

JAPAN INTERNATIONAL COOPERATION AGENCY

THE GOVERNMENT OF
THE HASHEMITE KINGDOM OF JORDAN
THE MINISTRY OF TOURISM AND ANTIQUITIES
THE MINISTRY OF PLANNING

DRAFT
TENDER DOCUMENTS
FOR
CONSTRUCTION
OF
NATIONAL MUSEUM SUB-PROJECT
THE TOURISM SECTOR DEVELOPMENT PROJECT

VOLUME I
INSTRUCTIONS TO TENDERERS

August 2000

Pacific Consultants International
Yamashita Sekkei Inc.

NATIONAL MUSEUM SUB-PROJECT

TABLE OF CONTENTS

Volume 3IT

- INVITATION FOR TENDER
- INSTRUCTIONS TO TENDERERS
 - INSTRUCTIONS TO TENDERERS
 - APPENDIXES
 - ENCLOSURES
 - FORM OF TENDER

*** MPWH Letter head

INVITATION FOR TENDER

Date & Ref. No.

To: Tenderer

Name:

Loan No: JO-P11

Address:

Contract No: _____

Dear Sir,

**Subject: Invitation for Tender, Construction of NATIONAL MUSEUM SUB-PROJECT
TOURISM SECTOR DEVELOPMENT PROJECT**

THE HASHEMITE KINGDOM OF JORDAN has received an ODA Loan from JAPAN BANK FOR INTERNATIONAL COOPERATION (hereinafter referred to as JBIC) toward the cost of TOURISM SECTOR DEVELOPMENT PROJECT, NATIONAL MUSEUM SUB-PROJECT and intended to apply the proceeds of the loan to payment under the contract. Disbursement of ODA Loan by JBIC will be subject, in all respects, to the terms and conditions of the Loan Agreement, including the disbursement procedures and the “ Guidelines for Procurement under JBIC ODA Loans” . No Party other than THE HASHEMITE KINGDOM OF JORDAN shall derive any rights from the Loan Agreement or have any claim to loan proceeds. The above Loan Agreement will cover a part of the project cost. As for the remaining portion, THE HASHEMITE KINGDOM OF JORDAN will take appropriate measures for finance.

JBIC requires that Tenderers and Contractors, as well as THE HASHEMITE KINGDOM OF JORDAN, under the Contracts funded with JBIC ODA Loans and other Japanese ODA, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, JBIC;

- (a) will reject a proposal for award if it determines that the tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
- (b) will recognize a contractor as ineligible, for a period determined by JBIC, to be awarded a contract funded with JBIC ODA Loans if it at any times determines that the contractor has engaged in corrupt or fraudulent practices in competing for, or in executing, another contract funded with JBIC ODA Loans or other Japanese ODA.

THE MINISTRY OF PUBLIC WORKS AND HOUSING (hereinafter referred to as “ MPWH”) invites sealed tenders from prequalified eligible Tenderers for construction and completion of the NATIONAL MUSEUM SUB-PROJECT (hereinafter referred to as “ the Works”) in accordance with the following documents:

VOLUME I - Instructions to Tenderers

■ Appendixes

■ Enclosure

VOLUME II - Specifications

VOLUME III - Bill of Quantities

VOLUME IV - Drawings

VOLUME V - Conditions of Contract

A Tender is required for the Construction of the NATIONAL MUSEUM SUB-PROJECT and its associated works for the Tourism Sector Development Project as described in the Tender Documents and to be submitted under sealed cover in accordance with the Instruction to Tenderers.

1. Issuing of Tender Documents

THE MINISTRY OF PUBLIC WORKS AND HOUSING (MPWH) will issue the Tender Documents at the GOVERNMENT TENDERS DIRECTORATE from --- th to ---th ----- 2000. A set of Tender Document is priced ----- (-----) J.D., including sales tax, which is non-refundable and can be paid in cash or cashier check.. The check must be in the name of The Ministry of Public Works and Housing (MPWH) and must be dated no more than three days before the day of selling.

If the authorized person in the company can not come to purchase these documents in person, he must assign a legal power of attorney to someone to act on his behalf.

2. Project Site Visit

A Site visit will be conducted from 09:00 hours on --- th ----- 2000, at the National Museum Sub-project Site. The Tenderer must attend in person or assign power of attorney to someone to act on his behalf.

3. Clarification Meeting

If the Tenderer has any questions regarding the Tender Documents and/or other detail conditions, the Tenderer must submit written questions to the MPWH GOVERNMENT TENDERS DIRECTORATE by ---th ----- 2000.

The Clarification Meeting will be held on ---th ----- 2000, time 09:00, at the MPWH GOVERNMENT TENDERS DIRECTORATE.

4. Tender Submission and Tender Opening

The completed Tender should be submitted to the MPWH GOVERNMENT TENDERS DIRECTORATE at the following address between the hours of 09:00 - 11:00 on the ----th ----- 2000.

MPWH Tenders Directorate
Eighth Circle, Albiader Street, Amman.

The Tender will be opened on same day of Tender submission at ----- hours.

5. Tenderers will be informed in due course of the result of the Tender Review.
6. All other necessary requirements for the preparation and submission of Tenders are given in the INSTRUCTIONS TO TENDERERS.

THE MINISTRY OF PUBLIC WORKS AND HOUSING (MPWH)
General Director of Government Tenders Directorate

Nasir Madadha

THE GOVERNMENT OF
THE HASHEMITE KINGDOM OF JORDAN
THE MINISTRY OF TOURISM & ANTIQUITIES
THE MINISTRY OF PLANNING
(JO – P11)

DRAFT TENDER DOCUMENTS
FOR
CONSTRUCTION

OF

NATIONAL MUSEUM SUB-PROJECT
THE TOURISM SECTOR DEVELOPMENT PROJECT

VOLUME I
INSTRUCTIONS TO TENDERERS

The JICA D/D Study Team
Joint Venture:
Pacific Consultants International, Tokyo
Yamashita Sekkei Inc

September - 2000

TABLE OF CONTENTS

| | |
|--|---|
| 1. GENERAL ----- | 1 |
| 2. GENERAL DESCRIPTION OF THE PROJECT ----- | 2 |
| 2-1. General ----- | 2 |
| 2-2. Project feature ----- | 2 |
| 3. TENDER DOCUMENTS ----- | 3 |
| 4. QUALIFICATION OF TENDERER----- | 4 |
| 5. VISITING PROJECT SITE ----- | 4 |
| 6. TENDERER UNDERSTANDING/EXAMINATION OF DOCUMENT --- | 5 |
| 7. LANGUAGE AND MEASUREMENT SYSTEM OF TENDER ----- | 5 |
| 8. INTERPRETATION OF TENDER DOCUMENTS/PRE-TENDER MEETING --- | 5 |
| 9. TAXES AND CUSTOM DUTIES ----- | 6 |
| 10. SIGNING ----- | 6 |
| 11. TENDER EXPENSE ----- | 6 |
| 12. WITHDRAWAL ----- | 7 |
| 13. PREREQUESTITE CONDITIONS ----- | 7 |
| 14. DOCUMENT COMPRISING THE TENDER ----- | 7 |
| 14-1. Package-I Documents ----- | 7 |
| 14-2. Package-II Documenta----- | 8 |

| | |
|---|----|
| 15. TENDER PRICE ----- | 8 |
| 15-1. Unit Price base Contract ----- | 8 |
| 15-2. Currency of Tender ----- | 9 |
| 16. TENDER VALIDITY ----- | 10 |
| 17. TENDER SECURITY ----- | 10 |
| 18. SUBMISSION OF TENDER ----- | 11 |
| 18-1. Format and Signing of Tender ----- | 11 |
| 18-2. Sealing and Marking of Tender ----- | 12 |
| 18-3. Submission ----- | 13 |
| 18-4. Date for Submission of Tender ----- | 13 |
| 19. TENDER OPENING ----- | 13 |
| 20. TENDER EVALUATION ----- | 14 |
| 20-1. Stage-1: Contractual and Technical Evaluation ----- | 14 |
| 20-2. Stage-2: Price Evaluation ----- | 16 |
| 21. CLARIFICATION OF TENDER ----- | 17 |
| 22. ACCEPTANCE OF TENDER ----- | 17 |
| 23. AWARD OF THE CONTRACT ----- | 18 |

INSTRUCTIONS TO TENDERERS

1. GENERAL

- a. THE MINISTRY OF PUBLIC WORKS AND HOUSING (hereinafter referred to as “MPWH”), PROJECT MANAGEMENT UNIT (MPWH) of THE HASHEMITE KINGDOM OF JORDAN has received a loan from JAPAN BANK FOR INTERNATIONAL COOPERATION (hereinafter referred to as the “JBIC”) for the Tourism Sector Development Project, **National Museum Sub-Project**. The MPWH shall apply the loan towards the cost of the project and intends to apply the proceeds of the loan to eligible payments under this contract for which this invitation to tender is issued (hereinafter called "the Contract"). Disbursement of loan by the JBIC will be made only at the request of the MPWH and upon approval by the JBIC in accordance with the terms and conditions of the Loan Agreement No. JO-P11, dated 2nd December 1999 including “Guidelines for Procurement under JBIC ODA Loans” and will be subject in all respects to the terms and conditions of the said agreement. No party other than MPWH shall derive any rights from the Loan Agreement or have any claim to loan proceeds.
- b. Fund for the both foreign and local currency portions of the Project covered under this Contract is financed under the said Loan Agreement, and it is intended that proceeds of this loan will be applied to payment for the foreign and local currency portions under the Contract except Taxes and Duties which will be borne by the Government of the Hashemite Kingdom of Jordan (hereinafter referred to as the “Government”).
- c. The proceeds of the loan are required to be used with due attention to considerations of economy, efficiency and non-discrimination among countries which are eligible for procurement of goods and services (such countries are hereinafter called "The eligible source countries").
The list of Eligible Source Countries is included in the Appendix “M”
- d. Only those contractors who have been pre-qualified by the MPWH will be eligible to participate in this Tendering. The MPWH is required to submit to the JBIC a complete statement of the source and origin of the plant, materials and services furnished under the Contract. To assist the MPWH in this matter, the Tenderer shall submit a complete breakdown of the source or origin of all plant, materials and services furnished under the Contract.
- e. The Tenderer shall familiarize himself with the forgoing requirements and, in submitting a Tender. The Tenderer shall be deemed to have taken account of and complied with the Government laws, regulations, agreement, procurement procedure and other qualifying requirements.

2. GENERAL DESCRIPTION OF THE PROJECT

2-1 General

The Tenderer is required to submit tender proposal for supply of all labour, materials, plants and services required to complete supply, fabrication, construction, inspection, testing, packing and transporting to job-site, together with on-site installation and commissioning services related to Work entitled "NATIONAL MUSEUM SUB-PROJECT".

2-2 Project feature

Detail description of scope of the work required to the Contractor under this contract package, which shall be completed in a single package contract will be stated in Technical Specifications, Volume II of Tender Documents.

- a. Site Location: Ali Bin Abi Taleb Street, Ras Al-Ein, Amman

See the Location Map Drawing

- b. Development Site Area :15,600m²
- Building area in total : 4,090m²
 - Car parking area : 1,400m²
 - Entrance plaza : 1,560m²
 - Outdoor exhibition space : 700m²
 - Others (landscaping areas) : 7,850m²
- c. Building and associated facilities
- (a) Total floor area : 9,230m²
- Main building : 8,150m²
 - Basement floor : 2,910m²
 - Ground floor : 2,510m²
 - 1st floor (Mezzanine) : 590m²
 - 2nd floor : 2,140m²
 - Annex-building : 940m²
 - Ground floor : 940m²
 - Bridge : 140m²
- (b) Exhibition Galleries
- Permanent Gallery : 3,030m²
 - Temporary Gallery : 350m²
 - Outdoor Space : 700m²
- (c) Number of stories
- Main building : 3 stories and 1 basement floor
 - Annex building : 1 story
- (d) Type of structure: Reinforced concrete
- (e) Foundation type: Mat slab foundation
- (f) Other provisions
- Exhibition equipment and materials
 - Utility services
 - Landscaping and car parking

- General furniture and equipment

3. TENDER DOCUMENTS

a. The Tender Documents consist of the followings:

VOLUME I: TENDERING AND CONTRACTING REQUIREMENT

- INSTRUCTIONS TO TENDERERS

- FORM OF TENDER

- APPENDIXES

Appendix A: Schedule of Time, Rates and Conditions

Appendix B: Form of Agreement

Appendix C: Form of Tender Security

Appendix D: Form of Performance Security

Appendix E: Foreign Currency Requirement

Appendix F: Form of Advance Payment Security

Appendix G: Drawing List

Appendix H: General Construction Schedule

Appendix I : Temporary Facility Location Map

Appendix J : Site Investigation Report

Appendix K: Query Form

Appendix L: Tender Acknowledgement

Appendix M: List of Eligibility Countries

- ENCLOSURES

Enclosure No.1: Power of Attorney

Enclosure No.2: Certification of Submission of Tender Security

Enclosure No.3: Joint Operation Agreement

Enclosure No.4: Letter of Association

Enclosure No.5: Affidavit of Site Inspection

Enclosure No.6: Basic Program of The Work

Enclosure No.7: Contractor's Organization Chart

Enclosure No.8: Outline Construction Plan and Proposed Layout Plan for
Temporary Works

Enclosure No.9: List of Contractor's Equipment to be used on the Works

Enclosure No.10: List of Major Materials and Plant for the Works

Enclosure No.11: List of Sub-Contractors/ Suppliers

Enclosure No.12: List of Intended Import Material and Plant

Enclosure No.13: Breakdown of Major Rates

Enclosure No.14: Detailed Monthly Cash Flow of Anticipated Contract Payments

VOLUME II- SPECIFICATIONS

VOLUME III- BILL OF QUANTITIES

VOLUME IV- DRAWINGS

VOLUME V - CONDITIONS OF CONTRACT

PART (I) : GENERAL CONDITIONS OF CONTRACT

PART (II) : SPECIAL CONDITIONS OF CONTRACT

- b. The Tenderer, whether or not submits a tender proposal, shall treat all the Tender Documents as private and confidential. The Tenderer shall not use them other than for the preparation of his tender proposal and shall not in part or in whole reproduce or release them to any third party without prior written consent of the MPWH. The Tenderer, however, may transmit to a third party such part of the Tender Documents as necessary for the purpose of preparing his tender proposal provided that such third party undertakes to keep confidential. The MPWH may deem any violation of this secrecy obligation by such third party as the same by the Tenderer.

4. QUALIFICATION OF TENDERER

- a. Only those Tenderers who have been pre-qualified by the MPWH will be eligible to participate in this tendering.
- b. If a Tenderer has been pre-qualified in association with other companies as a joint venture, consortium and/or with one or more major subcontractors (a subcontractor responsible for more than Thirty percent (30%) of the total value of the work) this group must be jointly maintained in tendering and contracting, except that subcontractors, other than major subcontractors, can be included, excluded or substituted at any time subject to the approval of MPWH.
- c. Any pre-qualified Tenderer may not change his original joint operation partner(s) who has (have) been proposed at the stage of Prequalification and approved by the MPWH.
- d. No further joint operation is permitted with any other partner.
- e. During the Tender period, the Tenderer is obliged to attend all events announced officially by the MPWH.

5. VISITING PROJECT SITE

For the convenience of Tenderers, an official or representative of the MPWH will conduct a job-site visit at the time and on the date specified in the Invitation to Tender. It is mandatory that Tenderers participate in this visit.

Should the Tenderer required further visit and inspection of the site, the Tenderer may visit and inspect the site, on his own responsibility and at his own expense, to obtain all information that may be necessary for the purpose of preparing his Tender and entering into a Contract.

6. TENDERER UNDERSTANDING/EXAMINATION OF DOCUMENTS

- a. The Tenderer shall satisfy himself, by careful inspection as to the nature and location of the works, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the type of construction equipment and facilities needed for the execution of the works, the general and local conditions, the plant to be furnished and installed and all other matters which can in any way affect the work under the Contract. No verbal conversation with any officer, agent, or employee of the MPWH shall be deemed to affect or modify any of the terms or obligations of the Tender Documents.
- b. The Site investigation report is included in the Appendix “J” as a guide only for preparing his Tender, but without assurance as their accuracy or applicability and without prejudice to the Tenderer’s liability.
- c. The Tenderer shall be responsible for the examination and understanding of all parts of the Tender Documents furnished.
- d. All divisions or amendments to the Tender Documents shall be made through the formal addenda duly issued by the MPWH.
- e. Any neglect or failure on the part of the Tenderer to obtain reliable information and physical conditions on the spot or elsewhere, or any other matters affecting the execution, completion and maintenance of the Works, the Tender Price and the Contract shall not relieve the Tenderer whose tender proposal is accepted, of the responsibility for completing and handing over the Works as defined in the Contract.

7. LANGUAGE AND MEASUREMENT SYSTEM OF TENDER

All correspondence in connection with the Tender, the Contract and all matters accompanying the Tender shall be in English and all measurement and quantities are to be expressed in units of the SI System.

8. INTERPRETATION OF TENDER DOCUMENTS/PRE-TENDER MEETING

- a. The Tenderer is under obligation to attend a Pre-tender meeting at the Government Tenders Directorate of the MPWH in Amman or anywhere on a date and time specified in the Invitation to Tender.
- b. The meeting will be held for the purpose of clarifying any elements of the proposed work and

also for answering all written questions received from the prospective Tenderers before the time of the pre-Tender meeting and questions which may arise during the meeting.

- c. Should the Tenderer have any query on any matter concerning the Tender Documents, such query shall be sent to the MPWH in writing in the form provided in Appendix "K" not later than twenty-one (21) days prior to the Tender Opening Date. Each addendum to answer such query and/or to notify modifications will be issued by the MPWH Government Tenders Directorate not later than fourteen (14) days prior to the Tender Opening Date. Each Addendum will be distributed to all those who have been issued the Tender Documents and who shall acknowledge receipt of each Addendum by signing and returning the attached Receipt Form. All Addendum issued will become part of the Tender Documents.

9. TAXES AND CUSTOM DUTIES

- a. The Tenderer shall obtain all the information on Jordanian income tax, sales taxes, and other taxes and duties, and confirm the requirements thereof on his own responsibility.
- b. All taxes and duties, including custom duties and import taxes, levies in accordance with laws and regulations of the Hashemite Kingdom of Jordan in connection with the performance of the Works to be paid by the Contractor, (those taxes and duties shall be borne by the Government in accordance with the Sub-Clause 1, b of the Instructions to Tenderers), shall be deemed to be included in the Tender Price.
- c. Attention of the Tenderer shall be drawn to the fact that local regulations require special formalities to be complied with in connection with the ordering, purchasing and importing of materials and plant.

10. SIGNING

- a. A Tender by corporation shall be executed in the official corporate name followed by the signature and designation of the president, secretary or person(s) legally authorized to bind the corporation. A Power of Attorney granting the person to sign the Tender Proposal shall be enclosed with the tender proposal.
- b. A Tender by joint operation shall be executed and designated by one of the partners or by an authorized representative as specified hereinbefore.
- c. A power of Attorney giving authorization to sign as the representative of the corporation or the joint operation shall be attached to the Tender.

11. TENDER EXPENSE

All costs, charges and expenses incurred directly or indirectly by the Tenderer as to site visits and

investigations, the preparation and submission of his Tender including all accompanying documents, Tender Security, authentication and other incidental cost shall be borne by the Tenderer.

12. WITHDRAWAL

The Tender, once submitted, shall not be withdrawn by the Tenderer, for any reasons whatsoever. If the Tenderer withdraws before expiration of the Tender Validity, the amount of his Tender Security shall be forfeited to the MPWH by virtue of this Clause.

13. PREREQUISITE CONDITIONS

The MPWH reserves the right to:

- : Require clarifications from the Tenderer,
- : Reject any sub-contractor proposed,
- : Reject any alternative proposals deviating from original design requirements,
- : Require the Tenderer to submit satisfactory evidence of the proposed construction method, materials or plant and a like, before signing the Contract or to make additional submittals after signing the Contract.

14. DOCUMENT COMPRISING THE TENDER

The Tender shall be submitted only and in the form attached hereto as part of the Tender Documents and which shall be completed in strict accordance with instructions herein. Unless otherwise specifically remarked, any proposals made by other forms will not be accepted.

Tender shall comprise the following documents which are categorized into two packages.

PACKAGE –I DOCUMENTS shall contain all documents as encountered below with all the information except the value of the Tender. All prices, rates and totals comprising the Tender shall be entirely confined to the **PACKAGE - II DOCUMENTS**.

In case there is discrepancy between the original set and the copies of the Tender, the original shall govern.

14-1. Package - I Documents

- a. A notarized Power of Attorney issued by the Tenderer to his legal representative and signatory to the Tender Documents in accordance with Sub-clause 10) herein (marked as Enclosure No. 1).
- b. Certification of submission of Tender Security certifying the Tender Security has included in Package- II Documents (marked as Enclosure No.2)
- c. Joint Operation Agreement (marked as Enclosure No. 3)

- d. Letter of Association (marked as Enclosure No.4)
- e. Affidavit of Site Inspection (marked as Enclosure No. 5).
- f. A Basic Program of the Works (marked as Enclosure No.6).
- g. Organization and key personnel (marked as Enclosure No. 7).
- h. A Construction Plan and Temporary Works Plan (marked as Enclosure No.8).
- i. A List of Contractor's equipment (marked as Enclosure No. 9).
- j. A List of Major Materials and Plant (marked as Enclosure No. 10).
- k. List of sub-contractors/ suppliers (marked as Enclosure No.11).

14-2. Package - II Documents

- a. Form of Tender
- b. Tender Security (refer to Appendix C)
- c. Foreign Currency Requirement (refer to Appendix E)
- d. List of Intend Import Material and Plant (marked as Enclosure No.12)
- e. Breakdown of Major Rates. (marked as Enclosure No. 13).
- f. Detailed monthly Cash Flow of Anticipated Contractor Payments. (marked as Enclosure No. 14)
- g. Priced Bill of Quantities and Daywork Rate (refer to Volume III).

15. TENDER PRICE

The Tenderer shall calculate his Tender Price according to the instructions given herein and present these prices in the Form of Tender and Bill of Quantities in a manner specified herein.

15-1. Unit price base Contract

- a. Unless stated otherwise in the tendering documents, the Contract shall be for the whole Works as described in Clause 2, based on the schedule of unit rates and prices submitted by the Tenderer.

- b. Individual schedule rates and item prices, whether quoted on unit price basis or on a lump-sum basis in the Bill of Quantities, will be only used for purposes of tender evaluation and comparison, interim payments calculation, and, in some cases, of price basis for issuance of variation order as prescribed in the Conditions of Contract.
- c. The Bill of Quantities has an entry for each item on which payment shall be made and no other allowance of any kind shall be made unless specifically provided for in the Tender Documents. In the appropriate spaces provided for in the Bill of Quantities, opposite each Tender item, the Tenderer shall specify the unit rate or lump sum for the work and/or services included under the item. If the rate of an item is not filled in, the cost of that item shall be deemed to be included in the unit rate for other items.
- d. In case of discrepancy between the “Unit Rate” and the corresponding “Total Amount” entered for any item in the Bill of Quantities, the “Unit Rate” shall govern.

15-2. Currency of Tender

All rates and prices and each claim or statement for payment for work to be completed shall be expressed in terms of Jordanian Dinar.

The foreign currency (international traded currency) percentage quoted by the Tenderer in his Tender shall be on the basis of the justification made by the price analysis submitted by him as described below, giving the breakdown of the foreign and local components of the pay items specified in the Bill of Quantities.

The foreign currency component shall be calculated according to the following principles:

- a. Expenditures estimated to be incurred in Jordan for goods and services obtainable locally shall be classified as local component for all Tenderers
- b. A Tenderer from a foreign country should classify all expenditures to be incurred in other eligible source countries of the Japan Bank for International Cooperation (JBIC) for materials and plant (C.I.F. port of entry, Jordan) produced in and/or services supplied from such countries including salaries and wages of foreign personnel as well as the Contractor’s profits and his office overhead as foreign component expressed in the currencies of such countries and converted into Jordanian Dinar. A Tenderer from a foreign country shall, when so requested by the MPWH, produce letters of credit covering expenditures for material and plant.
- c. A Tenderer from Jordan shall classify only such expenditures estimated to be incurred in other eligible member countries of the JBIC for materials and plant (C.I.F. port of entry, Jordan) produced in and/or services supplied from such countries as foreign component expressed in Jordanian Dinar. A Tenderer from Jordan shall, when so requested by the MPWH, produce letters of credit covering such expenditures.

- d. The foreign exchange component in respect of construction equipment shall be limited to the value of depreciation of such equipment during the period of construction.
- e. On the basis of the price analysis made according to the above principles, each Tenderer shall enter in the Foreign Exchange Form included as Appendix “E”, in the Tender Documents, the required percentage of foreign currency in relation to the total amount of the Tendered Sum.
Should the Contractor fail to submit his detailed price analysis with his Tender, the required percentage of foreign currency shall be considered to be nil irrespective of percentage of foreign currency stated by the Tenderer in Appendix “E”, Foreign Exchange.
- f. The foreign exchange rates that should be applied in the calculation of the unit rates and /or lump-sum prices of the Foreign Currency Component are to be entered in Appendix “E”, Foreign Exchange. The rate shall be the T/T Buying Rate for the Jordanian Dinar, available from the Central Bank of Jordan, prevailing twenty-eight (28) days prior to the date of the opening of the Tenders.”
The Currency Exchange Rate stated in the Appendix “E”, Foreign Exchange, is fixed duration of the Contract Period.

16. TENDER VALIDITY

- a. Tender shall remain valid and open for acceptance for a period of ninety (90) days after the date of Tender Opening prescribed in Clause 19. (Tender Opening).
- b. In exceptional circumstances, prior to expiry of the original Tender validity period, the MPWH may request the Tenderer for an extension of the period of Validity. The request and responses thereto shall be made in writing.
- c. The Tenderer will be required to extend, at his own expense, the validity of his Tender correspondingly. The provision of Clause 17 regarding discharge and forfeiture of Tender Security shall be continue to apply during extended period of Tender validity.

17. TENDER SECURITY

- a. The Tenderer shall furnish, as a part of his Tender, a Tender Security in the form of Bank guarantee in the amount of J.D. ----- issued by bank acceptable to the MPWH.
The “Form of Tender Security” is included as Appendix C in the Tender documents.
- b. The Tender Security shall be valid for thirty (30) days beyond the validity of the Tender.
- c. Where the Tenderer is a single company, the Security shall be in the same name of that company. Where the Tenderer is a joint venture/consortium, the Security shall be in the name of joint venture/consortium as expressed in the Tender.

- d. The Tender Security of unsuccessful Tenderers will be discharged/returned as promptly as possible, and in any case not later than thirty (30) days after the expiration of the period of Tender Validity.
- e. The Tender Security of the successful Tenderers will be discharged when the successful Tenderer has signed the Contact Agreement and furnished the required Performance Security.
- f. The Tender Security may be forfeited:
 - 1) if a Tenderer withdraw his Tender during the period of Tender validity; or
 - 2) if a Tenderer fail to accept the change in the Tender Price after arithmetical checking in accordance with the Tender Documents
 - 3) in case of the successful Tenderer, if he fails within the specified time limit to:
 - (i) sign the Contract Agreement, or
 - (ii) furnish the required Performance Security

18. SUBMISSION OF TENDER

18-1 Format and Signing of Tender

- a. The Tenderer shall submit one (1) Original and Five (5) copies of all the documents comprising the Tender, clearly marked “ORIGINAL” and “COPY” as appropriate. In case there is discrepancy between the original set and the copies of the Tender, the original shall govern.
- b. The original and copies of the Tender shall be typed in indelible ink. The Tender, Appendix to Tender, Enclosure No. 1 to 14, together with all Summary, Final Summary and Overall Summary pages of the Bill of Quantities shall be signed by a person (or persons) duly authorized to bind the Tender. Proof of authorization shall be furnished in the form of written Power of Attorney which shall accompany the Tender. All pages of the Tender, where necessary, entries or amendments have been made in line with addenda (Notice to Tenderer) shall be signed by the person (persons) signing the Tender.
- c. The complete Tender shall be without alteration or erasures, except those to accord with written Notice to Tenderers issued by the MPWH or as necessary to correct errors made by the Tenderer, in which case such corrections shall be initialed by the person (or persons) signing the Tender.
- d. All pages of the Tender, except those referenced in Clause 18-1,b above, shall be initialed by the person (or persons) signing the Tender.

18-2. Sealing and Marking of Tender

- a. The Tenderer shall seal the Original and each Copy of the documents, comprising the Tender, in an inner envelope and outer envelope or container with the list of contents, and signed by the Tenderer, duly marking the envelope or container as “ORIGINAL” and “COPY” as appropriate.
- b. Package –I and Package –II Documents shall be submitted in separate envelope or container in the same manner specified in Sub-clause 18-2, a, above.
- c. Each complete set of Tender Documents shall be in envelope or container and shall consist of:

PACKAGE – I DOCUMENTS

Contained in a sealed envelope or container bearing the following identification:

THE MINISTRY OF PUBLIC WORKS AND HOUSING, JORDAN
GOVERNMENT TENDERS DIRECTORATE
Eighth Circle, Albiader Street, Amman.

**TENDER FOR THE TOURISM SECTOR DEVELOPMENT PROJECT
NATIONAL MUSEUM SUB-PROJECT**

PACKAGE – I DOCUMENTS

(Name of Tenderer)

(ORIGINAL or COPY, as appropriate)

PACKAGE – II DOCUMENTS

Contained in a sealed envelope or container bearing the following identification:

THE MINISTRY OF PUBLIC WORKS AND HOUSING, JORDAN
GOVERNMENT TENDERS DIRECTORATE
Eighth Circle, Albiader Street, Amman.

**TENDER FOR THE TOURISM SECTOR DEVELOPMENT PROJECT
NATIONAL MUSEUM SUB-PROJECT**

PACKAGE – II DOCUMENTS

(Name of Tenderer)

(ORIGINAL or COPY, as appropriate)

18-3. Submission

- a. The envelope or container shall be personally delivered by the Tenderer or his duly authorized representative to the address stated Sub-clause 18-2, f. above, and shall be received by the MPWH only during the submission time and date announced in the Letter of Invitation to Tenderer. The Tender sent by cable, telex or facsimile will not be accepted.
It is to be fully understood that any risk accompanied by the submission of his Tender Proposal until its physical receipt by the MPWH shall solely rest with the Tenderer.
- b. Each envelope or container will be time/date-stamped by the MPWH as it is received and will be maintained, sealed and safeguarded in the place with routine security and confidentiality.
- c. Any Tender that has been submitted in the period other than specified by the MPWH shall be rejected, for any reasons whatsoever.
- d. No alteration or modification of the Tender, once submitted, shall be accepted.
- e. The Tenderer shall inform the MPWH, within seven (7) days of receipt of Tender Documents, as to whether he intends to submit the Tender or not by filling the form of Request for Tender Acknowledgement Appendix "L".

18-4. Date for Submission of Tender

- a. Tender must received by the MPWH Government Tenders Directorate at the MPWH OFFICE on the date and period specified in the Invitation of Tender.
- b. The MPWH may, at their discretion, extend the closing date for submission of Tenders by issuing addendum in accordance with the Clause 8, (Interpretation of Tender Documents /Pre-tender meeting), in which case all rights and obligations of the MPWH and the Tenderers previously subject to the original submitting date shall thereafter be subject to the new submitting date as extended.
- c. Any Tender submitted to the MPWH other than during the time and date specified for submission of Tenders shall be returned un-open to the Tenderer.

19. TENDER OPENING

- a. The MPWH will open the Tender in the presence of Tenderer's representatives who choose to attend the opening of Tender at the Government Tenders Directorate.
- b. The Tenderer's authorized representatives who are present shall sign a register as evidence of attendance.
- c. Any Tender for which acceptable Notice of Withdrawal have been submitted shall not be opened.

- d. The MPWH will announce the Tenderer's names, withdrawals (if any) and the names of Tenderers who have not submitted their Tenders.
- e. The MPWH shall prepare, for their own records, minutes of the Tender Opening, including the information disclosed to those present in accordance with Sub-Clause 19, b, above.
- f. The MPWH will open Package -I Documents to examine the Tender to determine whether they are complete, whether the documents have been properly signed, and whether the documents are generally in order in accordance with Sub-Clause 18 of the Tender Documents.
- g. Should the Package -I Documents of the Tender be determined by the MPWH to be not in compliance with the requirements of the Tender Documents, then such Tender shall be rejected and returned to the Tenderer.
- h. Deviations and omissions will be recorded. Incomplete Package –I Documents will be returned to the Tenderer and results in termination of the Tender to participate in the subsequent phase of the Tender.

20. TENDER EVALUATION

- a. Evaluation of Tender will be made by the MPWH and MPWH's representative based on the criteria briefly stipulated hereinafter.
- b. Evaluation of Tender shall be processed in "Two Stage System" as follows:
 - 1) Stage –1: Contractual and Technical Evaluation of the Package –I Documents
 - 2) Stage –2: Price appraisal of the Package –II Documents
- c. The MPWH reserve the right to accept or reject any or all Tenders and is not bound to accept the lowest Tender. The MPWH shall not be liable for any claim regarding the procedure of the evaluation of the Tendering and shall not be bound to give any reasons for his decision to any Tenderer.

20-1. Stage – 1: Contractual and Technical Evaluation

(Package –I Documents)

- a. The Tenders submitted by qualified Tenderers shall be evaluated for contractual and technical qualification.
- b. The weighting system will be utilized for technical evaluation. The Tender scoring more than the predetermined level of each evaluation item will be deemed to be technically qualified.
- c. Contractual appraisal and technical evaluation shall include an examination of:
 - 1) Power of Attorney (Enclosure No.1)
A notarized Power of Attorney issued by the Tenderer to his legal representative and

signatory to the Tender Documents in accordance with Sub-clause 10 herein

- 2) Certification of submission of Tender Security (Enclosure No.2)
Certifying the Tender Security is included in Package –II Documents.
- 3) Joint Operation Agreement (Enclosure No.3)
In case the Tenderer joins this Tender on joint operation bases, he shall submit the joint operation agreement, giving proof that the Tender is binding upon all the participants of the joint operation and that they are jointly and severally responsible for the tender proposal and the subsequent Contract.
- 4) Letter of Association (Enclosure No.4)
In case the Tenderer, whether a single or joint contractor, utilizes a sub-contractor(s) for certain field of work, he shall submit a Letter of Association obtain from each of the participating sub-contractor(s) giving proof that the participating sub-contractor(s) will work under the control and management of the Tenderer but the Tenderer is wholly and fully responsible for the Tender and the subsequent Contract.
- 5) Affidavit of Site Inspection (Enclosure No.5)
- 6) Basic Program of the Works (Enclosure No.6)
Basic Program of Construction and installation of the Works including detailed construction schedule utilizing CPM method. The construction/installation of the Works shall be completed within twenty-four (24) months from the commencement date including all Key dates/periods stated in the Appendix “H”.
- 7) Organization and Key Personnel (Enclosure No.7).
The ability of the Tenderer to organize and manage the Project shall be evaluated to ensure the quality of performance in consideration of the time of completion of the Works.
The Organization Chart indicating all designations and positions of the construction management exhibition specialist and supervisory personnel including their appropriate curricula vitae, and a monthly staff manpower requirement chart for the total Contract Period, divided into local and foreign personnel.
Separate sheet of Proposed Maintenance Organization Chart during and after the Defect Liability Period.
- 8) Outline Construction Plan and Temporary work plan (Enclosure No. 8).
The Construction plan including, layout plan for temporary works, method statement, description of sequence, and quality and safety control procedures.

A Construction Plan and Proposed Layout Plan for Temporary Works of project sites showing the Tenderer’s proposed temporary roads, construction plan, temporary facilities,

such as, camps, offices, workshops, storage, etc.. The designated location and area for the Temporary facilities is included in the Appendix "I".

Construction/installation plan proposed by the Tenderer will be examined from the construct ability aspect.

During NATIONAL MUSEUM SUB-PROJECT Construction Works, other Contractors may work in the vicinity of the site area. Therefore, it shall be of critical importance to take some careful and appropriate measures for coordination among the different categories of works to ensure the safety of the construction works.

- 9) A List of Contractor's equipment to be used in the Work (Enclosure No. 9).
Items such as quality, capacity and year of service and mobilization of the Contractor's equipment proposed by the Tenderer to be used for the Works shall be evaluated.
 - 10) The list of major materials and plants (Enclosure No. 10).
A List of Major Materials and Plant to be incorporated into the Works as called for in the Specifications together with necessary catalogues, brochures and technical supporting details submitted by the Tenderer will be evaluated.
 - 11) List of sub-contractors/suppliers (Enclosure No.11).
A List of sub-contractors/suppliers together with reference of proposed sub-contractors/suppliers submitted by the Tenderer shall be evaluated.
- d. If Package - I Documents of the Tender are found not contractually and technically qualified, then the corresponding Package - II Documents of the Tender will not be opened and will be returned to the Tenderer.

20-2. Stage – 2: Price Evaluation

(Package –II Document)

- a. The MPWH will open the Package - II Documents of the Tenders, which have been contractually and technically qualified, in the presence of those Tenderer's authorized representative at Government Tenders Directorate, at the time and date to be notified at the address stated in their Tenders.
- b. The contractually and technically qualified Tenderer's authorized representatives who are present shall sign a register as evidence of attendance.
- c. The MPWH shall prepare, for their own records, minutes of the Tender Opening, including the information disclosed to those present.
- d. The MPWH will open the Package - II Documents to examine Tender to determine whether they are complete, whether the documents have been properly signed, and whether the

documents are generally in order.

- e. Should the Package - II Documents of the Tender be determined by the MPWH to be not in compliance with the requirements of the Tender Documents, then such Tender shall be rejected and returned to the Tenderer.
- f. At this opening, the Tenderers satisfying the requirements of Package - II Documents will have their names and *Tender Prices* announced.
- g. The Tenders that have passed the contractual and technical evaluation and the foregoing requirements will then be checked arithmetically and evaluated financially.
- h. Any arithmetic errors in computation and summation will be corrected by the MPWH as follows:
 - 1) Where there is a discrepancy between amount quoted in figures and quoted in words, the amount in words will govern and
 - 2) Where there is a discrepancy between the unit rate and the total amount derived from the multiplication of the unit rate and the quantity, the unit rate as quoted will govern, unless in the opinion of the MPWH there is an obviously gross misplacement of the decimal point on the unit rate, in which event the total amount as quoted will govern and the unit rate will be corrected.
- i. The amount stated in the Tender will be adjusted by the MPWH in accordance with the above procedures for the correction of errors with the concurrence of the Tenderer, and it shall be considered as binding upon the Tenderer. If the Tenderer will not accept the corrected amount of the Tender, his Tender will be rejected and his Tender Security will be forfeited.
- j. The Tender Prices and Breakdown of Major Rates will be evaluated in comparison with the estimated cost of the Project, which has been authorized by the MPWH.
Where there is a gross discrepancy between the prices of the Work in the Tender and in the MPWH estimation, the Tenderer may be asked for further clarification of his Tender.

21. CLARIFICATION OF TENDER

To assist the examination, evaluation and comparison of the Tender, the MPWH may ask the Tenderer for clarification of his Tender. The request for clarification and response shall be in writing and no change in the proposed prices or substance of the Tender shall be permitted.

22. ACCEPTANCE OF TENDER

- a. The MPWH shall accept only the Tender which is considered the most advantageous and in the best interest of the MPWH.

- b. The decision of the MPWH with respect to acceptance of Tender shall be final and no correspondence or communication on the matter will be entered into.
- c. The MPWH reserves the right to reject any or all Tenders, to waive any required formality in the Tenders received, and to disregard any Tender which is obviously unbalanced, particularly on the major items. The right is also reserved to reject the Tender of any Tenderer who has previously failed to satisfactorily perform or complete any construction contract undertaken by him.
- d. Acceptance of Tender will be communicated to the successful Tenderer by a Letter of Acceptance to the address indicated in his Tender.

23. AWARD OF THE CONTRACT

- a. The successful Tenderer will receive a Letter of Acceptance from the MPWH and will be required to enter into a Contract Agreement. Award of this Tender shall be subject to prior approval of the Ministry of Public Works and Housing, The Hashemite Kingdom of Jordan and JBIC.

The MPWH reserves the right to cancel the Letter of Acceptance at any time before signing the Contract without any liability to the successful Tenderer.

- b. After receipt of the Letter of Acceptance, the successful Tenderer shall submit a Performance Security within fourteen (14) days as specified in the Conditions of Contract and sign the Contract in the form attached within the time specified in the said notice. In return for submission of the Performance Security, the Tender Security shall be released to the successful Tenderer.
- c. The awarded Tenderer shall dispatch a duly authorized person(s) at his cost to the place where the MPWH designates for negotiating and entering into a Contract Agreement.
- d. The MPWH will issue the Notice to Proceed the Work within fourteen (14) days after receipt of the performance Security submitted by the Contractor. The commencement of the Contract will start within twenty-eight (28) days from the issuing date of the written Notice to Proceed the Work, when the Contractor commence the work as defined as the Date of Commencement of the Works.

APPENDIX

| | |
|------------|---|
| APPENDIX A | :Schedule of Time, Rates and Conditions |
| APPENDIX B | :Form of Agreement |
| APPENDIX C | :Form of Tender Security |
| APPENDIX D | :Form of Performance Security |
| APPENDIX E | :Foreign Currency Requirement |
| APPENDIX F | :Form of Advance Payment Security |
| APPENDIX G | :Drawing List |
| APPENDIX H | :General Construction Schedule |
| APPENDIX I | :Temporary Facilities Location Map |
| APPENDIX J | :Site Investigation Report |
| APPENDIX K | :Query Form |
| APPENDIX L | :Tender Acknowledgement |
| APPENDIX M | :List of Eligibility Countries |

APPENDIX A

SCHEDULE OF TIME, RATE AND CONDITIONS

SCHEDULE OF TIME, RATES AND CONDITIONS

| <u>Subject</u> | <u>Sub-Clause in Conditions of Contract</u> |
|--|---|
| Ruling Language | 5.1 English |
| Amount of performance Security | 10.1 Ten percent (10%) of the respective currency component of the total contract Sum stated in the Contract Agreement |
| Submission of Performance Security | 10.2 within fourteen (14) days from after receipt of Letter of Acceptance |
| Minimum amount of Third Party Insurance | 23.2 JD. 600,000- |
| Period for submission of Insurance | 25.1 Within twenty-eight (28) day of the commencement date |
| Time for Completion of the Works | 43.1 Twety- four (24) months after Commencement date |
| Period for commencement from the Employer's Notice to Proceed | ITT 23, d Twenty-eight (28) days |
| Delay damages for the Works | 47.1 a 1/1,000 (0.1%) of the final Contract Sum per day, in the currencies and proportions in which the Contract Sum is payable. |
| Maximum amount of liquidated damages | 47.1 a Five percent (5 %) of the final Contract Sum |
| Defect liability period | 49.1 365 Days |
| Number of Installment | 60.2 Monthly progress payment |
| Period for Engineer's review of Contractor's monthly statement | 60.2 Twenty-eight (28) days |
| Plant and Materials for payment when delivered to the Site | 60.3 Eighty percent (80%) of plant and materials rate |
| Percentage of Retention | 60.5 Five percent (5%) of the Accepted Contract Sum |
| Limit of retention Money | 60.5 Five percent (5%) of the Accepted Contract Sum |
| Payment of Retention Money | 60.6 Fifty percent (50%) upon issuance of Taking-Over Certificate Fifty percent (50%) upon expiration pf Defect Liability Period |
| Total Advance Payment | 60.7, a) Fifteen percent (15%) of the Accepted Contract Sum |
| Repayment amortization of Advance Payment | 60.7, a) Twenty percent (20%) from progress payments |
| Completion of repayment of Advance Payment | 60.7, b) Prior to eighty percent (80%) of Contract Sum certified |
| Period of Interim Payment | 60.8 Within fifty-six (56) days from receipt of Contractor's monthly statement |
| Interest Rate | 60.8 ____ %, _____ |
| Time for Payment | 60.11 Forty-five (45) days after delivery of payment certificate the Employer |
| Currencies and proportions | 72.2 ____ %, _____ ____ %, _____ |

APPENDIX B

FORM OF AGREEMENT

THE HASHEMITE KINGDOM OF JORDAN
THE MINISTRY OF TOURISM & ANTIQUITIES

FORM OF AGREEMENT

FOR

THE TOURISM SECTOR DEVELOPMENT PROJECT
NATIONAL MUSEUM SUB-PROJECT

FORM OF AGREEMENT
FOR
CONSTRUCTION
OF
TOURISM SECTOR DEVELOPMENT PROJECT
NATIONAL MUSEUM SUB-PROJECT

LOAN AGREEMENT: NO. JO-P11

THIS FORM OF AGREEMENT made on the ----- day of -----, 2000

BY AND BETWEEN

The MINISTRY OF PUBLIC WORKS AND HOUSING (MPWH) of THE HASHEMITE KINGDOM OF JORDAN, Mr. Nasir Madadha, the General Director of Government Tenders directorate, with address at Eighth Circle, Albiader Street, Amman, The Hashemite Kingdom of Jordan, hereinafter referred to as the "EMPLOYER".

AND

Organized and existing under the law of the -----, for this purpose represented by Mr.----- duly authorized to negotiate and sign this Contract Agreement by virtue of Power of Attorney dated -----,
Having its office in -----,
Hereinafter referred to as the "CONTRACTOR".

WITNESSTH

WHEREAS the EMPLOYER is desirous that the execution and completion of the Works included in the Contract Agreement;

NOR THEREFORE BOTH PARTIES HERETO AGREE AS FOLLOWS:

1. In this Contract Agreement words and expression shall have the same meaning as are respectively assigned to them in the Contract Documents hereinafter referred to.
2. The following documents (hereinafter referred to as the "Contract Documents") shall be deemed to form and be read and as an integral part of this Contract Agreement, namely;
 - (a) The Tender and Appendix to Tender
 - (b) The Conditions of Contract
 - (c) The Specification
 - (d) The Drawings
 - (e) The Bill of Quantities
 - (f) Instructions to Tenderers
 - (g) The Notice to Tenderers
 - (h) The Letter of Acceptance
 - (i) The addenda and Supplements to any of the above documents
 - (j) The accomplished Prequalification Documents
 - (k) And other documents forming part of the Contract such as Letter of Approve by the Engineer, etc.
3. In consideration of the payments to be made to the CONTRACTOR as hereinafter mentioned the CONTRACTOR hereby covenants with the EMPLOYER to execute and complete the Works in conformity in all respects with the provisions of the Contract Documents.
4. The EMPLOYER hereby covenants to pay the CONTRACTOR in consideration of the execution and completion of the Works the Contract Sum at the times and in the manner prescribed in the Contract Documents.

5. The Contract Sum to be paid by the EMPLOYER to the CONTRACTOR subject to the requirements of this Contract is:

a. amount in works Jordanian Dinar _____

(J.D. _____)

b. amount in works United States Dollar _____

(US\$, _____)

6. The payment to the CONTRACTOR shall be made in Jordanian Dinar and United States Dollar. The amount of Jordanian Dinar and Foreign Currencies certified by the Ministry of Public Works and Housing shall be paid by bank check issued by the Ministry of Public Works and Housing in favor of the CONTRACTOR.

7. Advance Payment being fifteen percent (15%) of the respective currencies, equal to;

a. amount in works Jordanian Dinar _____

(J.D. _____)

b. amount in works United State Dollar _____

(US\$, _____)

shall be made by the EMPLOYER to the CONTRACTOR, against an invoice from the CONTRACTOR and submission of Bank Guarantee for Advance Payment acceptable to the EMPLOYER, for the amounts received.

The Advance Payment Security shall be denominated in the respective currencies.

8. The Time for Completion of the Works shall be within Twenty-four (24) months from the Commencement Day.

The Defect Liability Period shall be Three hundred thirty-five (365) days calculated according to Sub-Clause 49.1 of the Conditions of Contract.

9. This Contact Agreement shall become effective upon the date the latest of the following conditions have been satisfied;

- a. Each of the parties shall have signed this Contract Agreement
- b. The CONTRACTOR shall have provided to the EMPLOYER an acceptable Performance Guarantee.
- c. Relevant approval of this Contact Agreement has been obtained from the Government of the Hashemite Kingdom of Jordan, and concurrence by the Japan Bank for International Cooperation. (JBIC).

IN WITNESS WHEREFORE, the parties have caused this Contract Agreement to be executed by their respective duly authorized and empowered officers, on the day and year first above written.

CONTRACTOR

THE MINISTRY OF PUBLIC WORKS AND
HOUSING
GOVERNMENT TENDERS DIRECTORATE

Witness:

Witness:

APPENDIX C

FORM OF TENDER SECURITY

FORM OF TENDER SECURITY

The Ministry of Public Works and Housing
Government Tenders Directorate

TENDER SECURITY

KNOWN BY ALL MEN these presents that, we, _____

_____ agree to provide this TENDER SECURITY to the
Ministry of Public Works and Housing of the Hashemite Kingdom of Jordan, (hereinafter referred to
as the "EMPLOYER"), at the following terms:

1. _____,

(hereinafter referred to as the "TENDERER"), has prepared a TENDER in accordance with
the Tender Documents for the Construction of NATIONAL MUSEUM SUB-PROJECT for
the TOURISM SECTOR DEVELOPMENT PROJECT, and it is a condition of the aforesaid
Tender Documents that the Tenderer shall furnish a Tender Security in each of the respective
currency components of the Tender Price.

2. In submitting his Tender, the Tenderer agrees to furnish a TENDER SECURITY through the
above named BANK in the sums of;

a. amount in words Jordanian Dinar _____

(J.D. _____)

3. We agree to be the GUARANTOR to the EMPLOYER for the TENDER SECURITY in the
above sum.

4. In the Tenderer, who has submitted the Tender, does not abide by the TENDER or any related conditions contained in the Tender Documents, we agree to pay above sums to the EMPLOYER within fourteen (14) days after receiving written notification from the EMPLOYER of the default of the TENDERER.

5. This TENDER SECURITY is effective from _____ to _____, 2000.
We agree that we may be requested to extend the aforementioned effective period. The TENDER SECURITY shall be effective from the date for submission of Tenders until hundred twenty (120) days after the date of Tender Opening and required extension thereof.

6. Notification to pay shall be issued by the EMPLOYER not later than thirty (30) days after the expiry date of the TENDER SECURITY.

7. This TENDER SECURITY will be ineffective if;
 - a. The TENDERER has accomplished his works in accordance with the Tender Documents even if the expiry date is not due yet.

 - b. No notification to pay is issued by the EMPLOYER after thirty (30) days from the expiry date of the TENDER SECURITY and is no longer effective.

8. The TENDER SECURITY shall be returned to us after the Security has been fulfilled or becomes ineffective.

IN WITNESS WHEREOF, the authorized representative of the _____
_____, has hereunto affixed his signature, this
date _____, 2000.

Signature: _____

Name of Signatory: _____

Position: _____

Note: to be signed and sealed by the authorized representative of the Guarantor.

APPENDIX D

FORM OF PERFORMANCE SECURITY

FORM OF PERFORMANCE SECURITY

The Ministry of Public Works and Housing
Government Tenders Directorate

PERFORMANCE SECURITY

1. WHEREAS the Ministry of Public Works and Housing of the Hashemite Kingdom of Jordan, (hereinafter referred to as the “EMPLOYER”) has awarded a Contract for the TOURISM SECTOR DEVELOPMENT PROJECT, NATIONAL MUSEUM SUB-PROJECT to _____, (hereinafter referred to as the “CONTRACTOR”) in the sums of :

a. amount in words Jordanian Dinar, _____

(J.D. _____)

b. amount in words United States Dollar, _____

(US\$. _____)

2. WHEREAS the CONTRACTOR is bound by the said Contract to submit to the EMPLOYER a PERFORMANCE SECURITY for the amount of :

a. amount in words Jordanian Dinar, _____

(J.D. _____), which is correspond to ten percent (10%) of the local currency portion of the Contract Sum.

b. amount in words United States Dollar, _____

(US\$. _____) which is corresponding to ten percent (10%) of the foreign currency portion of the Contract Sum.

3. Now, We, underwriters responsible and representative of

(hereinafter referred to as the "GUARANTOR") and fully authorized to sign and to incur obligation in the name of the GUARANTOR, hereby declare that the GUARANTOR shall guarantee the EMPLOYER the full amount as set forth Clause 2 above.

4. After the CONTRACTOR has signed the Contract Agreement with the EMPLOYER, the GUARANTOR shall be liable to pay the full amount as aforesaid upon first written demand from the EMPLOYER if the CONTRACTOR fails to comply with the terms and conditions of the Contract.

Provided always that no alteration in terms and conditions of the Contract Agreement between the EMPLOYER and the CONTRACTOR or in the nature of the Works to be constructed, completed and maintained thereunder and no allowance of time by the EMPLOYER under the Contract nor any forbearance or forgiveness in or respect of any matter concerning the Contract on the part of the EMPLOYER shall in any way release the GUARANTOR from any liability under this SECURITY.

The GUARANTOR shall deliver the said amount to the EMPLOYER immediately without delay against your receipt accompanied by your written statement certifying that the CONTRACTOR failed to comply with the Contract terms and conditions and without it being necessary to give any reason.

5. The GUARANTOR shall be valid for the whole of the Time for Completion and any extension thereof, the Defect Liability Period and for the period thereafter until the receipt by the CONTRACTOR of a Defect Liability Certificate issued in accordance with Conditions of Contract Sub-Clause 62.1.

6. If at any during the validity period of the SECURITY, the EMPLOYER grants an extension of time to the CONTRACTOR, or the Contract, the GUARANTOR shall extend this SECURITY under the same conditions for the required time.

7. Until the EMPLOYER shall issue an instruction to the GUARANTOR to the effect that this SECURITY may be released, the GUARANTOR undertakes, notwithstanding the validity period as stated in Clause 5 herein, to extend the validity under the same conditions for successive period at a time and to forward the appropriate extension to the EMPLOYER.

8. As a declaration of good faith, the legal representative of the GUARANTOR hereby signs, seals and delivers this SECURITY on the date _____ , _____, 2000.

In witness whereof, the authorized representative of the

Has hereunder affixed his signature, this date _____ , _____, 2000.

Signature: _____

Name of Signatory: _____

Position: _____

Note: to be signed and sealed by authorized representative of the Guarantor.

APPENDIX E

FOREIGN CURRENCY REQUIREMENT

APPENDIX E

FOREIGN CURRENCY REQUIREMENT

| DESCRIPTION | TOTAL AMOUNT IN JORDANIAN DINAR (J.D.) (Carry from BOQ) | CURRENCY REQUIREMENT | | |
|----------------------|--|---------------------------|---------------------------------|------------------|
| | | LOCAL CURRENCY | FOREIGN CURRENCY | |
| | | JORDANIAN DINER (J.D.) | UNITED STATES DOLLAR (US\$) | Exchange Rate |
| I PRELIMINARIES | (1) | | | |
| II CONSTRUCTION COST | (1) | | | |
| III PROFIT | | | | |
| IV SALES TAX (%) | | | | |
| TOTAL | | | | |
| * -1 | | (2) | (3) | * -2 (4) |

Note:

*-1: Column (1) must be the same amount stated in the General Summary page of the Bill of Quantities.

Column (3) shall be the United States Dollar equivalent of the amount of J.D. stated in the Foreign Portion columns of the Bill of Quantities.

*-2: Column (4) shall be the T/T buying rate published by the Central Bank on the 28 days prior to the Tender Submission.

The Rate(s) in column (4) shall be fixed duration of Contract Period in accordance with the Clause 72.1 of the Conditions of Contract.

*-3: Price in Column (2) and (3) shall be carried to the Form of Tender

(Signature and name of authorized representative of Tenderer)

(name of Tenderer)

APPENDIX F

FORM OF ADVANCE PAYMENT SECURITY

FORM OF ADVANCE PAYMENT SECURITY

The Ministry of Public Works and Housing
Government Tenders Directorate

ADVANCE PAYMENT SECURITY

1. WHEREAS the Ministry of Public Works and Housing of the Hashemite Kingdom of Jordan, (hereinafter referred to as the "EMPLOYER") has signed a Contract Agreement with : (hereinafter referred to as the "CONTRACTOR") for the TOURISM SECTOR DEVELOPMENT PROJECT, NATIONAL MUSEUM SUB-PROJECT on _____, 2000,

2. WHEREAS according to the Contract, an Advance Payment consisting of fifteen percent (15%) of the respective currencies component of the Contract Price (hereinafter referred to as the "ADVANCE PAYMENT") shall be paid by the EMPLOYER to the CONTRACTOR.

3. Now, We, underwriters responsible and representative of _____, _____ (hereinafter referred to as the "GUARANTOR") and fully authorized to sign and to incur obligation in the name of the GUARANTOR, hereby declare that the GUARANTOR shall guarantee the EMPLOYER up to the full amounts of;
 - a. amount in words Jordanian Dinar, _____

(J.D. _____)

 - b. amount in words United States Dollar, _____

(US\$. _____)

4. If the CONTRACTOR, after receiving the ADVANCE PAYMENT, should fail to commence or continue the Works or refuse to repay or default in the repayments of the ADVANCE PAYMENT, whatever the reason, the GUARANTOR shall forthwith return to the EMPLOYER the whole, or the remaining ADVANCE PAYMENT after deduction of any of the ADVANCE PAYMENT received by the EMPLOYER. The GUARANTOR shall deliver the money owed to the EMPLOYER upon the EMPLOYER's first demand, without delay and without the necessity of a previous notice, or judicial procedure and without it being necessary to prove to the GUARANTOR the shortcoming of the CONTRACTOR.

5. We understand that the total amount of this Security may be successively reduced but only after each payment by the CONTRACTOR has been made in accordance with the requirements of the Contract and then only after we have received a written official notification from the EMPLOYER of the amount of reduction that shall be applied.

6. This Security shall remain valid until the EMPLOYER shall issue a written instruction to us to the effect that the CONTRACTOR has completely discharged his payment obligation under the aforementioned Contract excluding fourteen day (14) days claim period.

7. The GUARANTOR hereby waives the priority right to claim for attachment and disposal of the property of Debtor for the settlement of the obligation of Debtor prior to the payment of the Guaranteed amount.

8. This Security is hereby execute by seal and hand by the responsible representative of the GUARANTOR this _____day of _____, 2000.

Signature: _____

Name of Signatory: _____

Position: _____

Note: to be signed and sealed by authorized representative of the Guarantor.

APPENDIX G

DRAWING LIST

DRAWING LIST

Architecture Drawings

| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|------------|--------------------|--|--------------|
| 1 | | Cover | |
| 2 | A-001 | Project Title, Drawing List | NS |
| 3 | A-002 | General Note | NS |
| 4 | A-003 | Finishing Schedule (1) | NS |
| 5 | A-004 | Finishing Schedule (2) | NS |
| 6 | A-005 | Floor Area Schedule | 1/400 |
| 7 | A-006 | Site Location, Existing Site Plan | 1/400 |
| | | | |
| 8 | A-101 | Site Plan | 1/400 |
| 9 | A-102 | Basement Floor Plan | 1/200 |
| 10 | A-103 | Ground Floor Plan | 1/200 |
| 11 | A-104 | First Floor Plan | 1/200 |
| 12 | A-105 | Second Floor Plan | 1/200 |
| 13 | A-106 | Roof Floor Plan | 1/200 |
| 14 | A-107 | Top Roof Plan | 1/200 |
| | | | |
| 15 | A-201 | Elevation (1) - North, South Elevation | 1/200 |
| 16 | A-202 | Elevation (2) - East, West Elevation | 1/200 |
| 17 | A-203 | Section (1) | 1/200 |
| 18 | A-204 | Section (2) | 1/200 |
| | | | |
| 19 | A-251 | Wall Section (1) | 1/50 |
| 20 | A-252 | Wall Section (2) | 1/50 |
| 21 | A-253 | Wall Section (3) | 1/50 |
| 22 | A-254 | Wall Section (4) | 1/50 |
| 23 | A-255 | Wall Section (5) | 1/50 |

DRAWING LIST

Architecture Drawings

| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|------------|--------------------|-------------------------------------|--------------|
| 24 | A-256 | Wall Section (6) | 1/50 |
| 25 | A-257 | Wall Section (7) | 1/50 |
| 26 | A-258 | Wall Section (8) | 1/50 |
| | | | |
| 27 | A-301 | Staircase (1) | 1/50 |
| 28 | A-302 | Staircase (2) | 1/20/50 |
| 29 | A-303 | Staircase (3) | 1/50 |
| 30 | A-304 | Staircase (4) | 1/2/50 |
| 31 | A-305 | Staircase (5) | As Shown |
| 32 | A-306 | Staircase (6) | 1/20/50 |
| | | | |
| 33 | A-401 | Main Entrance Hall (1) | 1/100 |
| 34 | A-402 | Main Entrance Hall (2) | 1/100 |
| 35 | A-403 | Main Entrance Hall (3) | 1/100 |
| 36 | A-404 | Main Entrance Hall (4) | 1/25 |
| 37 | A-405 | Main Entrance Hall (5) | 1/25 |
| 38 | A-406 | Office, Security Office (1) | 1/50 |
| 39 | A-407 | Office, Security Office (2) | 1/50 |
| 40 | A-408 | Director's Office/ Meeting Room (1) | 1/50 |
| 41 | A-409 | Director's Office/ Meeting Room (2) | 1/50 |
| 42 | A-410 | Library/Production Room | 1/50 |
| 43 | A-411 | Laboratory | 1/50 |
| 44 | A-412 | Temporary Gallery | 1/100 |
| 45 | A-413 | Seminar Room (1) | 1/50 |
| 46 | A-414 | Seminar Room (2) | 1/50 |
| 47 | A-415 | Seminar Room (3) | 1/50 |

DRAWING LIST

Architecture Drawings

| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|------------|--------------------|--|--------------|
| 48 | A-416 | Seminar Room (4) | 1/2,5 |
| 49 | A-417 | Restaurant (1) | 1/50 |
| 50 | A-418 | Restaurant (2) | 1/50 |
| 51 | A-419 | Restaurant (3) | 1/50 |
| | | | |
| 52 | A-425 | Exhibition Hall - Ground Floor Layout Plan | 1/100 |
| 53 | A-426 | Exhibition Hall - Second Floor Layout Plan | 1/100 |
| 54 | A-427 | Exhibition Hall - Zone 1 (1) | 1/50 |
| 55 | A-428 | Exhibition Hall - Zone 1 (2) | 1/50 |
| 56 | A-429 | Exhibition Hall - Zone 1 (3) | 1/50 |
| 57 | A-430 | Exhibition Hall - Zone 1 (4) | 1/50 |
| 58 | A-431 | Exhibition Hall - Zone 2 | 1/50 |
| 59 | A-432 | Exhibition Hall - Zone 3 | 1/50 |
| 60 | A-433 | Exhibition Hall - Zone 4 | 1/50 |
| 61 | A-434 | Exhibition Hall - Zone 5 | 1/50 |
| 62 | A-435 | Exhibition Hall - Zone 6 | 1/50 |
| 63 | A-436 | Exhibition Hall - Zone 7 | 1/50 |
| 64 | A-437 | Exhibition Hall - Zone 8 | 1/50 |
| 65 | A-438 | Exhibition Hall - Zone 9 (1) | 1/50 |
| 66 | A-439 | Exhibition Hall - Zone 9 (2) | 1/50 |
| 67 | A-440 | Exhibition Hall - Zone 10 | 1/50 |
| 68 | A-441 | Exhibition Hall - Zone 11 | 1/50 |
| 69 | A-442 | Exhibition Hall - Zone 12 (1) | 1/50 |
| 70 | A-443 | Exhibition Hall - Zone 12 (2) | 1/50 |
| 71 | A-444 | Exhibition Hall - Zone 13 | 1/50 |
| 72 | A-445 | Exhibition Hall - Zone 14 (1) | 1/50 |

DRAWING LIST

APPENDIX G

Architecture Drawings

| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|-----|-------------|-----------------------------------|----------|
| 73 | A-446 | Exhibition Hall - Zone 14 (2) | 1/50 |
| 74 | A-447 | Exhibition Hall - Zone 15 (1) | 1/50 |
| 75 | A-448 | Exhibition Hall - Zone 15 (2) | 1/50 |
| 76 | A-449 | Exhibition Hall - Zone 16 | 1/50 |
| | | | |
| 77 | A-481 | Toilet (1) | 1/50 |
| 78 | A-482 | Toilet (2) | 1/50 |
| 79 | A-483 | Toilet (3) | 1/50 |
| 80 | A-484 | Toilet (4) | 1/50 |
| 81 | A-485 | Toilet (5) | 1/50 |
| 82 | A-486 | Toilet (6) | 1/50 |
| 83 | A-487 | Toilet (7) | As Shown |
| | | | |
| 84 | A-501 | Ceiling Plan (1) - Basement Floor | 1/200 |
| 85 | A-502 | Ceiling Plan (2) - Ground Floor | 1/200 |
| 86 | A-503 | Ceiling Plan (3) - First Floor | 1/200 |
| 87 | A-504 | Ceiling Plan (4) - Second Floor | 1/200 |
| | | | |
| 88 | A-601 | Doors and Windows Key Plan (1) | 1/200 |
| 89 | A-602 | Doors and Windows Key Plan (2) | 1/200 |
| 90 | A-603 | Doors and Windows Key Plan (3) | 1/200 |
| 91 | A-604 | Doors and Windows Key Plan (4) | 1/200 |
| 92 | A-605 | Doors and Windows Key Plan (5) | 1/200 |
| 93 | A-606 | Doors and Windows Schedule (1) | 1/50 |
| 94 | A-607 | Doors and Windows Schedule (2) | 1/50 |
| 95 | A-608 | Doors and Windows Schedule (3) | 1/50 |

DRAWING LIST

APPENDIX G

Architecture Drawings

| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|-----|-------------|--|-------|
| 96 | A-609 | Doors and Windows Schedule (4) | 1/100 |
| 97 | A-610 | Wodden Panel Details | 1/25 |
| 98 | A-611 | Aluminium Details | 1/2 |
| 99 | A-612 | Doors and Windows Details | 1/2 |
| 100 | A-613 | Sign List and Details Key Plan (1) | NS |
| 101 | A-614 | Sign List and Details Key Plan (2) | NS |
| 102 | A-615 | Sign List and Details Key Plan (3) | NS |
| 103 | A-616 | Sign List and Details Key Plan (4) | NS |
| | | | |
| 104 | A-701 | External Works -Tiling Patterns | 1/400 |
| 105 | A-702 | External Works -Tiling Details | 1/100 |
| 106 | A-703 | External Works -Detail at Main Plaza | 1/100 |
| 107 | A-704 | External Works -Seat & Columns Details | 1/20 |
| 108 | A-705 | External Works -Grating & Sign Details | 1/20 |
| 109 | A-706 | External Works -Edges & Curbs | 1/5 |
| 110 | A-707 | External Works -Resutaurant Pergolas | 1/20 |
| 111 | A-708 | External Works -Soft Landscape Plan | 1/400 |
| | | | |
| 112 | A-801 | Construction Detail (1) | 1/10 |
| 113 | A-802 | Construction Detail (2) | 1/10 |
| 114 | A-803 | Construction Detail (3) | 1/10 |
| 115 | A-804 | Construction Detail (4) | 1/10 |
| 116 | A-805 | Construction Detail (5) | 1/10 |
| 117 | A-806 | Construction Detail (6) | 1/10 |
| 118 | A-807 | Construction Detail (7) | 1/10 |
| 119 | A-808 | Construction Detail (8) | 1/10 |

DRAWING LIST

APPENDIX G

Architecture Drawings

| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|------------|--------------------|---|--------------|
| 120 | A-809 | Construction Detail (9) | 1/10 |
| 121 | A-810 | Construction Detail (10) | 1/10 |
| 122 | A-825 | Exhibition Hall - Construction Detail (1) | 1 / 20/ 10 |
| 123 | A-826 | Exhibition Hall - Construction Detail (2) | 1/10 |
| 124 | A-827 | Exhibition Hall - Construction Detail (3) | 1/10 |
| 125 | A-828 | Exhibition Hall - Construction Detail (4) | 1/10 |
| 126 | A-829 | Exhibition Hall - Construction Detail (5) | 1/10 |
| 127 | A-830 | Exhibition Hall - Construction Detail (6) | 1/10 |
| 128 | A-831 | Exhibition Hall - Construction Detail (7) | 1/10 |
| 129 | A-832 | Exhibition Hall - Construction Detail (8) | 1/10 |
| 130 | A-851 | Detail (D.01) | 1/2 |
| 131 | A-852 | Detail (D.02) | 1/2 |
| 132 | A-853 | Detail (D.03) | 1/2 |
| 133 | A-854 | Detail (D.04) | 1/2 |
| 134 | A-855 | Detail (D.05) | 1/2 /5 |
| 135 | A-856 | Detail (D.06) | 1/2 |
| 136 | A-857 | Detail (D.07) | 1/2 |
| 137 | A-858 | Detail (D.08) | As Shown |
| | | | |
| | | | |
| | | | |

DRAWING LIST

APPENDIX G

Exhibition Drawings

| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|------------|--------------------|---|--------------|
| 138 | EX-000 | Exhibition Drawing List | NS |
| 139 | EX-001 | Exhibition Hall - Ground Floor General Plan (1) | 1/100 |
| 140 | EX-002 | Exhibition Hall - Ground Floor General Plan (2) | 1/100 |
| 141 | EX-003 | Exhibition Hall - Ground Floor Partial Plan - Zone 1 | 1/50 |
| 142 | EX-004 | Exhibition Hall - Second Floor Partial Plan - Zone 1 | 1/50 |
| 143 | EX-005 | Exhibition Hall - Ground Floor Partial Section - Zone 1 | 1/50 |
| 144 | EX-006 | Exhibition Hall - Ground Floor Partial Section - Zone 1 | 1/50 |
| 145 | EX-007 | Exhibition Hall - Ground Floor Partial Plan - Zone 2 | 1/50 |
| 146 | EX-008 | Exhibition Hall - Ground Floor Partial Plan - Zone 3 | 1/50 |
| 147 | EX-009 | Exhibition Hall - Details | 1/50 |
| 148 | EX-010 | Exhibition Hall - Ground Floor Partial Plan - Zone 4 | 1/50 |
| 149 | EX-011 | Exhibition Hall - Ground Floor Partial Plan - Zone 5 | 1/50 |
| 150 | EX-012 | Exhibition Hall - Ground Floor Partial Plan - Zone 6 | 1/50 |
| 151 | EX-013 | Exhibition Hall - Ground Floor Partial Plan - Zone 6 | 1/50 |
| 152 | EX-014 | Exhibition Hall - Ground Floor Partial Plan - Zone 7 | 1/50 |
| 153 | EX-015 | Exhibition Hall - Ground Floor Partial Plan - Zone 8 | 1/50 |
| 154 | EX-016 | Exhibition Hall - Ground Floor Partial Plan - Zone 9 | 1/50 |
| 155 | EX-017 | Exhibition Hall - Ground Floor Partial Plan - Zone 9 | 1/50 |
| 156 | EX-018 | Exhibition Hall - Ground Floor Partial Plan - Zone 10 | 1/50 |
| 157 | EX-019 | Exhibition Hall - Second Floor Partial Plan - Zone 2 | 1/50 |
| 158 | EX-020 | Exhibition Hall - Second Floor Partial Plan - Zone 3 | 1/50 |
| 159 | EX-021 | Exhibition Hall - Second Floor Partial Plan - Zone 3 | 1/50 |
| 160 | EX-022 | Exhibition Hall - Second Floor Partial Plan - Zone 4 | 1/50 |
| 161 | EX-023 | Exhibition Hall - Second Floor Partial Plan - Zone 5 | 1/50 |
| 162 | EX-024 | Exhibition Hall - Second Floor Partial Plan - Zone 5 | 1/50 |

DRAWING LIST

APPENDIX G

Exhibition Drawings

| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|------------|--------------------|--|--------------|
| 163 | EX-025 | Exhibition Hall - Second Floor Partial Hall - Zone 6 | 1/50 |
| 164 | EX-026 | Exhibition Hall - Second Floor Partial Sections - Zone 6 | 1/50 |
| 165 | EX-027 | Exhibition Hall - Second Floor Partial Plan - Zone 7 | 1/50 |
| 166 | EX-028 | Show Case Details | As Shown |
| 167 | EX-029 | Exhibition Hall - Show Case Details | As Shown |
| 168 | EX-032 | Exhibition Hall Show & Model Case Schedule | As Shown |
| 169 | EX-033 | Reinforcement Equipment | NS |
| 170 | EX-034 | Exhibition Hall Model Case Details | As Shown |
| 171 | EX-035 | Models Specifications Exhibition Hall (1) | 1/100 |
| 172 | EX-036 | Models Specifications Exhibition Hall (2) | 1/100 |
| 173 | EX-037 | Conter Panel Detail Main Entrance | As Shown |
| 174 | EX-038 | Exhibition Hall Model Case Detail | As Shown |
| 175 | EX-039 | Exhibition Sign System | As Shown |
| 176 | EX-040 | Exhibition Hall Audio Visual Specifications (1) | NS |
| 177 | EX-041 | Exhibition Hall Audio Visual Specifications (2) | NS |

DRAWING LIST

Electrical Drawings

| NO. | DRAWING NO. | DRAWING TITLE |
|------------|--------------------|--|
| 178 | | Cover |
| 179 | E000 | Drawing List |
| 180 | E001 | Electrical Symbols Legend & Lighting Fixture Schedule |
| 181 | E101 | Site Plan External Electrical Works |
| 182 | E201 | Basement Floor Plan Lighting Layout |
| 183 | E202 | Ground Floor Plan Lighting Layout |
| 184 | E203 | First Floor Plan Lighting Layout |
| 185 | E204 | Second Floor Plan Lighting Layout |
| 186 | E205 | Roof Floor Plan Lighting & Power Layout |
| 187 | E206 | First Floor Main Exhibition Lighting Layout |
| 188 | E207 | First Floor Entrance Lighting Layout |
| 189 | E208 | Second Floor Main Exhibition Lighting Layout |
| 190 | E209 | Second Floor Entrance & Temporary Exhibition Lighting Layout |
| 191 | E301 | Basement Floor Plan Power Layout |
| 192 | E302 | Ground Floor Plan Power Layout |
| 193 | E303 | First Floor Plan Power Layout |
| 194 | E304 | Second Floor Plan Power Layout |
| 195 | E305 | First Floor Plan Main Exhibition Power Layout |
| 196 | E306 | Second Floor Plan Main Exhibition Power Layout |
| 197 | E307 | Second Floor Temporary Exhibition Power Layout |
| 198 | E401 | Basement Floor Plan Fire Alarm & Public Address Layout |

DRAWING LIST

APPENDIX G

Electrical Drawings

| NO. | DRAWING NO. | DRAWING TITLE |
|------------|--------------------|--|
| 199 | E402 | Ground Floor Plan Fire Alarm & Public Address Layout |
| 200 | E403 | First Floor Plan Fire Alarm & Public Address Layout |
| 201 | E404 | Second Floor Plan Fire Alarm & Public Address Layout |
| | | |
| 202 | E501 | Basement Floor Plan Telephone & Computer |
| 203 | E502 | Ground Floor Plan Telephone & Computer |
| 204 | E503 | First Floor Plan Telephone & Computer |
| 205 | E504 | Second Floor Plan Telephone & Computer |
| | | |
| 206 | E601 | Basement Floor Plan Security Access Control & CCTV Layout |
| 207 | E602 | Ground Floor Plan Security Access Control & CCTV Layout |
| 208 | E603 | First Floor Plan Security Access Control & CCTV Layout |
| 209 | E604 | Second Floor Plan Security Access Control & CCTV Layout |
| | | |
| 210 | E701 | Roof Floor Plan Lighting System |
| | | |
| 211 | E801 | Distribution Board Schedule Sheet No.1 |
| 212 | E802 | Distribution Board Schedule Sheet No.2 |
| 213 | E803 | Distribution Board Schedule Sheet No.3 |
| 214 | E804 | Distribution Board Schedule Sheet No.4 |
| | | |
| 215 | E901 | Power Riser Diagram |
| 216 | E902 | Telephone Data & Public Address Riser Diagram |
| 217 | E903 | Fire Alarm Riser Diagram |
| 218 | E904 | CCTV Riser Diagram |
| 219 | E905 | Security System Riser Diagram & Audio Video Schematic Rise Diagram |

DRAWING LIST

APPENDIX G

Electrical Drawings

| NO. | DRAWING NO. | DRAWING TITLE |
|------------|--------------------|---|
| 220 | E906 | Substation & Dimming System Block Diagram Details |
| 221 | E907 | Miscellaneous Details |

DRAWING LIST

APPENDIX G

Mechanical Drawings

| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|-----|-------------|--|-------|
| 222 | | Cover | NS |
| 223 | M000 | List of Mechanical Drawing | NS |
| 224 | M101 | Site Plan Drainage, Water & Fuel Layout | 1/400 |
| 225 | M102 | Site Plan Rain Water Layout | 1/400 |
| 226 | M201 | Basement Floor Plan Drainage Layout | 1/200 |
| 227 | M202 | Ground Floor Plan Drainage Layout | 1/200 |
| 228 | M203 | First Floor Plan Drainage Layout | 1/200 |
| 229 | M204 | Sanitary Block Drainage Layout(1) | 1/100 |
| 230 | M205 | Sanitary Block Drainage Layout(2) | 1/100 |
| 231 | M206 | Roof Plan Drainage Layout | 1/200 |
| 232 | M301 | Basement Floor Plan Water Supply Layout | 1/200 |
| 233 | M302 | Ground Floor Plan Water Supply Layout | 1/200 |
| 234 | M303 | First Floor Plan Water Supply Layout | 1/200 |
| 235 | M304 | Sanitary Block Water Layout(1) | 1/50 |
| 236 | M305 | Sanitary Block Water Layout(2) | 1/50 |
| 237 | M306 | Water Supply Diagram | NS |
| 238 | M401 | Basement Floor Plan Fire Fighting Layout | 1/200 |
| 239 | M402 | Ground Floor Plan Fire Fighting Layout | 1/200 |
| 240 | M403 | First Floor Plan Fire Fighting Layout | 1/200 |
| 241 | M404 | Second Floor Plan Fire Fighting Layout | 1/200 |
| 242 | M501 | Basement Floor Plan HVAC Ducting Layout | 1/200 |

DRAWING LIST

APPENDIX G

Mechanical Drawings

| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|------------|--------------------|--|--------------|
| 243 | M502 | Ground Floor Plan HVAC Ducting Layout | 1/200 |
| 244 | M503 | First Floor Plan HVAC Ducting Layout | 1/200 |
| 245 | M504 | Second Floor Plan HVAC Ducting Layout | 1/200 |
| 246 | M505 | Basement Floor Plan HVAC Piping Layout | 1/200 |
| 247 | M506 | Ground Floor Plan HVAC Piping Layout | 1/200 |
| 248 | M507 | First Floor Plan HVAC Piping Layout | 1/200 |
| 249 | M508 | Second Floor Plan HVAC Piping Layout | 1/200 |
| 250 | M509 | Basement Floor Plan Offices HVAC Ducting Layout | As Shown |
| 251 | M510 | Ground Floor Plan Offices HVAC Ducting Layout | 1/100 |
| 252 | M511 | First Floor Plan Offices HVAC Ducting Layout | 1/100 |
| 253 | M512 | Basement Floor Plan Offices HVAC Piping Layout | As Shown |
| 254 | M513 | Ground Floor Plan Offices HVAC Piping Layout | 1/100 |
| 255 | M514 | First Floor Plan Offices HVAC Piping Layout | 1/100 |
| 256 | M515 | Ground Floor Plan Seminar & Cafeteria HVAC Duct Layout | 1/100 |
| 257 | M516 | Roof Plan HVAC Ducting Layout | 1/200 |
| 258 | M517 | HVAC Piping Riser Diagram | NS |
| 259 | M518 | HVAC Control Diagram | NS |
| | | | |
| 260 | M601 | Boiler Room Layout | 1/50 |
| 261 | M602 | Fire & Fuel Schematic Diagrams | NS |
| 262 | M603 | BMS Schematic Diagrams | NS |
| | | | |
| 263 | M701 | Schedule of Equipment(1) | NS |
| 264 | M702 | Schedule of Equipment(2) | NS |
| | | | |
| 265 | M801 | Miscellaneous Detail(1) | NS |

DRAWING LIST

APPENDIX G

Mechanical Drawings

| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|------------|--------------------|-------------------------|--------------|
| 266 | M802 | Miscellaneous Detail(2) | NS |
| 267 | M803 | Miscellaneous Detail(3) | NS |

DRAWING LIST

APPENDIX G

Structural Drawings

| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|-----|-------------|--|----------|
| 268 | | Cover | |
| 269 | S-001 | Drawing Title | NS |
| 270 | S-002 | General Notes-1 | NS |
| 271 | S-003 | General Notes-2 | NS |
| | | | |
| 272 | S-100 | Sub-Foundation Plan | 1/200 |
| 273 | S-101 | Foundation Plan | 1/200 |
| 274 | S-102 | Columns and Bearing Walls Framing Plans | 1/200 |
| 275 | S-103 | Ground Floor Slab Reinf. in X-Direction | 1/200 |
| 276 | S-104 | Ground Floor Slab Reinf. in Y-Direction | 1/200 |
| 277 | S-105 | First Floor Slab Reinf. in X-Direction | 1/200 |
| 278 | S-106 | First Floor Slab Reinf. in Y-Direction | 1/200 |
| 279 | S-107 | Second Floor Slab Reinf.in X-Direction | 1/200 |
| 280 | S-108 | Second Floor Slab Reinf.in Y-Direction | 1/200 |
| 281 | S-109 | Roof and Top of Roof Slab Plan | 1/200 |
| | | | |
| 282 | S-201 | Footing Details F1-F29 | 1/50/20 |
| 283 | S-202 | Footing Details T1-T11,FA1-FA4 and TA1 – TA3 | 1/20 |
| 284 | S-203 | Foundation Details A-A,B-B,C-C and D-D | 1/200 |
| 285 | S-204 | Column Details:C1-C8 | 1/100/20 |
| 286 | S-205 | Column Details:C9-C17 and C19 | 1/100/20 |
| | | | |
| 287 | S-301 | Joist Details :K1-K6 & R1-R7 | 1/50/20 |
| 288 | S-302 | Joist Details :M1-M5 | 1/50/20 |
| 289 | S-303 | Beam Details :B1-B11 & H4 | 1/50/20 |

DRAWING LIST

APPENDIX G

Structural Drawings

| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|------------|--------------------|--------------------------------|--------------|
| 290 | S-304 | Beam Details : B6-B21 | 1/50/20 |
| 291 | S-305 | Beam Details : B22-B43 | 1/50/20 |
| 292 | S-306 | Beam Details : B32-B52 & H1-H2 | 1/50/20 |
| 293 | S-307 | Beam Details : H3 & H5-H14 | 1/50/20 |
| 294 | S-308 | Beam Details : H15-H21 & N1-N6 | 1/50/20 |
| 295 | S-309 | Beam Details : N7-N24 | 1/50/20 |
| 296 | S-310 | Beam Details : W1-W10 | 1/50/20 |
| 297 | S-311 | Bridge Vierendeel Details | 1/50/20 |
| 298 | S-312 | Space Frame Details-1 | NS |
| 299 | S-313 | Space Frame Details-2 | NS |
| | | | |
| 300 | S-401 | General Details-1 X1-X14 | 1/20 |
| 301 | S-402 | General Details-2 X15-X30 | 1/20 |
| 302 | S-403 | General Details-3 X31-X48 | 1/20 |
| 303 | S-404 | General Details-4 X49-X68 | 1/20 |
| 304 | S-405 | General Details-5 X69-X87 | 1/20 |
| 305 | S-406 | General Details-6 X88-X104 | 1/20 |
| 306 | S-407 | General Details-7 X105-X116 | 1/20 |
| 307 | S-408 | Stair Details ST1-ST3 | 1/20 |
| 308 | S-409 | Stair Details ST4-ST6 | 1/50 |
| | | | |
| 309 | S-501 | Sub-Foundation Plan-1 | 1/100 |
| 310 | S-502 | Sub-Foundation Plan-2 | 1/100 |
| 311 | S-503 | Sub-Foundation Plan-3 | 1/100 |
| 312 | S-504 | Sub-Foundation Plan-4 | 1/100 |

DRAWING LIST

APPENDIX G

Structural Drawings

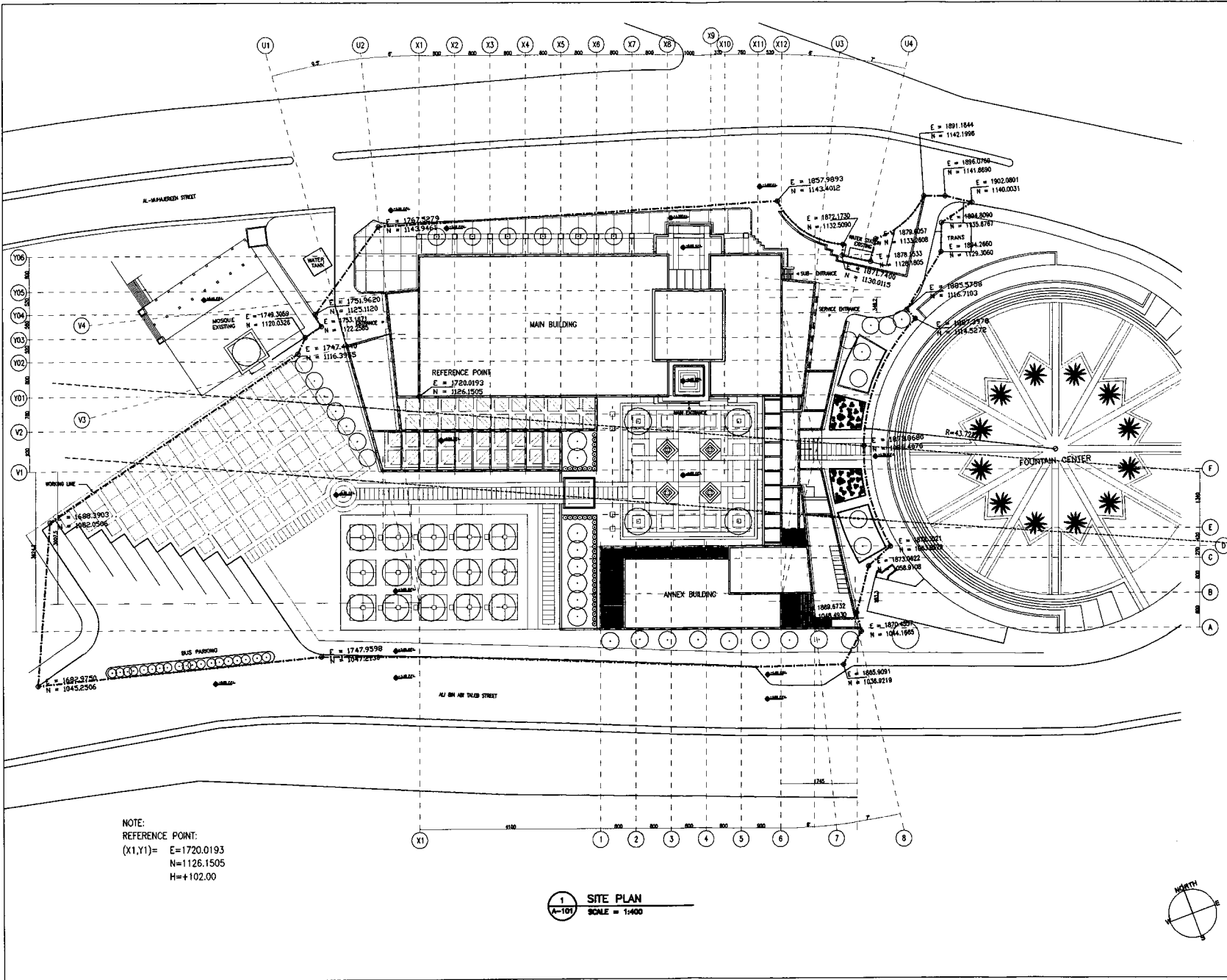
| NO. | DRAWING NO. | DRAWING TITLE | SCALE |
|------------|--------------------|---|--------------|
| 313 | S-505 | Foundation Plan-1 | 1/100 |
| 314 | S-506 | Foundation Plan-2 | 1/100 |
| 315 | S-507 | Foundation Plan-3 | 1/100 |
| 316 | S-508 | Foundation Plan-4 | 1/100 |
| 317 | S-509 | Columns and Bearing Walls Framing Plans-1 | 1/100 |
| 318 | S-510 | Columns and Bearing Walls Framing Plans-2 | 1/100 |
| 319 | S-511 | Columns and Bearing Walls Framing Plans-3 | 1/100 |
| 320 | S-512 | Columns and Bearing Walls Framing Plans-4 | 1/100 |
| 321 | S-513 | Ground Floor Plan Reinf. in X-Direction-1 | 1/100 |
| 322 | S-514 | Ground Floor Plan Reinf. in X-Direction-4 | 1/100 |
| 323 | S-515 | Ground Floor Plan Reinf. in Y-Direction-1 | 1/100 |
| 324 | S-516 | Ground Floor Plan Reinf. in Y-Direction-4 | 1/100 |
| 325 | S-517 | First Floor Slab Reinf. in X-Direction-3 | 1/100 |
| 326 | S-518 | First Floor Slab Reinf. in X-Direction-4 | 1/100 |
| 327 | S-519 | First Floor Slab Reinf. in Y-Direction-3 | 1/100 |
| 328 | S-520 | First Floor Slab Reinf. in Y-Direction-4 | 1/100 |
| 329 | S-521 | Second Floor Slab Reinf.in X-Direction-4 | 1/100 |
| 330 | S-522 | Second Floor Slab Reinf.in Y-Direction-4 | 1/100 |
| 331 | S-523 | Roof Slab-1 | 1/100 |
| 332 | S-524 | Roof Slab-4 | 1/100 |

APPENDIX H

GENERAL CONSTRUCTION SCHEDULE

APPENDIX I

TEMPORARY FACILITIES LOCATION MAP



NOTE:
 REFERENCE POINT:
 (X1,Y1)= E=1720.0193
 N=1126.1505
 H=+102.00

1 SITE PLAN
 A-101 SCALE = 1:400

Tourism Sector Development Project
 in the Hashemite Kingdom of Jordan

The Government of
 The Hashemite Kingdom of Jordan
 The Ministry of Tourism and Antiquities
 The Ministry of Planning

Sub-Project:
 NATIONAL MUSEUM

Note:
 This detailed design has been executed by a team
 of consultants as shown below in accordance with
 the agreement between Japan International
 Cooperation Agency (JICA) and JICA Study Team.
 The copyright of this drawing rests with JICA.

Designed by:
 Japan International Cooperation
 Agency (JICA)
 JICA Study Team:
 Joint Venture of
 Pacific Consultants International and
 Yamasa Seikiei Inc.
 Subcontracted Local Consultant:
 Jafar Tukan and Partners
 Architects and Engineers

Drawing Title:
 SITE PLAN

Scale: 1:400 Drawing No.: A-101

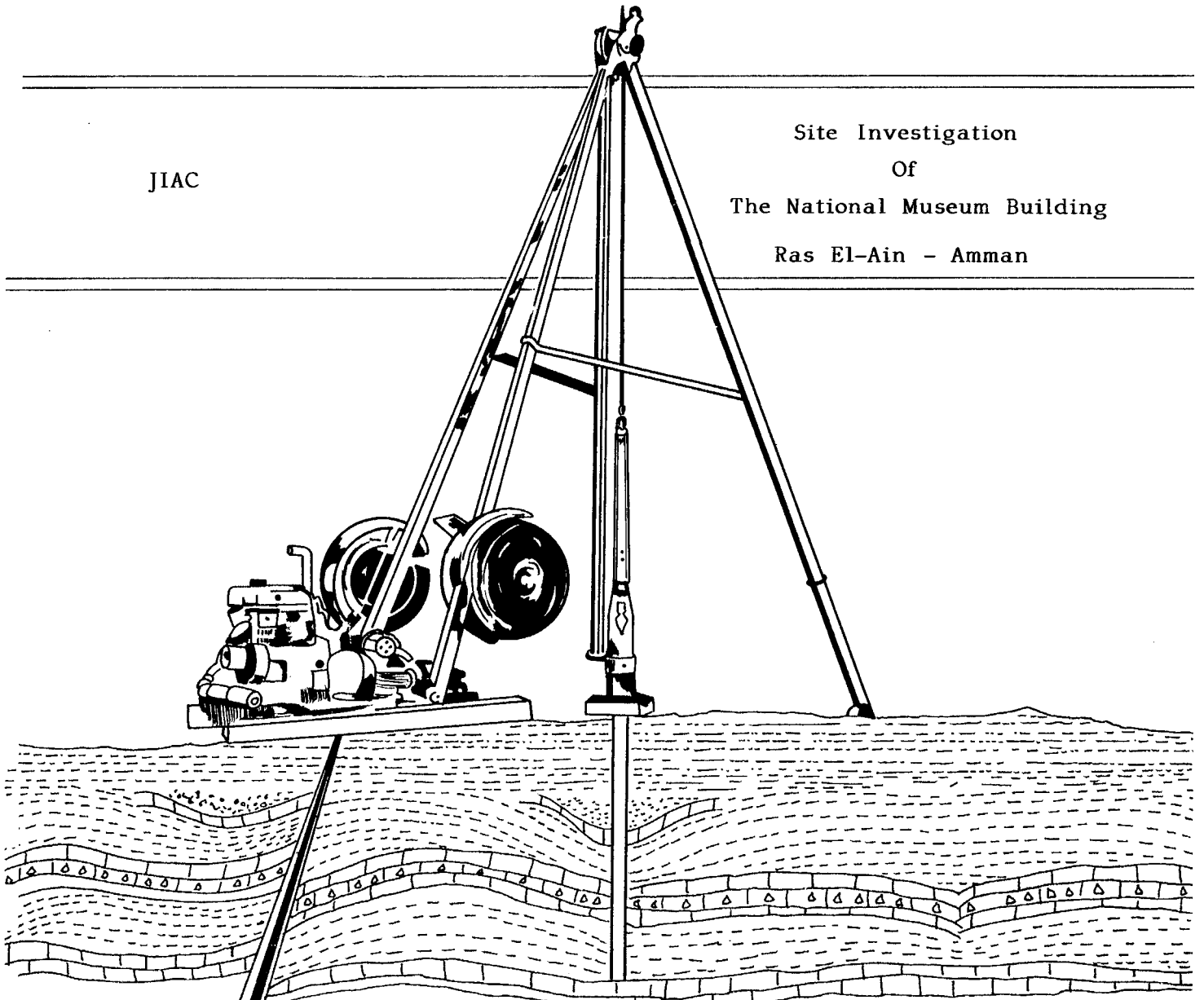
APPENDIX J

SITE INVESTIGATION REPORT

TTOUKAN **S**AND **SAKET** **Geo-** **Research** Foundation Engineering & Material Testing

JIAC

Site Investigation
Of
The National Museum Building
Ras El-Ain - Amman



TOUKAN & SAKET

Geo - Research & Foundation
Engineering Office

Drilling , Sampling , Testing
Engineering Geology , Foundations,
Geomechanics,
& Material Testing



مكتب طوقان والسaket
للدراسات الهندسية الجيولوجية والأساسات
تثقيب ، اخذ عينات ، تحليل ،
مسح هندسي جيولوجي ، دراسة
اساسات وميكانيكا الصخور والتربة
وفحص المسواد

Ref : R99/16/1999-06-02

Date : 1/6/1999

Messrs : JICA Study Team


Site Investigation
Of
The National Museum Building
Ras El Ain – Amman

Dear Sirs,

Upon your request, concerning the above mentioned project , we have the honour to submit for your consideration the attached report in which we summarized the results of the investigation undertaken by our firm.

We take the opportunity to express to you our highest consideration

Sincerely yours,
Toukan & Skaet


Dr.S.Saket



Site Investigation
Of
The National Museum Building
Ras El Ain - Amman

1.0 Introduction

Upon the request of Messrs. JICA Study Team , sub-soil investigation was carried out at the proposed site in accordance with the British Standards Specification, CP 2001 for site investigation and with the Jordanian Code .

The investigation was carried out by performing 9 boreholes, drilled at locations determined by the geotechnical Engineer to a depth ranging between 10 and 15 meters.

The proposed building is for the National Museum development .

The site is mainly recent fill and made flat ground .

The investigated site is bordered by two streets at the southern (Ras El –Ain street) and northern (Omar Matter street) boundary , and eastern side is the Municipality fountain and the western side is the mosque .



2.0 Scope of Work

The purpose of this study was to determine the ground conditions at the site , in order to provide full information about the ground conditions and geotechnical properties of foundation materials and all other information that would assists in the Engineer in the design of proper and safe foundation .

The works included the following

- Setting up locations of boreholes.
- Drilling 9 boreholes and carrying out the necessary field tests.
- Recovery of disturbed representative samples .
- Carrying out the required laboratory tests.

Analysis of the site investigation data, laboratory testing and geotechnical interpretation form the basis of this report.

3.0 General Geology

The natural material within the site is mainly Quaternary alluvial deposits covered by thick recent fill material . (see geologic map) .

The penetrated material within the site is heterogenous deposits (overburden) composed of brown clay , silt , fine to coarse sand , fine to coarse gravel , cobbles and boulders mixed with demolished buildings residue of concrete , wood , cloth etc .

All the material was dumped in a loose condition without any compaction . Therefore the density is not consistent . Non-uniform material in terms of lithology and density . No bed rock was encountered in any of the drilled boreholes .



4.0 Method of Investigation

All drilling, sampling and testing were performed in accordance with the British Standards, CP 2001.

The sub-surface was explored by using CME 75 type rig advance by rotary drilling allowing the performance of Standard and cone penetration tests and taking disturbed samples.

Dry drilling to refusal in boreholes was used to recover representative samples.

The boreholes were monitored for any ingress of water during dry drilling.

Representative soil samples were obtained during the drilling operation and were placed in tight plastic bags and wooden boxes for description.

Standard and cone penetration tests were carried out in accordance with the BS Standards 1377(Test 19) and the results were recorded on the boreholes logs at depths to which they refer.

The penetration tests were executed with 2 and 3 inch standard sampling spoon with catchers and driven by dropping a 140 lbs. Weight hammer with a 30 inches fall height. The 2 inches diameter spoon was lowered to the bottom of the boreholes and penetrated about 6 inches in the materials, whereupon the penetration test was started.

The "N" value is the number of blows required to produce one foot of penetration.

In defining the density of the non-cohesive materials, very loose material was considered to have standard penetration values less than 4 blows per foot, loose, between 4 and 10 blows per foot, medium dense, between 10 and 30 blows per foot, dense, between 30 and 50 blows per foot , and very dense, more than 50 blows per foot .



In defining the relative density of the cohesive material , the following could be classified :

| | | |
|-------------------|---------------------|------------------------|
| Soft | Less than 4 | blows per foot. |
| Firm | 4-8 | blows per foot. |
| Stiff | 8-15 | blows per foot |
| Very stiff | 15-30 | blows per foot |
| Hard | more than 30 | blows per foot |

5.0 Field Works

5.1 Drilling

The locations of boreholes were chosen so as to represent the study area and provide as much information as possible.

A total of 9 boreholes were drilled . The locations of the drilled boreholes are shown on the attached plan .

The positioning and depth of the boreholes were determined by the geotechnical Engineer .

5.2 Sampling

Continuous samples of the drilled materials were collected at regular depth intervals of 1.0m and at each lithological change of the material . The samples were labeled, described and logged. Representative samples were also obtained for laboratory testing and classification .



5.3 Insitu Testing

In order to obtain an estimate of the density insitu, Standard and cone Penetration tests were performed on the foundation material .

The penetration tests results indicate that the penetrated material is loose to medium dense with the SPT, "N" value, ranging between 7 and more than 30 blows per foot .
(see borehole logs) .

Refusal results were obtain on cobbles and bouldery material .

The medium to high results are mainly coarse fill material and does not indicate high density .

5.4 Drilling Results

The drilled boreholes show that the penetrated materials are mainly heterogenous recent fill material , non-uniform in terms of lithology and density . In few boreholes it is silt , clay , sand , gravel and cobbles with wood fragments and bouldery in some other boreholes . (see boreholes logs) .

- No cavities or water table were detected in any of the drilled boreholes . Only cobbles and boulders in a loose condition were encountered where partial loss of drilling air circulation was observed .

6.0 Geomechanics

A laboratory testing program was devised and performed on representative samples obtained from the study area , to establish the engineering properties of the material involved. The only tests that could be performed on such material are :



- Grainsize analysis
- Atterberg limits
- Direct shear test
- Compaction
- California Bearing Ratio

The results of the grainsize analysis of the tested samples are summarized in (Table 1). The material is composed of gravels, between 0.0% and 45.0 % , sand, between 19.2% and 73.6%, and silt, between 19.9% and 35.7% and clay between 00% and 41.2% .

The atterberg limits show that the liquid limit ranges between non-plastic and 61.7 with a plasticity index between non-plastic and 35.2 . Table (1).

The direct shear test performed on remoulded samples of brownish sandy , silty clayey material obtained from boreholes No BH3 and BH8 , depth (1.0-2.0) m, show that the cohesion is ranging between 0.20 kg/cm² and 0.17 kg/cm² with a peak friction angles between 14 and 17degrees . (Curves are attached) see table (2) .

The compaction tests performed on a two samples obtained from the excavated trial pits, shows that the maximum dry density is ranged between 1.85gr/cm³ and 1.9gr/cm³ with an optimum moisture content of 18.0 % to 19.5% . (curves are attached) see table (3) .

The CBR values obtained from the same samples ranged between 17.3% and 18.5% .Curves are attached to this report.



7.0 Conclusions & Recommendation

As a result of this study and tests, the following conclusions could be summarized :

- The drilled boreholes show that the penetrated materials are :
- Overburden recent fill material composed of silt, sand and gravels with cobbles, and boulders , loose to medium dense .
- The material is heterogenous and non-uniform in terms of lithology and density .
- No bedrock was encountered in any of the drilled boreholes .
- No cavities or water table were encountered in the drilled boreholes . Partial loss of drilling air circulation was observed indicating the loose nature of the materials .

In order to have a safe and stable foundation, the following is recommended :

6.1 Foundation Type and Depth

In order to have safe structures , the foundation materials beneath the structures must have an adequate bearing capacity to support the design loads with an appropriate factor of safety and acceptable tolerable settlements.

Since the foundation will be laid on heterogenous, non-uniform material in terms of density and lithology , with different engineering properties , therefore excessive differential settlement will take place in the structure. Noting that the existing recent fill material is not capable to handle normal type of foundation .

To have safe foundation to support the structure, the following is suggested :



Alternative A

The safest type of foundation for the investigated site is pre – bored cast insitu pile type foundation .

The suggested diameter of piles is 80 cm . The depth of piles will be suggested when the loads are known . Additional recommendation , will be suggested when applying this type of foundation is decided .

Alternative B

As an alternative , the following could be suggested :

- Total excavation and removal of the overburden material down to a depth 3.0m below the proposed design foundation level .
- The ground at the excavated depth should be compacted by heavy vibratory roller (16 Tons) for at least one week repeatedly .
- Drilling a net of boreholes at 3.0m spacing between boreholes to a depth of 3.0m each .
- Filling the boreholes by pressure grouting to ensure that the voids are filled.
- Following the completion of grouting, backfill the site with about 3.0m thick selected coarse grained granular material in layers not exceeding 25cm and compacted to 95% of the maximum dry density (see attached sketches) . The selected material consists of crushed stone , gravels and cobbles with some fines. The fines (-No4) should not exceed 15% .



- These well compacted layers could support the proposed building by employing rigid strip foundation or raft . The suggested allowable bearing capacity to be used is 2.0 kg/cm², assuming that the area is fully drained .

6.2 Excavation & Side Slopes

Any pneumatic excavation equipment could be used for excavation, such as dozers and loaders .

It is recommended to have a side slopes of 1H:2V for a short period, in a dry weathered condition .

The recent fill materials excavated during construction of the building is not suitable to be used as backfill material because it is unselected and of unengineered nature.

The materials to be used for backfilling purposes behind underground walls shall be a soil-rock mixture which is free from organic matter or other deleterious substances. It shall not contain rocks or lumps over 15cm in greatest dimension, and not more than 15 percent larger than 7cm. The plasticity index for the backfill material shall not be more than 15 percent . It shall be spread in layers not exceeding 25cm in uncompacted thickness, moisture conditioned to its optimum moisture content, and compacted to a dry density not less than 95 percent of the maximum dry density as obtained by standard proctor compaction test (ASTM D698).

- The study area is characterized by semi-arid climate, warm and dry in the summer with rainy winter . The rainfall is of medium to high intensity for a short period. The average mean annual rainfall is about 500mm and this is limited to winter period. The average maximum temperature is 40c and the lowest is 0c degree.



- As far as the seismic activity in the area, Jordan has not witnessed any serious earth quakes in the last 60 years . It is a general practice to consider the study area within zone I of the unified Building code. Research in Jordan concluded that one earth quake with magnitude $6\frac{1}{2}$ every 100 years and one earth quake with magnitude $7\frac{1}{2}$ every 500 years might take place.

The intensity factor is 0.75 for zone A and it is 0.5 for zone B.of Mercalli scale.

- A horizontal peak ground acceleration of at least 0.19g is suggested to be adopted in the design of the foundations .

The compaction should be under the supervision of our experienced geotechnical Engineers .

The recommendations given in this report are solely based on the results of the drilled boreholes at the time of investigation and our understanding, and concept of the project. Further check of the material at the foundation level by our geotechnical Engineer is very important . All of treatment , densification and grouting should be supervised by our geotechnical engineers .

Summary of Tests Results

| Borehole No . | Depth (m) | Grain Size Analysis | | | | Atterberg Limits | | |
|---------------|-----------|---------------------|----------|----------|----------|------------------|--------|--------|
| | | Gravel (%) | Sand (%) | Silt (%) | Clay (%) | LL (%) | PL (%) | PI (%) |
| BH .1 | 3.5-4.5 | -- | 73.6 | 26.4 | -- | Np | Np | Np |
| | 5.5-6.5 | 6.1 | 25.7 | 35.7 | 32.5 | 32.1 | 22.1 | 10.0 |
| | 6.5-7.5 | 4.1 | 61.8 | 19.9 | 14.2 | 31.6 | 22.1 | 9.5 |
| | 7.5-8.5 | 15.2 | 41.6 | 24.4 | 18.8 | 38.4 | 23.4 | 15.0 |
| BH.2 | 5-6 | -- | 53.9 | 25.3 | 20.8 | 30.2 | 21.9 | 8.3 |
| | 6-7 | 2.1 | 48.9 | 26.4 | 22.6 | 38.2 | 24.6 | 13.6 |
| | 9-10 | 6.2 | 70.7 | 19.9 | 3.2 | 24.3 | 18.1 | 6.2 |
| BH .3 | 1-2 | 8.0 | 29.0 | 26.5 | 36.5 | 49.6 | 21.4 | 28.2 |
| | 3-4 | 7.2 | 61.5 | 22.5 | 8.8 | 33.1 | 21.5 | 11.6 |
| | 5-6 | -- | 53.9 | 33.8 | 12.3 | 32.8 | 22.4 | 10.4 |
| | 9-10 | 4.2 | 43.8 | 35.0 | 17.0 | 42.1 | 25.6 | 16.5 |
| BH.4 | 1.5-3 | 4.3 | 27.4 | 28.2 | 40.1 | 54.8 | 23.5 | 31.3 |
| | 4.5-5.5 | -- | 41.8 | 29.4 | 28.8 | 45.2 | 22.4 | 22.8 |
| | 9.0-10.0 | 15.2 | 30.6 | 26.7 | 27.5 | 44.8 | 22.2 | 22.6 |
| BH.5 | 0.00-1.0 | 13.2 | 30.5 | 25.3 | 31.0 | 47.5 | 24.3 | 23.2 |
| | 2.0-3.0 | 3.1 | 60.9 | 21.8 | 14.2 | 41.3 | 25.9 | 15.4 |
| | 4.0-5.0 | 2.5 | 65.5 | 22.0 | 10.0 | 39.1 | 25.5 | 13.6 |
| | 6.0-10.0 | 4.1 | 66.9 | 20.9 | 8.1 | 32.8 | 21.4 | 11.4 |
| BH.6 | 0.00-1.5 | 8.2 | 37.7 | 26.3 | 27.8 | 42.8 | 22.2 | 20.6 |
| | 3.0-4.0 | -- | 33.8 | 30.2 | 36.0 | 43.4 | 24.9 | 18.5 |
| | 5.0-6.0 | 2.1 | 67.9 | 23.9 | 6.1 | 23.2 | 19.2 | 4.0 |
| | 7.0-10.0 | 5.1 | 67.6 | 20.1 | 7.2 | 23.8 | 19.6 | 4.2 |
| BH.7 | 0.00-3.0 | 9.8 | 19.2 | 29.8 | 41.2 | 46.7 | 23.5 | 23.2 |
| | 3.0-4.0 | 45.0 | 30 | 25 | -- | Np | Np | Np |
| BH.8 | 1.0-2.0 | 3.30 | 23.6 | 35.1 | 38.0 | 61.7 | 26.5 | 35.2 |
| | 2.0-3.0 | 10.0 | 50.0 | 27.2 | 12.80 | 29.5 | 21.3 | 8.2 |
| | 3.0-4.0 | 15.10 | 28.7 | 24.8 | 31.4 | 48.8 | 21.4 | 27.4 |
| | 4.0-5.0 | 7.20 | 46.5 | 29.3 | 17.0 | 32.1 | 22.6 | 9.5 |

Table (1)

Direct Shear Test Results

| Borehole No. & Depth(m) | Cohesion (Kg/cm ²) | | Friction Angle (Degree) | |
|-------------------------------|--------------------------------|----------------|----------------------------|----------------|
| | C _p | C _r | Ø _p | Ø _r |
| BH3 (1.0-2.0) | 0.17 | 0.0 | 17.0 | 14.0 |
| BH8 (1.0-2.0) | 0.20 | 0.0 | 14.0 | 11.0 |

Table(2)

Compaction and CBR

| Sample No. | Depth (m) | Max.Dry Density (Gr/cm³) | Optimum Moisture Content (%) | CBR at o.m.c (%) |
|-------------------|------------------|--|-------------------------------------|-------------------------|
| Tp1 | 0.00-1.0 | 1.90 | 18.0 | 18.5 |
| Tp2 | 1.0-2.0 | 1.85 | 19.5 | 17.3 |

Table (3)

TOUKAN & SAKET
Geo. Research
BOREHOLE LOG DATA SHEET

| PROJECT : National Museum | | | TYPE & SIZE OF DRILLING: Rotary 4½" | | | | | | |
|---------------------------|-------------|--|--|---------|----------|--------|----|----|------------|
| BOREHOLE NO : BH.6 | | | Date: Started : 27.5/99 Finished: 28/5/99 | | | | | | |
| Depth (M) | L O G | DESCRIPTION | REC (%) | RQD (%) | SPT. "N" | MC (%) | LL | PI | Sample No. |
| 1 | + | Brown sandy silty clay and gravel (Recent Fill). | | | 6 | | | | |
| 2 | x | Fill material composed of cobbles , gravels , sand , Silt , brown clay and asphalt cuttings . | | | 17 | | | | |
| 3 | x | | | | 9 | | | | |
| 4 | x | | | | 11 | | | | |
| 5 | x | Fill material composed of crushed boulders of limestone , chert and marlstone with some brown clay . | | | 22 | | | | |
| 6 | o | | | | 50/3 | | | | |
| 7 | o | | | | 15 | | | | |
| 8 | o | | | | 21 | | | | |
| 9 | o | Final Depth (10.0)m | | | 50/Ref | | | | |
| 10 | o | | | | 21 | | | | |
| 11 | | | | | | | | | |
| 12 | | Remark | | | | | | | |
| 13 | | Partial loss of drilling air circulation loose material At depth 3.0 . | | | | | | | |
| 14 | | Refusal blows indicates presence of boulders Not relative density . | | | | | | | |

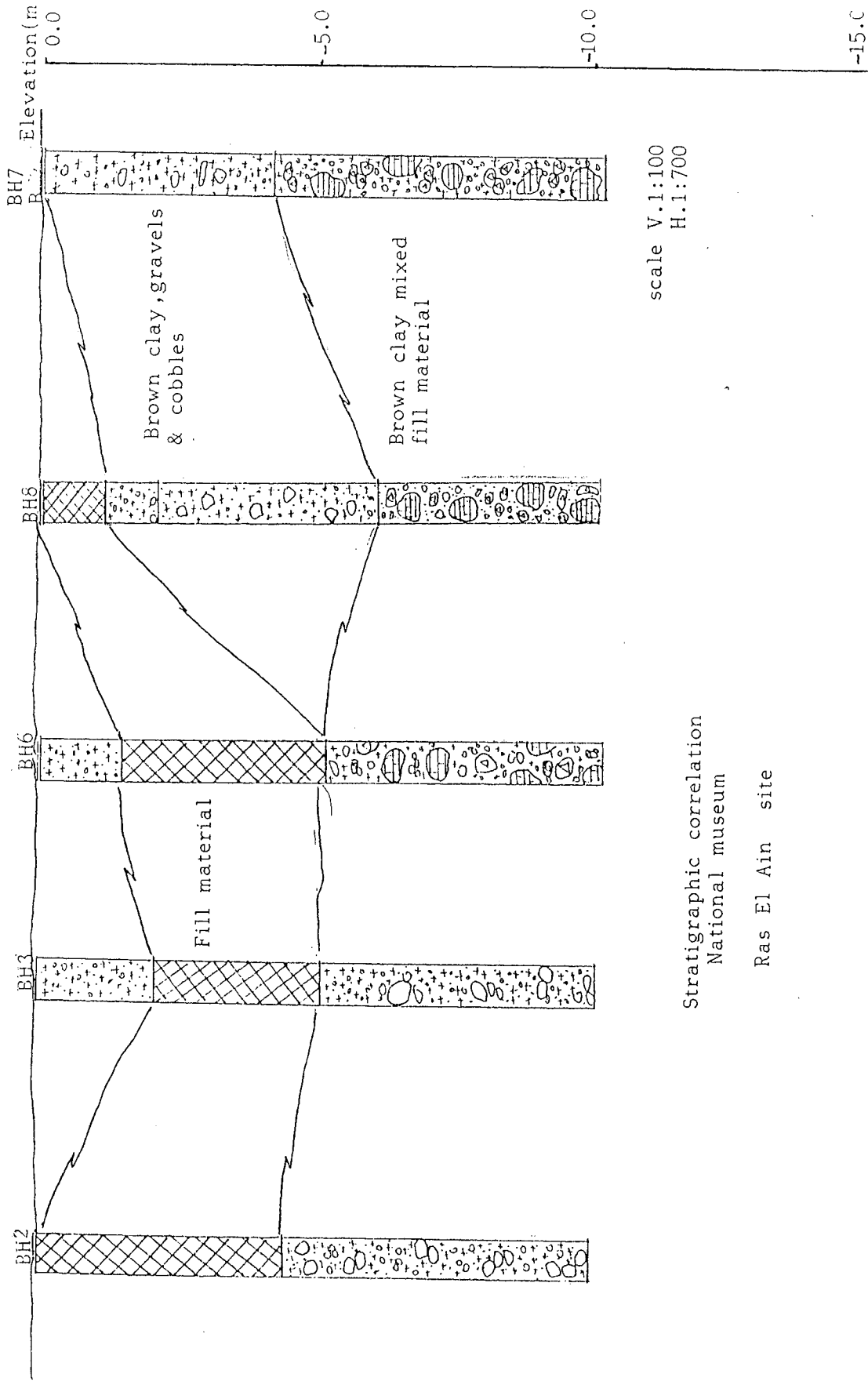
TOUKAN & SAKET
Geo. Research
BOREHOLE LOG DATA SHEET

| PROJECT : National Museum | | TYPE & SIZE OF DRILLING: Rotary 4½" | | | | | | | |
|---------------------------|-------|---|---------|-----------|----------|--------|----|----|-----------------------|
| BOREHOLE NO : BH.7 | | Date: | | Started : | 29./5/99 | | | | |
| | | Finished: | | 29/5/99 | | | | | |
| Depth (M) | L O G | DESCRIPTION | REC (%) | RQD (%) | SPT. "N" | MC (%) | LL | PI | Sample No. |
| | | ELEVATION : Flat | | | | | | | (gr/cm ³) |
| 1 | | Brown sandy silty clay and gravel (Recent Fill) . | | | 7 | | | | |
| 2 | | | | | 21 | | | | |
| 3 | | | | | 9 | | | | |
| 4 | | | | | 50/17 | | | | |
| 5 | | Fill material composed of crushed boulders of limestone , Chert and marlstone with some brown clay . | | | 26 | | | | |
| 6 | | | | | 50/Ref | | | | |
| 7 | | | | | 50/7cm | | | | |
| 8 | | | | | 11 | | | | |
| 9 | | | | | Ref | | | | |
| 10 | | | | | 32 | | | | |
| 11 | | Final Depth (10.0)m | | | | | | | |
| 12 | | Remark | | | | | | | |
| 13 | | Partial loss of drilling air circulation loose material At depth 3.0m . | | | | | | | |
| 14 | | Refusal penetration indicates presence of large boulders Not relative density . | | | | | | | |

TOUKAN & SAKET
Geo. Research

BOREHOLE LOG DATA SHEET

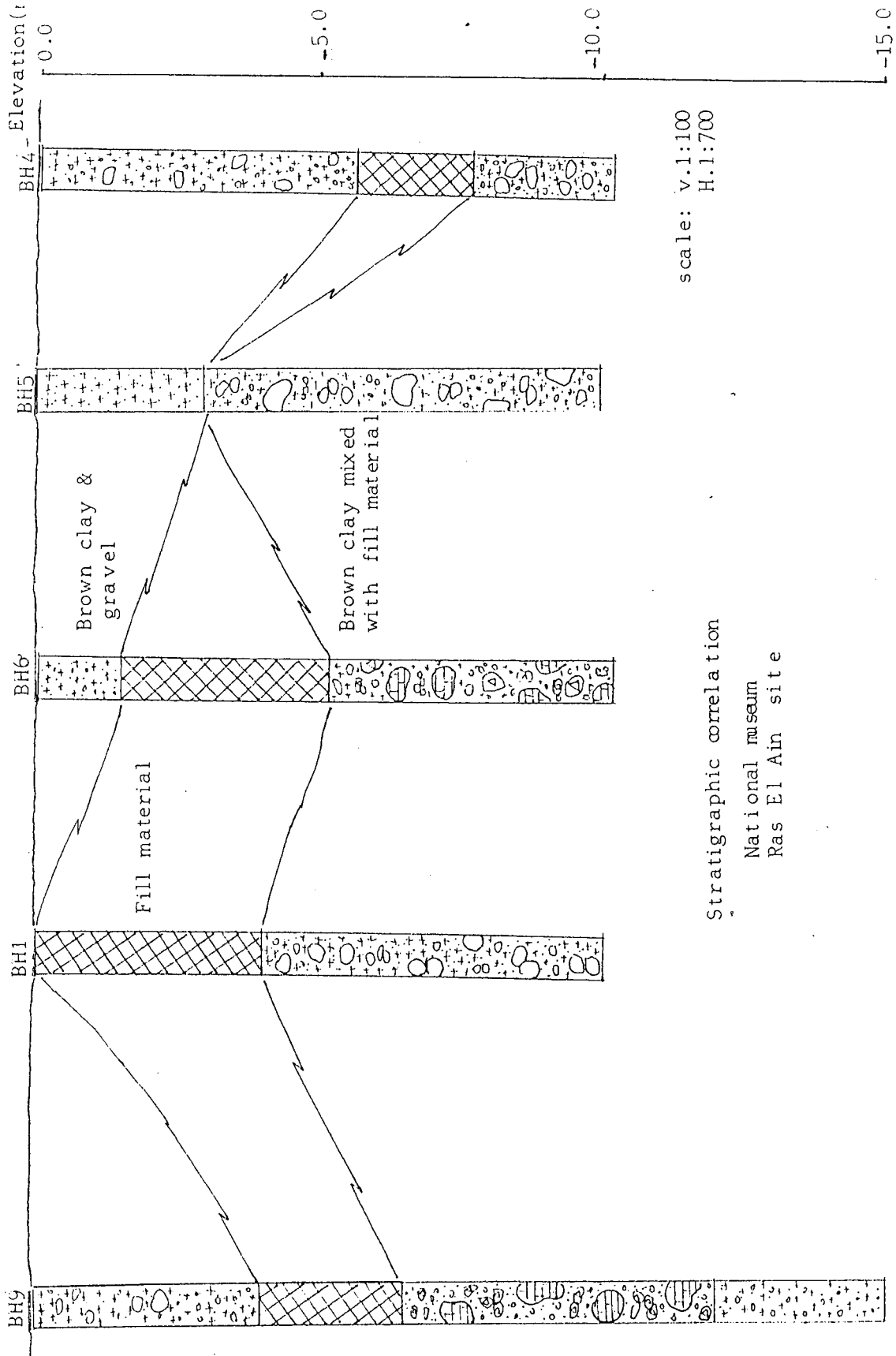
| PROJECT : National Muscum | | | TYPE & SIZE OF DRILLING : Rotary 4 ½" | | | | | | | |
|----------------------------------|-------------|--|--|-------------|-------------|------------|----|----|--------|--|
| BOREHOLE NO : BH.9 | | | DATE : Started: 30/5/99 | | | | | | | |
| | | | Finished: 31/5/99 | | | | | | | |
| Depth (M) | L O G | DESCRIPTION ELEVATION: Flat | REC (%) | RQD. (%) | SPT. "N" | MC. (%) | LL | PI | Sample | |
| 1- | | Brown sandy silty with gravels and cobbles , trace boulders (Recent Fill) . | | | 12 | | | | | |
| 2- | | | | | 17 | | | | | |
| 3- | | | | | | 13 | | | | |
| 4- | | | | | | 22 | | | | |
| 5- | | | Fill material composed of cobbles , gravels , | | | 11 | | | | |
| 6- | | | sand , silt , and brown clay . | | | 8 | | | | |
| 7- | | | Fill material composed of crushed boulders of | | | 24 | | | | |
| 8- | | | of limestone , chert and marlstone , with | | | 50/13cm | | | | |
| 9- | | | gravels and trace clay . | | | 15 | | | | |
| 10- | | | | | | 23 | | | | |
| 11- | | | | | | 50/Ref | | | | |
| 12- | | | Mixture of brown sandy , silty , clay with | | | 31 | | | | |
| 13- | | | gravels and cobbles . | | | 35 | | | | |
| 14- | | | | | | 42 | | | | |
| 15- | | | Final depth (15.0m) | | | 50/25cm | | | | |
| 16- | | Remark | | | | | | | | |
| 17- | | * Partial loss of drilling air circulation , loose | | | | | | | | |
| 18- | | Material at depth 6.0m . | | | | | | | | |
| | | * Refusal penetration indicates presence of | | | | | | | | |
| | | Boulders not relative density . | | | | | | | | |
| | | * Water table was observed at depth 13.0m . | | | | | | | | |



scale V.1:100
H.1:700

Stratigraphic correlation
National museum

Ras El Ain site



scale: v.1:100
H.1:700

Stratigraphic correlation
National museum
Ras El Ain site

TOUKAN & SAKET

Geo. Research



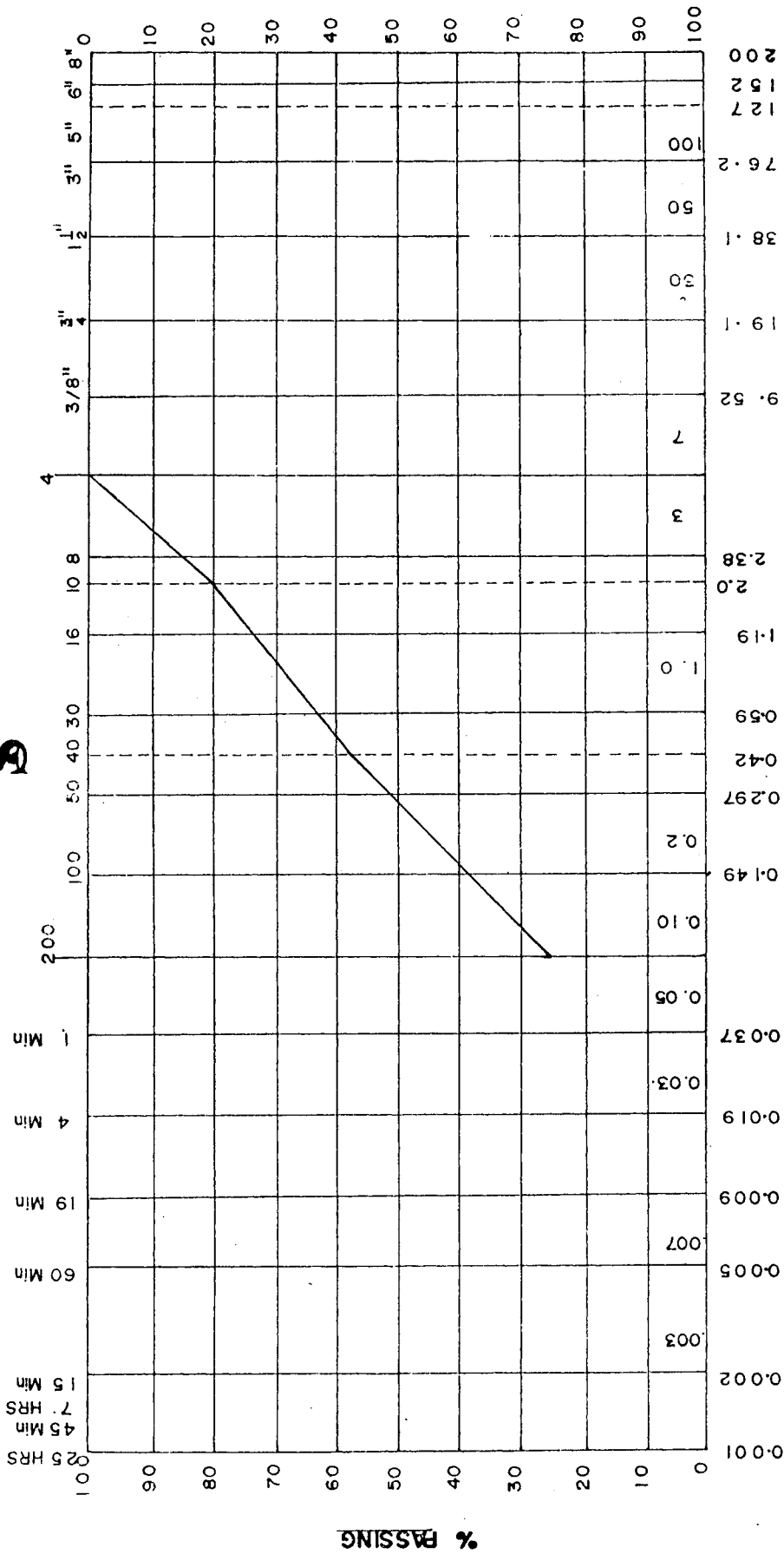
PROJECT -----

HYDROMETER ANALYSIS

DATE -----

SAMPLE No -----

SIEVE ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | COBBLES |
|------------|----------|--------|--------|------|--------|--------|--------|--------|---------|
| | GRAVEL % | SAND % | SILT % | FINE | MEDIUM | COARSE | FINE | COARSE | |
| SAMPLE No | | | | | | | | | |
| BH 1 | | 77.6 | | | | | | | |
| 3.5 - 4.5m | | | 26.4 | | | | | | |
| REMARKS | ----- | | | | | | | | |

Toukan & Saket

Geo. Research

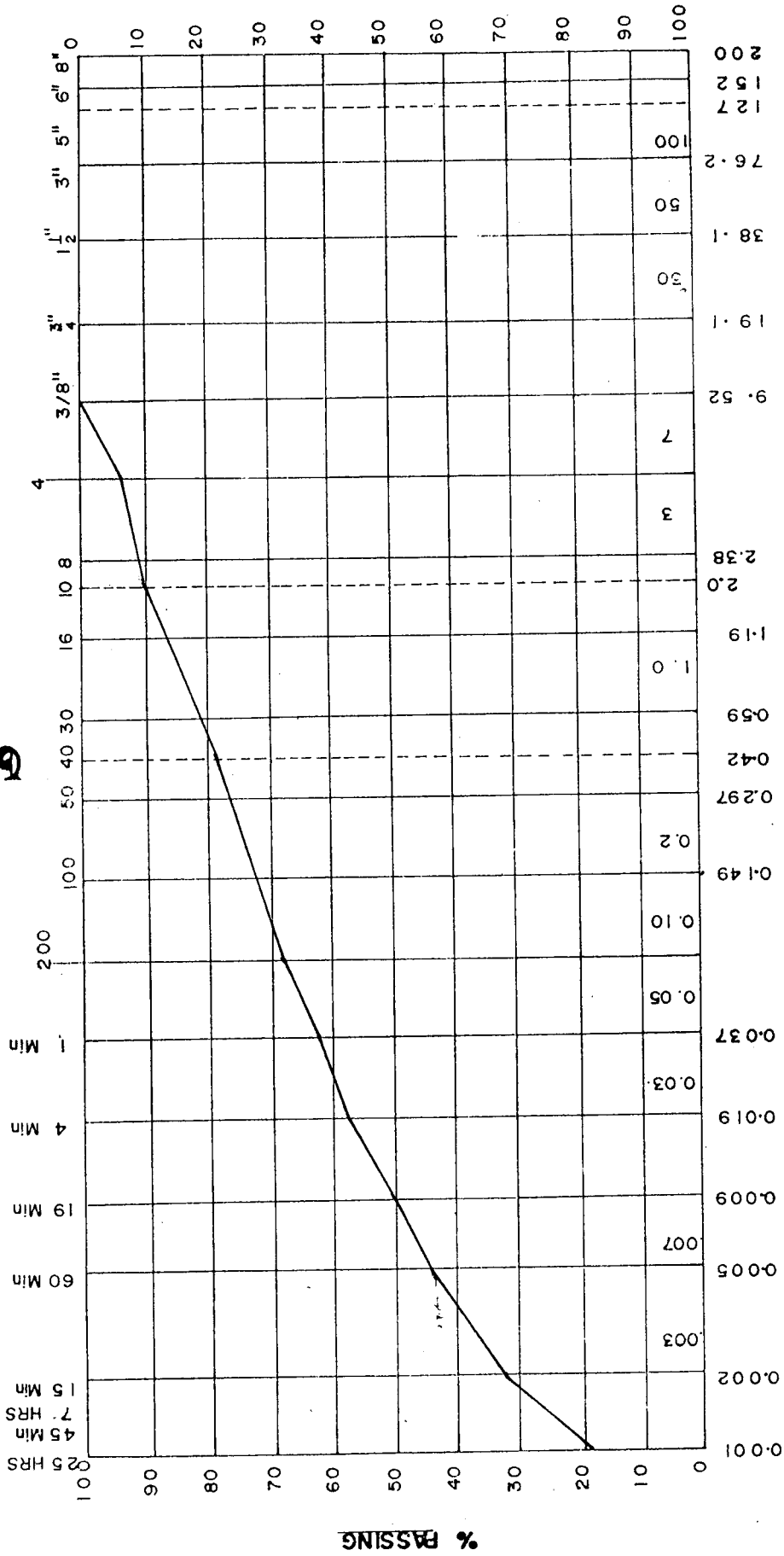


DATE -----
 SAMPLE No -----

PROJECT -----

HYDROMETER ANALYSIS

SIEVE ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | COBBLES |
|------------------|----------|--------|--------|------|--------|--------|--------|--|---------|
| | GRAVEL % | SAND % | SILT % | FINE | COARSE | COARSE | COARSE | | |
| SAMPLE No BH1 | | | | | | | | | |
| 5.5-6.5m | 6.1 | 25.7 | 35.7 | | | | | | |
| | | | CLAY % | | | | | | |
| | | | 32.5 | | | | | | |
| REMARKS | | | | | | | | | |
| | | | | | | | | | |

TOUKAN & SAKET

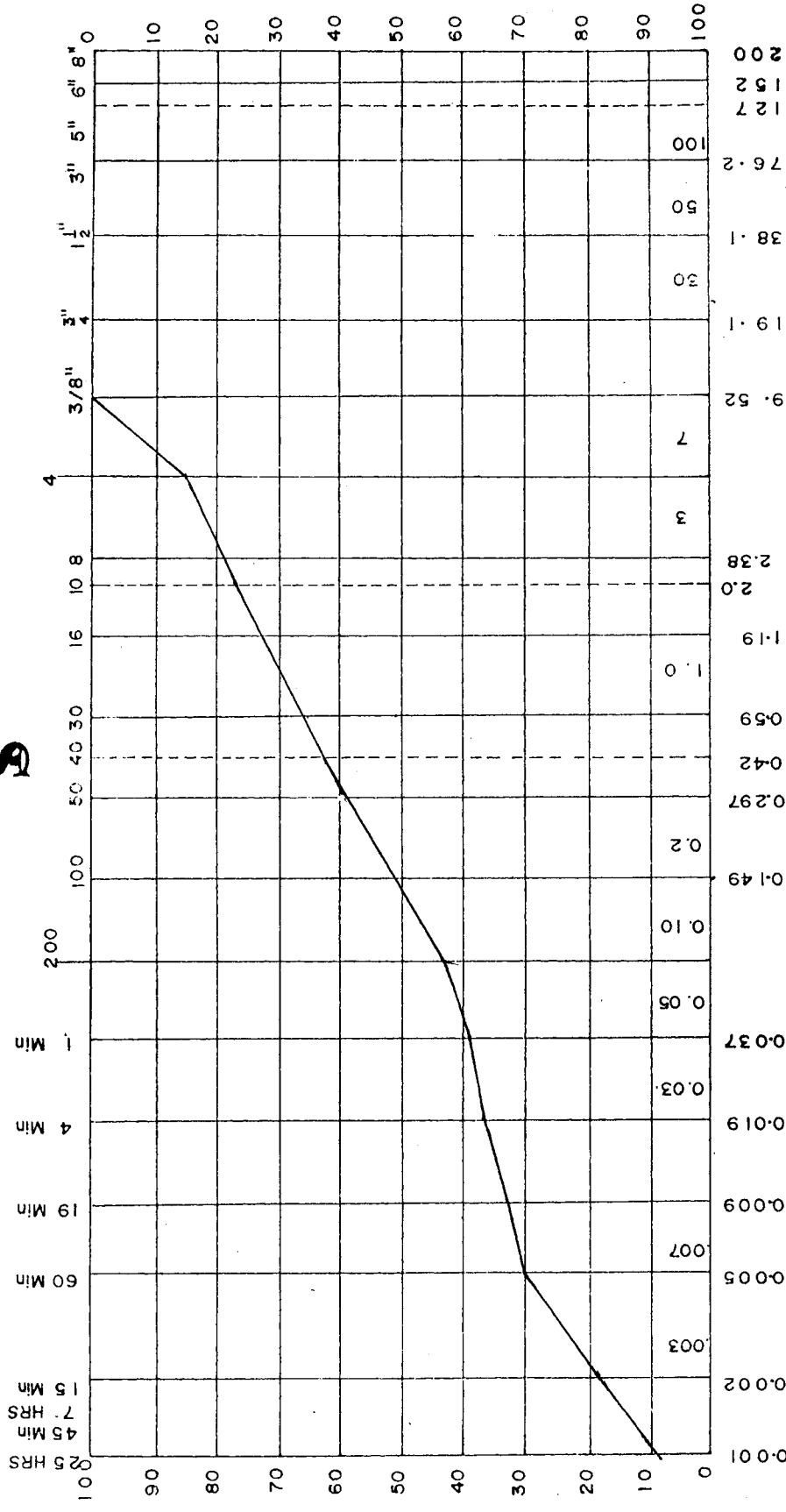
Geo. Research



DATE -----
SAMPLE No -----

SIEVE ANALYSIS

HYDROMETER ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | | COBBLES |
|-----------|----------|--------|--------|-------|--------|--------|--------|------|--------|---------|
| | GRAVEL % | SAND % | SILT % | FINE | COARSE | MEDIUM | COARSE | FINE | COARSE | |
| SAMPLE No | | | | | | | | | | |
| BH-1 | | | | | | | | | | |
| 7.5-8.5 | 15.2 | 41.6 | 24.4 | 0.074 | 4.76 | | | | | |
| REMARKS | CLAY % | | | | | | | | | |
| | 18.8 | | | | | | | | | |

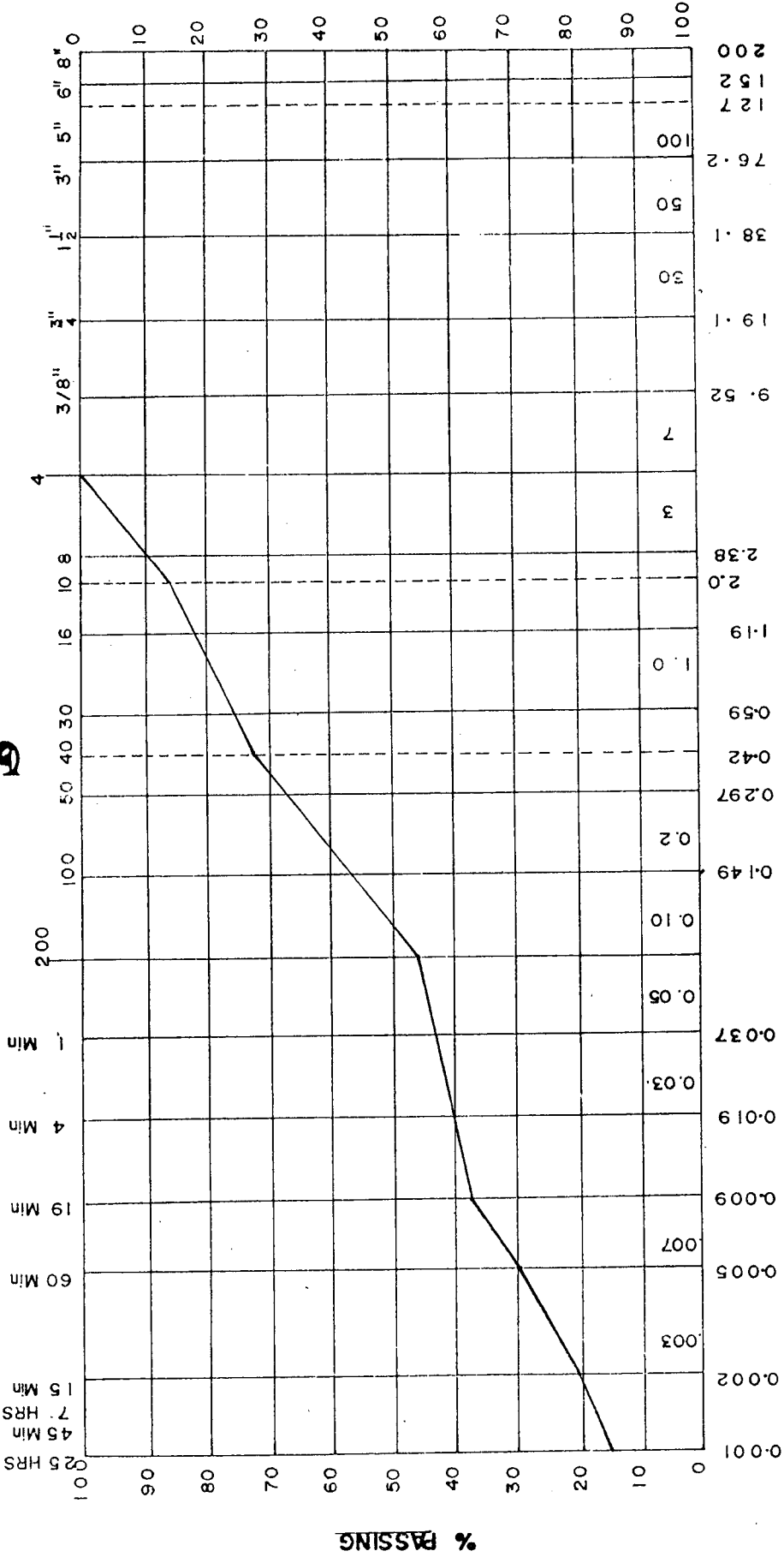
TOUKAN & SAKET

Geo. Research

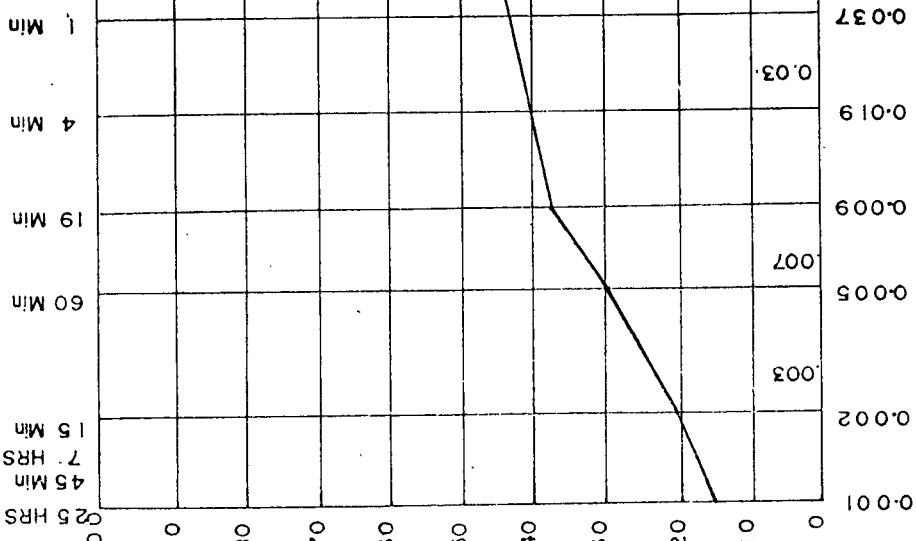


DATE -----
SAMPLE No -----

SIEVE ANALYSIS



HYDROMETER ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | COBBLES | |
|------------------|----------|--------|--------|------|--------|--------|--------|------|---------|--------|
| | GRAVEL % | SAND % | SILT % | FINE | COARSE | MEDIUM | COARSE | FINE | | COARSE |
| SAMPLE No BH2 | | | | | | | | | | |
| 5.0-6.0 | - | 53.9 | 25.3 | 20.8 | | | | | | |
| REMARKS | | | | | | | | | | |

TOUKAN & SAKET

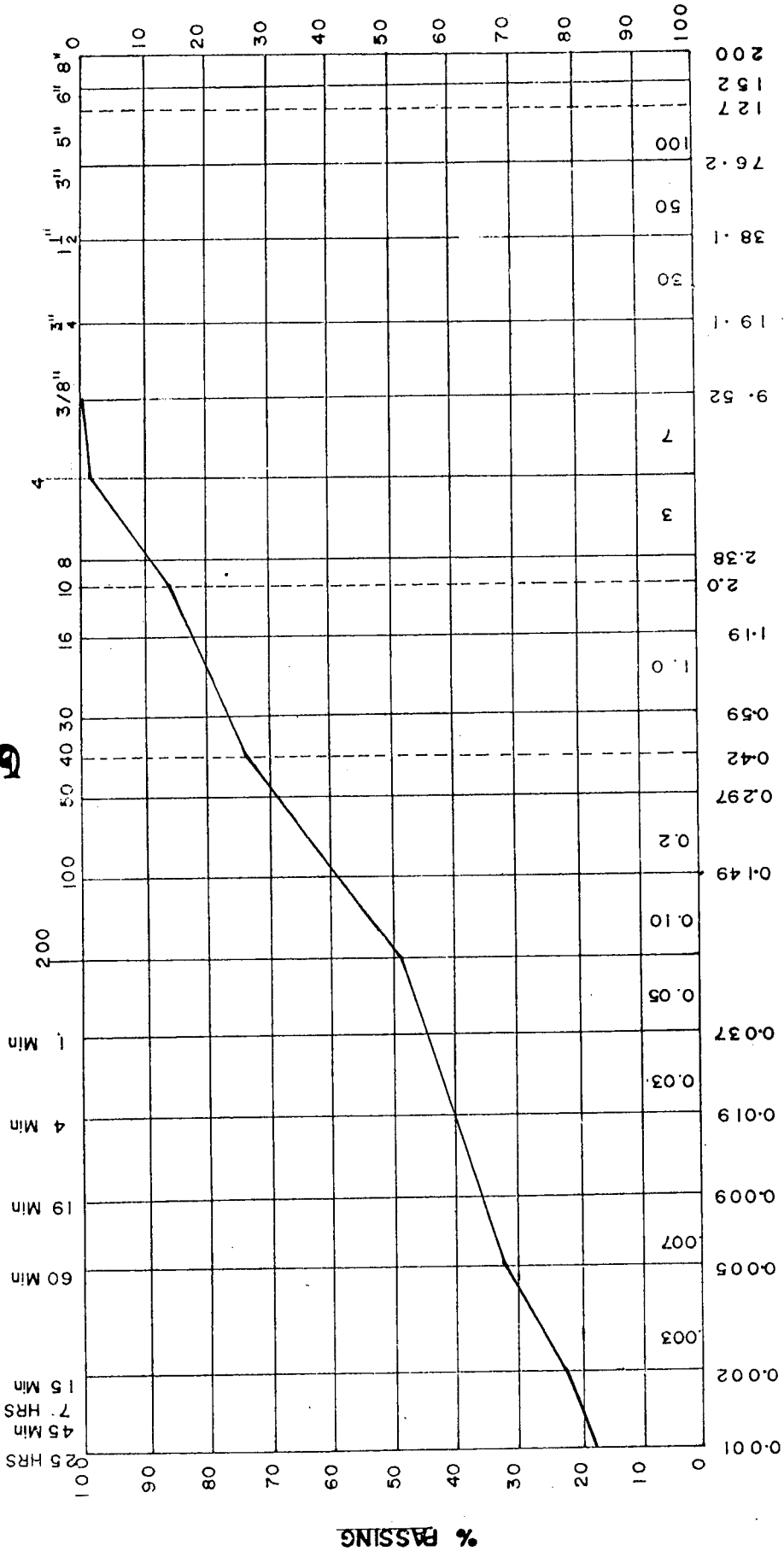
Geo. Research

DATE -----
 SAMPLE No -----

PROJECT -----

HYDROMETER ANALYSIS

SIEVE ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | COBBLES | |
|------------------|----------|--------|--------|------|--------|--------|--------|--------|---------|--|
| | GRAVEL % | SAND % | SILT % | FINE | COARSE | MEDIUM | FINE | COARSE | | |
| SAMPLE No BH2 | | | | | | | | | | |
| 6.0-7.0 | 2.1 | 48.9 | 26.4 | | | | | | | |
| REMARKS | CLAY | | | | | | | | | |

TOUKAN & SAKET

Geo. Research

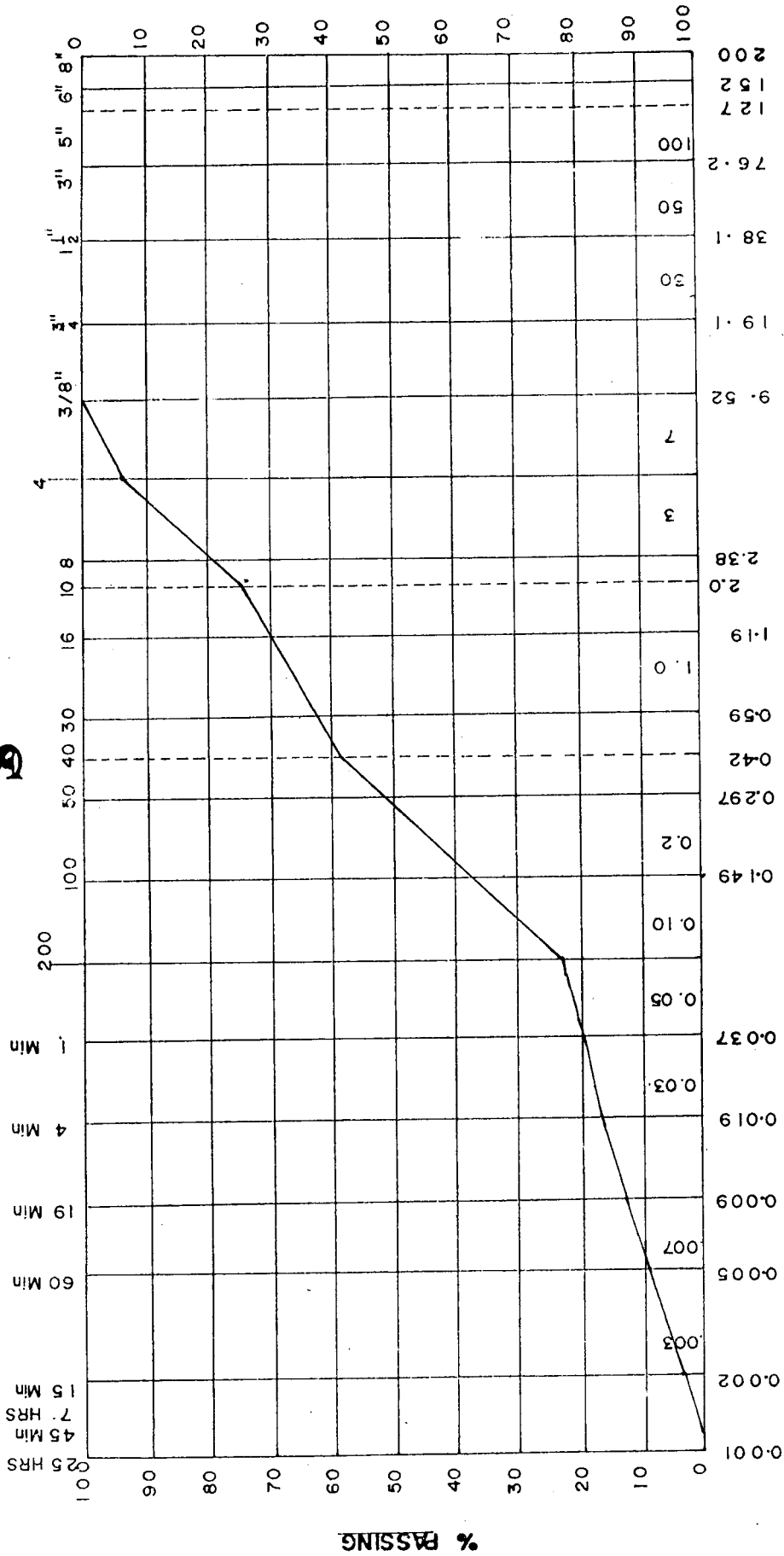


DATE -----
 SAMPLE No -----

PROJECT -----

HYDROMETER ANALYSIS

SIEVE ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | COBBLES |
|------------------|----------|--------|--------|------|--------|------|--------|--|---------|
| | GRAVEL % | SAND % | SILT % | FINE | COARSE | FINE | COARSE | | |
| SAMPLE No BH2 | | | | | | | | | |
| 9.0-10.0 | 6.2 | 70.7 | 23.1 | | | | | | |
| REMARKS | | | | | | | | | |

TOUKAN & SAKET

Geo. Research

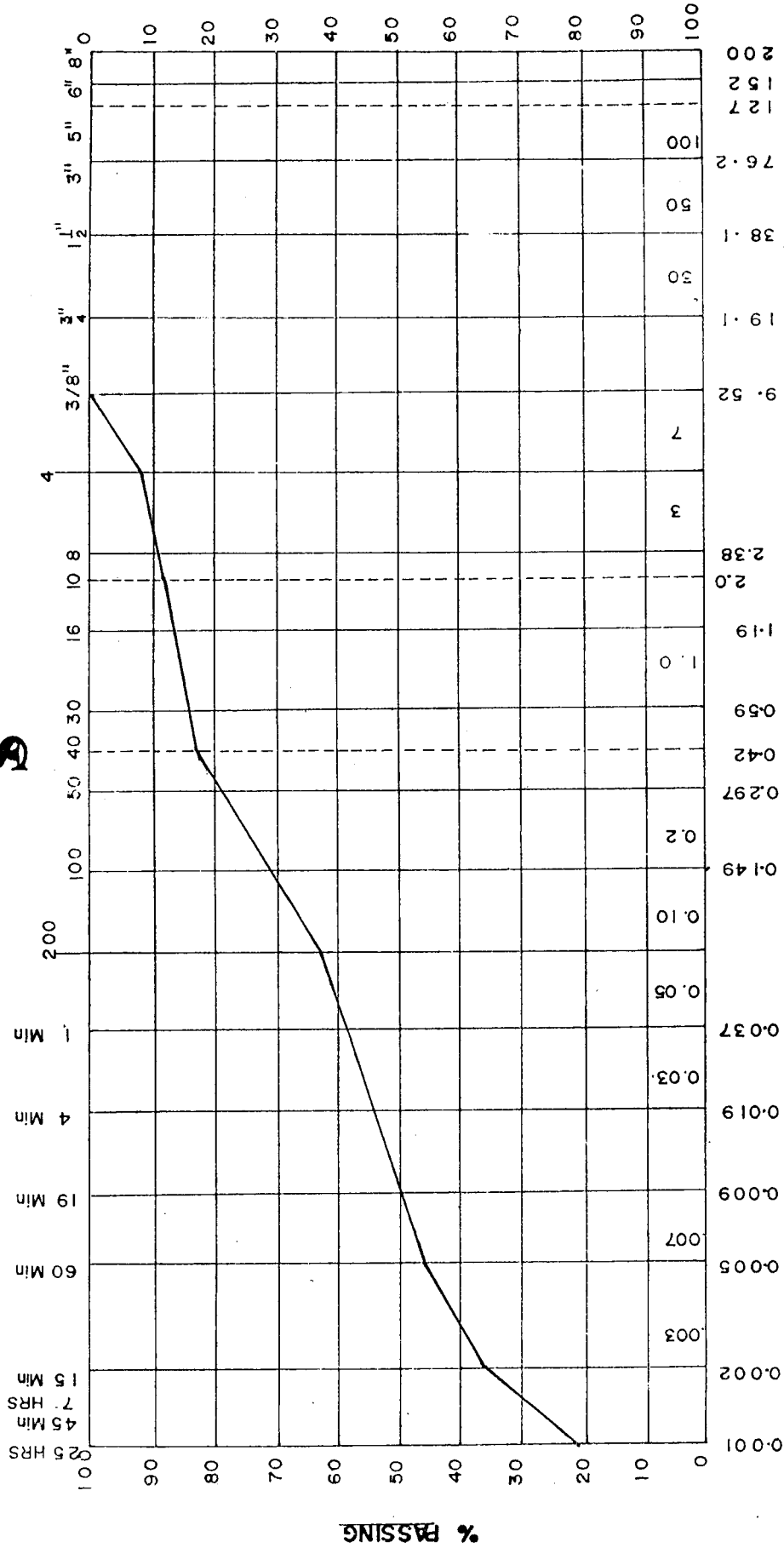


DATE -----
SAMPLE No -----

PROJECT -----

HYDROMETER ANALYSIS

SIEVE ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | COBBLES |
|-----------|----------|--------|--------|------|--------|--------|--------|--------|---------|
| | GRAVEL % | SAND % | SILT % | FINE | MEDIUM | COARSE | FINE | COARSE | |
| SAMPLE No | | | | | | | | | |
| BH.3 | | | | | | | | | |
| 1.0-2.0 | 8.0 | 29.0 | 26.5 | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| REMARKS | ----- | | | | | | | | |

TOUKAN & SAKET

Geo. Research

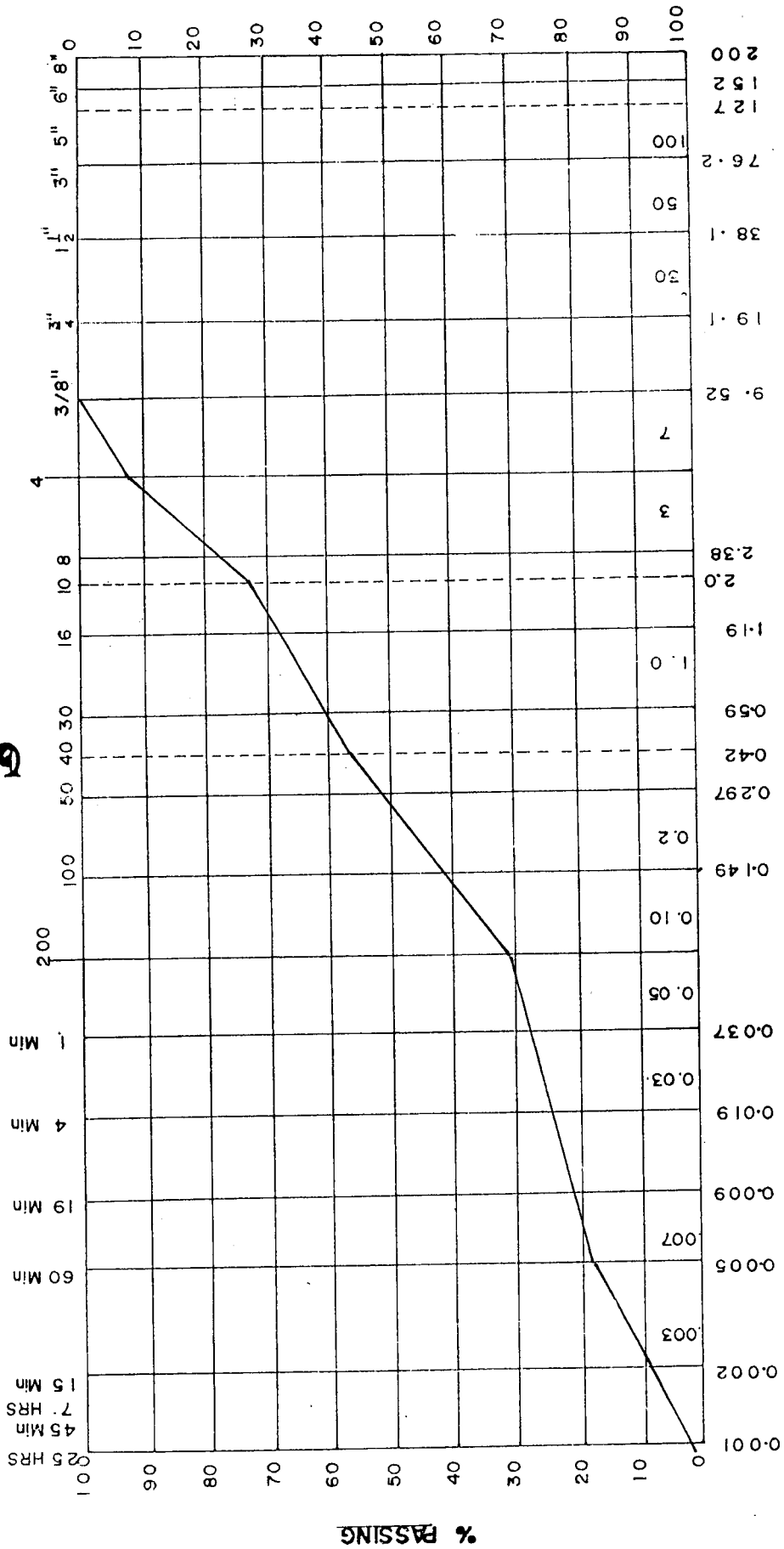


DATE _____
SAMPLE No _____

PROJECT _____

HYDROMETER ANALYSIS

SIEVE ANALYSIS



| CLAY | SILT | | SAND | | | GRAVEL | | COBBLES |
|-----------|----------|--------|--------|------|--------|--------|--------|---------|
| | GRAVEL % | SAND % | SILT % | FINE | COARSE | FINE | COARSE | |
| SAMPLE No | | | | | | | | |
| BH-3 | | | | | | | | |
| 30-40 | 7.2 | 61.5 | 22.5 | | | | | |
| | | | CLAY % | | | | | |
| | | | 8.9 | | | | | |
| REMARKS | | | | | | | | |

Toukan & Saket

Geo. Research

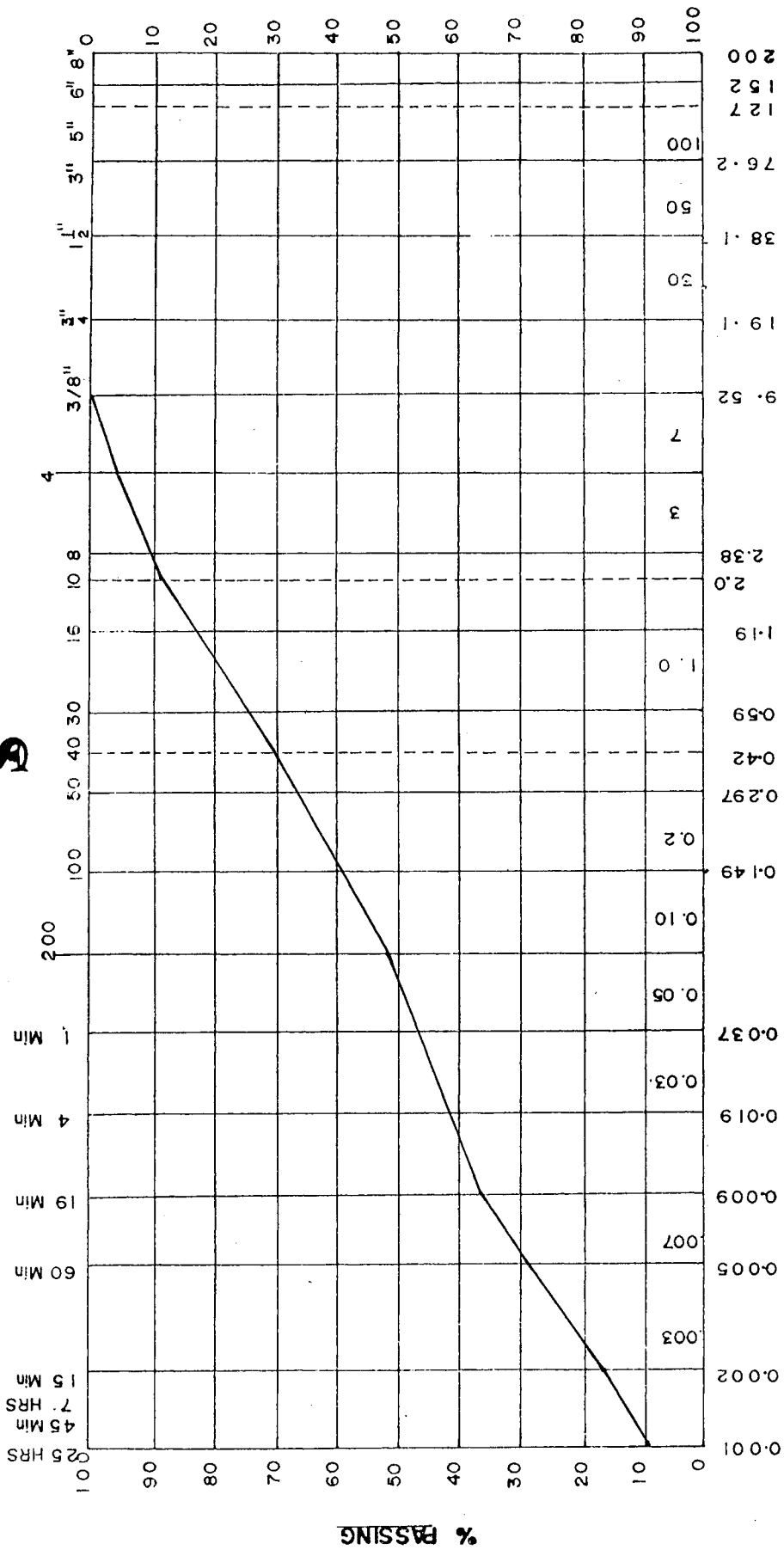


DATE -----
 SAMPLE No -----

PROJECT -----

HYDROMETER ANALYSIS

SIEVE ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | COBBLES |
|-------------------|----------|--------|--------|------|--------|--------|--------|--------|---------|
| | GRAVEL % | SAND % | SILT % | FINE | MEDIUM | COARSE | FINE | COARSE | |
| SAMPLE No BH-3 | | | | | | | | | |
| 9.0-10.0 | 4.2 | 43.8 | 35.0 | | | | | | |
| REMARKS | | | | | | | | | |
| | | | | | | | | | |

TOUKAN & SAKET

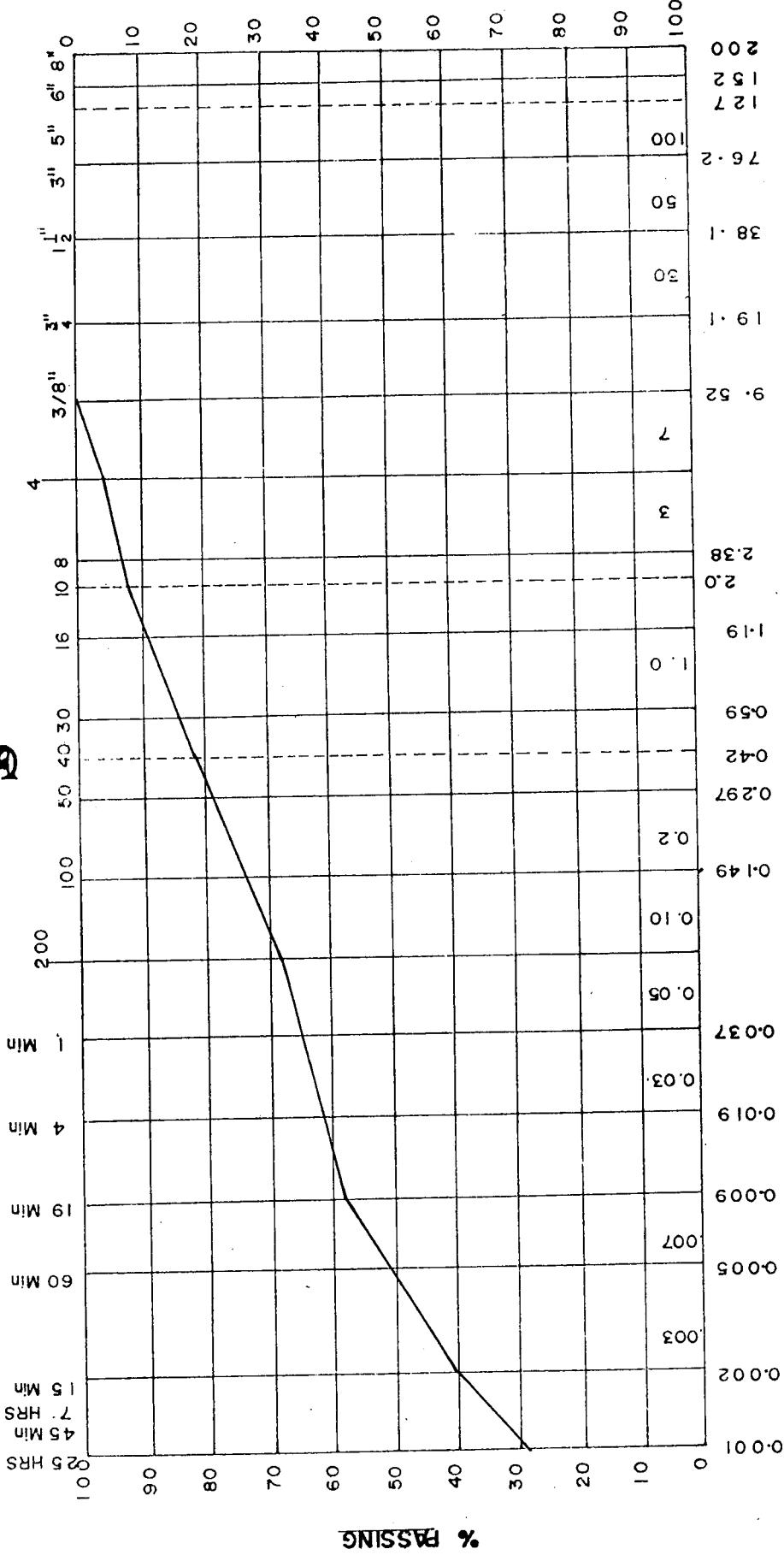
Geo. Research

DATE -----
 SAMPLE No -----

PROJECT -----

HYDROMETER ANALYSIS

SIEVE ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | COBBLES |
|------------------|----------|--------|--------|------|--------|--------|--------|--------|---------|
| | GRAVEL % | SAND % | SILT % | FINE | MEDIUM | COARSE | FINE | COARSE | |
| SAMPLE No BH4 | | | | | | | | | |
| 1.5-3.0 | 4.3 | 27.4 | 28.2 | | | | | | |
| | | | | | | | | | |
| REMARKS | | | | | | | | | |
| | | | | | | | | | |

TOUKAN & SAKET

Geo. Research

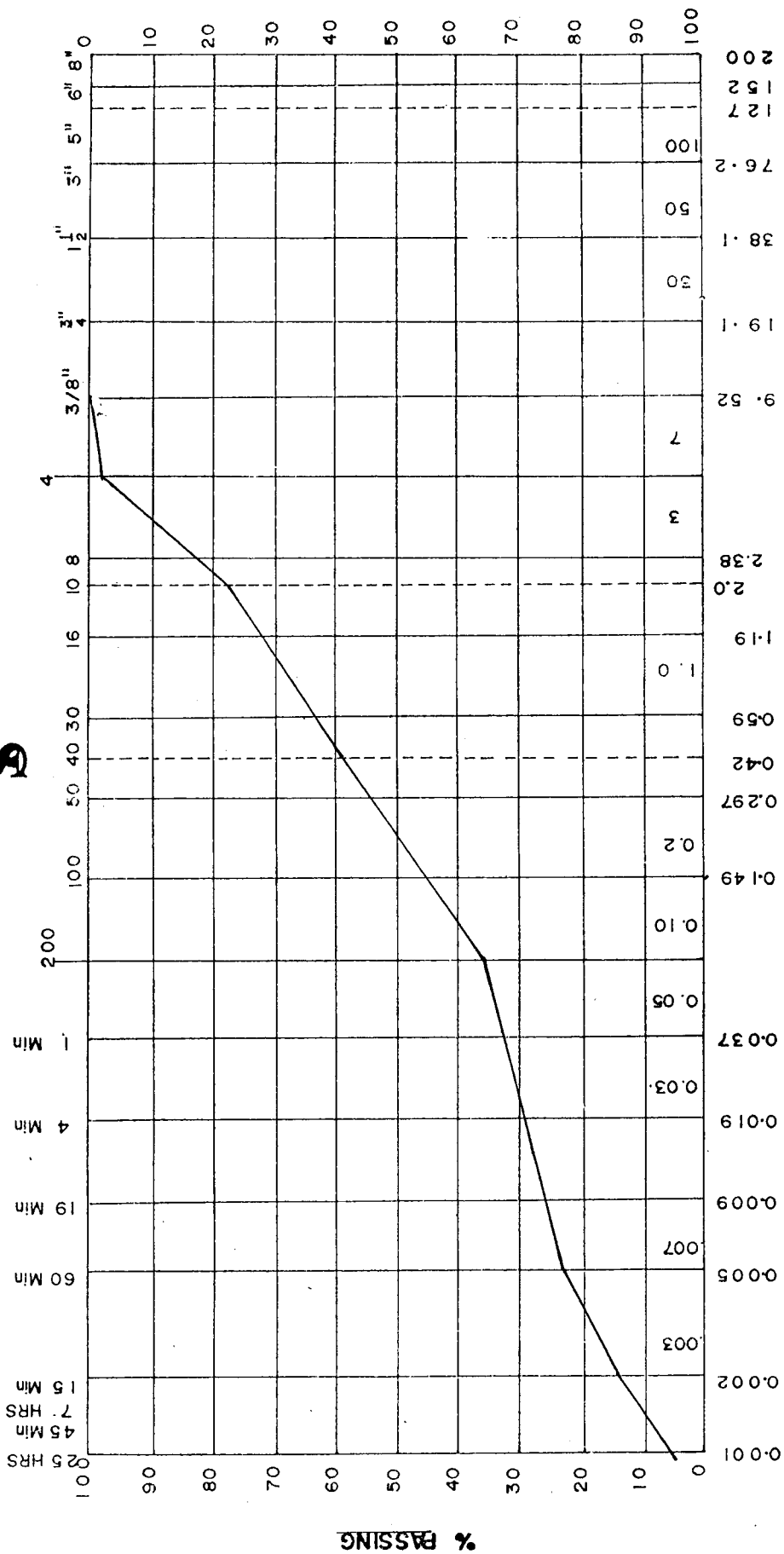


DATE -----
 SAMPLE No -----

PROJECT -----

HYDROMETER ANALYSIS

SIEVE ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | COBBLES |
|-------------------|----------|--------|--------|------|--------|--------|--------|--|---------|
| | GRAVEL % | SAND % | SILT % | FINE | COARSE | COARSE | FINE | | |
| SAMPLE No BH-5 | | | | | | | | | |
| 2.0-3.0m | 3.1 | 60.9 | 21.8 | | | | | | |
| REMARKS | ----- | | | | | | | | |

TOUKAN & SAKET

Geo. Research

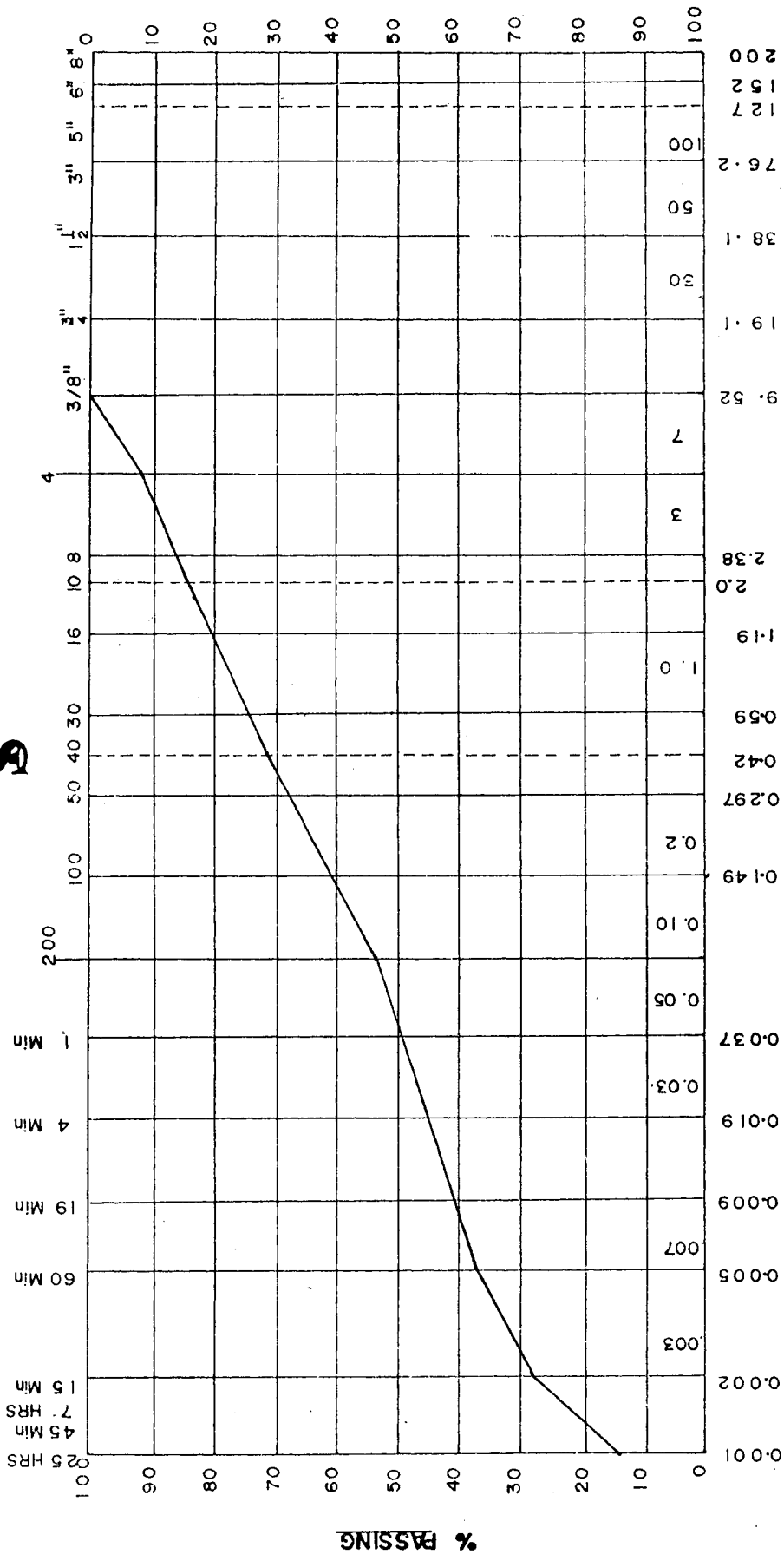


DATE _____
SAMPLE No _____

SIEVE ANALYSIS

HYDROMETER ANALYSIS

PROJECT _____



| CLAY | SILT | | | SAND | | | GRAVEL | | COBBLES | |
|-------------------|----------|--------|--------|------|--------|--------|--------|--------|---------|--|
| | GRAVEL % | SAND % | SILT % | FINE | COARSE | COARSE | FINE | COARSE | | |
| SAMPLE No BH 6 | | | | | | | | | | |
| ee = 1.5 | 8.2 | 37.7 | 26.3 | | | | | | | |
| REMARKS | CLAY % | | | | | | | | | |
| | | | | | | | | | | |

DATE -----
 SAMPLE No -----

TOUKAN & SAKET

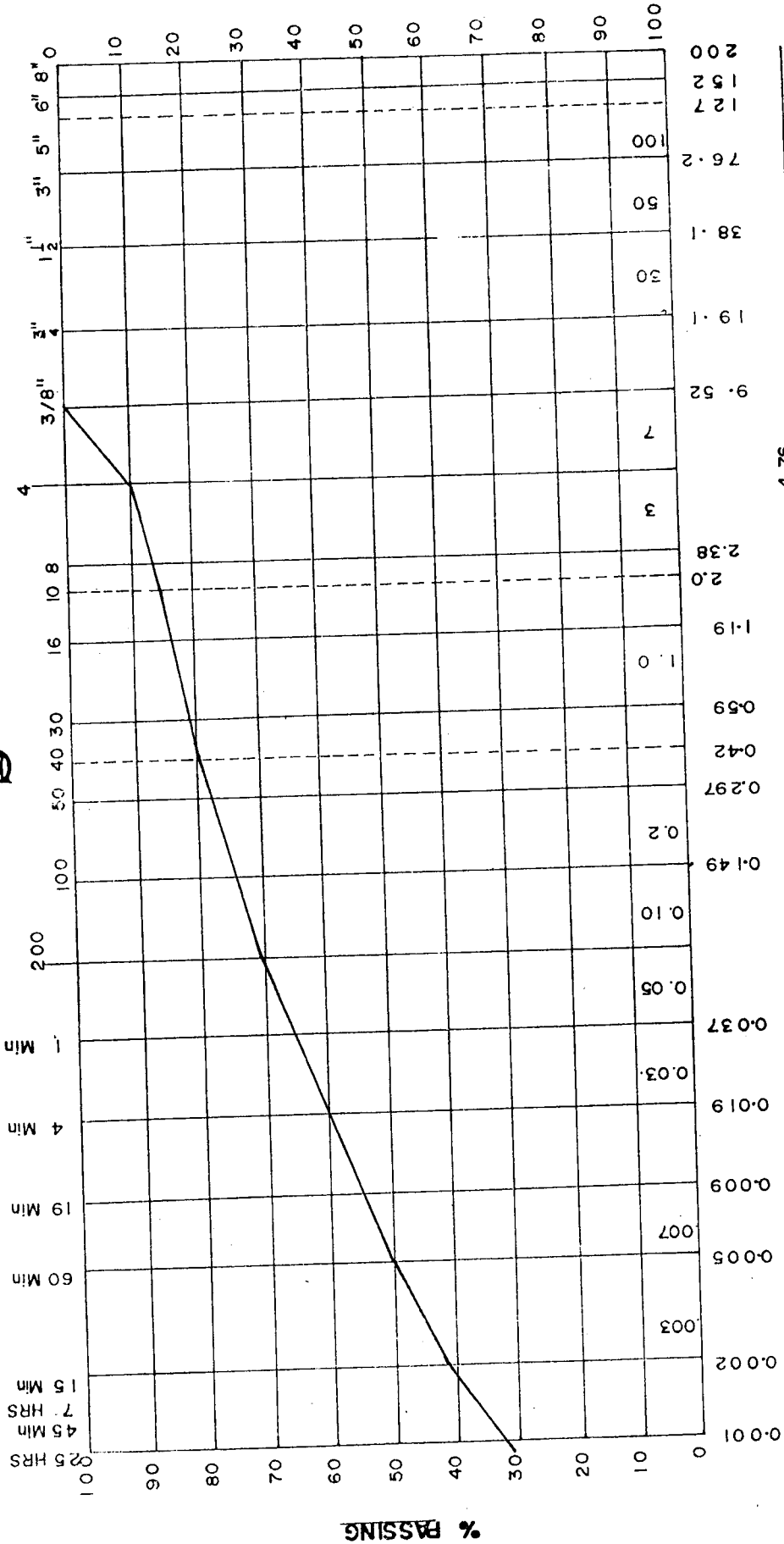
Geo. Research



PROJECT -----

HYDROMETER ANALYSIS

SIEVE ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | COBBLES |
|------------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------|
| | FINE | MEDIUM | COARSE | FINE | COARSE | FINE | COARSE | | |
| SAMPLE No BH7 | GRAVEL % 9.8 | SAND % 19.2 | SILT % 29.8 | FINE | MEDIUM | COARSE | FINE | COARSE | |
| 0.075 - 0.0075 | 9.8 | 19.2 | 29.8 | 0.075 - 0.0075 | 0.075 - 0.0075 | 0.075 - 0.0075 | 0.075 - 0.0075 | 0.075 - 0.0075 | |
| REMARKS | CLAY % 41.2 | | | | | | | | |

TOUKAN & SAKET

Geo. Research

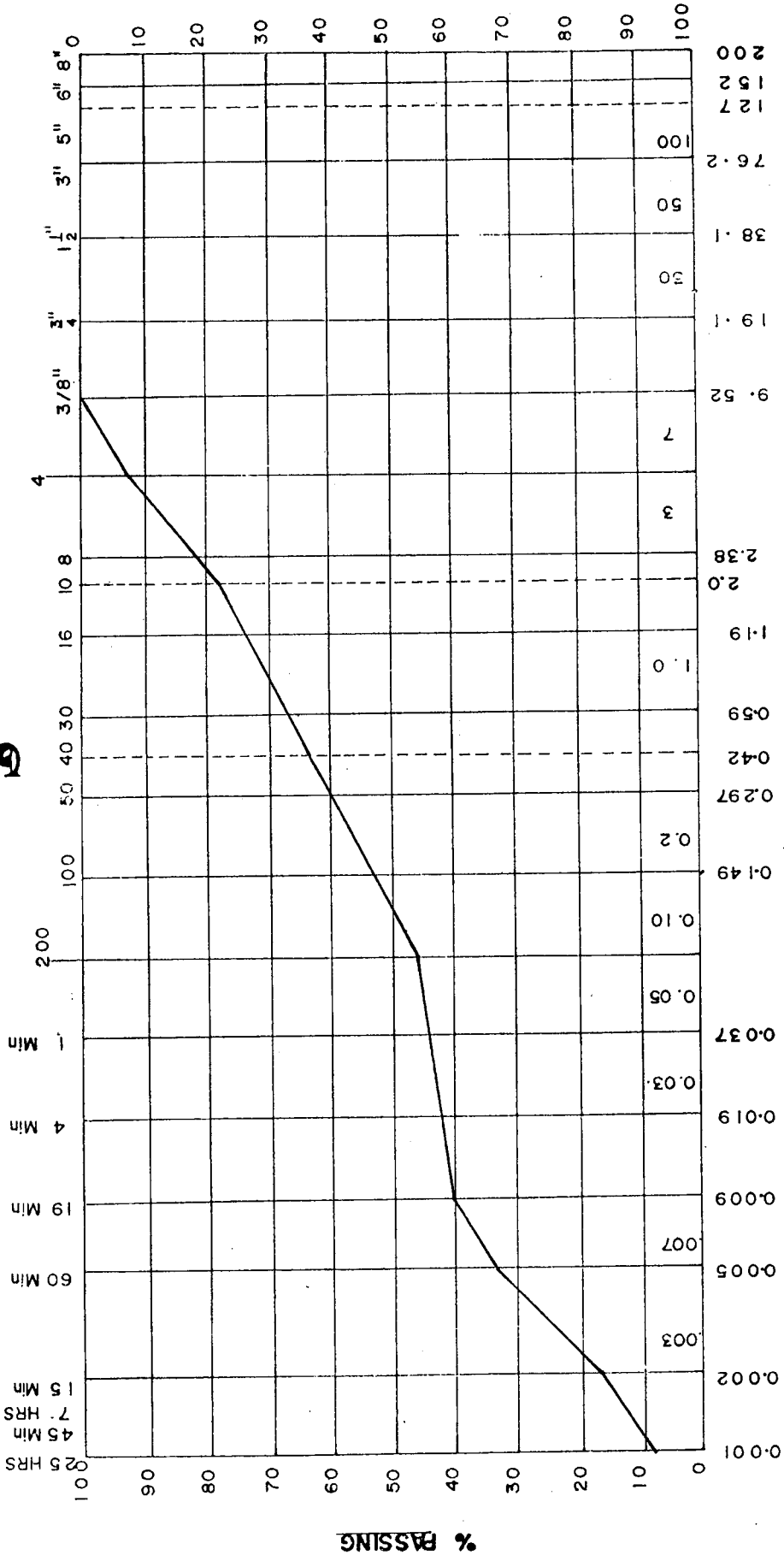


DATE -----
 SAMPLE No -----

PROJECT -----

HYDROMETER ANALYSIS

SIEVE ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | COBBLES | |
|--------------------|----------|--------|--------|------|--------|--------|--------|------|---------|--------|
| | GRAVEL % | SAND % | SILT % | FINE | COARSE | MEDIUM | COARSE | FINE | | COARSE |
| SAMPLE No B H Ø | 7.2 | 46.5 | 29.3 | | | | | | | |
| 4.0-5.0 m | | | | | | | | | | |
| REMARKS | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

TOUKAN & SAKET

Geo. Research

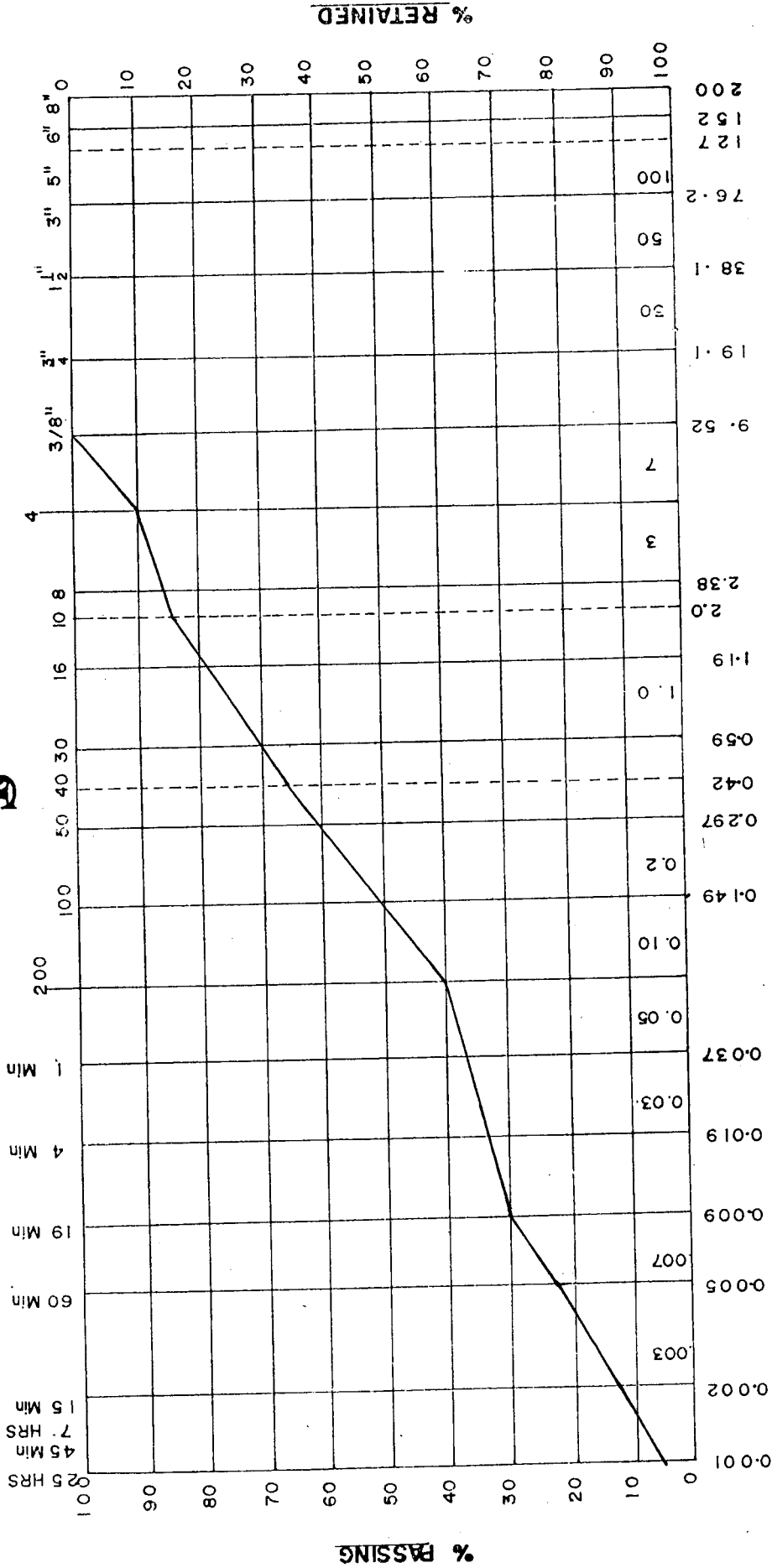


DATE -----
SAMPLE NO -----

PROJECT -----

SIEVE ANALYSIS

HYDROMETER ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | COBBLES |
|-------------------------------|----------|--------|--------|------|--------|--------|--------|--------|---------|
| | GRAVEL % | SAND % | SILT % | FINE | COARSE | MEDIUM | COARSE | COARSE | |
| SAMPLE No BHR 2-2-3-0-2 | 10.0 | 50.0 | 27.2 | 0.2 | 0.10 | 1.0 | 2.0 | 19.1 | 12.7 |
| CLAY % | | | | 0.49 | 0.05 | 0.59 | 2.38 | 38.1 | 20.0 |
| GRAVEL % | | | | 0.2 | 0.03 | 0.42 | 2.0 | 76.2 | |
| SAND % | | | | 0.10 | 0.037 | 0.59 | 2.0 | 38.1 | |
| SILT % | | | | 0.49 | 0.037 | 0.42 | 2.0 | 38.1 | |
| CLAY % | | | | 0.49 | 0.037 | 0.42 | 2.0 | 38.1 | |
| REMARKS | 12.8 | | | | | | | | |

TOUKAN & SAKET

Geo. Research

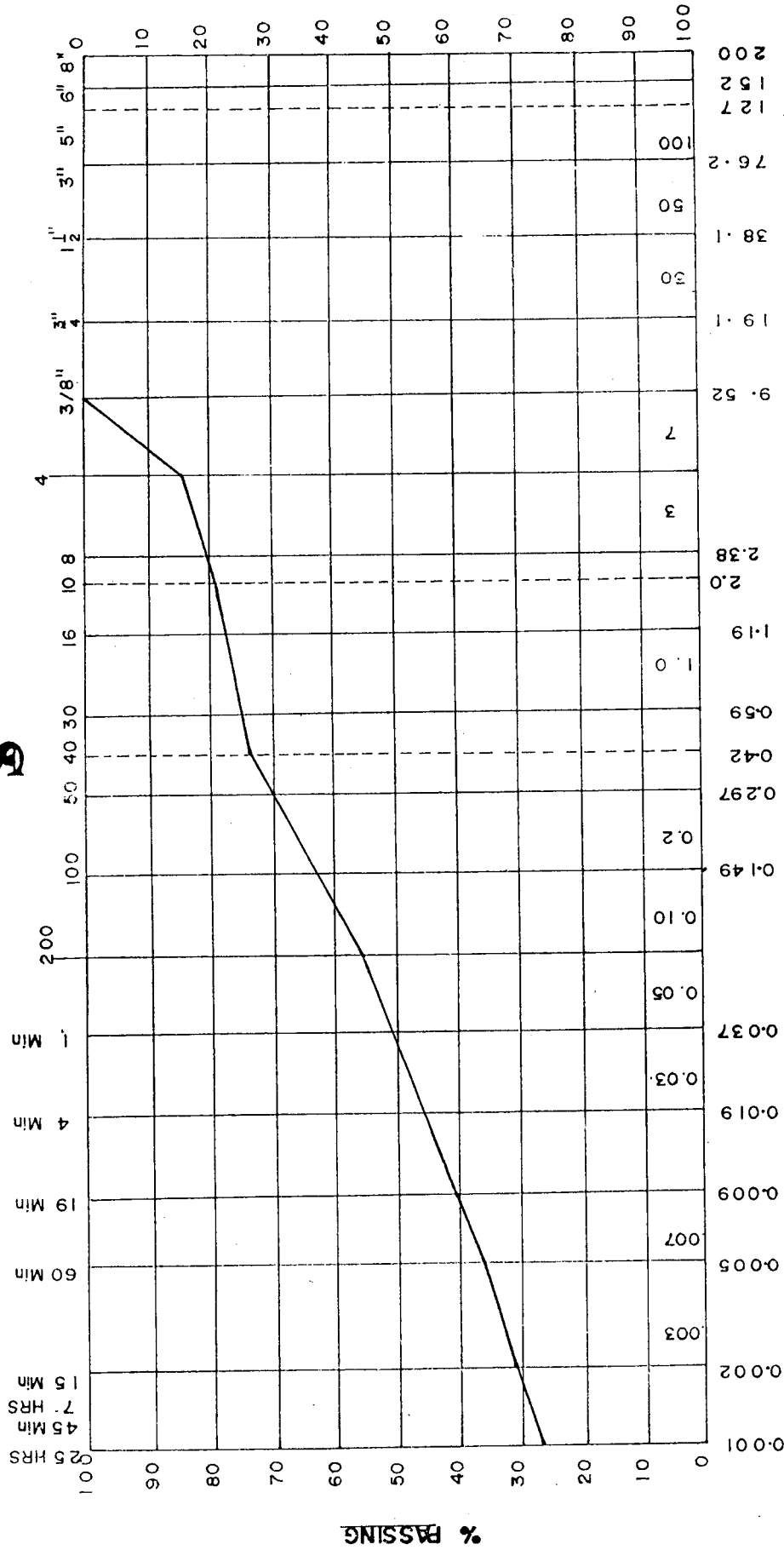


DATE -----
SAMPLE No -----

PROJECT -----

SIEVE ANALYSIS

HYDROMETER ANALYSIS



| CLAY | SILT | | | SAND | | | GRAVEL | | | COBBLES |
|-------------------------|-------------|-------------|-------------|------|--------|--------|--------|------|--------|---------|
| | GRAVEL % | SAND % | SILT % | FINE | COARSE | MEDIUM | COARSE | FINE | COARSE | |
| SAMPLE No BH8 | | | | | | | | | | |
| 3.0-4.0 | 15.1 | 28.7 | 24.8 | | | | | | | |
| | | | 31.4 | | | | | | | |
| REMARKS ----- | | | | | | | | | | |

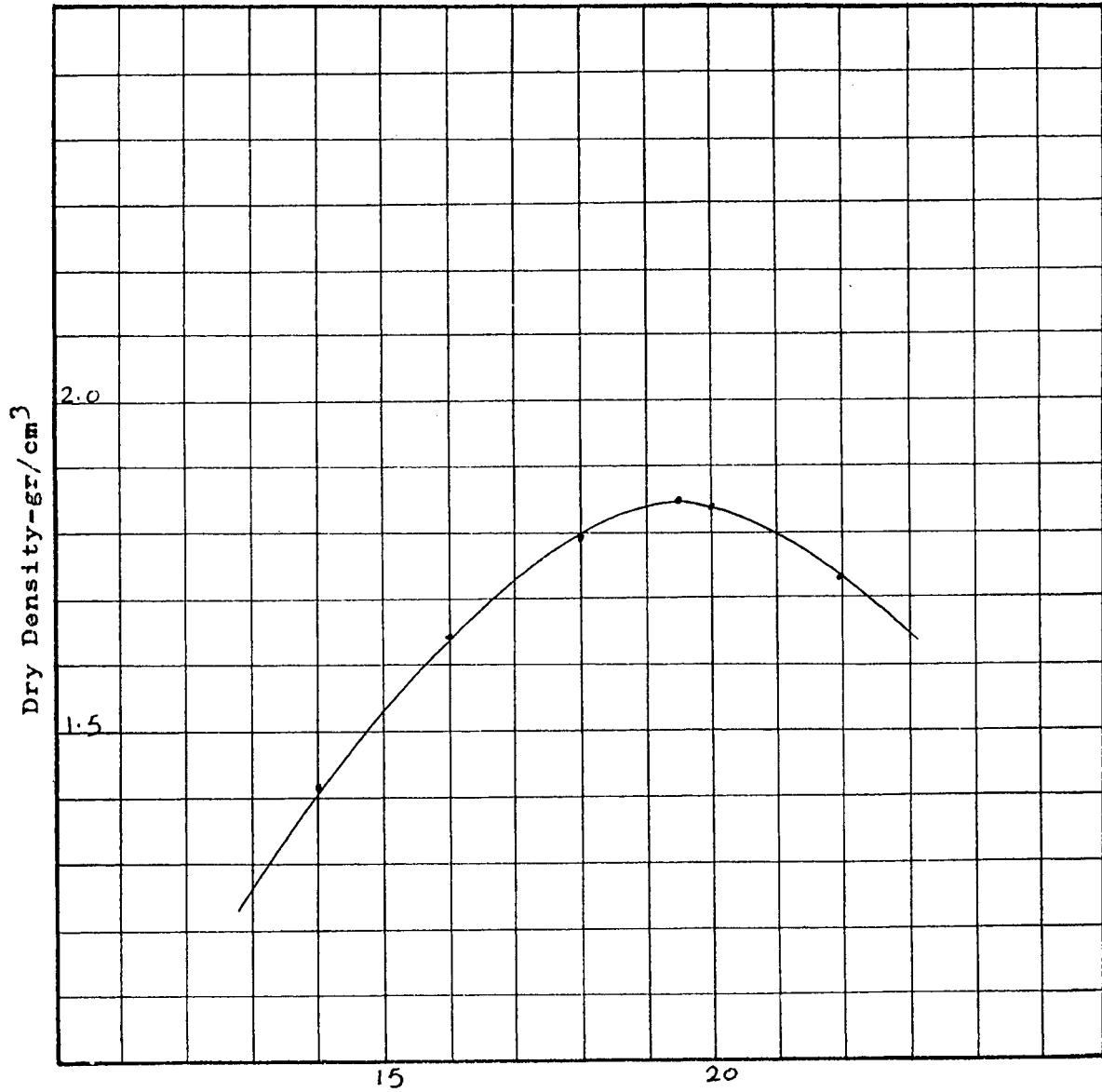


Geo-Research

Proctor Compaction Test

Sample No.: T.P.2 (1.0-2.0)m

Project:



Max. Dry Density = 1.85 gr/cm³

Moisture Content (%)

Optimum Moisture Content = 19.5%

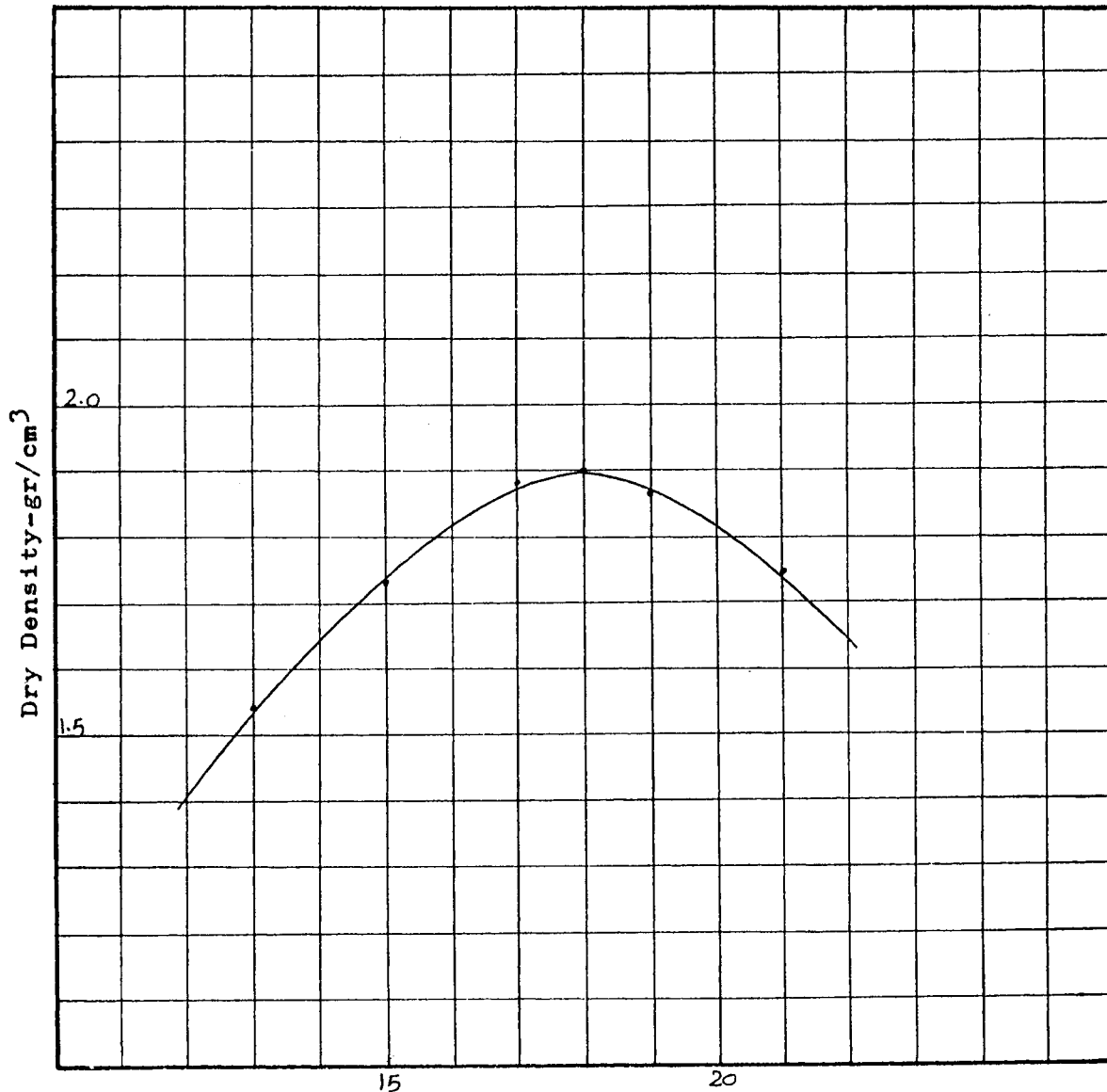


Geo-Research

Proctor Compaction Test

Sample No.: T.P.1 (0.0-1.0)m

Project:



Max. Dry Density = 1.9 gr/cm³

Moisture Content (%)

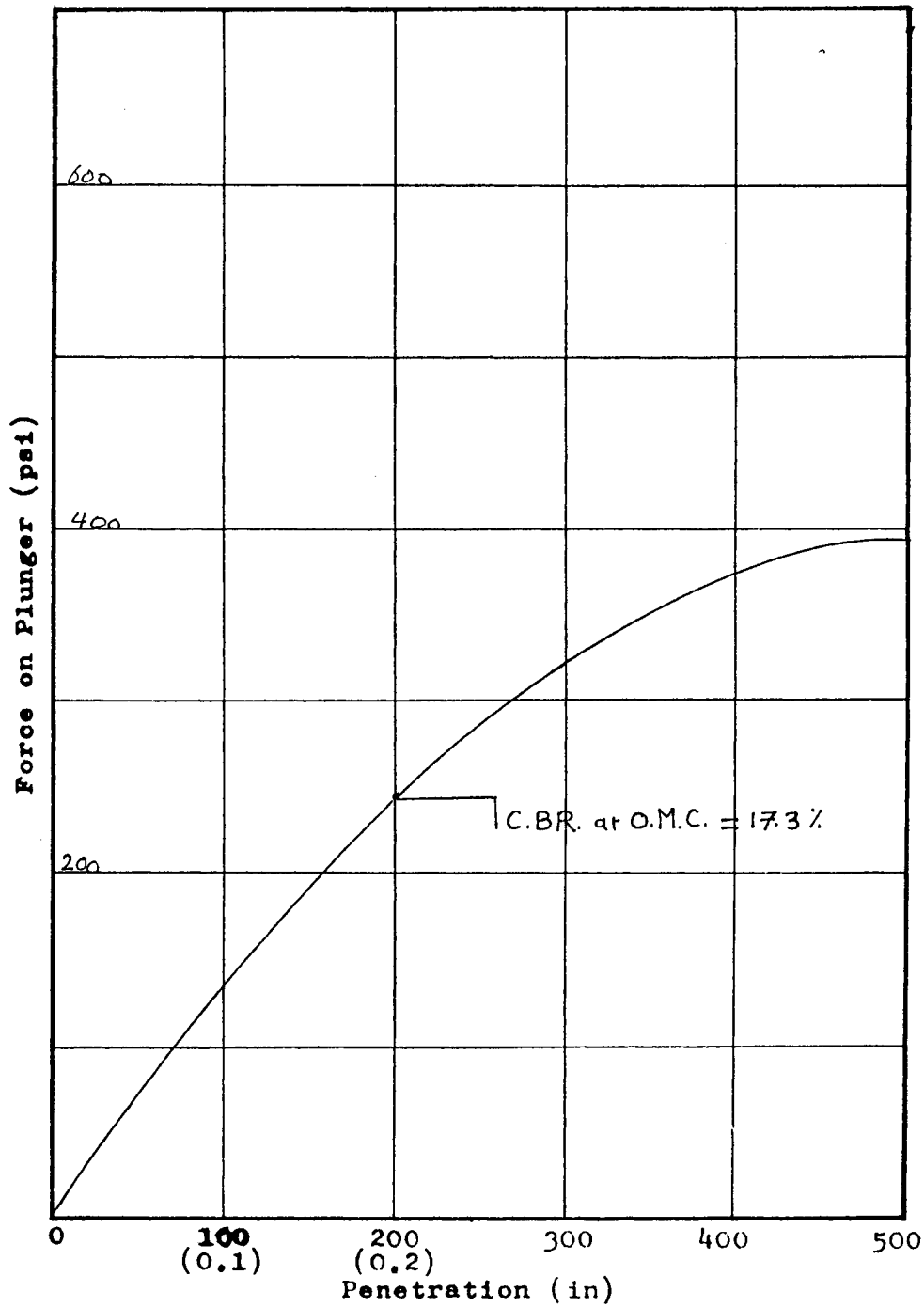
Optimum Moisture Content = 18.0%



Gee-Research
California Bearing Ratio

Project:

Sample No.: T.P.2 (1.0-2.0)m



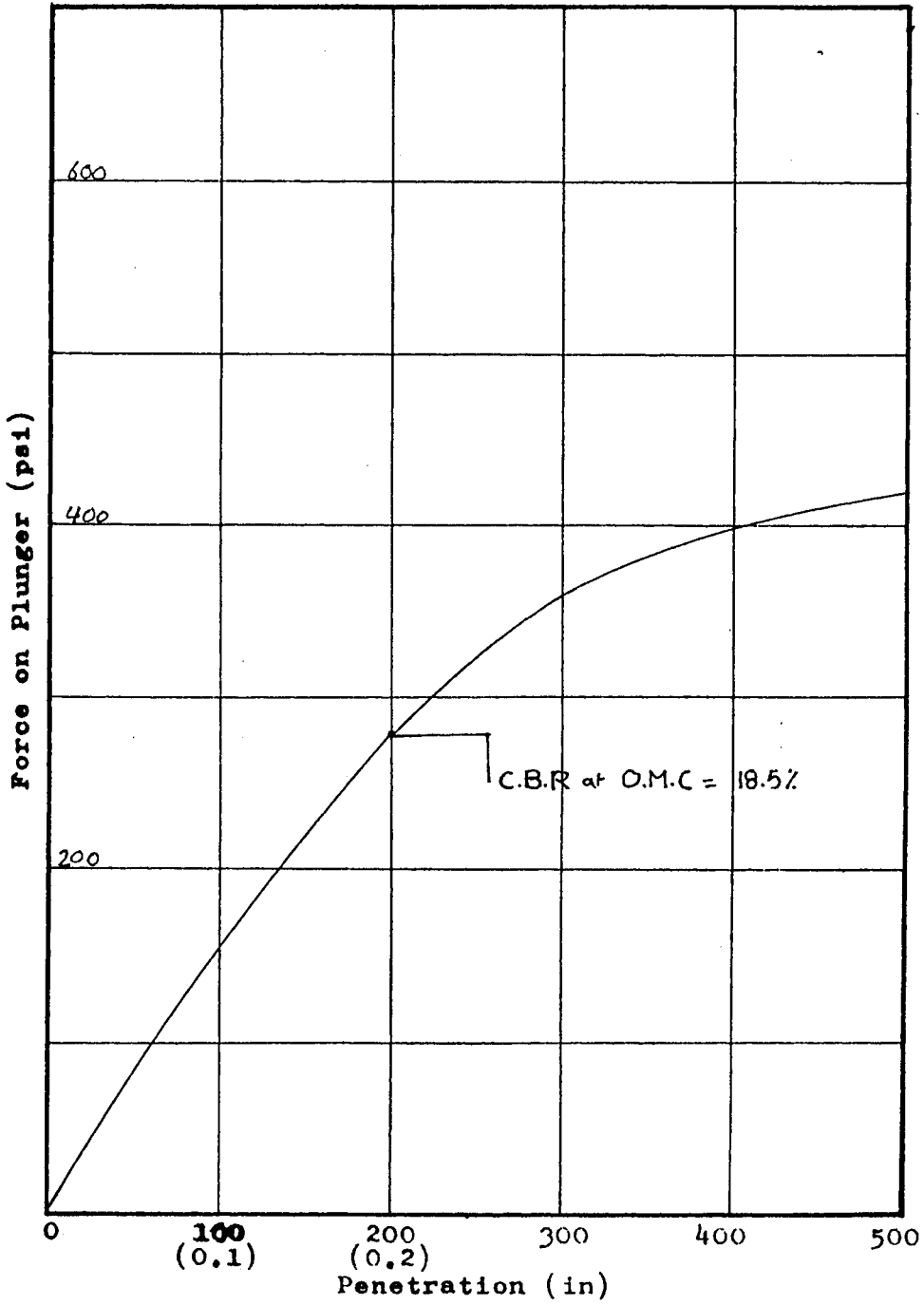
Remarks:



Geo-Research
California Bearing Ratio

Project:

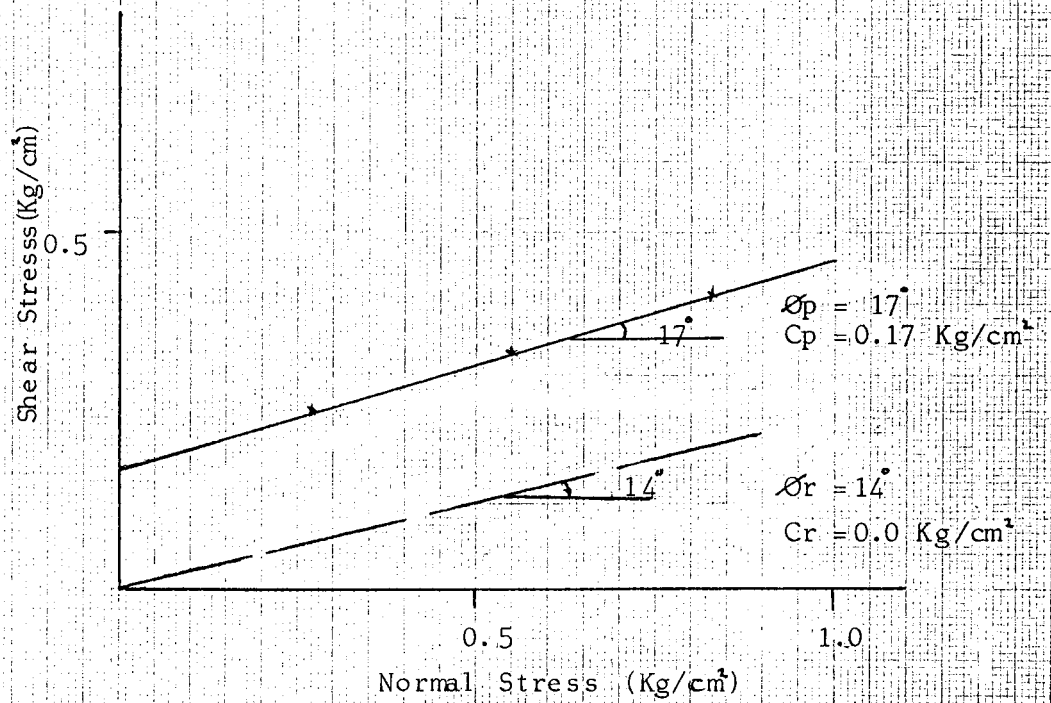
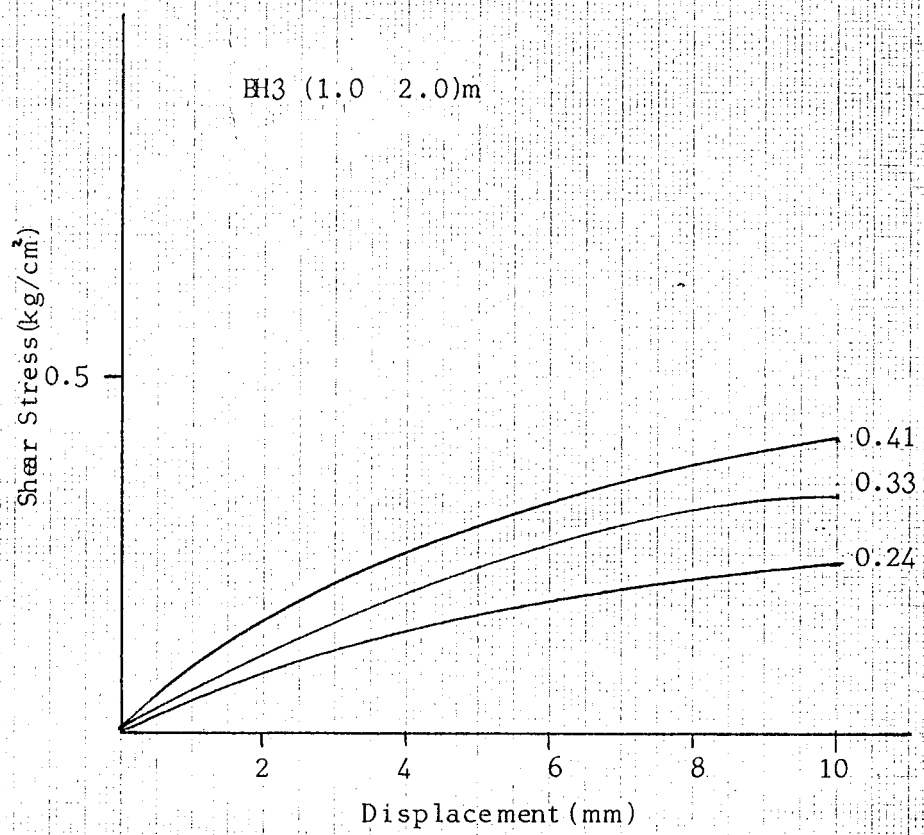
Sample No.: T.P.1 (0.0-1.0)m

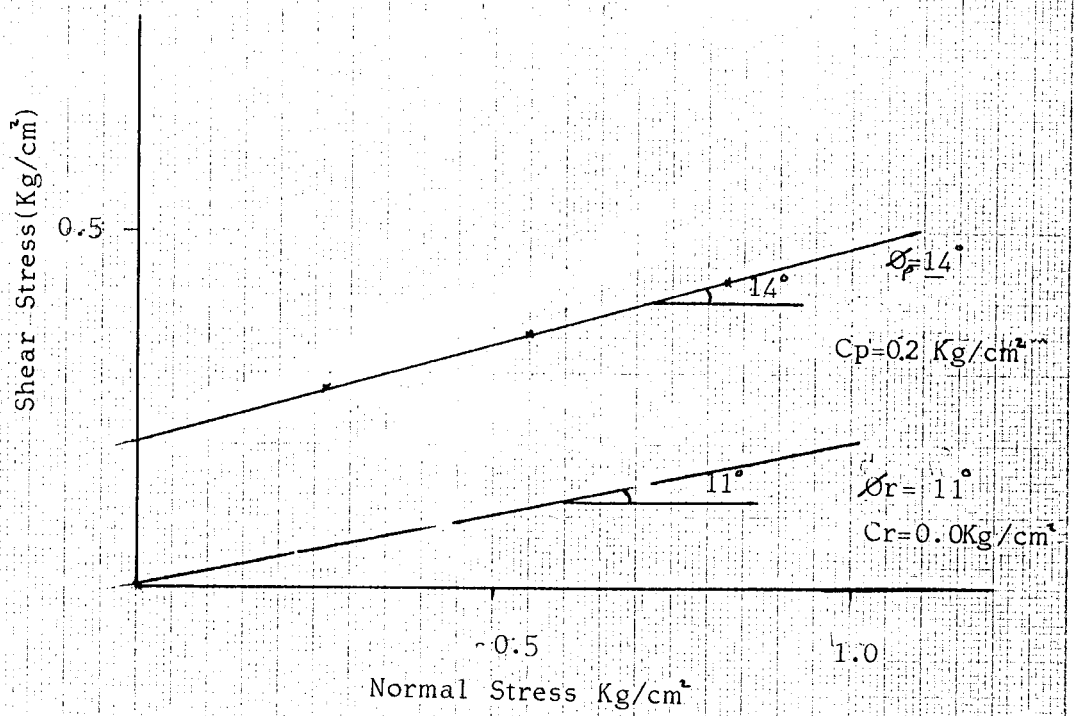
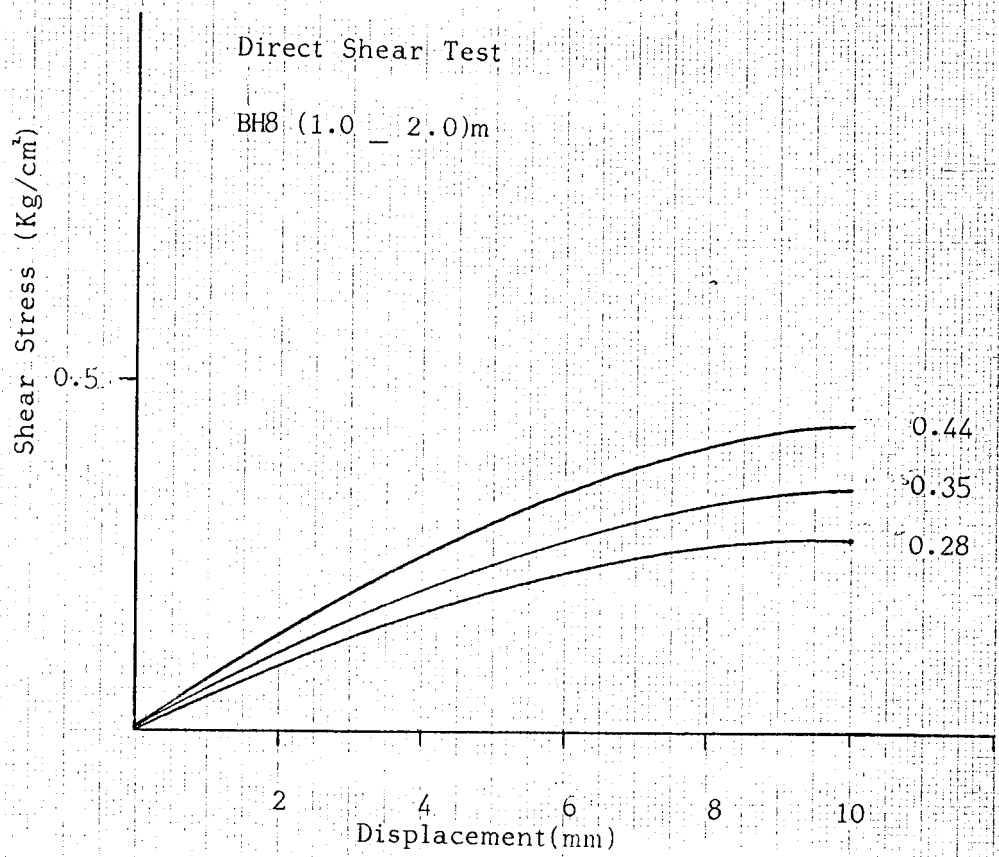


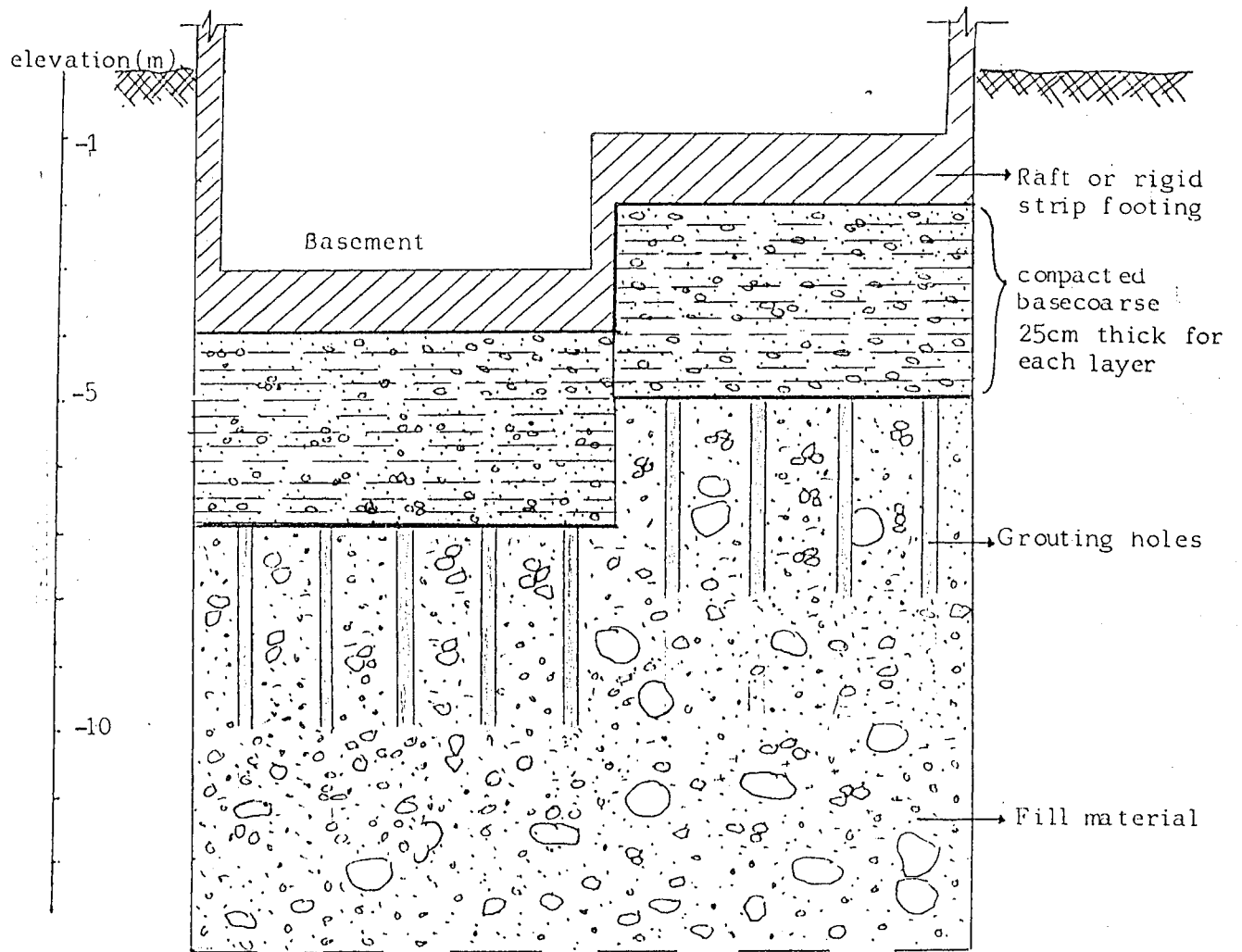
Remarks:

Direct Shear Test

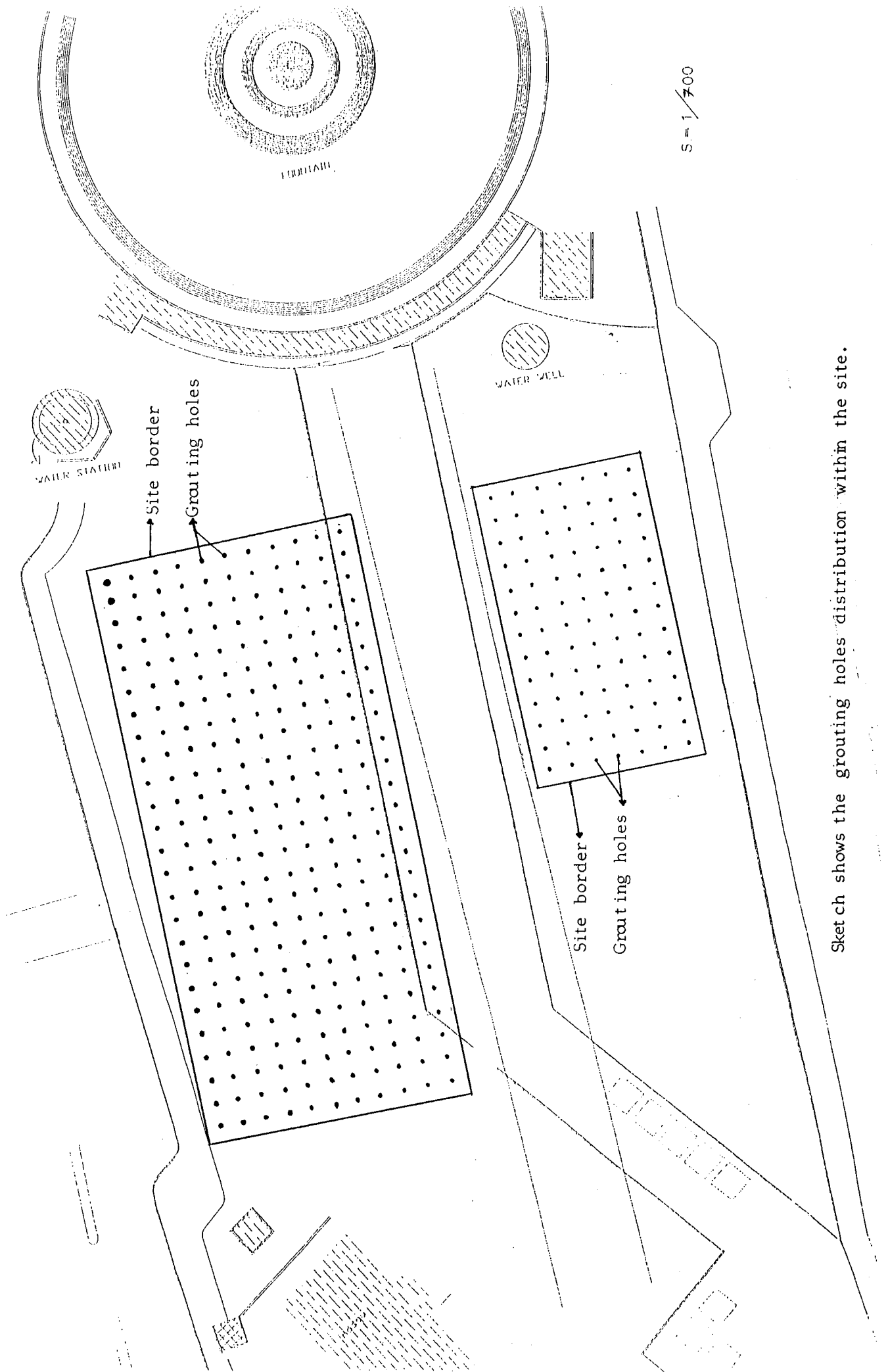
H13 (1.0 2.0)m





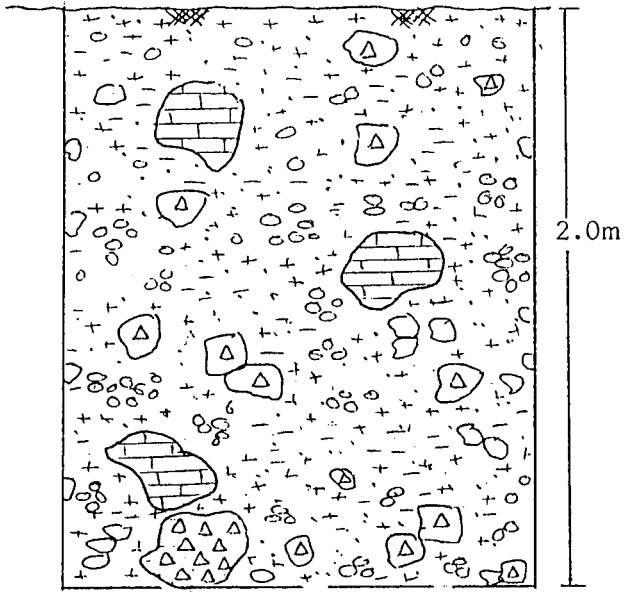


Sketch Shows the treatment stages of alternative (B) for the ground.



Sketch shows the grouting holes distribution within the site.

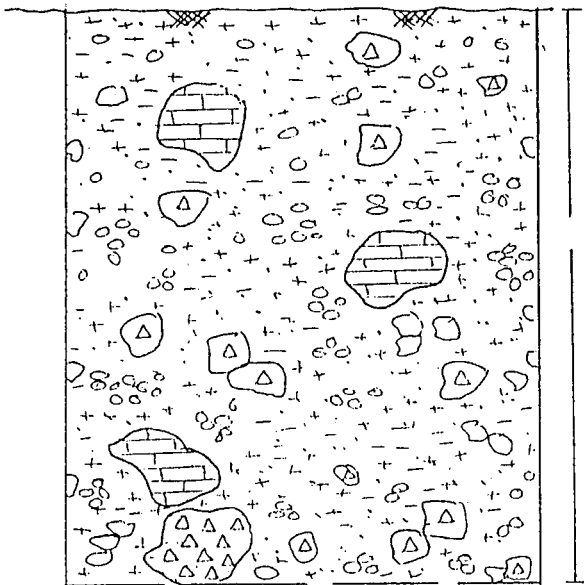
Material discription



Brown sandy silty clay with gravels, cobbles and some boulders of chert and limestone.

Cross section in test pit No.1

Material discription



Brown sandy silty clay with gravels, cobbles and some boulders of chert and limestone.

Cross section in test pit No. TP2

APPENDIX K

QUERY FORM

QUERY FORM

APPENDIX K

Query No.: _____

Date: _____

| Name of Document | Page No. | Clause or Section No. | Question |
|------------------|----------|-----------------------|----------|
| | | | |

** Use additional page if required.

(Signature and name of authorized representative of Tenderer)

(Name of Tenderer)

THE MINISTRY OF TOURISM & ANTIQUITIES

THE TOURISM SECTOR DEVELOPMENT PROJECT

INSTRUCTIONS TO TENDERERS

FOR

CONSTRUCTION OF NATIONAL MUSEUM SUB-PROJECT

ENCLOSURES

ENCLOSURE NO. 1 : POWER OF ATTORNEY

ENCLOSURE NO. 2 : CERTIFICATE OF SUBMISSION OF TENDER SECURITY

ENCLOSURE NO. 3 : JOINT OPERATION AGREEMENT

ENCLOSURE NO. 4 : LETTER OF ASSOCIATION

ENCLOSURE NO. 5 : AFFIDAVIT OF SITE INSPECTION

ENCLOSURE NO. 6 : BASIC PROGRAM OF THE WORKS

ENCLOSURE NO. 7 : CONTRACTOR' S ORGANIZATION CHART

ENCLOSURE NO. 8 : OUTLINE CONSTRUCTION PLAN AND PROPOSED LAYOUT PLAN
FOR TEMPORARY WORKS

ENCLOSURE NO. 9 : LIST OF CONTRACTOR' S EQUIPMENT TO BE USED ON THE
WORKS

ENCLOSURE NO. 10 : LIST OF MAJOR MATERIALS AND PLANT FOR THE WORKS

INSTRUCTIONS TO TENDERERS

ENCLOSURE NO. 11 : LIST OF SUB-CONTRACTORS/SUPPLIERS

ENCLOSURE NO. 12 : LIST OF INTENDED IMPORT MATERIALS AND PLANT

ENCLOSURE NO. 13 : BREAKDOWN OF MAJOR RATES

ENCLOSURE NO. 14 : DETAILED MONTHLY CASH FLOW OF ANTICIPATED
CONTRACT PAYMENTS

Notes :

- 1) Enclosures shall each be read in conjunction with the Tender Documents.
- 2) Enclosures shall be signed and returned with the Tender in strict accordance with the requirements of appropriate Clause of Instructions of Tenderers.

POWER OF ATTORNEY

Name : _____

Position : _____

Name of Company: _____

Business Address : _____

Telephone : _____

Facsimile : _____

I, the undersigned, hereby declare that we : _____ give authorization to the above mentioned person who is empowered by us to communicate with the MPWH/Engineer or other such authorized Party insofar as the “ Instructions to Tenderer” so permit during the Tendering period.

Date prepared : _____

Name of Tenderer : _____

Signature of Tenderer : _____

Official Stamp :

CERTIFICATE OF SUBMISSION OF TENDER SECURITY

WHEREAS we have prepared a Tender Security in accordance with the Tender Documents for the Tourism Sector Development Project, NATIONAL MUSEUM Sub-project, and it is a condition of the aforesaid Tender Documents that the Tenderer shall furnish a Tender Security in the amounts of J.D.-----.

We hereby certify that a Tender Security complying with the above and in the form as prescribed in the Tender Documents has been prepared and completed by the Guarantor

_____ (Name of Bank)
included in the Package – II Documents.

Signature of authorized representative of the Tenderer: _____

Name of authorized representative : _____

Name of Tenderer : _____

Note: This certificate shall be enclosed in the Package –I Documents.

JOINT OPERATION AGREEMENT

The Tenderer shall submit with his Tender a Joint Operation Agreement in accordance with the Sub-Clause 20-1, c, 3) of the Instructions to Tenderers, clearly labeled as Enclosure No. 3.

LETTER OF ASSOCIATION

The Tenderer shall submit with his Tender a Letter of Association in accordance with the Sub-Clause 20-1, c, 4) of the Instructions to Tenderers, clearly labeled as Enclosure No. 4.

AFFIDAVIT OF SITE INSPECTION

1. This is to certify that I, _____ (name)
on behalf of _____ (name of Tender), declare that
we have visited and inspected the Site and its surroundings and have fully satisfied ourselves of all the
requirements of the Instruction to Tenderers.

- 2 We have also:
 - (1) Studied the Tender Documents in detail; and
 - (2) informed ourselves fully and taken account into our Tender of all national and local laws,
decrees, ordinances, acts, regulations and other circumstances and conditions which may
affect the satisfactory completion and timely performance of the Contract and the cost to
us thereof.

3. I further certify that we are satisfied with the description of the Works and the written explanation
given by the MPWH and that we understand perfectly the scope of works to be executed.

Signature of Tenderer : _____

Name of Tenderer : _____

Date prepared : _____

Official Stamp :

BASIC PROGRAM OF THE WORKS

The Tenderer shall submit with his Tender a “Basic Program of the Works” clearly labeled as Enclosure No.6. The program shall indicate the timing, proposed sequence and order of execution of the Works, and take full account of the stipulated completion period.

The Program shall be submitted in Bar Chart form with plotted time/percentage completion together with a Critical Path Network detailing activities.

The “Basic Program of the Works” shall indicate:

- (1) Key dates/period;
(Refer to enclosed General Construction Schedule, as “ Appendix H’)
- (2) Interdependence of the individual activities;
- (3) Earliest/latest start and earliest/latest end of the each activity;
- (4) Manufacture and shipment of the Materials and Plants to be incorporated to the Works.
- (5) Transport and materials delivery to the Site;
- (6) Mobilization schedule of Contractor’ s and Sub-contractor’ s equipments
- (7) Shop fabrication.
- (8) Working sequence of street and trail pavement.
- (9) Testing and Commissioning etc
- (10) Temporary works including soil erosion and sedimentation control and protection during foundation works.
- (11) Temporary pedestrian and car traffic control and diversion plans.
- (12) Removal of Contractor’ s Equipment;
- (13) Clearing the Site upon completion; and
- (14) Protection of works

ALL PAGES OF THIS ENCLOSURE AS SUBMITTED SHALL BE SIGNED BY THE TENDERER AND ENDORSED WITH THE TENDERER’ S COMPANY STAMP.

ENCLOSURE NO. 7

CONTRACTOR' S ORGANIZATION CHART

The Tenderer shall submit with his Tender a detailed organization chart clearly labeled as Enclosure No.7. The organization chart shall include an illustration of the Contractor' s proposed management structure for the Works:

- (1) The Project management and supervisory organization on Site;
- (2) Relevant head office structure in relation to the Project control.
- (3) Maintenance Organization during and after the Defect Liability Period.

Principal personnel including Project management, administrative, technical and supervisory staff, foreign and local, shall each be named or referenced in the Organization Chart and, in addition, the Tenderer shall submit:

- (1) An assignment schedule for each personnel in the form of bar chart, indicating whether full or part time and the proposed period of assignment;
- (2) Comprehensive Curriculum Vitae for personnel, describing names, position, qualifications, age and relevant experience, company name if the Tenderer has been pre-qualified in association with other companies as a Joint venture/Consortium and their authorities
- (3) Monthly manpower requirement chart for the total Contract Period and categorized into management, supervision, engineering, administrative and labor for both foreign and local.

ALL PAGES OF THIS ENCLOSURE AS SUBMITTED SHALL BE SIGNED BY THE TENDERER AND ENDORSED WITH THE TENDERER' S COMPANY STAMP.

**OUTLINE CONSTRUCTION PLAN AND PROPOSED LAYOUT PLAN FOR TEMPORARY
WORKS**

The Tenderer shall submit the following with his Tender, clearly labeled as Enclosure No. 8.

- (1) An Outline Construction Plan; and
- (2) A proposed Layout Plan for Temporary Works.

The Outline Construction Plan shall include the following:

- (1) A method statement for each respective part of the Works describing the intended construction methods to be employed in the Works;
- (2) A detailed description of the proposed sequences for the execution and completion of the Works;
- (3) Anticipated labor levels (expressed in man-days) for the Works thereof including any works offsite;
- (4) Proposed detail quality control procedures and including:
 - : Site testing and commissioning method and procedure
 - : Manufacturer' s quality control procedure
 - : Proposed on-site/off-site independent laboratory or testing agency
- (5) Proposed Site safety/security control and protection of existing live utilities during construction period.
- (6) Temporary pedestrian and car traffic control and diversion plans.

The proposed layout plan for Temporary Works shall be accompanied by drawings indicating the layout and Engineers Office, temporary roads, workshop, control of soil erosion and sedimentation, storage areas, hard standings, offices, fences, Site lighting, power and water supplies etc. and all protection works.

ALL PAGES OF THIS ENCLOSURE AS SUBMITTED SHALL BE SIGNED BY THE TENDERER AND ENDORSED WITH THE TENDERER' S COMPANY STAMP.

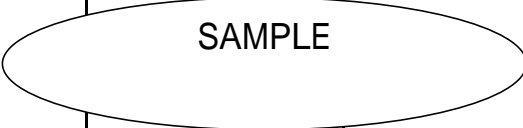
LIST OF CONTRACTOR'S AND SUB-CONTRACTOR'S EQUIPMENT
TO BE USED ON THE WORKS

The Tenderer shall submit with his Tender a List of Contractor' s and Sub-contractor' s Equipment to be used on the Works in the format of the enclosed page, clearly labeled as Enclosure No.9.

ALL PAGES OF THIS ENCLOSURE AS SUBMITTED SHALL BE SIGNED BY THE TENDERER AND ENDORSED WITH THE TENDERER' S COMPANY STAMP.

LIST OF CONTRACTOR'S AND SUBCONTRACTOR'S EQUIPMENT TO BE USED FOR THE WORKS

ENCLOSURE NO.9

| DESCRIPTION | MANUFACTURER'S NAME | YEAR OF MANUFACTURE | MODEL | QUANTITY | SIZE CAPACITY | OWNED OR LEASED | PRESENT LOCATION |
|--|---------------------|---------------------|-------|----------|---------------|-----------------|------------------|
|  | | | | | | | |

** Use additional page if required

(Signature and name of authorized representative of Tenderer)

(Name of Tenderer)

LIST OF MAJOR MATERIALS AND PLANT FOR THE WORKS

The Tenderer shall submit with his Tender a List of Major Materials and Plant for the Works, clearly labeled as Enclosure No.10.

A. The materials to be incorporated in the Works shall comply with the Specifications in the Tender Documents.

B. The list must be complete in all respects including materials and plant and the Tenderer must submit with his Tender. All manufacturers' catalogues and enclosures, and performance specifications including drawings as necessary, pertaining to the materials.

C. Spare Parts for Defect Liability Period

The Tenderer shall submit list of spare parts including modules, units and consumable items which the manufacturer recommends for the Defect Liability Period normal operation of equipment after issuance of Completion Certificate in accordance with the Clause 48 of the Conditions of Contract.

ALL PAGES OF THIS ENCLOSURE AS SUBMITTED SHALL BE SIGNED BY THE TENDERER AND ENDORSED WITH THE TENDERER' S COMPANY STAMP.


LIST OF MAJOR MATERIALS AND PLANT FOR THE WORKS

ENCLOSURE NO. 10

| DESCRIPTION | SEC. AND CLAUSE NO. OF VOLUME-II, SPECIFICATIONS | MANUFACTURER / SUPPLIER | STANDARD / MODEL | COUNTRY OF ORIGIN |
|---|--|-------------------------|------------------|-------------------|
| <p>A Site, Civil, Architectural Works</p> <ol style="list-style-type: none"> 1. Ready Mixed Concrete 2. Cement 3. Fine Aggregates 4. Coarse Aggregates 5. Reinforcing Bars (diameter 9mm or less) 6. Reinforcing Bars (all others) 7. RC Pipe 400 - 800 mm Dia. 8. Asphaltic Concrete 9. Pre-cast Cponcrete Pile 10. Waterstop 11. Sismic isolation pad 12. Cement Roofing Tiles 13. Concrete Block 14. Paint 15. Steel Doors 16. Wooden Doors 17. Aluminium Windows 18. Rolling Shutters 19. Glass 20. Sanitary Fixtures <p>B Mechanical Works</p> <ol style="list-style-type: none"> 1. Valves 2. Galvanized Steel Pipes 3. Cast Iron Pipes 4. PVC Pipes 5. Piping Aecessories: joint, bend, tee etc. 6. Pumps 7. Flow meters 8. Air Conditioner 9. Ventilation Fans | | | | |



ENCLOSURE NO. 10

| DESCRIPTION | SEC. AND CLAUSE NO. OF VOLUME-II, SPECIFICATIONS | MANUFACTURER / SUPPLIER | STANDARD / MODEL | COUNTRY OF ORIGIN |
|---|---|--|------------------|-------------------|
| <p>C Electrical Works</p> <p>1 Circuit Breakers 2 Meters 3 Switch Boards 4 Tranformers 5 Busbars 6 Cables 7 Intermediate Metalic Conduits 8 Cable ladders 9 Computer 10 Lighting Fixtures 11 Switches and Receptacles 12 Heat and Smoke Detectors</p> <p>D Landscape</p> <p>E Exhibition</p> | |  | | |

(Name and Signature of authorized represeatative)

(Name of Tenderer)

LIST OF SUB-CONTRACTORS/SUPPLIERS

The Tenderer shall submit a list of Sub-contractors/Suppliers he proposes to use with his Tender in the format of the enclosed page, clearly labeled as Enclosure No.11. The Tenderer shall also enter a Statement of Similar works previously executed by the proposed sub-contractor including description, location and address of the Employer/Engineer. Notwithstanding such information, the Tenderer, if awarded the Contract, shall remain entirely and solely responsible for the satisfactory completion of the Works.


Reference and/or copy of regal documents for proposed Sub-contractors/Suppliers shall be enclosed.

Extension to this schedule in the same format should be used to provide complete information.

ALL PAGES OF THIS ENCLOSURE AS SUBMITTED SHALL BE SIGNED BY THE TENDERER AND ENDORSED WITH THE TENDERER' S COMPANY STAMP.

LIST OF SUB-CONTRACTORS/SUPPLIERS

ENCLOSURE NO. 11

| TARD OR MATERIALS | NAME OF SUB-CONTRACTOR/ SUPPLIER | ADDRESS OF SUB-CONTRACTOR/ SUPPLIER | NAME OF SIMILAR WORKS PREVIOUSLY EXECUTED | NAME OF EMPLOYER/ EMPLOYER OF WORKS PREVIOUSLY EXECUTED | DESCRIPTION OF WORK |
|---|----------------------------------|-------------------------------------|---|---|---------------------|
|  <p>SAMPLE</p> | | | | | |

** Use additional page if required.

(Signature and name of authorized representative of Tenderer)

(Name of Tenderer)

LIST OF INTENDED IMPORT MATERIALS AND PLANT


The Tenderer shall submit with his Tender a List of Intended Import Materials and Plant, clearly labeled as Enclosure No. 12.

Such list shall include estimated Taxes/duties and other all necessary charges and specify the source countries.

ALL PAGES OF THIS ENCLOSURE AS SUBMITTED SHALL BE SIGNED BY THE TENDERER AND ENDORSED WITH THE TENDERER' S COMPANY STAMP.

LIST OF INTENDED IMPORT MATERIAL AND PLANT

ENCLOSURE NO. 12

| ITEM | DESCRIPTION | UNIT | QUANTITY | MATERIAL / PLANT RATE | SOURCE OF COUNTRIES | AMOUNT (FOB) | DUTIES | OTHER CHARGE | TOTAL |
|--|-------------|------|----------|--------------------------|------------------------|-----------------|--------|-----------------|-------|
|  <p>SAMPLE</p> | | | | | | | | | |

** Use additional page if required.

(Signature and name of authorized representative of Tenderer)

(Name of Tenderer)

BREAKDOWN OF MAJOR RATES

The Tenderer shall submit with his Tender a Breakdown of Major Rates, clearly labeled as Enclosure No. 13.

Such breakdowns shall at all times be subject to the approval of the Engineer. The Engineer reserves the right to request such further breakdown as he may consider necessary.

ALL PAGES OF THIS ENCLOSURE AS SUBMITTED SHALL BE SIGNED BY THE TENDERER AND ENDORSED WITH THE TENDERER' S COMPANY STAMP.

BREAKDOWN OF MAJOR RATES

ENCLOSURE NO. 13

| ITEM | DESCRIPTION | UNIT | QUANTITY | LOCAL CURRENCY (JD) | | FOREIGN CURRENCY (---) | | TOTAL (J.D.) |
|------------|---|------|----------|---------------------|--------|------------------------|--------|-----------------|
| | | | | RATE | AMOUNT | RATE | AMOUNT | |
| A | SITE, CIVIL AND BUILDING WORKS | | | | | | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| B | MECHANICAL WORKS | | | | | | | |
| B-1 | Plumbing Works | | | | | | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| B-2 | Air-conditioning and Ventilation Works | | | | | | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |

SAMPLE

ENCLOSURE NO. 13

| ITEM | DESCRIPTION | UNIT | QUANTITY | LOCAL CURRENCY (JD) | | FOREIGN CURRENCY (---) | | TOTAL (J.D.) |
|------------|-------------------------|------|----------|---------------------|--------|------------------------|--------|-----------------|
| | | | | RATE | AMOUNT | RATE | AMOUNT | |
| C | ELECTRICAL WORKS | | | | | | | |
| C-1 | | | | | | | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| C-2 | | | | | | | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| D | LANDSCAPE | | | | | | | |
| E | EXHIBITION | | | | | | | |

SAMPLE

(Name and signature of authorized representative of Tenderer)

(Name of Tenderer)

DETAILED MONTHLY CASH FLOW OF ANTICIPATED CONTRACT PAYMENTS

The Tenderer shall submit with his Tender a Detailed Monthly Cash Flow of Anticipated Contract Payment to indicate all payments anticipated to be received under the Contract in relation to the program thereof (cash flow shall be with tabular and graphical form). Appropriate allowance shall be made for payment and repayment of advance payments under the Contract, clearly labeled as Enclosure No.14.

ALL PAGES OF THIS ENCLOSURE AS SUBMITTED SHALL BE SIGNED BY THE TENDERER AND ENDORSED WITH THE TENDERER' S COMPANY STAMP.

APPENDIX L

TENDER ACKNOWLEDGEMENT

TENDER ACKNOWLEDGEMENT

1. This is to certify that we, _____ (name of Tender), have received all Tender Documents for the National Museum Sub-Project, Tourism Sector Development Project on ----- th ----- 2000.

2. We further declare that we shall submit our Tender Proposal in strict accordance with requirements of the Instructions to Tenderer.

Signature of Tenderer : _____

Name of Tenderer : _____

Date prepared : _____

APPENDIX M

LIST OF ELIGIBILITY COUNTRIES

LIST OF ELIGIBILITY COUNTRIES

All Countries

THE GOVERNMENT OF
THE HASHEMITE KINGDOM OF JORDAN
THE MINISTRY OF TOURISM & ANTIQUITIES
THE MINISTRY OF PLANNING

FORM OF TENDER

OF

NATIONAL MUSEUM SUB-PROJECT
THE TOURISM SECTOR DEVELOPMENT PROJECT

FORM OF TENDER

To: The Ministry of Public Works and Housing
Government Tender Directorate
Eighth Circle, Albiader Street, Amman

TENDER FOR CONSTRUCTION OF NATIONAL MUSEUM SUB-PROJECT TOURISM SECTOR DEVELOPMENT PROJECT

1. Having examined the Tender Documents comprising the Instructions to Tenderers, Conditions of Contract, the Specifications, the Bill of Quantities, the Drawings and Addendums for the above-named works. We, undersigned, offer to undertake the work complete in conformity with the above mentioned documents for the sum of;

amount in words Jordanian Dinar _____

(J.D. _____)

and

amount of words United States Dollar _____

(US\$ _____)

2. We undertake, if our Tender is accepted, to commence the Works within twenty-eight (28) days after receipt of the Employer's Letter of Acceptance, this period to be utilized for mobilization works, and to complete and deliver the while works comprised in the contract within Twenty-four (24) months from the last date of the aforesaid period in which the Works are to be commenced.

3. If our Tender is acceptable, we will submit a Performance Security in the form of Bank Guarantee to jointly and severally bound us in the sum equal to ten percent (10%) of the total Contract Prices in above mentioned currencies for the faithful and satisfactory performance of the contract.

4. We agree to abide by this Tender for a period of ninety (90) calendar days from the date set for the opening of Tender and it shall remain binding upon us and may be accepted at any time before the expiration of this period. The Tender Security shall remain valid for one hundred twenty (120) calendar days after the date of opening of Tender.

5. Unless and until the Contract Agreement is prepared and executed, this Tender, together with your Letter of Acceptance, shall constitute a binding Contract between us. We agree that our receipt of your Letter of Acceptance will bind us to enter into the Contract Agreement with you, until the submission by us of an acceptable Performance Security within the required period.

6. We acknowledge that the Appendix to Tender forms part of our Tender.

7. We confirm that we have taken account of Notices to Tenderer:
 - No. _____, dated _____, _____ , 2,000
 - No. _____, dated _____, _____ , 2,000
 - No. _____, dated _____, _____ , 2,000
 - No. _____, dated _____, _____ , 2,000
 - No. _____, dated _____, _____ , 2,000
 - No. _____, dated _____, _____ , 2,000
 - No. _____, dated _____, _____ , 2,000
 - No. _____, dated _____, _____ , 2,000

8. We understand that you are not bound to accept the lowest or any Tender you may receive.

Date this _____ day of _____, 2000

Signed _____
(Printed Name)

Designation _____

Duly authorized to sign
For and on behalf of _____

(Witness)

(Witness)

(Witness)

(Witness)