付属資料

付属資料－1　　ミニッツ（基本設計調査）

M I N U T E S O F D I S C U S S I O N

THE BASIC DESIGN STUDY ON THE PROJECT OF CONSTRUCTING THE NATIONAL LEARNING RESOURCE CENTER FOR TEACHER TRAINING IN SCIENCE AND MATHEMATICS EDUCATION

In response to the request of the Government of the Republic of the Philippines, the Government of Japan decided to conduct a basic design study for the project of constructing the National Learning Resource Center for Teacher Training in Science and Mathematics Education (hereinafter referred to as "the Project"), and entrusted the study to the Japan International Cooperation Agency (JICA). JICA sent the Basic Design Study Team headed by Mr. Takashi YAMAGIWA, Senior Specialist for Curriculum, Lower Secondary School Division, Elementary and Secondary Education Bureau, Ministry of Education, Science and Culture, from July 15th to August 2nd, 1987.

The Japanese Team held a series of discussions and exchanged views on the Project with the concerned authorities of the Government of the Philippines.

As a result of the study and discussions, both parties mutually agreed to recommend to their respective Governments that the major points of understanding reached between them, attached herewith, should be examined toward the realization of the Project.

Manila, July 23rd, 1987

TAKASHI YAMAGIWA
Leader
Basic Design Study Team
Japan International
Cooperation Agency (JICA)

MINDA C. SUTARIA
Undersecretary
Department of Education,
Culture and Sports (DECS)

LELAND S. VILLADOLID
Undersecretary
Department of Science and
Technology (DOST)

ERNESTO G. TABUJARA
Chancellor
University of the Philippines
Diliman

ATTACHMENT

1. The Objective of the Project

The objective of the Project is to construct necessary facilities and provide necessary equipment to implement training programs for elementary, secondary and tertiary school teachers of science and mathematics which will upgrade the competence of teachers, as well as of teacher educators in content, teaching methodology, instructional materials development and research and evaluation as well as other skills such as field work and nature study.

2. Main Activities of the Center

. Teacher-Training

Re-education of Teachers in Service
by Package Courses and Mini-Courses

- Elementary level
- Secondary level
- Tertiary level

. Resource Materials Development

- Teacher-Training Manuals for Trainors
- Instructional Media: Print and Non-Print

3. Responsible and Coordinating Departments for the Project

Department of Education, Culture and Sports (DECS)
Department of Science and Technology (DOST)

4. Executive and Implementing Agency for the Project

Institute for Science and Mathematics Education Development (ISMED), University of the Philippines

5. Project Site

The project site is located at the University of the Philippines, Diliman, Quezon City, Metro Manila as is shown in Annex 1.

6. The major items of facilities and equipment for the Project are listed in Annex 2.

7. The Team will convey to the Government of Japan the desire of the Government of the Philippines that the Government of Japan takes necessary measures to cooperate in implementing the Project and provide necessary facilities and equipment within the scope of Japan's Grant Aid Program.

8. The Philippine Side has understood the system of Japanese Grant Aid and the necessity of consulting services of a Japanese consulting firm for the implementation of the Project.

9. The Government of the Philippines will undertake to provide the necessary measures as listed in Annex 3 on condition that Grant Aid by the Government of Japan is extended to the Project.

10. The Government of the Philippines will undertake to provide the necessary budget and personnel for the proper and effective operation and maintenance of facilities and equipment provided under the Grant Aid.

11. The Philippine Side expresses its gratitude to the Basic Design Study Team of the Japan International Cooperation Agency (JICA) and to the Government of Japan for the interest shown so far in pursuing this Project to its completion and for the opportunity to undertake a venture in mutual cooperation and goodwill.

12. The Japanese Side expresses appreciation to the Philippine Side and to the Government of the Philippines for the cooperation extended to the Team to enable it to fully undertake its mission to study the various details of the project with a view to insuring its systematic completion.

ANNEX 1

LOCATION PLAN
SCALE 1:5000

Annex 2

Major items of facilities and equipment

1. Building

   1.1 Training Building

   1.2 Dormitory

2. Equipment

   2.1 Laboratory Equipment

   (a) Biology Equipment
   (b) Chemistry Equipment
   (c) Physics Equipment
   (d) Earth Science Equipment
   (e) Mathematics Equipment
   (f) Information Science Equipment
   (g) Elementary Science Equipment

   2.2 Instructional Materials Production Equipment

   (a) Workshop Equipment
   (b) Printing & Photography Equipment
   (c) Audio Visual Equipment

   2.3 Auxiliary Equipment

   (a) Administrative Office Equipment
   (b) Library Equipment

   2.4 Vehicles

Annex 3

Major undertakings to be taken by the Government of the Philippines

1. To secure land necessary for the construction of facilities.

2. To clear and level the site.

3. To provide facilities such as distribution of electricity, water supply, drainage and telephone lines.

4. To bear all expenses inclusive of sales tax and commission fee for Banking Arrangement other than those to be borne by the Grant.

5. To ensure prompt unloading and customs clearance for the goods imported by the contracted Japanese firms for the Project under the Grant.

6. To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Grant such facilities as may be necessary for their entry.

7. To exempt Japanese nationals from customs duties, internal revenue taxes and other fiscal levies with respect to the supply of the products and services under the Grant.

8. To properly maintain and effectively use the constructed facilities under the Grant including machinery and equipment.

9. To bear all the expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and the installation of the equipment.

10. Other detailed items:

    10.1 Water supply mains to the buildings
    10.2 External drainage from the buildings (including sewage treatment facilities)
    10.3 Landscaping
    10.4 Exterior facilities (fence, gate, streetlamp)
    10.5 Site survey and test boring
    10.6 General furnitures

ミニッツ（ドラフトファイナルレポート説明）

MINUTES OF DISCUSSIONS

OF

THE BASIC DESIGN STUDY

on

THE PROJECT FOR CONSTRUCTING
THE NATIONAL LEARNING RESOURCE CENTER FOR TEACHER TRAINING
IN SCIENCE AND MATHEMATICS EDUCATION
IN
THE REPUBLIC OF THE PHILIPPINES

In response to the request of the Government of the Republic of the Philippines for Grant Aid on the Project for constructing the National Learning Resource Center for Teacher Training in Science and Mathematics Education (hereinafter referred to as "the Project"), the Government of Japan decided to conduct a basic design study on the Project and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to the Philippines the basic design study team headed by Mr. Takashi Yamagiwa, Senior Specialist for Curriculum, Lower Secondary School Division, Elementary and Secondary Education Bureau, Ministry of Education, Science and Culture from July 15 to August 2, 1987.

As a result of the study, JICA prepared a draft report and dispatched a team headed by Mr. Yamagiwa to explain and discuss it from November 1 to November 8, 1987.

Both parties had a series of discussions on the draft report and agreed to recommend to their respective Governments that major points of understandings attached herewith reached between them should be examined towards the realization of the Project.

Manila, November 6, 1987

TAKASHI YAMAGIWA
Leader
Draft Report Explanation Team
Japan International Cooperation
Agency (JICA)

MINDA C. SUTARIA
Undersecretary
Department of Education,
Culture and Sports (DECS)

LELAND S. VILLADOLID
Undersecretary
Department of Science and
Technology (DOST)

ERNESTO G. TABUJARA
Chancellor
University of the Philippines

A T T A C H M E N T

1. The Philippine side agreed in principle on the basic design proposed in the Draft Final Report with minor but appropriate comments as shown in Annex 1 to be incorporated in the Final Report.

2. The Philippine side has understood Japan's grant aid system and confirmed that the necessary measures will be taken by the Philippine side which are manifested in Annex 3 of the Minutes of Discussions on the project signed on July 23, 1987, on condition that the grant aid by the Government of Japan would be extended to the Project.

3. The Philippine side ensured the provision of the necessary budget for the adequate personnel services, maintenance and operation expenses of the Center.

4. The Final Report (10 copies in English) will be submitted to the Philippine side by the middle of December.

Annex 1

COMMENTS

1. To design a paved sloping walk leading to the buildings (training center and dormitory) that will allow easy and safe access to and use of the facilities on the ground floor by handicapped persons.

2. To plan additional toilets at the north wing of the dormitory building.

2) 調査団の構成（基本設計調査）

1．団　　長	山極　　隆	文部省初等中等教育局 中学校課・高等学校課　教科調査官
2．訓練計画	清水　静海	文部省初等中等教育局 小学校課　教科調査官
3．計画管理	古谷　昌伯	外務省経済協力局　無償資金協力課
4．建築計画	蛭川　一男	㈱松田平田坂本設計事務所
5．建築設計	黒沼　　清	㈱松田平田坂本設計事務所
6．設備設計	大谷　清喬	㈱松田平田坂本設計事務所
7．研修計画	松本　　昭	㈱松田平田坂本設計事務所
8．機材計画	寺沢　邦昭	㈱松田平田坂本設計事務所
9．積　　算	佐藤　哲仁	㈱松田平田坂本設計事務所

調査団の構成（ドラフトファイナルレポート説明）

1．団　　長	山極　　隆	文部省初等中等教育局 中学校課・高等学校課 教科調査官
2．計画管理	安達　　一	国際協力事業団 総務部・広報課
3．建築計画	蛭川　一男	㈱松田平田坂本設計事務所
4．機材計画	小林　正人	㈱松田平田坂本設計事務所

3）面談者リスト（基本設計調査）

A. Department of Education, Culture, and Sports (DECS)

1.	Dr. Lourdes Quisumbing	Secretary, DECS
2.	Dr. Minda C. Sutaria	Undersecretary, DECS and Chairman, Coordinating Com, NLRCTT
3.	Dr. Victor Ordonez	Undersecretary, DECS
4.	Dr. Aurelio P. Elevazo	Executive Officer, Secretariat for International Educational Matters
5.	Dr. Nilo L. Rosas	Director, BHE
6.	Dr. Esperanza A. Gonzales	Director, BSE
7.	Dr. Juanita Guerrero	Director, BEE
8.	Dr. Pedro B. Trinidad	Assistant Director, BSE
9.	Dr. Edith B. Carpio	Assistant Director, BEE
10.	Dr. Pacita N. Andres	Chief, Curriculum Development Division, BSE
11.	Dr. Marcelina M. Miguel	Chief, Curriculum Development Division, BEE
12.	Mrs. Adela A. Capistrano	Senior Researcher in Charge of Training Try-out Teachers, Curriculum Development Division
13.	Ms. Lorelyn Santos	Bureau of Higher Education
14.	Ms. Mary Joan B. Beleno	Bureau of Higher Education
15.	Mr. Reynaldo Pena	Bureau of Higher Education
16.	Miss Mercedita L. Aquino	Project Assistant, BSE
17.	Ms. Lilia A. Diokno	Sr. Educational Researcher, BSE
18.	Ms. Marilyn S. Santos	Project Officer, BSE
19.	Miss Luz O. Gallardo	Educational Researcher I, BEE
20.	Ms. Rosine C. Rivera	Educational Researcher, BEE

B. Department of Science and Technology (DOST)

1.	Dr. Antonio Arizabal	Secretary, DOST
2.	Dr. Leland Villadolid	Undersecretary, DOST
3.	Miss Ester B. Ogena	Chief, Science Education and Manpower Resource Development Div., SPI
4.	Mrs. Violeta N. Arciaga	Sr. Science Research Specialist, SPI
5.	Ms. Estrella Ponce de Leon	Science Research Specialist II, SPI

C. University of the Philippines - UP

1.	Dr. Ernesto Tabujara	Officer-in-Charge, Office of the President, UP System Chancellor, UP Diliman
2.	Prof. Teresa F. Bernabe	Acting Executive Vice Pres., UP System
3.	Dr. Emeteria Lee	Registrar & Acting Vice Pres. for Academic Affairs, UP System
4.	Dr. Agustin Kintanar	Vice President for Planning and Finance, UP System
5.	Prof. Emerlinda Roman	Vice Chancellor for Administration, UP Diliman Campus
6.	Dr. Julieta M. Savellano	Dean, College of Education
7.	Mr. Antonio Cruz	Director, Campus Planning Development Management Office
8.	Mr. Elias C. Avante, Jr.	Chief, Campus Planning Development Management Office

D. Institute for Science & Mathematics Education Development - ISMED

1.	Prof. Porfirio P. Jesuitas	Director
2.	Dr. Leticia P. Cortes	Asst. Director
3.	Mrs. Josefina LI. Pabellon	Science Ed. Specialist, Chairman, Equipment & Teaching Aids Development (ETAD)
4.	Mrs. Leonarda B. Pascua	Chairman, Bath Workgroup
5.	Mrs. Estela Rodriguez	Chairman, Physics Workgroup

6.	Dr. Marcelita C. Magno	Chairman, Chemistry Workgroup
7.	Mrs. Elvira Galvez	Chairman, Biology Workgroup
8.	Dr. Merle C. Tan	Chairman, Earth/Environment Science Workgroup
9.	Dr. Lourdes Carale	Chairman, Elementary Science Workgroup
10.	Mrs. Lanniene Capalad	Chairman, Microcomputing Workgroup
11.	Mrs. Mary Ann Galvea	Librarian
12.	Miss Ester Bautista	Chief, Publications Section
13.	Mr. Cesar Sagun	Art Supervisor
14.	Mr. Rodolfo Sangel	Precision Instrument Technician, ETAD
15.	Mr. Ruben Borja	Research Assistant, ETAD
16.	Mrs. Miliza Romero	Research Assistant, ETAD

E. Others

1.	Dr. Dolores Hernandez	Director, Regional Center for Educational Innovation and Technology
2.	Mrs. Emerilda D. Lugtu	Principal, Quirino Elementary School (Quezon)
3.	Miss Socorro De Los Santos	Principal, Magsaysay High School (Cubao)
4.	Mrs. Francisca O. Yazon	Chief of Student Services Philippine Science High School (Diliman)
5.	Ms. Edona Labuna	Philippine Social Science Center
6.	Mr. Andres R. Villamuran	Deputy Executive Director, Construction Manpower Development Center

F. Embassy of Japan

1.	Mr. Koji Kaminaga	First Secretary

G. JICA Manila Office

1.	Mr. Moriya Miyamoto	Resident Representative JICA Philippine Office
2.	Mr. Katsuhiko Oshima	Deputy Resident Representative JICA Philippine Office
3.	Mr. Kikuo Nishida	JICA Chief Advisor, TUP
4.	Mr. Shigeru Takara	JICA Coordinator, TUP
5.	Mr. Masashi Fujita	JICA Coordinator, PHRDC
6.	Mr. Noriaki Kumai	JICA Expert, CMDC

面談者リスト(ドラフトファイナルレポート説明)

A. Department of Education, Culture and Sports (DECS)

1.	Dr. Minda C. Sutaria	Undersecretary, DECS and Chairman, Coordinating Com, NLRCTT
2.	Dr. Aurelio P. Elevazo	Executive Officer, Secretariat for International Educational Matters
3.	Dr. Martha A. Mogol	Director, BSE
4.	Dr. Mamerta R. Mendoze	Chief, Staff Development Division, BSE
5.	Dr. Edith B. Carpio	Assistant Director, BEE
6.	Mr. Reynaldo Pena	Assistant Chief, BHE

B. Department of Science and Technology (DOST)

1.	Dr. Antonio Arizabal	Secretary, DOST
2.	Dr. Manuel Eujenio	Director, Science Education Institute, DOST
3.	Ms. Estrella Ponce de Leon	Science Research Specialist II, SPI

C. University of the Philippines - UP

1.	Prof. Teresa F. Bernabe	Acting Executive Vice Pres., UP System
2.	Dr. Paz Ramos	Vice Chancellor of Academic Affair, UP Diliman Campus
3.	Mr. Antonio Cruz	Director, Campus Planning Development Management Office

D. Institute for Science & Mathematics Education Development - ISMED

1.	Prof. Porfirio P. Jesuitas	Director
2.	Dr. Leticia P. Cortes	Asst. Director
3.	Mrs. Leonarda B. Pascua	Chairman, Math Workgroup
4.	Mrs. Estela Rodriguez	Chairman, Physics Workgroup
5.	Dr. Marcelita C. Magno	Chairman, Chemistry Workgroup

6.	Mrs. Elvira Galvez	Chairman, Biology Workgroup
7.	Dr. Merle C. Tan	Chairman, Earth/Environmental Science Workgroup
8.	Dr. Lourdes Carale	Chairman, Elementary Science Workgroup
9.	Mrs. Lanniene Capalad	Chairman, Microcomputing Workgroup
10.	Mr. Rodolfo Sangel	Precision Instrument Technician, ETAD

E. Others

1.	Dr. Dolores Hernandez	Director, Regional Center for Educational Innovation and Technology

F. Embassy of Japan

1.	Mr. Kazuyoshi Yamaguchi	Second Secretary, Economic Division

G. JICA Manila Office

1.	Mr. Katsuhiko Oshima	Deputy Resident Representative JICA Philippine Office

4）調査日程（基本設計調査）

日　順	月／日（曜）	調　　査　　内　　容
1	7/15(水)	調査団出発 東京発　１０：００　　マニラ着　１３：１０ ＪＬ－７４１ （山極団長、清水、古谷、蛭川、黒沼、大谷、松本、寺沢、佐藤各団員） 日本大使館、ＪＩＣＡマニラ事務所訪問 調査日程打合せ
2	7/16(木)	教育文化スポーツ省（ＤＥＣＳ）訪問 教育文化スポーツ大臣　Dr. Lourdes R.Quisumbing表敬 初等教育局（ＢＥＥ）、中等教育局（ＢＳＥ）、高等教育局（ＢＨＥ）にて打合せ インセプションレポートの提示、説明、協議 質問書の提示、説明、回答請求 関係各機関、カウンターパート確認
3	7/17(金)	フィリピン大学ディリマン校舎（ＵＰ－Ｄ）訪問 フィリピン大学副学長　Prof.Teresa F.Bernabe 表敬 Institute for Scicnce and Mathematics Education Devolopment（ISMED）にて打合せ 本計画の背景および要請内容に関する協議 研修・機材計画 施設・設備計画 ＩＳＭＥＤ既存施設機材調査

日　順	月／日（曜）	調　　査　　内　　容
4	7/18(土)	建設予定地調査 類似施設調査 　　ＵＰ構内カレッジ・オブ・サイエンス視察
5	7/19(日)	資料整理 国内打合せ
6	7/20(月)	ＤＥＣＳにてUndersecretary Dr.Minda C. Sutariaを含め、討議 ＩＳＭＥＤにて協議・打合せ 　　組織・予算体制について 　　研修・機材総論協議・打合せ 　　施設・設備詳細打合せ－(1) 　　　　周辺インフラストラクチャー 　　　　ボーリングデータ
7	7/21(火)	キリノ・エレメンタリー・スクール（ケソン）、マグサイサイ・ハイスクール（クバオ） ＩＳＭＥＤにて協議・打合せ 　　組織・予算体制について 　　研修・機材詳細打合せ－(1) 　　施設・設備詳細打合せ－(2) 　　　　各室の構成 ミニッツドラフト協議

日　順	月／日（曜）	調　　査　　内　　容
8	7/22(水)	ＩＳＭＥＤにて協議・打合せ 　組織・予算体制について 　研修・機材詳細打合せ－(2) 　施設・設備詳細打合せ－(3) ミニッツ作成 古谷団員帰国
9	7/23(木)	ＩＳＭＥＤにて協議・打合せ 　研修・機材詳細打合せ－(3) ＤＥＣＳにて協議打合せ 　予算措置について ミニッツ交換 日本大使館・ＪＩＣＡへ中間報告
10	7/24(金)	ＩＳＭＥＤにて協議・打合せ 　研修・機材詳細打合せ－(4) 類似施設調査 　ＩＮＮＯＴＥＣＨ　本館・寄宿舎視察 山極団長、清水団員帰国
11	7/25(土)	ＩＳＭＥＤにて協議・打合せ 　研修・機材詳細打合せ－(5) 国内打合せ

日　順	月／日（曜）	調　　査　　内　　容
12	7/26(日)	資料整理
13	7/27(月)	ＩＳＭＥＤにて協議・打合せ 研修・機材詳細打合せ－(6) 研修・機材詳細打合せ－(4) 研修計画打合せ（追加資料の請求） ＪＩＣＡへ中間報告
14	7/28(火)	ＩＳＭＥＤにて協議・打合せ 研修・機材詳細打合せ－(7) 建設事情調査 施設計画
15	7/29(水)	ＣＭＤＣ（カビテ）、ＴＵＰ、ＰＨＲＤＣ視察 サイエンス・ハイスクール視察 建設事情調査 施設計画
16	7/30(木)	建設事情調査 貿易センター、労働安全衛生センター工事現場視察 機材市場調査 施設計画

日　順	月／日（曜）	調　　査　　内　　容
17	7/31(金)	ＤＯＳＴ、ＵＰ、ＤＥＣＳ帰国報告 ＩＳＭＥＤにて最終確認 大使館、ＪＩＣＡ帰国報告 松本、大谷、団員帰国
18	8/1（土）	建設・機材市場調査 資料整理
19	8/2（日）	調査団帰国（マニラ－東京　ＰＲ４３２） 蛭川、黒沼、寺沢、佐藤団員帰国

調査日程（ドラフトファイナルレポート説明）

日　順	月／日（曜）	調　　査　　内　　容
1	11／1（日）	調査団出発 東京発　18：00　　マニラ着　21：40 UA－097 （山極団長、安達、蛭川、小林各団員）
2	11／2（月）	日本大使館、JICAマニラ事務所訪問 調査日程打合せ ドラフトファイナルレポート説明 フィリピン大学ディリマン校舎内ISMED訪問 DECS、DOST、ISMED　スタッフ参画 調査日程打合せ ドラフトファイナルレポート説明・協議
3	11／3（火）	科学技術省大臣　Dr. Antonio Arizabal表敬 教育文化スポーツ省副大臣 Dr. Minda C. Sutaria　表敬 初等教育局（BEE）、中等教育局（BSE） 高等教育局（BHE）、各スタッフ参画 ドラフトファイナルレポート説明・協議 ISMED ドラフトファイナルレポート細目協議

日　順	月／日（曜）	調　　査　　内　　容
4	11／4（水）	ＩＳＭＥＤ ドラフトファイナルレポート細目協議 フィリピン大学ディリマン校舎副学長 Dr. Paz Ramos 表敬 ＩＳＭＥＤ ミニッツドラフト協議
5	11／5（木）	日本大使館・ＪＩＣＡマニラ事務所 調査結果報告 ＩＳＭＥＤ ミニッツ最終確認
6	11／6（金）	ミニッツ調印 市場調査
7	11／7（土）	団内打合せ 資料整理
8	11／8（日）	調査団帰国 マニラ発　１４：５０　　東京着　１９：３５ ＪＬ　７４２ （山極団長、安達、蛭川、小林各団員）

添付資料

添付資料－1　　訓練を必要とする理数科教師の数

科目および学校種別、訓練を必要とする理数科教師の地域分布

Region	Type	General Science	Biology	Chemistry	Physics	Mathematics	All Subjects	Grand Total
NCR	Private	66(53.2)	65(47.4)	76(59.0)	46(76.6)	104(23.5)	357(40.0)	
	Public	52(25.0)	82(41.6)	85(72.7)	53(79.1)	182(31.5)	454(39.1)	811(39.5)
I	Private	48(40.4)	41(35.3)	30(41.0)	35(44.4)	169(43.3)	323(41.6)	
	Public	69(28.1)	67(40.8)	60(53.7)	74(77.1)	179(31.8)	449(38.1)	772(39.5)
II	Private	39(52.8)	29(37.2)	36(58.1)	28(60.8)	56(34.6)	188(44.5)	
	Public	52(60.4)	37(46.3)	45(80.3)	42(77.9)	120(45.5)	296(54.8)	484(50.3)
III	Private	13(18.8)	12(46.1)	34(72.4)	11(44.0)	55(34.1)	125(38.1)	
	Public	64(44.2)	64(55.6)	82(67.3)	57(70.4)	96(29.1)	363(45.8)	488(43.5)
IV	Private	44(45.8)	56(59.0)	41(73.3)	42(91.3)	143(45.9)	326(54.0)	
	Public	66(38.8)	73(47.3)	99(76.7)	67(85.9)	207(42.7)	512(50.4)	838(51.8)
V	Private	14(50.1)	15(44.1)	30(85.8)	23(88.5)	55(25.6)	137(40.5)	
	Public	40(44.9)	46(44.2)	50(92.7)	38(90.5)	225(51.6)	399(55.0)	536(50.4)
VI	Private	78(48.5)	47(23.5)	71(47.6)	45(54.2)	212(39.2)	453(40.0)	
	Public	427(59.1)	225(45.1)	177(58.0)	154(73.7)	272(24.6)	1255(44.2)	1708(43.0)
VII	Private	16(12.6)	148(73.3)	153(76.1)	155(84.3)	212(44.5)	684(57.5)	
	Public	161(62.0)	142(45.5)	155(79.0)	64(67.4)	272(38.6)	794(50.6)	1478(53.6)
VIII	Private	16(50.0)	12(37.5)	21(77.8)	13(72.2)	69(58.5)	131(57.7)	
	Public	44(38.3)	51(50.1)	49(76.6)	36(78.2)	159(51.8)	339(53.5)	470(54.6)
IX	Private	11(31.5)	20(60.6)	18(72.0)	8(88.9)	94(60.7)	151(58.8)	
	Public	63(48.1)	52(62.0)	44(68.8)	29(78.4)	82(25.4)	270(42.3)	421(47.0)
X	Private	3(27.3)	10(47.7)	8(100.0)	5(83.3)	37(55.2)	63(558)	
	Public	8(32.0)	8(50.1)	6(66.7)	11(100.0)	24(35.3)	57(44.2)	120(49.6)
XI	Private	75(51.8)	10(47.7)	96(72.7)	108(77.7)	162(47.7)	451(58.0)	
	Public	79(50.7)	8(50.1)	63(75.0)	78(90.7)	298(56.2)	526(60.2)	977(59.2)
XII	Private	28(53.8)	79(62.7)	21(63.7)	21(70.0)	17(34.0)	166(57.0)	
	Public	32(59.4)	62(53.0)	19(67.8)	17(62.9)	66(40.7)	196(50.5)	362(53.3)
All Regions	Private	451(42.1)	544(48.5)	635(65.0)	540(71.9)	1384(40.4)	3554(48.4)	
	Public	1156(48.1)	917(46.8)	934(69.8)	720(77.5)	2176(37.2)	5903(47.3)	
Total		1607(46.2)	1461(47.4)	1569(67.8)	1260(75.0)	3560(38.4)	9457(47.7)	9457(47.7)

Source: SPI, 1985 Table II Vol. 1.

添付資料－２　ＩＳＭＥＤ研修実績（1986年）

Program	Inclusive Dates	Kinds of Participants	Number of Participants	Funding Agency	Main Objectives
Packaged Courses					
1. Seminar for Science and Mathematics Supervisors at the Secondary Level	April 21-May 23	Secondary Science & Mathematics Supervisors	149	NSTA	To increase comprehension of selected concepts and develop awareness of new approaches and strategies in science and mathematics teaching.
2. Materials and Techniques for Effective Teaching of Elementary Mathematics	July 1-29	Elementary Math School Teachers	20	DECS	To upgrade content and techniques in the effective use of instructional materials.
3. Secondary Mathematics Education	Aug. 5-Sept. 1	Secondary School Math Teachers	16	DECS	To increase knowledge and competence in teaching High School Mathematics III and IV.
4. The Teaching of Science and Technology I	Nov. 3-28	Secondary School Science Teachers	15	DECS	To develop skills in preparing and teaching lessons in Science and Technology I and upgrade comprehension of science concepts.
5. Workshop on Equipment Improvisation for College Physics Instructors	April 1-11	Tertiary Level Physics Instructors	16	NSTA	To develop skills in the construction/assembling/operation and use in classroom teaching of improvised equipment.
6. Try-out Training for the New Curriculum in Science and Technology II	May 26-June 7	Secondary Biology Teachers	75	DECS	To become informed of the thrusts of the new Science and Technology II Curriculum.

Program	Inclusive Dates	Kinds of Participants	Number of Participants	Funding Agency	Main Objectives
Minicourses					
1. Development and Utilization of Teaching Devices for the Study of Waves	May 12-16	Secondary Level Physics Teachers	13	individual fees	To construct/improvise teaching devices for the study of wave motion and learn how to use these devices in teaching.
2. Production of Transparencies and Effective Use of the Overhead Projector	May 26-30	Secondary Level Teachers	9	individual fees	To produce transparencies and use them effective in teaching.
3. Introduction of Lasers and Fiber Optics	July 19,26 Aug. 2, 9, 16, 23	High School Physics Teachers	14	individual fees	To develop essential knowledge about the fundamental properties and practical application of lasers and fiber optics.
4. Science Instrumentation Course for High School Teachers	Aug. 16,23 30,Sept.6	High School Science Teachers	12	individual fees	To develop skills in constructing/ assembling some laboratory equipment/devices using recycled materials.
5. Training on Video Production	Sept. 2-13	School Technicians	3	fees paid by respective schools	To introduce techniques in video production
6. Microcomputers in Chemistry Teaching	Sept. 13, 20, 27 Oct. 4, 11 18	High School Chemistry Teachers	12	individual fees	To learn to integrate prepared software into the teaching of some chemistry topics.

Program	Inclusive Dates	Kinds of Participants	Number of Participants	Funding Agency	Main Objectives
7. Electronics for Physics Teachers	Sept. 20, 27 Oct. 4	High School Physics Teachers	16	Pundasyon	To identify and explain the functions of electromagnets, diodes, transistors, and inductors.
8. Development and Use of Low Cost Equipment for Elementary Science Teaching	Oct. 4, 11 18	Science coordinators, head teachers and high school teachers	17	Pundasyon	To develop skills in constructing/ assembling low cost equipment for use in elementary science.
9. Quantitative Aspects in Chemistry	Oct. 20-24	High School Chemistry Teachers	31	Pundasyon	To develop skills in the use of the problem-solving approach in Chemistry teaching.
10. Microcomputers in Mathematics Teaching	Nov. 8,15, 22, 29 Dec. 3	High School Math Teachers	4	individual fees	To develop competencies in using the computer as a teaching aid in in Mathematics.
Seminars/Workshops/Convention					
1. Association of Asian Biology Teachers (AABE)	Dec. 1-5	Secondary & Tertiary Biology Teachers	160	UNESCO AABE funds	To keep abreast of new developments in biology education and biological research.
2. Regional Conference on Microcomputers in Physics Education	Aug. 20-22	Physics Educators from 12 Asia-Pacific countries	59 ASPEN	UNESCO ROSTEA ASPEN ICTP and NSTA	External Agency
3. Workshop on the Training of Physics Teachers	Nov. 15-29	Physics Educators from 13 Asia-Pacific countries	15	UNESCO	
4. Development of Exemplar "Science for all" Teaching/Learning Units for Primary Level	Jun. 2- Apr. 30	Primary School Science Teachers	12	UNESCO	To develop skills in writing teaching units for primary school science.

添付資料－3　Memorandum of Agreement

MEMORANDUM OF AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

This Memorandum of Agreement, made and entered into this 21st day of October 1987 by and among

The Department of Education, Culture and Sports represented herein by Secretary Lourdes Quisumbing, with principal office at Palacio del Gobernador, Intramuros, Manila, hereinafter referred to as DECS

and

The Department of Science and Technology, represented herein by Secretary Antonio V. Arizabal, with principal office at General Santos Avenue, Bicutan, Taguig, Metro Manila, hereinafter referred to as DOST

and

The University of the Philippines System, represented herein by President Jose V. Abueva with principal office at Diliman, Quezon City, hereinafter referred to as UPS.

W I T N E S S E T H

WHEREAS, the Science Education Development Plan of the Philippines formulated jointly by DECS and DOST (formerly, NSTA) brings out the need for upgrading competencies of science and mathematics teachers.

LOURDES R. QUISUMBING
Department of Education, Culture & Sports

ANTONIO V. ARIZABAL
Department of Science and Technology

ESTER B. OGENA

JOSE V. ABUEVA
University of the Philippines System

WHEREAS, the DOST in pursuit of its objectives to develop and implement, together with other entities concerned, programs for strengthening scientific and technological capabilities through manpower training and through infrastructure and institution building and rationalization.

WHEREAS, the DOST through its Science Education Institute is empowered to formulate plans and establish programs and projects for the promotion and development of science and technology education and training in coordination with DECS and other institutions of learning in the field of science and technology.

WHEREAS, the UPS, through its Institute for Science and Mathematics Education Development in spearheading science education in the Philippines has the necessary expertise and capabilities.

WHEREAS, DECS authorizes the improvement of curricular programs and the quality of instruction through training and re-training of teachers.

WHEREAS, the government of the Philippines in consideration of all the above premises has submitted the National Learning Resource Center for Teacher Training in Science and Mathematics project, hereinafter referred to as the PROJECT, to the government of Japan for financial assistance.

LOURDES R. QUISUMBING
Department of Education, Culture & Sports

ANTONIO V. ARIZABAL
Department of Science and Technology

JOSE V. ABUEVA
University of the Philippines System

Now, therefore, for and in consideration of the foregoing the parties hereby agree as follows:

I. Establishment of a Steering and a Coordinating Committee for the Project

1. The Steering Committee shall be composed of the Secretary, DECS, Secretary, DOST and the President, UPS and shall be chaired by the DECS Secretary.

2. The Coordinating Committee shall consist of the following:

a.	Undersecretary for Programs and Projects, DECS	- Chairman
b.	Undersecretary, DOST	- Co-Chairman
c.	Undersecretary for Foreign Assisted Programs, DECS	- Vice-Chairman
d.	Director, INNOTECH	- Member
e.	Director, ISMED-UP	- Member
f.	Director, BHE-DECS	- Member
g.	Director, BSE-DECS	- Member
h.	Director, BEE-DECS	- Member
i.	Dean, College of Education University of the Philippines	- Member
j.	UP-ISMED Staff	- Secretary

II. Roles and Responsibilities

A. <u>The Steering Committee</u>

1. Lays down policies and procedures for promoting coordination among the concerned agencies and institutions

2. Promotes cooperation among parties involved in teacher training as well as with other educational bodies and institutions.

3. Monitors and evaluates the project

4. Reviews the reports of the Coordinating Committee

LOURDES R. QUISUMBING
Department of Education, Culture & Sports

ANTONIO V. ARIOLAL
Department of Science and Technology

JOSE V. ABUEVA
University of the Philippines System

IOURDES R. QUISUMBING
Department of Education, Culture & Sports

ANTONIO V. ARIZABAL
Department of Science and Technology

JOSE V. ABUEVA
University of the Philippines System

B. The Coordinating/Management Committee

1. Provides the implementing guidelines for the various activities of the project in accordance with the policies set forth by the steering committee

2. Evolves a 5-year plan of action

3. Conducts discussions with the Japanese Missions dispatched by Japanese government

4. Sees to the implementation of planned programs for the full utilization of the center

5. Coordinates, monitors and evaluates the various activities of the project

6. Reports to Steering Committee matters related to project

7. Performs other functions assigned by the Steering Committee.

C. The Department of Education, Culture and Sports

1. Selects participants (teacher leaders, supervisors, science educators) for the training programs at the NLRCTT

2. Provides financial support to the public sector participants (salary, travel, allowance) for national and regional programs

3. Follows up participants

4. Conducts in service programs at the division and school levels.

D. The DOST Through Institute of Science Education

1. Provides funding to national training programs at the NLRCTT (cost of training and related financial support -- per diem, book allowance)

2. Provides financial support to the training program in the regional centers

3. Monitors the programs

4. Provides science and technology policy inputs into the program.

E. The UP Diliman Campus Through ISMED and College of Education:

1. Provides a site for the PROJECT

2. Provides financial support for MOE and personnel services of the project

3. ISMED director is manager of the day-to-day operations of the project, accountable to the Coordinating/Management Committee

4. ISMED provides secretariat support to project

5. ISMED implements/conducts the training programs at the Center

6. ISMED takes responsibility for initiating/ organizing new science/science education courses for teachers which are lab/activity oriented, in collaboration with science specialists

7. ISMED shares its expertise and resources with the public and larger number of teachers by conducting activities/ programs designed for public education, upgrading teaching competencies of teachers and their knowledge and understanding of subject matter

8. College of Education participates in the design, conduct and accreditation of courses.

LOURDES R. QUISUMBING
Department of Education, Culture & Sports

ANTONIO V. ARIZABAL
Department of Science and Technology

JOSE V. ABUEVA
University of the Philippines System

III. Effectivity

This agreement shall take effect immediately upon execution hereof and shall continue to be in force until the completion of the PROJECT unless otherwise revised or terminated upon consent of parties involved.

In witness hereof, the parties hereto have hereby affixed their signature on date and place, first above written.

ANTONIO V. ARIZABAL
Secretary, DOST

LOURDES R. QUISUMBING
Secretary, DECS

JOSE V. ABUEVA
President, UPS

Witnesses:

ESTER B. OGENA

REPUBLIC OF THE PHILIPPINES)
) S. S.
QUEZON CITY)

ACKNOWLEDGEMENT

BEFORE ME, the undersigned Notary Public for and in Quezon City on this ____ day of OCT 21 1987, 1987 personally appeared LOURDES R. QUISUMBING in her capacity as Secretary of the Department of Education, Culture and Sports, exhibiting to me her Residence Certificate No. 5558 G, issued at Quezon City on February 18, 1987, ANTONIO V. ARIZABAL in his capacity as Secretary of the Department of Science and Technology, exhibiting to me his Residence Certificate No. 7012928 F, issued at Pasig, Metro Mla on March 5, 1987, and JOSE V. ABUEVA in his capacity as President of the University of the Philippines System, exhibiting to me his Residence Certificate No. 3938338 G, issued at Quezon City on October 5, 1987, all three of whom are known to me and to me known to be the same persons who executed this foregoing Memorandum of Agreement consisting of 7 pages including this acknowledgement and acknowledged the same as their free and voluntary act and deed and that of their principals referred hereto.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal at Quezon City, Philippines, on this ____ day of OCT 21 1987, 1987.

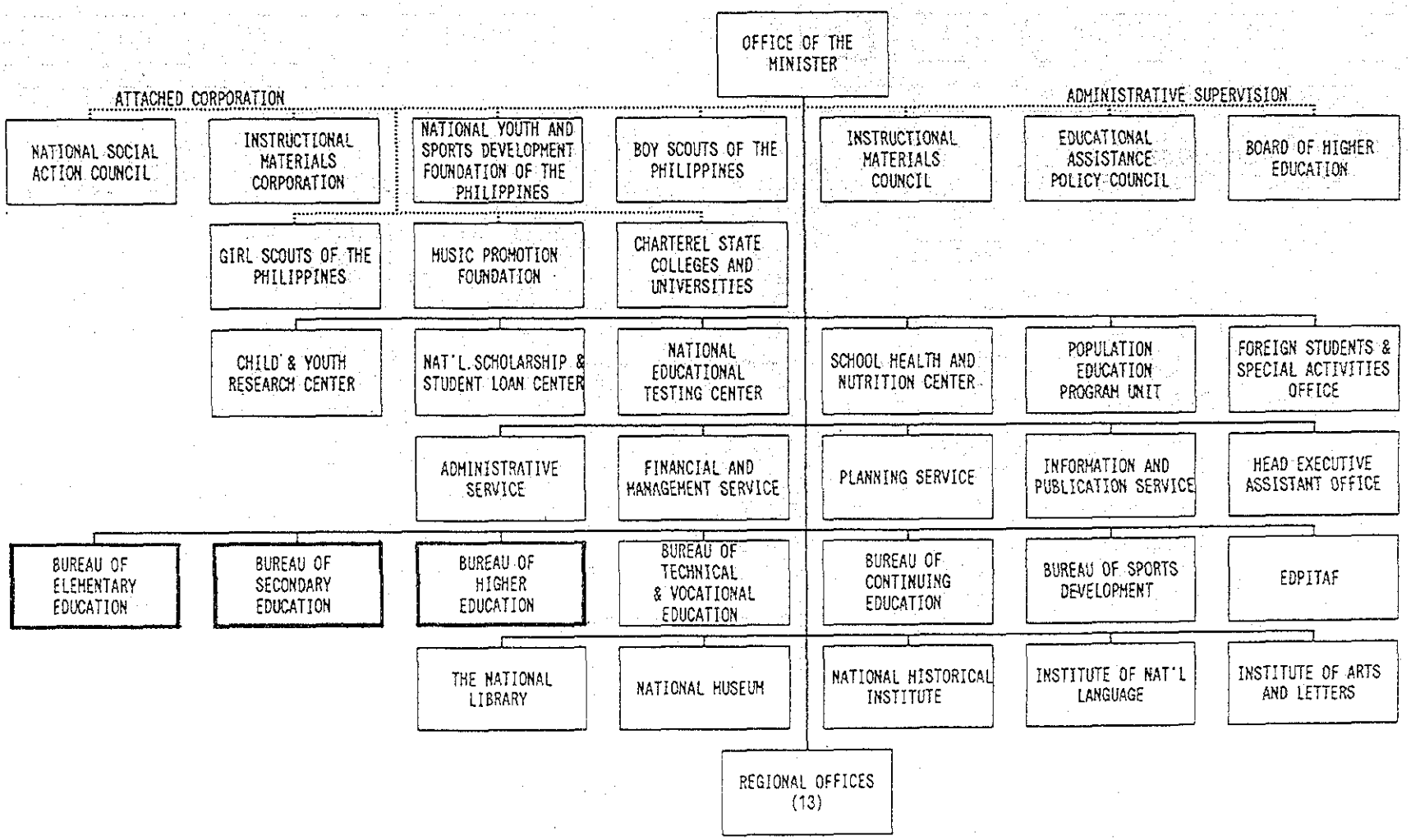
ROMEO C. CRUZ
NOTARY PUBLIC
UNTIL DECEMBER 31, 1987
NOTARY PUBLIC P.O. 042055, Q. C.
JAN. 2, 1987
[illegible]

Doc. No. 248
Page No. 50
Book No. XXVIII
Series of 1987.

7

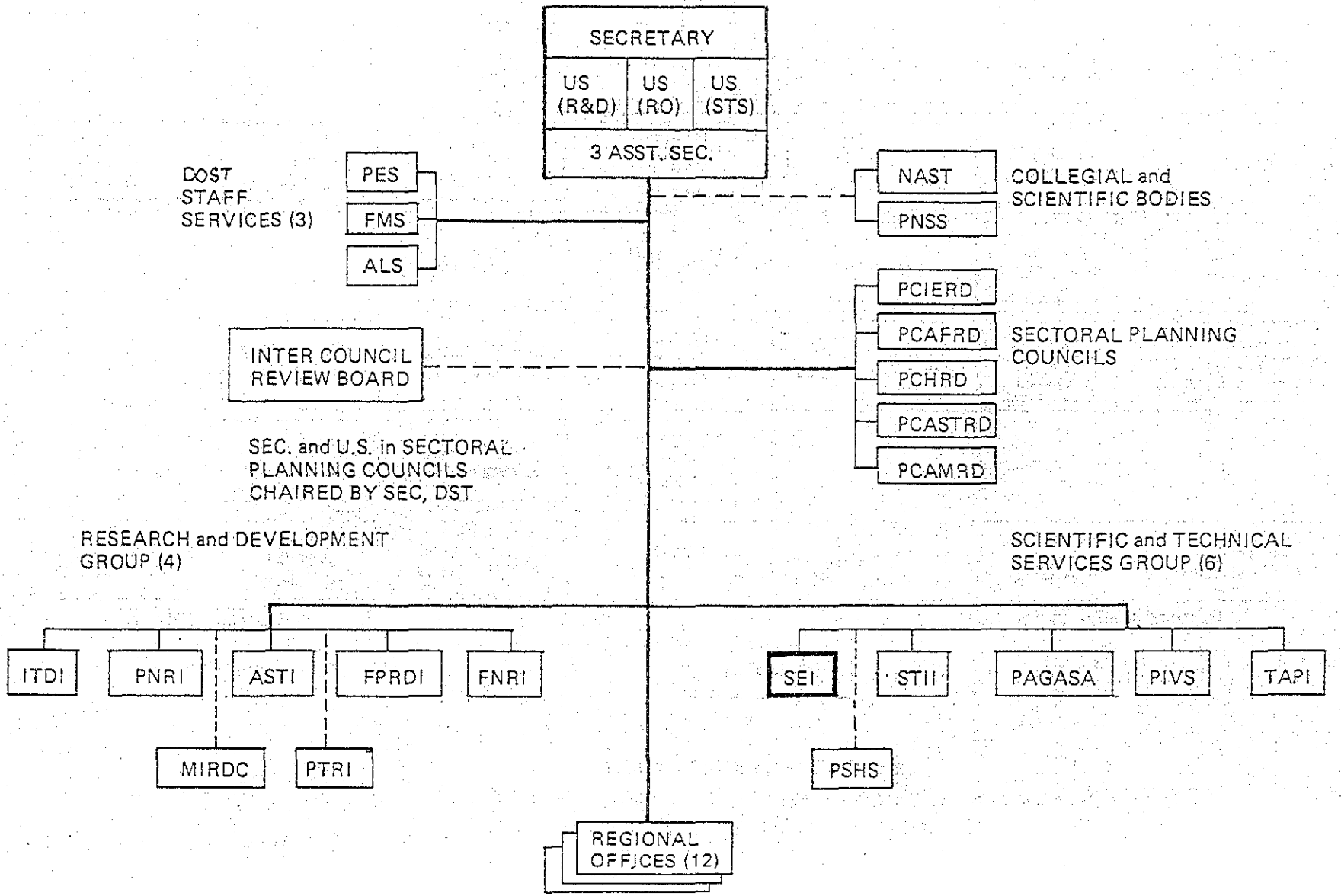
添付資料－４　　関係機関の組織図

教育文化スポーツ省
DEPARTMENT OF EDUCATION, CULTURE & SPORTS (DECS)
ORGANIZATIONAL CHART

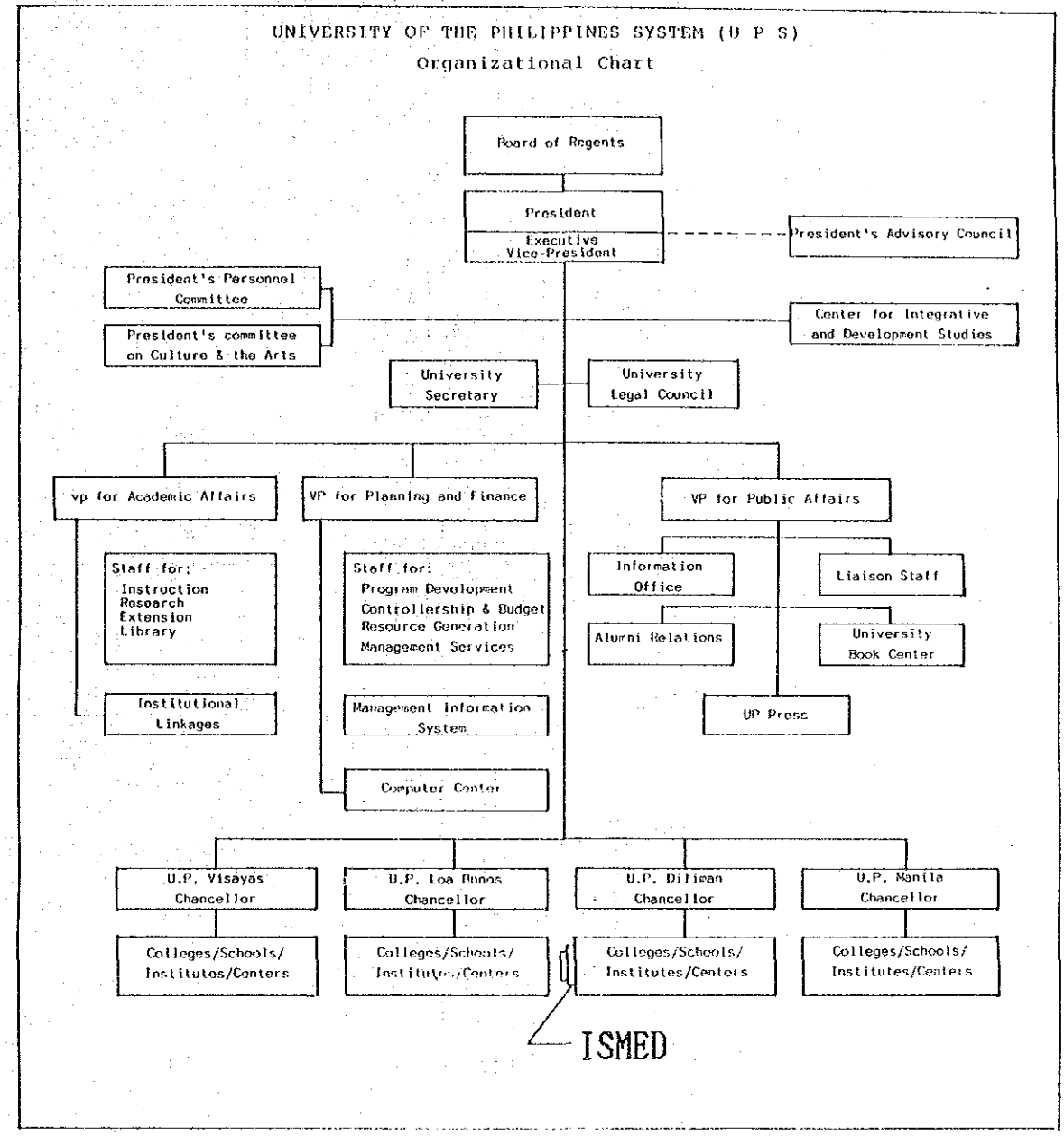


科学技術省

DEPARTMENT OF SCIENCE & TECHNOLOGY (DOST)
ORGANIZATIONAL CHART
(E.O. 128, 30 JANUARY 1987)

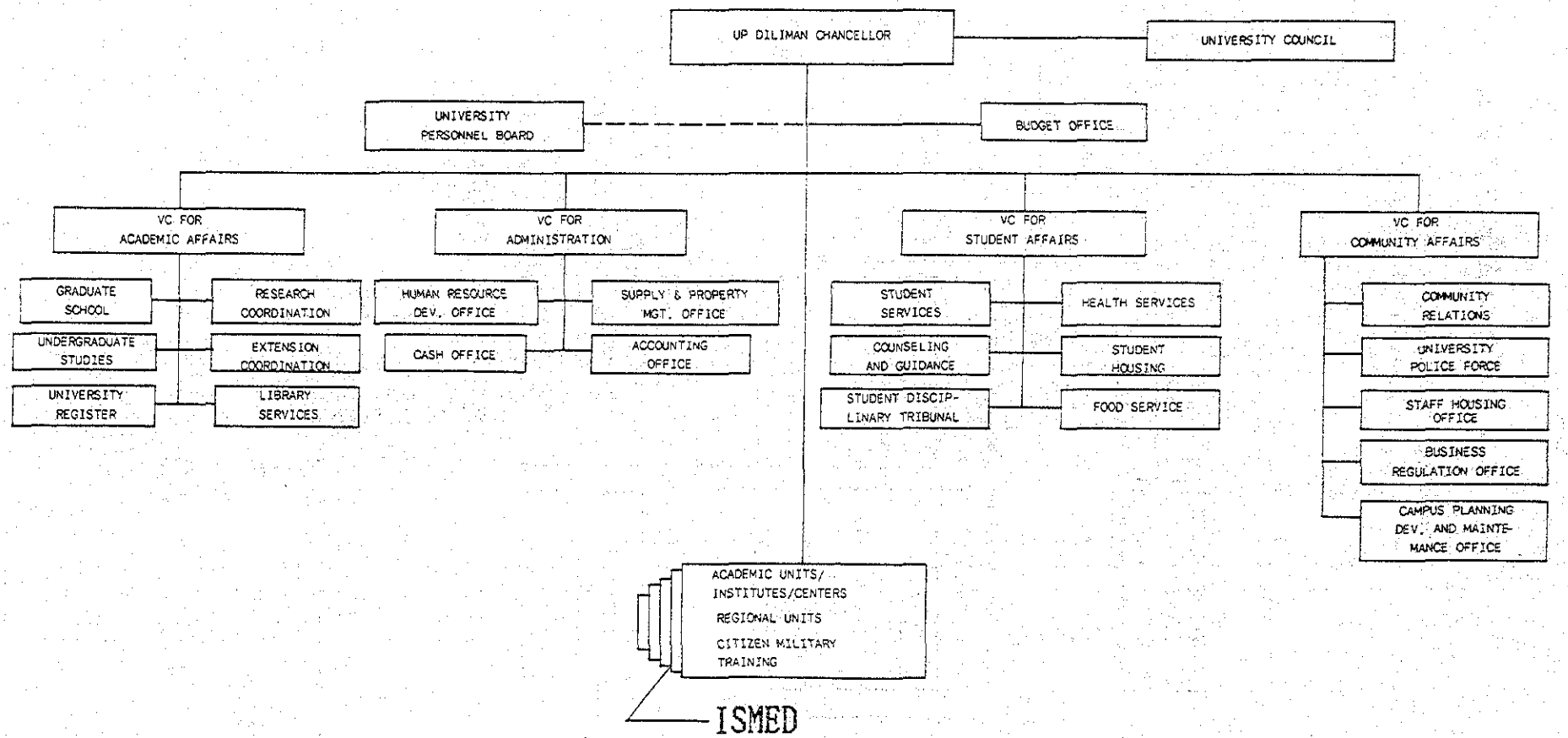


フィリピン大学システム

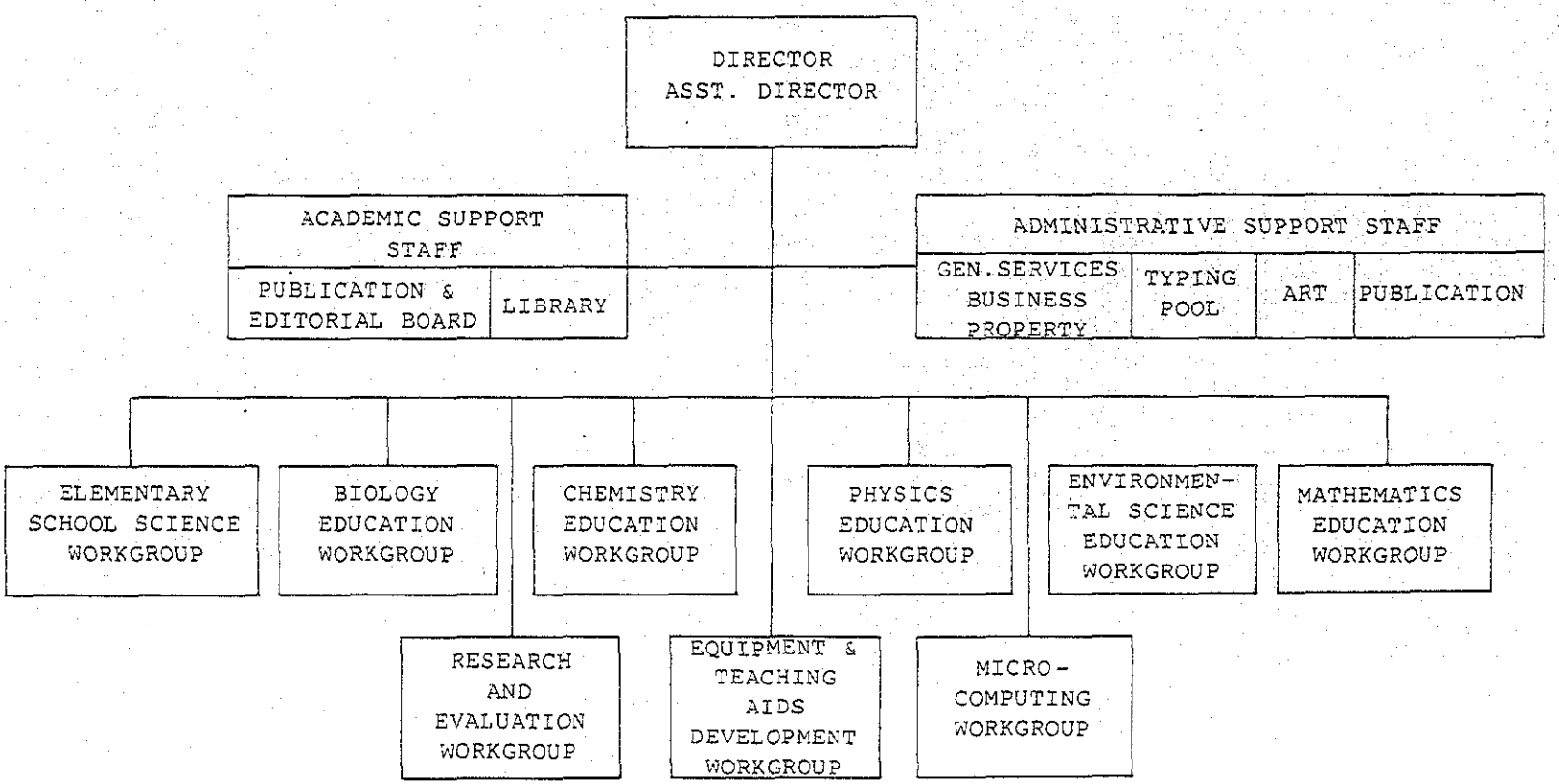


フィリピン大学デリマンキャンパス

ORGANIZATIONAL CHART OF THE U.P. DILIMAN



ＩＳＭＥＤ組織図
INTERNATIONAL ORGANIZATION OF ISMED

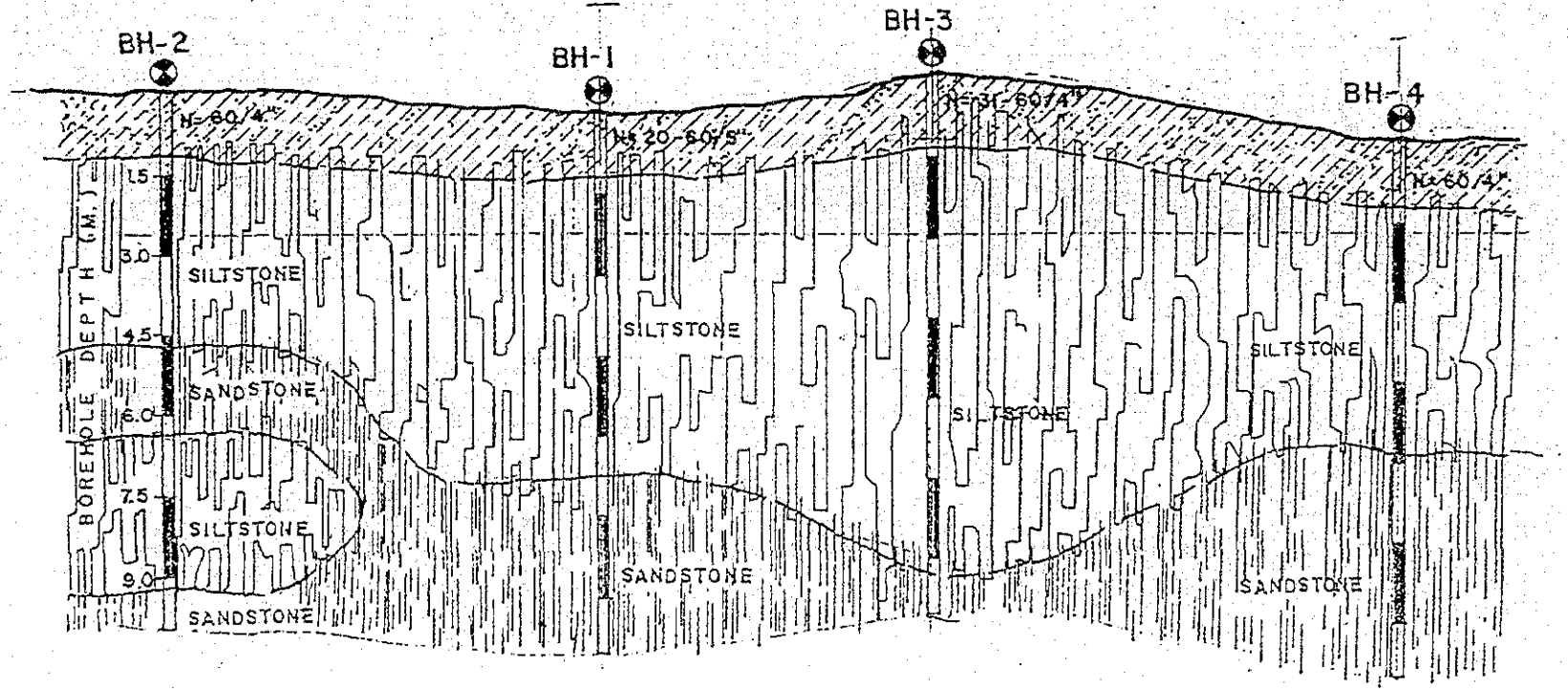


The Research and Evaluation Workgoup, the Equipment and Teaching Aids Development (ETAD) Workgroup, and the Microcomputing Workgroup actually cut across all the other workgroups.

添付資料－５　　敷地の地質柱状図

Floor Level	Training Bldg.	Auditorium	Covered Way
Ground Floor	1,364	240	1,344
1st Floor	1,364	80	62
2nd Floor	1,364	80	〃
Penthouse	148	〃	〃
Total	4,240(m²)	400(m²)	1,406(m²)

SOIL PROFILE



BORING LOG

PROJECT INSTITUTE OF SCIENCE & MATHEMATICS EDUCATIONAL DEVELOPMENT JOB NO.

LOCATION UP DILIMAN, QUEZON CITY BOREHOLE NO. BH-1 SHT. 1 OF 1

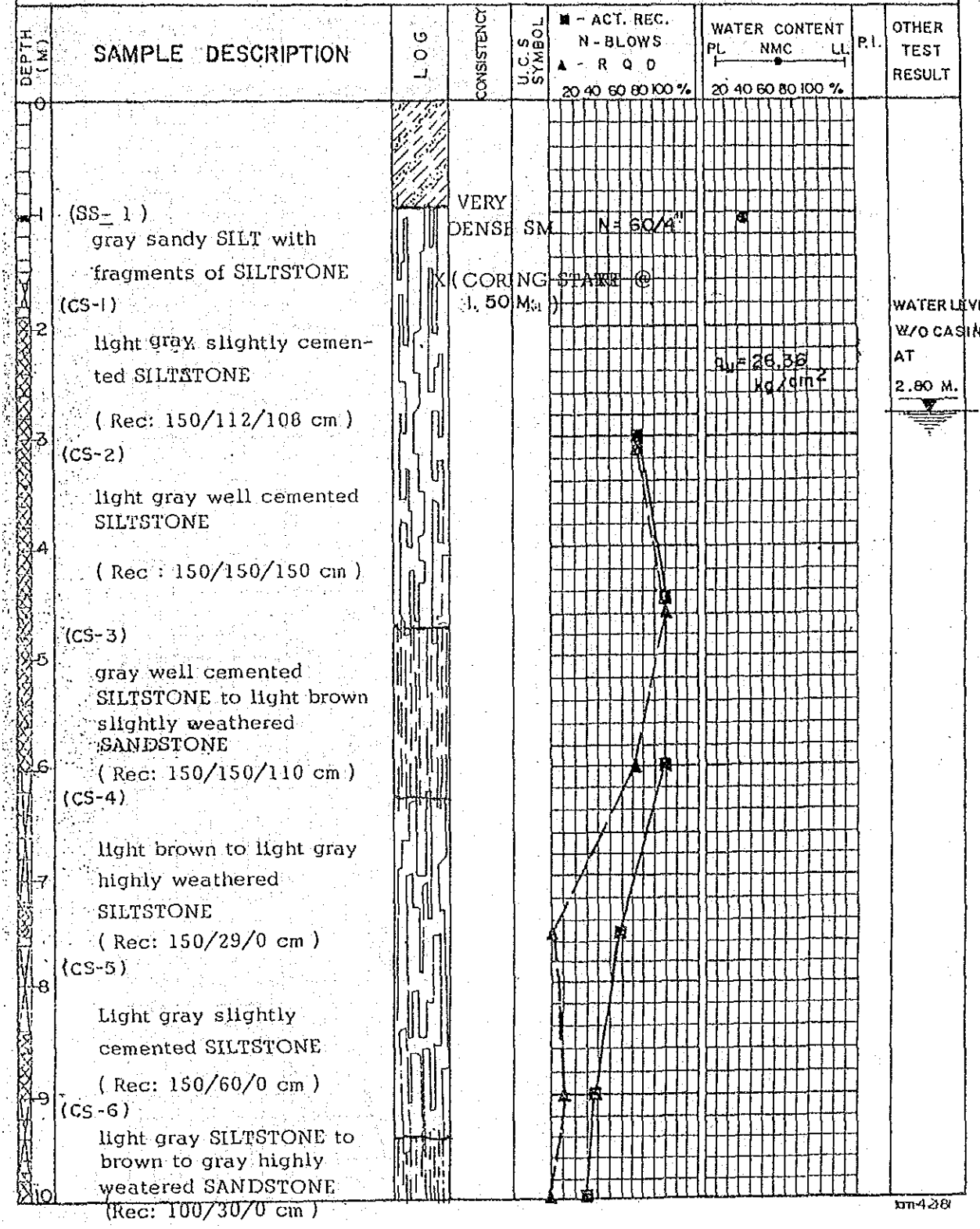
DEPTH (M)	SAMPLE DESCRIPTION	LOG	CONSISTENCY	U.C.S. SYMBOL	ACT. REC. - ■ N - BLOWS R Q D - ▲ 20 40 60 80 100 %	WATER CONTENT PL NMC LL 20 40 60 80 100 %	P.I.	OTHER TEST RESULT
0								
1	(SS-1) light gray silty SAND with fragments of SILTSTONE inclusion		VERY SM DENSE		N= 20-60/5"			WATER LEVEL W/O CASING AT 2.30 M.
2	(CS-1) light gray weakly cemented SILTSTONE ((Rec: 150/53/0 cm)		(CORING START @ 1.50 M.)					
3	(CS-2) Same Formation (Rec: 150/27/0 cm)							
4	(CS-3) Same Formation (Rec: 150/57/20 cm)							
5	(CS-4) brown slightly cemented SILTSTONE to brown slightly weathered tuffaceous SANDSTONE (Rec: 150/126/79 cm)							
6	(CS-5) Brown to gray highly weathered tuffaceous SANDSTONE (Rec: 150/24/10 cm)							
7	(CS-6) gray highly weathered tuffaceous SANDSTONE (Rec: 100/16/0 cm)							
8								
9								
10								

tm428

BORING LOG

PROJECT INSTITUTE OF SCIENCE & MATHEMATICS EDUCATIONAL DEVELOPMENT JOB NO.

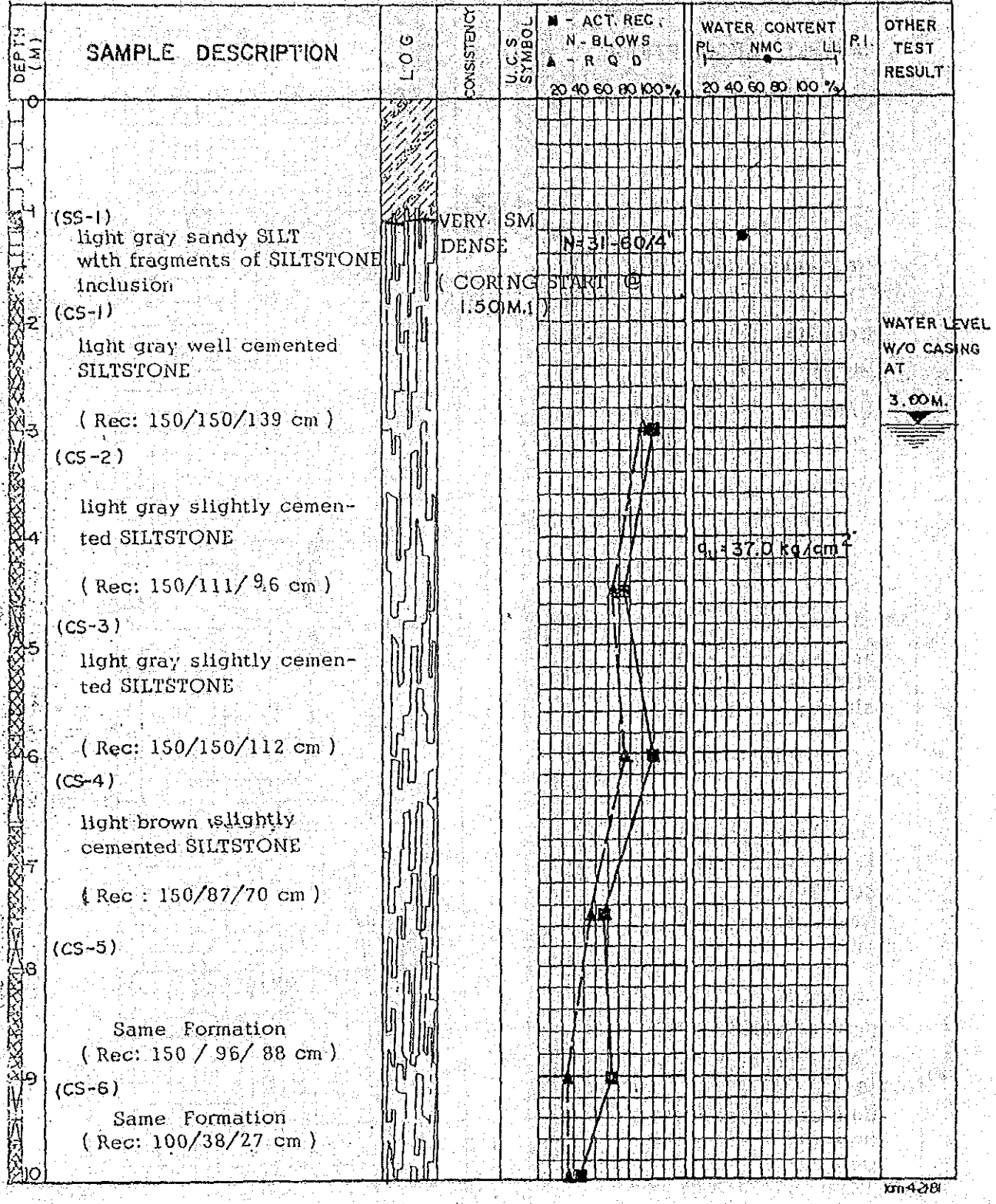
LOCATION UP DILIMAN, QUEZON CITY BOREHOLE NO. BH-2 SHT. 1 OF 1



BORING LOG

PROJECT INSTITUTE OF SCIENCE & MATHEMATICS EDUCATIONAL DEVELOPMENT

LOCATION UP DILIMAN, QUEZON CITY BOREHOLE NO. BH-3 SHT. 1 OF 1



BORING LOG

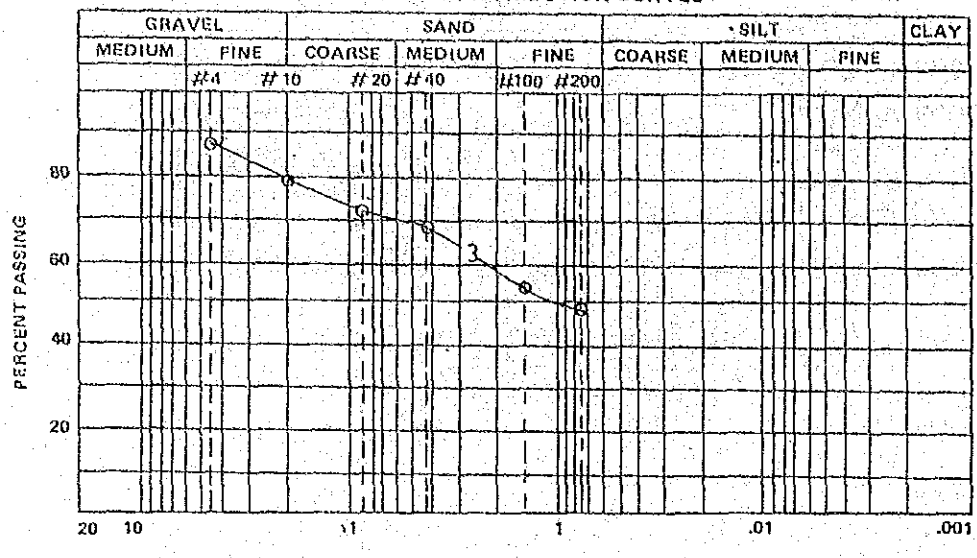
PROJECT INSTITUTE OF SCIENCE & MATHEMATICS EDUCATIONAL DEVELOPMENT

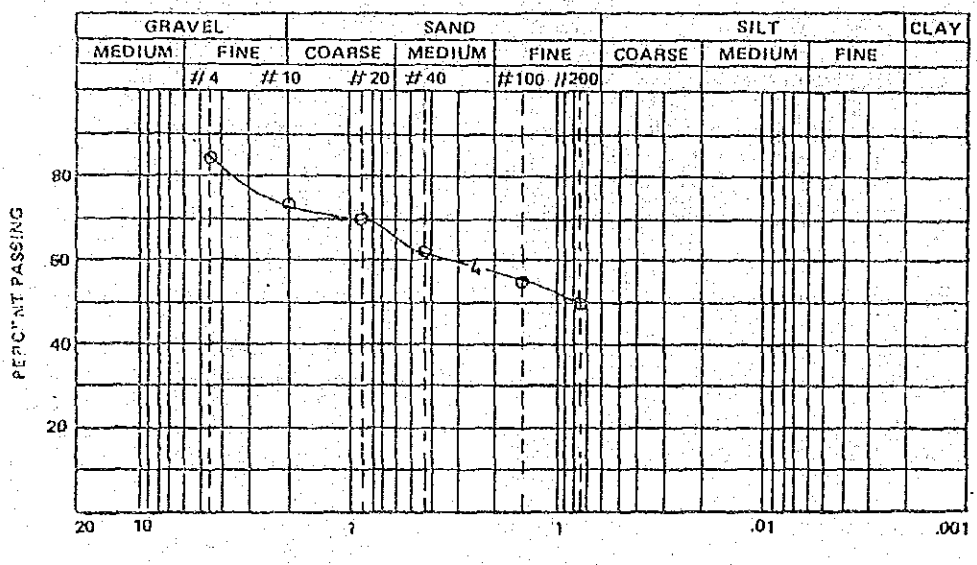
LOCATION UP DILIMAN, QUEZON CITY BOREHOLE NO. BH-4 SHT. 1 OF 1

DEPTH (M)	SAMPLE DESCRIPTION	LOG	CONSISTENCY	U.C.S SYMBOL	■ - ACT. REC. N - BLOWS ▲ - R Q D (20 40 60 80 100 %)	WATER CONTENT PL NMC LL (20 40 60 80 100 %)	P.I.	OTHER TEST RESULT
0								WATER LEVEL W/O CASING 1.70 M.
1	(SS-1) light gray sandy SILT with fragments of SILTSTONE inclusions		VERY DENSE	SM	N= 60/3"	●		
2	(CS-1) light gray slightly cemented SILTSTONE		(CORING START @ 31.50 M)					
3	(Rec : 150/116/96 cm)							
	(CS-2) light gray weakly cemented SILTSTONE							
4	(Rec: 150/30/17 cm)							
5	(CS-3) light brown slightly cemented SILTSTONE to brown SANDSTONE					q_u = 56.40 kg/cm^2		
6	(Rec : 150/ 87/ 47 cm)							
	(CS-4) light brown slightly cemented SANDSTONE							
7	(Rec : 150/80/70 cm)							
8	(CS-5) light brown highly weathered tuffaceous SANDSTONE.							
9	(Rec : 150/68/35 cm)							
	(CS-6) Same Formation							
10	(Rec : 100 /54/27 cm)							

tm-428

GRAIN-SIZE DISTRIBUTION CURVES





BH NO.	SAMPLE NO.	DEPTH	CURVE NO.	NMC	LL	PL	PI	U.C.S. CLASS	DESCRIPTION
3	SS-1	1.00	3	43	-	-	-	SM	
4	SS-1	1.00	4	42	-	-	—	SM	

ASIA SOILTEST, INC.

6 SCT. DE GUIA ST. QUEZON CITY

Job No. _____

PROJECT: UP ISMED Borehole/Sample No. BH-2, CS-1 Date Sampled: 11-04-86

Contract No. _____ Depth: 1.50 - 3.00 M. Date Tested: 11-04-86

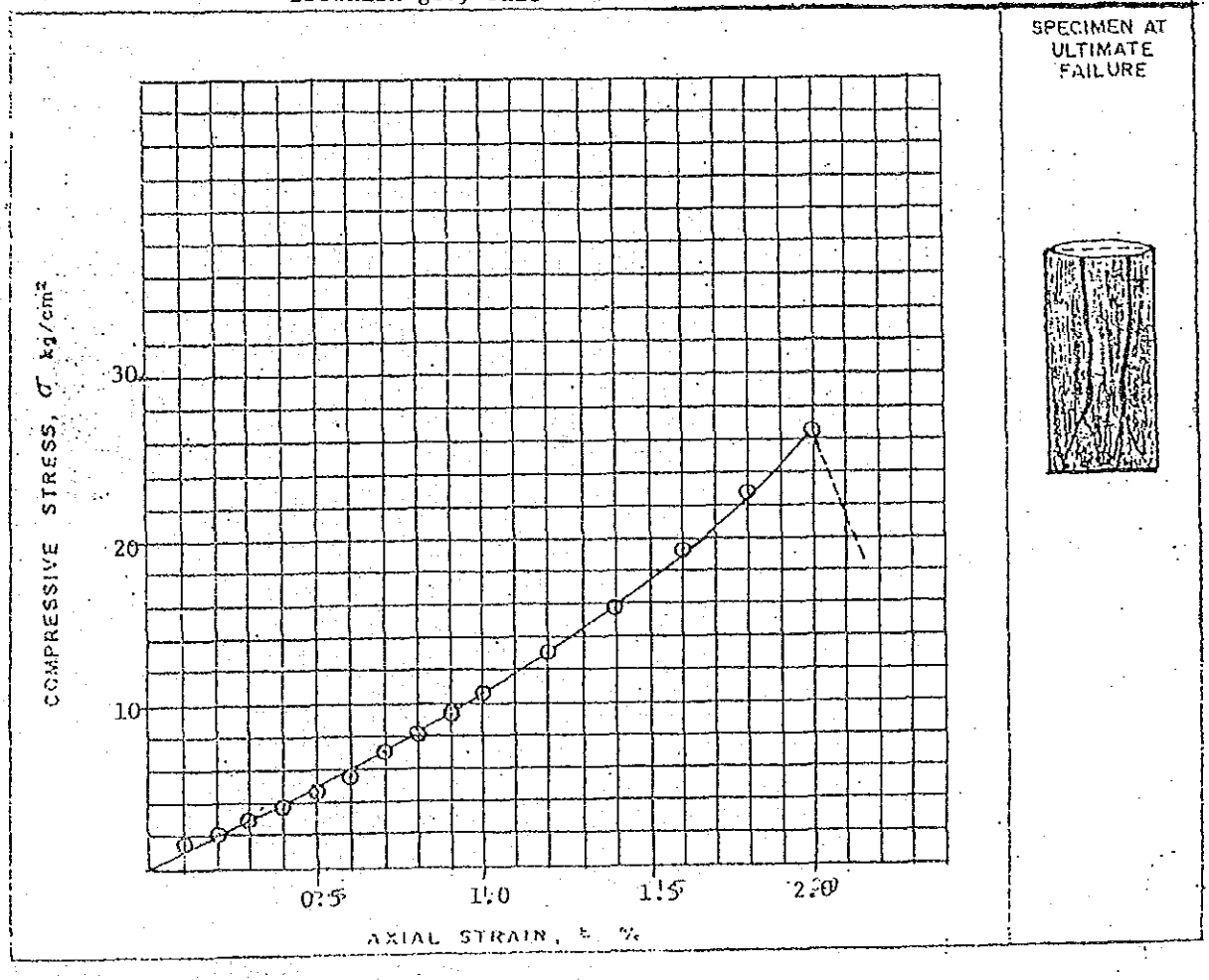
Location: Diliman, Quezon City Tested By: PM/JS Date Finished: 11-04-86

UNCONFINED COMPRESSION TEST REPORT

SPECIMEN NO.	SPECIMEN CONDITION	DIMENSION of SPECIMEN		MOISTURE CONTENT w (%)	WET DENSITY γ_t (g/cm³)	UNCONFINED COMPRESSIVE STRENGTH q_u (kg/cm²)	FAILURE STRAIN ε (%)	SENSITIVITY RATIO S_t	
		HEIGHT H (cm)	DIAMETER Ø (cm)						
1	CS	11.40	5.0		1.6672	26.36	2.0		

REMARKS:

VISUAL CLASSIFICATION: Brownish gray siltstone



SPECIMEN AT ULTIMATE FAILURE

ASIA SOILTEST, INC.

6 SCT. DE GUIA ST. QUEZON CITY

Job No. _____

PROJECT: UP ISMED Borehole/Sample No. BH-3, CS-2 Date Sampled: 11-04-86

Contract No. _____ Depth: 3.00 - 4.50 M. Date Tested: 11-04-86

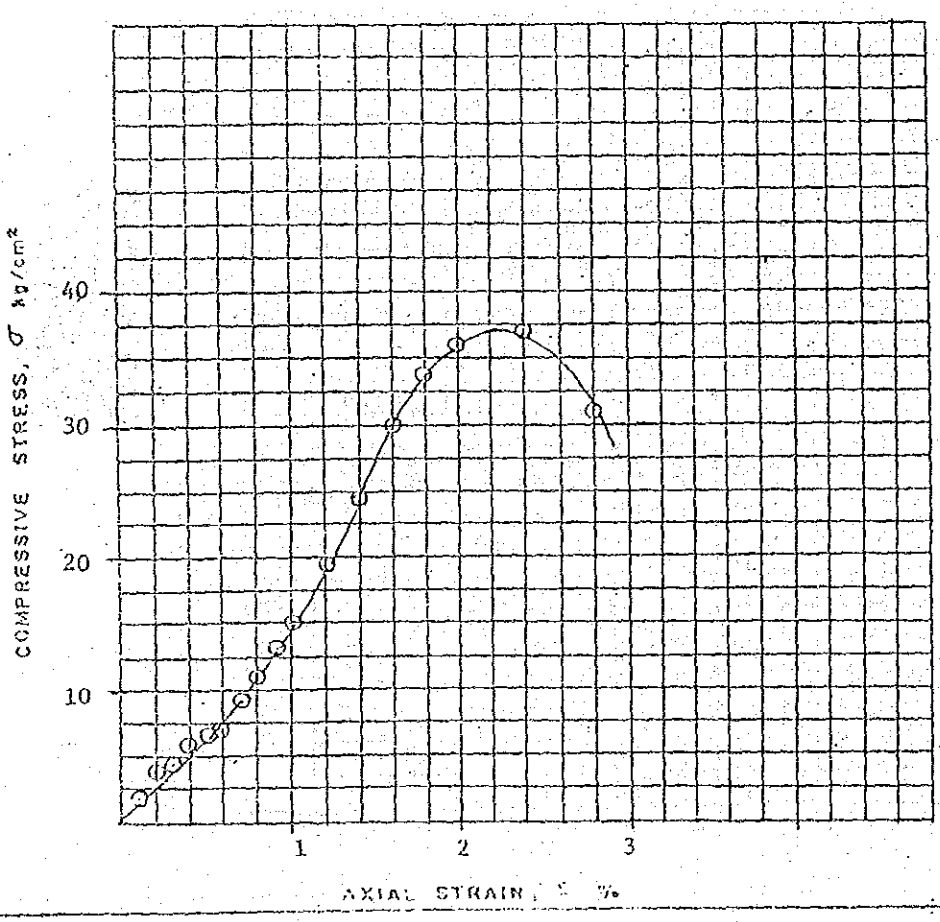
Location: Diliman, Quezon City Tested By: PM/JS Date Finished: 11-04-86

UNCONFINED COMPRESSION TEST REPORT

SPECIMEN NO.	SPECIMEN CONDITION	DIMENSION of SPECIMEN		MOISTURE CONTENT w (%)	WET DENSITY γ_t (g/cm³)	UNCONFINED COMPRESSIVE STRENGTH qu (kg/cm²)	FAILURE STRAIN ε (%)	SENSITIVITY RATIO S_t
		HEIGHT H (cm)	DIAMETER Ø (cm)					
2	CS	11.50	5.0		1.6829	37.00	4.40	

REMARKS:

VISUAL CLASSIFICATION: Brownish gray sandstone



SPECIMEN AT ULTIMATE FAILURE

ASIA SOILTEST, INC.

E. SCT. DE GUIA, ST. QUEZON CITY

Job No. _____

PROJECT: U. ISMED Borehole/Sample No. BH-4, CS-3 Date Sampled: 11-04-86

Contract No. _____ Depth: 4.50 - 6.00 M. Date Tested: 11-04-86

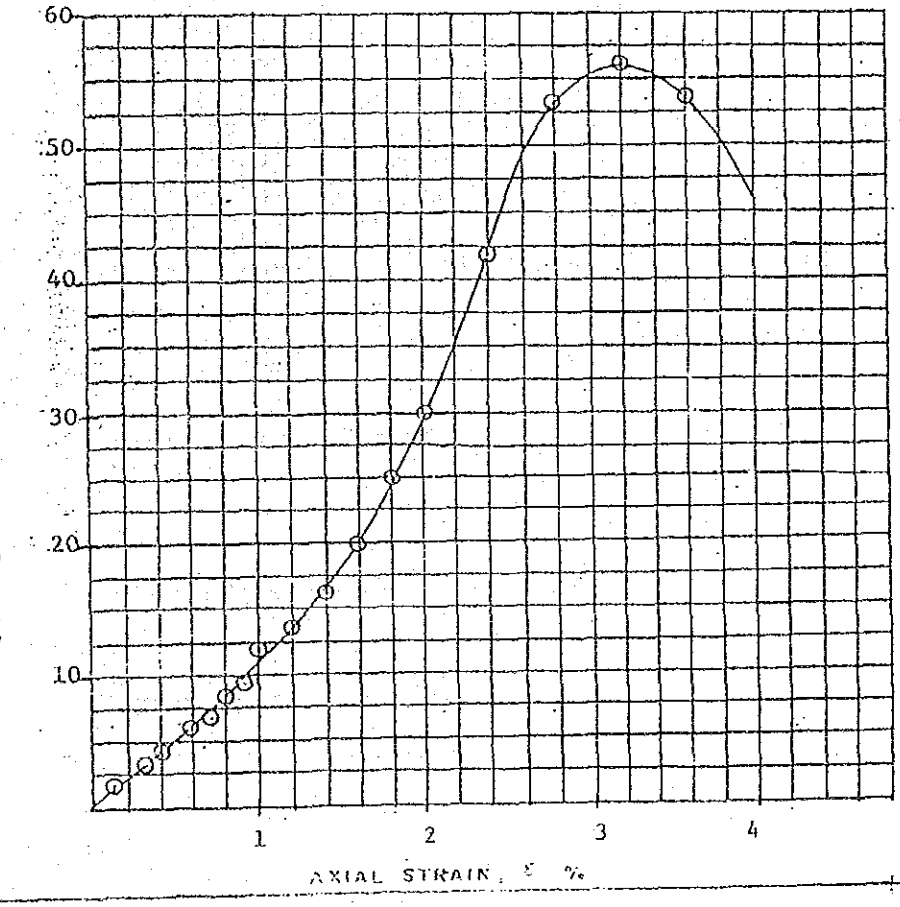
Location: Diliman, Quezon City Tested By: PM/JS Date Finished: 11-04-86

UNCONFINED COMPRESSION TEST REPORT

SPECIMEN NO.	SPECIMEN CONDITION	DIMENSION of SPECIMEN		MOISTURE CONTENT w (%)	WET DENSITY γ_t (g/cm³)	UNCONFINED COMPRESSIVE STRENGTH q_u (kg/cm²)	FAILURE STRAIN ε (%)	SENSITIVITY RATIO S_t -
		HEIGHT H (cm)	DIAMETER Ø (cm)					
3	CS	11.0	5.0		1.996	56.40	3.2	

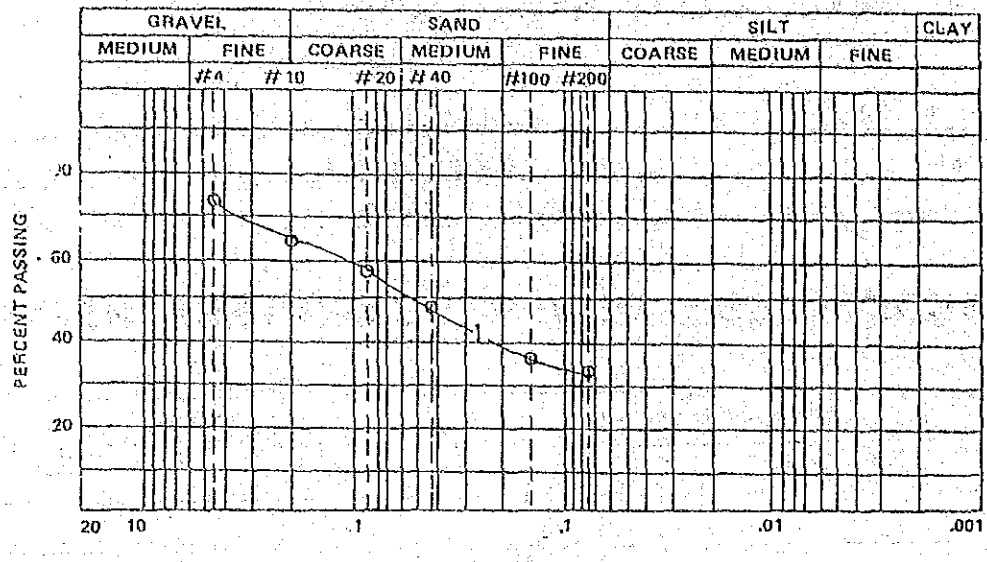
REMARKS:

VISUAL CLASSIFICATION: Grayish brown sandstone

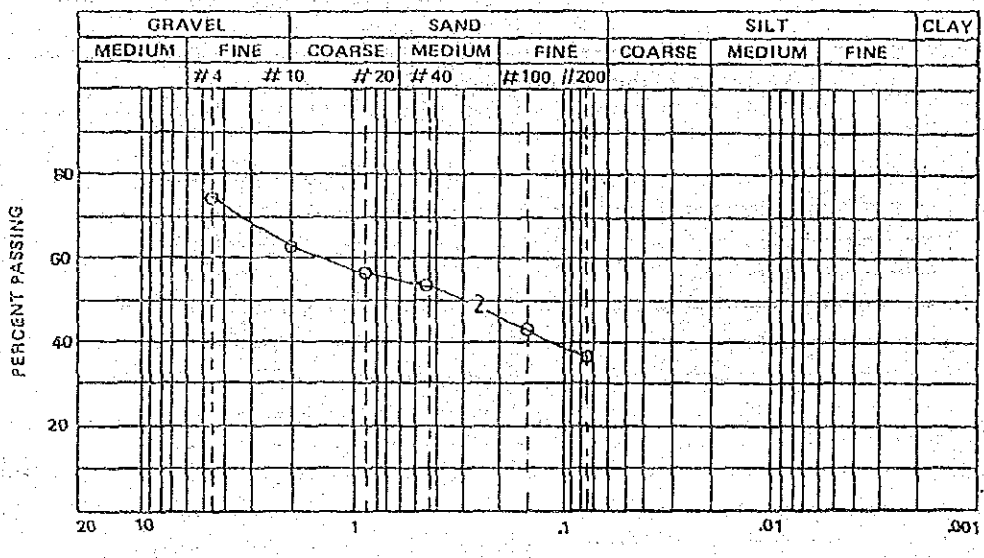


SPECIMEN AT ULTIMATE FAILURE

GRAIN-SIZE DISTRIBUTION CURVES



DIAMETER, mm



DIAMETER,mm

BH NO.	SAMPLE NO.	DEPTH	CURVE NO.	NMC	LL	PL	PI	U.C.S. CLASS	DESCRIPTION
1	SS-1	1.00	1	41	-	-	-	SM	
2	SS-1	1.00	2	38	-	-	-	SM