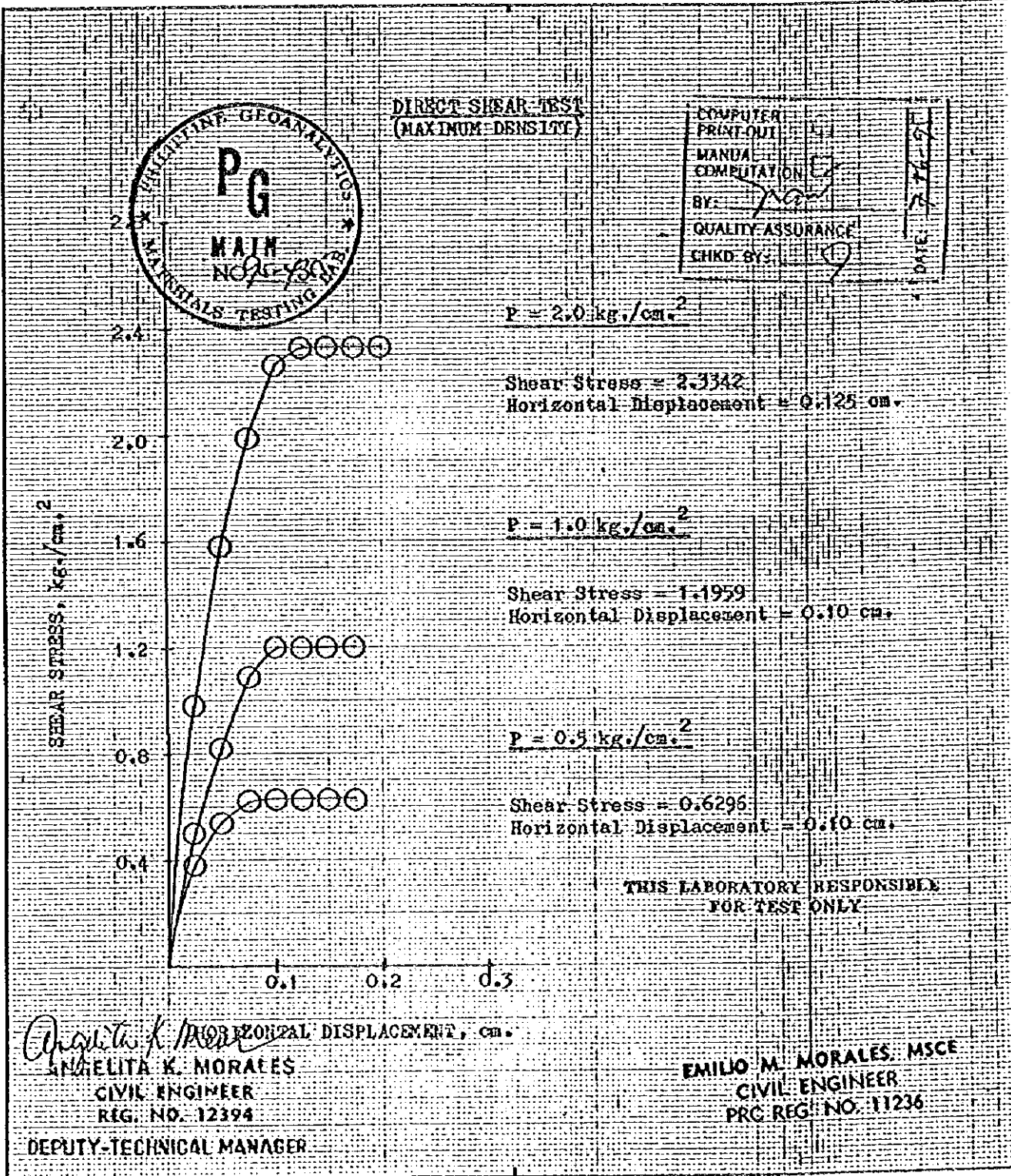
EMILIO M. MORALES, MSCE
CIVIL ENGINEER
PRC REG. NO. 11234

Water content, w% _____
Optimum moisture = _____ % Maximum dry density = _____ g/cc

PHILIPPINE GEONALYTICS		COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET 2 OF 3
PROJECT: PINATUBO		JOB NO:	CROSS REFERENCE:
LOCATION : SABO DAM NO.6		TESTED BY: CAM	CHECKED BY: JEV
SAMPLE : BH-2 DEPTH : 5.00 M.		DATE TESTED: 07-05-95	DATE FINISHED: 07-05-95



PHILIPPINE GEOTECHNICAL ANALYTICS	COMPUTER PRINTOUT <input type="checkbox"/>	SHEET <u>3</u> OF <u>3</u>
	DETAILS PREPARED <input type="checkbox"/>	
PROJECT: PINATUBO	JOB NO:	CROSS REFERENCE:
LOCATION: SABO DAM NO.6	TESTED BY: CAM	CHECKED BY: JEV
SAMPLE: BH-2 DEPTH: 5.00 M.	DATE TESTED: 07-05-95	DATE FINISHED: 07-05-95



1 KN = 101.97 kgf
 1 MPa = 10.197 kgf/cm²

COMPACTION TEST

Page 1 of 3 pages
DEPTH : 10.00 M.

Project PINATUBO Job No. 2
 Location of Project SABO DAM #6 Boring No. 2 Sample No.
 Description of Soil C.A.M. Date of Test 07-05-95
 Test Performed By No. of Layers 2 Wt. of Hammer 349 g.
 Blows/Layer 50 Mold dimensions: Diam. 6 X 6 cm. Ht. 2 cm. Vol. 72 cu.cm.

DATE RECEIVED : 07 JUL 1995
DATE RELEASED :

Water Content Determination

Sample no.	1	2	3	4	5	6
Moisture can no.						
Wt. of can + wet soil						
Wt. of can + dry soil						
Wt. of water						
Wt. of can						
Wt. of dry soil						
Water content, w%						

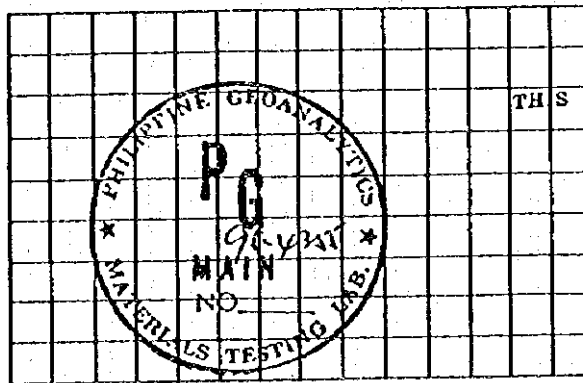
COMPUTER PRINTOUT
 MANUAL COMPUTATION
 BY:
 QUALITY ASSURANCE
 CHKD BY:
 DATE: 07-06-95

Density Determination

MAXIMUM DENSITY

Assumed water content	-	-	-	-	-	-
Water content, w%	-	-	-	-	-	-
Wt. of soil + mold	2,657	2,655	2,653	-	-	-
Wt. of mold	2,514	2,514	2,514	-	-	-
Wt. of soil in mold	143	141	139	-	-	-
Wet density, g/cc	1.986	1.958	1.931	-	-	-
Dry density γ , g/cc	Average = 1.958			-	-	-

Angelita K. Mora
ANGELITA K. MORA
 CIVIL ENGINEER
 REG. NO. 12394
 DEPUTY-TECHNICAL MANAGER

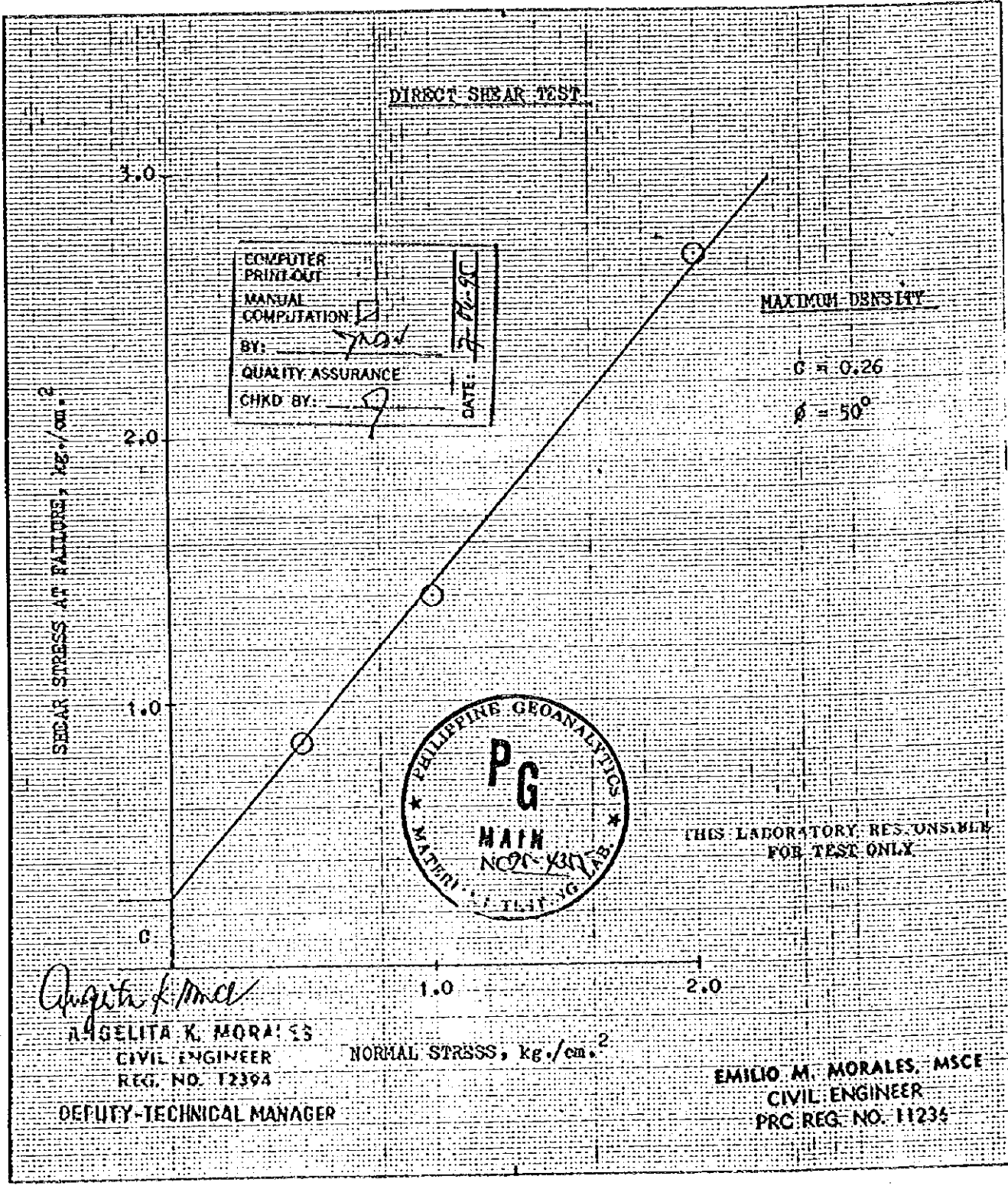


THIS LABORATORY RESPONSIBLE FOR TEST ONLY

EMILIO M. MORALES, MSCE
 CIVIL ENGINEER
 PRC REG. NO. 11236

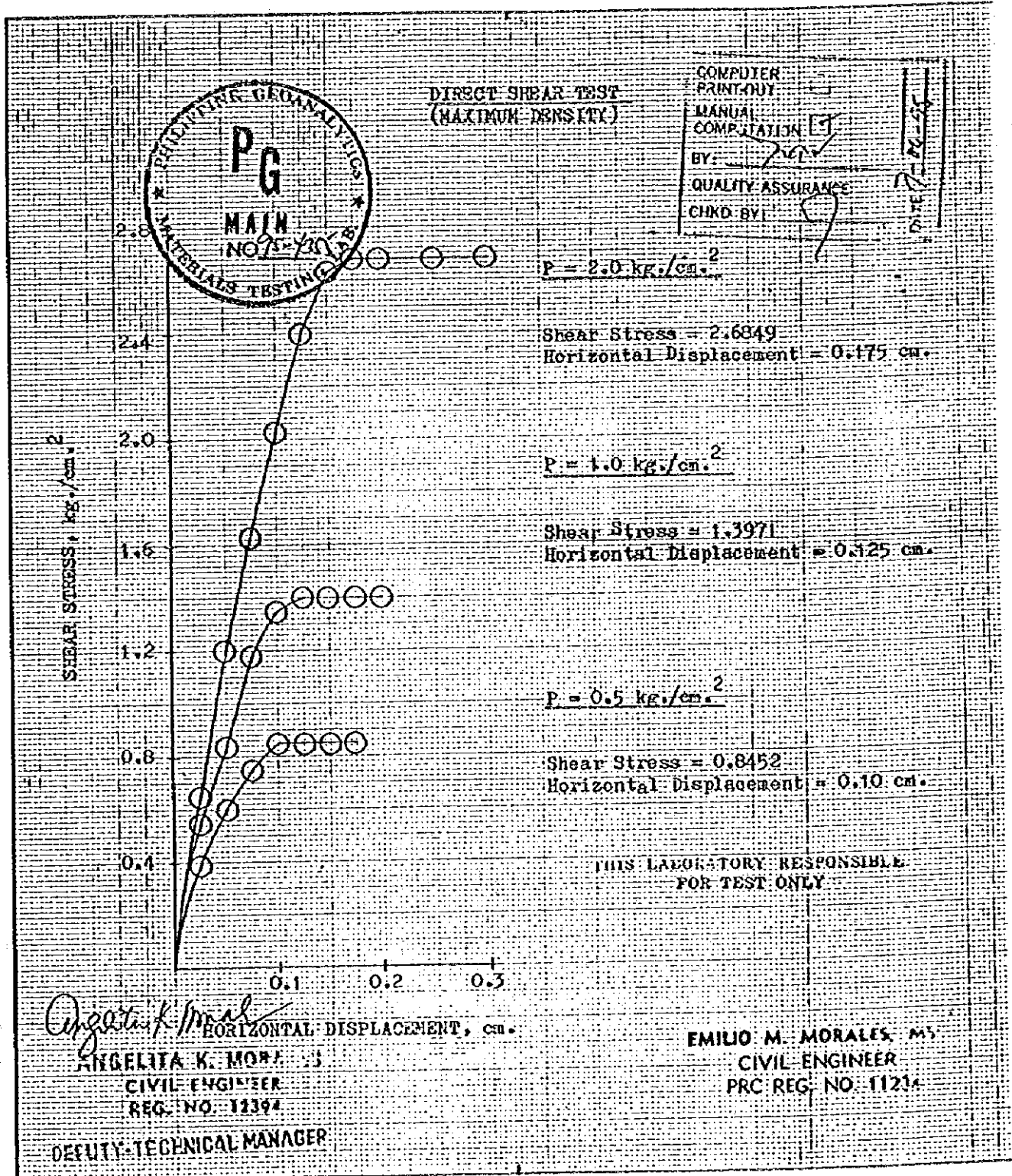
Water content, w% = _____
 Optimum moisture = _____ % Maximum dry density = _____ g/cc

PHILIPPINE GEOTECHNICALS		COMPUTER PRINTOUT <input type="checkbox"/>	SHEET <u>2</u> OF <u>3</u>
PROJECT: PINATUBO		DETAILS PREPARED <input type="checkbox"/>	CROSS REFERENCE:
LOCATION: SABO DAM NO.6		JOB NO.:	CHECKED BY: JEV
SAMPLE: BH-2 DEPTH: 10.00 M.		TESTED BY: CAM	DATE FINISHED: 07-05-95
		DATE TESTED: 07-05-95	



FORM NO. 101-871-49

PHILIPPINE GEOANALYTICS PROJECT: PINATUBO LOCATION : SABO DAM NO.6 SAMPLE : BH-2 DEPTH : 10.00 M.	COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET <u>3</u> OF <u>3</u>
	JOB NO:	CROSS REFERENCE:
	TESTED BY: <u>CAM</u>	CHECKED BY: <u>JRV</u>
	DATE TESTED: <u>07-05-95</u>	DATE FINISHED: <u>07-05-95</u>



1 kg = 101.971 kgf
 1 kgf = 9.80665 N

COMPACTION TEST
PINATUBO

Page 1 of 3 pages
DEPTH : 5.00 M.

Project SABO DAM #15 Job No. 3
 Location of Project _____ Boring No. _____ Sample No. _____
 Description of Soil C.A.M. Date of Test 07-05-95
 Test Performed By _____ No. of Layers 2 Wt. of Hammer 549 g.
 Blows/Layer _____ Hi. 2 cm. Vol. 72 cu.cm.
 Mold dimensions: Diam. 6 X 6 cm.

DATE RECEIVED :
DATE RELEASED : **07 JUL 1995**

Water Content Determination

Sample no.	1	2	3	4	5	6
Moisture can no.						
Wt. of can + wet soil						
Wt. of can + dry soil						
Wt. of water						
Wt. of can						
Wt. of dry soil						
Water content, w %						

COMPUTER PRINT-OUT
 MANUAL COMPUTATION
 BY: raw
 QUALITY ASSURANCE
 CHKD BY: SJ

DATE: 7-10-95

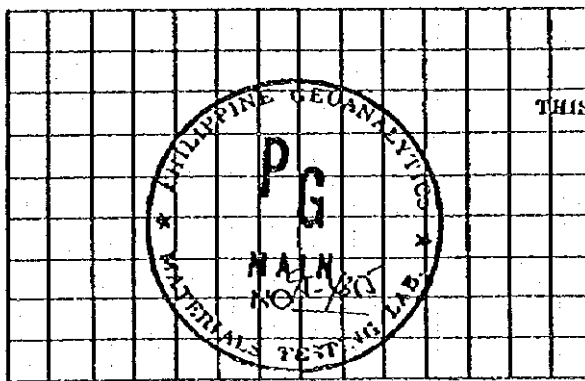
MAXIMUM DENSITY

Density Determination

Assumed water content	-	-	-	-	-	-
Water content, w %	-	-	-	-	-	-
Wt. of soil + mold	2,667	2,664	2,668	-	-	-
Wt. of mold	2,514	2,514	2,514	-	-	-
Wt. of soil in mold	153	150	154	-	-	-
Wet density, g/cc	2.125	2.083	2.139	-	-	-
Dry density γ , g/cc	Average = 2.116			-	-	-

Emilio M. Morales
EMILIO M. MORALES
 CIVIL ENGINEER
 REG. NO. 12394
 QUALITY-TECHNICAL MANAGER

Dry density γ_{dry} , g/cc

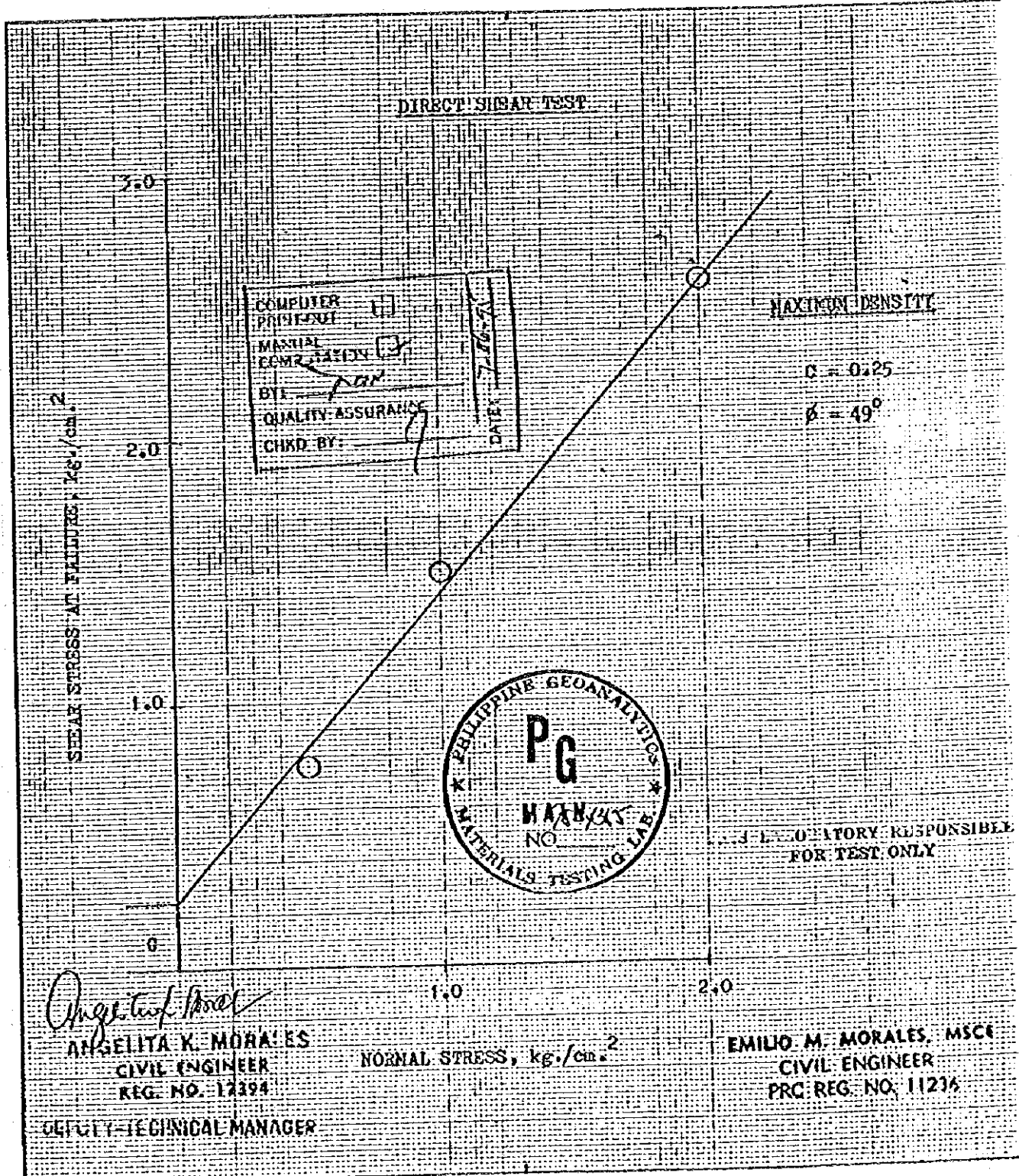


THIS LABORATORY RESPONSIBLE FOR TEST ONLY

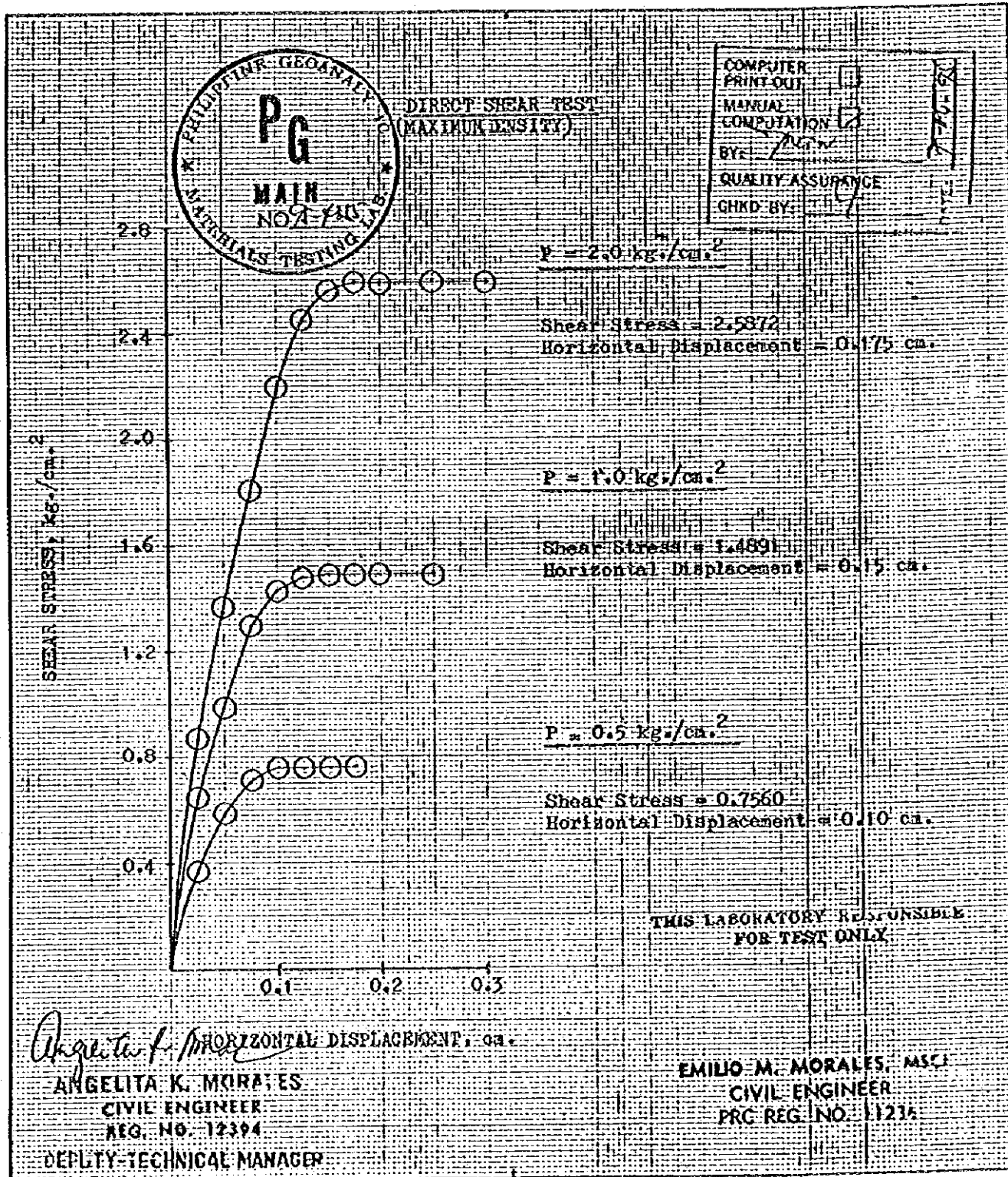
EMILIO M. MORALES, MSCE
 CIVIL ENGINEER
 PRC REG. NO. 11236

Optimum moisture = _____ % Maximum dry density = _____ g/cc

PHILIPPINE GEOTECHNICAL ANALYTICS		COMPUTER PRINTOUT <input type="checkbox"/>	SHEET <u>2</u> of <u>3</u>
PROJECT: PINATUBO		DETAILS PREPARED <input type="checkbox"/>	CROSS REFERENCE:
LOCATION: SABO DAM NO.6		JOB NO:	CHECKED BY: JEV
SAMPLE: BH-3 DEPTH: 5.00 M.		TESTED BY: CAM	DATE FINISHED: 07-05-95
		DATE TESTED: 07-05-95	



PHILIPPINE GEOANALYTICS PROJECT: PINATUBO. LOCATION: SABO DAM NO.6 SAMPLE: BH-3 DEPTH: 5.00 M.	COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET 3 OF 3
	JOB NO:	CROSS REFERENCE:
	TESTED BY: CAM	CHECKED BY: JSV
	DATE TESTED: 07-05-95	DATE FINISHED: 07-05-95



COMPACTION TEST

Project PINATUBO DEPTH : 10.00 M.
 Location of Project SABO DAM #6 Job No. 3 Sample No. -
 Description of Soil C.A.M. Boring No. 3 Date of Test 07-05-95
 Test Performed By C.A.M. No. of Layers 2 Wt. of Hammer 349 g.
 Blows/Layer 50 Mold dimensions: Diam. 6 X 6 cm. Ht. 2 cm. Vol. 72 cu.cm.

Water Content Determination

DATE RECEIVED :
DATE RELEASED : **07 JUL 1995**

Sample no.	1	2	3	4	5	6
Moisture can no.						
Wt. of can + wet soil						
Wt. of can + dry soil						
Wt. of water						
Wt. of can						
Wt. of dry soil						
Water content, w%						

COMPUTER PRINT-OUT

MANUAL COMPUTATION

BY: MAN

QUALITY ASSURANCE

CHKD BY: [Signature]

DATE: 7-05-95

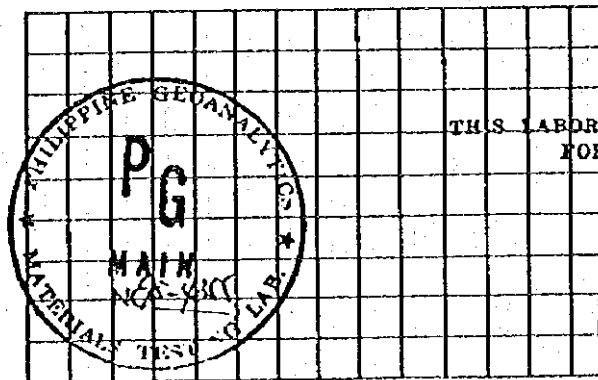
Density Determination

MAXIMUM DENSITY

	1	2	3	4	5	6
Assumed water content	-	-	-	-	-	-
Water content, w%	-	-	-	-	-	-
Wt. of soil + mold	2,651	2,649	2,648	-	-	-
Wt. of mold	2,514	2,514	2,514	-	-	-
Wt. of soil in mold	137	135	134	-	-	-
Wet density, g/cc	1.903	1.875	1.861	-	-	-
Dry density γ , g/cc	Average = 1.889			-	-	-

[Signature]
GELITA K. MORAL
 CIVIL ENGINEER
 REG. NO. 12394
 DEPUTY-TECHNICAL MANAGER

Dry density γ_{dry} , g/cc

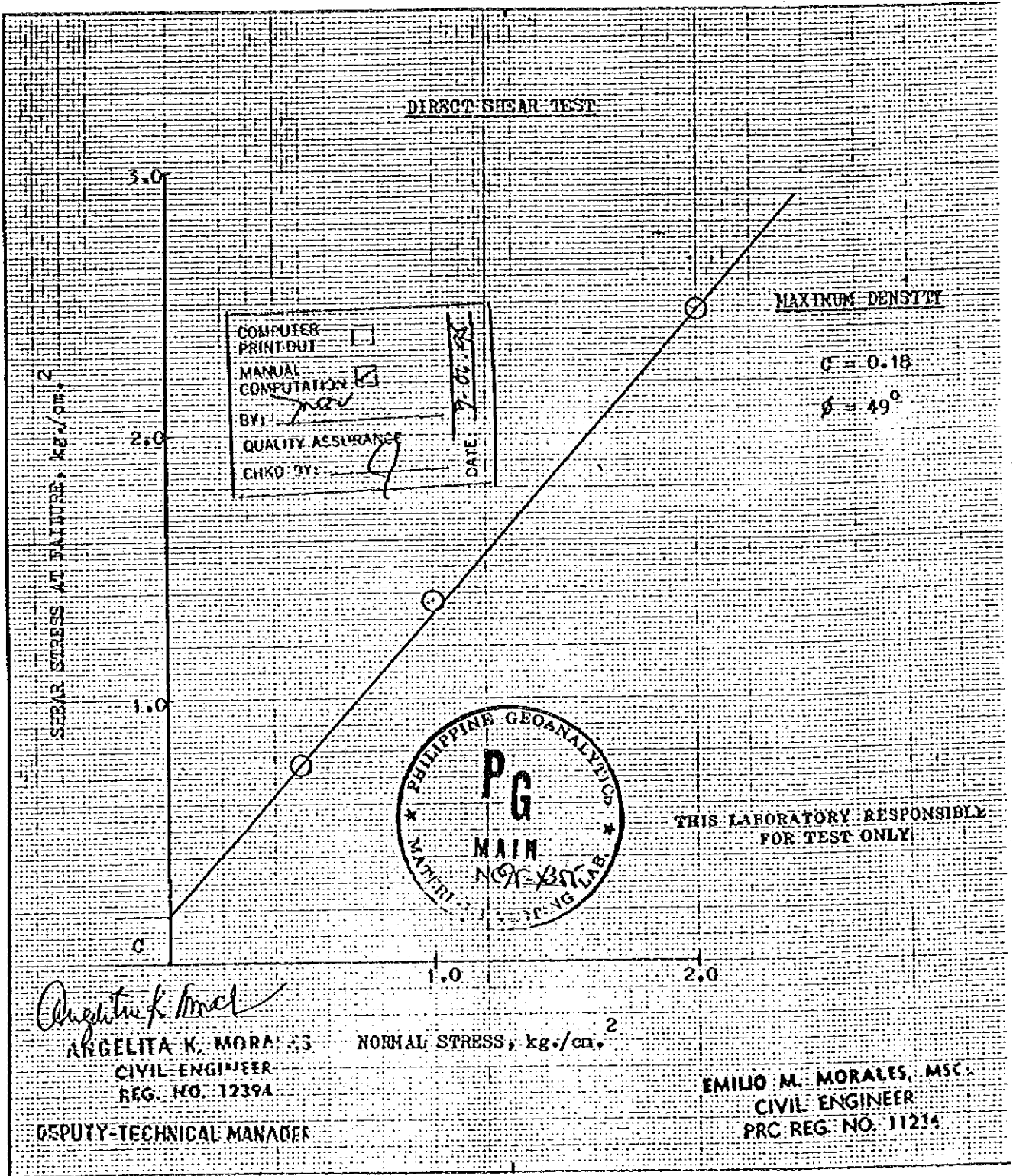


THIS LABORATORY RESPONSIBLE
FOR TEST ONLY

EMILIO M. MORALES, MSCE
 CIVIL ENGINEER
 PRC REG. NO. 11236

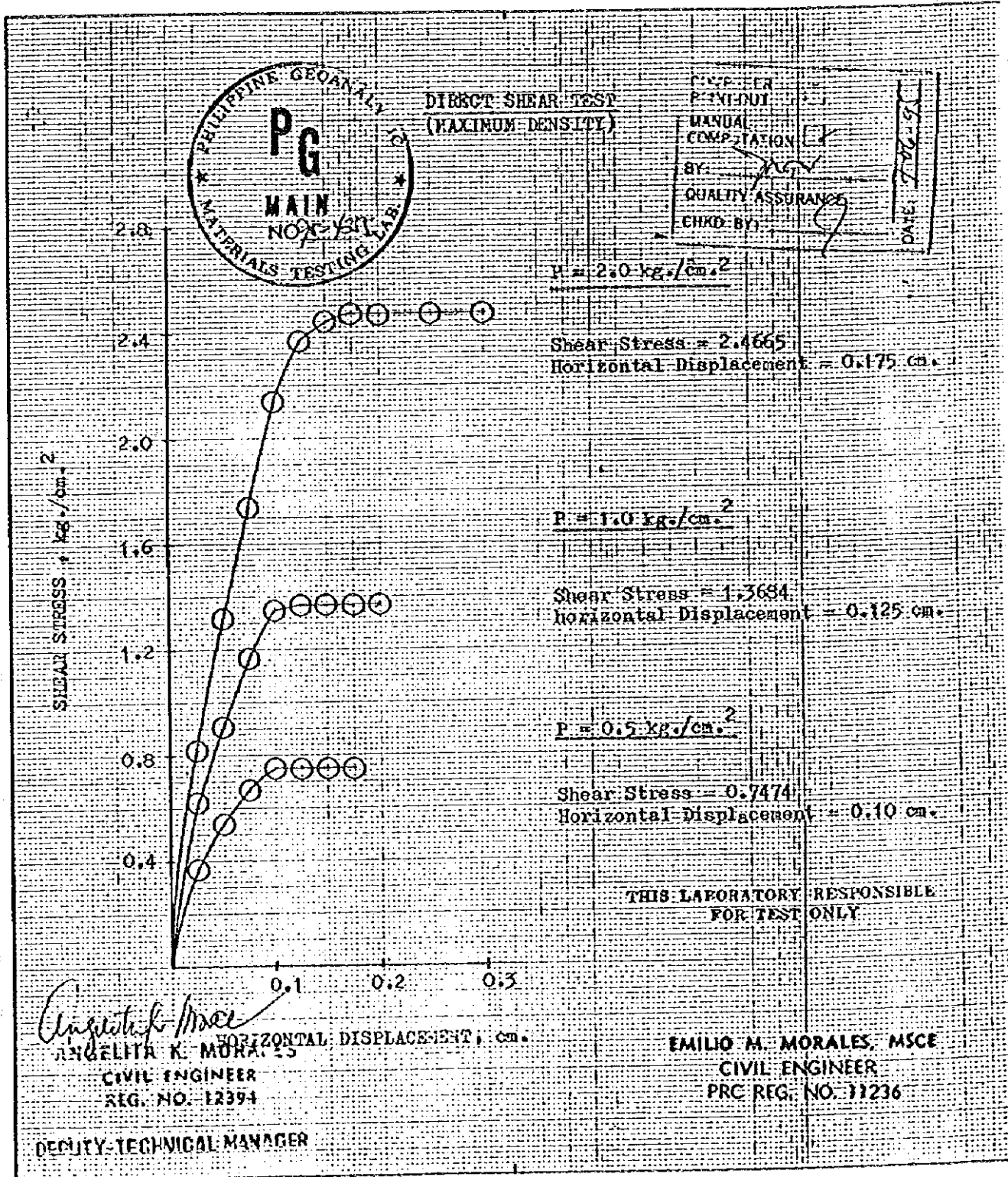
Water content, w% _____
 Optimum moisture = _____ % Maximum dry density = _____ g/cc

PHILIPPINE GEOTECHNICALS		COMPUTER PRINTOUT <input type="checkbox"/>	SHEET <u>2</u> OF <u>3</u>
PROJECT: PINATUBO		DETAILS PREPARED <input type="checkbox"/>	CROSS REFERENCE:
LOCATION: SABO DAM NO.6		JOB NO.:	CHECKED BY: JEV
SAMPLE: BH-3 DEPTH: 10.00 M.		TESTED BY: CAM	DATE FINISHED: 07-05-95
		DATE TESTED: 07-05-95	



1 KN = 101.971 kgf

PHILIPPINE GEOTECHNICALS PROJECT: PINATUBO LOCATION: SABO DAM NO.6 SAMPLE: BH-3	COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET <u>3</u> of <u>3</u>
	JOB NO:	CROSS REFERENCE:
	TESTED BY: CAM	CHECKED BY: JBV
	DATE TESTED: 07-05-95	DATE FINISHED: 07-05-95
DEPTH: 10.00 M.		



1 kg = 2.20462 lb

COMPACTION TEST

Project PINATUBO Job No. DEPTH : 5.50 M.
 Location of Project SABO DAM #9 Boring No. 1 Sample No. -
 Description of Soil _____
 Test Performed By C.A.M. Date of Test _____
 Blows/Layer 50 No. of Layers 2 Wt. of Hammer 349 g.
 Mold dimensions: Diam. 6 X 6 cm. Ht. 2 cm. Vol. 72 cu.cm.

DATE RECEIVED :
DATE RELEASED :

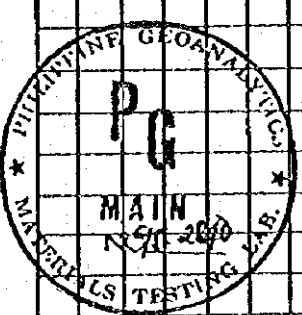
Water Content Determination

Sample no.	1	2	3	4	5	6
Moisture can no.						
Wt. of can + wet soil						
Wt. of can + dry soil						
Wt. of water						
Wt. of can						
Wt. of dry soil						
Water content, w%						

COMPUTER PRINT-OUT
MANUAL COMPILATION
BY: [Signature]
QUALITY ASSURANCE
CHKD BY: [Signature]
DATE: 6-28-91

Density Determination	MINIMUM DENSITY			MAXIMUM DENSITY		
Assumed water content	-	-	-	-	-	-
Water content, w%	-	-	-	-	-	-
Wt. of soil + mold	2,631	2,633	2,633	2,644	2,644	2,645
Wt. of mold	2,514	2,514	2,514	2,514	2,514	2,514
Wt. of soil in mold	117	119	119	130	130	131
Wet density, g/cc	1.625	1.653	1.653	1.806	1.806	1.819
Dry density γ , g/cc	Average = 1.644			Average = 1.810		

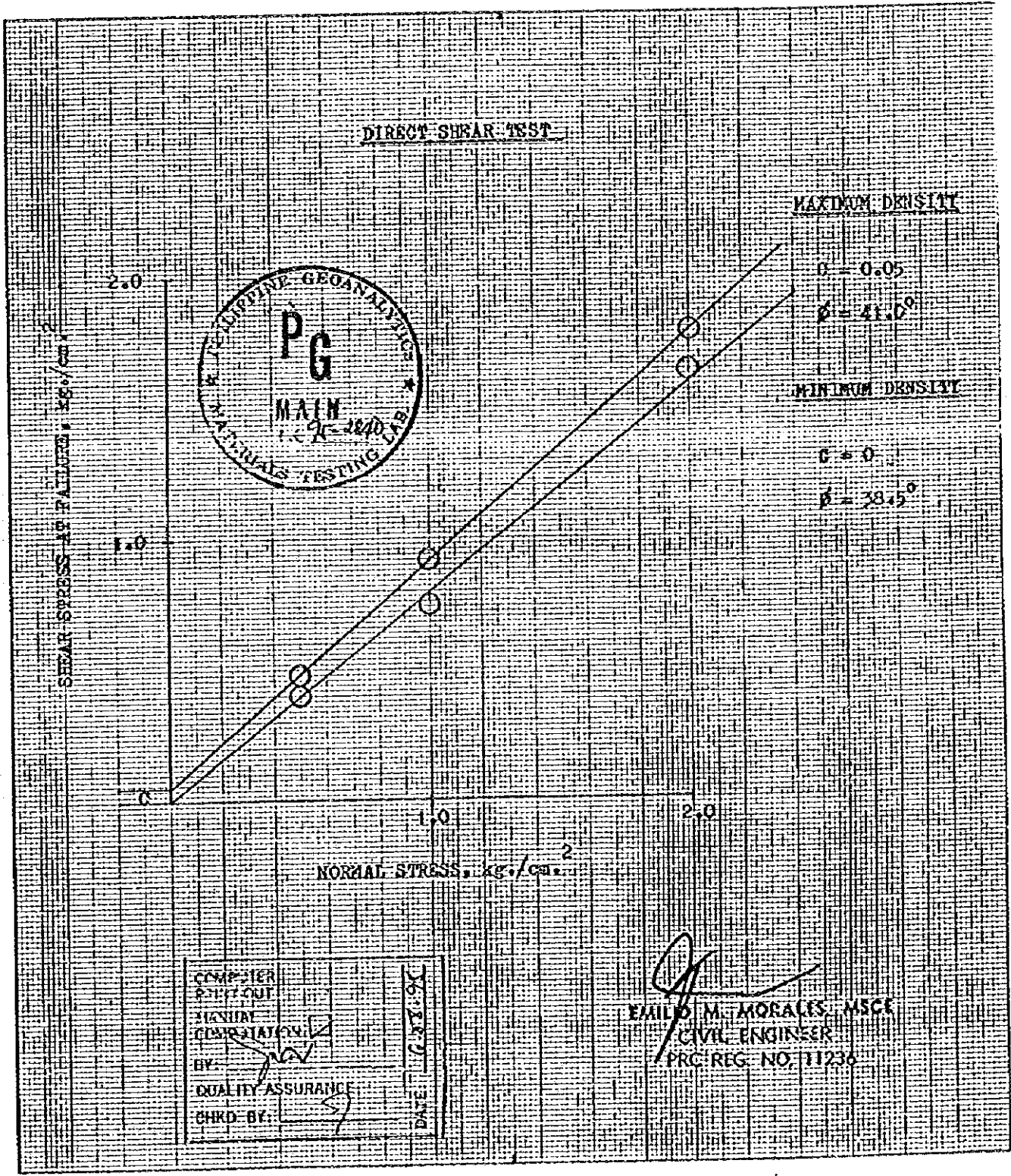
Dry density γ_{drr} , g/cc



EMILIO M. MORALES, MSCE
 CIVIL ENGINEER
 PRC REG. NO. 11236

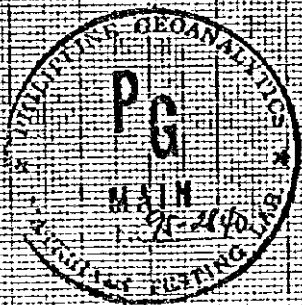
Water content, w% _____
 Optimum moisture = _____ % Maximum dry density = _____ g/cc

PHILIPPINE GEOANALYTICS	COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET <u>2</u> of <u>4</u>
	PROJECT: PINATUBO	JOB NO:
LOCATION: SABO DAM No.9	TESTED BY: C.A.M.	CHECKED BY: J.E.V.
SAMPLE: BH-1 DEPTH: 5.50 M.	DATE TESTED:	DATE FINISHED:



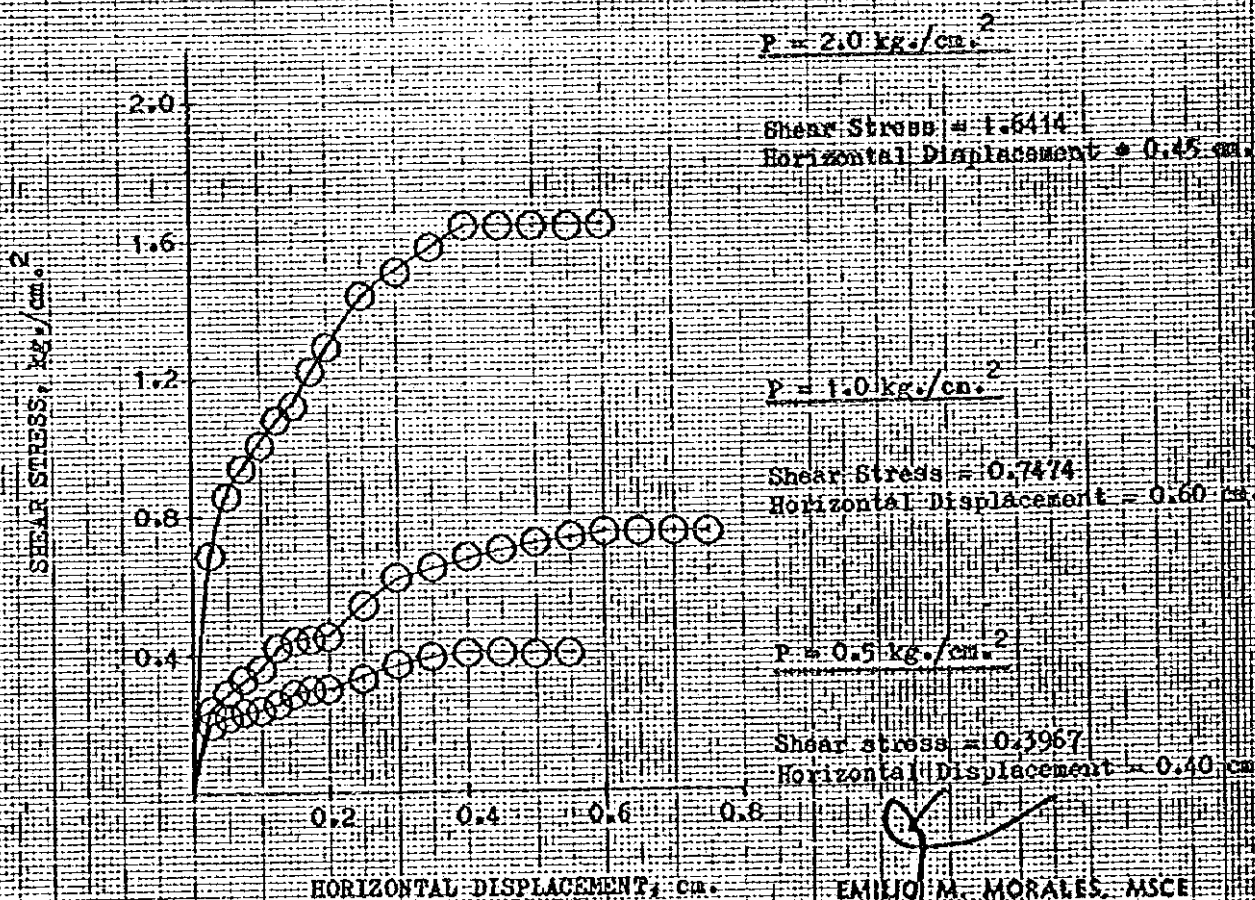
1.00 - 101 07 10 90
 1.00 - 101 07 10 90

PHILIPPINE GEOANALYTICS	COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET <u>3</u> OF <u>4</u>	
	PROJECT: PINATUBO	CROSS REFERENCE:	
	LOCATION : SABO DAM No.9	TESTED BY: C.A.M.	CHECKED BY: J.E.V.
	SAMPLE : BH-1	DEPTH : 5.50 M.	DATE TESTED:



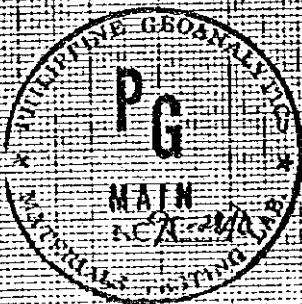
**DIRECT SHEAR TEST
(MINIMUM DENSITY)**

COMPUTER PRINTOUT	<input checked="" type="checkbox"/>
MANUAL COMPUTATION	<input checked="" type="checkbox"/>
BY:	<i>[Signature]</i>
QUALITY ASSURANCE	<input checked="" type="checkbox"/>
CHECKED BY:	<i>[Signature]</i>



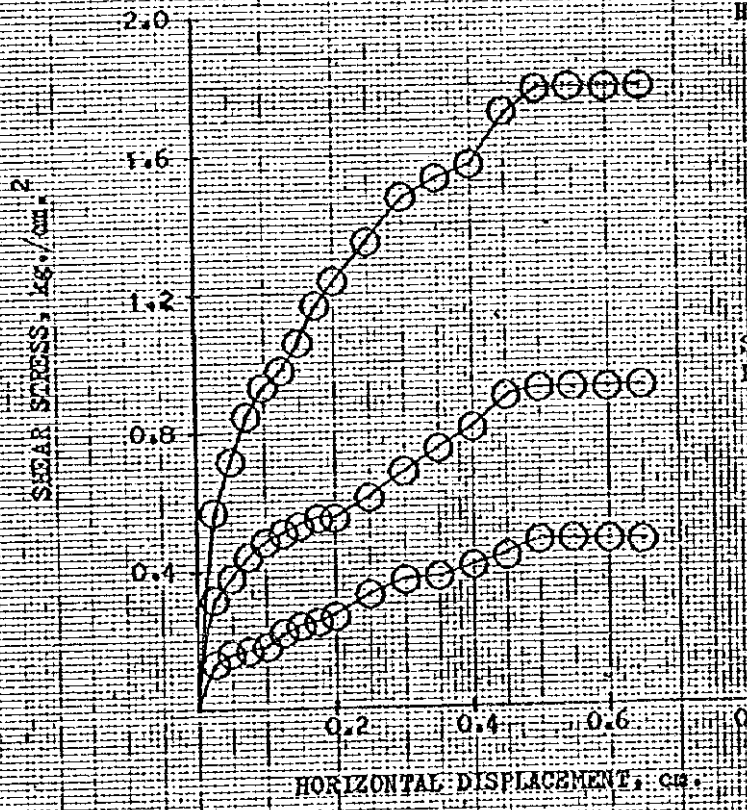
[Signature]
EMILIO M. MORALES, MSCE
 CIVIL ENGINEER
 PRC REG. NO. 11236

PHILIPPINE GEOANALYTICS PROJECT: PINATUBO LOCATION: SABO DAM No.9 SAMPLE: BH -1 DEPTH: 5.50 M.	COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET 4 OF 4
	JOB NO.	CROSS REFERENCE:
	TESTED BY: C.A.M.	CHECKED BY: J.E.V.
	DATE TESTED:	DATE FINISHED:



**DIRECT SHEAR TEST
(MAXIMUM DENSITY)**

COMPUTER PRINTOUT	<input type="checkbox"/>	DATE: 5-28-70
MANUAL CORRECTION	<input checked="" type="checkbox"/>	
BY: JCV		
QUALITY ASSURANCE		
CHKD BY:		



$P = 2.0 \text{ kg./cm.}^2$


Shear Stress = 1.7938
Horizontal Displacement = 0.50 cm.

$P = 1.0 \text{ kg./cm.}^2$

Shear Stress = 0.9199
Horizontal Displacement = 0.50 cm.

$P = 0.5 \text{ kg./cm.}^2$

Shear Stress = 0.4829
Horizontal Displacement = 0.50 cm.


 EMILIO M. MORALES MSCE
 CIVIL ENGINEER
 PRC REG. NO. 11236

1 KN = 101.971 kgf
1 cm = 0.3937 inches

COMPACTION TEST

Project PINATUBO Job No. DEPTH : 9.50 M.
 Location of Project SABO DAM #9 Boring No. 1 Sample No. -
 Description of Soil _____
 Test Performed By C.A.M. Date of Test _____
 Blows/Layer 50 No. of Layers 2 Wt. of Hammer 349 g.
 Mold dimensions: Diam. 6 X 6 cm. Ht. 2 cm. Vol. 72 cu.cm.

Water Content Determination

DATE RECEIVED : _____
DATE RELEASED : _____

Sample no.	1	2	3	4	5	6
Moisture can no.						
Wt. of can + wet soil						
Wt. of can + dry soil						
Wt. of water						
Wt. of can						
Wt. of dry soil						
Water content, w%						

COMPUTER PRINT-OUT
 MANUAL CONSOLIDATION
 BY: NON
 QUALITY ASSURANCE
 CHKD BY: 9 DATE: 6-27-54

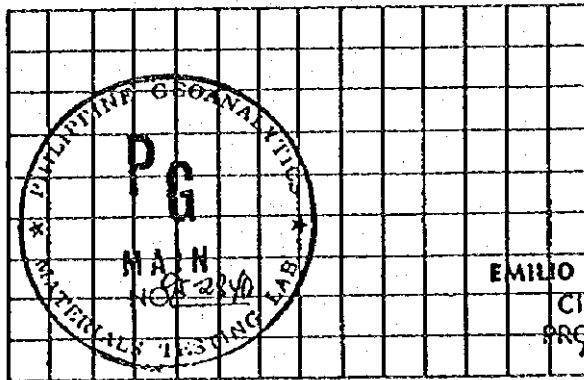
Density Determination

MINIMUM DENSITY

MAXIMUM DENSITY

	MINIMUM DENSITY			MAXIMUM DENSITY		
Assumed water content	-	-	-	-	-	-
Water content, w%	-	-	-	-	-	-
Wt. of soil + mold	2,635	2,638	2,636	2,650	2,646	2,648
Wt. of mold	2,514	2,514	2,514	2,514	2,514	2,514
Wt. of soil in mold	121	124	122	136	132	134
Wet density, g/cc	1.681	1.722	1.694	1.889	1.833	1.861
Dry density γ , g/cc	Average = 1.699			Average = 1.861		

Dry density γ_{dry} , g/cc

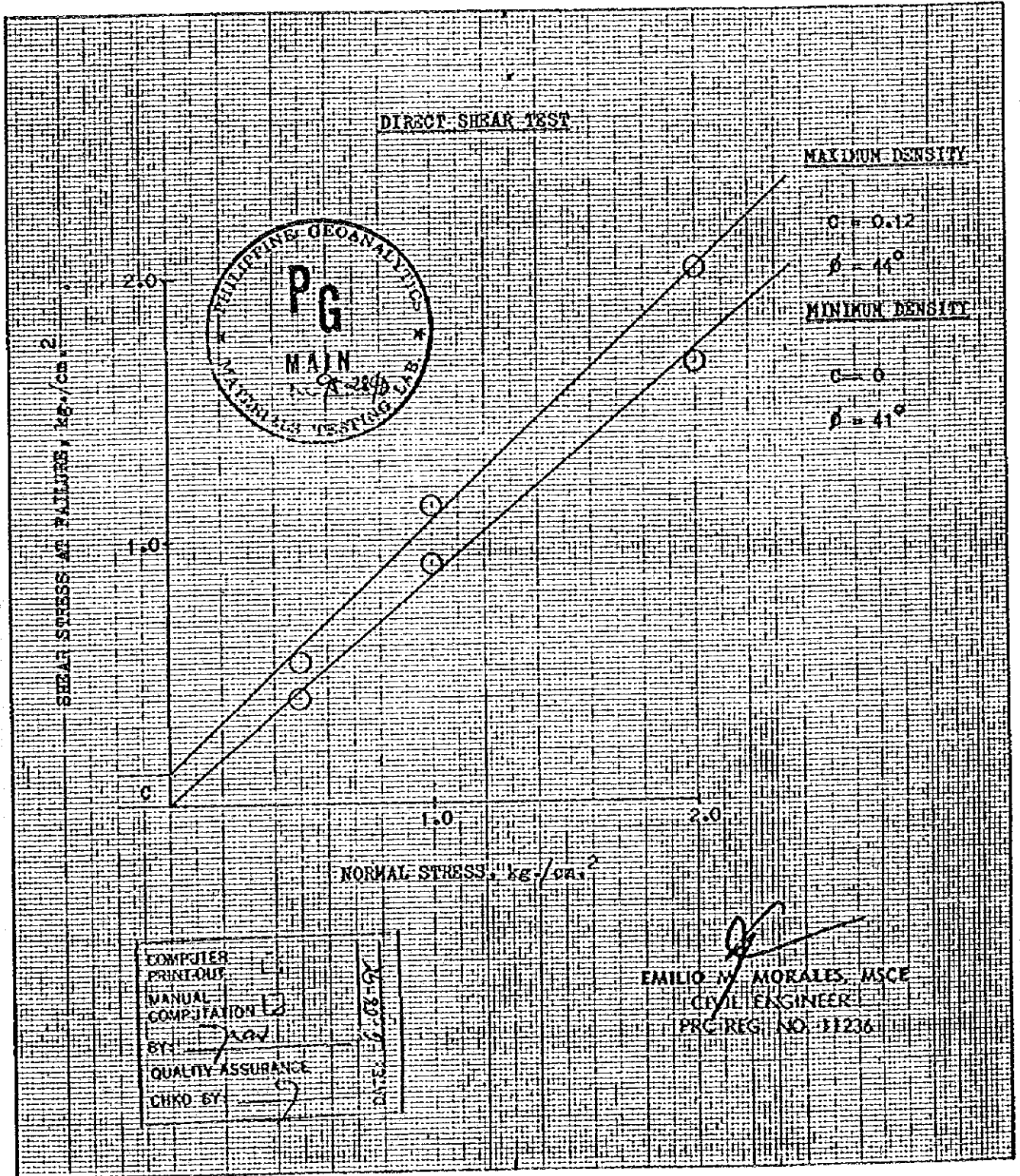


EMILIO M. MORALES, MSCE
 CIVIL ENGINEER
 PRE-REG. NO. 11236

Water content, w%

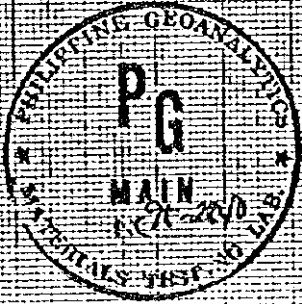
Optimum moisture = _____ % Maximum dry density = _____ g/cc

PHILIPPINE GEOANALYTICS	COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET <u>2</u> OF <u>4</u>
	PROJECT: PINATUBO	JOB NO.:
LOCATION: SABO DAM No.9	TESTED BY: G.A.M.	CHECKED BY: J.E.V.
SAMPLE: BH-1 DEPTH: 9.50 M.	DATE TESTED:	DATE FINISHED:



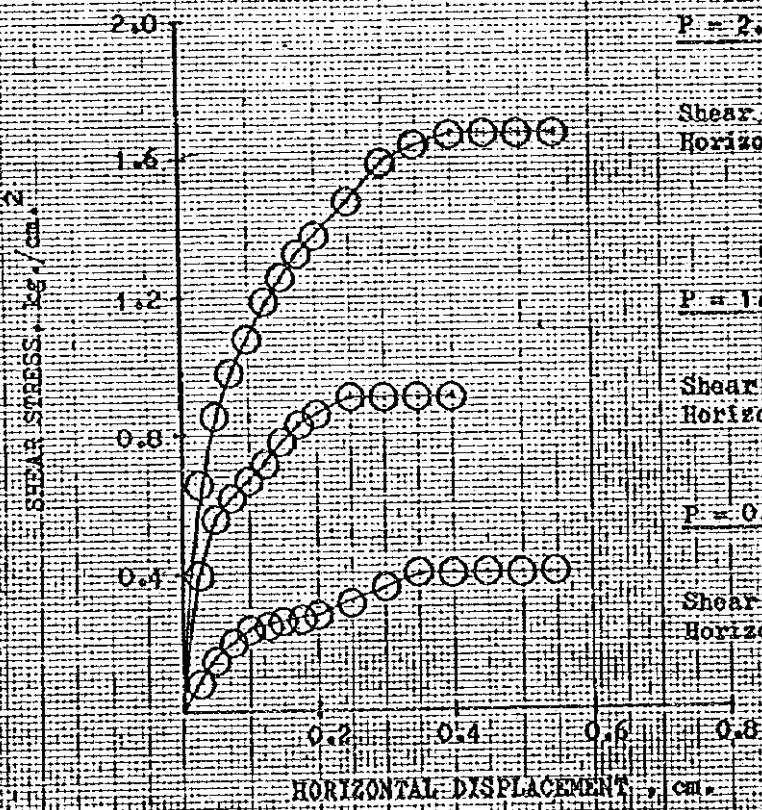
ENR - 101 971 kgf
 1400 - 20435 kgf

PHILIPPINE GEOANALYTICS PROJECT: PINATUBO LOCATION: SABO DAM No.9 SAMPLE: BH-1 DEPTH: 9.50 M.	COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET <u>3</u> OF <u>4</u>
	JOB NO:	CROSS REFERENCE:
	TESTED BY: <u>C.A.N.</u>	CHECKED BY: <u>J.E.V.</u>
	DATE TESTED:	DATE FINISHED:



**DIRECT SHEAR TEST
(MINIMUM DENSITY)**

COMPUTER PRINT-OUT	<input type="checkbox"/>	DATE: <u>4/27/50</u>
MANUAL COMPUTATION	<input checked="" type="checkbox"/>	
BY: <u>JOV</u>		
QUALITY ASSURANCE		
CHKD BY: <u>J</u>		



P = 2.0 kg/cm.²
 Shear Stress = 1.6731
 Horizontal Displacement = 0.40 cm.

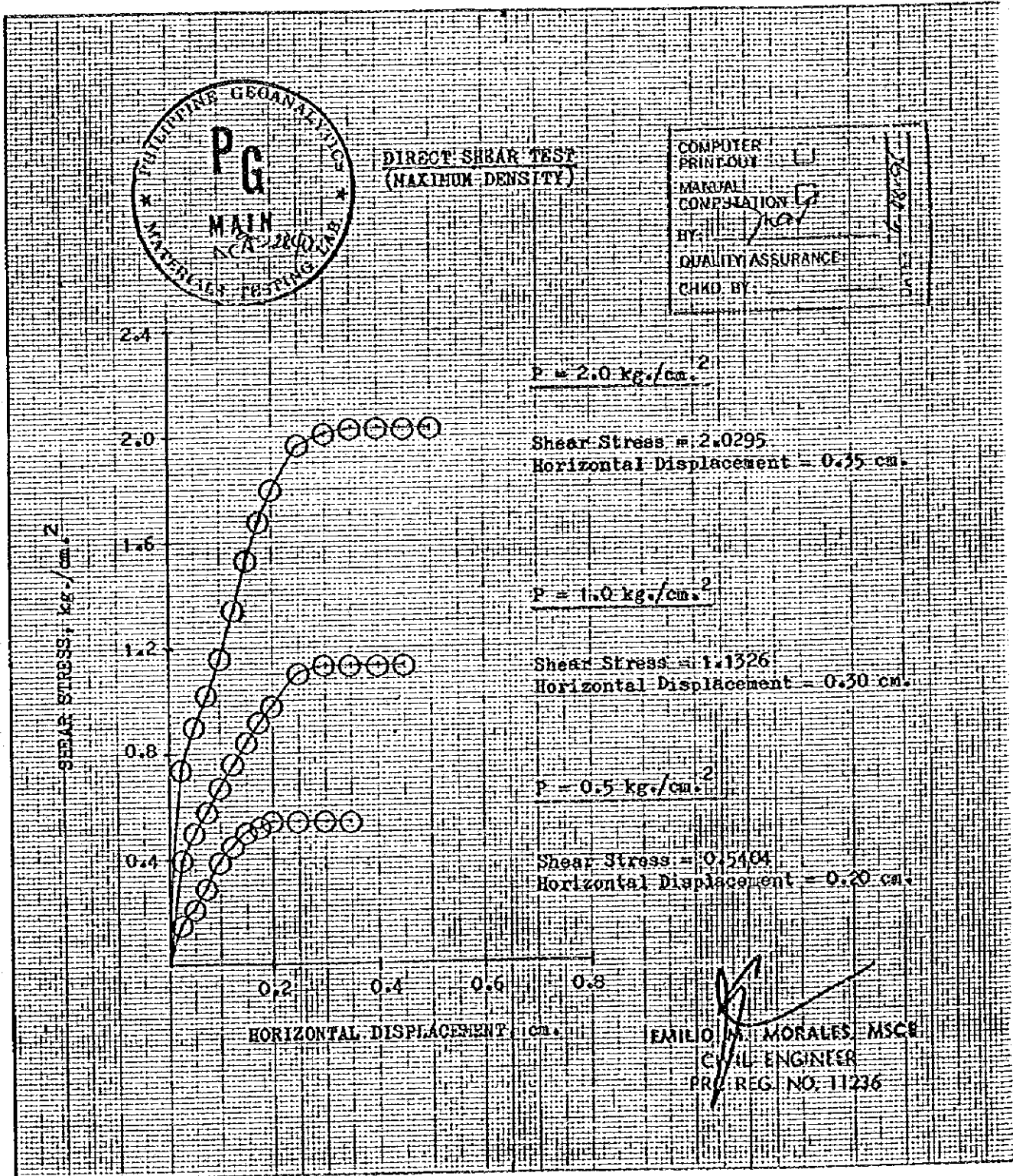
P = 1.0 kg/cm.²
 Shear Stress = 0.9113
 Horizontal Displacement = 0.25 cm.

P = 0.5 kg/cm.²
 Shear Stress = 0.4021
 Horizontal Displacement = 0.40 cm.

[Signature]
EMILIO M. MORALES, MSCE
 CIVIL ENGINEER
 PRC REG. NO. 11236

1 KN = 101.971 Kg
 1 MPa = 10.1971 MPa

PHILIPPINE GEOANALYTICS PROJECT: PINATUBO LOCATION: SABO DAM No.9 SAMPLE: BH-1	COMPUTER PRINTOUT <input type="checkbox"/> DETAILS PREPARED <input type="checkbox"/>	SHEET <u>4</u> OF <u>4</u>
	JOB NO.:	CROSS REFERENCE:
	TESTED BY: C.A.M.	CHECKED BY: J.E.V.
	DATE TESTED:	DATE FINISHED:



1 KN = 101.971 Kgf
 1 CM = 10 MM