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DEVELOPMENT CO-OPERATION BETWEEN
VIETNAM AND FINLAND

HANOI WATER SUPPLY PROJECT

PHASE II

PROGRESS REPORT

Period January - June 1989

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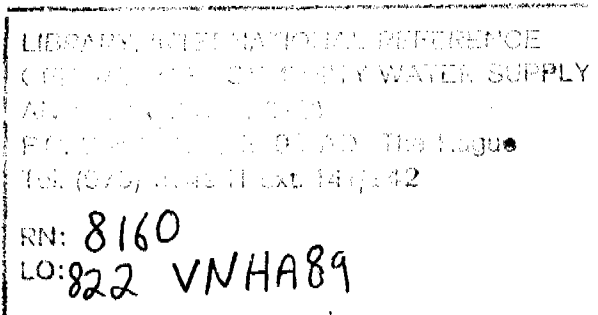
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PROGRESS REPORT, PERIOD JANUARY - JUNE 1989**SUMMARY OF PROJECT IMPLEMENTATION**

During the report period special attention has been paid to institution building while increasingly drawing Vietnamese staff to production cycle and vesting Management Board staff with more responsibility in production. This has shown encouraging signs in many cases and it will be continued and strengthened. Each Finnish supervisor has now a nominated counterpart. The office staff in project offices has been strengthened by additional Vietnamese water engineers.

Close co-operation with the Hanoi Water Supply Management Project (HWSMP) has been maintained in training activities. Training Master Programme has been prepared jointly. The programme covers the time to the end of year 1989. Also the co-operation framework in training has been further clarified with the Training Centre of HWSMP.

The production in water plants and network construction has been low during the report period. Only two thirds of the set targets have been achieved. The reason is that sites have been without labour force. Some sites were empty and some were driven with spare efficiency. Through interviewing contractors and by discussions with other international agencies it was learnt that lack of cash money have stopped the activities on sites. The representatives of the Implementing Agency have continuously stated that funds are available, but it has proved to be a problem to find cash money to the contractors and labourers. The situation has improved towards the end of June.

In the water plant sector the shortage of skilled Vietnamese electricians as well as the small number of Finnish electrical supervisors have delayed the installation of instruments and electrical equipment. The electrical wiring has been partly renewed due to mischievous installation by contractors. Operation control of valves and flow meters is still under final adjustment and checking.

1. INTRODUCTION

The Government of the Republic of Finland and the Government of the Socialist Republic of Vietnam signed an agreement on the 11th June 1985 on the rehabilitation, upgrading and extension programme of the water supply system of the City of Hanoi. The duration of some Phase I (1985-1987) activities was extended to June 30 th 1988. The Phase II of the Hanoi Water Supply Project was started on July 1st, 1988.

The general objectives of the Phase II of the Project are described in the Project Document. It also presents conceptual short-term development targets and tentative time schedule of activities in 1.7.1988-31.12.1990.

During the later half of 1988 the short-term objectives of the project were the completion of the remaining works of Phase I in order to increase the amount of water served to the inhabitants of Hanoi. The first target of pressure level in terms of practice was to "the first floor".

The project was hit with an unfortunate flight accident in early September where newly recruited Plant Manager and Plant Maintenance Supervisor lost their lives. This accident left a long lasting depression in project work and progress.

The First Supervision Board meeting of the Phase II held at the end of September 1988 emphasized the importance of training given under the terms of the project. The consultant reviewed the programme and the personnel was also recruited accordingly in co-operation with FINNIDA. The training programme was presented to the Supervision Board Meeting and it was approved.

The implementing agency has suffered from economical difficulties from the beginning of year 1989 and this has caused several months delays in progress. It is obvious that the targets set in the project document can not be achieved during the remaining time. New tentative plans have been introduced to the Vietnamese and Finnish competent authorities for decision.

2. PROJECT STAFF AND ORGANIZATION

2.1 Finnish Staff and Organization

The number of Finnish long term experts has been 22 in maximum.

During the report period two new experts, Electro-mechanical Workshop Supervisor and Electrical Supervisor I arrived to the Project.

Two contracts terminated, Network Manager and Network Supervisor I. These posts were replaced by new supervisors.

Three short term experts have worked in the Project: Water Master Plan expert, Hydrogeologist and Electrical Engineer.

The Finnish field personnel is listed in Appendix 1 and the organization chart of YME-Group by 1.1.1989 is shown in Appendix 2.

2.2 Vietnamese Staff and Organization

Hanoi Office of Urban Public Works has formed a separate organization, Hanoi Water Supply Project Management Board (HWSPMB) for implementation of the Project.

This organization is employing and co-ordinating the use of Vietnamese resources in the Project. The organization chart of HWSPMB is shown in Appendix 3.

YME-Group staff has a nominated Vietnamese counterpart for each expert. Moreover, project office, workshop, sites and plants have Vietnamese HWSPMB or HWSCO's personnel co-operating closely and directly with YME-Group experts.

2.3 Co-operation Committee

The Co-operation Committee had 6 meetings during the report period. Monthly progress reports and work programmes have been approved in the meetings.

The purpose and role of various type of meetings in the project was discussed and agreed. The questions of spare parts for two years, counterparts for Finnish supervisors, the use of budget allocations, management of project equipment, implementation delay and its consequences, are topics being discussed in the meetings.

3. PROCUREMENT, TRANSPORTATION AND MATERIAL MANAGEMENT

3.1 Procurement

During the period the total value of materials and equipment procured for the project was 17.7 mill. FIM. The cost of procurement for different sub-projects was as follows :

* 30 Office and Accommodation	0,160 mill. FIM
* 40 Project Investment	1.172 mill. FIM
* 50 Facility Establishment	0,060 mill. FIM
* 60 Water Plants	5,429 mill. FIM
* 70 Pipeline Networks	10,209 mill. FIM
* 90 Operational Support	0,655 mill. FIM

Freight charges are included in above figures.

On the request of FINNIDA a survey of the availability of local materials was started in April. The survey shall be completed by August 1989.

3.2 Shipments Airfreight and Transportation

The summary of shipments handled 01.01-30.06.1989 is given in Appendix 14. Over the report period 898 tons and 2301 m3 of Project material arrived at Hai Phong port. This means that during the whole Project 82 shipments, 11347 tons and 28657 m3 of Project material has arrived by sea freight. During the period the material has been transported by lorries from Hai Phong to Hanoi. In the beginning Vietnamese side faced financial difficulties and no transportation took place during January and February. On March the difficulties were solved and during the rest of the period transportation worked satisfactorily.

Project has used mostly DSR lines (DDR) to carry project materials from Helsinki to Hai Phong. This co-operation has functioned satisfactorily. However, during the report period it appeared that DSR lines can not give enough cargo space for use of the Project. Therefore an agreement of other reliable route from Helsinki to Hai Phong has to be considered.

In cases of large shipments the Project contracts the transportation to local companies. In other cases the amount of project lorries is sufficient. Also the transportation of chlorine to the water plants has been started with the new lorry reserved for this purpose.

Project faced difficulties in receiving airfreight during January and February. Moscow and Berlin terminals were overloaded of transit cargos which caused from four to six weeks delays in airfreight times. In second half of the period the situation improved considerably and the airfreight times were normal in the end of the report period.

Process time of getting import licenses and custom clearance can hardly be shortened due to various authorities involved in the procedure. The relationship has been good between authorities and organizations concerned.

Allocation of Project Vehicles is shown in Appendix 15. At the moment the quantity of project vehicles seems to be sufficient, however the cars purchased during Phase I are aging and need replacement in the near future. Project has ordered one new Toyota Cressida for the use of the Vietnamese Project Manager.

Training to the drivers of chlorine lorry was arranged.

Weekly transportation meetings have been held in order to co-ordinate the work in material sector. Also the counterparts for Finnish experts were nominated during the period and co-operation between the counterparts has started.

3.3 Storage

The reorganization of project stores is one of the main tasks in material handling during the Phase II. This work has continued during the report period in all the three stores. Due to delays in implementation the value of stores has increased considerably. Furthermore for instance 570 tons of deformed reinforce steelbars were stored in Mai Dich store. In spite of numerous instructions and advises given by YME-Group, Vietnamese side could not arrange proper storing for the steelbars and considerable economical loss can be expected. Also the store facilities are poor comparing to European standards and humidity is very high. Above mentioned facts together with delayed implementation can endanger

the condition of sensitive materials before taking into use.

Mai Dich store is the main store for the Project. Container store area has been reorganized to fulfil the increasing demands of container storing.

Further more rearrangement of two existing storerooms in Mai Dich continued. The new storeroom had to be used for emergency storing to the materials which in normal circumstances could have been delivered to the sites directly.

Thu Le store is used for storing mainly cast iron pipes. Rearrangement of the store continued and other than network materials were partly transferred to Mai Dich.

Ngo Si Lien store is reserved only for network/house connection materials. Also the rearranging of store continued by transferring goods between stores and by handing over of material to contractors.

In all the stores storage cards systems are used with satisfactory results.

A new 2 tons forklift has been taken into use to improve the material handling possibilities at stores. Also training course for proper use of the forklift was held during the report period.

On-the-job training for storekeepers has continued.

A computer system has been used for follow up of shipments, arriving material, cost monitoring and partly storage control. One Vietnamese secretary was trained to up date the files.

A list of machines and equipment is in given Appendix 16.

4. PROGRESS OF WORKS

4.1 General

The general work programme is included in the Project Document. Because of slow progress it is obvious that the schedule of Project Document can not any more be reached. The general delay is more than four months at the end of reported period. A proposal has been done by YME-Group to renew the general workplan, see Appendix 8.

The works belonging to the first Phase are still partly uncompleted. These works belong to the water plants section.

The Finnish experts have used in total 126.5 manmonths to supervise the completion of Phase I works, calculated from the beginning of Phase II, see Appendix 13.

4.2 Studies

4.2.1 Hydrogeological Studies

The preparation of groundwater model was continued and additional data collection was organized to be started in March. This data included the following:

- Installation of observation wells
- Sandtests from the wellfields of main plants
- Groundwater level observations at the existing wells
- Raw water and treated water samples at the main plants
- Water samples from the main lakes and rivers.
- Translation of new maps and reports

The data collection has progressed well according to the plan set by the hydrogeologist.

4.2.2 Water Master Plan Studies

Water Master Plan studies have continued after the collection of basic data had been completed in the beginning of February 1989. Development forecasts including land use and population development forecasts until the year 2010 have been studied and the relevant database in a form of maps and tables for water supply system planning was prepared. Also water consumption estimates based on the agreed specific consumption figures and the a.m. development forecasts were prepared and the design criteria for system planning were discussed and accepted.

With all the a.m information it was possible to prepare optional water supply system models. The development prognosis for water production had to be based on very rough knowledge of the ground water resources, as these studies had been delayed. Three alternative network models were calculated and dimensioned by using the microcomputer programme "FLOW" and rough construction programmes of transmission mains and treatment units for each option were prepared.

The data collection for economic studies was started and the studies initialized. However, the study can not be completed before there is enough information of groundwater resources.

A Water Master Plan seminar was held in the end of May with participants from Vietnamese organizations concerned, WMP-Team, WMP-Support Group and YME. A summary of presentations and discussions as well as the conclusions are presented in a separate report : " Water Master Plan Workshop 22-23.5.89, summary of presentations and discussions, 31st May 1989 ". The main conclusions were :

- * The hydrogeological studies have not yet reached the level of accuracy needed for Water Master Plan. These studies have to be continued and intensified.

- * Water Master Plan will be prepared in two parts. The Interim Report will be completed by the end of October and will include the basics for the work and the planning and design of technical alternatives of the water supply system. The final Water Master Plan report will contain the economic analysis of the options and the choice of preferred development strategy and recommendations for implementation. The schedule of the final report depends on the progress of hydrogeological studies and is anticipated to be completed by the end of June 1990
- * A water supply system with 2 or 3 big water plants with a capacity of 200,000 - 300,000 m³/d utilizing groundwater or surface water should be studied and included into the final report.

4.3 Camp, office and workshop

There has been lot of mending and maintenance work in the camp. The window frames have been tightened and covered with laths. The floor tilings have been renewed, the temporary wooden staircases to the upper flats have been replaced by steel ones.

The extension of recreation area was also planned to begin during the report period, but it has not started yet.

Electrical installations in the workshop have been renewed in order to meet the international requirements for "safety in work". The utilization value of the workshop has been increased by establishing a turner shop with lathe.

However, there has been lot of problems in fulfilling the Work Orders because HWSPMB has not been able to employ enough local mechanics and skilled workers and they have not even been able to keep them on their payroll.

4.4 Pipelines and Wells

Design and implementation principles of service connections have been mutually agreed and signed by HWSPMB and YME.

Revised Pipeline Design and Implementation Programme for the period of 1.6.89 - 31.12.90 has been approved and signed by HWSPMB and YME.

4.4.1 Raw water lines

By the end of December 1988 the total reported length of raw water lines was 6107 m. During the report period 217 m was installed. This means the completion of remaining works of Phase I in the implementation of Yen Phu and Phap Van raw water lines.

Design work of Mai Dich additional raw water pipelines for ten wells and rehabilitation design of existing well fields in Tuong Mai, Ngo Si Lien, Yen Phu and Ngoc Ha Water Plants are late by three months delaying the implementation programme at least by as long period.

4.4.2 Transmission lines

During the report period 3700 m of transmission lines were installed while the target of second Phase is approximately 6000 m during every six month period. The reasons for delayed implementation are late design work, problems in site clearance work and slow progress of some contractors in completion works.

4.4.3 Distribution lines

During the report period approx. 5.6 km of distribution lines were installed while the set target of Phase II is over 15.0 km during every six month period. Reasons for delays are the same as in other pipeline implementation work, late design and poor progress of contractors. This means at least three months delay in the implementation programme. List of constructed distribution pipelines during the Project is attached as Appendix 10.

4.4.4 House connections

Progress in installation work of house connections has also decreased due to the delayed implementation of distribution lines.

Totally approx. 700 connections have been installed during the report period when the target for Phase II is approx. 1250 during every six month period.

Inspection of all new installed house connections has been carried out and the table of inspection results is attached to this report as Appendix 11.

Repairing work of inspected connections requires additional input from contractors and HWSCo and additional supervision by Management Board supervisors, thus it will decrease the progress of implementation of new connections in future.

Design and implementation principles of service connections have been established and mutually agreed by Vietnamese authorities and YME-Group.

To improve the quality and reduce the leakage, connections to internal plumbing of houses have been partly included under the Project supervision. This activity will also require additional manpower resources in installation and supervision and may decrease the progress in the implementation of house connections.

4.4.5 Water Loss Reduction Programme

Testing and repairing of old mains has proceeded according to the revised targets of Phase II. By the end of report period approximately 8.0 km mains have passed the usability test and have been taken into use as a part of high pressure network.

Three new contractors have been employed to the testing and repairing works additional to the Hanoi Water Supply Company and this has led to good work progress.

Installation of valves and new connections in old mains in Cau Giay crossing have been completed. This will improve the operation of the network between three water plants, Mai Dich, Ngo Si Lien and Ngoc Ha.

Disconnection of old network continues parallel with the implementation of new network. The work has met difficulties due to missing connections from new system to many houses even though they have old legal connections. The reason for this is poor co-operation between the designer and the HWSCo in data supply. From the middle of May HWSCo has been requested to attend the design meetings in order to avoid this kind of delay in the works.

Water consumption studies as well as pressure level studies have continued in the new distribution system. The study area has been enlarged to cover the whole high pressure network.

A pilot study has been started in the influence area of Tuong Mai Water Plant. The purpose of the study is to estimate the areal water consumption and to define the level of leakage in the old distribution system. The results of study will be used in rehabilitation planning of old system.

4.4.6 Wells

During first four months of the report period there has not been any progress in the well programme due to delays in the design work and selection of contractors.

The well programme for the period of June 89-December 90 has been revised and mutually agreed.

The number of new wells has been reduced from 21 to 17, and the number of old wells to be rehabilitated has been reduced from 20 to 10 to meet the real demand of Phase II. The number of observation wells has been instead increased from 10 to 24 in order to get adequate data for hydrogeological studies which are necessary for final Water Master Plan report.

Rehabilitation of well houses which belongs to the works of Phase I has been completed.

Drilling of observation wells has been started in June and is progressing well.

Drilling of new wells in Mai Dich area has been started but is proceeding very slowly due to problems between the contractor and Management Board.

4.5 Water plant, Phase I

4.5.1 Rehabilitated Water Plants

Ngo Si Lien Water Plant

The water plant has been now handed over to HWSCo and the treated water pump, which was damaged during installation, is now repaired under supervision of the expert from the pump factory. The disinfection unit has also been completed, but not handed over to HWSCo yet.

Yen Phu Water Plant

Although it was expected that the plant would be ready for handing over in February 1989, it is not even now completed. The Civil Contractor has not been able to carry out the works according to the set workplan. Mechanically and electrically the plant is completed, but the test-runs could not be carried out yet. The areal works seem to be very difficult for the contractor to complete.

It is assumed that the plant will be handed over to HWSCo in July 1989

Anyhow, the water plant has all the time been in full operation serving the consumers.

Luong Yen Water Plant

The completion of electrical installations and control wiring has lasted until these days. The reason for this long delay has been the poor working capacity of the electrical contractor. The workers have even been absent from the site for many weeks.

Some leakages which occurred in the filter units have also delayed the handing over.

Tuong Mai Water Plant

The progress in rehabilitation of Tuong Mai plant has been quite satisfactory during the report period. The main part of the structural, mechanical and electrical works has been completed and the testing of different components is going on.

The actual test-run of the plant is expected to start in August 1989.

It is worth to mention that one of the old round water reservoirs was damaged when it floated up. The connecting pipes were cut. Thus the water plant can not be handed over to HWSCo before the new connecting pipes have been installed. Management Board did ask YME's advise in the repairing work which was designed by the DCWSSS, although it is not included in the scope of the Project.

4.6 New Water Plants, Phase I

4.6.1 General

The scope for Phase I included also construction of two new water plants, Mai Dich and Phap Van Water Plants. The treatment capacity of these two plants is 30,000 m³/day each.

4.6.2 Implementation

Mai Dich, Phase I

Although the plant was handed over to HWSCo already in October 1988 there has been a lot of minor remaining works which have been completed during the report period.

- The disinfection unit has been completed and tested and the operators were trained to operate the unit, but it has not been officially handed over to HWSCo yet. The handing over will take place in early July 1989
- The Backwash Water Recovery is completed and the handing over will take place in July 1989
- The implementation of Electro-mechanical Workshop has been delayed because of very slow progress in the work and due to replacing the partition wall between the store and the workshop, in order to increase the floor area for machines and equipment. It is estimated that the installation of machines, tools and equipment could start in July.
- The modification of a sluice gate in channel between sedimentation and aeration was done to facilitate the full capacity operation of 30,000 m³/day of the Plant since May 1989.

Phap Van

Concerning Phap Van Water Plant, repairing of leakages in sedimentation, filtration and the 6000 m³ reservoir were done during the report period. Also mechanical works were completed giving possibility to start the test-run of the Plant. At the same time the construction of drainage channel to discharge wash water from the Plant to the common city drainage system was nearly completed. Furthermore, pressure tests and flushing of raw water lines from wells to the treatment plant were carried out.

But in general, it has to be stated, that the progress in implementation has been very slow during the report period. Especially the completion of filter units took very long time. The reason was that the contractors had very weak interest to work. The plant has already been mechanically and electrically ready for testing for a long time.

The uncompleted temporary backwash drainage system has also prevented to take the plant in operation.

4.7 Water Plants, Phase II

4.7.1 General

The Project Document for Phase II states that Mai Dich Water Plant shall be enlarged with an additional treatment unit with capacity of 30,000 m³/day and two new water plants will be constructed, one in Ngoc Ha and one in Luong Yen.

4.7.2 Design

The design of Phase II water plants has continued mainly in making some modifications to the structural designs, which have naturally led to revision of the mechanical and electrical designs too. Particularly, the modification of site plan of Luong Yen II caused extra design work.

The high groundwater level and the backwash water from the old Ngoc Ha water plant nearby, caused lot of difficulties for the implementation of Ngoc Ha new water plant, because the designed dewatering system of the site could not keep the foundation bottom dry. Also very heavy rains, which lasted nearly two weeks in June, have put a great stress on the civil contractor.

4.7.3 Implementation

Mai Dich, Phase II

The implementation of phase II has progressed very slowly. Only the reservoir No 3 and the bottom slab and the installation of the prefabricated wall and roof elements for No 4 have been completed. The implementation of treatment unit didn't progress at all during the report period, but improved markedly during the last weeks of June. Casting of bottom for foundation of the treatment unit is going on.

Phap Van, Phase II

The implementation of the filter Backwash Water Recovery Unit has not progressed as expected, thus the installation of the lamellas for sedimentation unit and the return water pipe to the treatment unit, are still uncompleted. It is estimated that these works will be completed in the end of August 1989.

Ngoc Ha, Phase II

The implementation of Ngoc Ha water plant is now about six months behind the set time schedule. Reason for being that much behind was in the beginning of the report period, when the contractor was not capable enough to execute this kind of work. They didn't mobilize neither enough machinery and equipment nor labourers to the site, also the dewatering system for the site was not proper to keep it dry. Finally, when the contractor realized the critical situation of the implementation and mobilized more equipment and manpower, the progress started to improve to satisfactory level, but then two weeks of very heavy rains in the beginning of June, nearly stopped all the activities at site.

The excavation of foundation is completed, bedding and casting of bottom slab is going on. Construction of wall fence and internal drainage system is completed.

Luong Yen, Phase II

The implementation of Phase II has not started, because the Vietnamese authorities have not been able to settle the site clearance problem yet. Also, the new site plan alternative, which was proposed by the Vietnamese side, has caused delays in design work.

If the implementation could start latest in July 1989 the estimated completion time would be the end of 1991

Tuong Mai, Phase II

The implementation of the Backwash Water Recovery System, which is included in the scope of the second phase, started in the middle of the report period and is expected to be completed in the end of September 1989.

One of the old reservoir floated up and was damaged. The repairing work of it is going on.

4.8 Training

4.8.1 Training, Operation and Maintenance

Training events have been planned and arranged taking into consideration the requirements of training at this stage of the Project for improving capability of operation and implementation in the best possible ways in all sectors of the Project.

Serious attention has been paid to the training of operative staff working in the handed over water plants, being one of the most important of training activities.

Although training courses for operative staff were arranged during last year, further more detailed training events have been found to be more than necessary in order to achieve reliable, safe and economical operation of water plants.

4.8.2 Seminars

Seminar for centrifugal pumps was arranged and lectured by a Finnish expert from the manufacturer. After the seminar practical part of training was arranged while replacing an impeller for one treated water pump in Ngo Si Lien Water Plant.

Seminar for Water Loss Reduction has been arranged. This seminar had one of the most numerous participants of all training courses arranged, being 31 totally. This very important topic was thoroughly handled in working groups and the results of this course were found to be very successful.

Seminar for chlorination was arranged by a Finnish expert. Topic was thoroughly handled, but there were no possibilities to give practical training due to malfunction of chlorination equipment. Practical training course was then arranged later in Mai Dich Water Plant after tracing the malfunction of the chlorination unit. Chlorination training courses will be arranged for all other water plants separately.

4.8.3 Electrical Training

There has not been possibilities to arrange sufficiently electrical training events due to big work load of Finnish electricians. One on-the-job electrical training course, Operating of Electrical Equipments of Mai Dich Water Plant, has been arranged for the operators of the plant. Similar training courses will be arranged in all other commissioned water plants. Also electrical on-the-job training for operators has been arranged in Yen Phu during the test running.

Due to the shortage of trainers, the number of trained electricians are far below the needs of skilled and trained electricians needed in the water plants.

4.8.4 Daily on-the-job training

Daily on-the-job training continues without separate training programme routinely

- In the network
- In the water plants
- At the workshop
- In the office
- In the stores

Fair improvements in these fields have been found and more developed working methods have been adapted by Vietnamese staff.

When evaluating the readiness to utilize the knowledge of trainees given in the training events fair improvements can be found especially in plant operation and Water Loss Reduction works.

Operators have shown clear enthusiasm for on-the-job training events in handed over water plants.

4.8.5 Training Master Programme

Many of the training events arranged by HWSP have not been shown in the jointly prepared Training Master Programme of HWSP and HWSMP.

Preparation of a revised Training Master Programme has been started in close co-operation between HWSP and HWSMP for the rest of year 1989.

4.8.6 Training Events arranged during January - June 89

Training events list see Appendix No 9.

4.8.7 Water metering

Ngo Si Lien

Water metering was started with portable water meter, which was calibrated by means of mechanical water meter. Results were found to be satisfactory in pipe dia NS 200. During the calibration of flow meters in treated water lines (NS 400) fair inaccuracy and inability appeared with a portable meter. Therefore calibration of flow meters in treated water lines have been carried out according to pump curves in view of suction conditions of the pumps.

In raw water lines of Ngo Si Lien Water Plant the transmitters of orifice plates were found to be beyond repair due to severe corrosion. These four flow meters will be replaced by new mechanical water meters equipped with remote indication in control room.

Mai Dich

There is one flow meter in treated water lines which is found to be in order. It has been calibrated according to the pump curves. Three others (raw water, backwashing, treated water) are waiting for new circuit cards.

Calibration of Water Meters

Due to unstable electric supply the calibration of water meters is found to be unreliable. Matter has been discussed with designers in Helsinki, and voltage stabilizers will be installed in instrumentation systems.

4.8.8 Maintenance

After arranging the initial training courses for responsible persons of WTP's by HWSMP the training for practical maintenance procedures has been started by HWSP to the same target group.

Training courses for how to use WTP Maintenance Manuals have been the first step to familiarize responsible persons with maintenance.

Maintenance procedures in water plants have been carried out in co-operation with maintenance staff of water plants by means of continuous on-the-job training.

In network sector maintenance procedures such as leak detection and repairing of mains, fittings and water meters have been carried out by means of continuous on-the-job training.

4.8.9 Electro-mechanical Workshop

Completion of the electro-mechanical workshop has been delayed due to very slow progress of civil works. When planning the general lay-out of the workshop it was found, that reserved floor area was quite too small for the ordered machines, tools and equipment. Therefore partition wall between workshop and store had to be demolished and new one was erected 3 meters apart for enlarging the floor area. Floor works are going on and it is expected that installations of machines, tools and equipment could be started in July.

5. ASSESSMENT OF ACTIVITIES

5.1 Achievements

5.1.1 Hydrogeological and Master Plan studies

During the data collection and testing of groundwater model the need of data and the content of the study has expanded to an amount that could not be assumed in the beginning of the sub-project. Moreover difficulties and delays which have been faced in collection of information have jointly caused that the time schedule set forth in the Project Document can not be reached.

At present it is important to review the hydrogeological study. What is really needed for present short term information to enable the Master Plan to be completed and what is needed for future? Is groundwater model usable for short term purposes or shall conventional methods be used to solve present key questions in groundwater utilization needed by the water supply planning ?

Master Plan study has proceeded according to the expectations as a social and technical study. The economical study is still vague and the final option calculations and recommendations can not be stated before the recommendations for exploitation of water resources can be given.

5.1.2 Implementation

Vietnamese supervisors were employed as agreed in the minutes of SVB meeting (fourteen supervisors). Also enough counterparts to Finnish experts were nominated to follow and supervise the works and to enable the transfer of responsibilities, technology and experience by Finnish experts step by step.

The Vietnamese participation in planning and programming of implementation has been active and adapted as permanent process also by HWSPMB staff. The counterpart co-operation is running substantially well and part of projects day to day tasks have been handed over from YME supervisors to responsible Vietnamese supervisors and engineers.

The training is following the programme mutually agreed with the Hanoi Water Supply Management Project and in most cases the training events have been successful with enough participants. It has also been encountered that there is space for improvements in the training and teaching skills of some Finnish supervisors.

The design of network and water plants has progressed slowly in certain areas due to unclear principles in land use and handing over of sites for surveys and measuring. The design is delayed for several weeks and it will further delay the implementation.

The planning of works has improved in all areas. The systems are improved, plans are done with computers and HWSPMB and contractors have also adopted workplanning as a permanent and necessary production practice. There is still place for development in engagements to the plans but purpose has been understood. The use of computers in work planning could be a development target but it requires suitable programmes and trained staff which does not exist at present.

The cost estimation was tried to be uniformed by YME and HWSPMB. No results were achieved so far due to the difference in budgeting principles.

The implementation grade on the sites has been low due to reluctancy of the contractors but considerable improvement has taken place during June.

The works included in Phase I have proceeded slowly but those are principally completed at the end of the report period. Tuong Mai water plant rehabilitation is still continuing up to the end of the year.

It is worth mentioning that during the report period efforts were made to put the transmission lines Mai Dich-Yen Hoa-Trung Kinh-Lang Ha, 3.5 km long and Mai Dich-Nghia Do / 600mm, 2.5 km long into service and as a result stable water supply has been available to cover areas such as Nghia Do, Ngoc Khanh B (since February 1989), Giang Vo, Thanh Cong (since May-June 1989) and Van Chuong (June 1989) and some villages in Dong Da Ward (i.e Giang Vo village).

Drilling of ten (10) pairs out of the planned twenty four observation wells was carried out to facilitate the hydrogeological studies. The progress of work has been satisfactory though the start-up was late and it is expected that the drilling of twenty four wells will be executed according to the set target.

5.2 Problems encountered

5.2.1 General

Main problem has been the financial crisis of implementation agency which led to almost total standby of site surveys, design and construction. The contracting parties were not willing to work without being paid.

The reason was obviously the reform of countries monetary policy and temporary disturbance. At the end of the period the situation was normalized.

The shortage of skilled staff of implementing agencies is the permanent difficulty. Skilled people were needed in electrical and instrument installations.

Finishing of works belonging to the first phase has taken very long time although many of the works are small. Obviously the mistake is in the payment schedule of the contracts, the contractors are paid out too early.

Hydrogeological studies faced problems in collection of hydrogeological data. The Finnish hydrogeologist was present in Hanoi up to the end of February, but the data was received in March and the translation took place at the middle of June. The study itself was expanded to cover wider geographical area than anticipated in the beginning. No Vietnamese party has appeared to be the partner in forming the groundwater model. The monitoring well drilling did not start before June due to the mentioned delays. No statement about the groundwater situation can be expected before autumn 1989.

Due to late hydrogeological information no final Water Master Plan can be issued as scheduled because the groundwater resources are unclear.

The main problems during the report period can be listed as follows :

- * Very slow progress in implementation, which was caused by low working attitude among the contractor's staff. This, from its part, was caused of the shortage of financing from the Vietnamese part and effected in the payments to the contractors
- * Completion of the areal works and the very minor remaining works, which would give the water plants the finishing touch, seems to be impossible to be carried out by the contractors.

5.2.2 Site clearance

Site clearance works in May and June 1989 have developed encouragingly. The site clearance in Vong-Kham Thien section (pole 9-18) was settled, thus paved the way to the actual construction of the remaining $d = 400$ mm part.

Simultaneously, eleven (11) family houses were removed from new Luong Yen site and it is planned to remove other thirty four (34) houses until August 1989.

5.2.3 Tuong Mai Water Plant

The very much delayed start of implementation of backwash water recovery and the very difficult site conditions, will cause a total delay of at least six months in the completion.

5.2.4 Mai Dich Water Plant

Although the progress in implementing the treated water reservoir No III for Phase II was satisfactory in the beginning of the report period, the implementation of Phase II treatment unit has been very slow. The contractor has not considered this work as it should be done . There has most of the time been a shortage of manpower and machinery at the site.

5.2.5 Phap Van Water Plant

It has not been possible to carry out test-runs, because the filters could not be filled with sand before the leaking structures were repaired. The poor workmanship in the watertight structures was the reason for leakages.

After the am. repairs, and after the sand filling was carried out, it was found that there is no system to discharge the filter backwash water from the treatment unit. It took very long time to have the temporary drainage system designed. Finally, when the proposed alternative was executed, the drainage pipe was destroyed and backfilled by the contractor. Thus the Design Company had to make a new design for the system, because the owners of the surrounding premises did not allow to discharge the backwash water to their land. The concerned Vietnamese parties have now finally found a solution for the drainage system, and it will be completed during July 1989.

5.2.6 Training

Mai Dich

On-the-job training for operating the water plant had been long postponed due to uncompleted electrical installations and also miswirings and malfunctions in all control desks.

Repairing of electrical malfunctions have been carried out by Finnish electricians.

Practical part of the chlorination training course had been also postponed due to malfunction of chlorination unit.

After receiving new circuit cards from Finland operation of chlorination unit was demonstrated being a practical part of the training.

Co-operation between HWSPMB and Training Center

There is space for improving the co-operation between HWSPMB and Training Centre/HWSPMB. There are many examples of poor exchange of information. Especially nomination and invitation procedures have failed and disturbed the training programme.

WTP Operation Manuals

In spite of many meetings and discussions HWSCo has not neither prepared nor supplied manuals to the use of WTP operators so far.

It has been stated several times in programme meetings that manuals in question are very important for the staff operating the water plants and manuals should be available for operators always when needed. There was a try to encourage trained operators to collect the manuals but due to uncertainty it has been decided that manuals will be prepared by experts of YME-Group.

6. PROJECT BUDJET AND USE OF FUNDS

The Project Budget for 1989 and the actual use of funds is shown in Appendix 17. All invoicing to FINNIDA and the project costs paid directly by FINNIDA during the period 1.1. - 30.6.1989 are included.

The use of funds in the sectors of Facility establishment and Water Plants has been smaller than in the approved Budget for the year 1989. This is mainly caused by the delays in design work.

The work plan for the remaining part of this year and for the remaining part of Phase II shall be reviewed in August and modifications to the budget shall be made accordingly.

APPENDICES

HANOI WATER SUPPLY PROJECT

Finnish field personnel 1. - 30.6.1989

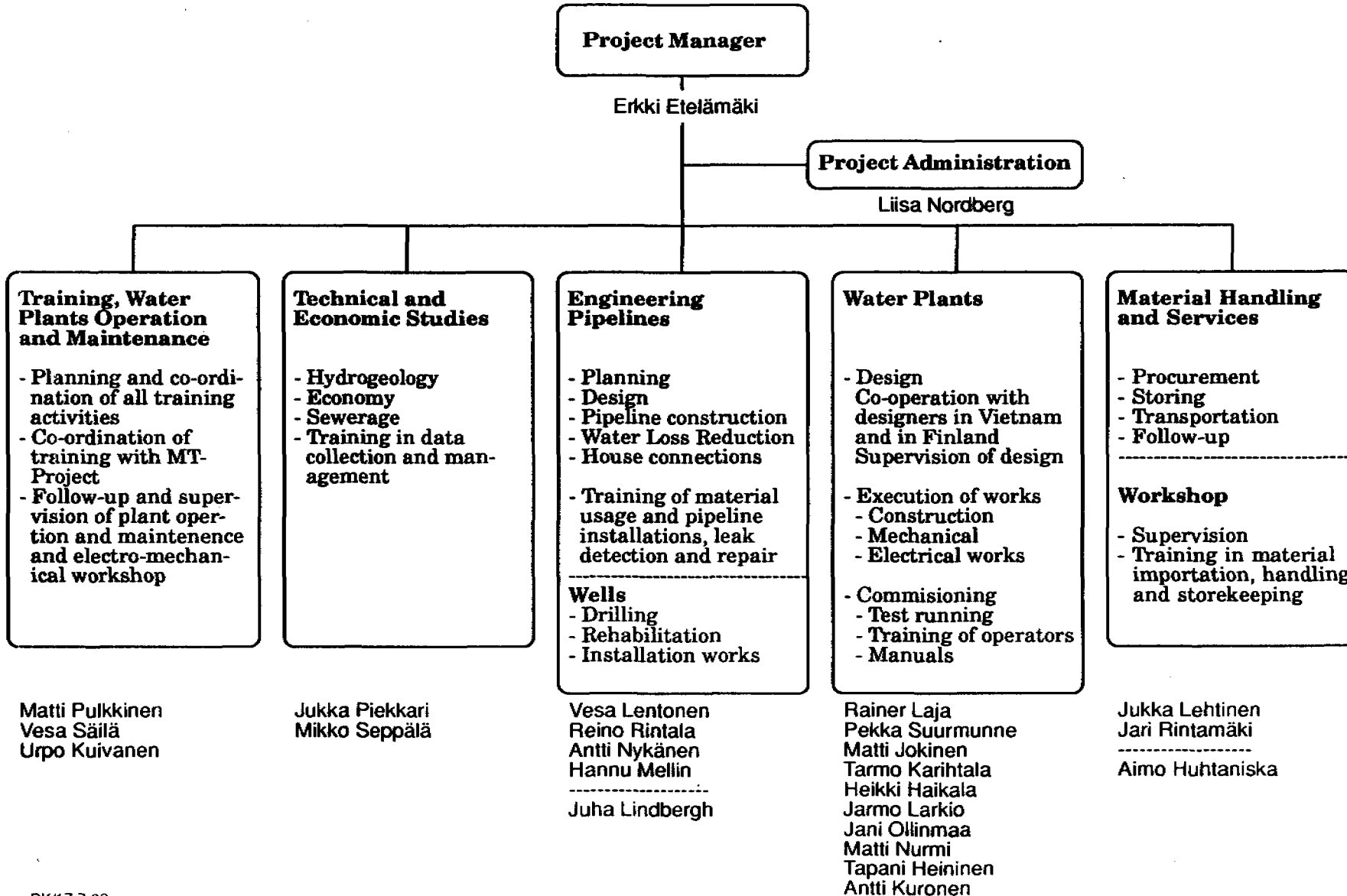
Mr Erkki Etelämäki	Project Manager	1.1. - 30.6.1989
Mr Matti Pulkkinen	Training Manager	1.1. - 30.6.1989
Mr Vesa Lentonen	Network Manager	1.1. - 31.5.1989
Mr Rainer Laja	Plant Manager	1.1. - 30.6.1989
Mr Jukka Lehtinen	Procurement Officer	1.1. - 30.6.1989
Ms Liisa Nordberg	Administrator	1.1. - 30.6.1989
Mr Reino Rintala	Senior Network Supervisor	1.1. - 31.5.1989
Mr Jukka Leppänen	Senior Network Supervisor	5.6. - 30.6.1989
Mr Antti Nykänen	Network Supervisor I Network Manager	1.1. - 31.5.1989 1.6. - 30.6.1989
Mr Hannu Mellin	Network Supervisor II Network Supervisor I	1.1. - 31.5.1989 1.6. - 30.6.1989
Mr Pauli Huotarinen	Network Supervisor II	12.6. - 30.6.1989
Mr Vesa Saila	Plant Maintenance and Operation Supervisor	1.1. - 30.6.1989
Mr Heikki Haikala	Senior Mechanical Supervisor	1.1. - 30.6.1989
Mr Jarmo Larkio	Mechanical Supervisor	1.1. - 30.6.1989
Mr Jani Ollinmaa	Senior Electrical Supervisor	1.1. - 30.6.1989
Mr Matti Nurmi	Electrical Supervisor I	3.4. - 30.6.1989
Mr Tapani Heininen	Electrical Supervisor II	1.1. - 30.6.1989
Mr Juha Lindberg	Borehole Supervisor/ Mechanical Supervisor	1.1. - 30.6.1989
Mr Pekka Suurmunne	Construction Supervisor I	1.1. - 30.6.1989

Mr Matti Jokinen	Construction Supervisor II	1.1. - 30.6.1989
Mr Jari Rintamäki	Material Officer	1.1. - 30.6.1989
Mr Aimo Huhtaniska	Workshop Foreman	1.1. - 30.6.1989
Mr Tarmo Karihtala	Building Instructor	1.1. - 30.6.1989
Mr Urpo Kuivanen	Electromechanical Workshop Supervisor	27.2. - 30.6.1989

Short term experts:

Mr Jukka Piekkari	Water Master Plan Expert	1.1. - 30.6.1989
Mr Mikko Seppälä	Hydrogeologist	1.1. - 25.2.1989
Mr Antti Kuronen	Electrical Engineer	7.12.1988 - 10.6.1989

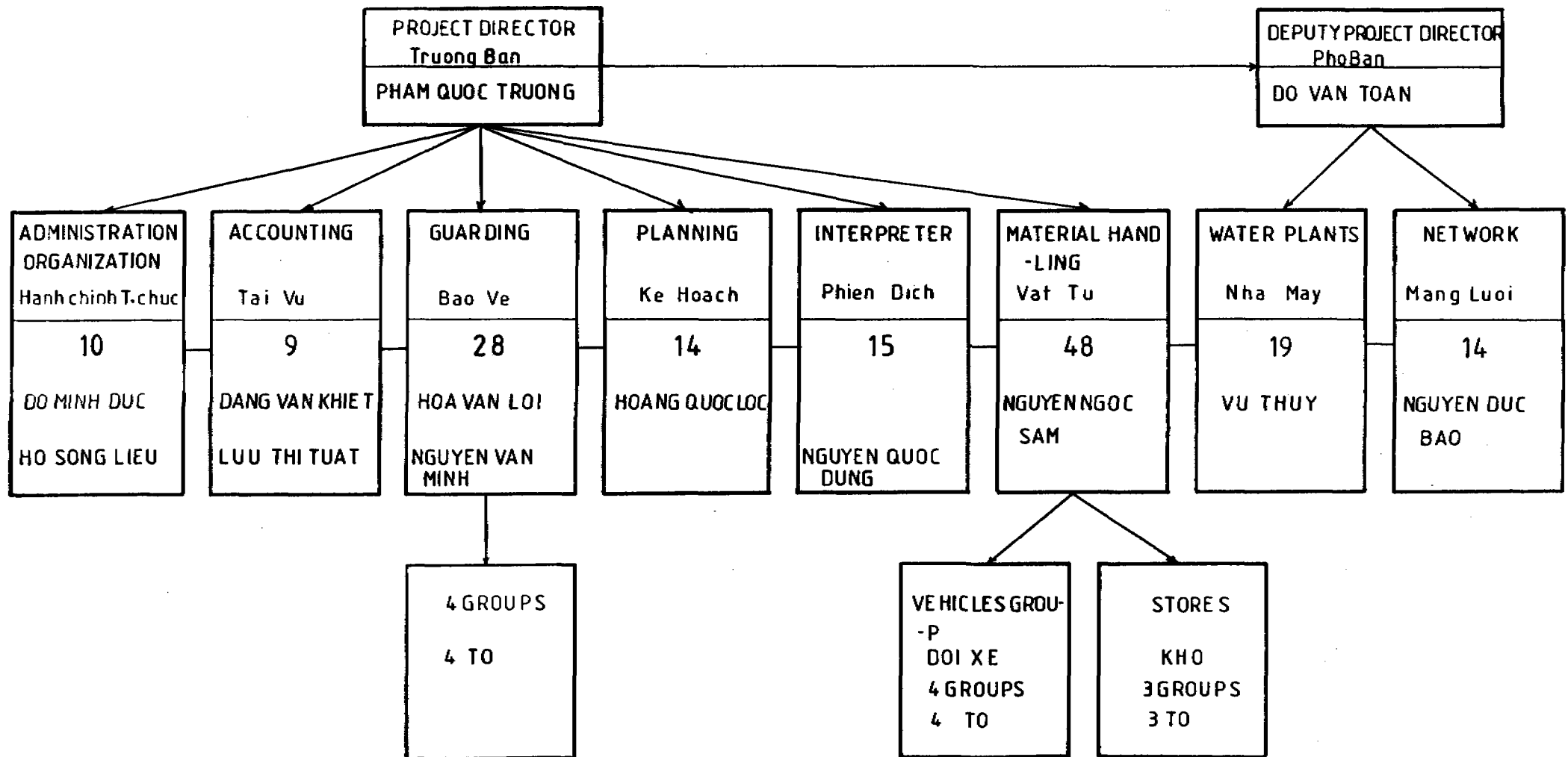
**HANOI WATER SUPPLY PROJECT, PHASE II
ORGANIZATION CHART OF THE CONSULTANT
1.1.1989**



ORGANIZATION CHART OF HANOI WATER SUPPLY PROJECT MANAGEMENT BOARD

VALID UNTIL 6.1989

COCAU TO CHUC BAN QUAN LY CONG TRINH CAP NUOC HANOI THANG 6.1989



HANOI WATER SUPPLY PROJECT

SCHEDULE OF VISITS

1.1. - 30.6.1989

A. SHORT TERM EXPERTS

Mr. Paul Broas Service Engineer A. Ahlström corporation pump industry	4. - 25.1.1989 Training seminar for Operation and Maintenance of Centrifugal Pumps
Dr. Heikki Kiuru Consultant Soil and Water	14. - 20.5.1989 Training Course for Chlorination
Mr. Pekka Kankaanpää Project Coordinator YME-Group Helsinki	8. - 26.5.1989 Reporting and inspection visit
Prof. Eero Kajosaari Technical University Helsinki	17. - 24.5.1989 Water Master Plan Workshop
Mr. Mikko Seppälä Hydrogeologist Soil and Water	17. - 31.5.1989 Water Master Plan Workshop
Mr. Veli-Matti Tiainen Director for Turku-Pori water district Environment Board, Finland	19. - 24.5.1989 Water Master Plan Workshop
Mr. Edouvard Motte Project Adviser Far East Area World Bank	19. - 24.5.1989 Water Master Plan Workshop
Dr. Paavo Harju Consultant	25.5. - 2.6.1989 Economical studies for Hanoi Water Master Plan

B. STUDY TOURS OF PROJECT PERSONNEL

Mr. Pham Quoc Truong Project Manager HWSPMB	5. - 26.5.1989 Training Course for Technical Management in Urban Water Supply System
Mr. Bui Van Mat Deputy Director HWSCo	"
Mrs. Nguyen Le Van Khanh Interpreter HWSPMB	"

C. VISITORS

Mr. Juhani Toivonen Counsilor Finnish International Development Agency	18. - 25.1.1989 Project inspection
Mr. Paul Silfverberg Advisor Finnish International Development Agency	18. - 25.1.1989 Project inspection
Mr. Do Muoi Prime Minister Vietnam	2.2.1989 Visit to Mai Dich Water Plan
Mr. Harri Leppänen Consultant Soil and Water	8. - 11.3.1989 Reporting visit to the Project
Mr. Markus Leikola Iltalehti, newspaper	20.3.1989 Making interview for Finnish public of the Project
Mr. Matti Kuusela Aamulehti, newspaper	"
Mr. Timo Saari Tiedonantaja, newspaper	"
Mr. Bengt Ostling Aktuelt, Finnish Broadcasting Corporation	"

Mr. Jerome Monod
President Director General
Societe Lyonnaise
Des Eaux

4.5.1989
Fact finding mission

Christian D'Aumable
Ambassadeur de France
Conseiller du President de la
Lyonnaise des Eaux
President de la Commission du
Proche et Moyen - Orient

4.5.1989
Fact finding mission

Mr. Claude Scheuer
Export Manager
Degremont special financing

4.5.1989
Fact finding mission

Mr. Gergard Meriguet
Far East Area Manager
Degermout Manilla

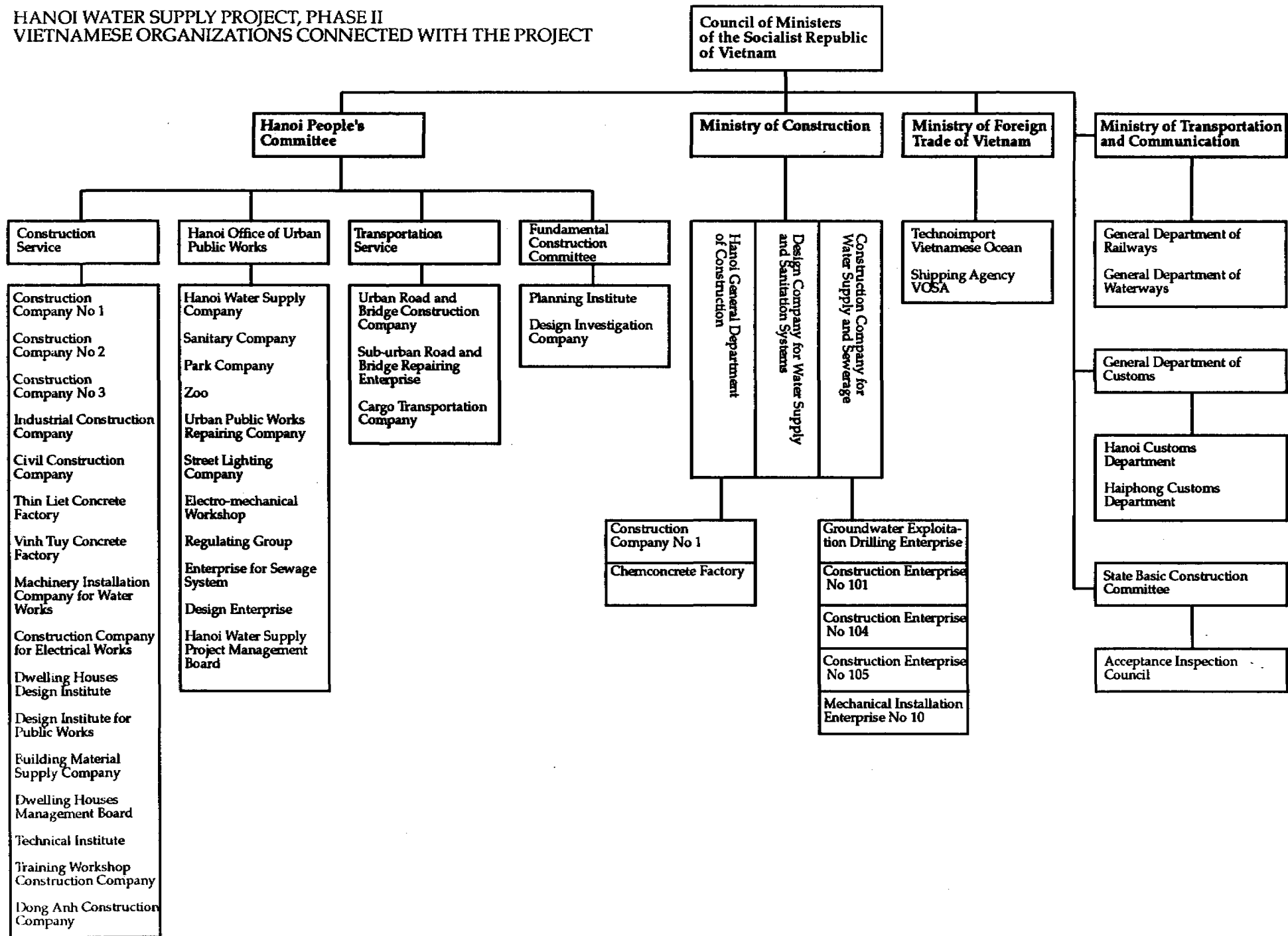
4.5.1989
Fact finding mission

D. TRAINING OF YME-GROUP PERSONNEL

Mr. Kari Simelius
Training Manager
Corporation

21. - 29.4.1989
Training Course for YME's YIT
staff in management by
objectives

HANOI WATER SUPPLY PROJECT, PHASE II
VIETNAMESE ORGANIZATIONS CONNECTED WITH THE PROJECT



HANOI WATER SUPPLY PROJECT

DESIGN AND IMPLEMENTING UNITS INVOLVED
IN HANOI WATER SUPPLY PROJECT

A. Designs :

1. Design Company for Water Supply and Sewerage Systems (DCW-SSS), Ministry of construction, Director: Mr Le Long, Deputy Director : Mr Nguyen Ngoc Thuyet.
It is responsible for designs of water plants (mechanical, structural and electrical designs) as well as designs of transmission lines.
2. Design Enterprise (HOUPW/DE) of Hanoi Office of Urban Public Works. Director: Mr Hoang Tho Chau.
It carries out the designs of distribution lines in rehabilitation areas and in development areas.
3. Hanoi Design and Planning Institute for Construction Works (HDPIC), Fundamental Construction Committee.
Director : Mr Le Tien Chung, Deputy Director : Mr To Anh Tuan, Mr Van Tan Ho.
It carries out separately determined design and planning works for the Project.
4. Transportation Technique Design Company (TTDC). Transportation Service, Director : Mr Nguyen Hoa.
Design for traffic projects such as roads, bridges, etc.

B. Contractors :

* Ministry of Construction under Council of Ministers

5. Hanoi Fundamental Construction Committee, Director: Mr. Bui Tam Chung. Deputy Director: Mr Hoang Tho Am, Master Water Plan preparation.
6. Water Supply and Sewerage Construction Company (WSSCCo) Implementing Enterprise 101 (IE 101).
Director: Mr Nguyen Qui Don, Deputy Director : Mr Tran Quyen.
7. Implementing Enterprise 104, WSSCCo, (IE 104), Director: Mr Nguyen Van Thuyet, Deputy Director: Mr Tran Quyen.

In charge of installation works in water plants as well as the construction of raw water lines in the water plant area and the construction of transmission lines (Phap Van water plant)

8. Water and Electrical Machinery Installation Enterprise (WEMIE).
Distribution lines and house connections.
9. Drilling Enterprise for Ground Water Exploitation (WSSCCo-/DEGWE), Director: Mr Nguyen Van Cung, Deputy Directors : Mr Doan Chi Dung, Nguyen Xuan Khoat.
Drilling of wells.
10. Construction Company No 1 (CC No 1), Hanoi General Department of Construction, Director : Mr Nguyen Dinh Thien.
Construction of Phap Van water plant.
11. Drilling Corporation K.64 (DC K64), General Department of Geology. Director : Mr Dang Phong Luu.
Drilling of wells.
12. Drilling Technique Study Corporation K.1 (DTSC K1) General Department of Geology. Director : Mr Nguyen Van Chi, Deputy Director : Mr Tran Thinh.
Drilling of wells.
13. Thai Binh Gas and Oil Company No 1 (TBGOC No 1). General Department of Gas and Oil, Director : Mr Do Chi Hieu.
Drilling of wells.
14. University of Minerals and Geology (UMG), Mr Do Chi Hieu.
Drilling of wells.

*** Construction Service under Hanoi People's Committee:**

15. Machinery Installation Company for Water Works (MICO).
Director: Mr Nguyen Do Ha, Deputy Director: Mr Luong Dac De.
Electro-mechanical installation at various water plants.
16. Industrial Construction Company (ICCo). Director: Mr Dang Van Cuong.
Water plant and transmission line construction.
17. Construction Company for Electrical Works (EWCC). Director: Mr Pham Yen, Deputy Director : Mr Dinh Gia Cau.
Installation of high voltage electrical transformers in various water plants.

18. Filling Company. Director: Mr Tong Phuoc Quy.
Responsible for prefilling works in water plants and
embankment and prefilling works in pipelines.
19. Dwelling Houses Construction Company (DHCCo). Distribution
lines and house connections.
20. Civil construction Company (CCCo).
Distribution lines and house connections (from June 1988).
21. Experimental Construction Company (ECCo). Distribution lines
and house connections (from June 1988)

*** Hanoi Office of Urban Public Works under Hanoi People's Committee :**

22. Hanoi Water Supply Company (HWSCo). Director: Mr Nguyen Dinh
Nhiem, Deputy Director : Mr Ta Quang Khanh.
Construction of distribution lines and house connections.
Water Loss Reduction Programme.
23. Urban Public Works Repairing Company (HOUPW/RCo).
Director: Mr Truong Thinh, Deputy Director:
Mr Nguyen Dang Vinh.
Construction of transmission lines, distribution lines and
house connections.
24. Sanitary Company (SCo). Director: Mr Nguyen Van Long. Removal
of excess soil from pipeline construction sites.
25. Park Company. Director : Mr Do Cao Mai.
Green plantation for the camp and water plants.

*** Transportation Service under Hanoi People's Committee :**

26. Hanoi Cargo Transportation Company, Director: Mr Nguyen Bang
Phan.

*** Fundamental Construction Committee under Hanoi People's Committee :**

27. Measuring and Investigation Company. Director: Mr Nguyen Qui
Lang.
Carries out measuring and investigation works for different
projects.

*** Ministry of Transportation and Communication:**

28. General Department of Railways

C. Import of Materials

29. Technoimport, Department No 7. Ministry for Foreign Trade of Vietnam.

30. Vietnamese Ocean Shipping Agency (VOSA)

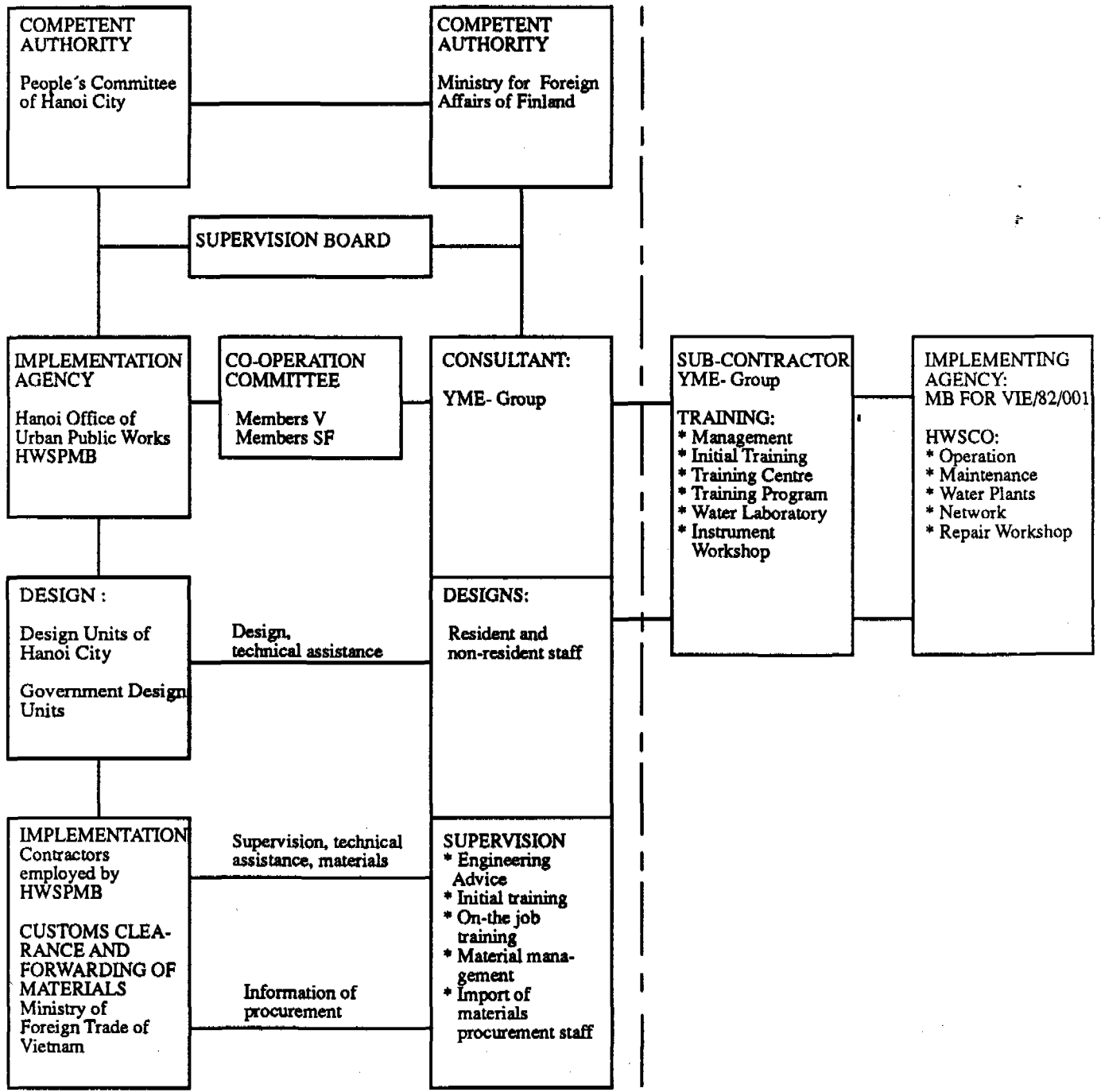
HANOI WATER SUPPLY PROJECT
 FUNCTIONAL PROJECT ORGANIZATION

GOVERNMENT
 OF VIETNAM

GOVERNMENT
 OF FINLAND

HANOI WATER SUPPLY
 PROJECT

UNDP TRAINING AND
 MANAGEMENT PROJECT



PLANNED AND ESTIMATED SCHEDULE FOR IMPLEMENTATION OF PHASE II

	PLANNED				ESTIMATED			
	1989		1990		1991			
SUB-PROJECT : WATER PLANTS								
1.1 Mai dich II								
1.2 Ngoc Ha								
1.3 Luong Yen								
1.4 Water Tower (provisional)								
1.5 Tuong Mai (completion of phase I)								
1.6 Phap Van (Wash Water Recovery)								
1.7 Well programme								
- New wells								
- Old wells								
- Monitoring wells								
1.8 liquid chlorine store								
SUB-PROJECT 2 : PIPELINE NETWORKS								
2.1 Raw water lines								
2.2 Transmission lines								
2.3 Distribution lines								
2.4 House connections								
2.5 Water loss reduction programme								

Numbers of Trained Staff by Categories
1.1. - 30.6.1989

Title of Training Event	Nos. of Trainees				
	Total	Mgrs	Engrs/ Chem.	Foremen Supervis.	Operators/ Mechanics/ Electr.
MANAGERIAL AND INSTITUTIONAL TRAINING					
Management course in Bangkok (C.E.F.I.G.R.E.)	3	3	-	-	-
OPERATION OF WPT					
Training course for centrifugal pump	22	1	11	3	7
Oper. of borehole wells and submersible pumps	11	-	2	8	1
Training course for chlorination	32	-	8	3	21
OTJ test runnings in Yen Phu		c o n t i n u i n g			
OTJ operating of WTP (Mai Dich)	17	1	1	4	11
OTJ chlorination, practical part	8	3	1	3	1
OTJ operating of WTP (Ngo Si Lien)	7	1	-	1	5
MAINTENANCE OF WPT					
Practical pump training, replacing impeller	22	1	11	3	7
OTJ alignment of water pump	2	-	-	-	2
OTJ overhauling of submersible pump	11	1	2	8	-
OTJ replacing of pump impeller	7	1	-	1	5
Instruction for maintenance manuals (Ngo Si Lien) 1.	8	-	1	-	7
2.	12	1	3	1	7
OPERATION AND MAINTENANCE OF ELECTRICAL EQUIPMENT					
OTJ electrical trouble shooting in Mai Dich	2	-	-	-	2
OTJ operating of electrical equipment of WTP	11	1	-	6	4
PIPELINE NETWORK					
Water loss reduction course	38	3	19	10	6
Training course for network supervisors	18	-	11	1	6
Training for house connections	17	-	-	9	8
Introduction of WLRP works to DHCCo	5	-	2	3	-
House connections, water meters	30	2	8	12	8
CIVIL WORKS					
Planning of civil works	18	3	11	4	-
GENERAL TRAINING					
OTJ operating and maintaining of forklift	2	-	-	-	2
OTJ safety instructions for chlorine truck drivers	2	-	-	-	2

HANOI WATER SUPPLY PROJECT
PIPELINE CONSTRUCTION

CONSTRUCTED DISTRIBUTION PIPELINES - 30.6.1989

STREET	FROM	TO	TYPE/SIZE	TOTAL LENGTH	REMARK
Van Mieu	Quoc Tu Gia	Nguyen Thai Hoc	PVC 225	464	
Nguyen Thai Hoc	Van Mieu	Chu Van An	PVC 225		
Chu Van An	Nguyen Thai Hoc	Le Hong Phong	PEH 110	692	
Tran Phu			PEH 110	1022	
Nguyen Khuyen	Van Mieu	Ngo Si Lien	PEH 110	585	
Nguyen Khuyen	Ngo Si Lien	Nam Bo	PEH 225	250	
Pho 226			PVC 110	160	
Ngo Si Lien	Quoc Tu Gia	Nguyen Khuyen	PVC 225	285	
Quoc Tu Gia	Pumping Station	Van Mieu	CI 300	397	
Nam Bo	Nguyen Khuyen	Tran Phu	PEH 225	222	
			PEH 160	103	
Cat Linh	Van Mieu	Giang Vo	PVC 150	926	
Dang Tran Con	Cat Linh		PVC 110	208	
B ¹ Cau Bich Cau	Cat Linh		PVC 110	200	
Giang Vo	Cat Linh	Nguyen Thai Hoc	PVC 110	383	
Nguyen Thai Hoc	Giang Vo	Kia Ma	PEH 160	93	
Kia Ma	Nguyen Thai Hoc	Giang Van Minh	PVC 160	237	
Giang Van Minh	Cat Linh	Kia Ma	PVC 160	263	
Son Tay	Nguyen Thai Hoc	Le Hong Phong	PVC 225	621	
Pho 356	Nguyen Thai Hoc	Son Tay	PVC 110	183	
Ngoc Ha Market	Le Hong Phong	Son Tay	PVC 110	157	
Hang Bot	Le Hong Phong	Son Tay	PEH 90	34	
Cat Linh I			PEH 90	107	
Cat Linh II			PEH 90	252	
Phan Phu Tien	Cat Linh	Hang Bot Alley	PEH 110	137	
Hang Bot Alley			PEH 90	136	
Hang Chao			PEH 90	214	
Le Hong Phong	Ong Ich Khiea	Hoang Dieu	PVC 225	444	
Ly Van Phuc			PVC 90	139	
Ly Van Phuc Alley			PEH 90	148	
Cao Ba Quat	Nguyen Thai Hoc	Nam Bo	PVC 225	317	
			PVC 160	182	
B ² Vo, left (Giang Vo left)	Cat Linh	De La Thanh	PVC 110	1085	
Hoang Dieu	Cao Ba Quat	Le Hong Phong	PVC 225	346	
Thanh Mien Alley	Van Mieu	Nguyen Thai Hoc	PEH 110	197	
Hang Bot	Cat Linh	O Cho Dua	PVC 160	523	
			PVC 110	2073	
Kia Ma	Giang Van Minh	De La Thanh	PVC 160	1465	
			PVC 225	817	
Ngoc Khanh A	Giang Vo	Kia Ma	PVC 160	822	
Giang Vo II	Kia Ma	Giang Vo	PEH 160	476	
Swedish Embassy	Kia Ma		PVC 110	233	
			PEH 90	50	
Ly Naa De	Tran Phu		PVC 160	1126	
Phan Van Tri	Hang Bot		PVC 90	106	
Alley 215 & Thong Phong			PVC 90	201	
Doan Thi Dien	Hang Bot		PVC 110	223	
Alley Quan Tho I	Hang Bot		PVC 90	246	
Phan Dinh Phung	Hung Vuong		PEH 225	597	
			PEH 160	603	
Alley 222	Alley 226 - N & K		PVC 90	71	
Van Phuc 5 Alley	Kia Ma		PEH 110	248	
Alley 279	Hang Bot		PVC 90	71	
Alley Giao Thong	Kia Ma		PVC 110	163	
Lang Van Phuc	Kia Ma		PVC 90	73	
Alley 221	Hang Bot		PVC 90	143	
Alley 203	Hang Bot		PVC 90	93	

Alley Van Chuong	Hang Bot		PVC 110	430	
Alley Van Huong	Hang Bot		PVC 90	346	
Tbinh Hao I	Hang Bot		PVC 225	186	
Thinh Hao II	Hang Bot		PVC 90	96	
Tbinh Hao III	Hang Bot		PVC 90	98	
Lang Ngoc Khanh	Kim Ma		PVC 90	108	
Alley Ngoc Khanh I	Ngoc Khanh A		PVC 90	198	
Hao Nam	Giang Vo		PVC 160	306	
Nguyen Thai Hoc	Van Mieu		PVC 110	982	
Ba Huyen T. Quan	Le Hong Phong		PVC 90	153	
Dien Bien Phu - Chua Mot Cot	Le Hong Phong		PVC 90	330	
Dien Bien Phu - Ton That Thiep	Nam Bo	Tran Phu	PVC 90	251	
Le Truc			PVC 110	196	
Alley Ngo Si Lien			PVC 90	130	
Pho 225	Ngo Si Lien		PVC 90	130	
Tran Qui Cap	Nguyen Khuyen		PEH 160	173	
			PVC 110	233	
Nguyen Thai Hoc	Chu Van Anh		PEH 160	664	
Kham Thien	Hang Bot	Nam Bo	PVC 160	2206	
Khu Giang Vo	Kim Ma - Giang Vo	Khu Khach San	PEH 160	650	
			PVC 160	396	
			PVC 90	1644	
Kinhgia Do	A,B,C		PVC 110	1283	
			PVC 90	1633	
			PEH 110	272	
			PEH 160	582	
Duoi Ca-Vong	Pho Phap Van		PVC 225	2304	completed 2100
Tran Phu	Chu Van An	Hoang Dieu	PVC 90	231	
Hoang Dieu	Tran Phu	Le Hong Phong	PVC 90	205	
Khuoc Hao	Tran Phu	Le Hong Phong	PVC 90	217	
Khu Van Chuong	Kham Thien		PVC 160	3150	
			PVC 110	1195	
Tho Quan	Kham Thien		PVC 110	406	
De La Thanh	Kham Thien Market	Hang Bot	PVC 225	900	
	Giang Vo	Hang Bot	PVC 225	1168	Completed 3500
	Giang Vo	Lang Trung	PVC 160	930	
	Lang Trung	Kim Ma	PVC 160	804	
Yen The I,II	Nguyen Thai Hoc		PVC 90	210	
Khu Ngoc Khanh			PVC 160	300	
			PVC 110	257	
			PVC 90	193	
Giang Vo, right	De La Thanh	Giang Van Minh	PVC 160	136	
			PVC 110	312	
Giang Vo village	De La Thanh		PVC 110	1124	
Ngoc Khanh Alley	Kim Ma		PVC 110	210	
Lang Thuong	Lang Trung	Duong Lang	PEH 225	26	
			PVC 160	1139	
			PVC 110	2022	
Hao Nam	De La Thanh		PVC 160	585	
			PVC 110	901	
Thanh cong	De La Thanh		PEH 225	15	completed 934
			PEH 110	134	
			PVC 225	234	
			PVC 160	1848	
			PVC 110	2036	
			PVC 90	74	
			STEEL 100	34	
Alley Ngoc Khanh A	Ngoc Khanh A		PVC 110	230	
Duong Lang	Lang Trung	De La Thanh	PVC 160	2426	completed 2280
Lang Ha - Tay Son			PVC 225	1372	completed 700
			STEEL 200	22	
Lang Trung	De La Thanh	Duong Lang	PVC 90-110	1100	completed 200
Yan Lang A,B	Lang Ha - Tay Son	Duong Lang	PVC 90-110	4000	completed 100

Total 64740 a

HANDI WATER SUPPLY PROJECT
 CÔNG TRÌNH CẤP NƯỚC HÀ NỘI

PHASE II / Đ. II
 02 / THÁNG 5/89

Phase II : July 1988 - Dec 1990

Giai đoạn II : Tháng 7/1988 - Tháng 12/1990

PROGRESS OF IMPLEMENTATION WORK
 TIẾN ĐỘ THỰC HIỆN CÔNG VIỆC

WHOLE PROJECT
 TOÀN CÔNG TRÌNH

	Share of total Tỷ lệ tổng hạng mục	Completion percent Hoàn thành
Water plants and facility establishment N.m nước và hình thành trang thiết bị	46.7 %	8.6 %
Pipeline construction & well programme Thi công tuyến ống và cải tạo giếng	53.3 %	18.5 %
	100.0 %	27.1 %
Whole project / Toàn công trình		

Status of completion / Tình hình hoàn thành

Date Ngày, tháng	Target Percent Mức tiêu %	Completion percent Hoàn thành
31.07.1988	3.0 %	3.5 %
31.08.1988	6.0 %	6.1 %
30.09.1988	9.0 %	8.2 %
31.10.1988	12.0 %	10.1 %
30.11.1988	15.0 %	12.5 %
31.12.1988	19.0 %	14.4 %
31.01.1989	22.0 %	17.2 %
28.02.1989	26.0 %	17.7 %
31.03.1989	30.0 %	20.5 %
30.04.1989	34.0 %	21.4 %
31.05.1989	38.0 %	23.4 %
30.06.1989	42.0 %	27.1 %

27,1% + 18,6% + 3,7% = 49,4%

3,3% → 2,2%

HANOI WATER SUPPLY PROJECT
 CONG TRINH CAP NUOC HA NOI

PHASE II/JUN.89
 GD II/THANG 6.89

60. WATER PLANTS AND 50. FACILITY ESTABLISHMENT
 60. NHA MAY NUOC VA 50. HINH THANH TRANG THIET BI
 (Electromech. workshop, chlorine store)
 (Xuong co dien, nha Clo)

	Share of total Ty le tung hang muc %	Completion percent Hoan thanh %
61. Mai Dich, 51. El.mech. workshop Mai Dich, xuong co dien	21.0 %	24.2 %
62. Phap Van	6.0 %	89.3 %
63. Luong Yen	32.0 %	4.8 %
64. Tuong Mai	5.0 %	50.4 %
65. Ngoc Ha	25.0 %	8.2 %
66. Water tower / Dai nuoc	7.0 %	0.0 %
52. Chlorine store / Kho Clo	2.0 %	0.0 %
NN Yen Phu (Phase I) Xay dung va cai tao Yen Phu (G.D I)	2.0 %	96.0 %
Total/Tong so	100.0 %	18.5 %

Status of completion / Tinh hinh hoan thanh

Date Ngày, thang	Target Percent Muc tieu %	Completion percent Hoan thanh
31.07.1988	4.0 %	1.7 %
31.08.1988	6.0 %	3.6 %
30.09.1988	8.0 %	4.8 %
31.10.1988	10.0 %	6.0 %
30.11.1988	13.0 %	7.6 %
31.12.1988	16.0 %	8.0 %
31.01.1989	19.0 %	10.8 %
28.02.1988	23.0 %	11.7 %
31.03.1989	27.0 %	13.5 %
30.04.1988	31.0 %	14.2 %
31.05.1989	35.0 %	16.4 %
30.06.1988	38.0 %	18.5 %

HANOI WATER SUPPLY PROJECT
 CÔNG TRÌNH CẤP NƯỚC HÀ NỘI

PHASE II/JULY 1974
 25 THÁNG 7/1974

50. WATER PLANTS AND 50. FACILITY ESTABLISHMENT
 PROGRESS INDICATOR

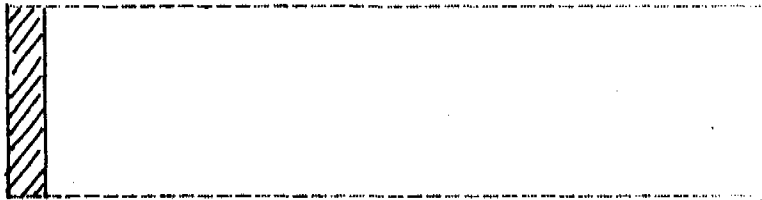
50. NHÀ MÁY NƯỚC VÀ 50. HÌNH THÀNH TRẠNG THIỆT BỊ
 BIỂU THỊ VỀ TIẾN ĐỘ



61. Mai Dich, 51. El. mech. worksite
 Mai Dich, xưởng cơ điện



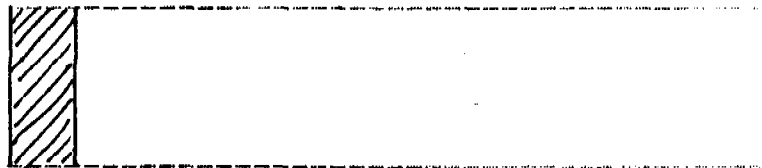
62. Phap Van



63. Tuong Yen



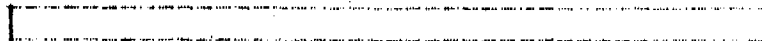
64. Tuong Khai



65. Xoc Ha



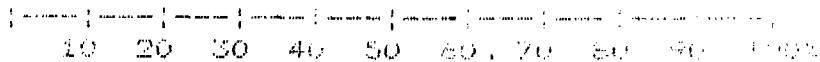
66. Water tower / Đài nước



67. Distribution store / Kho phân



68. Yen Phu (Phase I)
 xây dựng và cài tạo Yen Phu
 (b) 1)



HANOI WATER SUPPLY PROJECT
 CÔNG TRÌNH CẤP NƯỚC HÀ NỘI

PHASE II/JUN.89
 GD II/THANG 6.89

61. MAI DICH AND 51. EL.MECH.WORKSHOP
 61. MAI DICH VA 51. XUONG CO DIEN

21 %

Share of total
 Ty le tung
 hang muc %
 Completion
 percent
 Hoan thanh

		Share of total Ty le tung hang muc %	Completion percent Hoan thanh
1. PHASE I ALL REMAINING WORKS CAC CONG VIEC CON TON TAI CUA G.D I	9 %	100.0 %	99.50
2. CONSTRUCTION WORKS / PHAN XAY	56 %		
- Areal works / Cong viec le		10.0 %	17.00
- Reservoir / Be chua		30.0 %	60.00
- Aeration, sedimentation Dan mua, be lang		18.0 %	15.00
- Filtration / Be loc		22.0 %	2.00
- Pipegallery, filter control room Hanh lang ong, phong dieu khien		6.0 %	0.00
- El.mech. workshop / xuong co dien		4.0 %	95.00
- Completion works Cac cong viec hoan thien		10.0 %	0.00
Total / Tong so		100.0 %	26.60
3. MECHANICAL WORKS / PHAN CONG NGHE	18 %		
- Reservoir / Be chua		4.0 %	3.00
- TWPS / Tram bom II		16.0 %	0.00
- Aeration, sedimentation Dan mua, be lang		29.0 %	0.00
- Filtration / Be loc		34.0 %	0.00
- El.mech. workshop / xuong co dien		7.0 %	0.00
- Completion works Cac cong viec hoan thien		10.0 %	0.00
Total / Tong so		100.0 %	0.10
4. ELECTRICAL WORKS / PHAN DIEN	13 %		
- TWPS / Tram bom II		6.0 %	
- Control room / Phong dieu khien		14.0 %	
- Treatment unit / Khu xu ly		34.0 %	
- Well cabling / Cap gieng		28.0 %	
- El.mech. workshop / xuong co dien		6.0 %	40.00
- Others / Cac hang muc khac		2.0 %	
- Completion works Cac cong viec hoan thien		10.0 %	
Total / Tong so		100.0 %	2.40
5. TEST RUNNING / CHAY THU	4 %		
- Reservoir / Be chua		10.0 %	
- TWPS / Tram bom II		30.0 %	
- Treatment unit / Khu xu ly		40.0 %	
- Wells / Gieng		20.0 %	
Total / Tong so		100.0 %	0.00

Plant total / Toan bo nha may nuoc 24.20
 Total off the subproject / Ty trong cua hang muc CT 5.10

HANOI WATER SUPPLY PROJECT
CONG TRINH CAP NUOC HA NOI

PHASE II/JUNE.89
GD II/THANG 6.89

62. PHAP VAN 6%

	Share of total Ty trong tung hang muc %	Completion percent Hoan thanh
1. Phase I all remaining works Cac cong viec con ton tai cua G.D I 9.8 %	100.0 %	97.3
2. Construction work / Phan xay	78.0 %	90.0
3. Mechanical works / Phan cong nghe	12.0 %	80.0
4. Electrical works / Phan dien	6.0 %	0.0
5. Test running / Chay thu	4.0 %	0.0
Total / Tong so	100.0 %	79.80
Plant total / Toan bo nha may nuoc		89.30
Total off the subproject / Ty trong cua hang muc CT		5.36

HANOI WATER SUPPLY PROJECT
CONG TRINH CAP NUOC HA NOI

PHASE II/JUN.89
GD II/THANG 6.89

N.N YEN PHU 2%

1. PHASE I ALL REMAINING WORKS
CAC CONG VIEC CON TON TAI CUA G.D I

96

Plant total / Toan bo nha may nuoc
Total off the subproject / Ty trong cua hang muc CT

96.00
1.92

63. LUONG YEN 32%

		Share of total Ty le tung hang muc %	Completion percent Hoan thanh
1. PHASE I ALL REMAINING WORKS			
CAC CONG VIEC CON TON TAI CUA G.D I	5 %	100.0 %	96.6
2. CONSTRUCTION WORKS / PHAN XAY	57 %		
- Fence / Tuong rao		4.0 %	
- Filling works / San nen		5.0 %	
- Areal works / Cong viec le		6.0 %	
- Reservoir / Be chua		18.0 %	
- Aeration, sedimentation / Dan mua, be lang		11.0 %	
- Filtration / Be loc		14.0 %	
- Pipegallery, filter control room		%	
Hanh lang ong, phong dieu khien		3.0 %	
- TWPS / Tram bom II		9.0 %	
- Control room, transformer house		%	
Phong dieu khien, nha bien the		3.0 %	
- Disinfection / Nha sat trung		2.0 %	
- Administration building / Nha hanh chinh		3.0 %	
- Store / Kho		9.0 %	
- Others / Cac hang muc khac		2.0 %	
- Completion works / C.v hoan thien		10.0 %	
	Total / Tong so	100.0 %	0.0
3. MECHANICAL WORKS / PHAN CONG NGHE	19 %		
- Reservoir / Be chua		6.0 %	
- Aeration, sedimentation / Dan mua, be lang		6.0 %	
- Filtration / Be loc		22.0 %	
- Areal piping / Ong khu vuc		12.0 %	
- TWPS / Tram bom II		28.0 %	
- Disinfection / Nha sat trung		3.0 %	
- Technical water and air system			
He thong nuoc ky thuat va gio		9.0 %	
- Others / Cac hang muc khac		4.0 %	
- Completion works / C.v hoan thien		10.0 %	
	Total / Tong so	100.0 %	0.0
4. ELECTRICAL WORKS / PHAN DIEN	15 %		
- Areal lighting / Chieu sang khu vuc		5.0 %	
- Well cabling / Cap gieng		17.0 %	
- Treatment unit / Khu xu ly		21.0 %	
- TWPS / Tram bom II		17.0 %	
- Control room / Phong dieu khien		15.0 %	
- Transformers, high voltage line			
May bien the, tuyen cao the		8.0 %	
- Disinfection / Nha sat trung		2.0 %	
- Others / Cac hang muc khac		5.0 %	
- Completion works / C.v hoan thien		10.0 %	
	Total / Tong so	100.0 %	0.0
5. TEST RUNNING / CHAY THU	4 %		
- Reservoir / Be chua		5.0 %	
- Treatment unit / Khu xu ly		25.0 %	
- TWPS / Tram bom II		35.0 %	
- Wells / Gieng		15.0 %	
- Technical water system			
He thong nuoc ky thuat		10.0 %	
- Disinfection / Nha sat trung		10.0 %	
	Total / Tong so	100.0 %	0.0
Plant total / Toan bo nha may nuoc			4.83
Total off the subproject / Ty trong cua hang muc CT			1.55

HANOI WATER SUPPLY PROJECT
 CÔNG TRÌNH CẤP NƯỚC HÀ NỘI

PHASE I/JUN.89
 GD II/THANG 6.89

64. TUONG MAI 5%

		Share of total Ty le tung hang muc %	Completion percent Hoan thanh
1. PHASE I ALL REMAINING WORKS CAC CONG VIEC CON TON TAI CUA G.D I	50 %	100.0 %	90.0
2. CONSTRUCTION WORKS / PHAN XAY	30 %		
- Washwater recovery / Thu hoi nuoc rua loc		60.0 %	30.0
- Areal works / Cong viec le		30.0 %	
- Completion works Cac cong viec hoan thien		10.0 %	
Total / Tong so		100.0 %	18.0
3. MECHANICAL WORKS / PHAN CONG NGHE	10 %		
- Washwater recovery / Thu hoi nuoc rua loc		90.0 %	
- Completion works Cac cong viec hoan thien		10.0 %	
Total / Tong so		100.0 %	0.0
4. ELECTRICAL WORKS / PHAN DIEN	7 %		
- Washwater recovery / Thu hoi nuoc rua loc		90.0 %	
- Completion works Cac cong viec hoan thien		10.0 %	
Total / Tong so		100.0 %	0.0
5. TEST RUNNING / CHAY THU	3 %		
- Washwater recovery / Thu hoi nuoc rua loc			0.0
Plant total / Toan nha may			50.40
Total off the subproject / Ty trong cua hang muc CT			2.52

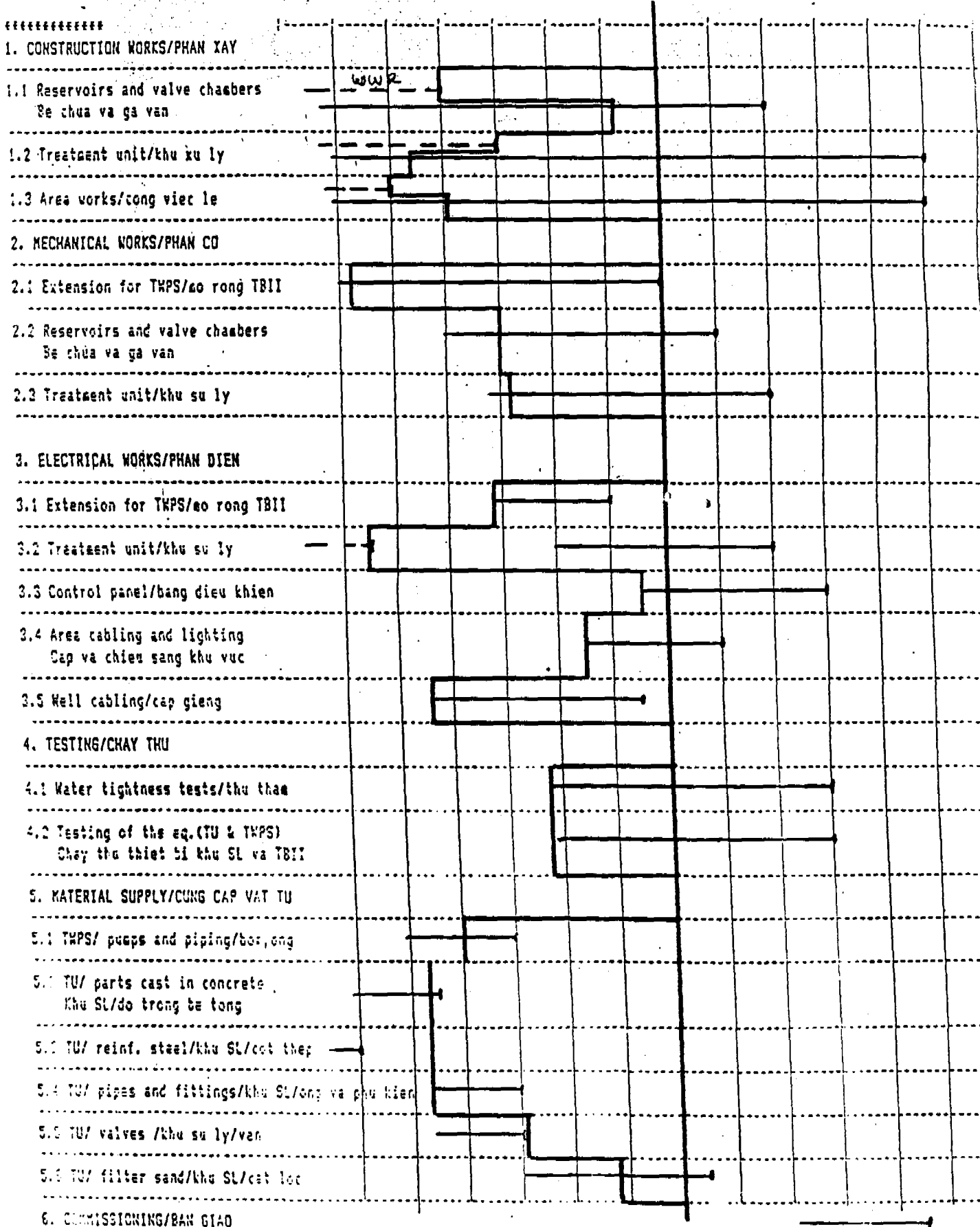
65. NGOC HA 25%

	Share of total Ty le tung hang muc %	Completion percent Hoan thanh %
1. CONSTRUCTION WORKS / PHAN XAY 60 %		
- Prefilling works, drainage / San nen	13.0 %	30.0 %
- Fence / Tuong rao	6.0 %	95.0 %
- Areal works / Cong viec la	6.0 %	
- TWPS / Tram bom II	9.0 %	
- Reservoir / Be chua	18.0 %	
- Control room, transformer house Phong dieu khien, nha bien the	3.0 %	
- Administration building / Nha hanh chinh	4.0 %	
- Disinfection / Nha sat trung	3.0 %	
- Store / Kho	3.0 %	
- Washwater recovery / Thu hoi nuoc rua loc	14.0 %	
- Aeration, sedimentation / Dan mua, be lang	11.0 %	6.0 %
- Filtration / Be loc	14.0 %	6.0 %
- Pipegallery, filter control room Hanh lang ong, phong dieu khien	4.0 %	
- Others / Cac hang muc khac	2.0 %	
- Completion works / C.v hoan thien	10.0 %	
Total / Tong so	100.0 %	13.70 %
3. MECHANICAL WORKS / PHAN CONG NGHE 20 %		
- Aeration, sedimentation / Dan mua, be lang	6.0 %	
- Filtration / Be loc	22.0 %	
- Reservoir / Be chua	5.0 %	
- Areal piping / Ong khu vuc	10.0 %	
- TWPS / Tram bom II	26.0 %	
- Washwater recovery / Thu hoi nuoc rua loc	6.0 %	
- Technical water and air system He thong nuoc ky thuat va gio	8.0 %	
- Disinfection / Nha sat trung	3.0 %	
- Others / Cac hang muc khac	4.0 %	
- Completion works / C.v hoan thien	10.0 %	
Total / Tong so	100.0 %	0.0 %
4. ELECTRICAL WORKS / PHAN DIEN 15 %		
- Areal lighting / Chieu sang khu vuc	5.0 %	
- Well cabling / Cap gieng	12.0 %	
- Treatment unit / Khu xu ly	20.0 %	
- TWPS / Tram bom II	17.0 %	
- Control room / Phong dieu khien	15.0 %	
- Transformers, high voltage line May bien the, tuyen cao the	8.0 %	
- Disinfection / Nha sat trung	2.0 %	
- Washwater recovery / Thu hoi nuoc rua loc	6.0 %	
- Others / Cac hang muc khac	5.0 %	
- Completion works / C.v hoan thien	10.0 %	
Total / Tong so	100.0 %	0.0 %
5. TEST RUNNING / CHAY THU 4 %		
- Reservoir / Be chua	5.0 %	
- Treatment unit / Khu xu ly	20.0 %	
- TWPS / Tram bom II	30.0 %	
- Wells / Gieng	15.0 %	
- Washwater recovery / Thu hoi nuoc rua loc	10.0 %	
- Technical water / Nuoc ky thuat	10.0 %	
- Disinfection / Nha sat trung	10.0 %	
Total / Tong so	100.0 %	0.0 %
Plant total / Toan bo nha may nuoc		8.22 %
Total off the subproject / Ty trong cua hang muc CT		2.06 %

HANOI WATER SUPPLY PROJECT, PHASE II/CONG TRINH CAP NUOC HN, SD II
 GENERAL TIME SCHEDULE - 1.12.1988 - 30.6.1999/TIEN DO CHUNG
 WATER PLANTS/CAC NHA MAY NUOC
 MAI DICH (G1)

PHASE I -----
 PHASE II _____

DEC JAN FEB MAR APR MAY JUNE JUL AUG SEPT OCT NOV DEC
 T12 T.1 T.2 T.3 T.4 T.5 T.6 T.7 T.8 T.9 T.10 T.11 T.12



HANOI WATER SUPPLY PROJECT, PHASE II/CONG TRINH CAP NUOC HN, GD II
 GENERAL TIME SCHEDULE 1.12.1988 - 30.6.1989/TIEN DO CHUNG
 WATER PLANTS/CAC NHA MAY NUOC

PHAP VAN (C2)

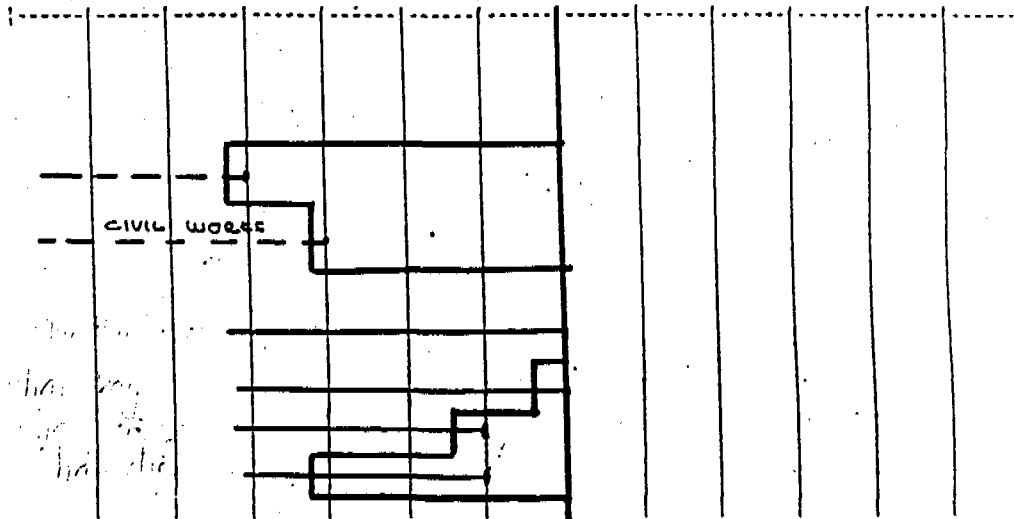
DEC	JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEPT	OCT	NOV	DEC
T12	T.1	T.2	T.3	T.4	T.5	T.6	T.7	T.8	T.9	T10	T11	T12

XXXXXXXXXX

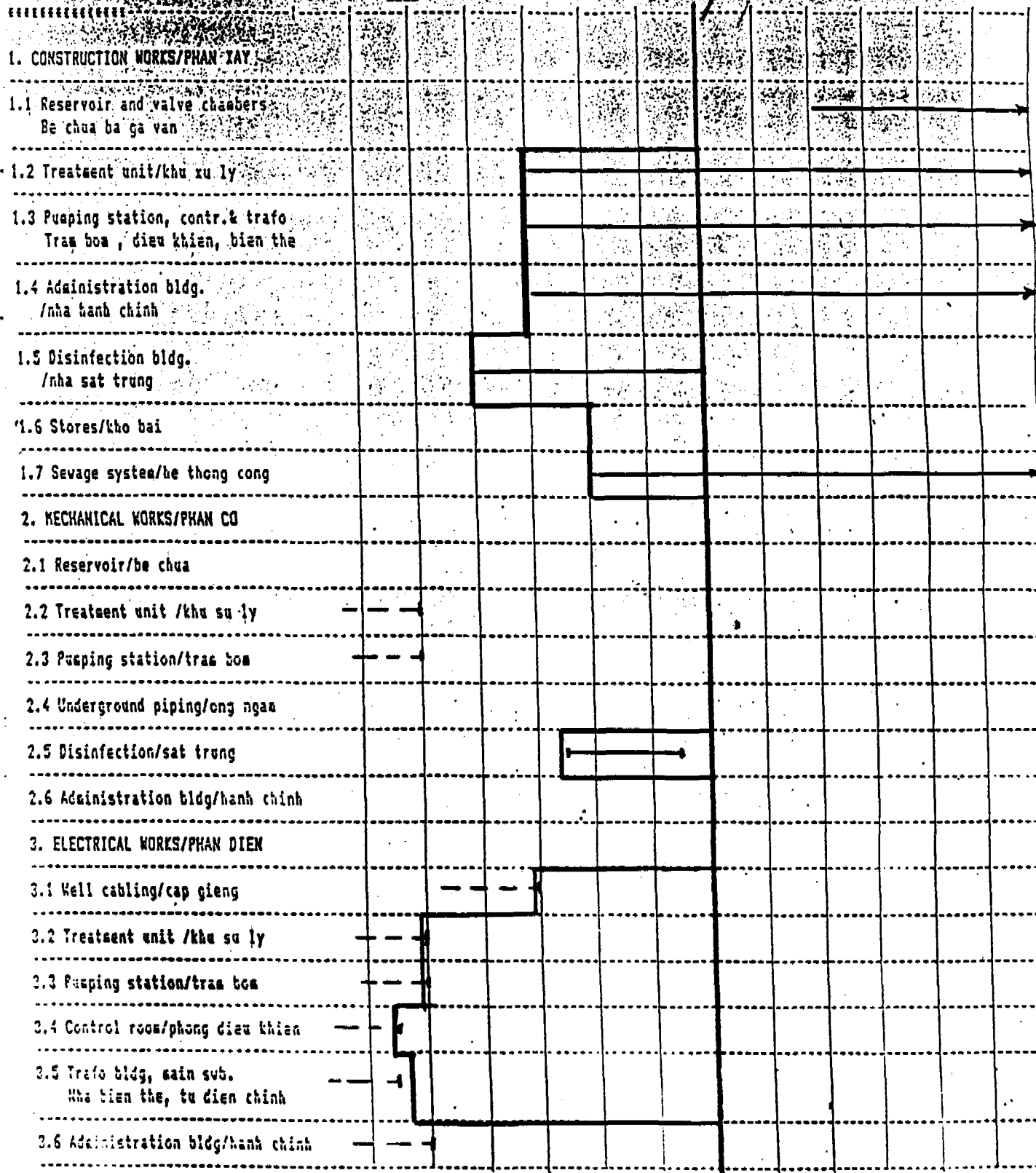
1. TESTING
 CHAY THU
 1.1 General
 Cac van de chung

2. WASH WATER RECOVERY

2.1 CONSTRUCTION WORKS
 2.2 MECHANICAL WORKS
 2.3 ELECTRICAL WORKS

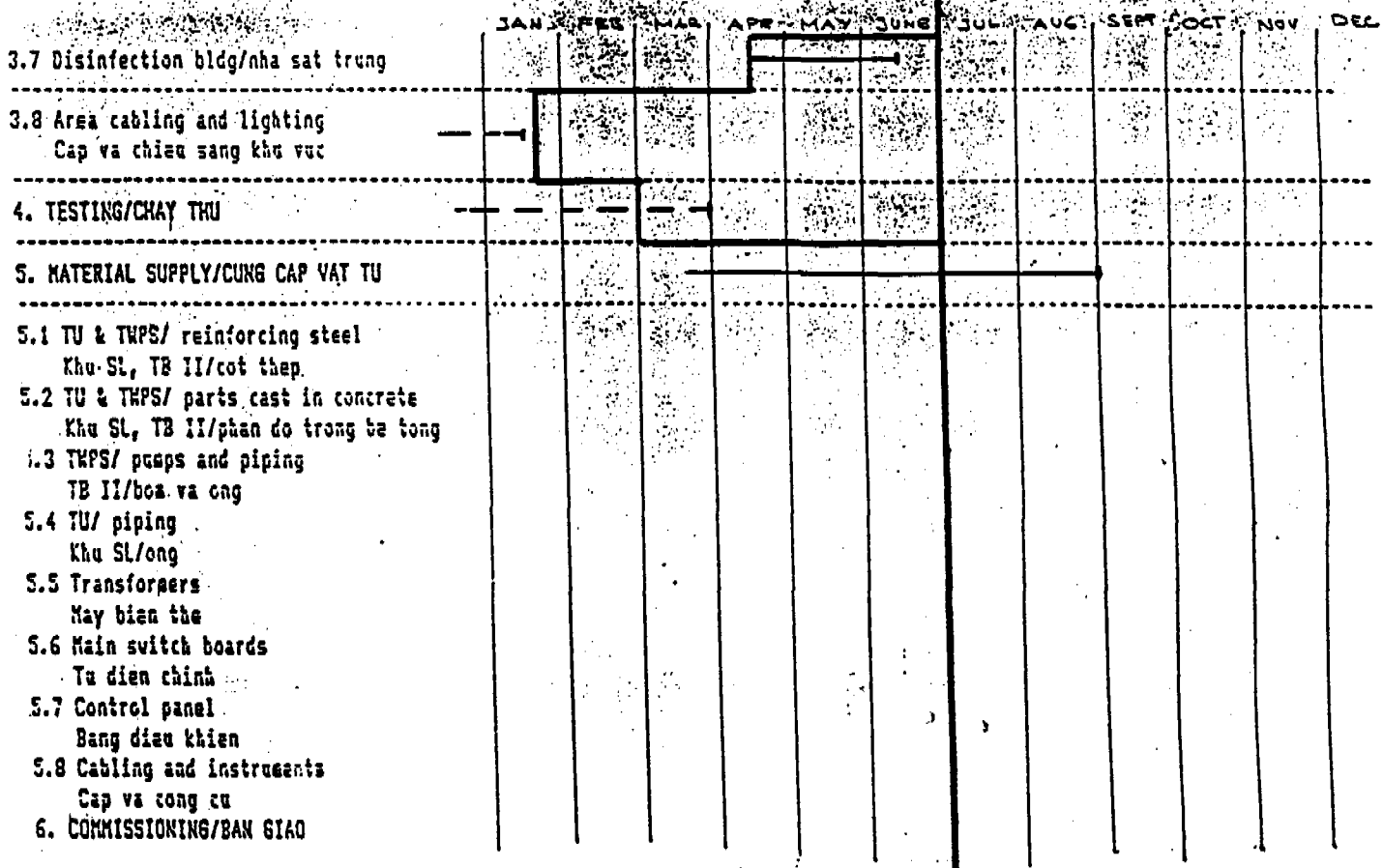


LUONG YEN (63) DEC T12 JAN T.1 FEB T.2 MAR T.3 APR T.4 MAY T.5 JUNE T.6 JUL T.7 AUG T.8 SEPT T.9 OCT T.10 NOV T.11 DEC T.12



NOTE 0

ITEMS 2.1, 2.2 AND 2.4 REVISED ACCORDING TO THE 35TH CO-OPERATION COMMITTEE MEETING ON 23.1.1989
 Hanoi, 22.2.1989
 Nguyen Van...



HANOI WATER SUPPLY PROJECT, PHASE II/CONG TRINH CAP NUOC HN/GD II

GENERAL TIME SCHEDULE 1.12.1988 - 30.6.1989/TIEN DO CHUNG

WATER PLANTS/CAC NHA MAY NUOC

	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEPT	OCT	NOV	DEC
	T12	T.1	T.2	T.3	T.4	T.5	T.6	T.7	T.8	T.9	T10	T11	T12

XXXXXXXXXXXX

1. CONSTRUCTION WORKS/PHAN XAY

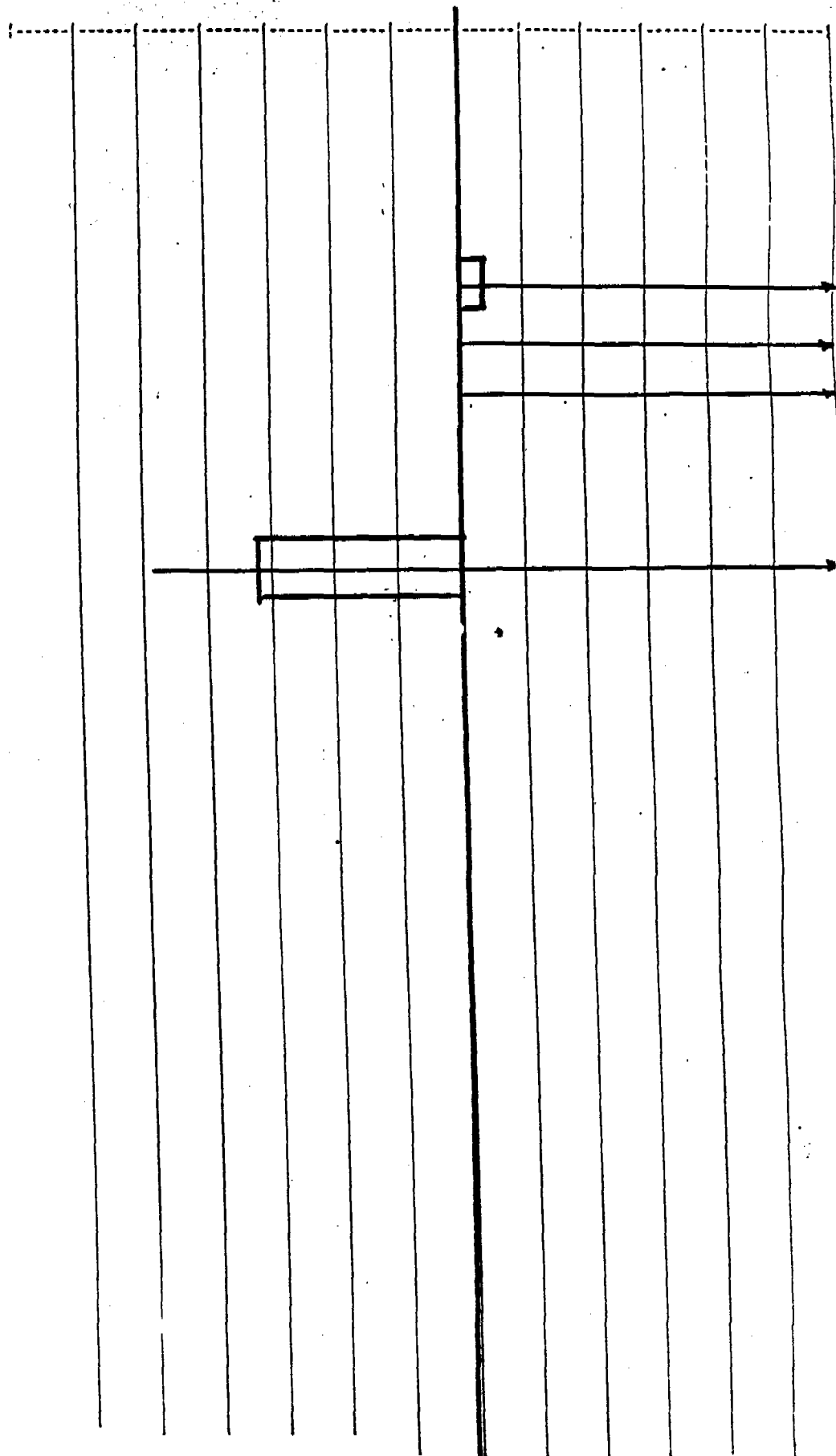
- 1.1 Reservoirs and valve chambers
Be chua va ga van
- 1.2 Treatment unit
Khu su ly
- 1.3 Pumping station
Traa boa II
- 1.4 Trafo and control rooms
May bien the va phong DK
- 1.5 Administration bldg.
Nha hanh chinh
- 1.6 Disinfection bldg.
Nha sat trung
- 1.7 Stores/kho bai
- 1.8 Sewage system
He thong thoat nuoc

2. MECHANICAL WORKS/PHAN CO

- 2.1 Reservoir/be chua
- 2.2 Treatment unit
Khu su ly
- 2.3 Pumping station
Traa boa II
- 2.4 Underground piping
Cong ngan
- 2.5 Disinfection
Nha sat trung
- 2.6 Administration bldg
Nha hanh chinh

3. ELECTRICAL WORKS/PHAN DIEN

- 3.1 Well cabling/cap gieng
- 3.2 Treatment unit
Khu su ly
- 3.3 Pumping station
Traa boa
- 3.4 Control room
Phong dieu khien
- 3.5 Trafo bldg
Nha bien the
- 3.6 Administration bldg
Nha hanh chinh
- 3.7 Disinfection bldg
Nha sat trung
- 3.8 Area cabling and lighting
Cap va chieu sang khu vuc



NOTE 0

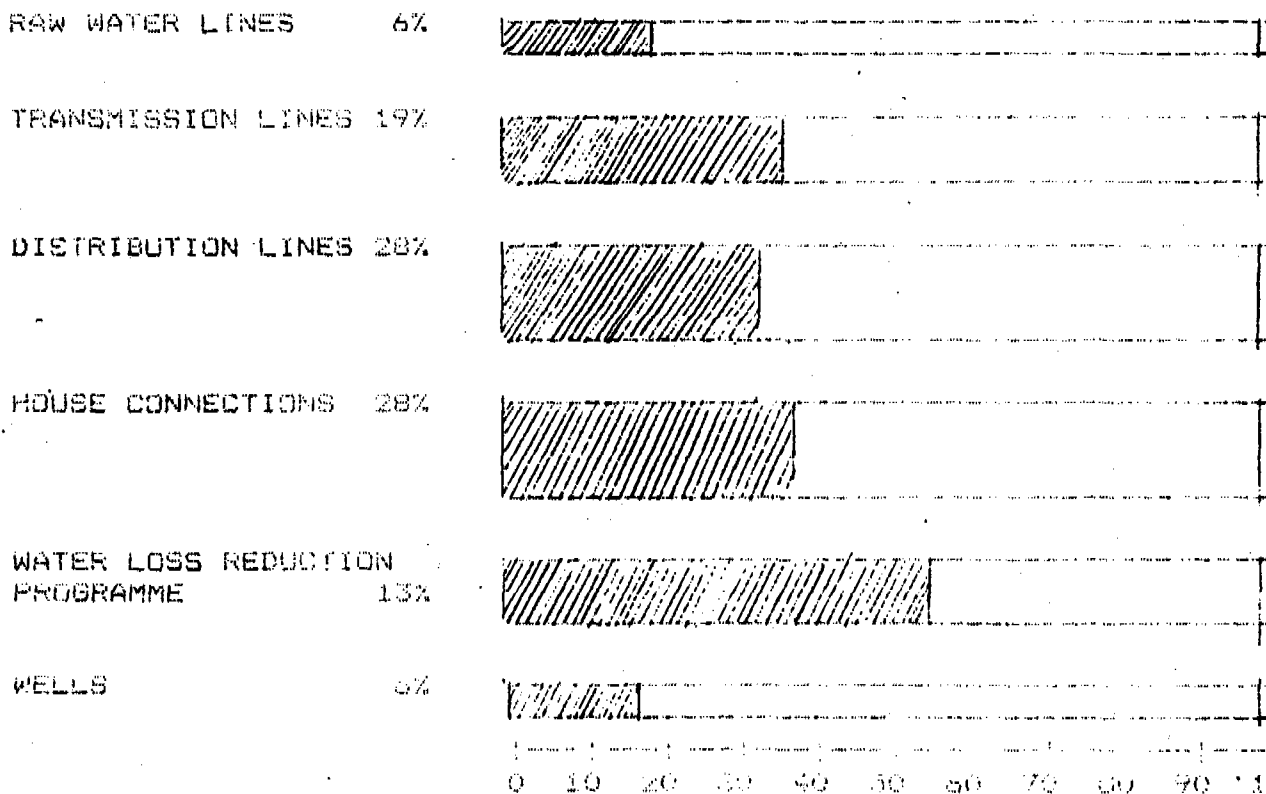
ITEM 1.1 REVISED ACCORDING TO THE 35TH CO-OPERATION COMMITTEE MEETING ON 23.1.1989 RE

70. PIPELINE CONSTRUCTION AND WELL PROGRAMME
 70. THI CONG TUYEN ONG VA CAI TAO GIENG

	Share % Tỷ trọng	Completion % Hoàn thành
71. Raw water lines / Nước thô	6 %	17.3 %
72. Transmission lines / Tuyen truyền dẫn	19 %	33.4 %
73. Distribution lines / Tuyen phân phối	28 %	31.1 %
74. House connections / Dau yao nha	28 %	37.6 %
75. Water loss reduction programme / Chuong trinh giam luong nuoc mat mat	13 %	54.5 %
68. Well construction and renovation / Xay dung va cai tao gieng	6 %	16.4 %
	Total Tong so	34.75 %

Status of completion / Tinh hinh hoan thanh

Date Ngày	Target % Muc tieu	Completion % Hoan thanh
30.12.88	31.7	20.0
31.01.89	28.6	23.0
28.02.89	29.5	23.0
31.03.89	33.4	26.7
30.04.89	37.3	27.7
31.05.89	41.2	29.5
30.06.89	45.1	34.7



PHASE II/JUN 89 GD II/THANG 6.89

PIPELINE CONSTRUCTION / THI CONG TUYEN ONG

MONTH/ THANG	71 Raw water pipelines # Nuoc tho	72 Transmission # Truyen dan	73 Distribution # Phan phoi	74 House connections pcs Vao nha	75 Water Loss Reduction Programme # Giam nuoc mat mat
TOTAL PHASE I TONG SO GIAI DOAN I	5025	15633	36086	2143	1440

PHASE II/G.D II

JUL 88	545	990	2370	375	900
AUG 88	---	550	2480	246	290
SEP 88	425	952	2850	127	260
OCT 88	---	480	3200	172	---
NOV 88	---	976	3102	147	535
DEC 88	112	1100	1999	302	---
JAN 89	32	742	923	287	---
FEB 89	---	---	---	---	---
MAR 89	85	576	872	70	2240
APR 89	---	200	706	55	---
MAY 89	---	683	1341	106	---
JUN 89	100	1548	1570	103	2310

TOTAL PHASE II TONG SO GIAI DOAN II	1299	8677	21633	2072	6535
--	------	------	-------	------	------

GRAND TOTAL I & II TONG GIAI DOAN I & II	6324	24310	57719	4215	7775
---	------	-------	-------	------	------

HANOI WATER SUPPLY PROJECT

PHASE II/JUN 89
 89 II/THANG 6.89

PIPELINE CONSTRUCTION / THI CONG TUYEN ONG
 RAW WATER LINES 71 / TUYEN NUOC THO

MONTH/ THANG	MAI DICH I	NGO SI LIEN	PHAP VAN	YEN PHU	TUONG HAI	MAI DICH II	NGOC HA	LUONG YEN
	2662	862	1550	1185	65			
TOTAL PHASE I TONG SO GIAI DOAN I	2410	700	1250	600	65			5025
COMPLETION % HOAN THANH	90	80	80	60	100			
JUL 88	120	---	125	300				
AUG 88	---	---	---	---				
SEP 88	132	50	75	158				
OCT 88	---	---	---	---				
NOV 88		---	---	---				
DEC 88		112	---	---				
JAN 89			---	32				
FEB 89			---	---				
MAR 89			---	85 *				
APR 89			---	---				
MAY 89			---	---				
JUN 89			100	---				
TOTAL PHASE II TONG SO GIAI DOAN II	252	162	300	585				1299
GRAND TOTAL TONG GIAI DOAN II	2662	862	1550	1185	65			6324
COMPLETION % HOAN THANH	100	100	100	100	100			

* ACCORDING CHECKING

HANOI WATER SUPPLY PROJECT

PHASE II/JUN 89
 GD II/THANG 6.89

PIPELINE CONSTRUCTION/THE LONG TUYEN ONG
 TRANSMISSION LINES 72/TUYEN TRUYEN DAN

MONTH/ THANG	YAI DICH- YEN HA DO	YAI DICH- YEN HOA	YEN HOA- TR. KINH	LANG TRUNG	D. CA- VONG	NGOC KHANH B	YEN PHU- T.K. DUAT T.T. PHAI	TR. KINH- LANG HA	SIANG VO	LANG HA	PHAP VAN- DUOI CA	NGHIA DO- NGOC HA	VONG- KH. THIEN	KIM LIEN	VONG- NGA TU SO
	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B
	3850	1622	2240	1244	2430	593	2850	902	1080	1680	1750	1281	2400	2500	2250
TOTAL PHASE I	3596	1750	1600	1244	2000	593	2300	600	850	1400	100	-	-	-	-
COMPLETION %	91	91	71	100	95	100	81	72	78	83	8	-	-	-	-
JUL 88		100	100	---	---	---	---	50	120	120	500				
AUG 88			100	---	---	---	200	50	---	---	200				
SEP 88	50	212	---	---	---	---	370	---	50	50	300				
OCT 88	---	---	---	---	---	---	---	---	---	---	400				
NOV 88	200	---	200	---	---	---	---	---	60	110	---	300			
DEC 88	---	---	---	---	---	---	---	---	---	---	100	500	500		
JAN 89	---	---	240	---	---	---	---	262	---	---	---	100	200		
FEB 89	---	---	---	---	---	---	---	---	---	---	---	---	---		
MAR 89	---	---	---	---	---	---	---	---	---	---	---	---	400		
APR 89	---	---	---	---	---	---	---	---	---	---	---	---	100	100	
MAY 89	---	---	---	---	---	---	---	---	---	---	---	183	---	500	---
JUN 89	---	---	---	---	---	---	---	---	---	---	150	198	100	600	500
TOTAL PHASE II	250	312	640	---	---	---	530	302	230	280	1650	1281	1300	1200	500
COMPLETION %	100	100	100	---	95	---	100	100	100	100	93	100	55	40	22

*** INSIDE YEN PHU WATER PLANT D.I. 300mm 1988

PHASE II/JUN.89
S.Đ 11/THANG 8.89

PIPELINE CONSTRUCTION / THI CÔNG TUYẾN ống
DISTRIBUTION LINE IMPLEMENTATION 73 / TUYẾN PHÂN PHỐI

Street	Pipe type	Total length m	Contr. Đor vi thi công	Reported earlier Đor dai bao cao trước đây	Work remain viac con ton tai	Comple- tion % hoan chinh	Report length m Đor dai bao cao
Duc Ca - Vong	225 PVC	2340	WSSCo	2100	-	90	-
De La Thanh	160-225 PVC	3850	RCO	3100	P,F,C	85	400
Duong Lang - De La Thanh	160 PVC	446	RCO	300		100	146
Nhac vien	110 PVC	120	RCO	90		100	30
Lang Ha - Tay Son	225 PVC	1394	SHCCo	700		100	694
Lang Trung	90-110 PVC	1100	SHCCo				200
Yen Lang A,B	90-110 PVC	4000	SHCCo				100
Total							1570 m
Tong so							

* D = connections	dau giap	WSSCo ... Cty cap nuoc ha noi
* P = pressure test	thu ap luc	RCO ... Cty sua chua DTP
* F = flushing	xuc xe	SHCCo ... Cong ty xay dung nha o
W - = no work during report month	không thi công	WSSCo ... Cty xay dung cap thuat nuoc
() = estimate	du tinh	SHCCo ... Cty xay dung thuc nghiem

HANOI WATER SUPPLY PROJECT

PHASE II/JUN 89
 G3 II/THANG 6.89

PIPELINE CONSTRUCTION / THI CONG TUYEN ONG
 WATER LOSS REDUCTION PROGRAMME 75 / CHUONG TRINH GIAM NUOC MAT MAT
 PIPELINE TESTING / THU KHA NANG SU DUNG CAC TUYEN ONG

NGO SI LIEN SIANG VAN MINH 600 mm 1695 m	KIM MA CAU GIAY 400 mm 2565 m	NGO SI LIEN HAI BA TRUNG 600 mm 800 m	TRINH HOAI DUC 200 mm 290 m	HANG BOT 400 mm 1370 m	KHAM THIEN 400 mm 1000 m	NGO SI LIEN KHAM THIEN 600 mm 600 m	CAU GIAY HW 11 500mm 2325m	NGOC HA - CAU GIAY 400mm 1200m	NAM SON TAY SON 400mm 2000m
---	--	--	--------------------------------------	------------------------------	--------------------------------	--	-------------------------------------	---	--------------------------------------

TOTAL PHASE I -- 1440 started started started

TONG SO GIAI DOAN I

PHASE II

JUL 88	900	cont.	cont.	cont.			cont.		
AUG	cont.	cont.	cont.	290	started	started	cont.		
SEP 88	260	cont.	cont.	compl.	cont.	cont.	cont.		
OCT 88	cont.	cont.	cont.		cont.	cont.	cont.		
NOV 88	535	cont.	cont.		cont.	cont.	abandoned		
DEC 88	compl.	cont.	cont.		cont.	cont.	--		
JAN 89		cont.	cont.		cont.	cont.			
FEB 89		cont.	cont.		cont.	cont.	started	prep.	
MAR 89		1125	cont.		cont.	cont.	1115	prep.	
APR 89		cont.	cont.		cont.	cont.	cont.	prep.	
MAY 89		compl.	cont.		cont.	cont.	cont.	started	
JUN 89			cont.		cont.	cont.	1210	1100	Prep.

TOTAL PHASE II 1695 1125 -- 290 -- -- -- 2325 1100 --

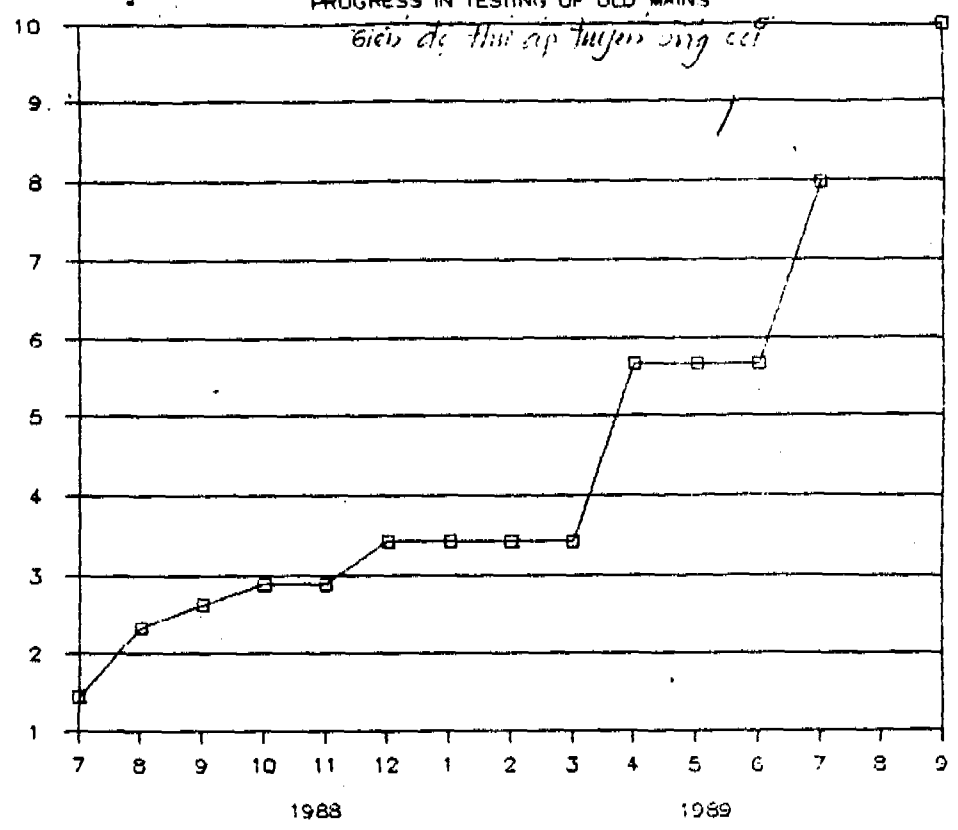
TONG SO GIAI DOAN II

Cont. .. tiep tuc
 Pr .. chuan bi
 Started .. da trien khai
 Abandoned .. bo di
 Compl. .. da hoan thanh

Chương trình giảm nước mất mát
 WATER LOSS REDUCTION PROGRAMME

PROGRESS IN TESTING OF OLD MAINS

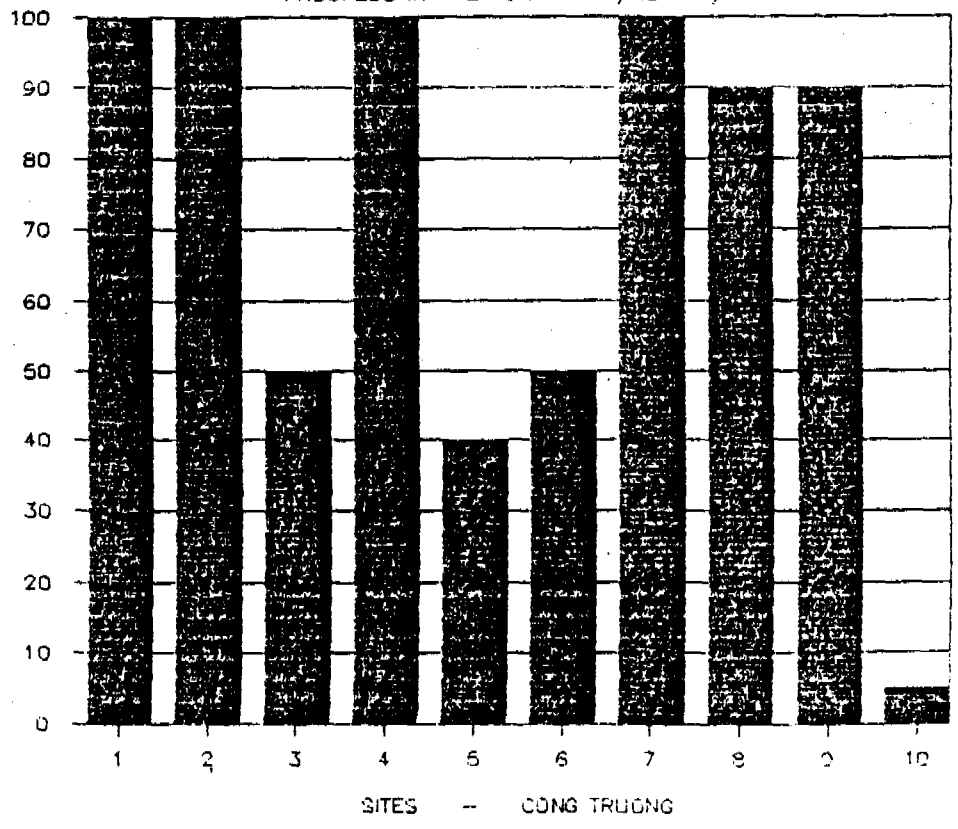
PROGRESS IN KILOMETERS
Tiến độ tính bằng Km



WATER LOSS REDUCTION PROGRAMME

PROGRESS IN SITE ACTIVITIES 7/88 - 6/89

PROGRESS IN PERCENT
Biến độ tính bằng %



72.A TRANSMISSION LINES, CONSTR. PROGRAMME /
 TUYẾN TRUYỀN DAN THI CÔNG

			Disn.	Length	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
			(mm)	(m)	88	89	89	89	89	89	89	89
72.1	Vong - Kham Thien	II	400	2400	_____		_____					
72.2	Kim Lien	II	315	2500	_____		_____					
72.3	Vong - Nga Tu So	II	400	2250	_____		_____					
72.4	Lang Ha - Nga Tu So	II	600	1300	_____		_____					
72.5	Kim Lien - Tay Son	II	315	750	_____		_____					
72.6	Kham Thien - Hai Ba Trung II	II	400	1150	_____		_____					
72.7	Duoi Ca - Vong	I	600	2430	_____		_____					
72.8	Phap Van - Duoi Ca	I	600	1780	_____		_____					

72.B TRANSMISSION LINES, DESIGN. PROGRAMME /
 TUYẾN TRUYỀN DAN THIẾT KẾ

72.9	Tuong Mai - Duoi Ca		600	1200	_____							
72.10	Yen Phu - Nguyen Thai Hoc		600	2600	_____							

73.A DISTRIBUTION LINES, CONSTR. PROGRAMME /
 TUYẾN ÖNG PHÂN PHỐI THI CÔNG

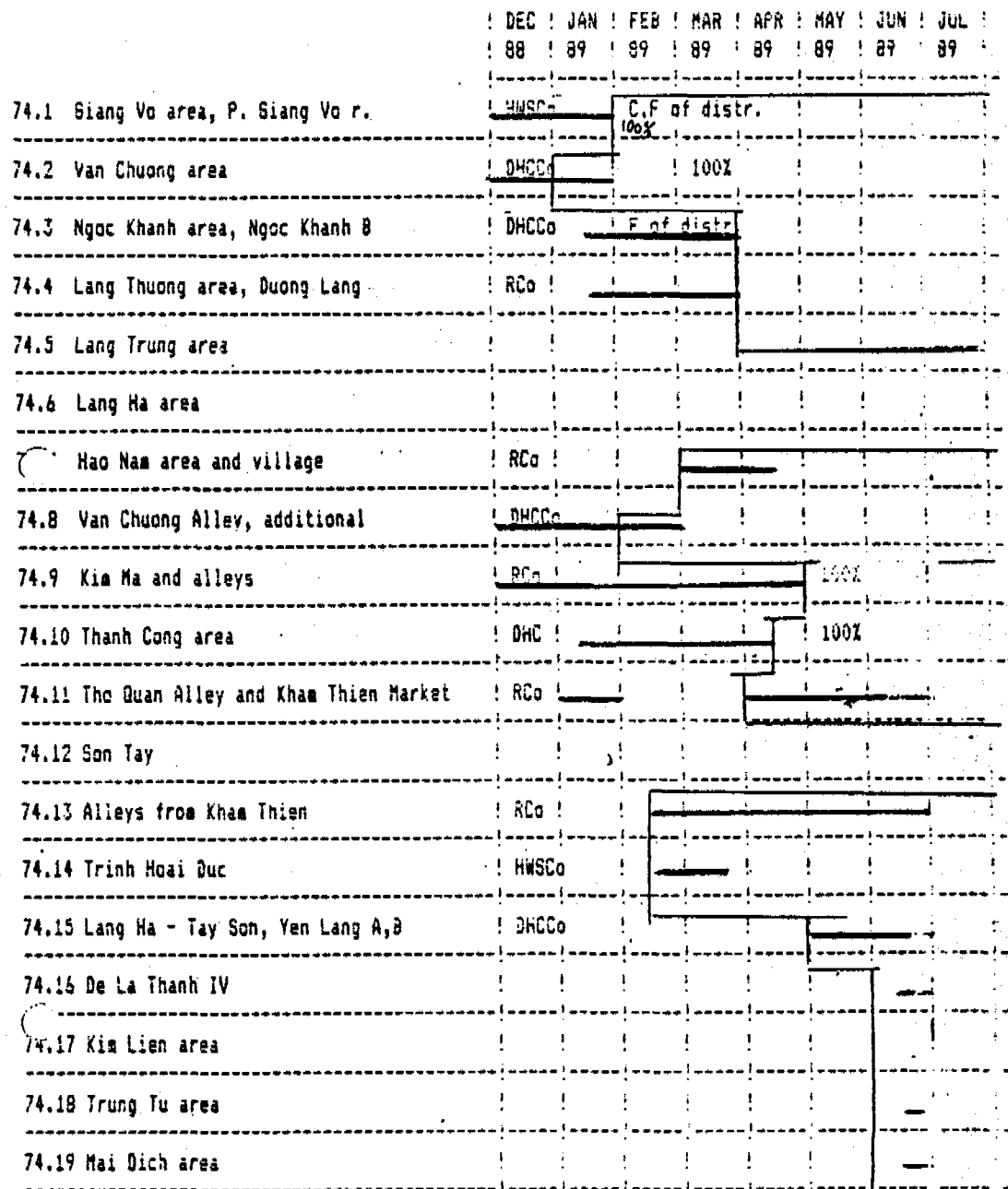
	Diam. (mm)	DEC 88	JAN 89	FEB 89	MAR 89	APR 89	MAY 89	JUN 89	JUL 89
73.1	Đuôi cá - Vong								
73.2	Duong Lang								
73.3	Hao Nam area								
73.4	Lang ha - Tay son								
73.5	Yen Lang A,B								
73.6	Lang Ha area								
73.7	Tay Son w.								
73.8	Tay Son e.								
73.9	Cho Khau Thien								
73.10	Lang Trung area								
73.11	Hao Nam village								
73.12	Đe la Thanh IV								
73.13	Trung TU area								
73.14	Kim Lien area								
73.15	Mai Dich area								
73.16	Stadium area								

74.B DISTRIBUTION LINES, DESIGN. PROGRAMME /
 TUYẾN ÖNG PHÂN PHỐI THIẾT KẾ

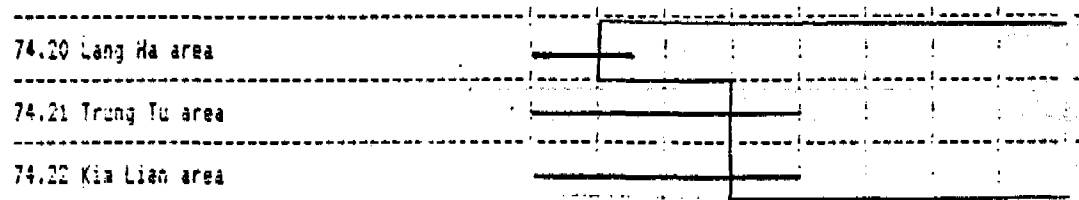
73.17 Ngọc Ha

73.18 Ba Dinh

74.A HOUSE CONNECTIONS, CONSTR. PROGRAMME /
DAU VAO NHA THI CONG



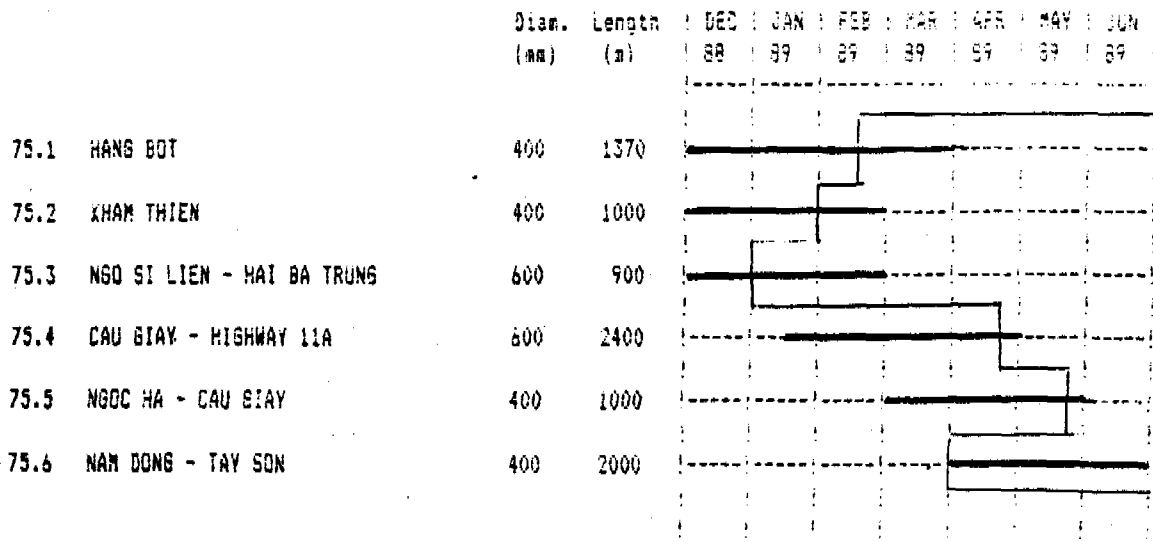
74.B HOUSE CONNECTIONS, DESIGN PROGRAMME /
DAU VAO NHA THIET KE



HWSCo ... Cty cap nuoc Ha noi
RCo ... Cty sua chua DTOT
DHCCo ... Cty xay dung nha o
WSSCCo ... Cty xay dung cap thoat nuoc

C ... Bau noi
F ... Xuc na
District ... Ong phan phoi

75. WATER LOSS REDUCTION PROGRAMME (TESTING AND REPAIRING)
 CHUONG TRINH GIAM LUONG NUOC MAT MAT.



2.2 NEW WELLS (17 Pcs) / SIENG MOI
 WELL DRILLING, WELL HOUSE CONSTRUCTION,
 DEVELOPING, ELECTRO-MECHANICAL INSTALLATION,
 TEST PUMPING. /
 SIENG MOI, KHOAM SIENG, THOI RUA, LAP DAT CO DIEN,
 BOM THU.

DEC : JAN : FEB : MAR : APR : MAY : JUN : JUL : AUG
 88 : 89 : 89 : 89 : 89 : 89 : 89 : 89 : 89

MAI DICH (7 pcs)

- WELL No. 10
- WELL No. 11
- WELL No. 12
- WELL No. 13
- WELL No. 14
- WELL No. 15
- WELL No. 16



NGOC HA (2 pcs)

- WELL No. 12 To be considered in connection with water plant construction.
- WELL No. 13 To be considered in connection with water plant construction.

LUONG YEN (8 pcs)

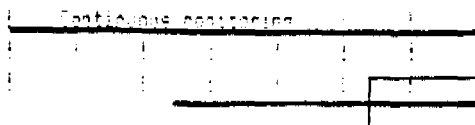
- WELL No.
- WELL No.
- WELL No.
- WELL No.
- WELL No.
- WELL No.
- WELL No. To be considered in connection with water plant construction.
- WELL No. To be considered in connection with water plant construction.

2.3 NEW WELL HOUSES AND ELECTRO-MECHANICAL INSTALLATION,
 TEST PUMPING
 NHA CHE SIENG MOI, LAP DAT CO DIEN VA BOM THU

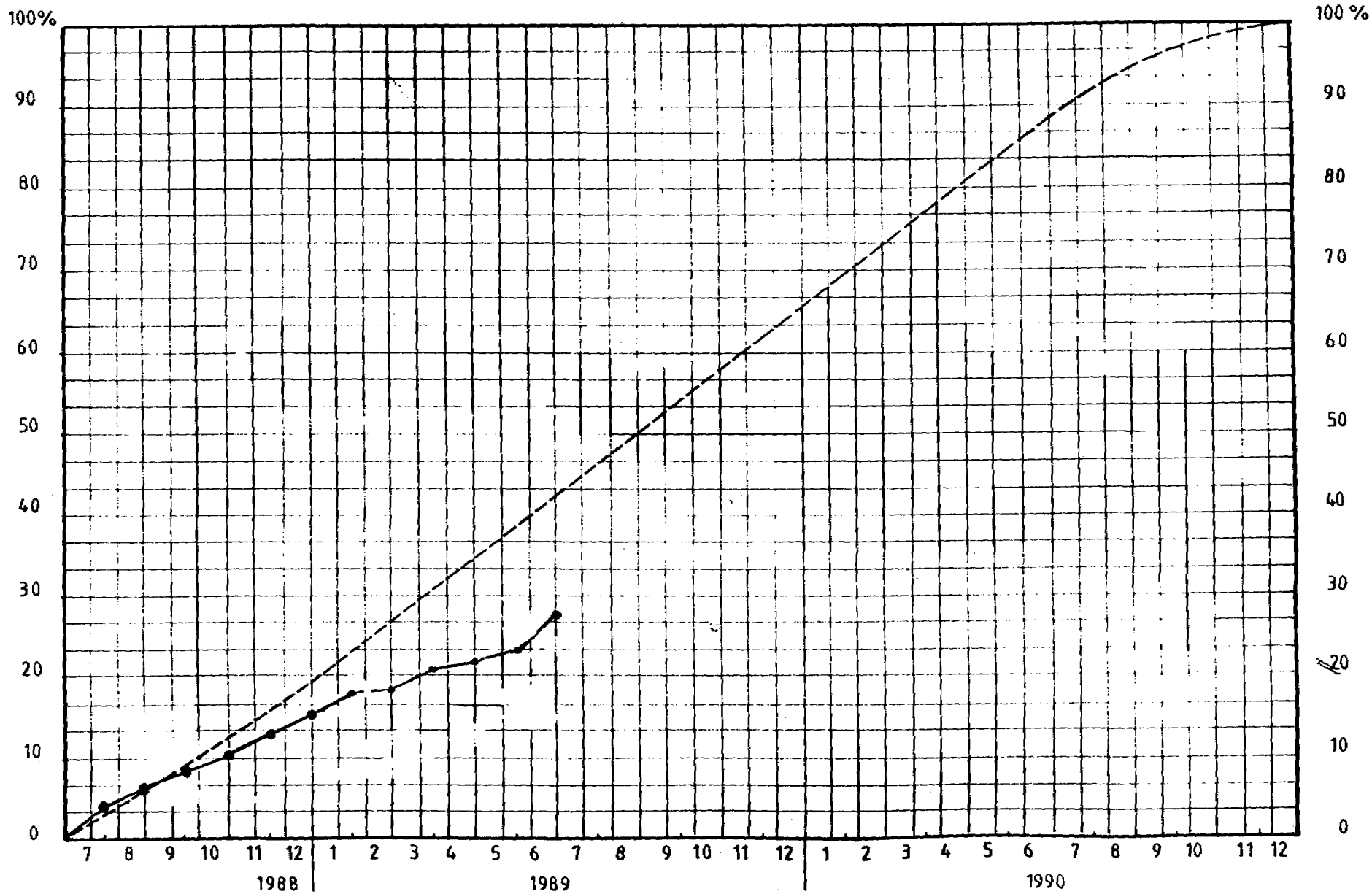
- NGOC HA (2 pcs) Construction of well houses and electro-mechanical installations according to water plant works
- WELL No. 10
 - WELL No. 11

3. OBSERVATION WELLS.
 SIENG THEO DOI

- OLD WELLS / SIENG CU. (7pcs) Continuous monitoring
- NEW WELLS / SIENG MOI. (24pcs)



WHOLE PROJECT

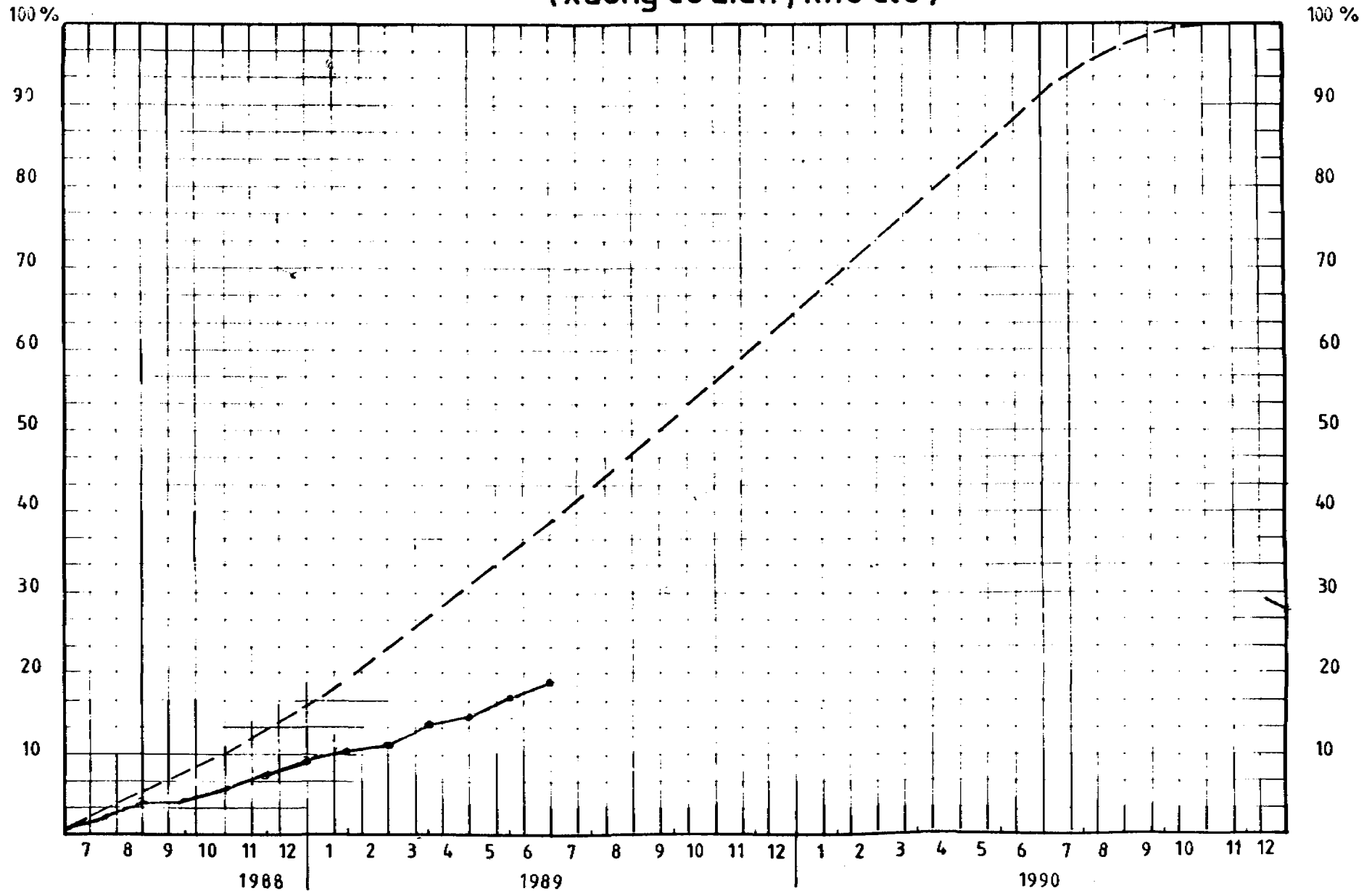


60. WATER PLANT AND 50. FACILITY ESTABLISHMENT

(electromech. workshop, chlorine store)

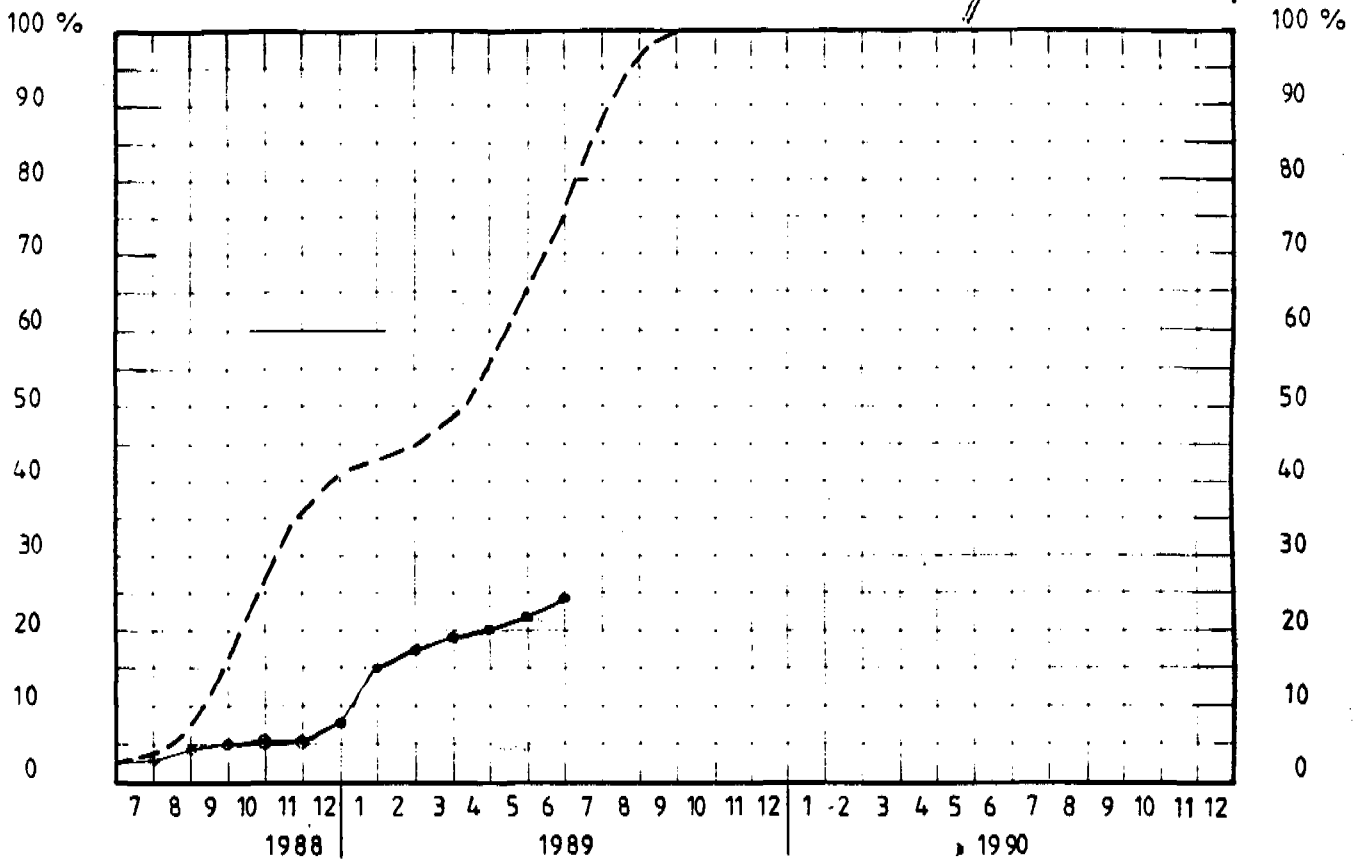
60. NHÀ MÁY NƯỚC VÀ 50. THÀNH LẬP TRANG THIẾT BỊ

(xưởng cơ điện, kho clo)

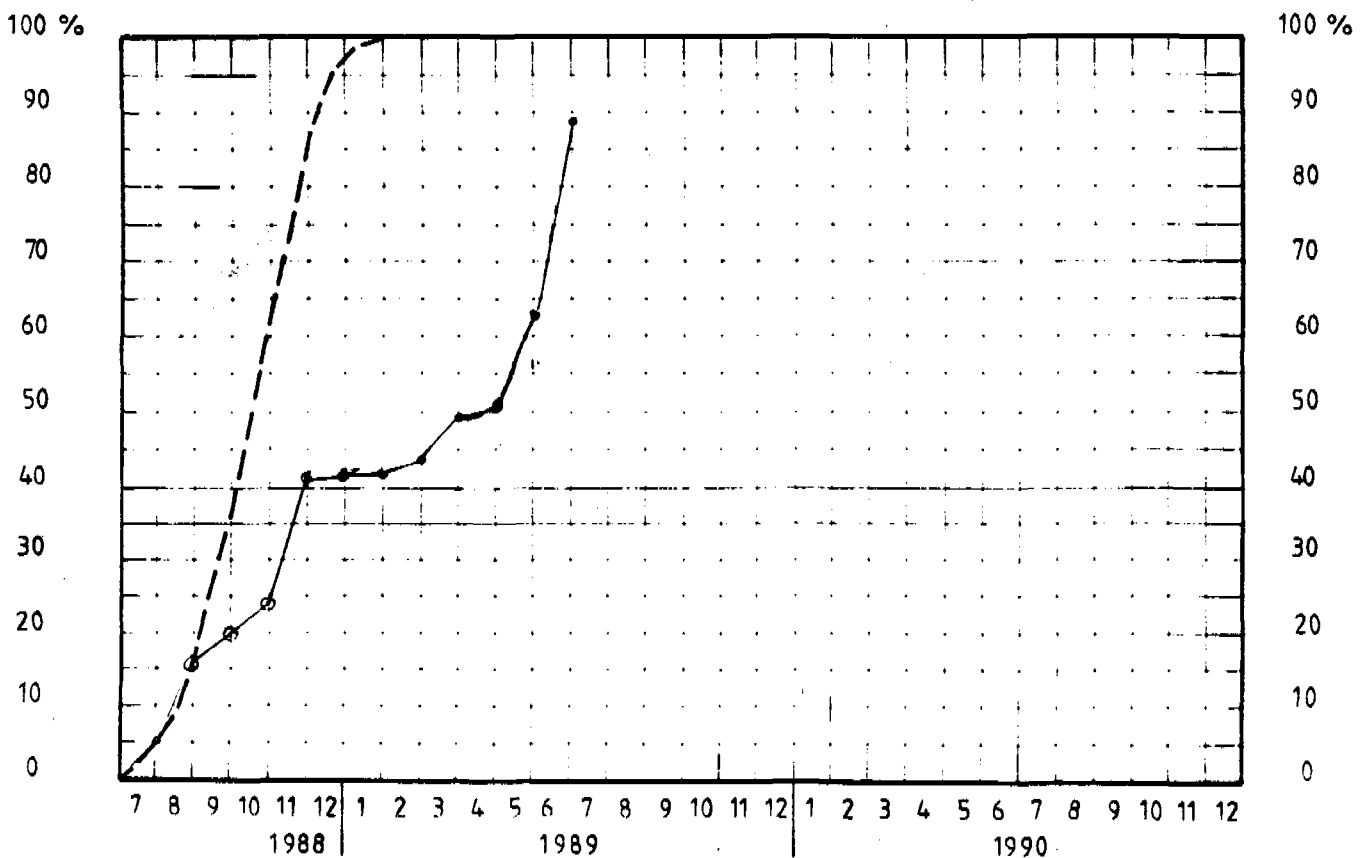


61. MAI DỊCH [20%]

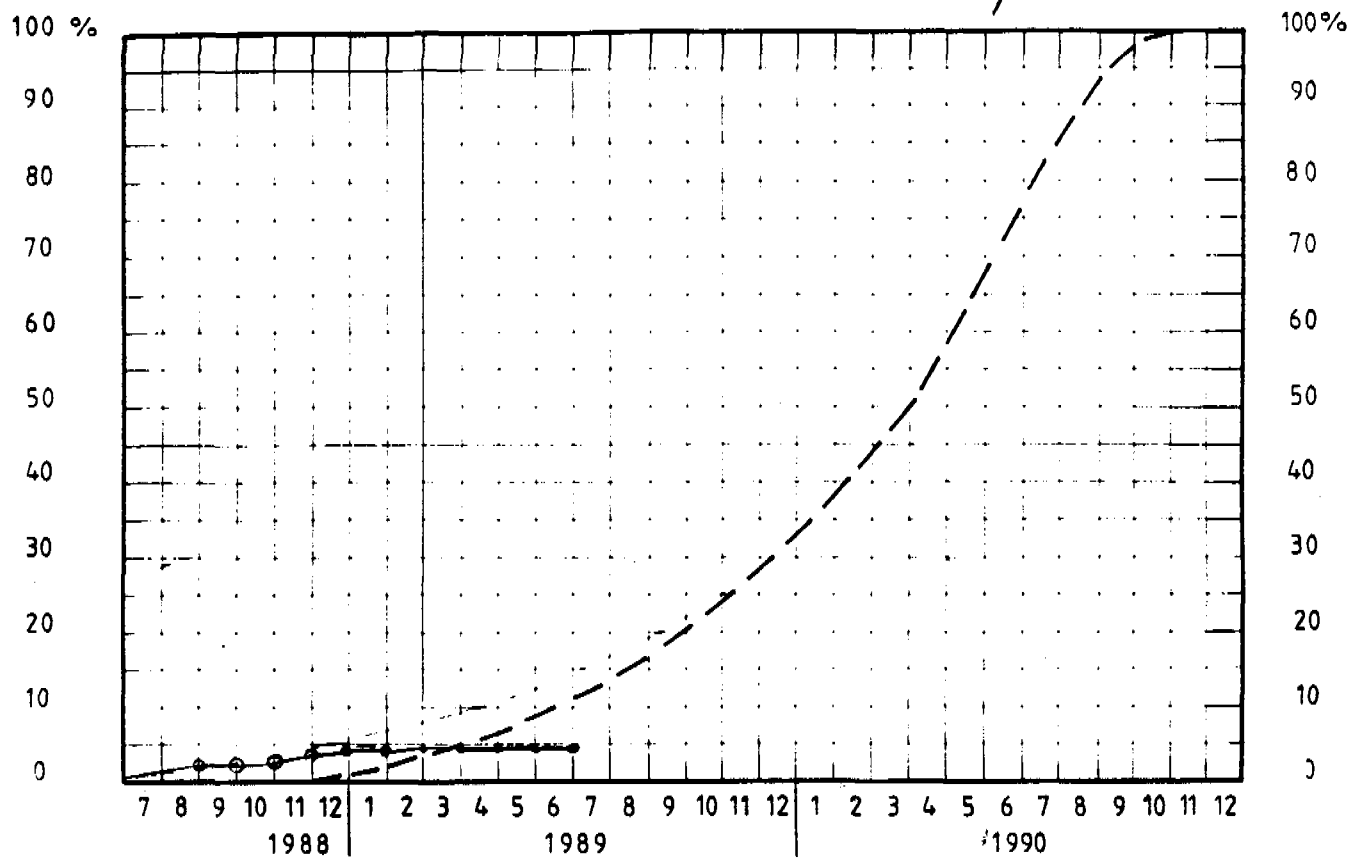
51. AND ELECTROMECH. WORKSHOP - XƯỞNG CƠ ĐIỆN



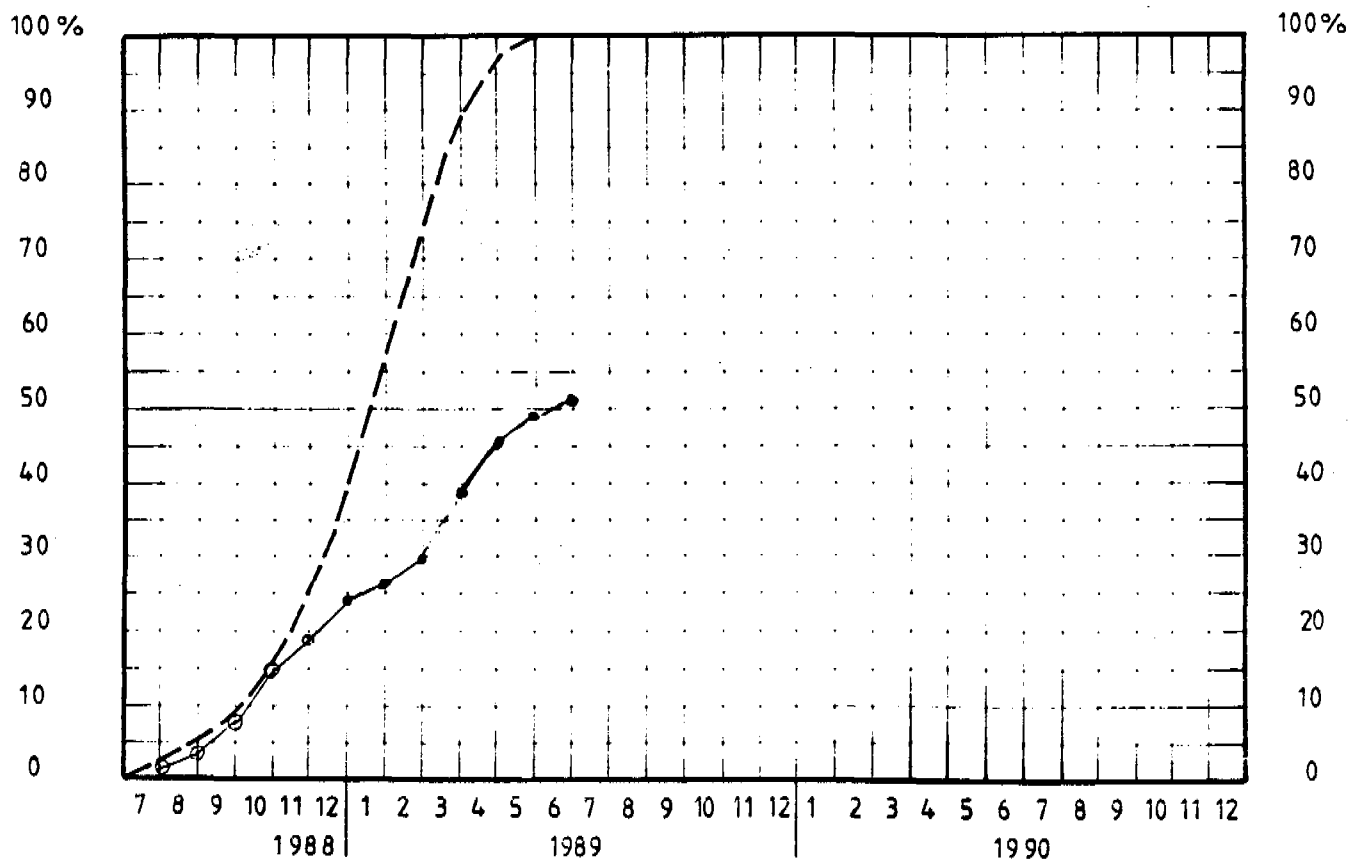
62. PHÁP VÂN [6%]



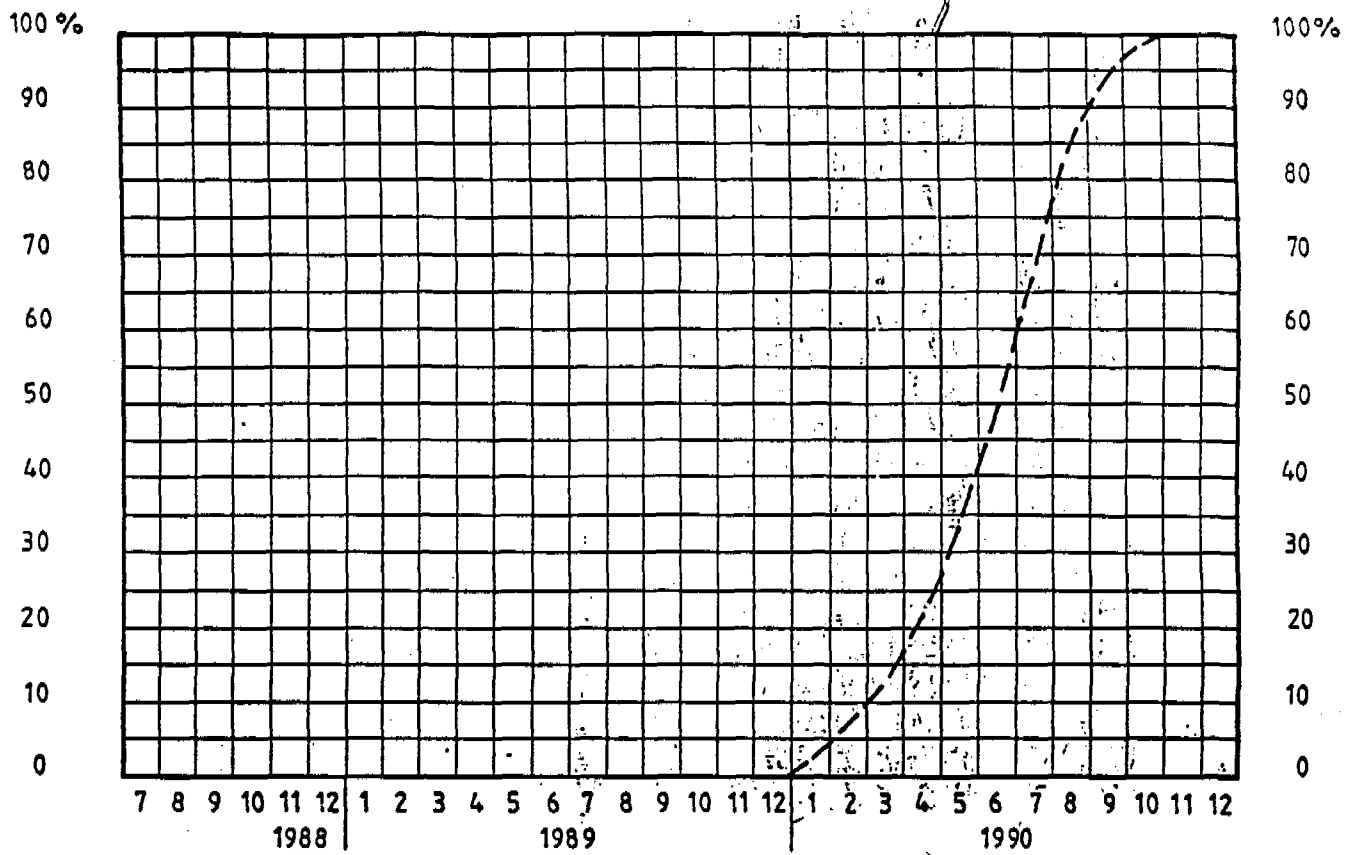
63. LƯƠNG YÊN [32%]



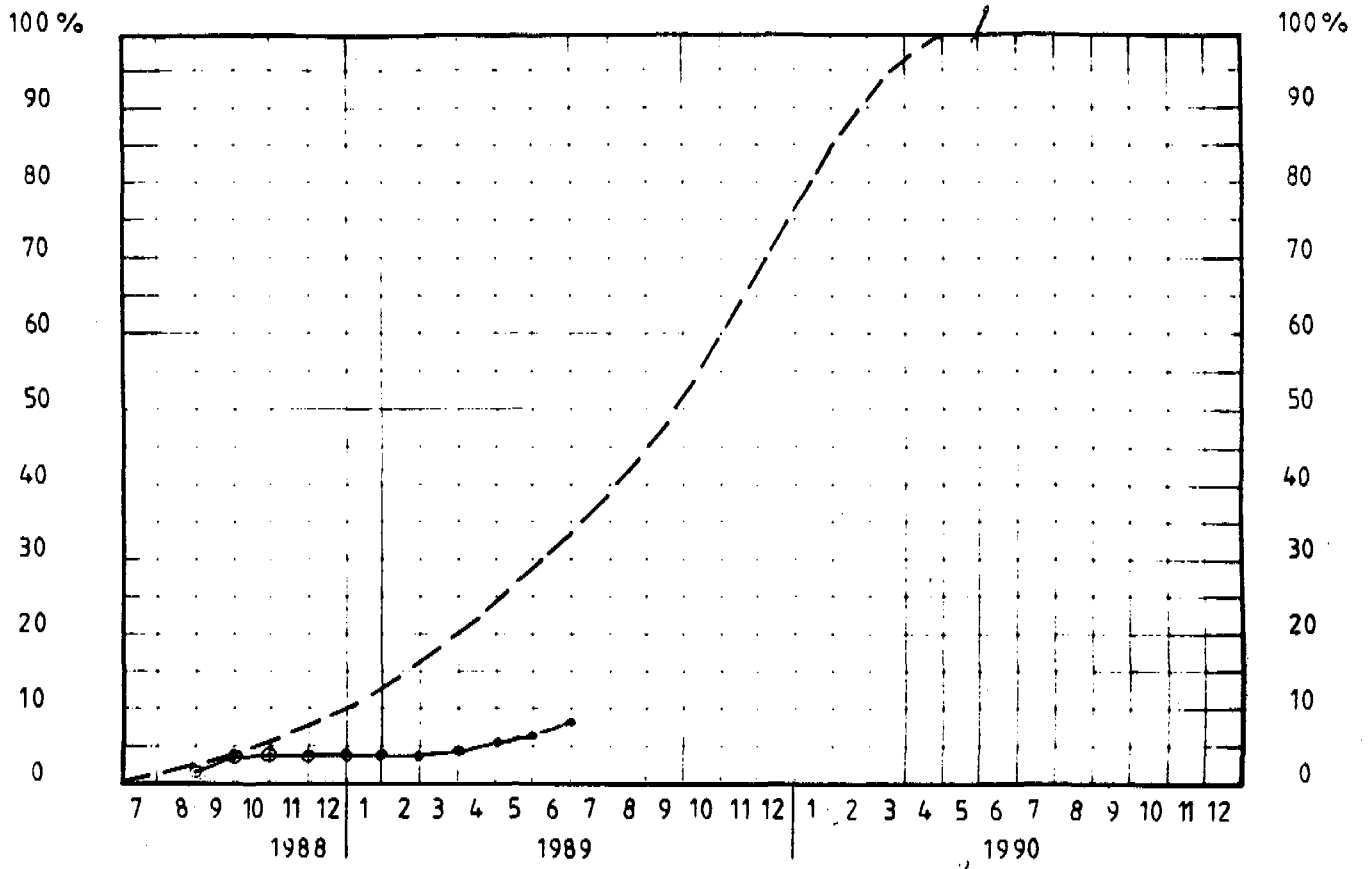
64. TƯƠNG MAI [4%]



LIQUID CHLORINE STORE [2%]
52. KHO CHỨA CLO LỎNG.

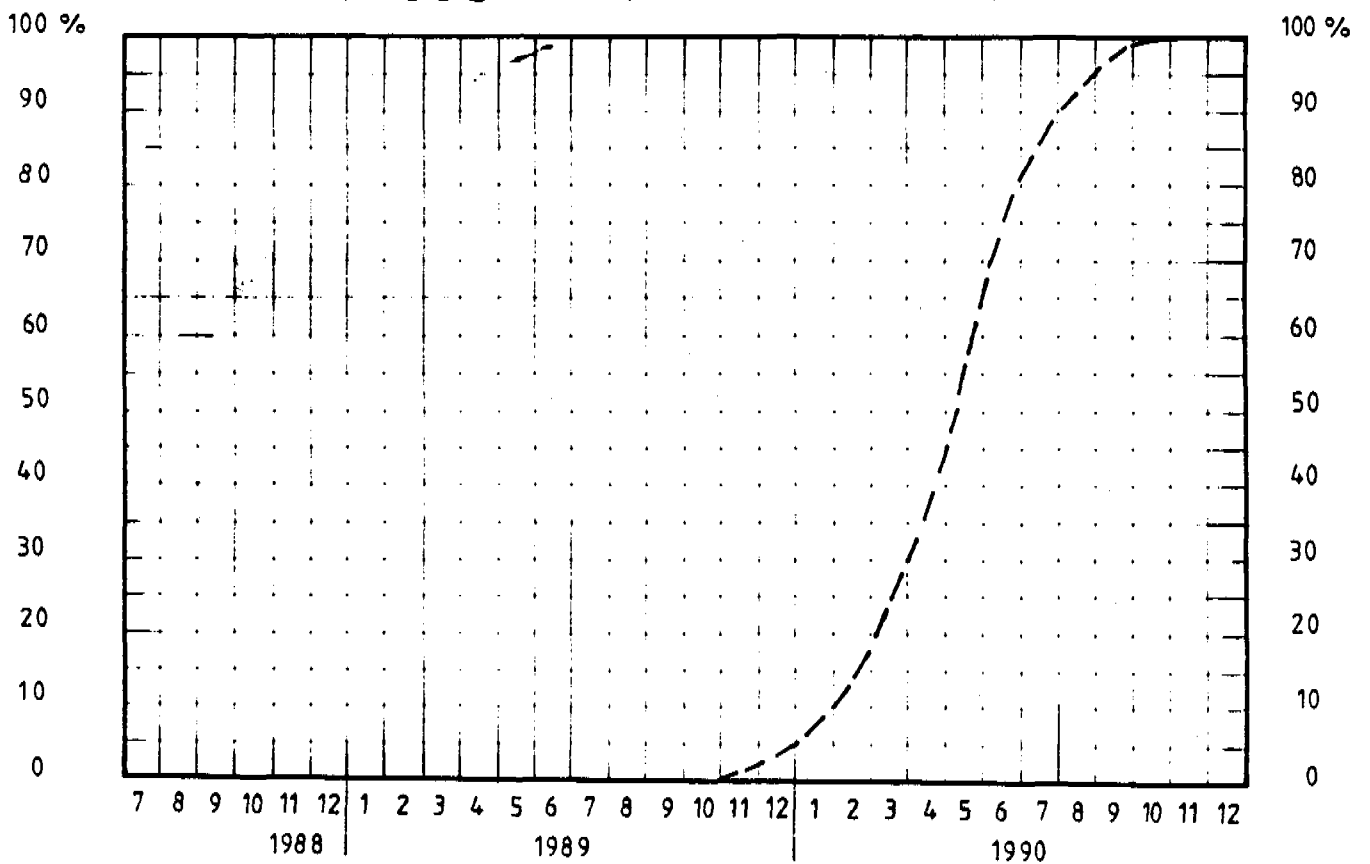


65. NGỌC HÀ [24%]

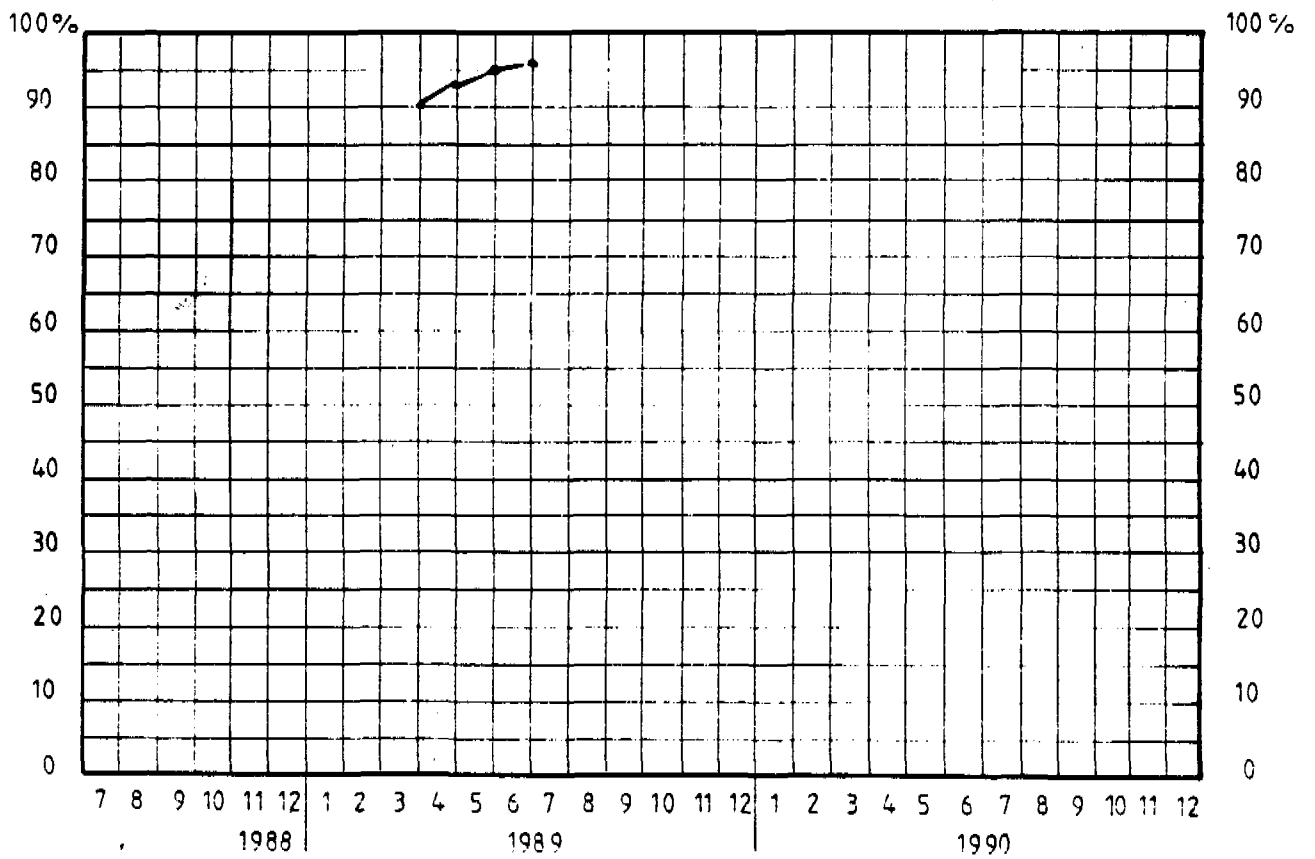
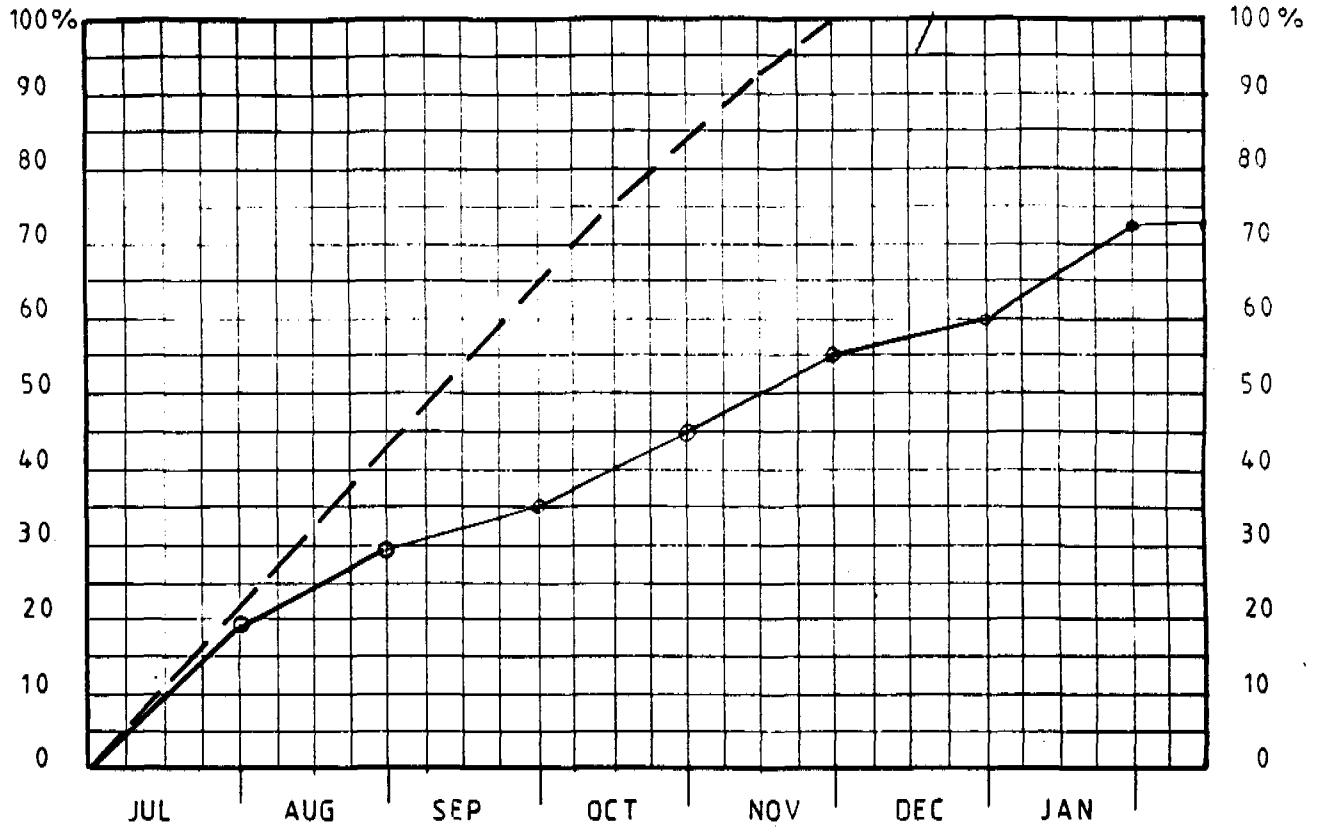


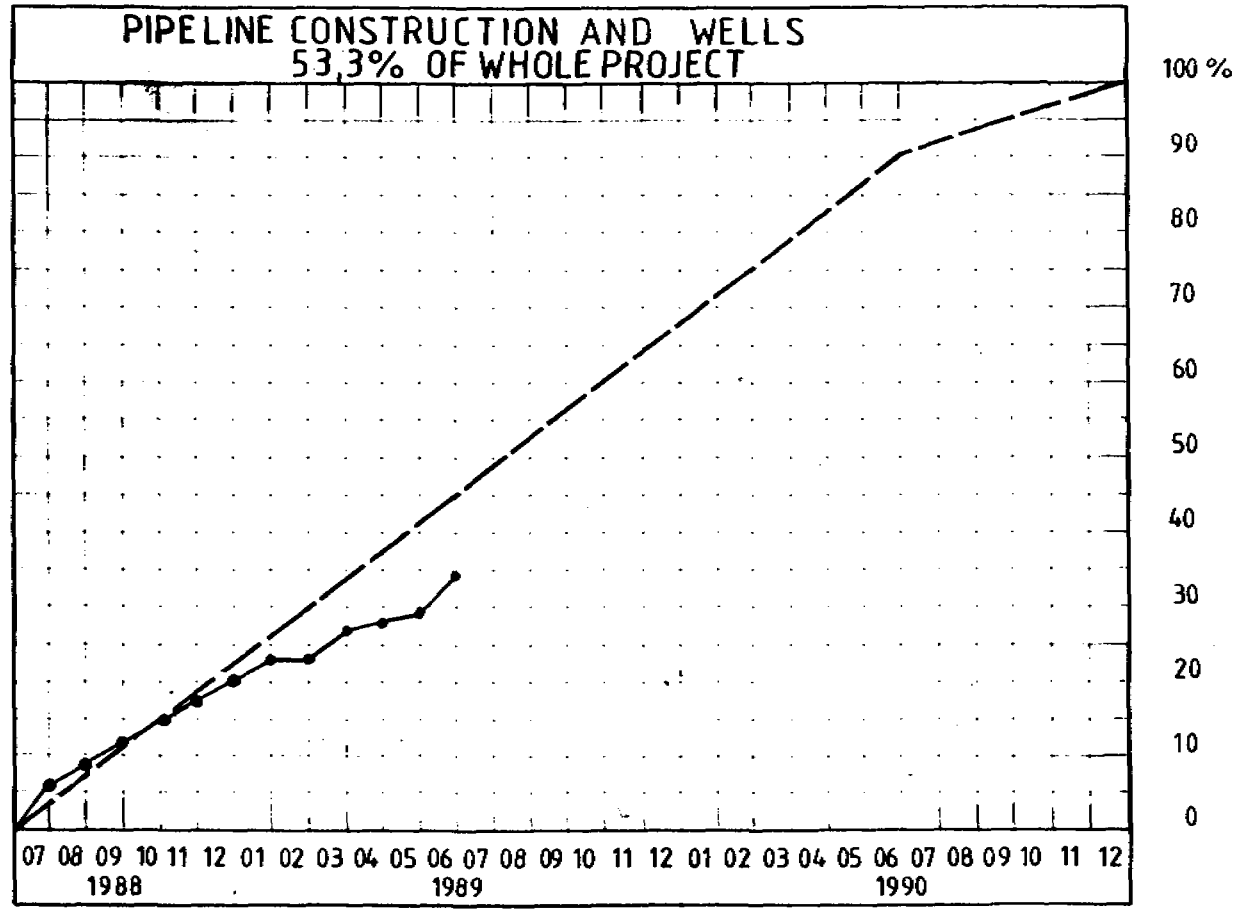
66. WATER TOWER [6%]

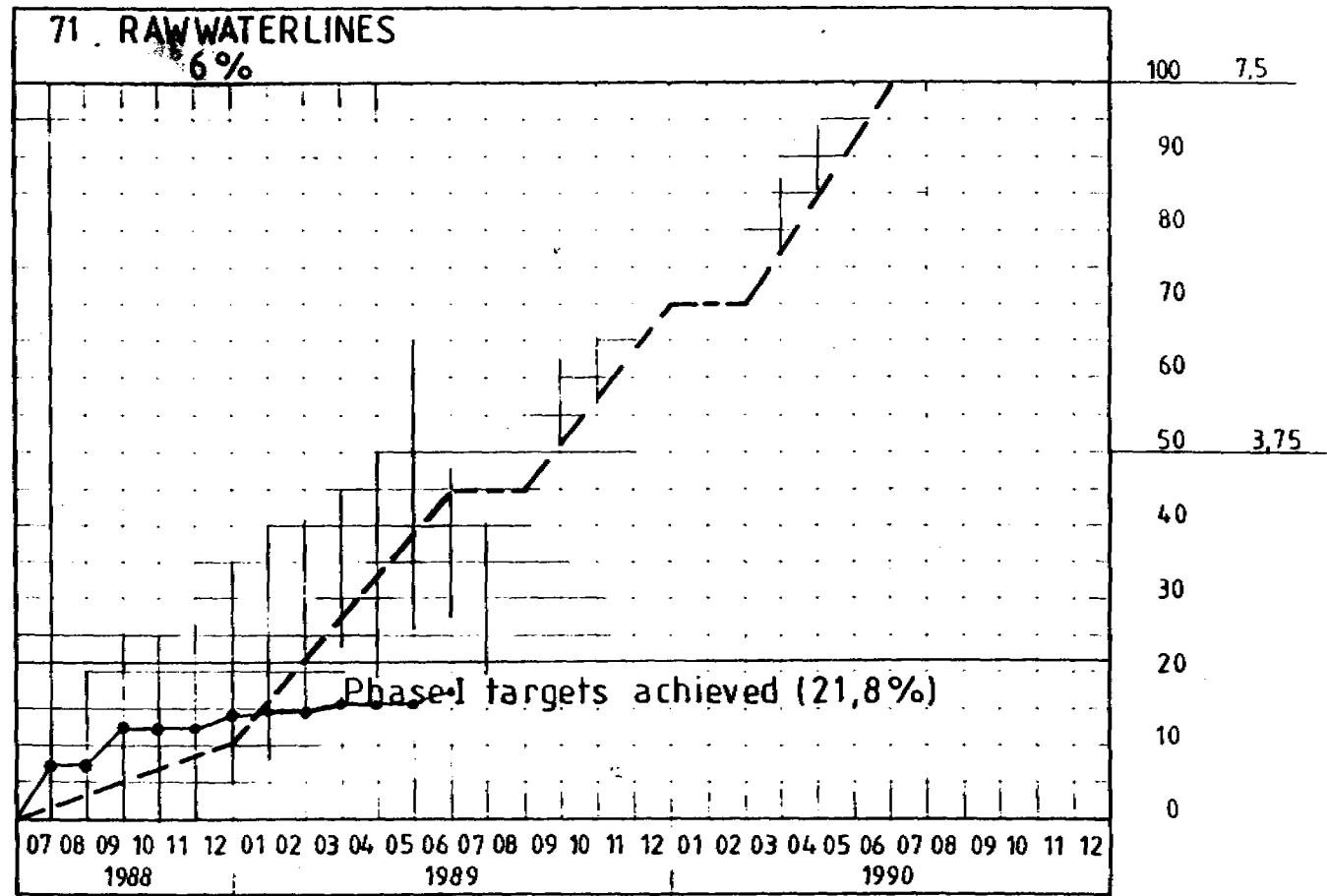
ĐÀI NƯỚC

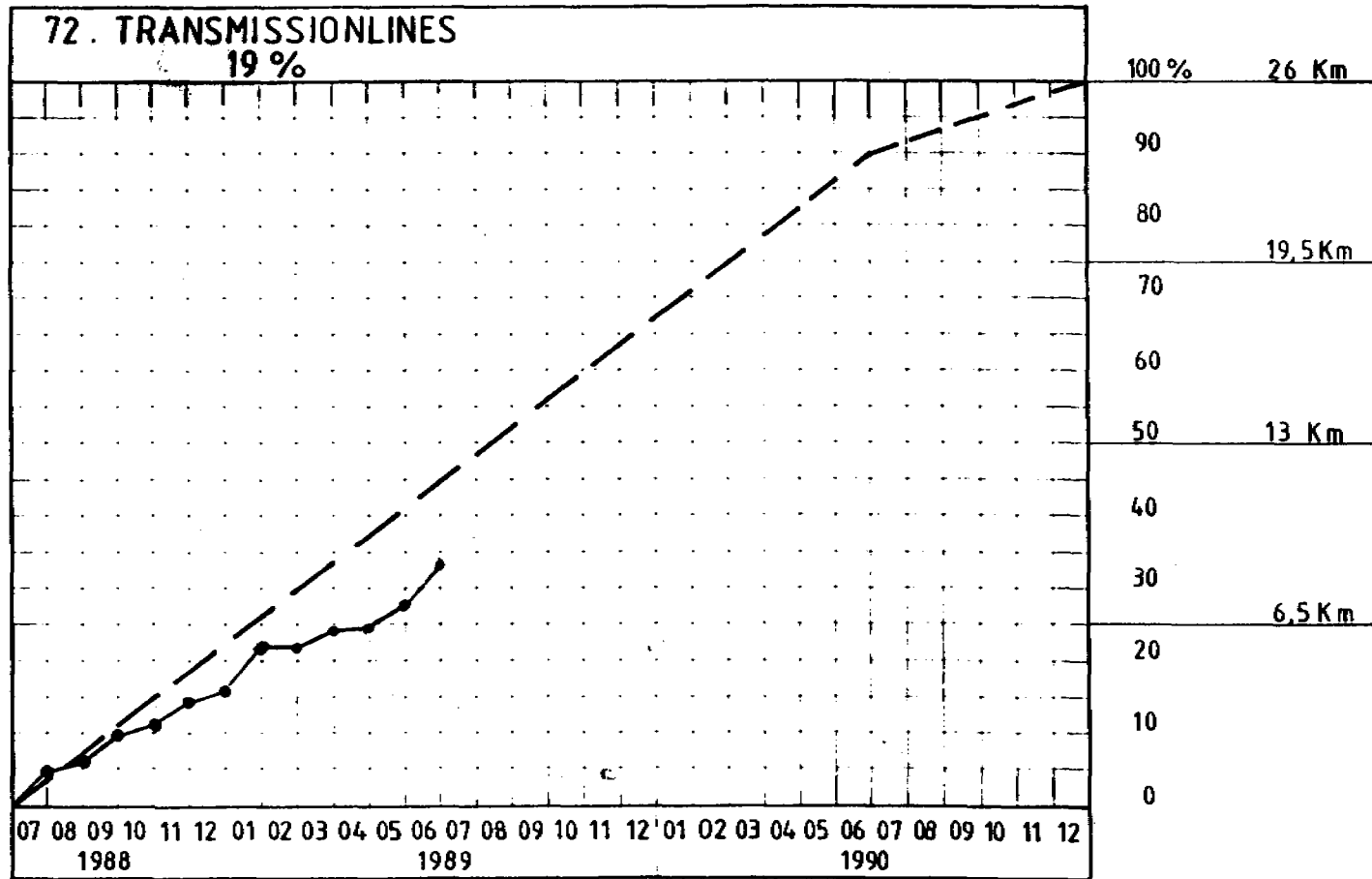


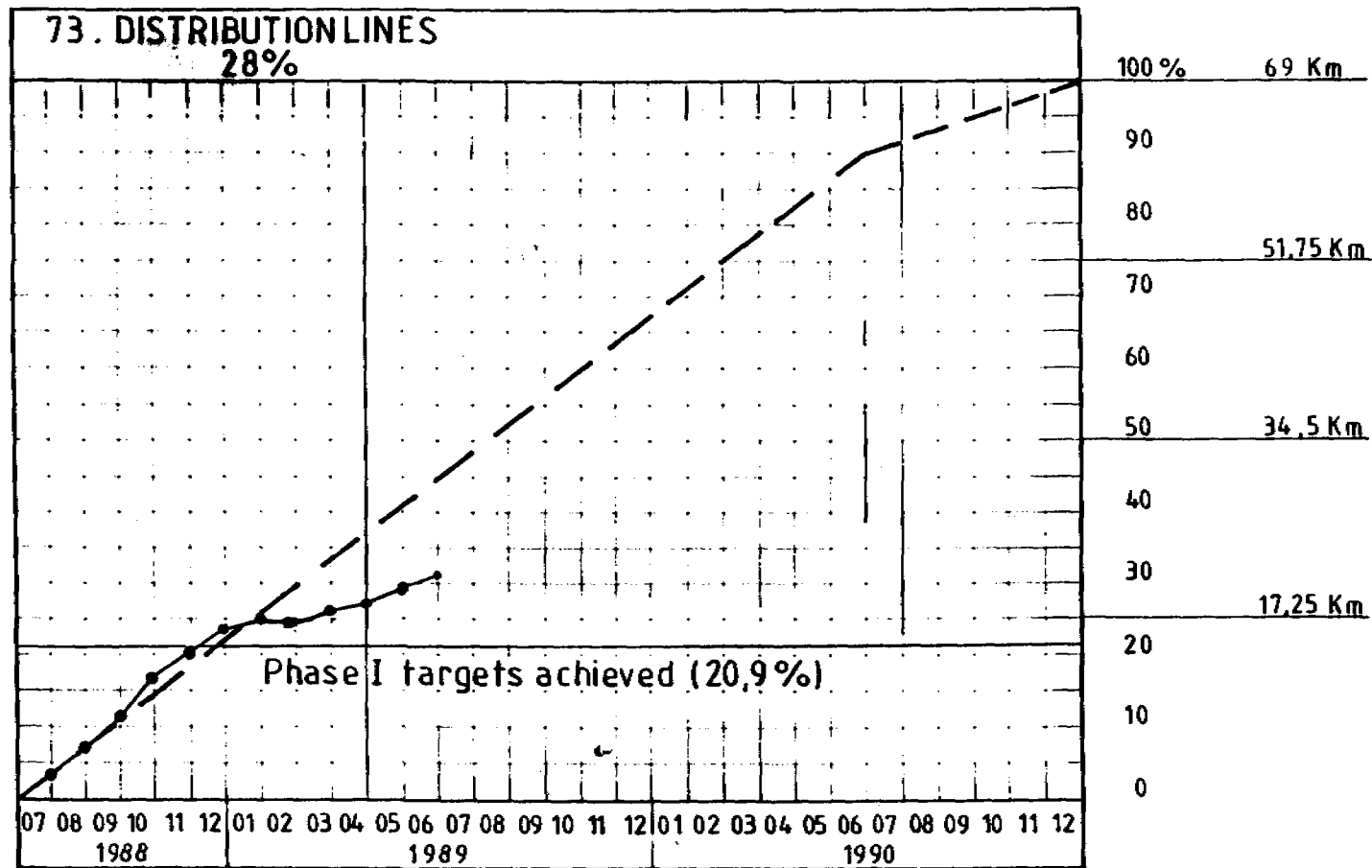
YÊN PHỤ (Phase 1) 2%

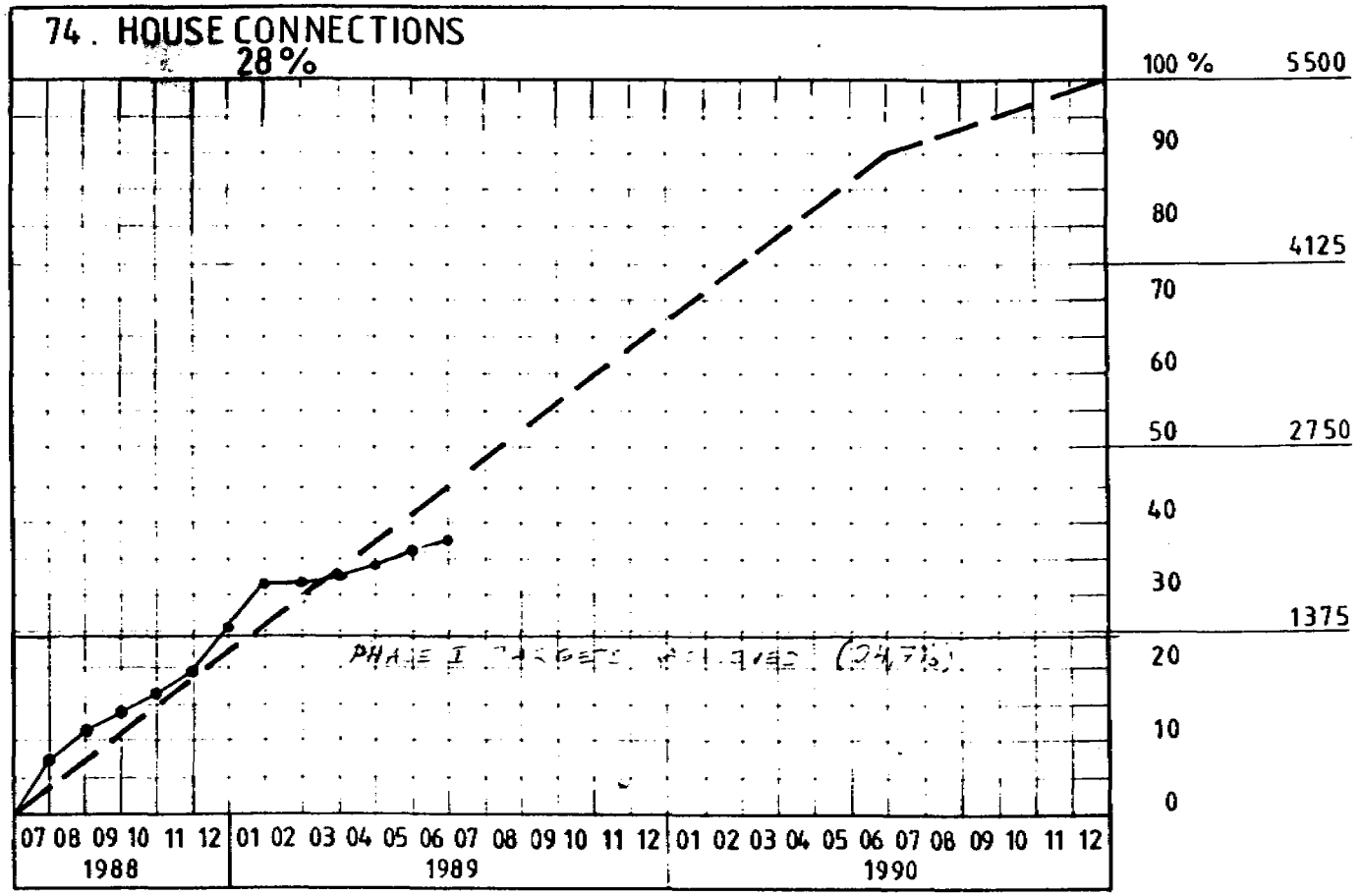


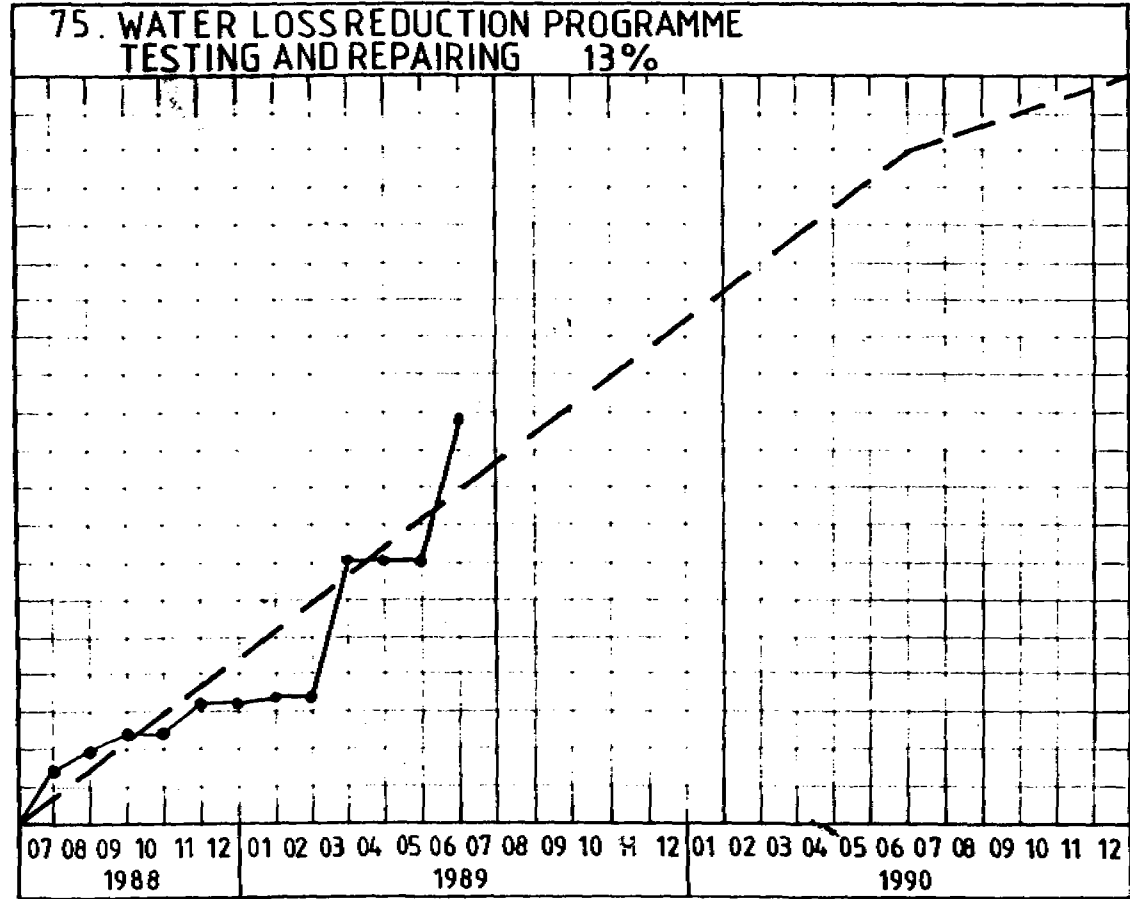










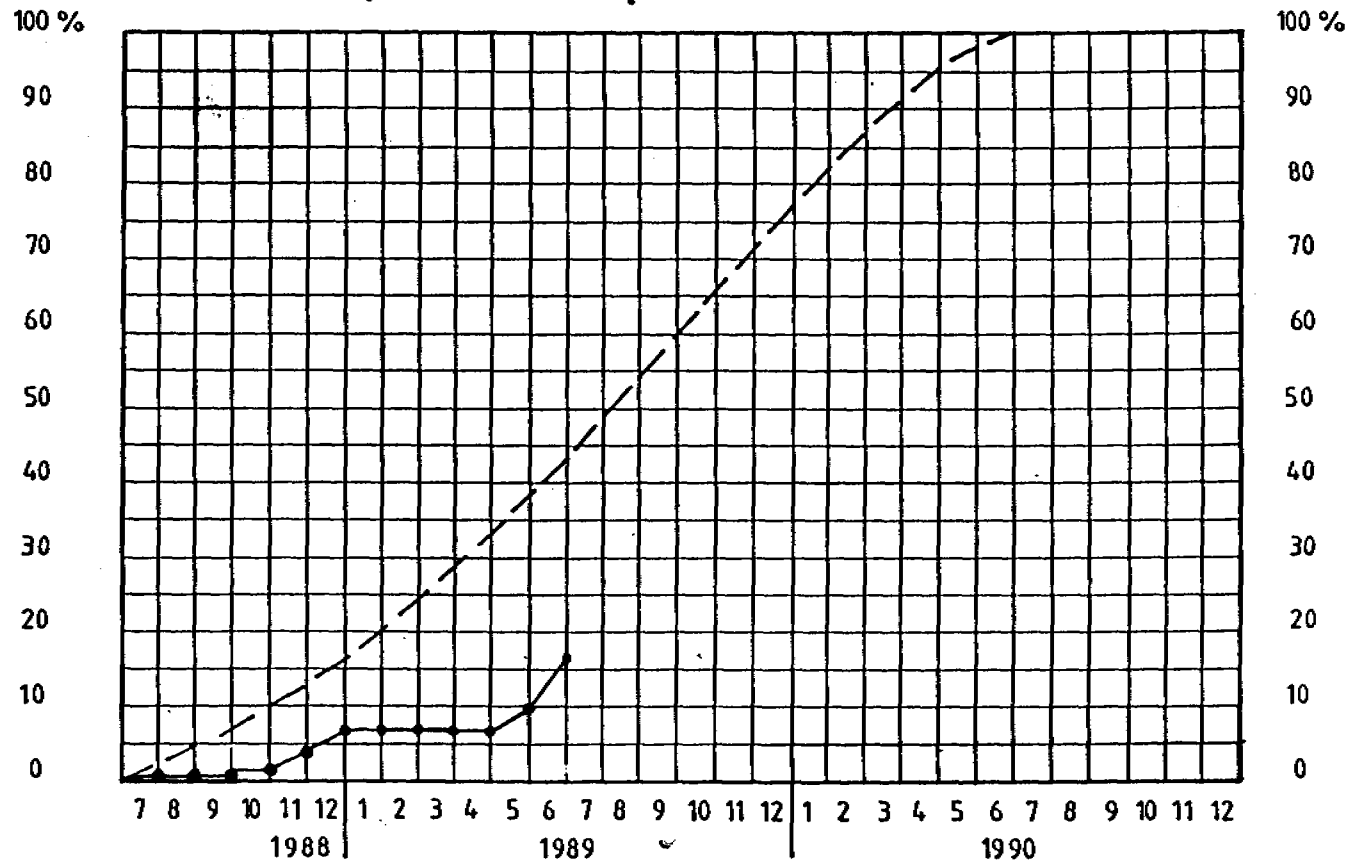


100 % 12 Km
 90
 80 9 Km
 70
 60
 50 6 Km
 40
 30 3 Km
 20
 10
 0

07 08 09 10 11 12 | 01 02 03 04 05 06 07 08 09 10 11 12 | 01 02 03 04 05 06 07 08 09 10 11 12
 1988 1989 1990

68. WELL CONSTRUCTION AND RENOVATION [6%]

! CẢI TẠO VÀ XÂY DỰNG GIẾNG



HANOI WATER SUPPLY PROJECT
FINNISH EXPERTS

MANMONTHS USE FOR COMPLETION
OF PHASE I 1.7.1988 - 30.6.1989

1. WATER PLANT SECTION

	Sub-total		Total
	1.7.-31.12.1988	1.1.-30.6.1989	30.6.1989
1.1 Markku Kuokkanen	4.0	0.0	4.0 months
1.2 Jukka Taipalus	2.0	0.0	2.0
1.3 Rainer Laja	1.75	3.0	4.75
1.4 Heikki Haikala	4.5	4.5	9.0
1.5 Pekka Suurmunne	5.0	5.0	10.0
1.6 Jani Ollinmaa	6.0	5.0	11.0
1.7 Matti Jokinen	4.0	3.0	7.0
1.8 Voitto Ikonen	5.5	0.0	5.5
1.9 Tapani Heininen	6.0	5.0	11.0
1.10 Tarmo Karihtala	6.0	4.5	10.5
1.11 Henry Joffel	2.0	0.0	2.0
1.12 Jarmo Larkio	1.5	4.5	6.0
1.13 Antti Kuronen	0.75	5.5	6.25

2. PIPELINE AND WELL SECTION

2.1 Vesa Lentonen	3.0	3.0	6.0 months
2.2 Hannu Mellin (distr.lines, h/cs)	5.0	5.0	10.0
2.3 Reino Rintala (raw water lines)	2.0	2.0	4.0
2.4 Antti Nykänen	5.0	5.0	10.0
2.5 Juha-Veli Lindberg	5.0	2.5	7.5

3. GRAND TOTAL

126.5 months

SEAFREIGHTS:

ITEM	SHIPMENT	CODE	ARRIVED	TONS	M3
1985					
1	LILO HERRMANN	1	850925	105	133
2	WILHELM FLORIN	2	851110	119	274
3	ORIENTAL CARRIER	-	851110	9	35
4	COTTBUSS	3	851215	186	738
5	HEINZ CAPELLE	4	851215	108	460
				TOTAL	1638
1986					
6	FORTUNE FREIGHTER	-	860223	10	58
7	FRANCESCO NULLO	5	860226	198	925
8	HOA PHUONG DO	-	860404	41	76
9	LILO HERRMANN	6	860419	104	132
10	HANDI 01	-	860525	0.1	2
11	MAGDEBURG	7	860603	142	216
12	MATHIAS THESEN	8	860711	31	73
13	WILHELM FLORIN	9	860809	116	373
14	HUE	-	860810	1	3
15	GEORG HANDKE	10	860917	85	200
16	DONG DO	-	860925	0.1	0.4
17	LILO HERRMANN	11	861010	397	1583
18	MEYENBURG	14	861121	159	409
19	LAI GIANG	-	861123	222	100
20	ROSTOCK	15	861204	808	2514
21	SANGERHAUSEN	12	861206	182	526
22	HEINZ KAPELLE	13	861216	481	1640
23	SINDFA	-	861220	28	46
24	SONG CAM	-	861224	0.2	0.5
				TOTAL	8876.9
1987					
25	CROW	-	870205	125	33
26	SEELNBINDER	16	870207	211	702
27	ANRO ASIA	-	870217	20	96
28	GEORG HANDKE	17	870307	29	44
29	SUNGAI SODOR	-	870310	0.5	1
30	ATKARSK	18	870318	1111	3291
31	NHA TRANG	-	870324	125	33
32	ROSTOCK	19	870422	99	146
34	NHA TRANG	-	870611	9	25
35	HONG LAM	20	870616	31	85
36	FREYBURG	21	870705	12	40
37	GRUNWALD	22	870717	983	2928
38	GEORG HANDKE	23	870808	106	273
39	RED LOTUS	-	870831	4.5	10
40	ROSTOCK	24	870906	37	80
41	NHA TRANG	-	870910	0.2	0.2
42	MEYENBURG	25	870925	37	90
43	HUE	-	871010	1.1	4.5
44	RONNEBURG	26	871101	13	19
45	ALTENBURG	27	871118	85	256
46	SOUTHERN CRUISER	-	871215	1.7	5.3
				TOTAL	8162
1988					
47	EICHSFELD	28	880105	19.8	59
48	ROSTOCK	29	880120	6.1	33

49 NGHIA BINH	-	880210	13	64
50 HUE	-	880218	51.2	10
51 KALININABAD	30	880312	1296	2809
52 HANOI 01	-	880301	0.55	3.66
53 MEYENBURG	31	880403	3.9	8.8
54 NHATRANG	-	880405	181	45
55 GEORG HANDKE	33	880331	43.3	114.5
56 NAUMBURG	33	880509	48	137
57 BOIZENBURG	34	880525	86	212.6
58 BA DINH	-	880615	60	10
59 BERNBURG	35	880618	282	711.8
60 NHA TRANG 01	-	880620	10	21.5
61 KAMATERI	36	880715	807	2165
62 NIENBURG	37	880807	77.6	227.1
63 GEORG HANDKE	38	880825	33.6	99.1
64 NHA TRANG 01	-	880905	0.2	0.5
65 HOA BINH	-	880908	0.8	3.1
66 BACH LONG	-	880913	2.8	29.9
67 ORANIENBURG	39	880918	111	301.6
68 BOIZENBURG	40	881120	54.8	123.7
69 SONG CAM	-	881010	0.07	0.02
70 NHA TRANG 01	-	881018	0.2	0.5
71 VIET BA 02	-	881105	0.12	0.6
72 HOA PHUONG DO	-	881107	0.3	1
73 URSUS	-	881113	569	110
74 MEYENBURG	41	881216	117.1	376.7
		TOTAL	3875.44	7678.68

1989.01-06

75 ROSTOCK	42	890106	43.6	103.3
76 GEORG HANDKE	43	890116	71.6	203.8
77 THANH HOA 01	-	890130	10	21.5
78 MAGDEBURG	44	890213	5.6	30
79 BLANKENBURG	45	890303	138	348.9
80 NEUBRANDENBURG	46	890414	214.8	501.5
81 QUEDLINGBURG	47	890529	190.2	505.1
82 MAGDEBURG	48	890601	224.1	587.1

TOTAL 897.9 2301.2

TOTAL 82 SHIPMENTS

GRAND TOTAL 11346.74 28656.78

HANOI WATER SUPPLY PROJECT
ALLOCATION OF PROJECT VEHICLES

APPENDIX 15

TYPE	Reg. No.	Person in charge	Kms appr. 15.6.89
OFFICE			
1. Cressida	NN-1544	E. Etelämäki	46286
TRAINING			
2. Cressida	NN-1540	M. Pulkkinen	62993
WATER PLANTS			
3. Cressida	NN-1542	R. Laja	53661
4. Hilux	NN-1588	H. Haikala	13548
5. Hilux	NN-1585	J. Ollinmaa	12046
6. Hilux	NN-1589	V. Saila	
7. Land Cruiser	NN-1541	P. Suurmunne	59487
8. Hilux	NN-1545	M. Jokinen	28734
9. Hilux	NN-1546	T. Heininen	30103
10. Hilux	NN-1548	J. Larkio	39138
11. Hilux	NN-1549	T. Karihtala	29984
NETWORK			
12. Cressida	NN-1539	A. Nykänen	44460
13. Land Cruiser	NN-1543	H. Mellin	65522
14. Hilux	NN-1535	P. Huotarinen	32712
15. Hilux	NN-1583	J. Leppänen	10558
16. Hilux	NN-1587	J. Lindberg	13896
MATERIAL SECTOR			
17. Crown	NN-1536	J. Rintamäki	60066
18. Coaster	NN-1556	J. Lehtinen	39425
19. Coaster	NN-1586	J. Lehtinen	5231
TECHNICAL AND ECONOMIC STUDIES			
20. Hilux	NN-1584	J. Piekkari	12557
RESERVE			
21. Crown	NN-1565	J. Lehtinen	94589
MB			
22. Hilux	NN-1547	Rintamäki/Thi	64410
23. Honda	2908858	Tran Hung	88323
24. Lada	29E0449	Thai Cuong	92378
25. Latvia	29E0794	Cong Tuyen	53012
26. UAZ	20-85	V. Hai	103986
27. UAZ	20-86	Luong Dinh	3550
28. Kamaz	53231 05-71	N. Cuong	
29. Kamaz	53151 NN-1570	Ngoc Son	12371
30. Kamaz	53213 05-72	Tran Duc	
31. Kamaz	53213 05-73	Tran Quyen	
32. Kamaz	53213 18-67	Duong Hoan	
33. Kamaz	53213 63-98	N. T. Cuong	2630

HANOI WATER SUPPLY PROJECT

LIST OF MACHINES AND EQUIPMENT

APPENDIX NO.16

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
HANOI WATER SUPPLY PROJECT							
LIST OF MACHINES AND EQUIPMENT							
OFFICE SUPPLIES AND GENERAL ITEMS							
1	CANON NP275 COPIER	OFFICE	1986	FAIR	1	18500	18500
2	CANON PC20 COPIER	OFFICE	1985	POOR	1	12000	12000
3	CANON PC20 COPIER	OFFICE	1986	FAIR	1	12000	12000
4	CANON PC20 COPIER	OFFICE	1987	GOOD	1	5645	5645
5	CANON 3225 COPIER	OFFICE	1988	GOOD	1	28300	28300
6	METEM 71 COPY MACHINE	OFFICE	1986	FAIR	1	10500	10500
7	CANON P1421-D CALCULATOR	OFFICE	1985	GOOD	1	1575	1575
8	CANON P1421-D CALCULATOR	OFFICE	1985	GOOD	1	1575	1575
9	UPS 250 POWER UNIT	OFFICE	1986	GOOD	1	4234	4234
10	UPS 250 POWER UNIT	OFFICE	1986	POOR	1	5600	5600
11	ICA 500 UPS POWER UNIT	OFFICE	1988	GOOD	1	6240	6240
12	ICA 500 UPS POWER UNIT	OFFICE	1988	GOOD	1	6240	6240
13	ICA 500 UPS POWER UNIT	OFFICE	1988	POOR	1	6240	6240
14	ICA 500 UPS POWER UNIT	OFFICE	1988	POOR	1	6240	6240
15	ICA 500 UPS POWER UNIT	OFFICE	1989	GOOD	1	6240	6240
16	ICA 500 UPS POWER UNIT	OFFICE	1989	GOOD	1	6240	6240
17	ICA 500 UPS POWER UNIT	OFFICE	1989	GOOD	1	6240	6240
18	ICA 500 UPS POWER UNIT	OFFICE	1989	GOOD	1	6240	6240
19	DENKI 500 UPS POWER UNIT	OFFICE	1988	POOR	1	4014	4014
20	MAUL 17850 SCALE	OFFICE	1987	GOOD	1	1500	1500
21	SUPERSTAR 640K COMPUTER	OFFICE	1986	GOOD	1	7119	7119
22	SUPERSTAR 640K COMPUTER	OFFICE	1986	GOOD	1	7119	7119
23	MITAC MPC 160T COMPUTER	OFFICE	1988	GOOD	1	6550	6550
24	MITAC MPC 160T COMPUTER	HWSPMB	1988	GOOD	1	6550	6550
25	MITAC MPC 160T COMPUTER	OFFICE	1988	GOOD	1	6550	6550
26	MITAC MPC 160T COMPUTER	OFFICE	1988	GOOD	1	6550	6550
27	MITAC MPC 160T COMPUTER	OFFICE	1988	GOOD	1	6550	6550
28	AIT TURBO COMPUTER	OFFICE	1988	GOOD	1	9367	9367
29	EPSON FX-105 PRINTER	OFFICE	1986	GOOD	1	2990	2990
30	EPSON FX-1000 PRINTER	OFFICE	1988	GOOD	1	4530	4530
31	EPSON FX-1000 PRINTER	HWSPMB	1988	GOOD	1	2380	2380
32	PANASONIC KX-P1081 PRINTER	OFFICE	1988	GOOD	1	765	765
33	PANASONIC KX-P1081 PRINTER	OFFICE	1988	GOOD	1	765	765
34	PANASONIC KX-P1081 PRINTER	OFFICE	1988	GOOD	1	765	765
35	PANASONIC KX-P1081 PRINTER	OFFICE	1988	GOOD	1	765	765
36	NAKAJIMA AP-650 PRINTER	OFFICE	1986	POOR	1	1495	1495
37	BROTHER TC-600 TYPEWRITER	OFFICE	1985	GOOD	1	2422	2422
38	BROTHER TC-600 TYPEWRITER	OFFICE	1986	GOOD	1	2422	2422
39	TRIUMPH 300/33 TYPEWRITER	MANAGEMENT BOARD	1985	FAIR	1	966	966
40	ROBOTRON TYPEWRITER	MANAGEMENT BOARD	1985	FAIR	1	969	969

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
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HANOI WATER SUPPLY PROJECT

LIST OF MACHINES AND EQUIPMENT

41	IBM 82C TYPENRITER	MANAGEMENT BOARD	1987	GOOD	1	2071	2071
42	TELEX MACHINE T-130	OFFICE	1987	FAIR	1	2400	2400
43	SKH-9S VOLTAGE STABILIZER	EL-STORE	1985	POOR	1	11070	11070
44	SVC-2 VOLTAGE REGULATOR	WS-STORE	1985	ABOL	8	1894	0
45	SKH-9S VOLTAGE STABILIZER	OFFICE	1985	GOOD	1	11070	11070
46	SKH-9S VOLTAGE STABILIZER	OFFICE	1985	POOR	1	11070	11070
47	SKH-9S VOLTAGE STABILIZER	CAMP	1985	GOOD	1	11070	11070
48	ADVANCE STABILIZATOR 6T 5000H	OFFICE	1989	GOOD	1	9735	9735
49	ADVANCE STABILIZATOR 6T 5000H	CAMP	1989	GOOD	1	9735	9735
50	DIAVOX TELEPHONE	OFFICE	1985	GOOD	1	553	553
51	DIAVOX TELEPHONE	CAMP	1987	GOOD	1	633	633
52	DIAVOX TELEPHONE	EL-STORE	1987	GOOD	1	633	633
53	DIAVOX TELEPHONE	EL-STORE	1987	POOR	1	633	633
54	DIAVOX TELEPHONE	OFFICE	1987	GOOD	1	633	633
55	MOCOMA 27 SW-RADIO	YME-GROUP	1988	GOOD	1	1240	1240
56	MOCOMA 27 SW-RADIO	YME-GROUP	1988	GOOD	1	1240	1240
57	MOCOMA 27 SW-RADIO	YME-GROUP	1988	GOOD	1	1240	1240
58	MOCOMA 27 SW-RADIO	YME-GROUP	1988	GOOD	1	1240	1240
59	MOCOMA 27 SW-RADIO	YME-GROUP	1988	GOOD	1	1240	1240
60	MOCOMA 27 SW-RADIO	YME-GROUP	1988	GOOD	1	1240	1240
61	MOCOMA 27 SW-RADIO	YME-GROUP	1988	GOOD	1	1240	1240
62	MOCOMA 27 SW-RADIO	YME-GROUP	1988	GOOD	1	1240	1240
63	MOCOMA 27 SW-RADIO	YME-GROUP	1988	GOOD	1	1240	1240
64	MOCOMA 9 SW-HAND RADIO	YME-GROUP	1988	GOOD	1	1473	1473
65	MOCOMA 9 SW-HAND RADIO	YME-GROUP	1988	GOOD	1	1473	1473
66	MOCOMA 9 SW-HAND RADIO	YME-GROUP	1988	GOOD	1	1473	1473
67	MOCOMA 9 SW-HAND RADIO	YME-GROUP	1988	GOOD	1	1473	1473
68	MOCOMA 9 SW-HAND RADIO	YME-GROUP	1988	GOOD	1	1473	1473
69	SLD 1000 INTERCOM CENTRAL	OFFICE	1988	GOOD	1	8175	8175
70	SL 1001 DESK STATION	OFFICE	1988	GOOD	20	493	9860
71	SONY M-100B CASSETTE RECORDER	OFFICE	1988	GOOD	5	961	4805
72	GENERAL 22" TV-SET	MANAGEMENT BOARD	1988	GOOD	1	3520	3520
73	SHARP VIDEO SET	MANAGEMENT BOARD	1988	GOOD	1	2816	2816
74	KASO KK-230 SAFETY BOX	OFFICE	1985	GOOD	1	8607	8607
75	DAIWA GS-115 SAFETY BOX	MANAGEMENT BOARD	1985	GOOD	1	6872	6872
76	KARDEX BOX PFC-8616	WORKSHOP	1985	GOOD	1	5865	5865
77	KARDEX BOX PFC-8616	WORKSHOP	1985	GOOD	1	5865	5865
78	KARDEX BOX PFC-8616	WORKSHOP	1985	GOOD	1	5865	5865
79	KARDEX BOX PFC-8616	MANAGEMENT BOARD	1985	GOOD	1	5865	5865
80	KEY CABINET SD-100	OFFICE	1986	GOOD	1	558	558
81	KEY CABINET SD-100	WORKSHOP	1986	GOOD	1	558	558
82	HANGING FILE CABINET	OFFICE	1986	GOOD	4	1365	5460
83	FILE CABINET	OFFICE	1985	GOOD	1	1795	1795
84	NAIKI STORAGE CABINET	MANAGEMENT BOARD	1985	FAIR	1	817	817
85	OKAMURA FILING CABINET	MANAGEMENT BOARD	1985	FAIR	4	1086	4344
86	STEEL CUPBOARDS	NAI DICH STORE	1989	GOOD	7	1120	7840
87	DRAWING CABINET MEKA 10	OFFICE	1985	GOOD	1	2960	2960
88	DRAWING CABINET 5552-10700	OFFICE	1988	GOOD	1	3180	3180
89	DRAWING CABINET 5552-10700	OFFICE	1988	GOOD	1	3180	3180
90	WULF PILLAR DRAWING TABLE	OFFICE	1985	GOOD	1	3660	3660
91	MUTOH LM/PS TRACK MACHINE	OFFICE	1985	GOOD	1	4080	4080
92	VIDILUX 158L DRAWING LAMP	OFFICE	1985	GOOD	1	1190	1190
93	TEMPOLUX DRAWING TABLE	OFFICE	1988	GOOD	4	3950	15800
94	DRAWING MASHINE MUTOH LM/PS	OFFICE	1988	GOOD	4	4890	19560
95	DRAWING LAMP VIDILUX 158L	OFFICE	1988	GOOD	4	1390	5560
96	SH 150 PAPER CUTTER	OFFICE	1986	GOOD	1	2545	2545

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
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HANDI WATER SUPPLY PROJECT

LIST OF MACHINES AND EQUIPMENT

97	HANSA 120 PAPER CUTTER	OFFICE	1985	GOOD	1	1554	1554
98	IBICO COMBORELLA BINDER	OFFICE	1986	GOOD	1	2234	2234
99	WULFF M3 FLIP CHART	OFFICE	1986	GOOD	1	555	555
100	WULFF M3 FLIP CHART	CAMP	1986	GOOD	1	555	555
101	LIESEGANG 615 PROJECTOR	OFFICE	1987	GOOD	1	4700	4700
102	POLAROID SRL 680 CAMERA	OFFICE	1986	FAIR	1	2500	2500
103	POLAROID 645 CL CAMERA	OFFICE	1987	GOOD	1	1200	1200
104	HAFF 317 PLANIMETER	OFFICE	1985	GOOD	1	1277	1277
105	KLIPPO LAWN MOVER	CAMP	1986	GOOD	1	1767	1767
106	WIND SPEED METER 30A	CAMP	1987	GOOD	1	2997	2997
107	6A-52B METAL DETECTOR	OFFICE	1986	GOOD	1	5216	5216
108	CT 1610 CABLE TRACER	OFFICE	1986	GOOD	1	7569	7569
109	ROLLFIX M2 MEASUR WHEEL	NSL-STORE	1986	GOOD	1	978	978
110	BAUKNECHT MINIKITCHEN	OFFICE	1985	FAIR	1	2820	2820
111	CASSANI 43A FLOOR GRINDER	WS-STORE	1986	GOOD	1	16000	16000
112	FILTER PILOT PLANT	DCWSSS	1986	GOOD	1	9535	9535
113	MERCEDES VACUUM CLEANER	CAMP	1986	GOOD	1	2468	2468
114	MERCEDES VACUUM CLEANER	WORKSHOP	1986	GOOD	1	1860	1860
115	MERCEDES VACUUM CLEANER	OFFICE	1986	GOOD	1	1860	1860

TOOLS AND ACCESSORIES

116	BAHCO R/O SPANNER SET		1987	SCRAPPED	1	1380	0
117	BAHCO R/O SPANNER SET		1987	SCRAPPED	1	1380	0
118	BAHCO R/O SPANNER SET		1987	SCRAPPED	1	1380	0
119	BAHCO R/O SPANNER SET		1987	SCRAPPED	1	1380	0
120	BAHCO R/O SPANNER SET		1987	SCRAPPED	1	1380	0
121	BAHCO SOCKET SET 369210	MD NICO	1987	GOOD	1	2163	2163
122	BAHCO SOCKET SET 369210	WS-STORE	1987	GOOD	1	2163	2163
123	BAHCO SOCKET SET 369210		1987	SCRAPPED	1	2163	0
124	BAHCO SOCKET SET 369210		1987	SCRAPPED	1	2163	0
125	BAHCO SOCKET SET 369310		1987	SCRAPPED	1	2163	0
126	BAHCO SOCKET SET 369310		1987	SCRAPPED	1	2163	0
127	BAHCO SOCKET SET 369310		1987	SCRAPPED	1	1271	0
128	BAHCO SOCKET SET 369310		1987	SCRAPPED	1	1271	0
129	BAHCO SOCKET SET 369505	WS-STORE	1987	GOOD	1	953	953
130	BAHCO SOCKET SET 369505	WATERPLANTS	1987	FAIR	1	953	953
131	BAHCO SOCKET SET 10-34MM	EL-STORE	1988	GOOD	1	661	661
132	TOOL PORT SET SERIE B	EL.MECH.WS	1989	GOOD	1	1742	1742
133	TOOL PORT SET SERIE AM	EL.MECH.WS	1989	GOOD	1	1185	1185
134	UNISIX TOOL HOLDER SET 2-800	EL.MECH.WS	1989	GOOD	1	3530	3530
135	UNISIX TOOL HOLDER SET 1-800	EL.MECH.WS	1989	GOOD	1	2915	2915
136	TOOL CABINET 6WS TH2K+LH	EL.MECH.WS	1989	GOOD	1	1170	1170
137	BETA TOOL CABINET 5500V6	EL.MECH.WS	1989	GOOD	1	5040	5040
138	BETA 4700VD MECHANICS CABINET	EL.MECH.WS	1989	GOOD	1	3185	3185
139	BETA 4700 MAINTENANCE CABINET	EL.MECH.WS	1989	GOOD	1	3239	3239
140	BELZER 1422SL-3 TOOLCABIN	WORKSHOP	1986	GOOD	2	1209	2418
141	BELZER 1937-M 3PANNER	WORKSHOP	1987	GOOD	1	903	903
142	BELZER 3365N-K-M TOOL BOX	WORKSHOP	1987	GOOD	1	3862	3862
143	BELZER 6722M SOCKET SET	WORKSHOP	1987	GOOD	1	3862	3862
144	BELZER 6722M SOCKET SET	WORKSHOP	1987	GOOD	1	3862	3862
145	BELZER 6722M SOCKET SET	WORKSHOP	1987	GOOD	1	3862	3862
146	BELZER 6722M SOCKET SET	WORKSHOP	1987	GOOD	1	3862	3862
147	BELZER 6722M SOCKET SET	WORKSHOP	1987	GOOD	1	566	566

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
HANOI WATER SUPPLY PROJECT							
LIST OF MACHINES AND EQUIPMENT							
148	BELZER 713 THREADER SET	WORKSHOP	1986	FAIR	1	2632	2632
149	BELZER 7435M SOCKET SET	WORKSHOP	1986	GOOD	1	878	878
150	BELZER 7435M SOCKET SET	WORKSHOP	1987	GOOD	1	878	878
151	BELZER 7880M-M SOCKET SET	WORKSHOP	1986	FAIR	3	1319	3957
152	BELZER 7880M-M SOCKET SET	WORKSHOP	1987	GOOD	1	1319	1319
153	BELZER 7880M-M SOCKET SET	WS-STORE	1987	GOOD	1	1319	1319
154	BELZER 9550 RATCHET	WORKSHOP	1986	FAIR	1	789	789
155	BOLT CUTTING PLIERS 999A2	MD CONSTR. CNTR.	1987	DAMAGED	1	789	789
156	BOLT CUTTING PLIERS 999A2	WS-STORE	1987	GOOD	1	687	687
157	BOLT CUTTING PLIERS 999A2	WS-STORE	1987	GOOD	1	687	687
158	BOLT CUTTING PLIERS 999A2	WS-STORE	1987	GOOD	1	687	687
159	BOLT CUTTING PLIERS 999A2	WS-STORE	1987	GOOD	1	687	687
160	COMET K-130 SANDBLASTER	WS-STORE	1986	GOOD	1	10000	10000
161	COMET K-30 SAND BLASTER	WORKSHOP	1986	GOOD	1	5000	5000
162	COMET K-30 SAND BLASTER	WS-STORE	1986	GOOD	1	5000	5000
163	COMPIMETER 400-H-20	WS-STORE	1986	GOOD	1	756	756
164	COMPIMETER 400-H-20	WS-STORE	1986	GOOD	1	756	756
165	CORGI TYRE CHANGER	WORKSHOP	1986	GOOD	1	7392	7392
166	DIESEL COMPRESSION TESTER	WORKSHOP	1986	GOOD	1	1084	1084
167	DIESEL INJECTOR TESTER	WORKSHOP	1986	GOOD	1	1344	1344
168	MINITUNE TESTER 502	WORKSHOP	1986	GOOD	1	0	0
169	MINITUNE TESTER 511	WORKSHOP	1986	GOOD	1	0	0
170	TESTO LIGHT TESTER	WORKSHOP	1986	GOOD	1	0	0
171	CINCRD TIMING TESTER	WORKSHOP	1986	GOOD	1	0	0
172	CRYPTON BATTERY CHARGER	WORKSHOP	1986	GOOD	1	0	0
173	WULCAN BATTERY CHARGER	WORKSHOP	1986	GOOD	1	0	0
174	ELECTRIC SHARPENER	WORKSHOP	1986	GOOD	1	620	620
175	FACOM 41JE22 WENCH SET	WORKSHOP	1985	POOR	5	822	4110
176	FACOM S313N TORQUE WRENCH	WORKSHOP	1985	GOOD	1	714	714
177	FACOM SOCKET SET	WORKSHOP	1986	FAIR	2	622	1244
178	FACOM SPANNER SET	WORKSHOP	1986	FAIR	4	642	2568
179	FACOM TOOLSET 2052 M81	WORKSHOP	1986	FAIR	1	2466	12330
180	FACOM TOOLSET 2052 M81	WORKSHOP	1986	FAIR	1	2466	2466
181	FACOM TOOLSET 2052 M81	WORKSHOP	1986	GOOD	1	2466	2466
182	FACOM TOOLSET 2052 M81	CAMP	1986	GOOD	1	2466	2466
183	FACOM TOOLSET 2052 M81	WS-STORE	1986	GOOD	1	2466	2466
184	FIELD MECH. SET 2200 VG&CADDY	EL. MECH. WS	1989	GOOD	1	5207	5207
185	FIELD MECHANIC'S SET 2200VG	EL. MECH. WS	1989	GOOD	10	4780	47800
186	FAMUP DRILLING MACHINE	WORKSHOP	1987	GOOD	1	29316	29316
187	RAG 16/18 DRILLING MACHINE	EL. MECH. WS	1989	GOOD	1	4389	4389
188	FIXING TOOL SET FOR DRILL	WORKSHOP	1986	GOOD	1	1200	1200
189	FREDN INDICATOR L-780	WORKSHOP	1987	GOOD	1	1119	1119
190	FSL85U DETACHING WEDGE	WS-STORE	1987	GOOD	1	3410	3410
191	FSL85U DETACHING WEDGE	WS-STORE	1987	GOOD	1	3410	3410
192	GEDORE 18/34 COMP. WRENCH	WORKSHOP	1986	FAIR	2	2050	4100
193	GEDORE D19TMU SOCKET SET	WORKSHOP	1986	FAIR	2	615	1230
194	GK-2 GARAGE JACK	WORKSHOP	1986	GOOD	1	731	731
195	HFL1061,5 WORK CYLINDER	WS-STORE	1987	GOOD	1	525	525
196	HFL1061,5 WORK CYLINDER	WS-STORE	1987	GOOD	1	525	525
197	HFL1061,5 WORK CYLINDER	WS-STORE	1987	GOOD	1	525	525
198	HFL561,5 WORK CYLINDER	WS-STORE	1987	GOOD	1	420	420
199	HFL561,5 WORK CYLINDER	WS-STORE	1987	GOOD	1	420	420
200	HFL561,5 WORK CYLINDER	WS-STORE	1987	GOOD	1	420	420
201	HFL561,5 WORK CYLINDER	WS-STORE	1987	GOOD	1	420	420
202	HJ2065 WORK CYLINDER	WS-STORE	1987	GOOD	1	835	835
203	HJ2065 WORK CYLINDER	WS-STORE	1987	GOOD	1	835	835

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
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HANOI WATER SUPPLY PROJECT

LIST OF MACHINES AND EQUIPMENT

204	HNC1032 HYDR. NUT BRAKER	WS-STORE	1987	GOOD	1	2411	2411
205	HNC1032 HYDR. NUT BRAKER	WS-STORE	1987	GOOD	1	2411	2411
206	HPJ11S15 WORK CYLINDER	WS-STORE	1987	GOOD	1	2277	2277
207	HPJ11S15 WORK CYLINDER	WS-STORE	1987	GOOD	1	2277	2277
208	HTJ5S12 WORK CYLINDER	WS-STORE	1987	GOOD	1	761	761
209	HTJ5S12 WORK CYLINDER	WS-STORE	1987	GOOD	1	761	761
210	IMET TL-350 METAL SAW	WORKSHOP	1986	GOOD	1	10400	10400
211	IMET TL-350 METAL SAW	EL. MECH. WS	1989	GOOD	1	11000	11000
212	HACK SAW REMOR R.240	EL. MECH. WS	1989	GOOD	1	14500	14500
213	INCA TABLE PLANE	WORKSHOP	1986	GOOD	1	6588	6588
214	KORINTH CARBURATOR TESTER	WORKSHOP	1987	GOOD	1	1145	1145
215	KORINTH VACUUM TESTER	WORKSHOP	1987	GOOD	1	1373	1373
216	KT-0 BENCH GRINDER	WORKSHOP	1985	GOOD	1	2314	2314
217	M26 VALVE GRINDER MACHINE	WORKSHOP	1986	GOOD	1	5838	5838
218	MOTO-METER FOR DIESEL	WORKSHOP	1987	GOOD	1	883	883
219	MOTO-METER FOR PETROL	WORKSHOP	1987	GOOD	1	1101	1101
220	PH 1BR/5 PLATE CUTTER	WORKSHOP	1985	GOOD	1	431	431
221	SILEX 1 DISTILLING UNIT	WORKSHOP	1986	GOOD	1	2700	2700
222	SOCKET SET 10-30MM	WORKSHOP	1986	FAIR	1	678	678
223	SOCKET SET 22-50MM	WORKSHOP	1986	FAIR	1	907	907
224	SPIRAL DRILLER D22#410	WORKSHOP	1985	POOR	2	700	1400
225	STEELBAND MACHINE JK1219	WORKSHOP	1987	GOOD	1	3276	3276
226	THURNER TAPS & DIES SET	WORKSHOP	1985	FAIR	1	1485	1485
227	WOLF8545 VALVESEAT CUTTER	WORKSHOP	1987	GOOD	1	1670	1670
228	WOLF8596 VALVESEAT CUTTER	WORKSHOP	1987	GOOD	1	2918	2918
229	DIMA 2000/160 H.P. WASHER	WORKSHOP	1986	POOR	1	4150	4150
230	DIMA 2000/160 H.P. WASHER		1986	FAIR	1	4150	4150
231	DIMA 2000/160 H.P. WASHER	WORKSHOP	1987	GOOD	1	4150	4150
232	DIMA 2400/1847 H.P. WASHER	EL. MECH. WS	1989	GOOD	2	5892	11784
233	ISTOBAL CAR LIFT	WORKSHOP	1988	GOOD	1	24021	24021
234	HYDRAULIC FREE LIFT	WORKSHOP	1988	GOOD	1	7947	7947
235	CEBORA BATTERY CHARGE	WORKSHOP	1988	GOOD	1	1532	1532
236	KARCHER WASHING MASHINE	WORKSHOP	1988	GOOD	2	2023	4046
237	MAXITUNE ENGINE TESTER	WORKSHOP	1988	GOOD	1	3078	3078
238	COMPAC JACK 1,5 TON	WORKSHOP	1988	GOOD	1	944	944
239	ELECTRIC INSTRUMENT	WORKSHOP	1988	GOOD	2	944	1888
240	HEYCO REMOVER	WORKSHOP	1988	GOOD	1	656	656
241	HEYCO REMOVER	WORKSHOP	1988	GOOD	1	1457	1457
242	HEYCO SOCKET WRENCH	WORKSHOP	1988	GOOD	3	565	1695
243	WORKSHOP BENCH GWS RTP-C	EL. MECH. WS	1989	GOOD	1	2116	2116
244	MEX LATHE TUG 40	WORKSHOP	1989	GOOD	1	60279	60279
245	MEX LATHE TUG-40	EL. MECH. WS	1989	GOOD	1	58209	58209
246	MEX LATHE TUM 35D1	EL. MECH. WS	1989	GOOD	1	51701	51701
247	MEX MILLING MACH. FU251	EL. MECH. WS	1989	GOOD	1	83650	83650
248	PRECISION WATER LEVEL 550044	EL. MECH. WS	1989	GOOD	5	1441	7205
249	PRECISION MICROMETER 0-500 MM	WATERPLANTS	1989	GOOD	1	6232	6232

AEG-TOOLS

250	AEG B-216-S DRILL MACHINE	WS-STORE	1987	GOOD	2	2455	4910
251	AEG B-216-S DRILL MACHINE	WS-STORE	1987	GOOD	1	2455	2455
252	AEG B-426-S DRILL MACHINE	MD MECH. CONTR.	1987	FAIR	1	1790	1790
253	AEG SBE420RL IMPACT DRILL	WS CARPENTER	1986	GOOD	1	301	301
254	AEG SBE420RL IMPACT DRILL	YP MECH. CONTR.	1986	FAIR	1	301	301
255	AEG SBE420RL IMPACT DRILL	WORKSHOP	1986	POOR	1	301	301
256	AEG SBE420RL IMPACT DRILL	CAMP	1986	GOOD	1	301	301

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
HANOI WATER SUPPLY PROJECT							
LIST OF MACHINES AND EQUIPMENT							
257	AEG SBE420RL IMPACT DRILL	NOT STORED	1985	ABOL	1	270	0
258	AEG SBE420RL IMPACT DRILL	NOT STORED	1985	ABOL	1	270	0
259	AEG SBE420RL IMPACT DRILL	NOT STORED	1985	ABOL	1	270	270
260	AEG SBE420RL IMPACT DRILL	NOT STORED	1986	ABOL	1	301	301
261	AEG SBE420RL IMPACT DRILL	MD CONSTR.CONTR.	1986	GOOD	1	301	301
262	AEG SB2E601 IMPACT DRILL	WS CARPENTER	1985	GOOD	1	480	480
263	AEG SB2E601 IMPACT DRILL	PV MECH.CONTR.	1985	GOOD	1	480	480
264	AEG SB2E601 IMPACT DRILL	MD MICO	1985	GOOD	1	480	480
265	AEG SB2E650 IMPACT DRILL	YP CONSTR.CONTR.	1986	FAIR	1	534	534
266	AEG SB2E650 IMPACT DRILL	YP M+E CONTR.	1986	FAIR	1	534	534
267	AEG SB2E650 IMPACT DRILL	NOT STORED	1986	ABOL	1	534	0
268	AEG SB2E650 IMPACT DRILL	NOT STORED	1986	ABOL	1	534	0
269	AEG SB2E650 IMPACT DRILL	WATERPLANTS	1989	GOOD	1	666	666
270	AEG SB2E650 IMPACT DRILL	WATERPLANTS	1989	GOOD	1	666	666
271	AEG SB2E650 IMPACT DRILL	WATERPLANTS	1989	GOOD	1	666	666
272	AEG SB2E1001 IMPACT DRILL	WS-STORE	1986	GOOD	1	766	766
273	AEG SB2E1001 IMPACT DRILL	NOT STORED	1986	ABOL	1	766	0
274	AEG SB2E1001 IMPACT DRILL	NOT STORED	1986	ABOL	1	766	0
275	AEG SB2E1001 IMPACT DRILL	NOT STORED	1986	ABOL	1	766	0
276	AEG SB2E1001 IMPACT DRILL	NOT STORED	1986	ABOL	1	941	0
277	AEG SB2E1001 IMPACT DRILL	PIPELINE NETWORKS	1989	GOOD	1	1134	1134
278	AEG SB2E1001 IMPACT DRILL	PIPELINE NETWORKS	1989	GOOD	1	1134	1134
279	AEG SB2E1001 IMPACT DRILL	EL.MECH.WS	1989	GOOD	1	1061	1061
280	AEG 2000PNEU DRILL HAMMER	WS-STORE	1985	ABOL	1	760	0
281	AEG 2000PNEU DRILL HAMMER	NOT STORED	1985	ABOL	1	760	0
282	AEG 2000PNEU DRILL HAMMER	NOT STORED	1985	ABOL	1	760	0
283	AEG 2000PNEU DRILL HAMMER	NOT STORED	1985	ABOL	1	760	0
284	AEG BSE6 SCREW AUGER	WS CARPENTER	1986	GOOD	1	860	860
285	AEG BSE6 EL-SCREW DRIVER	NOT STORED	1987	ABOL	1	752	752
286	AEG ELECTRIC SCREW DRIVER	NOT STORED	1986	ABOL	1	752	752
287	AEG ABS10 BATTERY DRILL	EL-OFFICE	1986	GOOD	1	738	738
288	AEG ABS10 BATTERY DRILL	WS CARPENTER	1986	GOOD	1	738	738
289	AEG ABS10 BATTERY DRILL	MD CONSTR.CONTR.	1986	FAIR	1	738	738
290	AEG ABS10 BATTERY DRILL	WS CARPENTER	1985	GOOD	1	738	738
291	AEG ABS10 BATTERY DRILL	EL.MECH.WS	1989	GOOD	1	860	860
292	AEG WS115 ANGLE GRINDER	WORKSHOP	1985	GOOD	1	380	380
293	AEG WS115 ANGLE GRINDER	NOT STORED	1985	ABOL	1	380	0
294	AEG WS115 ANGLE GRINDER	NOT STORED	1985	ABOL	1	433	0
295	AEG WS115 ANGLE GRINDER	NOT STORED	1985	ABOL	1	433	0
296	AEG WS115 ANGLE GRINDER	WS CARPENTER	1986	GOOD	1	602	602
297	AEG WS115 ANGLE GRINDER	MD CONSTR.CONTR.	1986	FAIR	1	602	602
298	AEG WS115 ANGLE GRINDER	PIPELINE NETWORKS	1989	GOOD	1	416	416
299	AEG WS115 ANGLE GRINDER	PIPELINE NETWORKS	1989	GOOD	1	416	416
300	AEG WS115 ANGLE GRINDER	PIPELINE NETWORKS	1989	GOOD	1	416	416
301	AEG WSA1801 ANGLE GRINDER	NSL-STORE	1986	FAIR	1	837	837
302	AEG WSA1801 ANGLE GRINDER	NOT STORED	1986	ABOL	1	837	0
303	AEG WSA2001 ANGLE GRINDER	NOT STORED	1986	ABOL	1	907	0
304	AEG WSA2001 ANGLE GRINDER	MICO-NETWORK	1986	FAIR	1	907	907
305	AEG WSA2001 ANGLE GRINDER	NOT STORED	1985	ABOL	1	690	0
306	AEG WSA2001 ANGLE GRINDER	WSSSCO-NETWORK	1985	FAIR	1	690	690
307	AEG WSA2001 ANGLE GRINDER	WSSSCO-NETWORK	1985	FAIR	1	690	690
308	AEG WSA2001 ANGLE GRINDER	NOT STORED	1985	ABOL	1	690	0
309	AEG WSA2001 ANGLE GRINDER	ICCO-NETWORK	1987	GOOD	1	1059	1059
310	AEG WSA2001 ANGLE GRINDER	MATERIAL SECTOR	1987	GOOD	1	1059	1059
311	AEG WSA2001 ANGLE GRINDER	YP CONSTR.CONTR.	1987	FAIR	1	1059	1059
312	AEG WSA2001 ANGLE GRINDER	YP CONSTR.CONTR.	1987	FAIR	1	1059	1059

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
HANDI WATER SUPPLY PROJECT							
LIST OF MACHINES AND EQUIPMENT							
313	AEG WSA2001 ANGLE GRINDER	WATERPLANTS	1987	FAIR	1	1059	1059
314	AEG WSA2001 ANGLE GRINDER	NSL HWSO	1987	GOOD	1	1059	1059
315	AEG WSA2001 ANGLE GRINDER	NOT STORED	1985	ABOL	1	690	0
316	AEG WSA2001 ANGLE GRINDER	NOT STORED	1985	ABOL	1	690	0
317	AEG WSA2001 ANGLE GRINDER	PV CONSTR.CONTR.	1987	GOOD	1	1059	1059
318	AEG WSA2001 ANGLE GRINDER	WS CARPENTER	1987	GOOD	1	1059	1059
319	AEG WSA2001 ANGLE GRINDER	MD MICO	1987	GOOD	1	1059	1059
320	AEG WSA2001 ANGLE GRINDER	MD MICO	1987	GOOD	1	1059	1059
321	AEG WSA2001 ANGLE GRINDER	PV MECH.CONTR.	1987	GOOD	1	1059	1059
322	AEG WSA2001 ANGLE GRINDER	PV MECH.CONTR.	1987	GOOD	1	1059	1059
323	AEG WSA2001 ANGLE GRINDER	VINH TUY ELEMENT	1987	GOOD	1	1059	1059
324	AEG WSA2001 ANGLE GRINDER	WORKSHOP	1987	GOOD	1	1059	1059
325	AEG WSA2001 ANGLE GRINDER	YP M+E CONTR.	1987	FAIR	1	1059	1059
326	AEG WSA2001 ANGLE GRINDER	YP M+E CONTR.	1987	FAIR	1	1059	1059
327	AEG WSA2001 ANGLE GRINDER	NOT STORED	1987	ABOL	1	1059	0
328	AEG WSA2001 ANGLE GRINDER	NOT STORED	1987	ABOL	1	1059	0
329	AEG WSA2001 ANGLE GRINDER	NOT STORED	1987	ABOL	1	1059	0
330	AEG WSA2001 ANGLE GRINDER	NOT STORED	1987	ABOL	1	1059	0
331	AEG WSA2001 ANGLE GRINDER	PIPELINE NETWORKS	1989	GOOD	1	924	924
332	AEG WSA2001 ANGLE GRINDER	PIPELINE NETWORKS	1989	GOOD	1	924	924
333	AEG WSA2001 ANGLE GRINDER	PIPELINE NETWORKS	1989	GOOD	1	924	924
334	AEG WSA2001 ANGLE GRINDER	PIPELINE NETWORKS	1989	GOOD	1	924	924
335	AEG WSA2001 ANGLE GRINDER	PIPELINE NETWORKS	1989	GOOD	1	924	924
336	AEG WSA2001 ANGLE GRINDER	WATERPLANTS	1989	GOOD	1	889	889
337	AEG WSA2001 ANGLE GRINDER	WATERPLANTS	1989	GOOD	1	889	889
338	AEG WSA2001 ANGLE GRINDER	WATERPLANTS	1989	GOOD	1	889	889
339	AEG WSE2300 ANGLE GRINDER	NOT STORED	1987	ABOL	1	2127	0
340	AEG WSE2300 ANGLE GRINDER	NOT STORED	1987	ABOL	1	2127	0
341	AEG KSS 2,5 PLATE CUTTER	WORKSHOP	1986	GOOD	1	1510	1510
342	AEG KSS 2,5 PLATE CUTTER	WORKSHOP	1987	GOOD	1	1611	1611
343	AEG HK 75 CIRCULAR SAW	NOT STORED	1986	ABOL	1	638	0
344	AEG HK 75 CIRCULAR SAW	YP CONTR.	1986	FAIR	1	638	638
345	AEG HK 75 CIRCULAR SAW	NOT STORED	1985	ABOL	1	600	0
346	AEG HK 75 CIRCULAR SAW	PV CONSTR.CONTR.	1986	GOOD	1	638	638
347	AEG HK 75 CIRCULAR SAW	WS CARPENTER	1986	GOOD	1	638	638
348	AEG HK 75 CIRCULAR SAW	WATERPLANTS	1989	GOOD	1	937	937
349	AEG HK 75 CIRCULAR SAW	WATERPLANTS	1989	GOOD	1	937	937
350	AEG HK 75 CIRCULAR SAW	WATERPLANTS	1989	GOOD	1	937	937
351	AEG FSPE 60 COMPAS SAW	WS-STORE	1986	GOOD	1	930	930
352	AEG FSPE 60 COMPAS SAW	WS-STORE	1986	GOOD	1	930	930
353	AEG FSPE 100 JIB SAW	WATERPLANTS	1989	GOOD	2	930	1860
354	AEG STSE 250 COMPAS SAW	WS CARPENTER	1986	GOOD	1	360	360
355	AEG EH 28S ELECTRIC PLANE	WORKSHOP	1986	GOOD	1	534	534
356	AEG EH 28S ELECTRIC PLANE	WORKSHOP	1986	GOOD	1	534	534
357	AEG EH 28S ELECTRIC PLANE	WATERPLANTS	1989	GOOD	1	841	841
358	METABO SBA BATTERY DRILL	EL-OFFICE	1986	GOOD	1	750	750
359	METABO SBA BATTERY DRILL	WORKSHOP	1986	GOOD	1	750	750
360	METABO SBA BATTERY DRILL	MAT. SECTOR	1989	GOOD	2	1050	2100
361	SKIL BATTERY DRILL	EL.OFFICE	1989	GOOD	3	970	2910
362	ELU MFE 80 ELECTRIC PLANE	WORKSHOP	1985	GOOD	1	612	612
363	ELU MFE 80 ELECTRIC PLANE	WORKSHOP	1986	GOOD	1	612	612

HILTI-TOOLS

364	HILTI TE12S DRILL HAMMER	MD EL-CONTR.	1986	FAIR	1	2079	2079
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ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
HANOI WATER SUPPLY PROJECT							
LIST OF MACHINES AND EQUIPMENT							
365	HILTI TE12S DRILL HAMMER	WATERPLANTS	1986	FAIR	1	2079	2079
366	HILTI TE12S DRILL HAMMER	EL-OFFICE	1986	FAIR	1	2079	2079
367	HILTI TE12S DRILL HAMMER	PV EL-CONTR.	1986	FAIR	1	2079	2079
368	HILTI TE12S DRILL HAMMER	PV CONSTR.CONTR.	1986	FAIR	1	2079	2079
369	HILTI TE12S DRILL HAMMER	PV MECH.CONTR.	1987	GOOD	1	1571	1571
370	HILTI TE12S DRILL HAMMER	YP CONSTR.CONTR.	1987	GOOD	1	1571	1571
371	HILTI TE12S DRILL HAMMER	WS CARPENTER	1987	GOOD	1	1571	1571
372	HILTI TE12S DRILL HAMMER	NSL HWSCO	1987	GOOD	1	1571	1571
373	HILTI TE12S DRILL HAMMER	WS-STORE	1986	GOOD	1	1746	1746
374	HILTI TE12S DRILL HAMMER	WS-STORE	1986	ABOL	1	1746	0
375	HILTI TE12S DRILL HAMMER	EL.-OFFICE	1989	GOOD	1	1554	1554
376	HILTI TE12S DRILL HAMMER	EL.-OFFICE	1989	GOOD	1	1554	1554
377	HILTI TE12S DRILL HAMMER	EL.-OFFICE	1989	GOOD	1	1554	1554
378	HILTI TE22 DRILL HAMMER	MD EL-CONTR.	1986	FAIR	1	2428	2428
379	HILTI TE22 DRILL HAMMER	WATERPLANTS	1986	FAIR	1	2858	2858
380	HILTI TE22 DRILL HAMMER	MD CONSTR.CONTR.	1986	FAIR	1	2858	2858
381	HILTI TE22 DRILL HAMMER	PV CONSTR.CONTR.	1986	GOOD	1	2858	2858
382	HILTI TE22 DRILL HAMMER	WS CARPENTER	1986	GOOD	1	2858	2858
383	HILTI TE22 DRILL HAMMER	UNDP CONTR.	1987	GOOD	1	2856	2856
384	HILTI TE22 DRILL HAMMER	WORKSHOP	1987	GOOD	1	2856	2856
385	HILTI TE22 DRILL HAMMER	PV M+E CONTR.	1987	FAIR	1	2856	2856
386	HILTI TE22 DRILL HAMMER	LY M+E CONTR.	1987	FAIR	1	2856	2856
387	HILTI TE22 DRILL HAMMER	YP CONSTR.CONTR.	1987	FAIR	1	3058	3058
388	HILTI TE22 DRILL HAMMER	WATERPLANTS	1987	FAIR	1	3058	3058
389	HILTI TE22 DRILL HAMMER	WATERPLANTS	1989	GOOD	1	2948	2948
390	HILTI TE22 DRILL HAMMER	WATERPLANTS	1989	GOOD	1	2948	2948
391	HILTI TE72 DRILL HAMMER	HWSCO-NETWORK	1985	POOR	1	5831	5831
392	HILTI TE72 DRILL HAMMER	MD CONSTR.CONTR.	1985	POOR	1	5831	5831
393	HILTI TE72 DRILL HAMMER	WATERPLANTS	1987	POOR	1	5831	5831
394	HILTI TE72 DRILL HAMMER	YP CONSTR.CONTR.	1986	FAIR	1	6320	6320
395	HILTI TE72 DRILL HAMMER	MD CONSTR.CONTR.	1986	POOR	1	6320	6320
396	HILTI TE72 DRILL HAMMER	MD MICO	1986	GOOD	1	5145	5145
397	HILTI TE72 DRILL HAMMER	MD MICO	1987	GOOD	1	4704	4704
398	HILTI TE72 DRILL HAMMER	WS CARPENTER	1987	GOOD	1	4704	4704
399	HILTI TE72 DRILL HAMMER	PV CONSTR.CONTR.	1987	GOOD	1	5368	5368
400	HILTI TE72 DRILL HAMMER	PV CONSTR.CONTR.	1987	GOOD	1	5368	5368
401	HILTI TE72 DRILL HAMMER	YP CONSTR.CONTR.	1987	POOR	1	5368	5368
402	HILTI TE72 DRILL HAMMER	YP CONSTR.CONTR.	1987	GOOD	1	5368	5368
403	HILTI TE72 DRILL HAMMER	WORKSHOP	1987	POOR	1	5368	5368
404	HILTI TE72 DRILL HAMMER	WORKSHOP	1985	ABOL	1	5368	0
405	HILTI TE72 DRILL HAMMER	WORKSHOP	1987	FAIR	1	5368	5368
406	HILTI TE72 DRILL HAMMER	NOT STORED	1987	ABOL	1	5368	0
407	HILTI TE72 DRILL HAMMER	EL-OFFICE	1989	GOOD	1	5540	5540
408	HILTI TE72 DRILL HAMMER	WATERPLANTS	1989	GOOD	1	5998	5998
409	HILTI TE72 DRILL HAMMER	WATERPLANTS	1989	GOOD	1	5998	5998
410	HILTI TE72 DRILL HAMMER	WATERPLANTS	1989	GOOD	1	5998	5998
411	HILTI TE72 DRILL HAMMER	WATERPLANTS	1989	GOOD	1	5998	5998

GENERATORS AND COMPRESSORS

412	YAMAHA EF5000E GENERATOR	MD CONSTR.CONTR.	1985	GOOD	1	6674	6674
413	YAMAHA EDL5500S GENERATOR	WS-STORE	1987	GOOD	1	10459	10459
414	YAMAHA EDL5500S GENERATOR	MAI DICH-STORE	1987	GOOD	1	10459	10459
415	YAMAHA EF5000 GENERATOR	HWSCO-NETWORK	1985	GOOD	1	6044	6044
416	HONDA EG3000R GENERATOR	WORKSHOP	1985	ABOL	1	4685	0

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
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HANOI WATER SUPPLY PROJECT

LIST OF MACHINES AND EQUIPMENT

417	HONDA EB3000R GENERATOR	ND CONSTR.CONTR.	1985	ABOL	1	4685	0
418	FODIO DMK/A320 GENERATOR	WORKSHOP	1986	GOOD	1	160000	160000
419	PUMA AX166C GENERATOR	WORKSHOP	1987	GOOD	1	94486	94486
420	PUMA AX166C GENERATOR	PHAP VAN	1987	GOOD	1	94486	94486
421	VALMET MSK50 GENERATOR	MAI DICH	1986	GOOD	1	81800	81800
422	VALMET MSK50 GENERATOR	WORKSHOP	1986	GOOD	1	81800	81800
423	TANROCK F18 COMPRESSOR	WORKSHOP	1986	FAIR	1	47786	47786
424	ZITAIR 285 COMPRESSOR	WORKSHOP	1986	GOOD	1	45000	45000
425	HOLMAN 700HE COMPRESSOR	WORKSHOP	1986	GOOD	1	279638	279638
426	AIR COMPR. PAN-T8-10-18	WORKSHOP	1987	GOOD	1	3360	3360
427	AIR COMPR. PAN-T8-10-18	WORKSHOP	1987	GOOD	1	3360	3360
428	AIR COMPR.CONCO T8-1F-18	WS-STORE	1987	GOOD	1	4704	4704
429	AIR COMPR.CONCO.T8-1F-18	WS-STORE	1987	GOOD	1	4704	4704
430	AIR COMPR.AC 15/170/T	ND-STORE	1988	GOOD	1	10640	10640

WELDING MACHINES AND ACCESSORIES

431	MPM 10/400 WELDING GENERATOR	EL. MECH. WS	1989	GOOD	1	45780	45780
432	ESAB 1800 WELDING MACHINE	ND CONSTR.CONTR.	1985	POOR	1	2185	2185
433	ESAB 1800 WELDING MACHINE	NOT STORED	1985	ABOL	1	2185	0
434	KEMPAK 200 WELDING MACH.	WORKSHOP	1986	POOR	1	3820	3820
435	KEMPAK 200 WELDING MACH.	WORKSHOP	1986	POOR	1	3820	3820
436	KEMPAK 200 WELDING MACH.	PV MECH.CONTR.	1987	GOOD	1	3680	3680
437	KEMPAK 200 WELDING MACH.	WORKSHOP	1987	GOOD	1	3680	3680
438	KEMPAK 200 WELDING MACH.	YP MECH. CONTR.	1987	GOOD	1	3680	3680
439	KEMPAK 200 WELDING MACH.	YP CONSTR.CONTR.	1987	GOOD	1	3680	3680
440	KEMPAK 200 WELDING MACH.	EL.MECH.WS	1989	GOOD	1	3680	3680
441	KEMPMAT 250 WELDING MACH.	WORKSHOP	1989	GOOD	1	8933	8933
442	SUPER KEMPAK WELDING MACH.	EL.MECH.WS	1989	GOOD	2	1809	3618
443	TYLARC 453 WELDING MACH.	ND MICO	1987	GOOD	1	11298	11298
444	TYLARC 453 WELDING MACH.	NSL HWSCD	1987	GOOD	1	11298	11298
445	TYLARC 453 WELDING MACH.	WATERPLANTS	1987	FAIR	1	11298	11298
446	TYLARC 453 WELDING MACH.	YP MECH. CONTR.	1987	FAIR	1	11298	11298
447	TYLARC 453 WELDING MACH.	EL.MECH.WS	1989	GOOD	1	10483	10483
448	KHE 160 WELDING MACHINE	WORKSHOP	1986	POOR	1	7644	7644
449	KHE 160 WELDING MACHINE	RCD-NETWORK	1986	FAIR	1	7644	7644
450	CADDY 160 WELDING MACHINE	WATERPLANTS	1985	GOOD	1	4300	4300
451	CADDY 160 WELDING MACHINE	WORKSHOP	1985	GOOD	1	4300	4300
452	CADDY 160 WELDING MACHINE	BH-STORE	1985	GOOD	1	4300	4300
453	KEMPMAT PS 3300 WELD.MACH.	WORKSHOP	1989	GOOD	1	16921	16921
454	ELECTRO WELDING MACHINE	HWSCD-NETWORK	1986	GOOD	1	8154	8154
455	ESA 24 EL.FUSION WELDER	HWSCD-NETWORK	1987	GOOD	1	18000	18000
456	WH280 BUTT WELDING MACH.	HWSFMB-NETWORK	1985	GOOD	1	23900	23900
457	WH400 BUTT WELDING MACH.	HWSFMB-NETWORK	1987	GOOD	1	87170	87170
458	AGA HITSI SET	WORKSHOP	1985	FAIR	1	1596	1596
459	AGA HITSI SET	WORKSHOP	1985	FAIR	1	1596	1596
460	AGA HITSI SET	BH-STORE	1985	FAIR	1	1596	1596
461	AGA HITSI SET	WS-STORE	1985	GOOD	1	1596	1596
462	AGA X11 WELDING SET	WORKSHOP	1987	GOOD	1	918	918
463	O-40 OXYGEN BOTTLE	WORKSHOP	1985	FAIR	8	250	2000
464	A-40 ACETYLEN BOTTLE	WORKSHOP	1985	FAIR	8	350	2800
465	XV GAS CYLINDER CARRIAGE	WORKSHOP	1986	GOOD	1	983	983
466	KV GAS CYLINDER CARRIAGE	WS-STORE	1986	GOOD	1	983	983
467	KV GAS CYLINDER CARRIAGE	WS-STORE	1986	GOOD	1	983	983
468	KV GAS CYLINDER CARRIAGE	WORKSHOP	1986	GOOD	1	983	983
469	ETS 260 ELECTRODE DRYER	WORKSHOP	1986	GOOD	1	6819	6819

ITEM DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
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HANOI WATER SUPPLY PROJECT

LIST OF MACHINES AND EQUIPMENT

470	ESAB PK-5 WELD. ROD DRYER	WATERPLANTS	1989	GOOD	1	2016	2016
471	ESAB PK-5 WELD. ROD DRYER	WATERPLANTS	1989	GOOD	1	2016	2016
472	ESAB PK-5 WELD. ROD DRYER	WATERPLANTS	1989	GOOD	1	2016	2016
473	EKB ELECTRODE STORE BOX	WORKSHOP	1986	GOOD	1	881	881
474	EKB ELECTRODE STORE BOX	YP M+E CONTR.	1986	GOOD	1	881	881
475	212.00 ACETYLENE MAKER	WS-STORE	1986	GOOD	1	5750	5750

LIFTING DEVICES

476	1,5TON CM640 WINCH TACKLE	RCD-NETWORK	1986	POOR	1	1818	1818
477	1,5TON CM640 WINCH TACKLE	RCD-NETWORK	1986	POOR	1	1818	1818
478	1,5TON CM640 WINCH TACKLE	YP CONSTR. CONTR.	1987	POOR	1	1724	1724
479	1,5TON CM640 WINCH TACKLE	PV CONSTR. CONTR.	1987	FAIR	1	1724	1724
480	1,5TON CM640 WINCH TACKLE	PV CONSTR. CONTR.	1987	GOOD	1	1724	1724
481	1,5TON CM640 WINCH TACKLE	NOT STORED	1987	ABOL	1	1724	0
482	1,5TON CM640 WINCH TACKLE	NOT STORED	1987	ABOL	1	1724	0
483	1,5TON CM640 WINCH TACKLE	NOT STORED	1987	ABOL	1	1724	0
484	100TON MORRIS JACKMASTER		1987	GOOD	1	9496	9496
485	100TON MORRIS JACKMASTER	BH-STORE	1987	GOOD	1	9496	9496
486	1TON CM622 HOIST TACKLE	WORKSHOP	1986	GOOD	1	580	580
487	1TON CM622 HOIST TACKLE	NOT STORED	1986	ABOL	1	580	0
488	1TON CM622 HOIST TACKLE	NOT STORED	1987	ABOL	1	718	0
489	1TON CM622 HOIST TACKLE	NOT STORED	1987	ABOL	1	718	0
490	20 TON HYDRAULIC JACK	WS-STORE	1987	GOOD	1	4110	4110
491	20 TON HYDRAULIC JACK	WS-STORE	1987	GOOD	1	4110	4110
492	3TON CM640 WINCH TACKLE	MICO-NETWORK	1986	POOR	1	2432	2432
493	3TON CM640 WINCH TACKLE	MICO-NETWORK	1986	POOR	1	2432	2432
494	3TON CM622 HOIST TACKLE	ICCO-NETWORK	1986	POOR	1	1273	1273
495	3TON CM622 HOIST TACKLE	WSSSCO-NETWORK	1986	POOR	1	1273	1273
496	3TON CM640 WINCH TACKLE	WSSSCO-NETWORK	1987	POOR	1	2306	2306
497	3TON CM640 WINCH TACKLE	WSSSCO-NETWORK	1987	POOR	1	2306	2306
498	3TON CM640 WINCH TACKLE	RCD-NETWORK	1987	POOR	1	2306	2306
499	3TON CM640 WINCH TACKLE	WS-STORE	1987	GOOD	1	2306	2306
500	3TON CM640 WINCH TACKLE	NOT STORED	1987	ABOL	1	2306	0
501	3TON CM640 WINCH TACKLE	NOT STORED	1987	ABOL	1	2306	0
502	6.5 TON HYDRAULIC JACK	WS-STORE	1986	GOOD	1	1212	1212
503	6.5 TON HYDRAULIC JACK	WS-STORE	1986	FAIR	1	1212	1212
504	750KG CM640 WINCH TACKLE	WORKSHOP	1986	ABOL	1	1345	0
505	750KG CM640 WINCH TACKLE	WORKSHOP	1986	ABOL	1	1345	0
506	750KG CM640 WINCH TACKLE	WS-STORE	1986	GOOD	1	1345	1345
507	750KG CM640 WINCH TACKLE	NOT STORED	1986	ABOL	1	1345	0
508	BETOX STORAGE WAGON	MAI DICH-STORE	1986	POOR	1	798	798
509	BETOX STORAGE WAGON	WORKSHOP	1986	FAIR	1	798	798
510	C225 SLH WIRE ROPE TACKLE	NOT STORED	1986	ABOL	1	1126	0
511	C225 SLH WIRE ROPE TACKLE	NOT STORED	1986	ABOL	1	1126	0
512	C225 SLH WIRE ROPE TACKLE	NOT STORED	1986	ABOL	1	1126	0
513	C225 SLH WIRE ROPE TACKLE	NOT STORED	1986	ABOL	1	1126	0
514	C400SLH WIRE ROPE TACKLE	NOT STORED	1987	ABOL	1	1126	0
515	C400SLH WIRE ROPE TACKLE	NOT STORED	1987	ABOL	1	1126	0
516	C400SLH WIRE ROPE TACKLE	NOT STORED	1987	ABOL	1	1126	0
517	C400SLH WIRE ROPE TACKLE	PV M+E CONTR.	1987	FAIR	1	1126	1126
518	CM1 PERMANENT MAGNET	WS-STORE	1987	GOOD	1	3946	3946
519	C-400 SLH WIRE HOIST	NOT STORED	1986	ABOL	1	1126	0
520	C-400 SLH WIRE HOIST	NOT STORED	1986	ABOL	1	1126	0

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIN	TOTAL VALUE FIN
HANOI WATER SUPPLY PROJECT							
LIST OF MACHINES AND EQUIPMENT							
521	DOF 9/32 CHAIN LINGS	NOT STORED	1985	ABOL	3	905	0
522	HFL10 61,5 WORK CYLINDER	WS-STORE	1986	GOOD	1	525	525
523	HIT 16 WIRE ROPE TACKLE	NOT STORED	1986	ABOL	1	1386	0
524	HIT 16 WIRE ROPE TACKLE	NOT STORED	1986	ABOL	1	1386	0
525	HIT 6 WIRE ROPE TACKLE	WS-STORE	1986	GOOD	1	722	722
526	HIT 6 WIRE ROPE TACKLE	WS-STORE	1986	GOOD	1	722	722
527	HI-LIFT 60 JACK	WS-STORE	1985	GOOD	4	719	2876
528	HJ100S15 WORK CYLINDER	WS-STORE	1986	GOOD	1	5227	5227
529	HJ100S15 WORK CYLINDER	WS-STORE	1987	GOOD	1	5227	5227
530	LEBUS 150 LOAD BINDER	NOT STORED	1986	ABOL	4	1235	0
531	MCK 418/115 PULLEY BLOCK	LOST	1986	GOOD	1	723	723
532	MCK 418/115 PULLEY BLOCK	NOT STORED	1986	ABOL	1	723	0
533	MCK 418/115 PULLEY BLOCK	NOT STORED	1986	ABOL	1	723	0
534	MCK 418/115 PULLEY BLOCK	LOST	1987	GOOD	1	723	723
535	MCK 418/75 PULLEY BLOCK	LOST	1986	GOOD	1	423	423
536	MCK 418/75 PULLEY BLOCK	NOT STORED	1986	ABOL	1	423	0
537	MCK 418/75 PULLEY BLOCK	NOT STORED	1986	ABOL	1	423	0
538	MCK 418/75 PULLEY BLOCK	NOT STORED	1986	ABOL	1	423	0
539	CM PULLER 640/1,5t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	1904	1904
540	CM PULLER 640/1,5t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	1904	1904
541	CM PULLER 640/1,5t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	1904	1904
542	CM PULLER 640/1,5t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	1904	1904
543	CM PULLER 640/1,5t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	1904	1904
544	CM PULLER 640/1,5t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	1904	1904
545	CM PULLER 640/1,5t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	1904	1904
546	CM PULLER 640/1,5t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	1904	1904
547	CM PULLER 640/1,5t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	1904	1904
548	CM PULLER 640/1,5t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	1904	1904
549	CM PULLER 640/3t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	2830	2830
550	CM PULLER 640/3t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	2830	2830
551	CM PULLER 640/3t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	2830	2830
552	CM PULLER 640/3t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	2830	2830
553	CM PULLER 640/3t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	2830	2830
554	CM PULLER 640/3t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	2830	2830
555	CM PULLER 640/3t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	2830	2830
556	CM PULLER 640/3t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	2830	2830
557	CM PULLER 640/3t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	2830	2830
558	CM PULLER 640/3t/1,5M	PIPELINE NETWORKS	1989	GOOD	1	2830	2830
559	PL 2500 PALLET TRUCK	WORKSHOP	1986	GOOD	1	2952	2952
560	PL 2500 PALLET TRUCK	MAI DICH-STORE	1987	GOOD	1	2735	2735
561	REFINEX 1100F LIFTER	WS-STORE	1987	GOOD	1	7910	7910
562	REFINEX 1100F LIFTER	WS-STORE	1987	GOOD	1	7910	7910
563	SM500/2885 PALLET TRUCK	MAI DICH-STORE	1986	GOOD	1	7261	7261
564	SM500/2885 PALLET TRUCK	WORKSHOP	1987	GOOD	1	8033	8033
565	SM 1350 BARREL WAGONS	WORKSHOP	1986	GOOD	1	2032	2032
566	TAIFUN CONTAINER LIFTER	WORKSHOP	1986	POOR	4	11130	44520
567	TIRFOR T508 WIRE JACK	NOT STORED	1987	ABOL	1	980	0
568	TIRFOR T508 WIRE JACK	NOT STORED	1987	ABOL	1	980	0
569	TIRFOR T508 WIRE JACK	NOT STORED	1987	ABOL	1	980	0
570	TIRFOR T508 WIRE JACK	NOT STORED	1987	ABOL	1	980	0
571	TIRFOR T508 WIRE JACK	NOT STORED	1987	ABOL	1	980	0
572	TIRFOR T508 WIRE JACK	NOT STORED	1987	ABOL	1	980	0
573	TIRFOR T516 WIRE JACK	MICO-NETWORK	1987	POOR	1	1530	1530
574	TIRFOR T516 WIRE JACK	MICO-NETWORK	1987	POOR	1	1530	1530
575	TIRFOR T516 WIRE JACK	WSSCO-NETWORK	1987	POOR	1	1530	1530
576	TIRFOR T516 WIRE JACK	WORKSHOP	1987	POOR	1	1530	1530

ITEM DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
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HANOI WATER SUPPLY PROJECT

LIST OF MACHINES AND EQUIPMENT

577	TIRFOR T516 WIRE JACK	NOT STORED	1987	ABOL	1	1530	0
578	TIRFOR T516 WIRE JACK	NOT STORED	1987	ABOL	1	1530	0
579	T-13 WIRE ROPE WINCH	NOT STORED	1985	POOR	1	1224	1224
580	T-13 WIRE ROPE WINCH	NOT STORED	1985	ABOL	1	1224	0
581	T-7 WIRE ROPE WINCH	NOT STORED	1985	POOR	1	1146	1146
582	T-13 LIFTING WIRE	NOT STORED	1985	ABOL	1	717	0

VEHICLES AND ACCESSORIES

583	KAMAZ 54112 TRUCK	MANAGEMENT BOARD	1986	GOOD	1	185000	185000
584	KAMAZ 53212 TRUCK	MANAGEMENT BOARD	1986	GOOD	1	457720	457720
585	KAMAZ 53212 TRUCK	MANAGEMENT BOARD	1986	GOOD	1	518820	518820
586	KAMAZ 53212 TRUCK	MANAGEMENT BOARD	1986	GOOD	1	448520	448520
587	KAMAZ 5315 TRUCK	MANAGEMENT BOARD	1987	GOOD	1	200000	200000
588	KAMAZ 53213 TRUCK	MANAGEMENT BOARD	1989	GOOD	1	461800	461800
589	TOYOTA COASTER BB20-MDR	MANAGEMENT BOARD	1985	GOOD	1	95675	95675
590	TOYOTA COASTER BB 21L-MDR	YME-GROUP	1988	GOOD	1	121800	121800
591	TOYOTA CROWN MS112L-SEKOS	YME-GROUP	1985	POOR	1	46000	46000
592	TOYOTA LAND-CRUISER BJ60	YME-GROUP	1985	GOOD	1	60925	60925
593	TOYOTA LAND-CRUISER BJ60	YME-GROUP	1985	GOOD	1	60925	60925
594	TOYOTA HI-LUX LN65L-MR	YME-GROUP	1985	GOOD	1	39823	39823
595	TOYOTA HI-LUX LN65L-MR	YME-GROUP	1985	GOOD	1	39823	39823
596	TOYOTA HI-LUX LN65L-MR	YME-GROUP	1985	GOOD	1	39823	39823
597	TOYOTA HI-LUX LN65L-MR	YME-GROUP	1985	GOOD	1	39823	39823
598	TOYOTA HI-LUX LN65L-MR	YME-GROUP	1985	GOOD	1	39823	39823
599	TOYOTA HI-LUX LN65L-MR	YME-GROUP	1985	GOOD	1	39823	39823
600	TOYOTA HI-LUX LN 56L-MRP	YME-GROUP	1988	GOOD	1	53340	53340
601	TOYOTA HI-LUX LN 56L-MRP	YME-GROUP	1988	GOOD	1	53340	53340
602	TOYOTA HI-LUX LN 56L-MRP	YME-GROUP	1988	GOOD	1	53340	53340
603	TOYOTA HI-LUX LN 56L-MRP	YME-GROUP	1988	GOOD	1	53340	53340
604	TOYOTA HI-LUX LN 56L-MRP	YME-GROUP	1988	GOOD	1	53340	53340
605	TOYOTA HI-LUX LN 56L-MRP	YME-GROUP	1988	GOOD	1	53340	53340
606	TOYOTA CRESSIDA RX70-LG	YME-GROUP	1985	GOOD	1	42500	42500
607	TOYOTA CRESSIDA RX70-LG	YME-GROUP	1985	GOOD	1	42500	42500
608	TOYOTA CRESSIDA RX70-LG	YME-GROUP	1985	GOOD	1	42500	42500
609	TOYOTA CRESSIDA RX70-LG	YME-GROUP	1985	GOOD	1	42500	42500
610	HONDA ACCORD EX	MANAGEMENT BOARD	1985	FAIR	1	50000	50000
611	RAF 2203 MINIBUS	MANAGEMENT BOARD	1986	POOR	1	37500	37500
612	LADA 1200L	MANAGEMENT BOARD	1986	GOOD	1	16681	16681
613	LADA 1200L	MANAGEMENT BOARD	1986	GOOD	1	16681	16681
614	UAZ-JEEP	MANAGEMENT BOARD	1987	FAIR	1	27000	27000
615	UAZ-JEEP	MANAGEMENT BOARD	1987	FAIR	1	27000	27000
616	KAUPE 2LPP90 SEMI-TRAILER	MANAGEMENT BOARD	1986	GOOD	1	108360	108360
617	KAUPE 2LPP90 SEMI-TRAILER	MANAGEMENT BOARD	1986	GOOD	1	108360	108360
618	SERIAL PLATFORM FOR KAMAZ	MANAGEMENT BOARD	1986	FAIR	6	17720	106320
619	LIQUID TANK FOR KAMAZ	MANAGEMENT BOARD	1986	GOOD	1	54500	54500
620	SAND PLATFORM FOR KAMAZ	MANAGEMENT BOARD	1986	GOOD	1	17720	17720
621	METALLIC PLATFORM	MANAGEMENT BOARD	1986	FAIR	3	25750	77250
622	C4/8X EXCAVATOR	MANAGEMENT BOARD	1986	GOOD	1	325190	325190
623	EXCAVATOR BUCKET 360 L	MANAGEMENT BOARD	1986	GOOD	1	3890	3890
624	FRONT LOADER BUCKET	MANAGEMENT BOARD	1986	GOOD	1	5140	5140
625	CABLE DITCH BUCKET	MANAGEMENT BOARD	1986	GOOD	1	3070	3070
626	FORK-LIFT FOR EXCAVATOR	MANAGEMENT BOARD	1986	GOOD	1	4660	4660

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
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HANOI WATER SUPPLY PROJECT

LIST OF MACHINES AND EQUIPMENT

627	EXCAVATOR BUCKET 255 L	MANAGEMENT BOARD	1986	GOOD	1	3430	3430
628	FORKLIFT TCM FD30Z7T	MANAGEMENT BOARD	1987	GOOD	1	66800	66800
629	FORKLIFT TCM FD20Z2S	MANAGEMENT BOARD	1989	GOOD	1	86400	86400
630	1000L FUEL TANK ON WHEELS	MANAGEMENT BOARD	1987	GOOD	1	11340	11340
631	PLATFORM COVER FOR HI-LUX	YME-GROUP	1987	GOOD	6	3930	23580
632	MONIKKO 21V BICYCLE	MANAGEMENT BOARD	1986	FAIR	14	448	448
633	MONIKKO 21V BICYCLE	YME-GROUP	1986	FAIR	6	448	448
634	PEUGEUT BICYCLE	YME-GROUP	1985	FAIR	1	791	791
635	PEUGEUT BICYCLE	STOLEN	1985	ABOL	1	791	0
636	AINO NIVA BICYCLE	MANAGEMENT BOARD	1986	FAIR	10	493	493
637	AINO NIVA BICYCLE	YME-GROUP	1986	FAIR	10	493	493

PIPING TOOLS

638	BELZER 177 PIPE WRENCH	WS-STORE	1987	GOOD	1	632	632
639	BELZER 177 PIPE WRENCH	WS-STORE	1987	GOOD	1	632	632
640	MANUAL PIPE DRILLER 309	HWSCO-NETWORK	1985	GOOD	1	996	996
641	MANUAL PIPE DRILLER 309	HWSCO-NETWORK	1987	GOOD	1	1153	1153
642	MANUAL PIPE DRILLER 309	HWSCO-NETWORK	1987	GOOD	1	1153	1153
643	MANUAL PIPE DRILLER 309	RCO-NETWORK	1987	GOOD	1	1153	1153
644	MANUAL PIPE DRILLER 309	DHCCO-NETWORK	1987	GOOD	1	1153	1153
645	MANUAL PIPE DRILLER 309	DHCCO-NETWORK	1987	GOOD	1	1153	1153
646	MANUAL PIPE DRILLER 309	WS-STORE	1987	GOOD	1	1153	1153
647	MANUAL PIPE DRILLER 309	NETWORK STORE	1987	GOOD	1	1153	1153
648	MEKANO 450 GASKET CUTTER	NETWORK STORE	1988	GOOD	1	457	457
649	MEKANO 450 GASKET CUTTER	WS STORE	1988	GOOD	1	457	457
650	MEKANO 750 GASKET CUTTER	WS STORE	1988	GOOD	1	2834	2834
651	PIPE CENTERING DEVICE 231	WS-STORE	1987	GOOD	1	2520	2520
652	PIPE CENTERING DEVICE 231	WS-STORE	1987	GOOD	1	2520	2520
653	PIPE CENTERING DEVICE 231	WS-STORE	1987	GOOD	1	2520	2520
654	PIPE CENTERING DEVICE 231	NOT STORED	1987	ABOL	1	2520	0
655	PIPE CENTERING DEVICE 232	WS-STORE	1987	GOOD	1	5124	5124
656	PIPE CENTERING DEVICE 233	WS-STORE	1986	GOOD	1	10125	10125
657	PIPE CENTERING DEVICE 244	NOT STORED	1986	ABOL	1	533	0
658	PIPE CENTERING DEVICE 244	NOT STORED	1986	ABOL	1	533	0
659	PIPE CENTERING DEVICE 244	NOT STORED	1986	ABOL	1	533	0
660	PIPE CENTERING DEVICE 244	NOT STORED	1986	ABOL	1	533	0
661	PIPE CENTERING DEVICE 246	NOT STORED	1986	ABOL	1	417	0
662	PIPE CENTERING DEVICE 246	NOT STORED	1986	ABOL	1	417	0
663	PIPE CENTERING DEVICE 250	WS-STORE	1986	GOOD	1	3055	3055
664	PIPE CENTERING DEVICE 250	NOT STORED	1986	ABOL	1	3055	0
665	PIPE CUTTER 2-A RIDGID	NSL-STORE	1987	GOOD	1	402	402
666	PIPE CUTTER 2-A RIDGID	HWSCO-NETWORK	1987	GOOD	1	402	402
667	PIPE CUTTER 2-A RIDGID	RCO-NETWORK	1987	GOOD	1	402	402
668	PIPE CUTTER 2-A RIDGID	DHCCO-NETWORK	1987	GOOD	1	402	402
669	PIPE CUTTER 2-A RIDGID	WS-STORE	1987	GOOD	1	402	402
670	PIPE CUTTER 2-A RIDGID	WS-STORE	1987	GOOD	1	402	402
671	PIPE CUTTER 2-A RIDGID	WS-STORE	1987	GOOD	1	402	402
672	PIPE CUTTER 2-A RIDGID	WS-STORE	1987	GOOD	1	402	402
673	PIPE CUTTER 2-A RIDGID	WS-STORE	1987	GOOD	1	402	402
674	PIPE CUTTER 3-S RIDGID	WS-STORE	1987	GOOD	1	793	793
675	PIPE CUTTER 3-S RIDGID	WS-STORE	1987	GOOD	1	793	793
676	PIPE CUTTER 3-S RIDGID	NOT STORED	1987	ABOL	1	793	0
677	PIPE CUTTER 3-S RIDGID	NOT STORED	1987	ABOL	1	793	0
678	PIPE CUTTER 4-S RIDGID	WS-STORE	1987	GOOD	1	1010	1010

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
HANOI WATER SUPPLY PROJECT							
LIST OF MACHINES AND EQUIPMENT							
679	PIPE CUTTER 4-9 RIDGID	NOT STORED	1987	ABOL	1	1010	0
680	PIPE CUTTER NU-BRK1BR	NOT STORED	1987	ABOL	1	2452	0
681	PIPE CUTTER NU-BRK2GR	NOT STORED	1987	ABOL	1	4494	0
682	PIPE CUTTER NU-BRK3GR	NOT STORED	1987	ABOL	1	10689	0
683	PIPE CUTTER NO.700020	NOT STORED	1987	ABOL	1	1300	0
684	PIPE CUTTER NO.700020	NOT STORED	1987	ABOL	1	1300	0
685	PIPE CUTTER NO.700030	NOT STORED	1987	ABOL	1	1603	0
686	PIPE CUTTER NO.700030	NOT STORED	1987	ABOL	1	1603	0
687	PIPE CUTTER NO.700040	NOT STORED	1987	ABOL	1	2738	0
688	PIPE CUTTER NO.700040	NOT STORED	1987	ABOL	1	2738	0
689	PIPE CUTTER NO.700050	NOT STORED	1987	ABOL	1	8325	0
690	FROMAX PIPE CUTTER DS-16 K	PIPELINE NETWORKS	1989	GOOD	1	10147	10147
691	FROMAX PIPE CUTTER DS-24 K	PIPELINE NETWORKS	1989	GOOD	1	13147	13147
692	FROMAX PIPE CUTTER DS-16 T	PIPELINE NETWORKS	1989	GOOD	1	10460	10460
693	FROMAX PIPE CUTTER DS-24 T	PIPELINE NETWORKS	1989	GOOD	1	13985	13985
694	PIPE INST.TOOL 228	NOT STORED	1987	ABOL	1	1426	0
695	PIPE INST.TOOL 228	NOT STORED	1987	ABOL	1	1426	0
696	PIPE INST.TOOL 228	NOT STORED	1987	ABOL	1	1426	0
697	PIPE INST.TOOL 228	NOT STORED	1987	ABOL	1	1426	0
698	PIPE VICE 5"	HWSCO-NETWORK	1986	GOOD	1	845	845
699	RATCHED THREADER 12R	HWSCO-NETWORK	1985	GOOD	1	1685	1685
700	RATCHED THREADER 12R	RCO-NETWORK	1985	GOOD	1	1685	1685
701	RATCHED THREADER 12R	DHCCO-NETWORK	1987	GOOD	1	2155	2155
702	RATCHED THREADER 12R	DHCCO-NETWORK	1987	GOOD	1	2155	2155
703	RATCHED THREADER 12R	NETWORK-STORE	1987	GOOD	1	2155	2155
704	RATCHED THREADER 12R	HWSCO-NETWORK	1987	GOOD	1	2155	2155
705	RATCHED THREADER 12R	NOT STORED	1987	ABOL	1	2155	0
706	RIDGID 3/8 PIPE WRENCH	WS-STORE	1985	GOOD	1	632	632
707	RIDGID 3/8 PIPE WRENCH	WS-STORE	1985	GOOD	1	632	632
708	RIDGID 3/8 PIPE WRENCH	WS-STORE	1985	GOOD	1	632	632
709	RIDGID 3/8 PIPE WRENCH	WS-STORE	1985	GOOD	1	632	632
710	RIDGID 3/8 PIPE WRENCH	WS-STORE	1985	GOOD	1	632	632
711	RIDGID C36 PIPE WRENCH	WS-STORE	1985	GOOD	1	775	775
712	RIDGID C36 PIPE WRENCH	WS-STORE	1985	GOOD	1	775	775
713	RIDGID PIPE BEND "BIG-B"	NSL-STORE	1985	GOOD	1	600	600
714	RIDGID PIPE BEND "BIG-B"	WS-STORE	1985	GOOD	1	600	600
715	RIDGID PIPE BEND "L Q-B"	WS-STORE	1985	GOOD	1	738	738
716	RIDGID PIPE BEND "L Q-B"	WS-STORE	1985	GOOD	1	738	738
717	RIDGID PIPE BENDER W/FORM	NOT STORED	1985	ABOL	1	1362	0
718	RIDGID PIPE THREADER 45A	WS-STORE	1985	GOOD	1	1050	1050
719	RIDGID PIPE THREADER 45A	WS-STORE	1985	GOOD	1	949	949
720	RIDGID PIPE THREADER 45A	NOT STORED	1985	ABOL	1	1050	0
721	RIDGID PIPE THREADER 62B	NOT STORED	1985	ABOL	1	828	0
722	RIDGID PIPE THREADER 62B	NOT STORED	1985	ABOL	1	828	0
723	RIDGID PIPE THREADER 62B	YP M+E CNTR.	1986	FAIR	1	820	820
724	RIDGID PIPE THREADER 535	MD-STORE	1988	GOOD	1	18475	18475
725	RIDGID PIPE WRENCHES 836	MD STORE	1988	GOOD	3	548	1644
726	RIDGID 12R PIPE THREADERS BSPT	MD STORE	1988	GOOD	10	1737	17370
727	RIDGID PIPE DRILLING MACHINE	MD STORE	1988	GOOD	10	1034	10340
728	RIDGID 640 LEVER TOOL 1,5x1,5	MD STORE	1988	GOOD	5	1905	9525
729	RIDGID 640 LEVER TOOL 3x1,5	MD STORE	1988	GOOD	5	2550	12750
730	RIDGID POWER DRIVE 700	YP M+E CONTR.	1985	FAIR	1	3384	3384
731	TONISCO DN25-100W DRILLER	NSL-STORE	1986	GOOD	1	14958	14958
732	TRISTAND YOKE VICE 40A	HWSCO-NETWORK	1985	GOOD	1	1207	1207
733	TRISTAND YOKE VICE 40A	NOT STORED	1985	ABOL	1	1207	0
734	WATER LEAK DETECTOR KRS 203LD	WLRP	1988	GOOD	1	18890	18890

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
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HANOI WATER SUPPLY PROJECT

LIST OF MACHINES AND EQUIPMENT

PUMPS

735	SARLIN ST 01 PUMP	CAMP	1986	FAIR	1	5710	5710
736	SARLIN ST 01 PUMP	WORKSHOP	1986	FAIR	1	5710	5710
737	SARLIN ST 01 PUMP	NSL CONSTR.CONTR.	1986	FAIR	1	5710	5710
738	SARLIN ST 01 PUMP	MD CONSTR.CONTR.	1986	FAIR	1	5710	5710
739	SARLIN ST 01 PUMP	MD CONSTR.CONTR.	1986	FAIR	1	5710	5710
740	SARLIN ST 01 PUMP	NOT STORED	1986	ABOL	1	5710	0
741	HC 930 SELFPR.DIAPH.PUMP	HWSCO-NETWORK	1986	FAIR	1	11969	11969
742	HC 930 SELFPR.DIAPH.PUMP	RCD-NETWORK	1986	FAIR	1	11969	11969
743	HC 930 SELFPR.DIAPH.PUMP	MICO-NETWORK	1986	FAIR	1	11969	11969
744	HC 930 SELFPR.DIAPH.PUMP	WSSSCO-NETWORK	1986	FAIR	1	11969	11969
745	HC 930 SELFPR.DIAPH.PUMP	WORKSHOP	1986	POOR	1	11969	11969
746	HC 930 SELFPR.DIAPH.PUMP	MD CONSTR.CONTR.	1986	FAIR	1	11969	11969
747	HC 930 SELFPR.DIAPH.PUMP	YP CONSTR.CONTR.	1987	FAIR	1	16335	16335
748	HC 930 SELFPR.DIAPH.PUMP	YP CONSTR.CONTR.	1987	POOR	1	16335	16335
749	HC 930 SELFPR.DIAPH.PUMP	WATERPLANTS	1987	FAIR	1	16335	16335
750	HC 930 SELFPR.DIAPH.PUMP	NOT STORED	1987	ABOL	1	16335	0
751	HC 930 SELFPR.DIAPH.PUMP	NOT STORED	1987	ABOL	1	16335	0
752	HC 930 SELFPR.DIAPH.PUMP	NOT STORED	1987	ABOL	1	16335	0
753	ESA 20 FIRE PUMP	HWSCO-NETWORK	1986	GOOD	1	35294	35294
754	GRUNDFOS JP4 PUMP	CAMP	1985	GOOD	1	1608	1608
755	MAKO 312 PUMP	WORKSHOP	1986	GOOD	1	1920	1920
756	MK4 55 VACUUM PUMP	WORKSHOP	1987	GOOD	1	3070	3070
757	TRIMLINE FUEL SUPPLY PUMP	WORKSHOP	1986	GOOD	1	6552	6552
758	TRIMLINE FUEL SUPPLY PUMP	WORKSHOP	1986	GOOD	1	6552	6552
759	FILLRITE F152 FUEL PUMP	WORKSHOP	1986	GOOD	1	1662	1662
760	TEST PRESSURE PUMP 811680	HWSCO-NETWORK	1986	POOR	1	792	792
761	TEST PRESSURE PUMP 811680	RCD-NETWORK	1986	POOR	1	792	792
762	TEST PRESSURE PUMP EP601	WS-STORE	1987	GOOD	1	13603	13603
763	TEST PRESSURE PUMP EP601	NETWORK-STORE	1987	GOOD	1	13603	13603
764	H-TW 700 HYDRAULIC PUMP	NETWORK-STORE	1986	GOOD	1	1618	1618
765	H-TW 5000 HYDRAULIC PUMP	LDST	1987	GOOD	1	1937	1937
766	H-TW700 HYDR.HANDPUMP	NOT STORED	1987	ABOL	1	1618	0
767	HTW300A HYDR.HANDPUMP	NOT STORED	1987	ABOL	1	1411	0
768	HTW300A HYDR.HANDPUMP	NOT STORED	1987	ABOL	1	1411	0
769	GRUNDFOS SP4-9 PUMP	PHAP VAN	1987	GOOD	1	3520	3520
770	GRUNDFOS SP4-9 PUMP	NETWORK-STORE	1987	GOOD	1	3520	3520
771	GRUNDFOS SP4-9 PUMP	MD-STORE	1987	GOOD	1	3520	3520
772	GRUNDFOS SP4-9 PUMP	MD-STORE	1987	GOOD	1	3520	3520
773	FLYGT L40-255 PUMP	WS-STORE	1986	GOOD	1		0

CONSTRUCTION EQUIPMENT, MACHINES AND TOOLS

774	BETOX 85 CIRCULAR SAW	WORKSHOP	1986	GOOD	1	5590	5590
775	BETOX 85 CIRCULAR SAW	MD CONSTR.CONTR.	1986	FAIR	1	5590	5590
776	TEKKO CASSETTE FORMWORK	MAI DICH	1986	FAIR	1	245804	245804
777	CONCRETE MIXER 20/100/170	WORKSHOP	1985	FAIR	1	4100	4100
778	CONCRETE MIXER 20/100/170E	NOT STORED	1985	ABOL	1	1980	0
779	BETOX 400 CONCRETE BUCKET	MD CONSTR.CONTR.	1986	POOR	1	3100	3100
780	BETOX 400 CONCRETE BUCKET	PV CONSTR.CONTR.	1986	POOR	1	3100	3100
781	C181N CONCRETE TESTHAMMER	OFFICE	1986	GOOD	1	1483	1483
782	PPD40 HYDR.POWER PACK	WORKSHOP	1986	FAIR	1	56700	56700
783	PPD40 HYDR.POWER PACK	RCD-NETWORK	1986	FAIR	1	56700	56700

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	QOS	PURCHASE PRICE FIN	TOTAL VALUE FIN
HANDI WATER SUPPLY PROJECT							
LIST OF MACHINES AND EQUIPMENT							
784	HB25 HYDRAULIC BREAKER	RCO-NETWORK	1986	FAIR	1	8800	8800
785	HB25 HYDRAULIC BREAKER	WORKSHOP	1986	POOR	1	8800	8800
786	HB25 HYDRAULIC BREAKER	WORKSHOP	1986	POOR	1	8800	8800
787	HB25 HYDRAULIC BREAKER	WS-STORE	1986	GOOD	1	8800	8800
788	STEEL BAR CUTTER 18/25MM	MD CONSTR.CONTR.	1985	POOR	1	1453	1453
789	STEEL BAR CUTTER 18/25MM	PV CONSTR.CONTR.	1985	POOR	1	1453	1453
790	STEEL BAR CUTTER 50/28 N	MD CONSTR.CONTR.	1985	FAIR	1	1268	1268
791	STEEL BAR BENDER 6-22MM	PV CONSTR.CONTR.	1985	FAIR	1	1490	1490
792	STEEL BAR BENDER 6-22MM	YP CONSTR.CONTR.	1985	GOOD	1	1490	1490
793	STEEL BAR BENDER 6-22MM	YP CONSTR.CONTR.	1985	FAIR	1	1490	1490
794	STEEL BAR BENDER 6-22MM	WS-STORE	1985	GOOD	1	1490	1490
795	STEEL BAR BENDER 6-22MM	NOT STORED	1985	ABOL	1	1490	0
796	PEDDINGHAUS CONCR.STEEL CUTTER	MD-STORE	1989	GOOD	1	2553	2553
797	PEDDINGHAUS CONCR.STEEL CUTTER	MD-STORE	1989	GOOD	1	2553	2553
798	PEDDINGHAUS CONCR.STEEL CUTTER	MD-STORE	1989	GOOD	1	2553	2553
799	PEDDINGHAUS CONCR.STEEL CUTTER	MD-STORE	1989	GOOD	1	2553	2553
800	PEDDINGHAUS CONCR.STEEL CUTTER	MD-STORE	1989	GOOD	1	2553	2553
801	PEDDINGHAUS CONCR.STEEL CUTTER	MD-STORE	1989	GOOD	1	2553	2553
802	WACKER HNSM2000 POWERUNIT	WORKSHOP	1986	ABOL	1	2650	0
803	WACKER HNSM2000 POWERUNIT	WORKSHOP	1986	ABOL	1	2650	0
804	WACKER HNSM2000 POWERUNIT	WORKSHOP	1986	ABOL	1	2650	0
805	WACKER HNSM2000 POWERUNIT	WORKSHOP	1986	ABOL	1	2650	0
806	AF21 VIBRATOR DRIVE UNIT	MD CONSTR.CONTR.	1987	GOOD	1	3400	3400
807	AF21 VIBRATOR DRIVE UNIT	MD CONSTR.CONTR.	1987	GOOD	1	3400	3400
808	AF21 VIBRATOR DRIVE UNIT	WATERPLANTS	1989	GOOD	1	4241	4241
809	AF21 VIBRATOR DRIVE UNIT	WATERPLANTS	1989	GOOD	1	4241	4241
810	UF41 VIBR.CONVERTER DYNAPAC	PV CONSTR.CONTR.	1987	GOOD	1	4800	4800
811	UF41 VIBR.CONVERTER DYNAPAC	WORKSHOP	1987	POOR	1	4800	4800
812	WACKER H35 VIBRATOR HEAD	WORKSHOP	1986	ABOL	1	2500	0
813	WACKER H35 VIBRATOR HEAD	MD CONSTR.CONTR.	1986	ABOL	1	2500	0
814	WACKER H35 VIBRATOR HEAD	MD CONSTR.CONTR.	1986	POOR	1	2500	2500
815	AA26 POKER VIBRATOR	MD CONSTR.CONTR.	1987	GOOD	1	2400	2400
816	AA26 POKER VIBRATOR	MD CONSTR.CONTR.	1987	GOOD	1	2400	2400
817	AA48 POKER VIBRATOR	MD CONSTR.CONTR.	1987	GOOD	1	2700	2700
818	AA48 POKER VIBRATOR	NOT STORED	1987	ABOL	1	2700	0
819	AA48 POKER VIBRATOR	NOT STORED	1987	ABOL	1	2700	0
820	AL36A POKER VIBRATOR	PV CONSTR.CONTR.	1987	GOOD	1	3500	3500
821	AL36A POKER VIBRATOR	MD CONSTR.CONTR.	1987	GOOD	1	3500	3500
822	WACKER H45 VIBRATOR HEAD	NOT STORED	1986	ABOL	1	2800	0
823	WACKER H45 VIBRATOR HEAD	NOT STORED	1986	ABOL	1	2800	0
824	WACKER H45 VIBRATOR HEAD	NOT STORED	1986	ABOL	1	2800	0
825	AL36A POKER VIBRATOR	PV CONSTR.CONTR.	1987	GOOD	1	3500	3500
826	AL36A POKER VIBRATOR	PV CONSTR.CONTR.	1987	GOOD	1	3500	3500
827	AL36A POKER VIBRATOR	YP CONSTR.CONTR.	1987	GOOD	1	3500	3500
828	AF-21 VIBRATOR	WS-STORE	1988	GOOD	1	8623	8623
829	WACKER DPU2430 COMPACTOR	WORKSHOP	1986	POOR	1	15900	15900
830	WACKER DPU2430 COMPACTOR	WORKSHOP	1986	POOR	1	15900	15900
831	WACKER DPU2430 COMPACTOR	PV CONSTR.CONTR.	1986	GOOD	1	15900	15900
832	WEBER TC50FH COMPACTOR	MD CONSTR.CONTR.	1987	GOOD	1	17640	17640
833	WEBER TC50FH COMPACTOR	WORKSHOP	1987	POOR	1	17640	17640
834	TOPCON AT-F3 LEVELMACHINE	MD CONSTR.CONTR.	1985	GOOD	1	4195	4195
835	KERN SKO-A LEVEL.MACHINE	PV CONSTR.CONTR.	1987	GOOD	1	3660	3660
836	KERN SKO-A LEVEL.MACHINE	NETWORK	1987	GOOD	1	3660	3660
837	TEDDOLITE WILD T05	OFFICE	1987	GOOD	1	12210	12210
838	EL-BJORN LF10 DRYER	WS-STORE	1986	GOOD	1	1310	1310
839	EL-BJORN LF10 DRYER	WS-STORE	1986	GOOD	1	1310	1310

ITEM	DESCRIPTION	PLACE	TAKEN IN- TO USE	CONDI- TION	NOS	PURCHASE PRICE FIM	TOTAL VALUE FIM
HANDI WATER SUPPLY PROJECT							
LIST OF MACHINES AND EQUIPMENT							
892	VG 250 0...20MA/0.50MA	EL.MECH.WS	1989	GOOD	1	2424	2424
893	SM 1000VA 0...260 VAC/10A	EL MECH.WS	1989	GOOD	1	2737	2737
894	UNIVERSAL METER 3000	EL-OFFICE	1985	POOR	1	530	530
895	UNIVERSAL METER FLUKE 25	EL-OFFICE	1987	GOOD	1	2000	2000
896	UNIVERSAL METER FLUKE 25	EL.MECH.WS	1989	GOOD	1	2000	2000
897	PHASEORDER INDICATOR 1803	MD EL-CONTR.	1985	GOOD	1	640	640
898	PHASEORDER INDICATOR 1803	EL-STORE	1985	STOLEN	1	640	0
899	PHASEORDER INDICATOR 1803	EL-OFFICE	1985	GOOD	1	640	640
900	DISTR.BOARD MSTAKR 125A1	MD CONSTR.CONTR.	1985	POOR	1	5570	5570
901	DISTR.BOARD MSTAKR 32A1	PV CONSTR.CONTR.	1985	POOR	1	1500	1500
902	DISTR.BOARD MSTAKR 32A1	MD CONSTR.CONTR.	1985	POOR	1	1500	1500
903	DISTR.BOARD MSTAKR 32A1	MD CONSTR.CONTR.	1985	POOR	1	1500	1500
904	DISTR.BOARD MSTAKR 32A1	YP CONSTR.CONTR.	1985	POOR	1	1500	1500
905	DISTR.BOARD MSTAKR 32A1	WORKSHOP	1985	POOR	1	1500	1500
906	DISTR.BOARD MSTAKR 32A1	WORKSHOP	1985	POOR	1	1500	1500
907	DISTR.BOARD MSTAKR 63	YP CONSTR.CONTR.	1986	FAIR	1	4800	4800
908	DISTR.BOARD MSTAKR 63	PV CONSTR.CONTR.	1986	FAIR	1	4800	4800
909	NORMA RESISTANCE METER	MD EL-CONTR.	1985	GOOD	1	2630	2630
910	NORMA RESISTANCE METER	EL-OFFICE	1985	POOR	1	2630	2630
911	AMBROPE R33 CURRENT METER	MD EL-CONTR.	1986	GOOD	1	1100	1100
912	AMBROPE R33 CURRENT METER	EL-OFFICE	1986	GOOD	1	1100	1100
913	AMBROPE R33 CURRENT METER	EL-OFFICE	1985	GOOD	1	1100	1100
914	OSCILLOSCOPE 20 MHZ	EL.MECH.WS	1989	GOOD	1	2346	2346
915	CONDUCTOR TESTER TK64161	EL-STORE	1986	GOOD	1	2050	2050
916	CONDUCTOR TESTER TK64161	EL-STORE	1986	GOOD	1	2050	2050
917	MULTIMETER 2000/3000 SET	EL-OFFICE	1986	POOR	1	595	595
918	MULTIMETER 2000/3000 SET	MD EL-CONTR.	1986	POOR	1	595	595
919	MULTIMETER FLUKE	EL-STORE	1988	GOOD	1	661	661
920	MULTIMETER FLUKE	EL-STORE	1988	GOOD	1	661	661
921	MULTIMETER FLUKE	EL-STORE	1988	GOOD	1	661	661
922	MULTIMETER FLUKE	EL-STORE	1988	GOOD	1	661	661
923	MULTIMETER FLUKE	EL-STORE	1988	STOLEN	1	661	0
924	MULTIMETER FLUKE	EL-STORE	1989	GOOD	1	1172	1172
925	MULTIMETER FLUKE	EL-STORE	1989	GOOD	1	1172	1172
926	MP 100 AMPLIFIER	BH-STORE	1987	GOOD	1	10400	10400
927	P-110 PROBE	BH-STORE	1987	GOOD	1	12500	12500
928	TESTPANEL ELP 100 LK 20	MD-STORE	1988	GOOD	1	9606	9606
929	HZ-METER	MD-STORE	1988	GOOD	1	1662	1662
930	A-,V-METERS	MD-STORE	1988	GOOD	1	931	931
931	TRANSDUSER 60 V/5A 300W	MD STORE	1988	GOOD	1	10070	10070
932	POWER SUPPLY +/-5V,12V,15V	MD-STORE	1988	GOOD	1	2150	2150
933	MEGGER INSUL.TESTER	EL-STORE	1988	GOOD	2	1777	3554
934	ELECTR.CONTACT GAUGES	OFFICE	1988	GOOD	6	2044	12264
935	EL.PRESS HK 20	EL-STORE	1989	GOOD	2	7301	14602
936	MAN.CABLE PRESS HK 21	EL-STORE	1989	GOOD	1	3698	3698
937	AUMATEST 3 TESTING UNIT	WATERPLANTS	1989	GOOD	1	25091	25091
GRAND TOTAL FIM							9376204

HANOI WATER SUPPLY PROJECT, PHASE II
BUDGET 1989 AND ACTUAL COST JUNE 30, 1989 (1000 FIM)

	Budget 1989	Actual cost	Actual cost
	1000 FIM	01...06-89	01...06-89
		1000 FIM	% of budget
10 PERSONNEL	12055	5362	44,48
11 Permanent in Vietnam	9055	3784	41,79
12 Short-term Consultants	1600	615	38,43
13 Procurement and support personnel	1000	675	67,48
14 Design in Finland	400	288	72,06
20 INTERNATIONAL TRAVEL	650	435	66,88
30 OFFICE AND ACCOMMODATION	324	186	57,29
31 Office	50	140	280,91
32 Accommodation	274	45	16,49
40 PROJECT INVESTMENT	1521	526	34,61
41 Workshop tools, spare parts etc	421	200	47,46
42 Machines, equipment, materials	900	235	26,16
43 Vehicles	0	2	
44 Equipment for local design	0	20	
45 Others	200	69	34,50
50 FACILITY ESTABLISHMENT	400	55	13,83
51 Electro-mechanical workshop	0	55	
52 Liquid chlorine store	400	0	0,10
53 Water meter maintenance workshop	0	0	
60 WATER PLANTS	11255	4474	39,75
61 Mai Dich	2113	2828	133,83
62 Phap Van	200	86	43,03
63 Luong Yen	1684	288	17,13
64 Tuong Mai	430	350	81,40
65 Ngoc Ha	4952	385	7,78
68 Well programme	1876	536	28,57
70 PIPELINE NETWORKS	13500	6136	45,45
71 Raw water lines	3050	960	31,46
72 Transmission lines	3250	1063	32,70
73 Distribution lines	3800	1476	38,84
74 House connections	2600	1948	74,91
75 Repair of network	800	689	86,13
80 MISCELLANEOUS	995	80	8,06
81 Monitoring, supervision and evaluation	468	33	6,96
82 Printing and copies in Finland	344	35	10,24
83 Sundries	183	12	6,79
90 OPERATIONAL SUPPORT	1690	563	33,31
91 Fuel and lubricants	600	179	29,79
92 Mechanical and electrical equipment and spare parts	800	319	39,93
93 Sundries	290	65	22,33
100 TRAINING	600	16	2,64
Sub-total	42990	17832	41,48
110 CONTINGENCIES	1000	0	0,00
GRAND TOTAL	43990	17832	40,54

Note: Actual cost 01..06-89 includes Consultants invoicing to FINNIDA and costs paid directly by FINNIDA during the period 1.1.-30.6.1989