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REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
DIRECTORATE GENERAL CIPTA KARYA
DIRECTORATE OF SANITARY ENGINEERING

CONTRACT FOR CONSULTANT SERVICES
FOR
SURAKARTA WATER SYSTEM
NO. 01/WS-S/1/AID/78
AID LOAN 497-U-044

MONTHLY PROGRESS

**REPORT NO. 11
AUGUST 1979**

BURNS & McDONNELL ENGINEERING COMPANY, INC.
AND
TRANS-ASIA ENGINEERING ASSOCIATES, INC.
A JOINT VENTURE

BEST AVAILABLE DOCUMENT

REPORT NO. 11

SURAKARTA WATER SYSTEM
CONSULTING ENGINEERING SERVICES

PROGRESS REPORT
FOR THE MONTH OF AUGUST
1979

SUBMITTED BY



PREPARED BY :
BURNS & MCDONNELL ENGINEERING CO., INC.
TRANS-ASIA ENGINEERING ASSOCIATES , INC.
A JOINT VENTURE
KOTAK POS 105, SURAKARTA, INDONESIA

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SECTION 1
NARRATIVE SUMMARY

1A GENERAL

TRANSPORTING OFF-SHORE PURCHASED MATERIALS

Bids, which were taken on July 31, 1979 for transporting the third and last shipment of 2107 M.T. of Pipes and Fittings were rejected by the Ministry, due to insufficient and irresponsible proposals received at the Bid Opening.

The Work has been readvertised and on Aug 15, 1979 Bids were taken. Result of the Bids has been sent to the Ministry for their evaluation and further processing. See Appendix. XI

CONSTRUCTION OF THE TRANSMISSION PIPELINE

Bid Opening for Construction of the Transmission Pipeline Sections A & B is scheduled for September 7, or at latest September 15, 1979.

GROUNDWATER EXPLORATION PROGRAM

Consulting and Coordination services are continuing. Geoelectrical survey is 100% complete. Final survey report is under preparation and will be completed at the end of August 1979.

MANAGEMENT ASSISTANCE PROGRAM

The Management Specialist continued to advise the Surakarta Water Enterprise on revisions of Management Procedures. Formal and On-the-Job Training Program is continuing.

O & M ASSISTANCE PROGRAM

The Work is continuing to provide advice on Management and O & M Training for the Surakarta Water Enterprise.

WELL DEVELOPMENT PROGRAM

For administrative and technical reasons, the work has been delayed.

SECTION 2
ADMINISTRATION

2A SUBMISSION/APPROVALS

Consultant's Invoice No, 10 for July 1979 U.S. Dollar reimbursible expenses was submitted to Cipta Karya on Aug 16, 1979 and was approved by C.K. on Aug 21, 1979.

Consultant's Rupiah Invoice No. 5 for reimbursible expenses during the two months period of May and June 1979 was submitted to Cipta Karya in Semarang on July, 1979. This is in accordance with the Contract, Appendix. II, page 11 - 15.

2B CONFERENCES

2B1 Memorandum of Monthly Conference
Appendix. X

Transporting Off-shore Purchased Materials Phase II
Appendix. XI

Report on Management Assistance Program
Appendix. XII

Report on Geoelectrical Survey
Appendix. XIII

SECTION 3
SCHEDULES

3A PROGRESS

3A1 TRANSPORTING OFF-SHORE PURCHASED MATERIALS

Bids, which were taken on July 31, 1979 for transporting the third and last shipment of 2107 M.T. of Pipes and Fittings were rejected by the Ministry, due to insufficient and irresponsible proposals received at the Bid Opening.

The Work has been readvertised and on Aug 15, 1979 Bids were taken. Result of the Bids has been sent to the Ministry for their evaluation and further processing.

3A2 CONSTRUCTION OF THE TRANSMISSION PIPELINE

Bid Opening for Construction of the Transmission Pipeline Sections A & B is scheduled for September 7, or at latest September 15, 1979. Pipeline Construction is rescheduled to start on October 1, 1979.

3A3 GROUNDWATER INVESTIGATION AND DEVELOPMENT

Hydrogeological data and Geoelectrical survey is 100% complete. Final survey report is under preparation and will be completed at the end of August 1979.

For administrative and technical reasons :

Prequalifying, tendering and awarding Drilling Contract has been delayed. Estimated starting date will March 1, 1980.

3A4 MANAGEMENT ASSISTANCE TO SURAKARTA WATER ENTERPRISE

The Management Specialist continued to advise the Surakarta Water Enterprise on revisions of Management Procedures.

Formal and On-the-Job Training Program is continuing.
Progress is on schedule and the work is 62% complete.

3A5 OPERATION AND MAINTENANCE TECHNICAL ASSISTANCE
TO SURAKARTA WATER ENTERPRISE

Schedule of On-site and Classroom training program for
O & M personnel is 80% complete, advisory work is on schedule.

3A6 WATER METER MAINTENANCE PROGRAM

Meter Maintenance Specialist's arrival will be delayed, until,
new test equipment and new meters arrive in Solo. Work resched-
uled to start October 1, 1979.

3A7 Overall progress on the project is 44% complete, and is 30 ca-
lendar days behind schedule.

3B WORK SCHEDULED FOR NEXT MONTH

Continue coordination of shipping, unloading and transporting
the third and last shipment of the Pipes and Fittings purchased
off-shore.

Submit the final Geoelectrical Survey Report and all Hydrogeo-
logical Maps for Cipta Karya's approval.

Submit the revised Well Drilling Contract Documents for Cipta
Karya and AID's approval.

Assist in Bid Tendering for the Construction of the Transmis-
sion Pipeline during the month of September 1979.

Continue Management Advisory services to the Water Enter-
prise.

Continue assistance and supervision on the General Accounting
Work.

Assist for implementing the Organization Manual.

Continue O & M assistance to the Water Enterprise.
Complete the schedule of the On-site and Classroom training program.
Assist in starting the second O & M building construction.

SECTION 4
ENGINEERING AND MANAGEMENT

4A TRANSPORTING OFF-SHORE PURCHASED MATERIALS
PHASE. II

Bids were taken on July 31, 1979 for transporting the third and last shipment of 2107 M.T. of Pipes and Fittings furnished by U.S. Pipe Company, were rejected by the Ministry, due to insufficient and irresponsible proposals received at the Bid Opening.

The Work has been readvertised and on Aug 15, 1979 Bids were taken. Result of the Bids has been sent to the Ministry for their evaluation and further processing. See Appendix. XI

CONSTRUCTION OF THE TRANSMISSION PIPELINE

Bid Opening for Construction of the Transmission Pipeline Sections A & B is scheduled for September 7, or at latest September 15, 1979. Pipeline Construction is rescheduled to start on October 1, 1979.

4B GROUNDWATER EXPLORATION PROGRAM

Consulting and Coordination services are continuing. Geoelectrical survey is 100% complete. Final survey report is under preparation and will be completed at the end of August 1979.

4C WELL DEVELOPMENT PROGRAM

Prequalification Questionnaire List for International Tendering which has been submitted to AID's approval was temporarily suspended by the Ministry, for the reason of the time needed for reviewing the Geoelectrical Survey Report.

4D MANAGEMENT ASSISTANCE PROGRAM

The Management Specialist is continuing to advise the Surakarta Water Enterprise on management procedures.

Training Program is on schedule.

4E O & M ASSISTANCE PROGRAM

Schedules for On-site and Classroom Training Program is 80% complete.

Construction of the first phase O & M Building at the Surakarta Water Enterprise is 100% complete.

Assisting to start the second phase of O & M Building Construction located at Jl. Brig. Jen. Sudianto No. 534 Surakarta, if the required fund for the construction is allocated.

SECTION 5
PERSONNEL

The Surakarta office personnel in August were as follows :

George M. Pary, P.E., Chief Engineer
arrived 17 August 1979

A.F. Dengah, Counterpart Chief Engineer
arrived 8 November 1978

Thomas G. Fodor, O & M Specialist
arrived 25 December 1978 with spouse

Bernardo B. Bayongan, Management Specialist
arrived 5 November 1978

Suyatno Yuwono, Counterpart Hydrogeologist
arrived 5 January 1979

Dradjat Atmardjo, Office Manager
arrived 2 October 1978

Mohammad Khalil, Materials Coordinator
arrived 2 October 1978

Yonathan Djowie, Accountant
arrived 2 December 1978

Bambang Agus Salam, Inspector
arrived 1 May 1979

Mohammad Syarif Lembah, Inspector
arrived 1 May 1979

Akhmad Aries, Draftsman
arrived 13 April 1979

Sri Hartati, Secretary
hired 1 June 1979

Aryani Karnasih, Administrative Clerk
hired 8 January 1979
left 3 August 1979

Dewi Yuliati, Typist
hired 7 February 1979

Ermita Taher, Supply Clerk
hired 19 March 1979

Arum Munawar, Copy Machine Operator
hired 8 March 1979

Rubiyo, Clerk
hired 1 November 1978

Suparmanto Sakiman, Technical Translator
hired 14 February 1979
left 31 August 1979

Harryanto Santoso, Interpreter/Labourer
hired 7 February 1979
left 31 August 1979

Djumhan Hardhy, Expeditor
hired 2 January 1979

Pamudji Rahardjo, Driver
hired 2 October 1978

Budi Dwi Putranto, Driver
hired 4 January 1979

Djoni Santoso, Driver

hired 1 May 1979

Sutrisno, Driver

hired 2 April 1979

Gatot Bramono, Draftsman

hired 7 May 1979

left 31 August 1979

Suwarno Hadi, Office Boy

hired 1 November 1978

Mulyatmono, Watchman/Labourer

hired 9 October 1978

LETTERS SENT DURING AUGUST 1979

NUMBER & DATE	TO	FROM	SUBJECT
156/BM/TAE/SKA/79 1 Aug 1979	Central Java Water Supply Project, Semarang	BM/TAE Surakarta	Request for Leave of Mr. Thomas G. Fodor
157/BM/TAE/SKA/79 2 Aug 1979	Ministry of Public Works Directorate General of Cipta Karya Directorate of Sanitary Engineering Jakarta	do	Transportation of Off-Shore Purchased Materials
158/BM/TAE/SKA/79 2 Aug 1979	Central Java Water Supply Project, Semarang	do	Memorandum of Monthly Conference
159/BM/TAE/SKA/79 3 Aug 1979	Head Office of Telephone & Telegraph Surakarta	do	Change Telephone No. 6382
160/BM/TAE/SKA/79 6 Aug 1979	Ministry of Public Works Directorate General of Cipta Karya Directorate of Sanitary Engineering Jakarta	do	Monthly Progress Report No. 10 for July 1979

LETTERS SENT DURING AUGUST 1979 (cont'd)

NUMBER & DATE	TO	FROM	SUBJECT
161/BM/TAE/SKA/79 6 Aug 1979	Central Java Water Supply Project, Semarang	BM/TAE Surakarta	Submittal of Transmission Pipeline Contract Documents
162/BM/TAE/SKA/79 7 Aug 1979	Ministry of Public Works Directorate General of Cipta Karya Directorate of Sanitary Engineering Jakarta	do	Monthly Report No. 10
163/BM/TAE/SKA/79 7 Aug 1979	Central Java Water Supply Project, Semarang	do	Submittal of Transportation Contract Documents
164/BM/TAE/SKA/79 8 Aug 1979	Surakarta Water Enterprise Surakarta	do	Off-Shore Purchase Truck & Pick-Up Photographs
165/BM/TAE/SKA/79 13 Aug 1979	Burns & McDonnell Engineering Co. P O Box 173 Kansas City Mo. 64141 U.S.A.	do	Transmission Pipeline " First Phase " Construction Design Drawings

LETTERS SENT DURING AUGUST 1979 (cont'd)

NUMBER & DATE	TO	FROM	SUBJECT
166/BM/TAE/SKA/79 14 Aug 1979	Central Java Water Supply Project, Surakarta	BM/TAE Surakarta	Request for Official Trip to Bandung for Mr. Suyatno
167/BM/TAE/SKA/79 14 Aug 1979	USAID Jakarta	do	Surakarta Water Project Well Drilling Program
168/BM/TAE/SKA/79 18 Aug 1979	Surakarta Water Enterprise Surakarta	do	Organization Structure and Job Description
169/BM/TAE/SKA/79 18 Aug 1979	do	do	Financial Statement Analysis
170/BM/TAE/SKA/79 18 Aug 1979	Central Java Water Supply Project, Semarang	do	Pipes and Fittings for Surakarta Water Project
171/BM/TAE/SKA/79 18 Aug 1979	Ministry of Public Works Directorate General of Cipta Karya Directorate of Sanitary Engineering Jakarta	do	Bid Evaluation Sheet Tender No: PL 02-04-03
172/BM/TAE/SKA/79 31 Aug 1979	Internal	do	Certificate of Employment

LETTERS SENT DURING AUGUST 1979 (cont'd)

NUMBER & DATE	TO	FROM	SUBJECT
173/BM/TAE/SKA/79 21 Aug 1979	Surakarta Water Enterprise Surakarta	BM/TAE Surakarta	Test Checking of Meter Readings
174/BM/TAE/SKA/79 22 Aug 1979	Central Java Water Supply Project, Semarang	do	Request for Time Extension to the Incidental Credit
175/BM/TAE/SKA/79 23 Aug 1979	Internal	do	Authorization to sign Letters concerning the Loan
176/BM/TAE/SKA/79 31 Aug 1979	Internal	do	Certificate of Employment
177/BM/TAE/SKA/79 31 Aug 1979	Internal	do	Certificate of Employment
178/BM/TAE/SKA/79 31 Aug 1979	Internal	do	Certificate of Employment
179/BM/TAE/SKA/79 28 Aug 1979	Internal	do	Authorization to sign and accept the loan

LETTERS RECEIVED DURING AUGUST 1979

NUMBER & DATE	TO	FROM	SUBJECT
31 July 1979	EM/TAE Surakarta	Internal	Resignation
27 July 1979	do	Burns & McDonnell Engineering Co., Kansas City	Compliance Submittal Off-Shore Purchases List K
359/PAB.I/VII/79 31 July 1979	do	Central Java Water Supply Project, Surakarta	Land Exemption and Plant Compensation
7 Aug 1979	do	Fajar Bening Jl. Yudistira Semarang	Invoice for Printing Forms
223/U/b-VIII/79 8 Aug 1979	do	PT Intraveem Jl. Kedadah 30 Semarang	Tender for Pipe Trans- portation
11/1853 2 Aug 1979	do	USAID Jakarta	Excess Baggage for Mr. James T. Beirn
04/Ketr/PAB/JT/VII/79 23 July 1979	do	Central Java Water Supply Project, Semarang	Rupiah Payment Contract No. 01/WS-S/I/ AID/78

LETTERS RECEIVED DURING AUGUST 1979 (cont'd)

NUMBER & DATE	TO	FROM	SUBJECT
369/PAB.I/VIII/79 15 Aug 1979	BM/TAE Surakarta	Central Java Water Supply Project, Surakarta	Arrangement for Land Exemption
348/3/ML/K/VIII/79 16 Aug 1979	do	PT Mega Laut Jl. H. Agus Salim no. 6 Semarang	Fiscal Letter for Retender No. PL 0201
13 Aug 1979	do	Geophysical Survey Sys- tem, Inc. Flagstone Dr. Hudson, NH. 03051 U.S.A.	S I R Equipment
38/UM/ML/VIII/79 15 Aug 1979	do	P.T. Mega Laut Jl. H. Agus Salim no. 6 Semarang	Transportation of Pipes
371/PAB.I/VIII/79 21 Aug 1979	do	Central Java Water Supply Project, Semarang	Request for Pipe Installation

LETTERS RECEIVED DURING AUGUST 1979 (cont'd)

NUMBER & DATE	TO	FROM	SUBJECT
HL. 01.02.11 30 July 1979	BM/TAE Surakarta	Ministry of Public Works Directorate General of Cipta Karya Directorate of Sanitary Engineering Jakarta	Socio-Economic Study by Mr. Blair from USAID in Surakarta
August 1979	do	BM/TAE Jakarta	Surakarta Water Enterprise Tender No. KU 03.04-M & E Addendum No. 1
266/PAB/JT/VIII/79 13 Aug 1979	do	Central Java Water Supply Project, Semarang	Pipe Transportation
13 Aug 1979	do	UD Cahaya Rukma Jl. Pandana- ran no. 119 Semarang	I.B.M. Typewriter
217/PAB/JT/VII/79 20 July 1979	do	Central Java Water Supply Project, Semarang	Invitation to Bid PL 02-04-03
267/PAB/JT/VIII/79 14 Aug 1979	do	do	Pipe Transportation

LETTERS RECEIVED DURING AUGUST 1979 (cont'd)

NUMBER & DATE	TO	FROM	SUBJECT
279 PAB/II/VIII/79 21 Aug 1979	BM/TAE Surakarta	Central Java Water Supply Project, Semarang	Request for leave for Mr. T. G. Fodor
21 Aug 1979	do	BM/TAE Jakarta	Tender for the Supply of Materials and Equipment for Surakarta Water Supply Project.

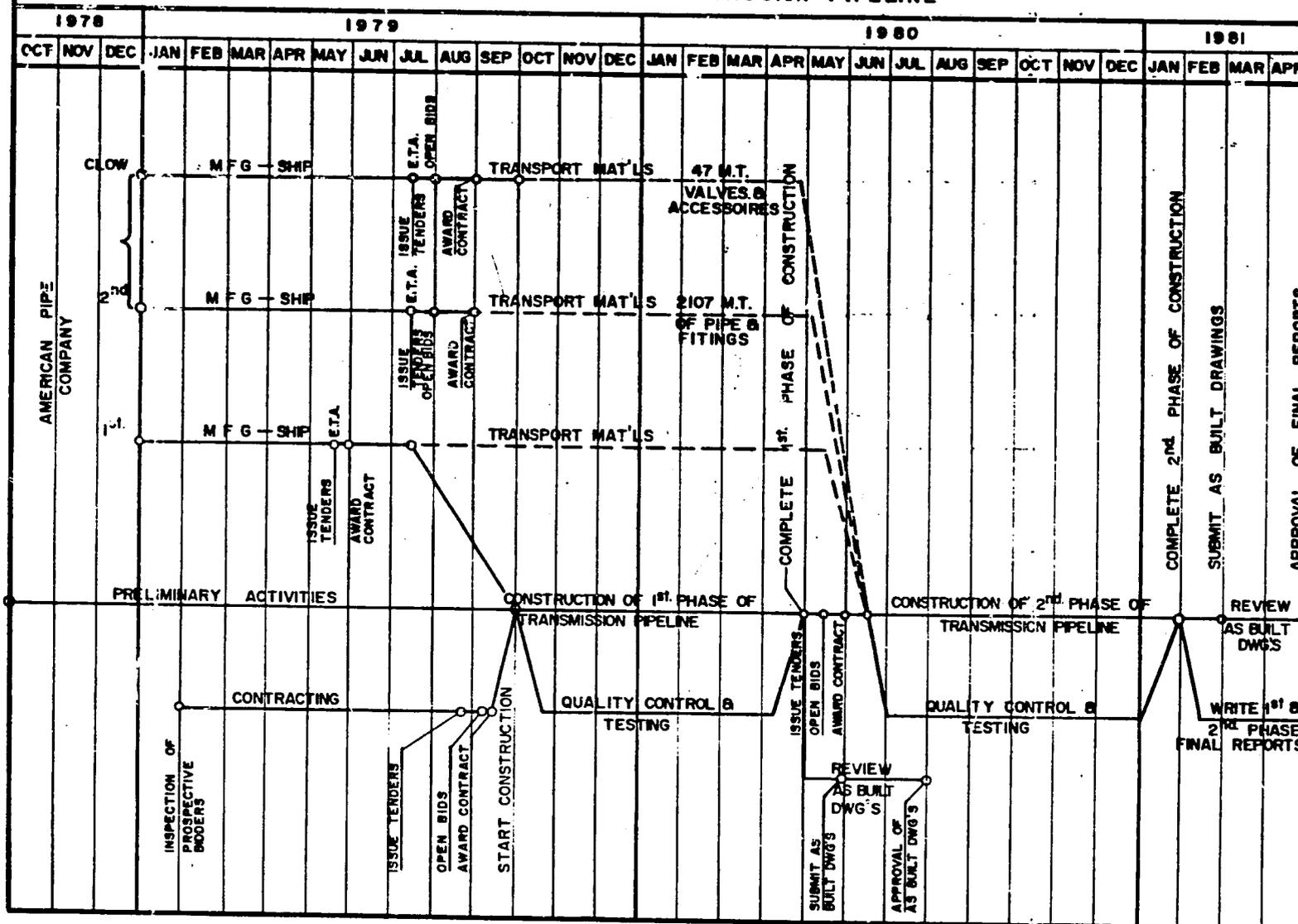
SURAKARTA WATER PROJECT
 REPORT OF MAN-MONTHS EXPENDED BY CONSULTANT
 BURNS & McDONNELL/TRANS-ASIA ENGINEERING ASSOCIATES

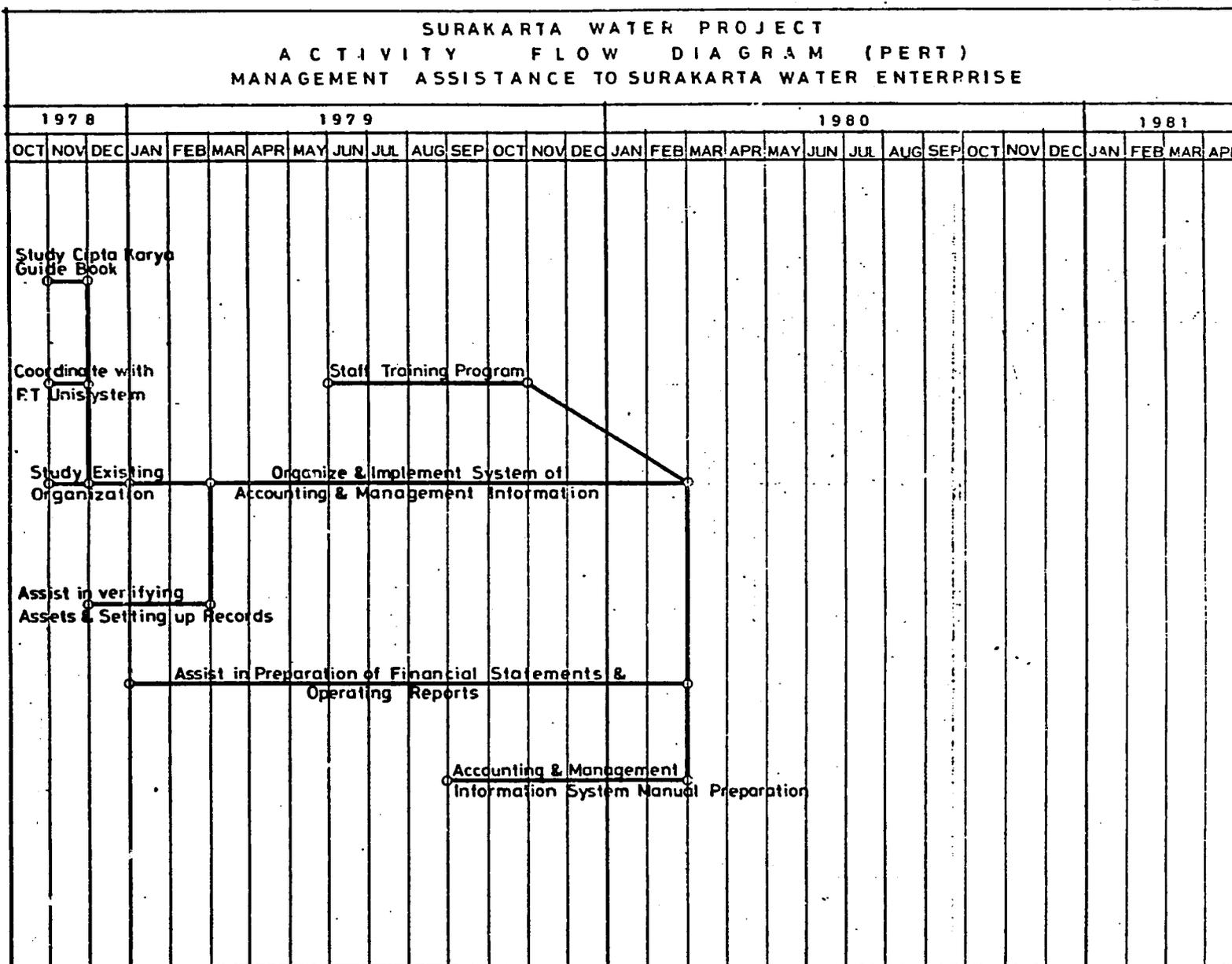
CONTRACT NUMBER 01/WS-S/AID/78 AID LOAN 497-U-044	MAN - MONTHS			
	FOR AUGUST, 1979	CUMULATIVE THROUGH 31 AUGUST	% OF TOTAL SCHEDULE	TOTAL IN CONTRACT SCHEDULE
EXPATRIATES				
Principal Liaison Engineer	0	0.3	15	2
Procurement Engineer	0.09	1.8	60	3
Chief Engineer	0	6.5	100	6.5
Pipeline Engineer	0.5	7.5	37.5	20
Hydrogeologist	0	0	0	16
Drilling Specialist	0	5.7	47.5	12
Management Specialist	1	2.8	23.3	12
O & M Specialist	1	9.6	60	16
Meter Specialist	1	8.4	40	21
EXPATRIATE TOTAL	0	0	0	8
	2.59	42.6	36.5	116.5
INDONESIAN PROFESSIONAL & TECHNICAL				
Counterpart Chief Engineer	1	9.6	48	20
Construction Supervisor	0	0	0	14
Hydrogeologist	1	7.8	52	15
Materials Coordinator	1	107.7	76.4	14
Inspectors	2	8	16.6	48
Draftsman	1	6	37.5	16
Translator	1	6.8	56.6	12
Accountant	1	9	40.9	22
INDON. PROF. & TECH.	8	57.9	35.9	161
INDONESIAN ADMINISTRATIVE				
Office Manager	1	11	55	20
Secretary	1	10	50	20
Typist	1	6.6	30	22
Clerks	4	29.5	64.7	44
Drivers	4	30	37.5	10
Laborers	4	36.3	22.6	160
ADMINISTRATIVE TOTAL	15	122.4	35.3	346

SURAKARTA WATER PROJECT
REPORT OF ENGINEERING COSTS
BURNS & MCDONNELL/TRANS-ASIA ENGINEERING ASSOC.

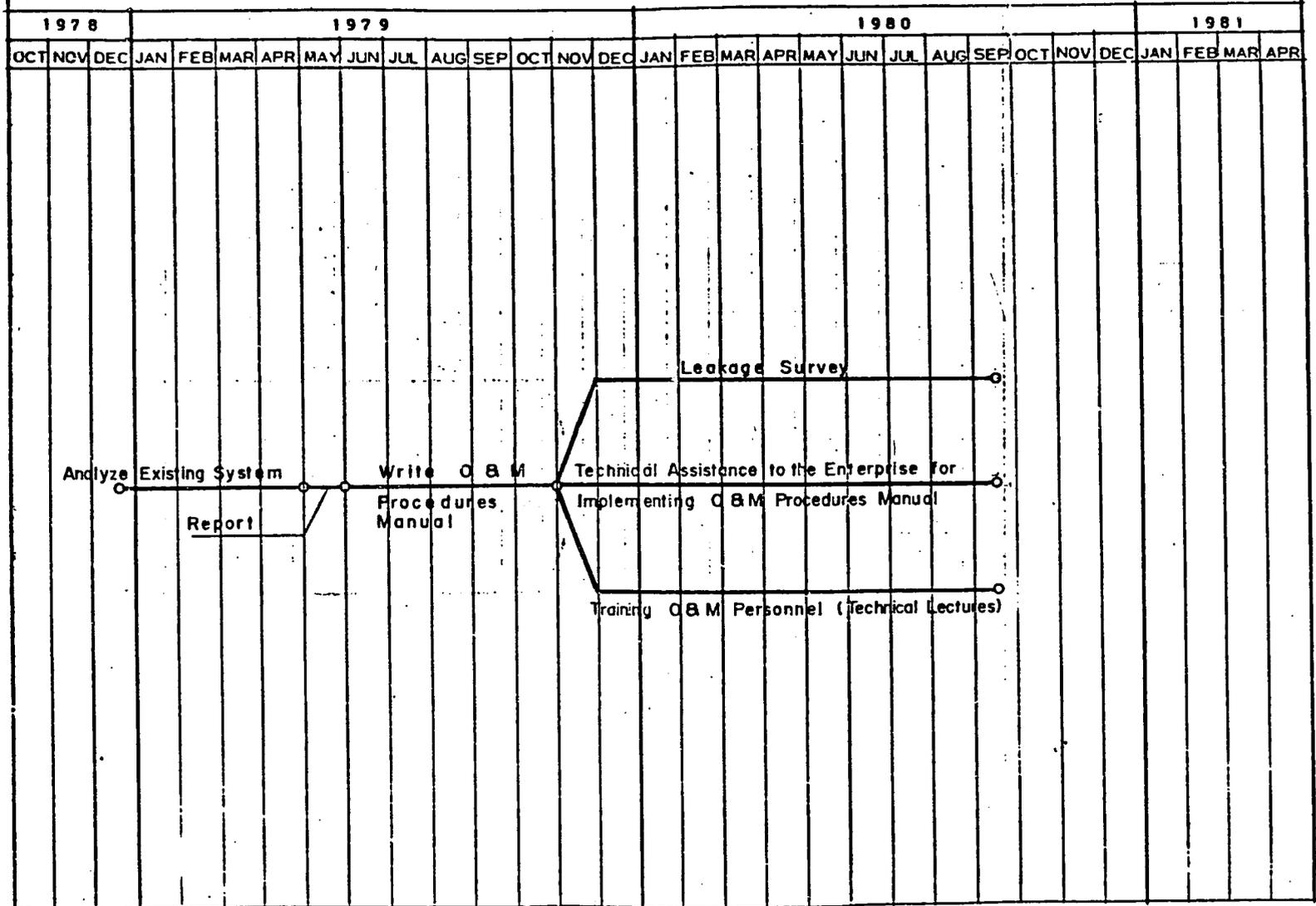
CONTRACT NO. 01/WS-S/AID/73 SIGNED 26 OCT. 1978 START 1 JAN. 1978 END 31 JAN. 1981 REIMBURSABLE EXPENDITURES	COSTS FOR August 1979	CUMULATIVE COSTS THROUGH August 1979		CUMULATIVE PAYMENTS THROUGH August 1979			TOTAL BUDGET ESTIMATE FOR CONTRACT
		AMOUNT	% OF TOTAL BUDGET ESTIMATE	AMOUNT RECEIVED IN August	TOTAL AMOUNT RECEIVED THROUGH August	% OF TOTAL BUDGET ESTIMATE	
U.S. DOLLARS							
Salaries and Related Costs	13,730.73	241,704.44	39.4	10,856.06	227,729.63	37.1	\$612,922
Transportation	-	11,726.35	19.3	243.88	11,726.35	19.3	60,636
Equipment	-	-	-	-	-	-	36,000
Miscellaneous	-	26,981	81.3	-	25,981	81.3	33,181
Training	-	-	-	-	-	-	14,544
Contingencies	-	-	-	-	-	-	75,729
TOTAL DOLLARS	13,730.73	280,111.79	33.6	11,099.94	226,437.18	31.9	\$833,014
INDONESIAN RUPIAH							
Salaries	7,196,657	21,421,566	29.9	-	8,334,999	11.7	71,150,000
Transportation	1,392,517	12,420,119	43.6	-	7,631,313	27.8	28,195,000
Housing	-	23,000,000	72.6	-	23,200,000	72.6	31,950,000
Vehicle Costs	70,000	25,157,494	100.4	-	16,832,820	67.2	25,050,000
Equipment Costs	0,000	5,748,310	13.6	-	4,746,510	36.1	13,153,000
Miscellaneous	1,936,305	10,437,405	42.3	-	7,423,305	30.	24,670,000
Contingencies	717,275	6,439,075	24.1	-	5,785,800	29.8	19,416,900
TOTAL RUPIAH:	11,523,194	104,423,569	49.0	-	74,154,867	34.7	213,586,560

**SURAKARTA WATER PROJECT
ACTIVITY FLOW DIAGRAM (PERT)
CONSTRUCTION OF TRANSMISSION PIPELINE**





**SURAKARTA WATER PROJECT
ACTIVITY FLOW DIAGRAM (PERT)
OPERATION AND MAINTENANCE ASSISTANCE PROGRAM**



MEMORANDUM OF MONTHLY CONFERENCE

Due to the reasons independent of the Consultant the Monthly Conference has been postponed until after the due date of the report.

Therefore the Memorandum of this conference will be included in the next Monthly Report.

BIDS EVALUATION SHEET TENDER NO : PL 02-04-03

HELD AT : SEMARANG
 DATE : AUG 15, 1979
 TIME : 10:00 AM

NUMBER	CONTRACTOR	ORDER OF OPENING	ENVELOPE	BID PACKAGE	BID PROPOSAL		BID BOND	BID BOND HIGHEST BID PROPOSAL x 100%	COMPLETION TIME (CALENDAR DAYS)	REMARKS	ORDER OF RECOMMENDATION
					ALT. I	ALT. II					
1.	PT BINTANG HARAPAN	3	OK	OK	47.700.000,-	55.200.000,-	530.000,-	0.96	33	invalid, Bid Bond less 1%	
2.	PT INTRAVEEM	1	OK	OK	41.202.385,-	47.375.895,-	500.000,-	1.06	30	valid	
3.	PT MARABUNTA	6	OK	NO	-	52.675.000,-	-	-	28	invalid	
4.	PT MEGA LAUT	7	OK	OK*)	28.516.000,-	40.416.000,-	500.000,-	1.24	35	valid, after proofed that original Fiscal is in conform with submitted copy	
5.	PT MPT LLOYD	4	OK	OK	44.247.000,-	49.999.110,-	500.000,-	1.00	62	valid	
6.	PT PELNI	2	OK	OK	42.908.945,65	46.562.064,35	500.000,-	4.30	30	valid	
7.	PT RAMA SHINTA	5	OK	NO	50.568.000,-	66.370.000,-	-	-	45	invalid	
8.	PT V T P	8	NO	NONE	-	-	-	-	-	withdrawn	

*) Original Fiscal Letter to be checked by Team of Tender

Surakarta, August 15, 1979

SURAKARTA WATER ENTERPRISE
MANAGEMENT ASSISTANCE PROGRAM

PROGRESS REPORT NO. 11

I. PERIOD COVERED

This report covers the period from August 1 to 31, 1979

II. WORK DONE

A. General Accounting and Management Information System

Continued monitoring the preparation of the monthly financial reports such as Balance Sheet, Profit and Loss Statement, Cash Flow Statement and others. The financial and other reports for the month of July 1979 were distributed to the various recipients on Aug 21, 1979 four working days later than the deadline for submission which is the 15th day of the month. According to the Chief of the Finance Department, there was a delay in the preparation of financial reports because of the observance of the fasting season from July 25 to Aug 23. During this period the Water Enterprise Staff were allowed to go home earlier than the normal time.

In my letter to the Chief of the Finance and Administration Division dated July 12, 1979 I recommended to discontinue the preparation of the " Service Disconnection and Reconnection Report " since the following data shown in this report is also shown in another report titled " Monthly Service Connection Report " : total new connection, total disconnections and total reconnections. For the month of July 1979 the former report was already discontinued.

B. Financial Statement Analysis

Prepared the following materials needed for the classroom discussions on financial statement analysis :

1. Reading materials to introduce to the Water Enterprise's officers and staff the meaning and purpose of financial statement analysis,

that is, better understanding of the financial reports to help management in decision making and planning the operation of the Enterprise;

2. Analysis of the Enterprise's operations for the year 1978 and for the period from January 1 to June 30, 1979, including Balance Sheet, Profit and Loss Statement, water billings and collections;
3. Graphical presentation and analysis of some aspects of the operation such as billings and collection of receivables.

Classroom discussion on the financial statement analysis were conducted on August 28 and 29 and participated in by the Director, Chief Finance and Administration Division, Chief Finance Department, Chief Accounting Section, Chief Financial Planning and Budgeting Section, and the accounting staff.

C. Organization

Discussed with the Director of the Water Enterprise the contents of the Organization Manual which was submitted to him on June 26, 1979 for review. The organization structure and the job descriptions of the positions as contained in the manual were approved by the Director with some modifications, that is, the addition of the position of the Assistant to the Director and its corresponding job description. As gathered from the Director, he was verbally granted permission by Cipta Karya to include such a position in the organization structure. Consequently, I prepared a summary of responsibilities or job descriptions for the position of the Assistant to the Director. This summary of responsibilities in English and Bahasa Indonesia, together with the revised organization structure was submitted to the Director on August 13, 1979. The revised organization structure and the job descriptions are shown in Exhibit 1 and 2. The Water Enterprise is already in the process of selecting qualified personnel from within the organization to fill up vacant positions.

D. Budgeting

Continued supervision and assistance in the preparation of the 1980 budget of the Enterprise. One of the basic features of the budget preparation is that each section head and department head is required to prepare his own projection of expenses and capital requirements. These are then consolidated by the Financial Planning and Budgeting Section to arrive at the overall company budget. In the past, preparation of the budget is solely done by the Accounting Section.

The budget preparation was started last July 1979 and according to the Chief of the Financial Planning and Budgeting Section the consolidated budgets namely Projected Profit and Loss Statement, Projected Cash Flow Statement, and Projected Balance Sheet can be submitted to the Director for review on or before September 30, 1979.

E. Customer Services

Prepared revised procedures on "Applications for New Service Connections", and "Installation of New Connections". Some of the advantages of these procedures over the present practice are :
1) better control in processing, approval and installation of new connections, and 2) reduction in the number of forms to be used.

The draft of these procedures are already finished and shall be discussed with the officers and staff concerned on September 1979.

F. Accounting System and Management Information System Manual

Started the preparation of the final draft of the Accounting and Management Information System Manual in Bahasa Indonesia which include the following phases of operations : 1) general accounting, 2) budgeting, 3) meter reading, billing and collection, 4) disbursements, 5) fixed asset accounting, 6) payroll, 7) purchasing and inventory control, 8) work order and construction accounting,

and 9) management reports.

Where applicable, the systems and procedures in these phases of operations are already being implemented.

G. Meetings

Conducted meeting with the officers and staff of the Enterprise to follow-up progress of work and to discuss problems and formulate solutions to the problems encountered in connection with the implementation of systems and procedures as mentioned in item (F) above. Minutes of this meeting is shown in Exhibit 3.

III. WORK PROGRESS

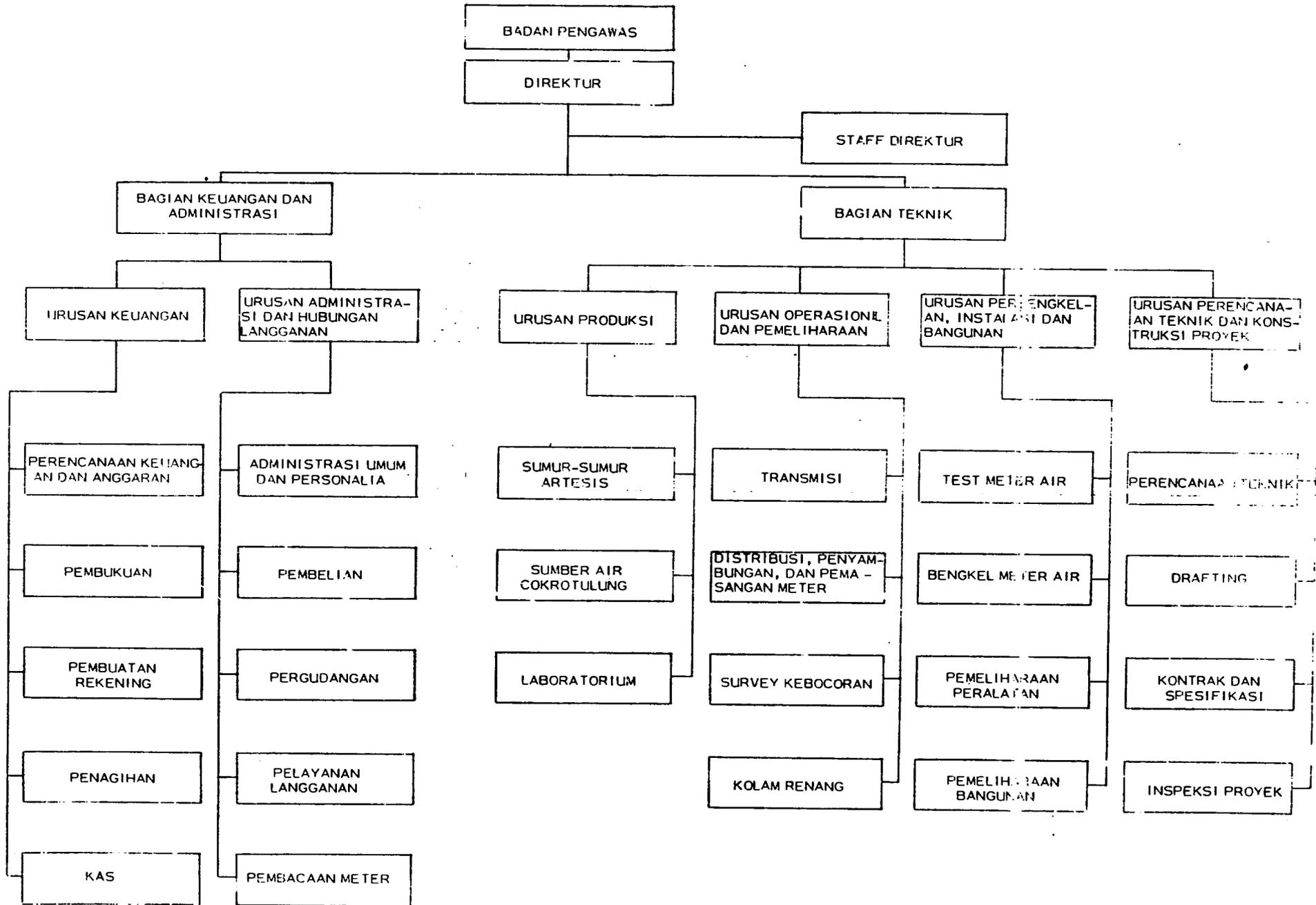
The management assistance program to the Surakarta Water Enterprise is proceeding according to schedule. As of August 31, 1979 the Consultant has completed ten months or 62.5% of the 16 months schedule for management consultancy services.

IV. PROGRAM FOR NEXT MONTH

- A. Continue supervision and assistance in the preparation of the financial reports.
- B. Assist preparation of 1980 budget
- C. Finalize and implement revised procedures on Application for new Service Connections and Installation of New Connections.
- D. Continue preparation of the final draft of the Accounting System and Management Information System Manual.

PERUSAHAAN DAERAH AIR MINUM SURAKARTA
STRUKTUR ORGANISASI

Exhibit 1



POSITION TITLE : ASSISTANT TO THE DIRECTOR

ORGANIZATIONAL RELATIONSHIPS :

Reports to : Director
Coordinates with : Chief of Division
Chief of Department
Chief of Section

SUMMARY OF RESPONSIBILITIES

1. Assists the Director in formulating plans and programs in the administration of the Water Enterprise.
2. Assists the Director in implementing administrative policies and regulations of the Enterprise.
3. Reviews regularly the organization structure of the Water Enterprise and submits recommendations for improvement in the light of the developments in the operation.
4. Reviews regularly the systems and procedures of operations of the Water Enterprise and make necessary recommendations to improve the same.
5. Compiles and keeps abreast of government laws, rules and regulations specially those pertaining to the Water Enterprise. Informs the Director of every new rulings, law and regulations.
6. Promotes or helps in the promotion of the activities of the Water Enterprise for the purpose of arousing consciousness among customers on the economical use of water and fulfillment of their obligations such as prompt payment of bills.
7. Performs liaison work with government agencies, the public and other interested parties to enhance the image of the Enterprise.
8. Attends outside meetings and conferences for and in behalf of the Director.
9. Coordinates the activities of the Director in matters pertaining to meeting or conferences with the officers and staff of the Enterprise and outside parties.
10. Conducts or assists in the conduct of test-checking of the activities of the meter readers.
- ii. Upon instructions of the Director conducts test-checking of working funds, collections and other accountabilities of officers and staff of the Enterprise.

12. Recommends and implements programs leading to the professional development of the staff.
13. Maintains an efficient filing and record-keeping system of documents and paper for easy reference and retrieval of information by the Director.
14. Prepares necessary reports.
15. Performs other functions as may be assigned by the Director.

JOB SPECIFICATIONS

Bachelor degree in administration and management, three years experience in administration and management.

SURAKARTA WATER ENTERPRISE
MINUTES OF MEETING

Date : August 15, 1979

Place : Surakarta Water Enterprise Office

Present : B. Bayongan
Bp. Moh. Ihsan, Chief. Finance and Administration Division
Ibu Sudartinah, Chief, Admst. and Customers Relation Dept.
Nn. Suyanti, Chief, Finance Department
Bp. Soekadyo, Chief, Financial Planning and Budgeting Sec.
Sdr. Sumardi, Chief, Meter Reading Section
Sdr. Marsudi, Chief Collection Section
Hariyanto Santosa

1. B. Bayongan explained that as discussed with Cipta Karya the treatment of subsidy received from and remittance to the municipal Government of Surakarta shall continuously be treated as non-operational income or expense in the Profit and Loss Statement.
2. B. Bayongan brought to the attention of the group the complaint of some customers regarding the late distribution of the third copy of Bill (Notice of Bill) during the month of July. These were distributed in the afternoon on the due date of payment. When the customers paid on the following day they were charged penalty for late payment.
Bp. Ihsan said that some delay in distribution were encountered in July because the meter readers, who distributes the bill, also accompanied the workers installing boxes for the Meter Reading Card, thereby slowing down the distribution of Bills. Ibu Sudartinah said that for the coming months the distribution of bills shall be on schedule. Sdr. Sumardi informed the group that distribution of Bills for the month of July were finished on August 13 and that these were distributed on time per district.
3. In connection with the above, B Bayongan suggested that the deadline for payment of bills be indicated in the box for Meter Reading Card installed at each customer's residence to serve as reminder of the due date of payment eventhough they haven't received the Notice of Bill yet.

4. Sdr. Marsudi commented that some customers come to the office to pay without the third copy of Bill which they are supposed to bring. He said that they prepare a replacement for the third copy of Bill because they need it to prepare the collection report by district. B. Bayongan commented that it is not necessary to replace it. The collection report per district which can be prepared from the Daily Collection Register may not be prepared monthly but only upon request .
5. B. Bayongan called the attention of Bp. Ihsan and Sdr. Marsudi about the use of forms and register to record customers signing promisory note to settle their obligation. Sdr. Marsudi said that they keep the Promisory Note in each customer's account receivable envelope and do not list it the register designed for the purpose. B. Bayongan told them to record it in the register to facilitate follow-up. All customers who sign Promisory Note starting today should be listed in the register. Previous Promisory Notes should be listed in the register before September 30, 1979.
6. According to Nn. Suyamti the financial reports for July 1979 is still being typed as of today.
7. B. Bayongan suggested that additional staff be assigned in the budget preparation so as to finish it on time. He also suggested that Nn. Suyamti should closely follow-up the progress of the preparation of the 1980 budget. Bp. Ihsan and Nn. Suyamti said that they will assign staff to help in the preparation of the budget. Bp. Soekardyo commented that the budget preparation can be finished on or before September 30 if there will be an additional staff to help the one presently working on it.

GROUNDWATER EXPLORATION & DEVELOPMENT

Monthly Progress Report

This report covers the period of August 1, 1979 up to August 31, 1979.

I. TASK ACCOMPLISHED

1. Analyzing and reviewing the Geological Cross-section based on resistivity values.
2. Staking out 15 locations for the proposed drilling sites.
3. Drilling program study.
4. Made a trip to Bandung to supervise and to take additional Resistivity Investigation Report, and in Jakarta attended a special Meeting held at Cipta Karya Office.

II. GEOHYDROLOGICAL DISCUSSION

Based on the geological, hydrological and geophysical data obtained, the Consultant is presenting herein the discussion and analysis of the Geohydrological condition in the investigated and adjacent areas.

For fulfilling the Test Drilling purpose, the Consultant may divide the investigated area into three (3) Drilling Areas, as follows :

1. North of Surakarta City Area
2. Southern and Western Portions of Surakarta City
3. South-west of Surakarta City Area

(See Report No. 9, June 1979, Appendix. XIV)

In these areas, 15 drilling sites were proposed and will be described further below. The geological conditions of these three (3) preceding areas are different in nature, and can be described as follows :

1. North of Surakarta City Area

From the outcome of the outcrop field study, and the resistivity investigation, the Consultant can draw a conclusion that this area is covered by an older volcanic succession consisting of sandstone, clay or tuff and coarser material similar to volcanic breccia or agglomerate. The lava flow is encountered also, although in limited area.

Unfortunately, the geohydrological conditions of this area are not so encouraging as those of the other two areas.

The reason given by the Consultant in selecting this area is stressed on the request of Cipta Karya for providing the city expansion and Perumnas with water requirement rather than geohydrological conditions. Therefore the Consultant keeps on trying to find out the most reasonable drilling sites within this area.

2. In the City Border of Surakarta

The previous report stated that the City of Surakarta is covered by alluvial overlies the volcanic succession and tertiary formation. Due to the problem which will be encountered in this area, such as the inadequate thickness of the aquifer, water pollution, the unsuitable Tertiary Formation at the unknown depth etc., this area is not recommended for the Test Drilling Sites.

However, we consider the western and southern portion of this area to be reserved for the next drilling program, because that place seems to show better prospects than the other portions.

3. South-west of the Surakarta City Area

Geohydrologically, this area is the best area for the Test Drilling purpose between the whole areas. The reasons that may be put forward are as follows :

- This area is close to the source area, so the good quality and sufficient quantity of groundwater can be encountered
- Good aquifer can be found in this area, because the area is covered by thick young volcanic succession which can be considered to be the best water bearing formation in the investigated area.
- Morphologically, this area is the lower part of the flank of Merapi Volcano, so that the artesian condition of groundwater looks promising.
- This area is situated close to the City of Surakarta, so that the accessibility and Well Development problem that may arise can be minimized.
- Since most of the land in this area was utilized for agricultural purposes, less polluted water can be expected in this area.

Based on the above reasons, most of the proposed drilling sites are centered in this area.

III. RESISTIVITY INTERPRETATION

The Resistivity investigations and interpretations were conducted by PT GEODATA. Report on fifty (50) Sounding Points and Preliminary Report on twenty (20) additional Sounding Points have been received and reviewed.

In connection with the recommended drilling sites, eight (8) selected Geological Cross-sections that were made by using resistivity interpretation (Fig. 1 to Fig. 8), are presented herein.

The subsurface condition can be seen on the selected Cross Section attached, but it should be noted that the resistivity investigation will only give general interpretation. In that case, the interpretation gives satisfactory guidance for staking out drilling sites and predicting the depth of water table in general.

The situation of the whole seventy (70) sounding points can be seen on the map attached . (plate 1)

IV. STAKING OUT DRILLING SITES

Based on the geohydrological, topographical, accessibility and hydrogeological conditions, the proposed Drilling Sites have been chosen. This consideration is also based on the request of Cipta Karya to provide for the future City Expansion, especially North of existing Surakarta City.

The resistivity interpretation is also an important guide in selecting Drilling Sites.

In the first phase of Drilling Program, ten (10) drilling sites are staked out, indicated by no. 1 to no. 10 at the map attached (plate 2), four (4) drilling sites are situated on the North of Surakarta City area, indicated by no. 1 to no. 4, while the other six (6) drilling sites are proposed to be located in the South-west of Surakarta City area, indicated by No. 5 to no. 10.

In the second phase of the Drilling Program, five (5) additional drilling sites will be taken, indicated by no. 11 to no. 15.

The locations of all of the proposed Drilling Sites can be seen on the map attached (plate 2).

The spacing of each well to the next is to be about 1000 mt. , the optimum distance of each well will be determined later , after finishing the first Test Well on each area.

The following presented list are shown the general description of each Drilling Site. (see Table 1).

V. CONCLUSIONS

1. Drilling location can be divided into three (3) different areas as follows :
 - North of Surakarta City Area
 - Southwest of Surakarta City Area
 - Southern and Western Portions of Surakarta City.
2. Geohydrologically, the three mentioned areas have good prospects for producing groundwater , as to the order of the area possessing the best prospect to the less promising area, as follows :
 - Southwest of Surakarta City Area
 - Southern and Western Portions of Surakarta City
 - North of Surakarta City Area.
3. Subsurface resistivity interpretations have been taken as guidance in selecting and staking out drilling sites.
4. Fifteen (15) locations are presented herein to be selected for the Test Drilling sites.
5. The distance of one well to the next well or " Well Spacing " is estimated to be 1000 mt.
6. Due to the lack of Deep Well Log Data, lack of the Pumping Test Data of the Existing Wells, the Consultant cannot predict or estimate the amount of water that can be produced by each proposed well until the pumping test itself has been conducted.

VI. RECOMMENDATIONS

Based on the above statements, the Consultant submits the following recommendations :

1. Drill four (4) Test Wells in the North of Surakarta Area, at least one (1) Observation Well of the First Test Well will be required for calculations.
 - Average Transmissibility
 - Coefficient of Storage
 - Average permeability
2. Drill six (6) Test Wells in the South-west of Surakarta City area, at least one (1) Observation Well of the First Test Well will also be required.
3. Each single Test Well (without Observation Well) will be measured analyzed on its drawdown test for calculating yield capacity or specific yield, and the "Average Permeability", " Coefficient Storage" and "Average Transmissibility" will be generally correlated to the Test Well which is prepared with the Observation Well.
4. If the amount of water that will be produced from the ten (10) Test Wells is insufficient, five (5) additional Test Wells will be drilled later, situated in the South-west of Surakarta City.
5. The Test Drilling Sites which are presented herein (plate 2) are indicated by serial number, the smallest number shows the highest order and following numbers indicate the lower order. The drilling should be performed starting from the lowest serial number.

T A B L E 1

DRILLING SITE, GENERAL DESCRIPTION

A. TEST WELLS

Code : TW 1
Location : close to GL. 5
Elevation : 127.80 (m.s.l.)
Recommended depth : 175 mt.
Possible rock penetrated : sandstone, tuff or clay, laharic
breccia with boulders
Remark : deep water table

Code : TW 2
Location : close to GO. 4
Elevation : 127.50 (m.s.l.)
Recommended depth : 150 mt.
Possible rock penetrated : sandstone, tuff or clay, laharic
breccia with boulders
Remark : deep water table

Code : TW 3
Location : close to GL. 11
Elevation : 111.88 (m.s.l.)
Recommended depth : 150 mt.
Possible rock penetrated : tuff or clay, sandstone, laharic
breccia with boulders
Remark : possible artesian

DRILLING SITE, GENERAL DESCRIPTION (cont'd)

Code : TW 4
Location : close to GL. 12
Elevation : 110.11 (m.s.l.)
Recommended depth : 150 mt.
Possible rock penetrated : tuff or clay, sandstone, laharic
breccia, boulders
Remark : possibly artesian

Code : TW 5
Location : close to GL. 65
Elevation : 120.38 (m.s.l.)
Recommended depth : 150 mt.
Possible rock penetrated : tuff or clay, sandstone, Volcanic
breccia, boulders
Remark : possibly artesian

Code : TW 6
Location : close to GL. 64
Elevation : 127.45 (m.s.l.)
Recommended depth : 120 mt.
Possible rock penetrated : tuff or clay, sandstone, volcanic
breccia boulders
Remark : possibly artesian

DRILLING SITE GENERAL DESCRIPTION (cont'd)

Code : TW 10
Location : close to GL. 33
Elevation : 133.12 (m.s.l)
Recommended depth : 125 mt.
Possible rock penetrated : tuff or clay, sandstone, very
coarse sandstone
Remark : possibly artesian

Code : TW 11
Location : close to GL. 31
Elevation : 147.27 (m.s.l.)
Recommended depth : 150 mt.
Possible rock penetrated : sandstone, tuff or clay, breccia,
boulders
Remark : possibly artesian

Code : TW 12
Location : close to GL. 57
Elevation : 131.01 (m.s.l.)
Recommended depth : 160 mt.
Possible rock penetrated : tuff or clay, sandstone, laharic
breccia, boulders
Remark : possibly artesian

DRILLING SITES GENERAL DESCRIPTION (Cont'd)

Code : TW 13
Location : close to GL. 66
Elevation : 114.28 (m.s.l.)
Recommended depth : 150 mt.
Possible rock penetrated : tuff or clay, sandstone, very
coarse sandstone, boulders
Remark : possibly artesian

Code : TW 14
Location : close to GL. 20
Elevation : 100.07 (m.s.l.)
Recommended depth : 150 mt.
Possible rock penetrated : tuff or clay, sandstone, breccia,
boulders
Remark : possibly artesian

Code : TW 15
Location : close to GL. 24
Elevation : 98.81 (m.s.l.)
Recommended depth : 125 mt.
Possible rock penetrated : tuff or clay, sandstone, lahatic
bteccia, boulders
Remark : possibly artesian

B. OBSERVATION WELLS

Code : OW 1
Location : \pm 100 mt. to TW. 1
Elevation : -
Recommended depth : 175 mt.
Possible rock penetrated : sandstone, tuff or clay, laharic
breccia with boulders

Code : OW 2
Location : \pm 100 mt. to TW. 5
Elevation : -
Recommended depth : 150 mt.
Possible rock penetrated : tuff or clay, sandstone, volcanic
breccia, boulders

Note :

The exact location of the whole proposed drilling site can be seen on the map attached (plate 2),

TW : Test Well
OW : Observation Well
m.s.l. : mean sea level (meter)
GL. : Geoelectrical, Gl. 1 means the location of sounding
point number 1 (see map attached, Plate 1)

FIGURES 1 - 8
SELECTED GEOLOGICAL CROSS-SECTION
DEVELOPED BY USING THE RESISTIVITY INTERPRETATION

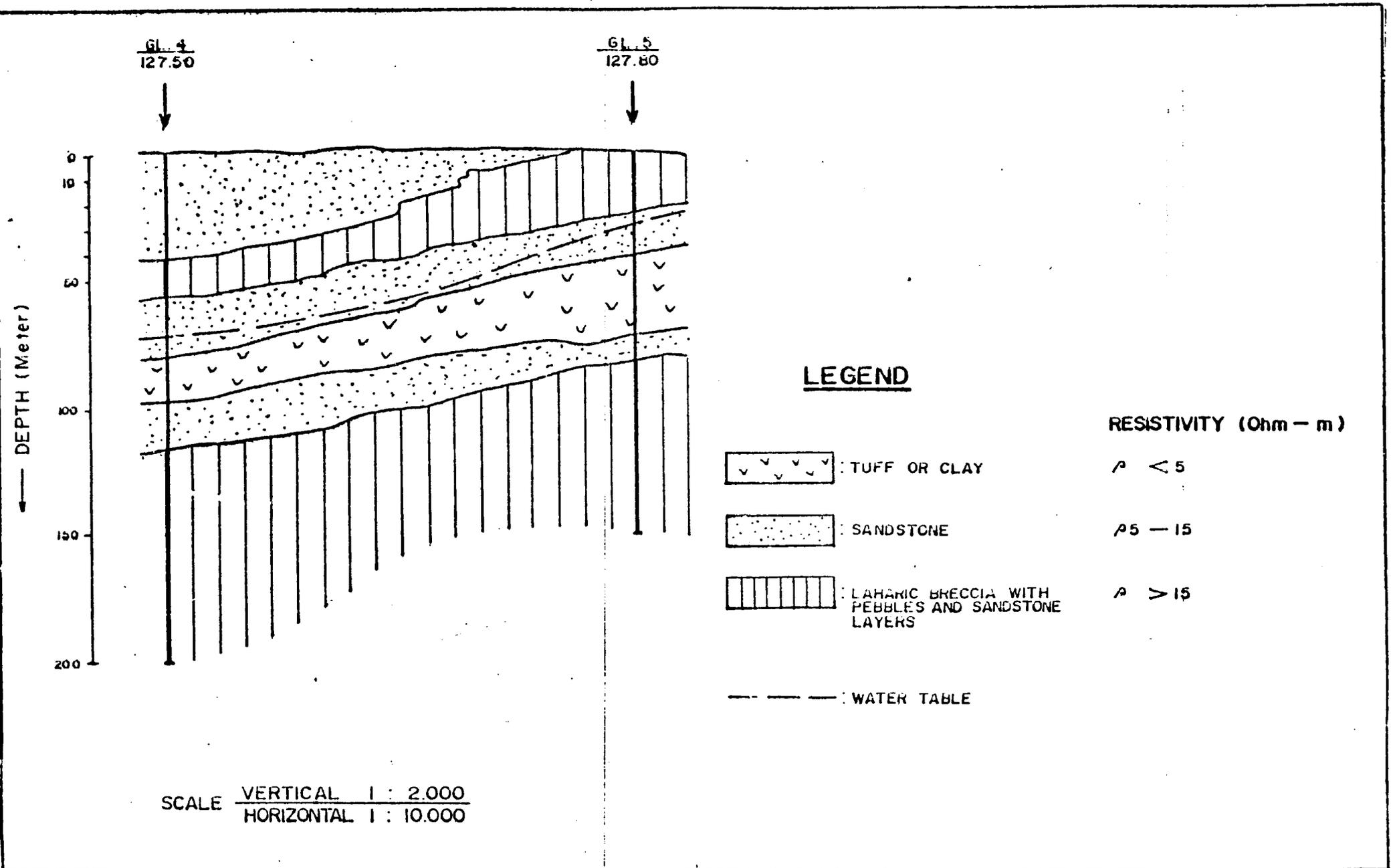


FIG. 1

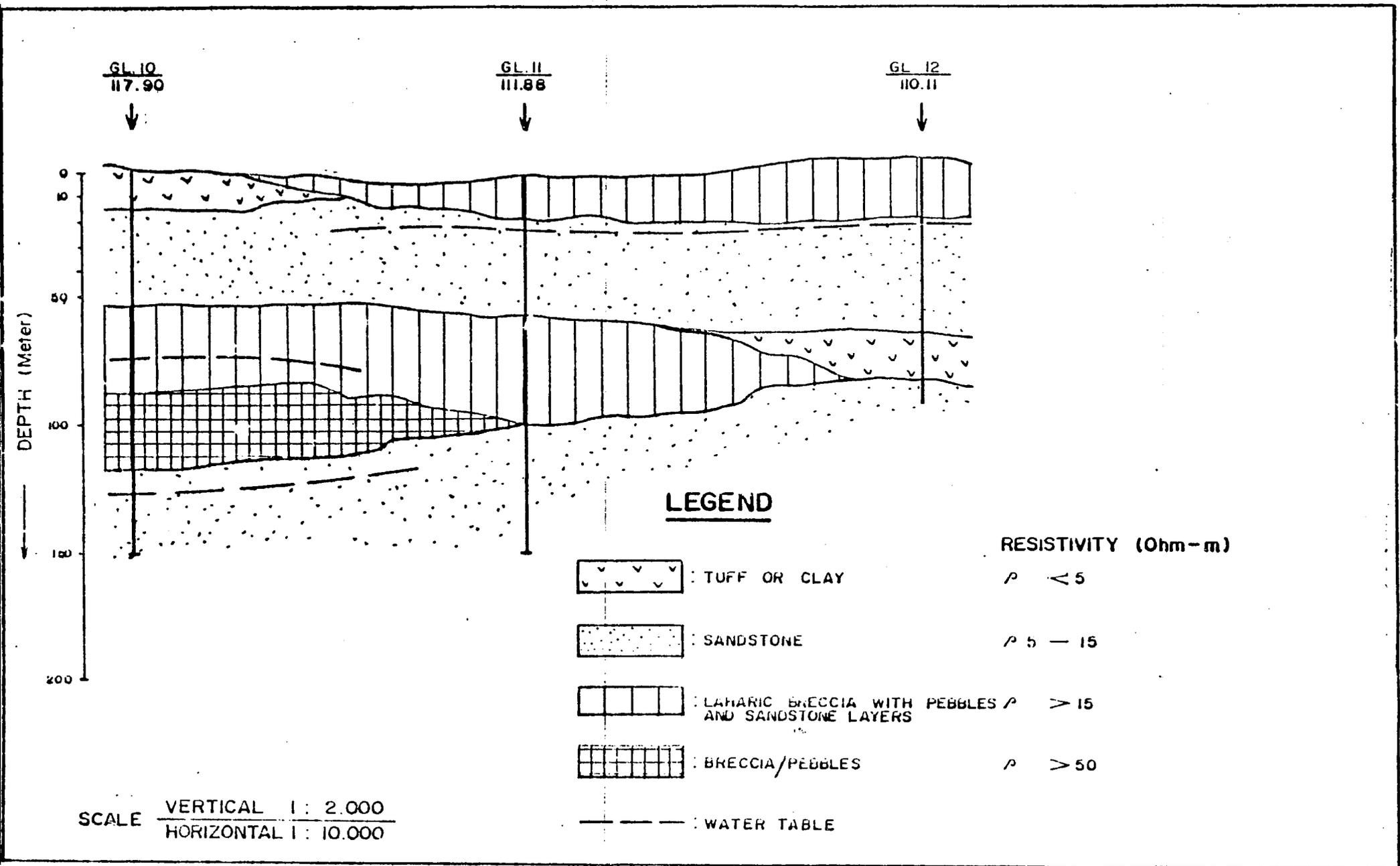


FIG. 2

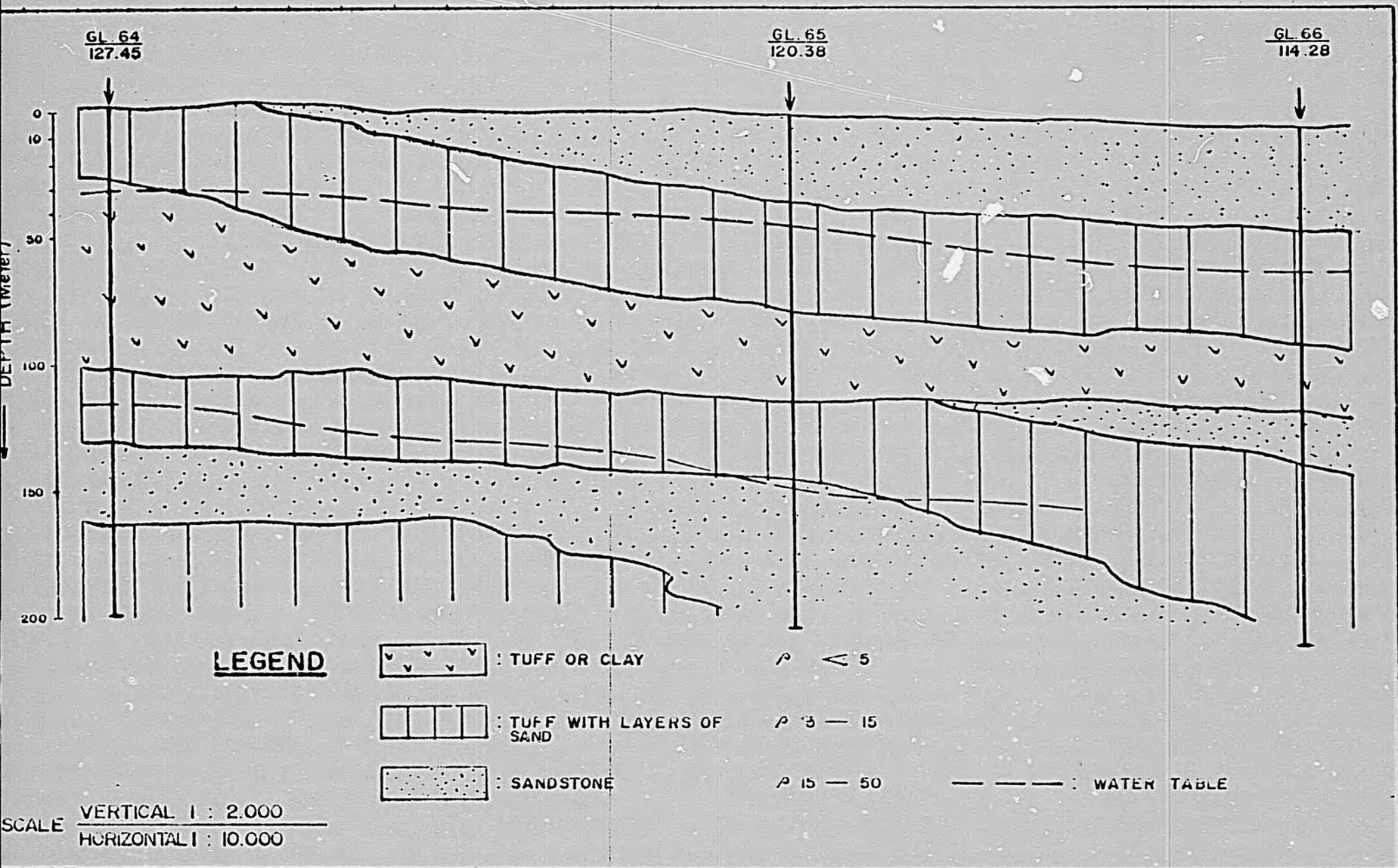


FIG. 3

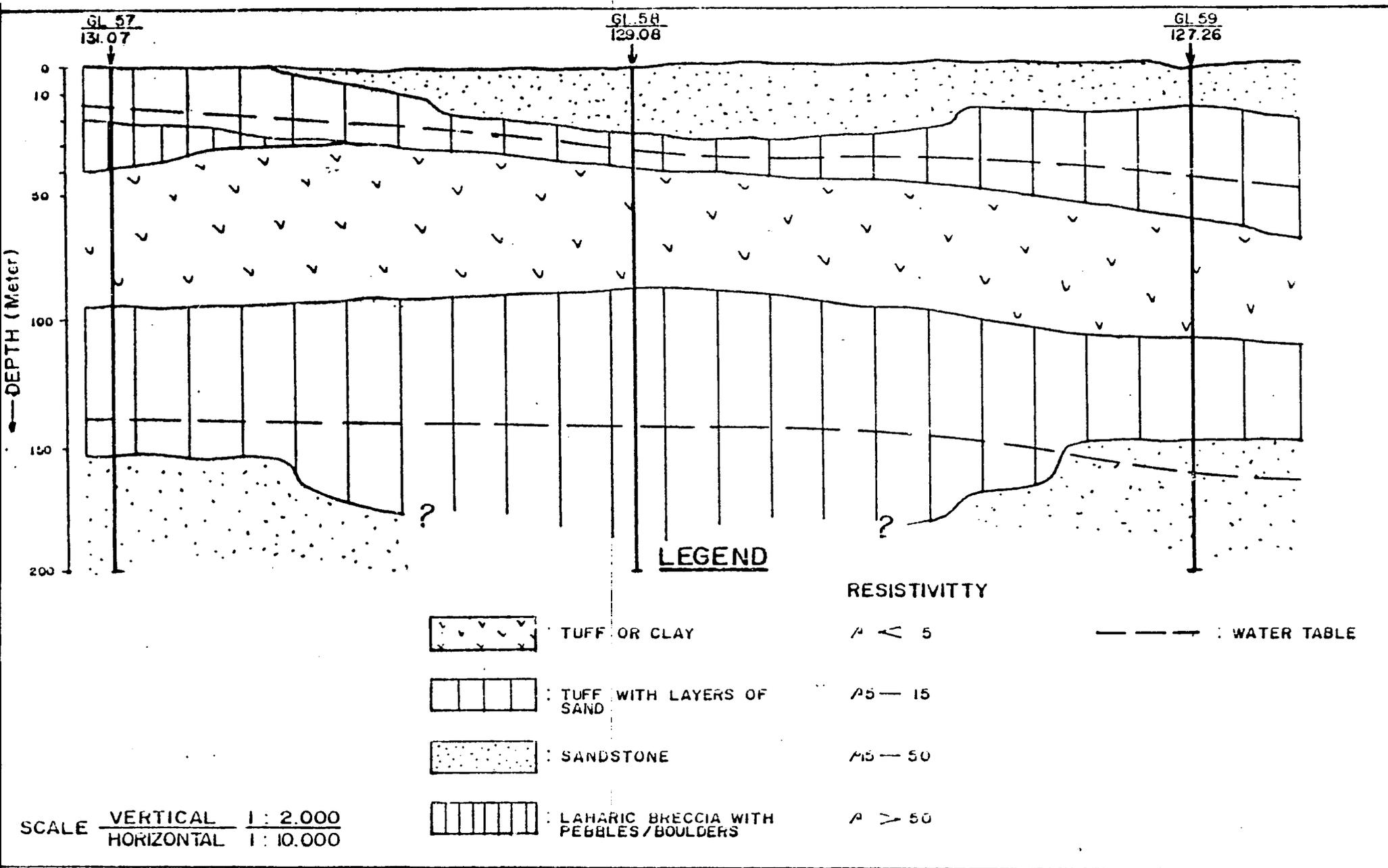


FIG. 4

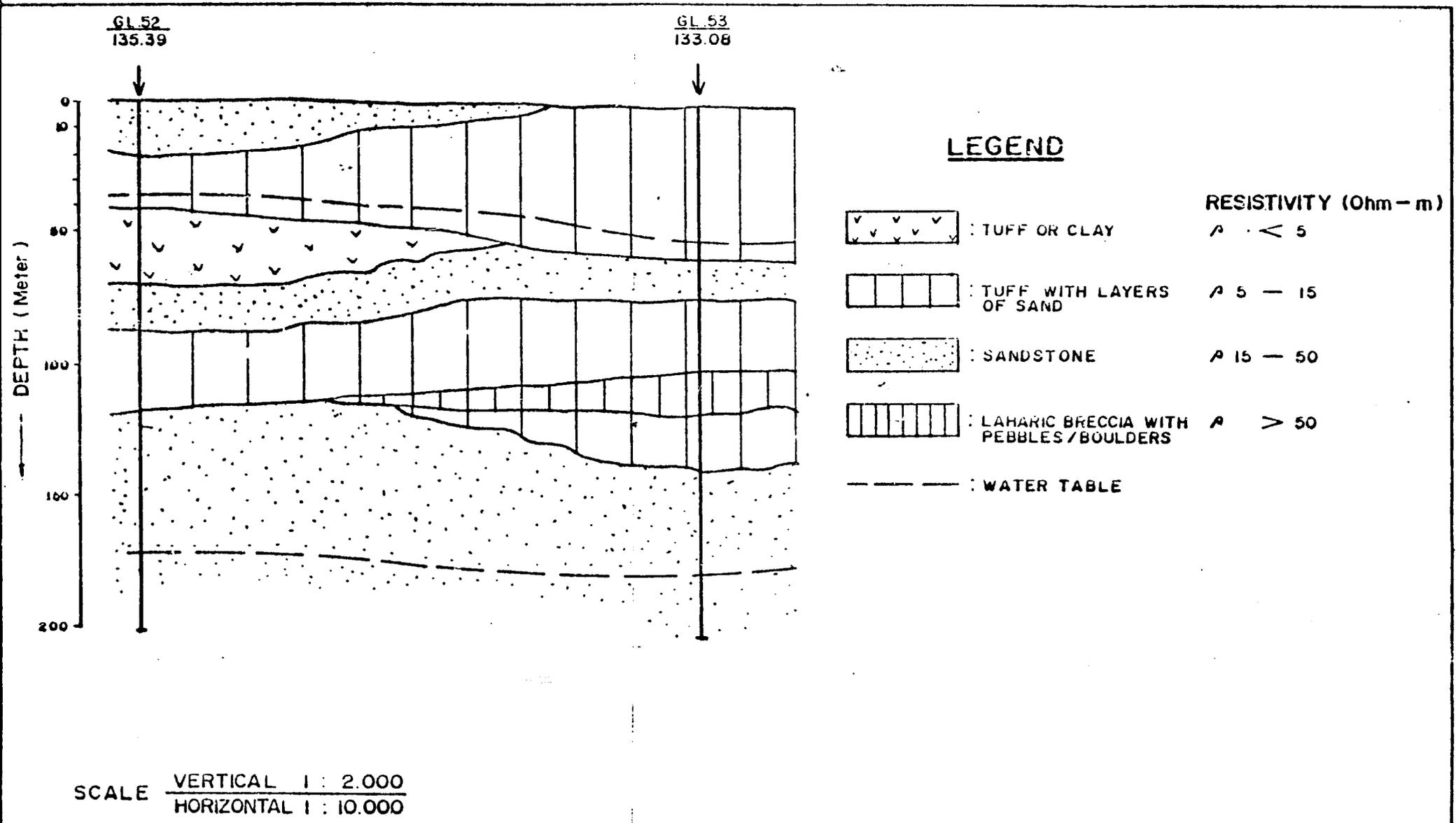


FIG. 5

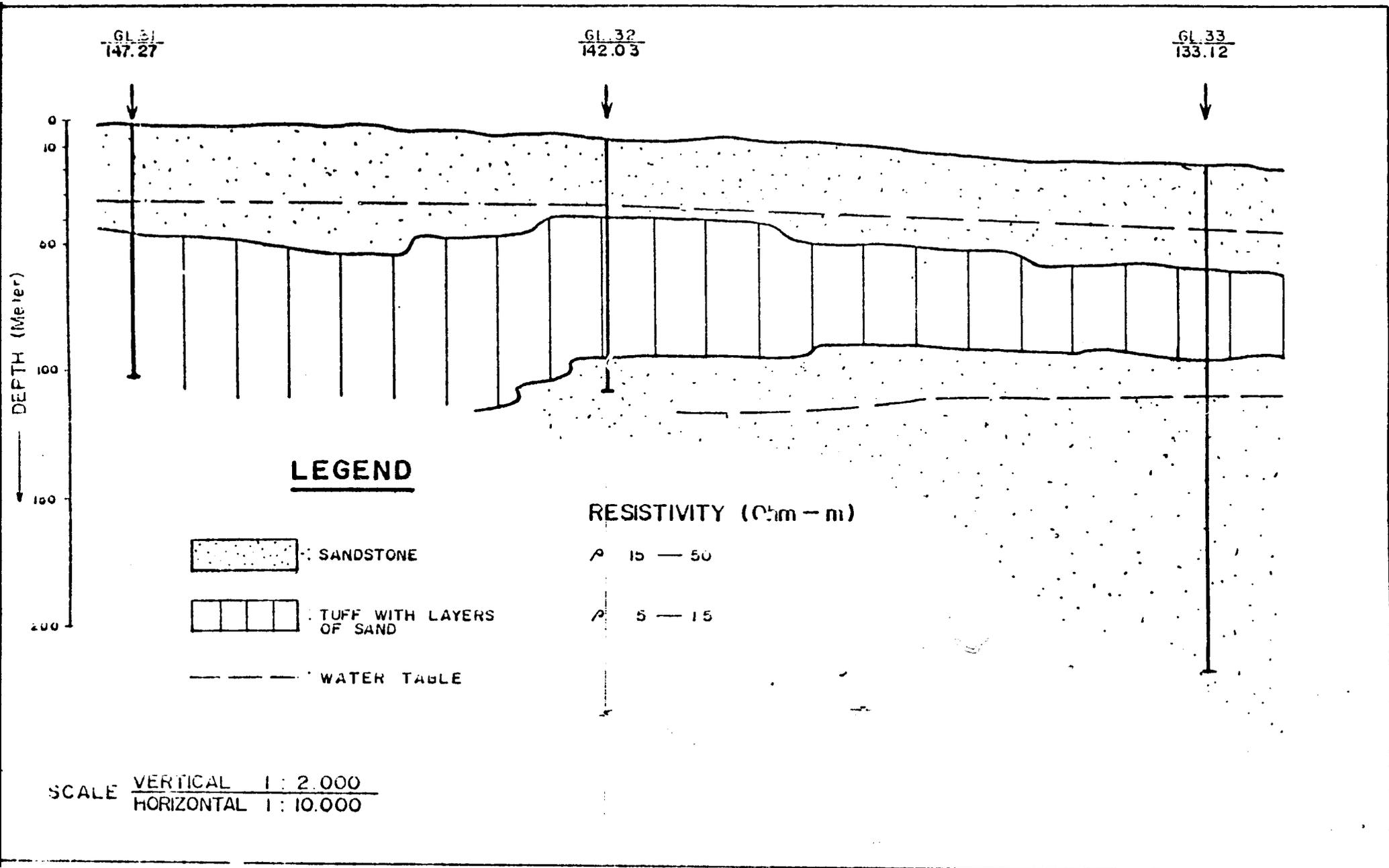


FIG. 6

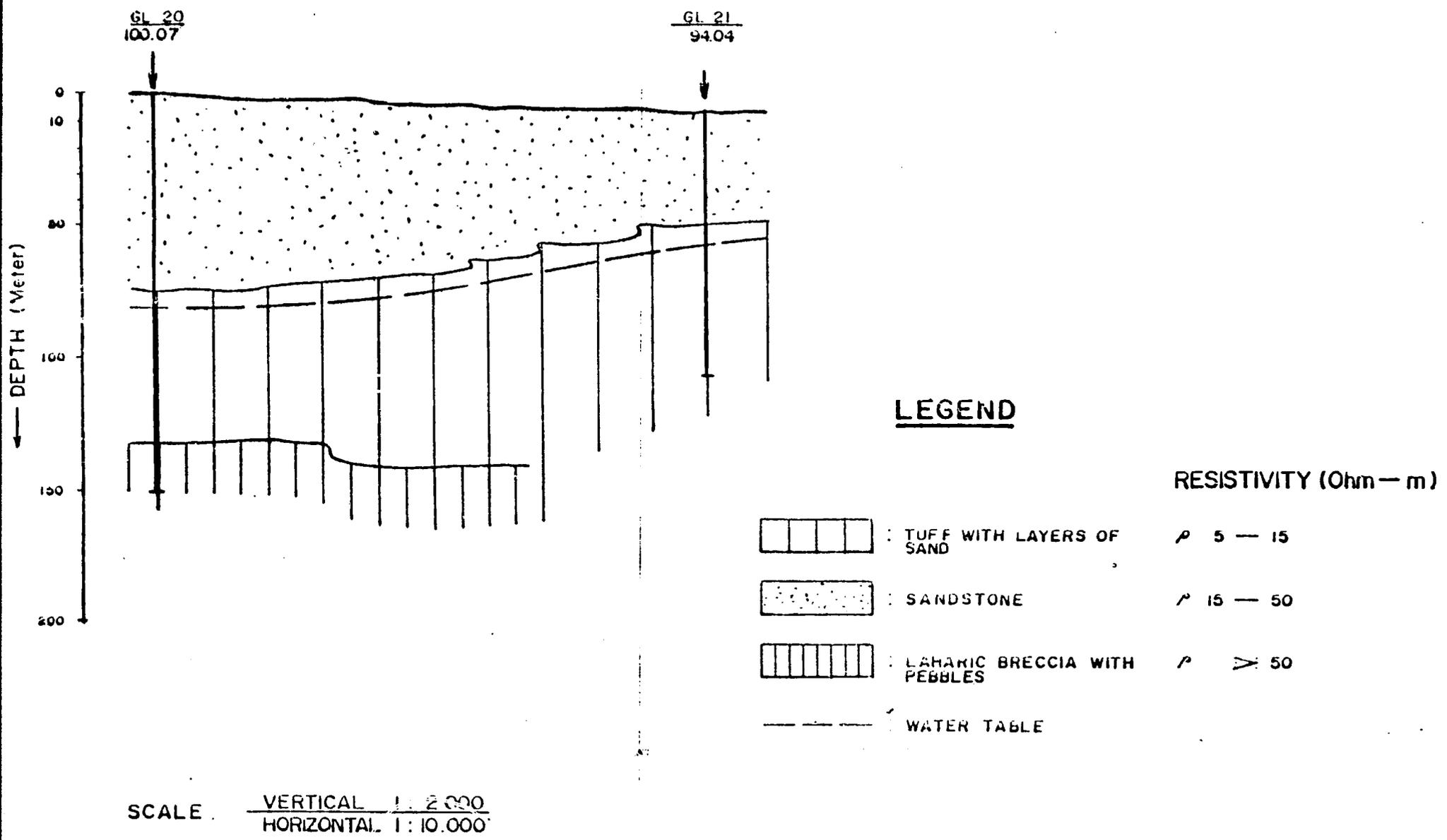
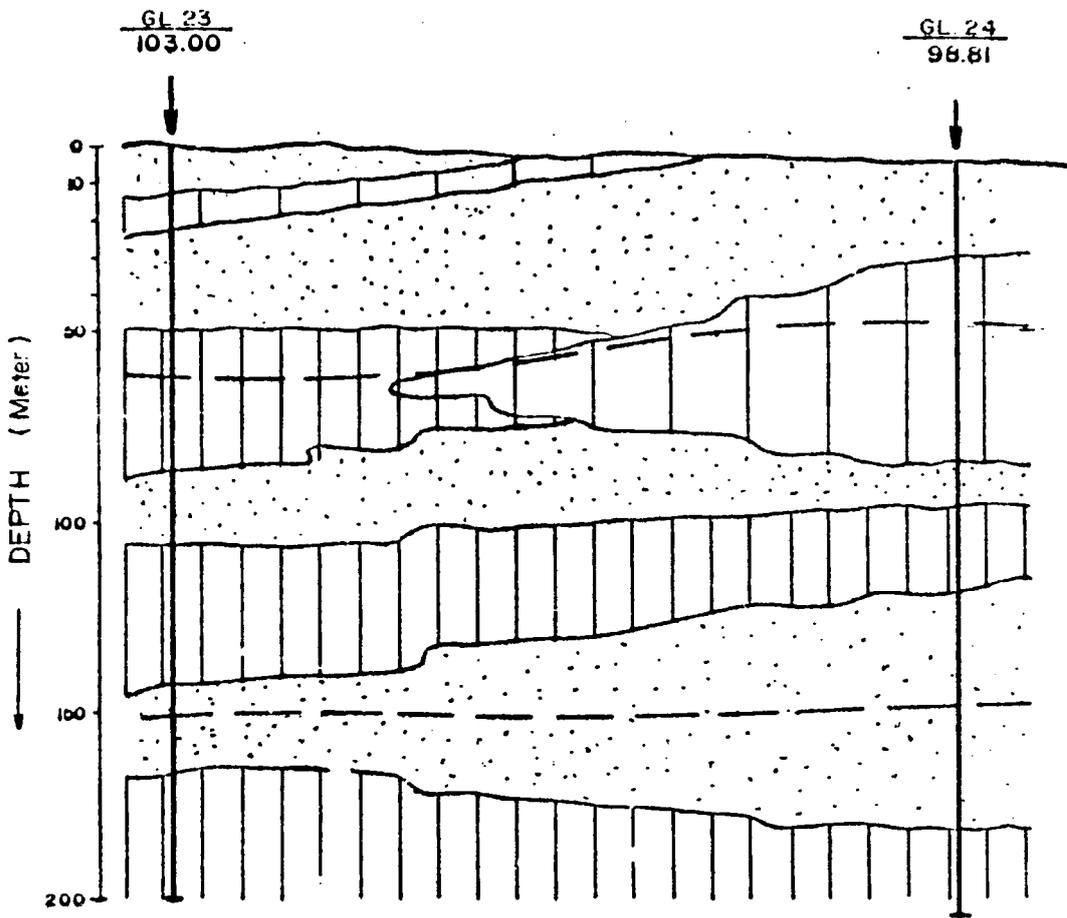
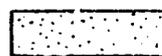


FIG. 7



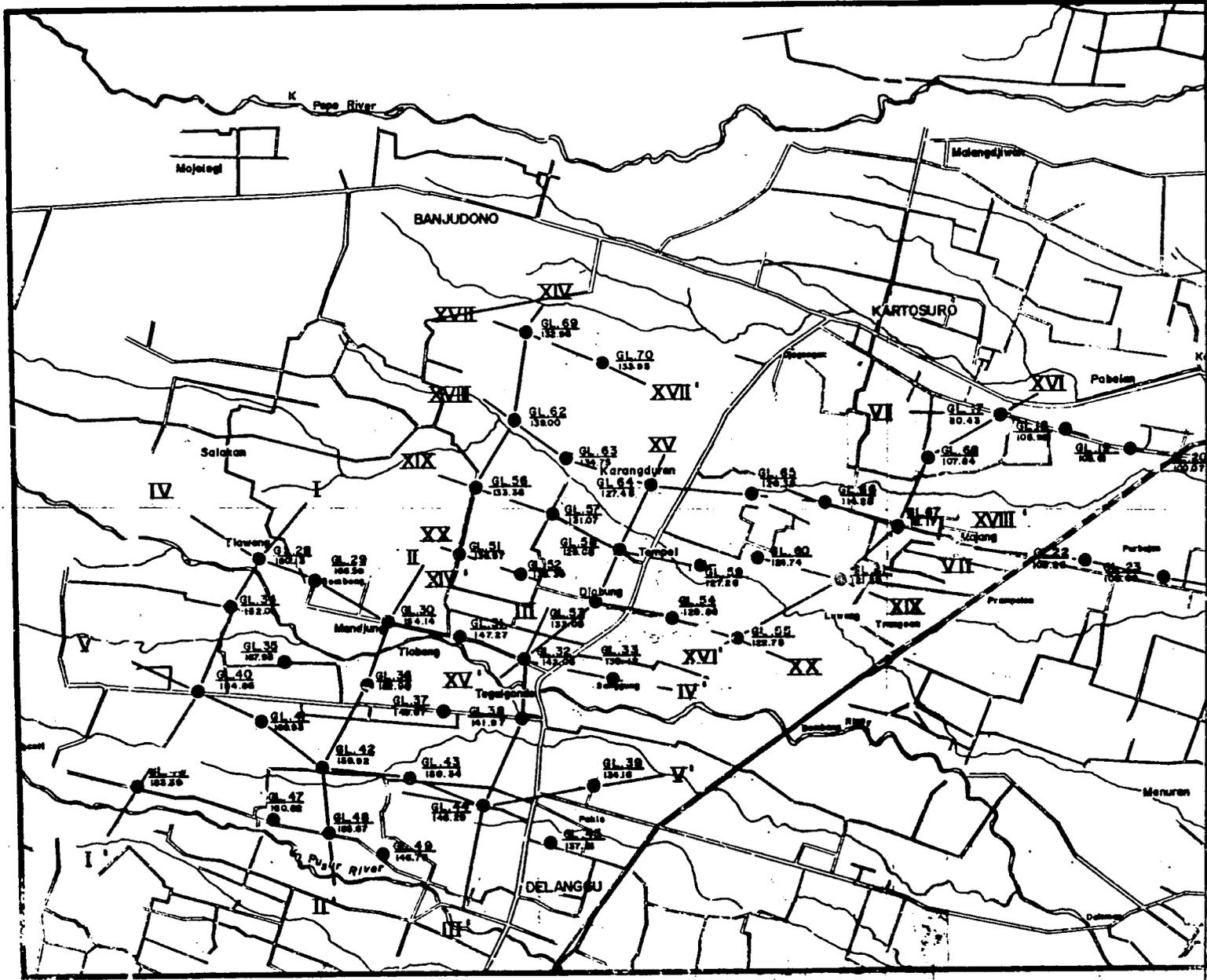
LEGEND

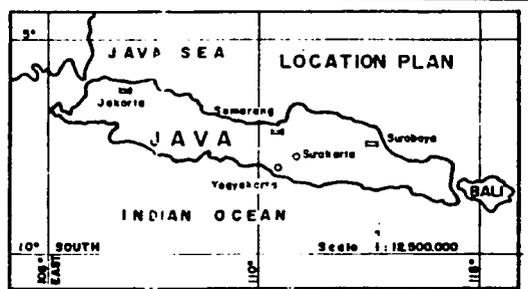
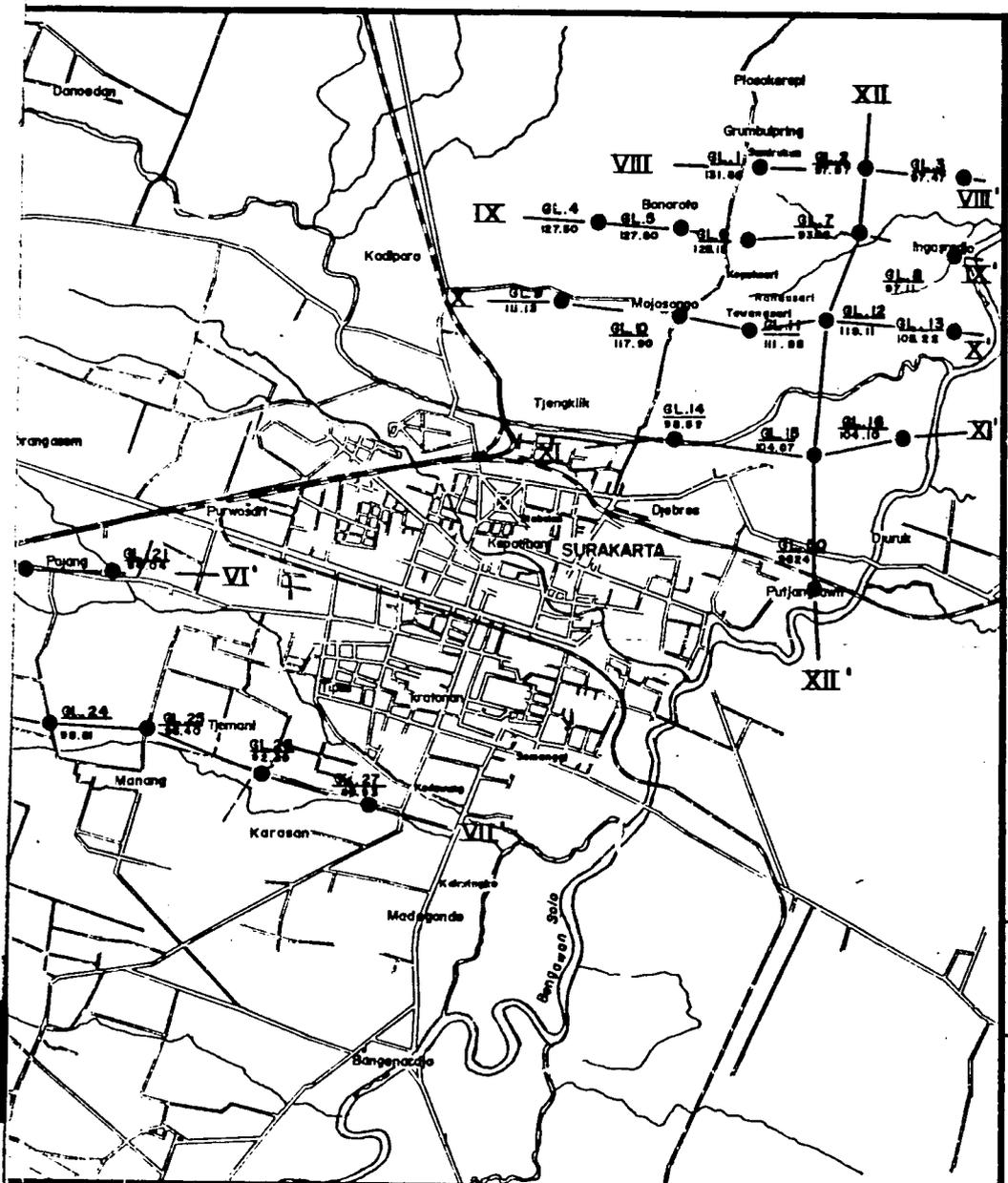
- | | RESISTIVITY (Ohm-m) |
|--|---------------------|
|  : TUFF WITH LAYERS OF SAND | ρ 5 — 15 |
|  : SANDSTONE | ρ 15 — 50 |
|  : LAHARIC BRECCIA WITH PEBBLES | ρ \geq 50 |
|  : WATER TABLE | |

SCALE VERTICAL 1 : 2.000
 HORIZONTAL 1 : 10.000

FIG. 8

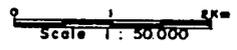
Plate 1a





LEGEND

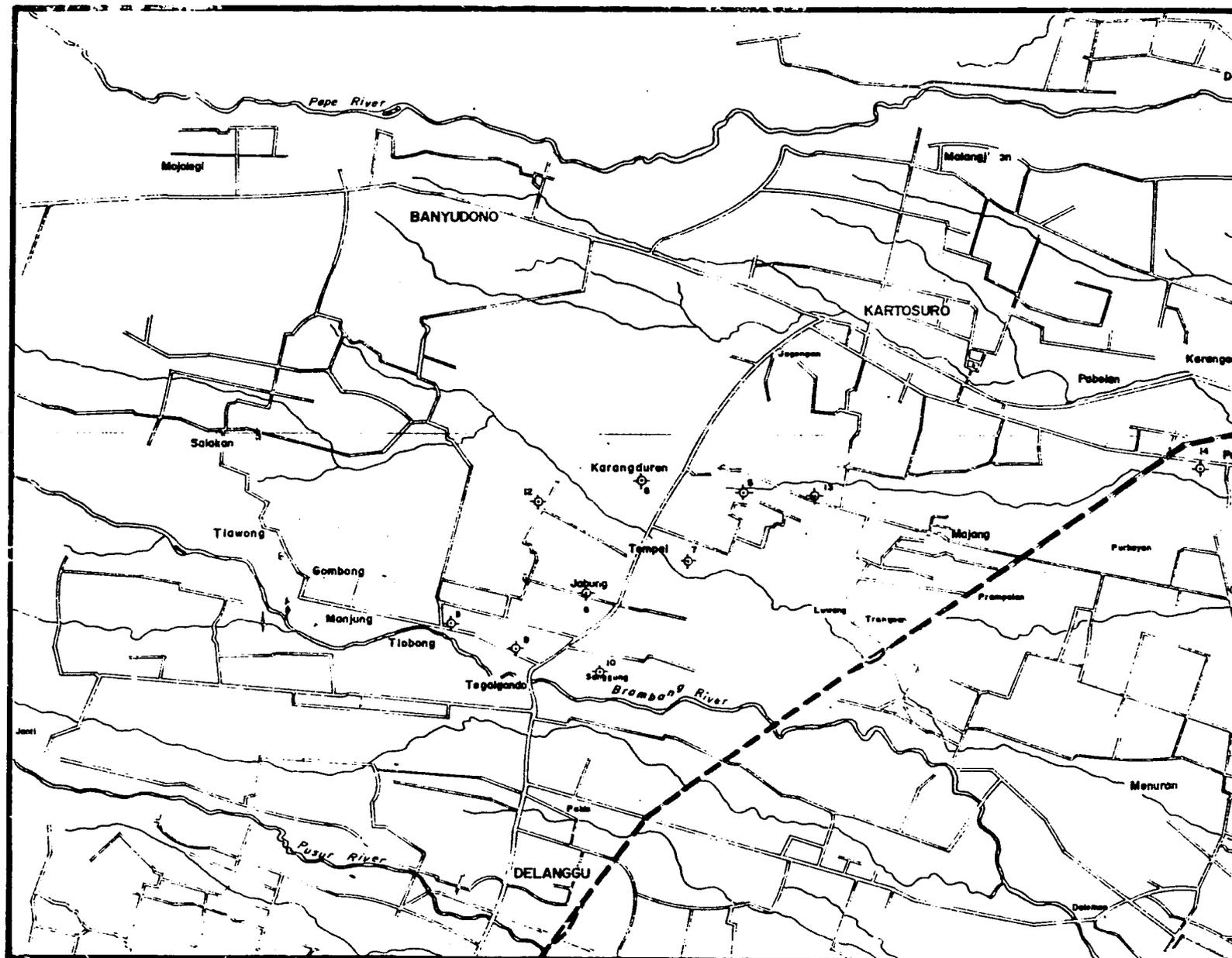
- GL. 34
134.15 SOUNDING POINTS,
NUMBER
ELEVATION
- XX XX' GEOLOGICAL CROSS SECTION
- RAIL ROAD
- ROAD
- RIVER



BURNS & McDONNELL ENGINEERING COMPANY INC.
TRANS-ASIA ENGINEERING ASSOCIATES INC.
A JOINT VENTURE

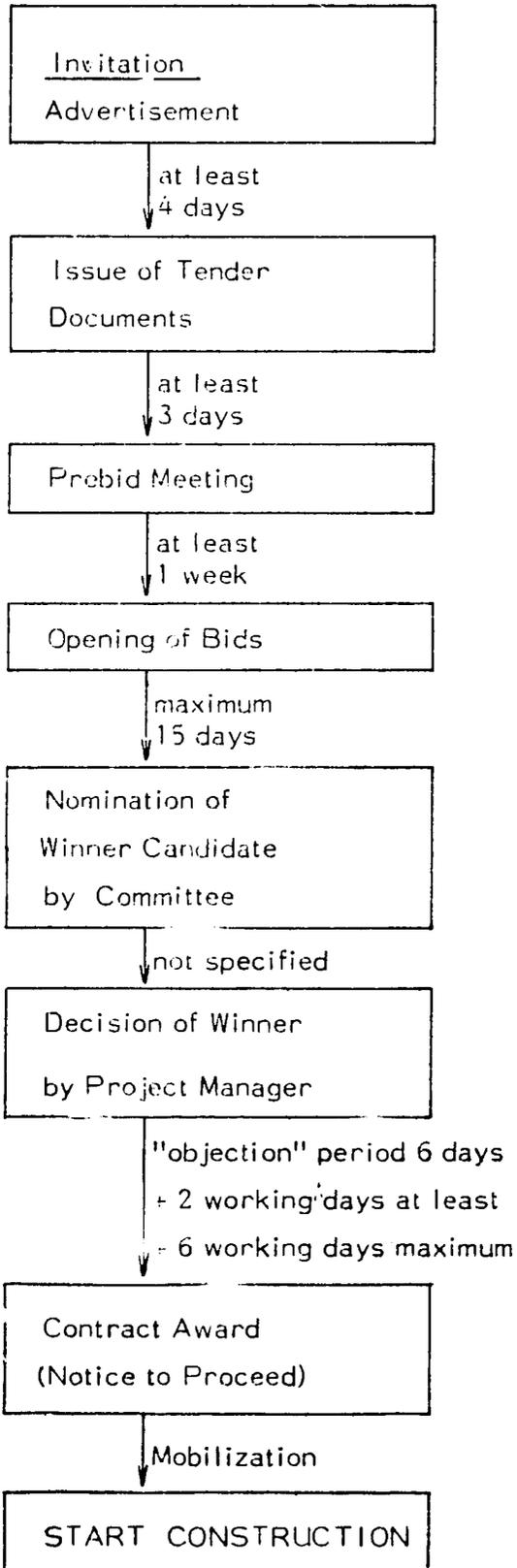
SURAKARTA WATER PROJECT

RESISTIVITY SOUNDING POINTS MAP



TENDERING SEQUENCE FOR THE
CONSTRUCTION OF THE
TRANSMISSION PIPELINE

DATA'S PREPARED IN ACCORDANCE
WITH "KEPPRES" # 14
DATED 1979



ESTIMATED DATE FOR TENDERING	
EARLIEST	LATEST
Aug 22, 1979	Aug 22, 1979
Aug 28, 1979	Aug 28, 1979
Aug 31, 1979	Aug 31, 1979
Sept. 7, 1979	Sept. 15, 1979
Sept. 8, 1979	Sept. 29, 1979
Sept. 10, 1979	Oct. 6, 1979
Sept. 18, 1979	Oct. 20, 1979
Sept. 25, 1979	Nov. 5, 1979