

PD-ABE-175

ARAB REPUBLIC OF EGYPT
NATIONAL ORGANIZATION FOR POTABLE WATER
AND SANITARY DRAINAGE

**PROVINCIAL CITIES DEVELOPMENT PROJECT
WATER AND WASTEWATER IMPROVEMENTS**

UNITED STATES OF AMERICA
AGENCY FOR INTERNATIONAL DEVELOPMENT
USAID/EGYPT

USAID GRANT NO. 263-0161.3

CONSTRUCTION MANAGER:

MONTGOMERY-HARZA

JMM James M. Montgomery
Consulting Engineers Inc

HARZA ENGINEERING COMPANY



IN ASSOCIATION WITH:

ECTO/WARDANI ASSOCIATED CONSULTANTS

PD-ABE-175

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MONTHLY REPORT NO. 36

MAY, 1991

MONTGOMERY-HARZA

United States Agency for
International Development
Cairo Center Bldg. Ninth Floor
106 Kasr El Aini Street
Cairo, Egypt

Ref. No. MH-AID-434

July 14, 1991

Attention: Mr. H. A. Feldt
Project Officer

Subject: Provincial Cities Development Project
Water and Wastewater Improvements
USAID Project No. 263-0161.03
C/M MONTHLY REPORT FOR MAY 1991

Gentlemen:

Enclosed is the Construction Manager's Monthly Report for May 1991.

If you have any comments or questions, please do not hesitate to call us.

Very truly yours,



Allyn E. Yoakum
Project Manager

AY/if

Distribution:

USAID-----10
NOPWASD---5
JMM
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Scheduling Specialist
Claims Specialist
WMA
Beni Suef Site (2)
Fayoum Site (2)
Minia Site (2)
File 3.1.6 (w/o encl.)
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PROVINCIAL CITIES DEVELOPMENT PROJECT

PREFACE TO MONTHLY REPORT

The Provincial Cities Development Project Water and Wastewater Improvements Program is the culmination of a major project begun in 1982, under a USAID grant, for the Egyptian Cities of Fayoum, Beni Suef and Minia. These three cities situated in the Nile Valley to the southwest of Cairo are approximately equal in size and have a combined population near 1,000,000.

Previous phases of the Provincial Cities Development Project focused on such improvements as laying sewer laterals, installing distribution mains, upgrading drainage facilities, and refurbishing existing water and wastewater treatment plants and pumping stations.

The current Water and Wastewater Improvement Program is being implemented by the Egyptian Government's National Organization for Potable Water and Sanitary Drainage (NOPWASD).

On May 30, 1988, NOPWASD awarded a contract to L*A Water Treatment Corporation (L*A WTC) of City of Industry, California, for design and construction of major facilities to increase available water supplies, and for upgrading operation and maintenance capabilities of the beneficiary cities.

USAID retained a joint venture of the U.S. firms of James M. Montgomery, Consulting Engineers, Inc. (JMM) of Pasadena, California, and Harza Engineering Company (Harza), of Chicago, Illinois, under a direct USAID Contract to provide Construction Management Services for the current phase of work. Montgomery-Harza's responsibilities include, among other things, review of designs, monitoring of construction, certification of payments, and general contract administration.

Similar improvement programs are being performed simultaneously in the three cities. The work in each case consists of the following major elements:

Water Treatment Plant	300 L/S (6.85 MGD)
Treated Water Reservoir	8,000 to 12,000 M ³ (2.11 to 3.17 MG)
Elevated Steel Tanks	Three one-million gallon (3,785 M ³) units each city
Raw Water Intake and Pumping Stations	330 L/S (5,230 GPM)
Wastewater Pump Stations	5 in Beni Suef, 6 in Fayoum, and 6 in Minia

PREFACE TO MONTHLY REPORT (2 OF 4)

Water Transmission Main 2,500 to 3,000 M (8,200 to
Extensions 10,800 FT.)

In addition, the project includes the following elements for upgrading or rehabilitating existing facilities and institutional capabilities:

- Sewer System Rehabilitation
- Watermain Leak Detection
- Sewer Infiltration/Inflow Studies and Sewerage System Evaluation Studies
- Watermain Cleaning and Lining
- Operation and Maintenance of Completed Facilities and Existing Wastewater Treatment Plants by L*A WTC for a Two-Year Period
- Training in Leak Detection, Water Main Cleaning and Lining, and General Operation and Maintenance
- Inventory Control System

L*A WTC has awarded a subcontract to Stanley Consultants International, of Muscatine, Iowa. Stanley's duties include contractor quality control services at the construction site, prepare O & M Manuals, and provide an inventory control system. In addition, other subcontracts have been awarded, as follows:

- U.S.A.

Pittsburgh-Des Moines Steel Corp. (PDM): Design and Erection of Elevated Steel Water Tanks and Foundations

Raymond International: Watermain Cleaning and Lining

Pacific Sewer Maintenance Corporation (PSMC): Sewer System I/I and SSES

Heath Consultants: Watermain Leak Detection

- A.R.E.

Badran and Associates: Design of Civil, Mechanical and Electrical Works and Buildings

Dr. Abouleid: Evaluation of Subsurface Soil Conditions and Conceptual Design of Foundations

Dr. Abdel Warith: Design of Water Transmission Line Extensions and Design of Wastewater Pumping Stations

Dr. Hisham Hafez: Geotechnical Consultant Specialist

PREFACE TO MONTHLY REPORT (3 OF 4)

Ardaman-Ace Company: Field Geotechnical Investigations and Laboratory Work

Orascom Construction Company: Construction of Civil Works and Buildings

Orascom Construction Company: Painting Elevated Tanks

Kolaly Construction Company: Construction of Electrical and Mechanical Works and Rehabilitation of Wastewater Pumping Stations

The Design/Build Contract is funded for the amount of US\$ 53,066,009 by USAID with a contribution of LE 13,000,000 by the Egyptian government. An additional contribution of LE 2,000,000 for the payment of social security has been funded by the Egyptian government. The start date for the contract has been established as July 3, 1988. Construction completion date per the contract is March 2, 1991. This includes the Startup Function and a four month period of Initial Operation. Final contract completion date is March 2, 1993. This includes a twenty-four month period of Continued Operational Assistance. The contract also includes a concurrent, post startup, twelve month maintenance period. The USAID Letter of Commitment (L/C) in the amount of USD 52,446,359 extends only up to the original Project Assistance Completion Date (PACD) of August 31, 1991. The difference between the L/C and the USD contract amount represents payments for Continued Operational Assistance after the original PACD of August 31, 1991.

Description of Contract Bid Item Tasks:

<u>Task No.</u>			<u>Description of Work Under Tasks</u>
<u>Beni</u>	<u>Suef</u>	<u>Fayoum</u>	<u>Minia</u>
A1	A2	A3	New Water Treatment Plants
A4	A5	A6	New Treated Water Reservoirs & High Service Pump Stations
A7	A8	A9	Three new Elevated Storage Tanks in each city
A10	A11	A12	Raw Water Intake and Pump Station Renovations in Beni Suef and New Facilities in Fayoum and Minia
A13	A14	A15	Rehabilitation of 16 Wastewater Pump Stations

PREFACE TO MONTHLY REPORT (4 OF 4)

A16	A17	A18	Six Months of Training in Waterline Cleaning and Unit Price Lining.
A19	A20	A21	Water Transmission Line Extensions
A22	A23	A24	Sewer System Rehabilitations
B1	B2	B3	Waterline Leak Detection Surveys and Reports
B4	B5	B6	Sewer Infiltration Surveys
B7	B8	B9	Sewer System Evaluation Surveys
C1	C2	C3	Operational Assistance for Wastewater Collection and Treatment Facilities

PROJECT OVERVIEW

The Project consists not only of tasks to design and build three water treatment plants, nine elevated water storage tanks, and water transmission line extensions, but includes other smaller water and wastewater tasks. Many of the smaller tasks lack progress, with current construction only taking place at the three water treatment plants and the elevated water storage tanks. Excavation began a few days ago for the water transmission line extension task at Minia, but no pipe has been installed to date at any of the three cities. No construction activity has begun to date on the wastewater pump station rehabilitation tasks. The expatriate subcontractor for the sanitary sewer evaluation survey, which forms part of the sewer rehabilitation task, has mobilized and is expected to begin work this month.

Monitoring construction performance on the basis of the C/M's professional judgement using a standardized field estimate indicates the total percentage of the overall Project completed to date is 66%, with the Contractor currently accomplishing an estimated 1 percent overall progress each month. This takes into account all the tasks, not just the water treatment plants. The treatment plants themselves are estimated to be 68% complete at Beni Suef, 62% complete at Fayoum, and 79% complete at Minia.

The Contractor reports percentage of Project completion based on their commercial invoices and therefore has expressed disagreement with the C/M's values for Project completion. Current invoices indicate the total earned US Dollars represents 73% of the total US\$ bid price, whereas the C/M's estimate indicates that only 66% of the overall Project is complete. The difference is apparent, 73% versus 66%. The C/M will continue to report performance based on a standardized field estimate.

In the opinion of the Construction Manager, the Project construction should reasonably take 9 months to complete beyond this report period, 15 months behind schedule. However, as one can see by the C/M's monitoring of the Contractor's progress since the beginning of 1991, unless there is substantial improvement in the Contractor's rate of progress, completion could go well beyond 9 months.

The C/M sent a letter to the Contractor regarding Project progress and demanded an immediate solution to the lack of progress being made. Another letter was sent reminding the Contractor they have an obligation to "continue to prosecute the work" even though they are preparing for arbitration on the ACDC claim issues. Still another letter was sent asking the Contractor to inform the C/M if there are any Project tasks on which they are not free to work, as alleged.

The Contractor's vice president of operations came to Egypt this month and reviewed the Project. The C/M is hopeful this will have a positive effect on the Project. The vice president did

not choose to meet with the C/M, except to discuss the Project briefly with two of the C/M's resident engineers, but he did visit with NOPWASD and USAID in Cairo.

The Contractor continues to submit schedules which the C/M considers to be claim driven. While the Contractor reports they will finish in January, February, and March, when one examines their schedules it can be seen they are referring to "early finish" dates for the treatment plants only, with water line extensions following soon thereafter. A closer examination shows they have placed into their schedule "late finish" dates which are at least a year later (1993) for the water works tasks and another year later (1994) for the smaller tasks. All tasks except the raw water intakes contain float in the order of one to two years. Since the raw water intakes form a significant part of their Alternate Compensable Delay Claim, they refuse to produce a realistic schedule which shows all tasks with a "late finish" date of January, February, and March. The C/M held a special meeting with the Contractor to discuss issues regarding the unacceptable schedules, and again later in the month wrote a letter regarding the submittal of unrealistic schedules. In the C/M's opinion, with the claim driven nature of this Project, there never will be a meaningful Project schedule. Because of this, the C/M has made arrangements for its Scheduling Specialist to prepare its own schedules next month for use in monitoring Project activities.

It is encouraging to report that procurement and design activities are nearly complete, with only one design issue to be resolved. The Minia raw water intake jetty Preliminary Works structural design review produced a list of design deficiencies, and a meeting was held between the C/M and the Contractor's designer to resolve them. The primary issue for which the C/M voiced concern was the low river velocity values, with the Contractor being asked to verify the value they used. The Contractor is currently reviewing their design and will resubmit to the C/M next month. At Fayoum, the deficiencies in the raw water intake structure foundation design have been resolved after meeting with the Contractor's designer. The Contractor incorporated design changes into the drawings, and the C/M approved the Preliminary Works drawings allowing construction to proceed. The Contractor has refused to submit revised design calculations to date, but this will not affect the ability to proceed with construction.

The C/M continues its attempts to negotiate acceptable Change Orders. It wrote twenty-three letters this month to the Contractor regarding Change Order issues, and it appears progress is being made towards solving many of the outstanding issues. During this month, three Potential Change Orders were cancelled and another seven were recommended for cancellation. Arrangements have been made for the C/M's Claims Specialist to work in Egypt next month on Change Order processing and negotiations with the Contractor.

PROJECT COMPLETION

Overall project status based on the C/M's estimate as of the end of May, thirty-five months into the project, is as follows:

♦ Beni Suef

<u>Component</u>	<u>% Complete</u>
Water Treatment Plant	68
Elevated Water Tanks	83
Waterline Extensions	10
Wastewater Pump Stations	10
Sewer Rehabilitation	20
Waterline Training & Lining	80
Subtotal	63

♦ Fayoum

<u>Component</u>	<u>% Complete</u>
Water Treatment Plant	62
Elevated Water Tanks	83
Waterline Extensions	10
Wastewater Pump Stations	10
Sewer Rehabilitation	20
Waterline Training & Lining	94
Subtotal	61

♦ Minia

<u>Component</u>	<u>% Complete</u>
Water Treatment Plant	79
Elevated Water Tanks	83
Waterline Extensions	10
Wastewater Pump Stations	10
Sewer Rehabilitation	20
Waterline Training & Lining	80
Subtotal	73

Total percentage of overall project completed to date is 66%.

PROJECT COSTS

Project costs based on commercial invoices are being monitored on the basis of cash flow schedules presented by the Contractor in August 1988 and January 1990.

Monitoring of these Project costs indicates the overall Project is 73% complete based on US\$ invoices. FAS is 88% complete and construction/design is 68% complete based on US\$ invoices.

A comparison of the August 1988 and January 1990 cash flow schedules against certified commercial invoices to date indicates slippage in the work schedule of approximately 16 months. See Annex B for US\$ and LE graphs of monetary earning schedules.

Annex C provides a complete listing of all commercial invoices to date for the Project. The following is a summary of the Project costs earned and the the total amount paid:

Total Amount Earned w/C.O.:	\$38,646,578	LE 9,939,252
Total Amount Paid:	\$35,426,349	LE 9,562,502

Comparison With Cash Flow Schedules

Scheduled payments through May 1991 should be compared to the total amount paid plus retainage less change order payments and US\$ and LE advances.

(a) Total amount paid to date	\$ 35,975,959	LE 7,931,304
(b) Schedule dated Aug. 1988	\$ 47,949,859	LE 10,400,000
(c) Schedule dated Jan. 1990	\$ 46,028,590	LE 9,941,841

The overall value of the work completed to date in US\$ is 75% of the August 1988 cash flow schedule and 78% of the January 1990 cash flow schedule. For LE, they are 76% and 80%, respectively.

The relevance of using the above analysis at this time is questionable as the Construction period on which these cash flow schedules was based has expired.

Status Summary Based on Invoices:

	<u>Percent Complete</u>		<u>Percent of Scheduled</u>			
			<u>08/88 Sch.</u>		<u>01/90 Sch.</u>	
	US\$	LE	US\$	LE	US\$	LE
Project	73	75	75	76	78	80
FAS	88	--				
Freight	87	--				
Const./Design	68	75				

PROJECT SCHEDULE

The bar-graph schedule submitted with the technical bid shows construction completion and four months continued operation taking place in 32 months and is still the only approved schedule for the Project.

A revised schedule update showing progress through September 25, 1989 was submitted on October 2, 1989. This update was approved by the Construction Manager with many exceptions. The Contractor has submitted subsequent updates.

The Contractor is again submitting monthly schedule updates for all three cities, after a lapse of some months in 1990. As these schedule updates are, in the Construction Manager's opinion, claim driven rather than resource driven, they are unacceptable. As a result, the Project continues to operate without a working schedule. The Montgomery-Harza Schedule Specialist is currently in Egypt reviewing the Contractor's schedules.

In the opinion of the Construction Manager, the Project construction should take approximately 9 months to complete beyond this report period, 15 months behind schedule. However, monitoring by the C/M of the Contractor's progress since the beginning of 1991 indicates that without radical improvement in the Contractor's progress, completion of overall construction is more than two years away.

1062 days out of the total 854 scheduled construction days have elapsed. This is 124% of the Contract time.

PROJECT ACTIVITIES

Construction Management Activities

The Construction Management principal office staff concentrated on resolving design issues and design reviews, technical correspondence, review of quality control issues, processing of invoices, resolution of contract change orders, schedule reviews, and attending Project and other technical and administrative meetings.

The Construction Management home office staff assisted the principal office staff by providing design drawing reviews for the structural and civil discipline. The home office staff also assisted in processing Contract change orders by providing reviews and comments.

Document Reviews

Major review and action items addressed this month are as follows:

◆ Commercial Invoices

Invoice	Status	Amount	Date
84	Certified	LE 233,860	05/12/91
85	Certified	\$ 42,707	05/18/91

◆ Contractor Quality Control:

1. Reviewed the submitted weekly CQC report summaries from the CQC Manager.
2. Reviewed various documentation packages for FAS equipment and approved shipping to Egypt.
3. Reviewed requests for the use of specific materials for incorporation in the works.

◆ Meetings During the Month on Technical Matters:

1. A Project meeting was held in the Construction Manager's Fayoum site office on May 14, 1991.
2. A special meeting was held with the Contractor on May 4, 1991 to discuss project schedules.
3. A meeting was held with NOPWASD on May 5, 1991 to discuss change orders and invoices.
4. A special meeting was held with the Contractor and NOPWASD on May 20, 1991 to receive and discuss the

draft proposal for the Inventory Control System.

◆ **Schedule:**

Schedule updates for all three cities have been received and are currently under review by the Construction Manager.

◆ **Water Distribution System Study:**

The Construction Manager completed their study of the water distribution system and preparation of change orders. The terms of the draft change orders for surge protection and for pressure reducing valve stations are being negotiated between the C/M and the Contractor.

◆ **Sewer System Infiltration Reports:**

The Contractor was authorized by the Construction Manager to mobilize for the Phase 2 Sanitary Sewer Evaluation Survey. Mobilization occurred as scheduled in May 1991.

◆ **Change Orders and Potential Change Orders:**

No new potential change orders were initiated during the month of May.

PCO 11 - Tasks A16, A17 and A18, revised scope of work. This Potential Change Order has been prepared and is being reviewed by the C/M.

Staff Movements

The following is a summary of arrivals and departures by key employees of both the Construction Manager and the Contractor during the month. A summary listing of all known arrivals and departures, from the date the Contract was signed through this report period, is maintained by the C/M and available for inspection.

Construction Manager

Mr. M. Ansari, Scheduling Specialist, arrived in Egypt on May 24, 1991.

Contractor

Mr. C. A. Strande, Project Director, returned to Egypt on May 11, 1991.

Ms. S. Besseghini, Contracts Administrator, returned to Egypt on May 11, 1991.

Mr. P. Giacoletti, V.P. Operations, arrived in Egypt

Contractor

Mr. C. A. Strande, Project Director, returned to Egypt on May 11, 1991.

Ms. S. Besseghini, Contracts Administrator, returned to Egypt on May 11, 1991.

Mr. P. Giacoletti, V.P. Operations, arrived in Egypt on May 26, 1991.

Mr. J. Moran, Site Mgr. Fayoum departed Egypt between May 16 and 23, 1991.

Mr. H. Foster, Site Mgr. Fayoum, arrived in Egypt on May 3, 1991.

Pacific Sewer Maintenance Corporation staff arrived in Egypt on May 5, 1991.

BENI SUEF

Design - Beni Suef

1. Current Status

The status of the designs from the Contractor, the design reviews by the Construction Manager, and corrections or changes required are as follows:

o Tasks A1, A4, A10 - Water Treatment Plant

a. Mechanical and Electrical:

Final Works Mechanical and Electrical Drawings have been reviewed and stamped "No Exceptions Taken".

An exception is the raw water pump station Mechanical Drawings which have been reviewed and stamped "No Exceptions Taken" at the Preliminary Works level.

The raw water river intake suction lines have been deleted from the contract.

b. Architectural and Civil:

Preliminary Works Architectural and Civil Drawings have been reviewed and stamped "No Exceptions Taken".

Preliminary Works Sanitary and Site Works Drawings have been reviewed and stamped "No Exception Taken".

Preliminary Works Site External Works Drawings have been reviewed and stamped "No Exception Taken".

c. Structural:

Preliminary Works Structural Drawings and Calculations have been reviewed and stamped "No Exceptions Taken".

o Task A7 - Elevated Water Storage Tanks

a. Mechanical and Electrical:

Final Works Mechanical and Electrical Drawings have been reviewed and stamped "No Exceptions Taken".

b. Structural:

Final Works Structural Drawings have been reviewed and stamped "No Exceptions Taken".

- o **Tasks A13 - Wastewater Pump Station Rehabilitation**
 - a. **Mechanical and Electrical:**

Preliminary Works Mechanical and Electrical Drawings have been reviewed and stamped "No Exceptions Taken".
 - b. **Architectural and Civil:**

Preliminary Works Architectural and Civil Drawings have been reviewed and stamped "No Exceptions Taken".
 - c. **Structural:**

Preliminary Works Structural Drawings have been reviewed and stamped "No Exceptions Taken".
 - o **Task A19 - Water Transmission Line Extension**
 - a. **Civil and Structural:**

Preliminary Works Drawings have been reviewed and stamped "No Exceptions Taken".
2. **Reviews This Period**
- None.

Construction - Beni Suef**1. Current Status****o Tasks A1, A4, A10 - Water Treatment Plant:**

Work progress to date on the elements of the water treatment plant is as follows:

<u>Element</u>	<u>% Completed</u>
Flocculator/Wastewater Tank	79
Sedimentation Basin	91
Rapid Gravity Filter	68
Administration Building	69
Chemical Building	71
Chlorine Building	65
Generator Station	70
Sludge Lagoons	90
Guard House	71
Treated Water Reservoir	79
High Service Pump Station	72
Intake Works	0
Raw Water Pump Station Rehabilitation	0
Site Utilities	0
Site External Works	29

The water treatment plant is approximately 68% complete.

o Task A7 - Elevated Water Storage Tanks:

Erection of all three elevated water storage tanks is substantially complete. Ancillary activities such as painting, fencing and electric are ongoing.

The elevated water storage tanks are approximately 83% complete.

o Task A13 - Wastewater Pump Station Rehabilitation:

Construction work has not begun.

o Task A16 - Waterline Cleaning, Lining and Training:

Cleaning and training is complete. Lining has not begun and is the subject of a potential change order for deletion.

o Task A19 - Water Transmission Line Extension:

Construction work has not begun.

o Task A22 - Sewer System Rehabilitation:

Construction work has not begun.

2. Activities This Period

o Tasks A1, A4, A10 - Water Treatment Plant:

Work continues on the flocculator/wastewater tanks. Concrete work continues on the walkways and washwater channel. Installation of sludge valves and handrails continues. Watertightness testing of the flocculator has begun.

Watertightness testing of the sedimentation basin is continuing. Casting of precast covers to the settled water channel is ongoing.

Work is continuing on the filter building. Watertightness testing of the filter cells is continuing. Mechanical installation continues in the pipe gallery. Finish coat application to the exterior walls has begun.

Work continues on the administration building. Sanitary work is ongoing. Plastering of the interior walls is ongoing.

Work continues on the chemical building. Plastering of the interior walls is ongoing.

Work continues on the generator building and fuel storage tank facility. Plastering of the interior walls has commenced. Installation of the control panels has begun.

Work continues on the chlorine building. Concrete work to the floor slab and loading bay is complete. Installation of brick and block is complete.

Work continues on the guard house. Blockwork and brickwork is in progress.

Work continues on the treated water reservoir. Repair of damp spots in the dividing wall is ongoing. Installation of ventelators is in progress.

Work continues on the high service pump station. Mechanical erection is continuing with installation of washwater and treated water mains from the pumpstation to the meter chambers.

Work has begun on the site pipework and utilities with construction of pullboxes and duct banks. Installation of 900mm and 300mm drain pipes is ongoing.

o Task A7 - Elevated Water Storage Tanks:

Repair of paintwork to the interior wet surface of Tank No. 12 is ongoing.

Construction of the floor slab at all three tanks is complete.

o Task A19 - Water Transmission Line Extension:

Excavation for the 500mm AC pipeline inside the treatment plant site has begun. Exploratory pits along the pipe routes is ongoing.

o Contractor Quality Control:

CQC tests of concrete aggregates and cube strengths continued throughout the month. All tests met the contract specifications. Activities included checking of rebar, checking formwork dimensions and alignments, casting concrete cubes, performing slump tests, performing sieve analyses of aggregates and density tests on compacted backfill, performing holiday tests on elevated storage tank painting.

Note: Concrete batching is now done in Fayoum due to the breakdown of the batchplant.

o Non-Conformance Reports (NCRs):

There was three outstanding NCR at the end of the month.

1. Waterstop placement at flocculator washout channel. The effectiveness of the misplaced waterstop will be tested when the watertightness test is performed on the flocculator.
2. Steel trowel finish of floor slab of generator house. Screed finish will be added.
3. Defective mortar lining of ductile iron pipes. Pipe will be removed from site and replaced.

o Contractor/subcontractor man-days on site this month:

Supervisory and Overhead	727
Skilled and Unskilled Workers	<u>2,237</u>
Total	2,964

o Visitors:

There were 39 visitors to the Beni Suef site office this month.

o Construction Equipment:

The following construction equipment was on the Beni Suef site at the end of the month:

Backhoe	(1)	Electric Transformer	(1)
Concrete Mixer	(1)	Front End Loader	(1)
Concr Truck Mixer-5 m3	(2)	Welding machine	(1)
Concr Vibrator, Electric	(1)	Air Compressor	(2)
Pick-Up Truck	(2)	Dewatering Pumps	(5)
Tractor-50 HP	(1)	Concr Vibrator-4.3 HP	(3)
Fuel Tanks-3.5 m3	(1)	Plate Compactor	(2)
Portable Generator-300KVA	(1)	Crane	(1)

o Training:

City of Beni Suef and NOPWASD engineers were on-the-job trained in inspection procedures and reporting of construction activities.

FAYOUM

Design - Fayoum

1. Current Status

The status of the designs from the Contractor, the design reviews by the Construction Manager, and corrections or changes required are as follows:

- o Tasks A2, A5, A11 - Water Treatment Plant
 - a. Mechanical and Electrical:

Final Works Mechanical and Electrical Drawings have been reviewed and stamped "No Exceptions Taken".
 - b. Architectural and Civil:

Preliminary Works Architectural and Civil Drawings have been reviewed and stamped "No Exceptions Taken".

Preliminary Works Site Works Drawings have been reviewed and stamped "No Exceptions Taken" with comments.

Preliminary Works Sanitary Works Drawings have been reviewed and stamped "No Exceptions Taken" with comments.

Preliminary Works Site External Works Drawings have been reviewed and stamped "No Exception Taken".
 - c. Structural:

Preliminary Works Structural Drawings and Calculations have been reviewed and stamped "No Exceptions Taken". An exception is the raw water canal intake structure for which, though the drawings have been approved, the calculations have not been approved.
- o Task A8 - Elevated Water Storage Tanks
 - a. Mechanical and Electrical:

Final Works Mechanical and Electrical Drawings have been reviewed and stamped "No Exceptions Taken".
 - b. Structural:

Final Works Structural Drawings have been reviewed and stamped "No Exceptions Taken".
- o Tasks A14 - Wastewater Pump Station Rehabilitation
 - a. Mechanical and Electrical:

Preliminary Works Mechanical and Electrical Drawings have been reviewed and stamped "No Exceptions Taken".

b. Architectural and Civil:

Preliminary Works Architectural and Civil Drawings been reviewed and stamped "No Exceptions Taken".

c. Structural:

Preliminary Works Structural Drawings have been reviewed and stamped "No Exceptions Taken".

o Task A20 - Water Transmission Line Extension

a. Civil and Structural:

Preliminary Works Drawings have been reviewed and stamped "No Exceptions Taken".

2. Reviews This Period

o Architectural and Civil:

- a. Preliminary Works Civil/Structural Drawings, Task A10 - Raw Water Intake, have been reviewed and stamped "No Exception Taken". The resubmission of the calaulations has not been made.

Construction - Fayoum**1. Current Status**o **Tasks A2, A5, A11 - Water Treatment Plant:**

Work progress to date on the elements of the water treatment plant is as follows:

<u>Element</u>	<u>% Completed</u>
Flocculator/Wastewater Tank	68
Sedimentation Basin	85
Rapid Gravity Filter	65
Administration Building	70
Chemical Building	65
Chlorine Building	68
Generator Station	70
Sludge Lagoons	80
Guard House	0
Treated Water Reservoir	78
High service Pump Station	67
Intake Works	0
Raw Water Pump Station	70
Site Utilities	0
Site External Works	0

The water treatment plant is approximately 62% complete.

o **Task A8 - Elevated Water Storage Tanks:**

Erection of all three elevated water storage tanks is substantially complete. Painting of tanks is ongoing.

The elevated water storage tanks are approximately 83% complete.

o **Task A14 - Wastewater Pump Station Rehabilitation:**

Construction work has not begun.

o **Task A17 - Waterline Cleaning, Lining and Training:**

Cleaning, lining, and training is complete.

o **Task A20 - Water Transmission Line Extension:**

Construction work has not begun.

o **Task A23 - Sewer System Rehabilitation:**

Construction work has not begun.

2. Activities This Period

o Tasks A2, A5, A11 - Water Treatment Plant:

Work continues on the flocculator/wastewater tanks. Watertightness testing of the wastewater is ongoing.

Watertightness testing of the sedimentation basin is continuing.

Work continues on the interior and exterior walls of the rapid gravity filters. Mechanical installation has begun.

Work continues on the administration building. Interior and exterior masonry work is continuing. Sanitary works are ongoing.

Work continues on the generator building and fuel storage tank facility. Electrical installation has begun.

Construction of the sludge lagoons continues. Concrete work to the walls, footings and inlet chambers is now complete.

Watertightness testing of the treated water reservoir is continuing. Repairs to the west cell are continuing. Backfilling around the reservoir is continuing.

Work continues on the high service pump station with ongoing mechanical installation.

Work continues on the the raw water pump station. The raw water rising main between the pumpstation and the meter chamber has installed and tested.

o Task A8 - Elevated Water Storage Tanks:

Painting of finish coat to Tank No. 1 is discontinued because of lack of paint. Preparation for concrete floor slabs are ongoing.

o Contractor Quality Control:

CQC tests of concrete aggregates and cube strengths continued throughout the month. All tests met the contract specifications. Activities included checking of rebar, checking formwork dimensions and alignments, casting concrete cubes, performing slump tests, performing sieve analyses of aggregates and density tests on compacted backfill, taking cement samples for laboratory tests, performing holiday tests and checking mechanical works.

o Non-Conformance Reports (NCRs):

There were seven outstanding NCRs at the end of the month.

1. Extensive honeycombing on the underside of the flocculation chamber floor slab. Contractor is currently investigating a correction for this deficient work.
2. Misaligned columns in administration building. Contractor is chipping and realigning the columns to effect a correction.
3. Embedded wood in concrete wall of the treated water reservoir. Contractor will remove the wood and patch the resulting hole.
4. Improper curing of Febhyseal application to the treated water reservoir walls. Reservoir is undergoing a watertightness test to determine if walls are properly sealed.
5. Untidy site conditions. Scrap and salvaged rebar to be removed from site.
6. Roof installation does not conform to IFB. A change order including specification revision is being prepared.
7. Pink brickwork does not meet contract requirement. Remedial works are being investigated.

o Contractor/subcontractor man-days on site this month:

Supervisory and Overhead	1,489
Skilled and Unskilled Workers	<u>5,948</u>
Total	7,437

o Visitors:

There were 32 visitors to the Fayoum Site Office this month.

o Construction Equipment:

The following equipment was on the Fayoum site at the end of the month:

Concrete Batch Plant-30m3	(1)	Concr Truck Mixer-5 m3	(2)
Front End Loader	(1)	Welder, Lincoln 400 A	(1)
Generator 100 KVA	(1)	Dumper-3/4 m3	(1)
Sta. Conc. Pump	(1)	Concrete Pump 55 m3/hr	(1)
Air Compressors	(2)	Dewatering Pump 20 l/s	(4)
Mixer 1/2 m3	(2)	Dewatering Pump 80 l/s	(1)
Truck Crane-22T	(1)	Rebar Bender/cutter	(1)
Conc. Vibrators	(5)	Sandblaster	(2)
Spray Painter	(2)		

o Training:

City of Fayoum and NOPWASD engineers were on-the-job trained in inspection procedures and reporting of construction activities.

MINIA

Design - Minia

1. Current Status

The status of the designs from the Contractor, the design reviews by the Construction Manager, and corrections or changes required are as follows:

o Tasks A3, A6, A12 - Water Treatment Plant

a. Mechanical and Electrical:

Final Works Mechanical and Electrical Drawings have been reviewed and stamped "No Exceptions Taken".

b. Architectural and Civil:

Preliminary Works Architectural and Civil Drawings have been reviewed and stamped "No Exceptions Taken".

Preliminary Works Site Development Drawings have been reviewed and stamped "No Exceptions Taken".

Preliminary Works Site External Works Civil Drawings have been reviewed and stamped "No Exceptions Taken".

Preliminary Works Drawings for Sanitary and Site Works have been reviewed and stamped "No Exceptions Taken".

Preliminary Works Civil/Structural Drawings for the Raw Water Intake Jetty have been reviewed and comments returned to the Contractor.

c. Structural:

Preliminary Works Structural Drawings and Calculations have been reviewed and stamped "No Exceptions Taken". An exception is the raw water river intake jetty structure, which has been reviewed but not yet approved.

o Task A9 - Elevated Water Storage Tanks

a. Mechanical and Electrical:

Final Works Mechanical and Electrical Drawings have been reviewed and stamped "No Exceptions Taken".

b. Structural:

Final Works Structural Drawings have been reviewed and stamped "No Exceptions Taken".

o Tasks A15 - Wastewater Pump Station Rehabilitation

- a. **Mechanical and Electrical:**
Preliminary Works Drawings have been reviewed and stamped "No Exceptions Taken".
 - b. **Architectural and Civil:**
Preliminary Works Drawings have been reviewed and stamped "No Exceptions Taken".
 - c. **Structural:**
Preliminary Works Drawings have been reviewed and stamped "No Exceptions Taken".
 - o **Task A19 - Water Transmission Line Extension**
 - a. **Civil and Structural:**
Preliminary Works Drawings have been reviewed and stamped "No Exceptions Taken".
- 2. Reviews This Period**
- o **None.**

Construction - Minia**1. Current Status**o **Tasks A3, A6, A12 - Water Treatment Plant:**

Work progress to date on the elements of the water treatment plant is as follows:

<u>Element</u>	<u>% Completed</u>
Flocculator/Wastewater Tank	92
Sedimentation Basin	96
Rapid Gravity Filter	78
Administration Building	86
Chemical Building	87
Chlorine Building	86
Generator Station	86
Workshop	85
Sludge Lagoons	75
Guard House	70
Treated Water Reservoir	94
High Service Pump Station	71
Intake Works	0
Raw Water Pump Station	62
Site Utilities	32
Site External Works	50

The water treatment plant is approximately 79% complete.

o **Task A7 - Elevated Water Storage Tanks:**

Erection of all three elevated water storage tanks is substantially complete. Ancillary activities such as painting, fencing and electric are ongoing.

The elevated water storage tanks are approximately 83% complete.

o **Task A13 - Wastewater Pump Station Rehabilitation:**

Construction work has not begun.

o **Task A16 - Waterline Cleaning, Lining and Training:**

Cleaning and training is complete. Lining has not begun and is the subject of a potential change order for deletion.

o **Task A19 - Water Transmission Line Extension:**

Construction work has not begun.

o Task A22 - Sewer System Rehabilitation:

Construction work has not begun.

2. Activities This Period

o Tasks A3, A6, A12 - Water Treatment Plant:

Work continues on the flocculator/wastewater tanks. Reconstruction of the baffle walls is substantially complete. Erection of handrails is ongoing on stairway and walkways.

Work continues on the sedimentation basin. Watertightness testing is continuing. Construction of precast covers to settled water channel has begun.

Work continues on the filter building with installation of the filter gallery pipework and sluice gates continuing. Plasterwork to the control room and machine room is ongoing. Watertightness testing is in progress.

Work continues on the administration building. Interior plasterwork is ongoing. Removal and replacement of the brickwork is complete.

Work continues on the chemical building. Interior plasterwork is ongoing.

Work continues on the generator building and fuel storage tank facility. Installation of the fuel storage tank is complete.

Construction of the sludge lagoons continues. Concrete work is complete. Handrail erection has begun.

Work continues on the high service pump station. Installation of waterproofing and roof tile is ongoing.

Work continues on the the raw water pump station. Installation of raw water discharge manifold is continuing.

Work continues on the site utilities. Storm drain and sanitary sewer installation is ongoing. Construction of electrical and chemical pullboxes has begun.

Work is continuing on the site external works with erection of the river overflow channel, wastewater disposal channel, inter-structure pipework and perimeter fencing ongoing.

o Task A9 - Elevated Water Storage Tanks:

Painting of "dry" surfaces of tank and hydropillar of Tank No. 3 are ongoing.

o Contractor Quality Control:

CQC tests of concrete aggregates and cube strengths continued throughout the month. All tests met the contract specifications. Activities included checking of rebar, checking formwork dimensions and alignments, casting concrete cubes, performing slump tests, performing sieve analyses of aggregates and density tests on compacted backfill, taking cement samples for laboratory tests and performing holiday tests. Soil compaction tests under and around the various structures met the specifications.

o Non-Conformance Reports (NCRs):

There were four outstanding NCRs at the end of the month.

1. Brickwork quality at the rapid gravity filter and the chemical building. Brick in defective sections is being replaced.
2. Mortar lining of 500mm DI treated water line does not meet specification. Defective pipe will be replaced.
3. Installation of 450mm raw water delivery manifold is unacceptable. Defects will be corrected.
4. 400mm AC pipe installed in lagoon inlets in place of 450mm. Design recalculations will be provided.

o Contractor/subcontractor man-days on site this month:

Supervisory and Overhead	1,398
Skilled and Unskilled Workers	<u>3,016</u>
Total	4,414

o Visitors:

There were 59 visitors to the Minia Site Office this month.

o Construction Equipment:

The following construction equipment was on the Minia site at the end of the month:

Concrete Batch Plant-30m3	(1)	Concr Truck Mixer-6 m3	(2)
Air Compressor	(2)	Front End Loader	(1)
Rebar Bender, Electric	(1)	Generator 100 KVA	(1)
Backhoe	(1)	Set Concrete Vibrators	(2)
Disc Metal Cutter	(1)	Sump Pump 4-inch	(1)
Mixer 1/2 m3	(1)	Welders	(1)
Sump Pump 3-inch	(2)	Water Pump	(2)
Compactors	(3)	Crane 15-ton	(1)
Dumper	(1)	Drill Press	(1)

o Training:

City of Minia and NOPWASD engineers were on-the-job trained in inspection procedures and reporting of construction activities.

ANNEXES

- A - CONTRACT AMMENDMENTS AND CHANGE ORDERS**
- B - GRAPHS OF MONETARY EARNING SCHEDULES**
- C - COMMERCIAL INVOICE LISTING**
- D - PHOTOGRAPHS**

ANNEX A
CONTRACT AMENDMENTS AND CHANGE ORDERS

ANNEX A

CONTRACT AMENDMENTS AND CHANGE ORDERS

Contract Amendments

No.	Description	Status
CA1	Total Value of Contract	Executed
CA2	Revise Nc. of Invoices	Executed
CA3	Provisional Sum	Executed
CA4	Additional Contract Time	Review/LA

Change Orders and Potential Change OrdersExecuted Change Orders

CO	PCO	Description	Status
CO1	1	Delete Reference To "Lining" In Art. III-9	Executed
CO2	2	Change EWST Paint From Vinyl To Alkyd	Executed
CO3	3	Revise TDH For The HS Pumps	Executed
CO4	4	Suspend Work On Water Line Leak Detection	Executed
CO5	5	Revise Scope Task A17 In Fayoum	Executed
CO7	7	Revise Spec. To Permit Local Rebar	Executed
CO8	8	Add Change Order Proc. To Contr's Manual	Executed
CO10	29	Revise Spec. On Underground Fuel Tanks	Executed
CO11	10	A16, A17, A18 - Reallocate Pay Items	Executed
CO13	39	Additional Vehicle For C/M Staff	Executed
CO14	25	Increase WWPS Wetwell Ventilation	Executed
CO15	33	Tasks A1, A2, A3 - Chlorine Leak Detectors	Executed
CO16	37	A1 - Relocation Of Admin/Chemical Bldg	Executed
CO18	13	Temperature Steel In EWST Foundation	Executed
CO21	26	Site Office Telephone In Minia	Executed

Change Orders Prepared and in Process

CO9	27	Increased Scope, SSES Studies, Delays	Draft/LA
CO12	32	Automatic Inlet Flow Control Valve	Draft/NO
CO24	15	Relocate EWST No. 3 In Fayoum	Draft/AI

Change Orders in Preparation Requiring Additional Information

CO17	22	Time Resulting From Accumulated Delays	Review/LA
CO20	42	A11 - RW Pump House, Increased Depth	Review/LA
CO23	12	A1 - Police Camp Site Acquisition	Review/LA
	11	A16, A17, and A18 - Revise Scope Of Work	Review/MH

ANNEX A (2 of 3)

CO	PCO	Description	Status
<u>Potential Change Orders Cancelled</u>			
	17	Revise Number Of Construction Photos	Cancelled
	23	Delete Air Entrainment In Concrete	Cancelled
	24	Revise WW Sump Pumps From 12 To 1.2 l/s	Cancelled
	36	Tasks A7, A8, A9 - USAID Signs	Cancelled
	41	Additional Concrete Specification	Cancelled
	55	Fayoum WWPS No. 5 New Roof Slab	Cancelled
	57	Type V Cement	Cancelled
<u>Potential Change Orders Rejected by C/M</u>			
	6	Resolution Of USPE In Egypt	Rejected
CO6	9	Resolve USPE Requirement To Sign Dwgs	Rejected
	40	Establish Contract Interest Clause	Rejected
	43	Interest For Late US\$ Invoice Payments	Rejected
	44	Interest For Late LE Invoice Payments	Rejected
	51	A1, A2, A3 - Filter Backwash System	Rejected
<u>Potential Change Orders Outstanding</u>			
	14	Extra Geotech Work At EWST in Minia	Review/LA
	16	Design Changes For Alternative Proposals	Review/LA
	18	Additional Scope For O & M Manuals	Review/LA
	19	Extend Raw Water Intake In Minia	Review/LA
	20	Redesign Raw Water Intake in Fayoum	Review/LA
	21	Revise CPM Schedule As Required by USAID	Review/LA
	28	Revise Scope Of Water Line Extensions	Review/LA
	30	Construction Power At the Water Plant Sites	Review/LA
	31	Revise Scope Of Waterline Leak Detection	Review/NO
	34	LE Withholding On Subsidized Rebar	Review/LA
	35	Force Majeure Due To Capsized Barge	Review/LA
	38	A2 - Domestic Waste Disposal, Admin Bldg	Review/LA
	45	Raw Water Intake Modif. At Beni Suef	Review/NO
	46	Additional Sulphate Resistant Cement	Review/LA
	47	A6 - TWR Flootation	Review/LA
	48	A1, A2, A3 - Add Alarms And Annunciators	Review/LA
	49	Concrete Credit at Generator Stations	Review/LA
	50	Additional O&M Requirements At Beni Suef	Review/LA
	52	A15 - Minia WWPS No. 5	Review/LA
	53	Water System Surge Protection	Review/LA
	54	Water System Pressure Reduction/Sustaining	Review/LA
	56	Shipping Preemption Due To Gulf War	Review/LA
	58	LA Failure To Submit Monthly Reports	Review/NO
	59	Differing site Conditions At EWST	Review/LA

ANNEX A (3 of 3)

LEGEND

Change Orders and Contract Amendments are first prepared by the Construction Manager and issued for review and "Approval in Principle" by the Contractor, USAID and NOPWASD. These are designated "Draft". When approval in principle has been reached, the document is revised as necessary and issued by the Construction Manager for "Acceptance" by the Contractor and "Approval" by NOPWASD. These are designated "Final". Changes that are finally executed are designated "Executed".

The following legend can be used to determine the status of each document at the end of a given month:

1. Issued for "Approval-in Principle" and with the Contractor (Draft/LA), with NOPWASD (Draft/NO), and with USAID (Draft/AI).
2. Issued for final "Acceptance" with the Contractor (Final/LA) and for final "Approval" with NOPWASD (Final/NO).
3. The Contractor's request for a Change Order has been "rejected" (Rejected).
4. It has been mutually agreed by the parties that a change order is no longer necessary and it is deleted (Cancelled).

ANNEX B
GRAPHS OF MONETARY EARNING SCHEDULES

ANNEX B

GRAPHS OF MONETARY EARNING SCHEDULES

(1) U.S. DOLLAR (US\$) EARNINGS SCHEDULE FIGURE 1

(2) EGYPTIAN POUND (LE) EARNINGS SCHEDULE FIGURE 2

The Cash Flow Schedule submitted on August 30, 1988 totaled US \$50,055,809 and LE 10,400,000, which when added to the US \$3,010,200 Mobilization Advance and LE 2,600,000 Down Payment, totaled the Contract price. Those cumulative values were plotted on Figure 1 and Figure 2 to compare with the total of actual payments made, exclusive of the US\$ Mobilization and LE Down Payment.

The Cash Flow Schedule submitted on January 10, 1990 included the US\$ Mobilization and LE Down Payment. That schedule totaled the Contract bid price. Therefore, in order to provide a meaningful comparison with the August 30, 1988 schedule, each month's accumulative value was reduced by the US\$ Mobilization and LE Down Payment and plotted against time on Figure 1 and Figure 2.

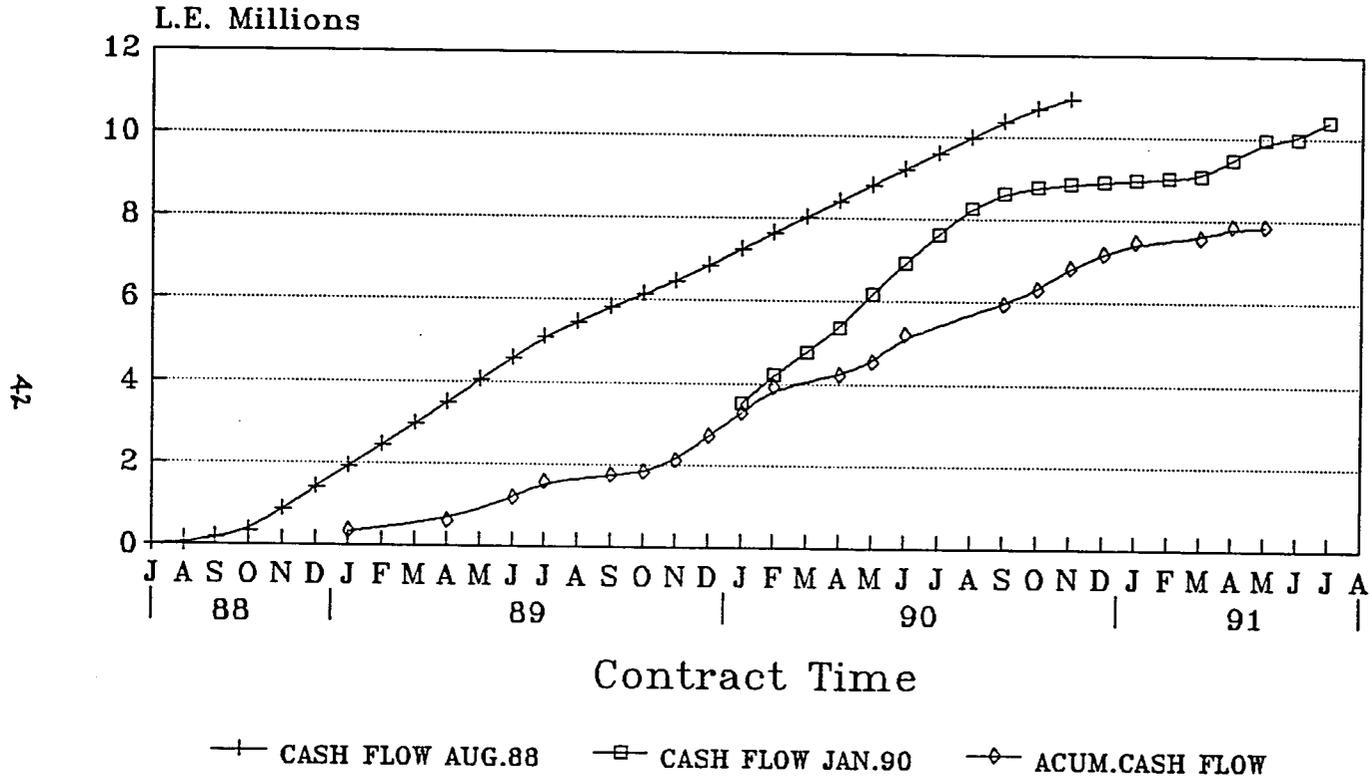
Neither of the two schedules reflected contractual deductions such as retainage and repayment of the mobilization that impact the actual value of each invoice, and in that respect, should not be termed "Cash Flow Schedules".

For clarity, the following deductions are typically made from the three types of invoices listed below:

<u>Type of Invoice</u>	<u>Percent of Retainage</u>	<u>Percent of Repayment</u>
FAS	10	10
Freight	0	0
US\$ Construction	10	0
LE Construction	10	20
Operation & Maintenance	0	0

In view of the foregoing, the accumulated amounts earned, as listed in Annex C, are decreased by the repayment value for comparison on Figures 1 and 2.

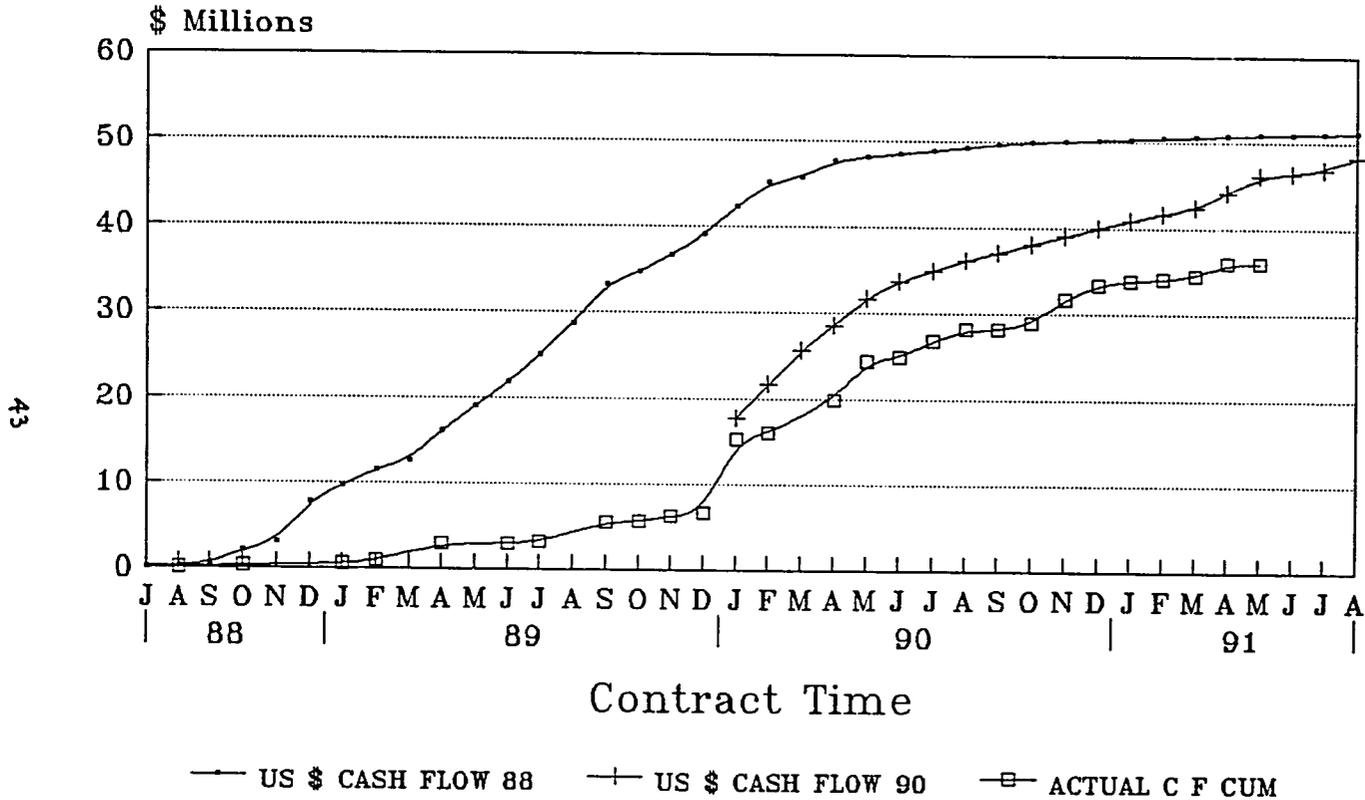
L.E. CASH FLOW VS. TIME



Slippage:

Aug 88 sch. 14.5 mts, Jan 90 sch 9.5 mts

US \$ CASH FLOW VS. TIME



Slippage:

Aug 88 sch. 18.5 mts, Jan 90 sch. 9.5 mts

ANNEX C
COMMERCIAL INVOICE LISTING

ANNEX C

COMMERCIAL INVOICE LISTING

Invoice No.	Date Submitted	Date Certified	Amount Certified for Payment	
			US\$	LE
1.	06/30/88	07/05/88	3,010,200	---
2.	06/30/88	07/05/88	---	2,600,000
3.	08/22/88	09/06/88	15,607	---
4A	10/16/88	10/12/88	88,805	---
5.	12/12/88	01/11/89	233,985	---
6.	01/24/89	02/06/89	231,780	---
7.	01/24/89	02/06/89	---	401,807
8.	02/19/89	02/22/89	125,697	---
9.	03/15/89	04/13/89	*2,268,342	---
10.	04/23/89	06/01/89	30,572	---
11.	04/25/89	04/17/89	---	343,783
12A	06/20/89	07/11/89	210,391	---
13A	06/20/89	07/11/89	---	705,663
14A	07/31/89	08/07/89	---	497,596
15A	09/03/89	09/19/89	---	117,282
16A	09/09/89	09/19/89	296,989	---
17.	09/09/89	09/19/89	*2,260,972	---
18.	09/09/89	09/19/89	* 17,300	---
19.	09/09/89	09/19/89	* 20,055	---
20A	10/26/89	11/05/89	* 355,457	---
21A	09/26/89	10/01/89	* 18,600	---
22.	09/17/89	09/19/89	---	101,189
23.	09/26/89	10/01/89	90,886	---
24.	10/29/89	11/01/89	---	103,502
25.	11/01/89	-----	Returned	---
26B	11/28/89	12/04/89	79,104	---
27.	11/07/89	11/11/89	* 237,940	---
28.	11/07/89	11/13/89	* 148,923	---
29A	11/14/89	11/16/89	---	369,202
30A	11/20/89	12/10/89	292,901	---
31.	12/20/89	01/02/90	* 322,546	---
32.	12/21/89	01/02/90	---	747,725
33A	01/04/90	01/11/90	849,958	---
34.	01/15/90	01/22/90	---	714,048
35.	01/21/90	01/22/90	777,618	---
36.	01/24/90	01/28/90	*7,431,555	---
37.	02/06/90	02/10/90	---	275,938
38.	02/06/90	02/10/90	773,858	---
39.	02/15/90	02/17/90	---	499,954
40A	04/01/90	04/05/90	1,151,544	---
41A	04/01/90	04/05/90	*2,316,520	---
42.	04/17/90	04/28/90	---	363,518
43.	04/21/90	04/28/90	655,539	---
44.	05/07/90	05/10/90	*2,260,639	---
45.	05/14/90	05/16/90	---	387,219

ANNEX C (2 of 4)

Invoice No.	Date Submitted	Date Certified	Amount Certified for Payment	
			US\$	LE
46.	05/14/90	05/16/90	686,823	---
47.	05/19/90	05/20/90	* 880,983	---
48.	05/19/90	05/22/90	*1,053,115	---
49.	06/04/90	06/06/90	---	425,246
50.	06/07/90	06/09/90	537,398	---
51.	06/27/90	06/28/90	---	439,634
52.	07/01/90	07/01/90	1,301,554	---
53.	07/01/90	07/01/90	* 708,495	---
55.	08/25/90	08/26/90	325,216	---
56.	08/25/90	08/26/90	*1,134,431	---
54A	09/15/90	09/17/90	---	414,564
57.	09/19/90	09/22/90	---	503,154
58.	09/27/90	10/03/90	496,174	---
59.	10/30/90	10/31/90	---	454,380
60.	10/31/90	10/31/90	284,303	---
61.	12/02/90	12/06/90	---	655,128
62.	12/02/90	12/06/90	693,841	---
63.	11/24/90	12/01/90	*1,812,415	---
64.	11/24/90	12/01/90	* 509,661	---
65.	12/20/90	01/05/91	---	395,759
65A	12/20/90	01/05/91	---	25,123
66.	12/20/90	01/06/91	409,534	---
67.	12/20/90	01/08/91	* 366,364	---
68.	12/22/90	01/08/91	* 411,833	---
69.	12/22/90	01/08/91	* 567,450	---
70A	01/27/91	02/11/91	---	339,441
71A	01/27/91	02/11/91	225,009	---
72.	01/12/91	01/26/91	* 95,967	---
73.	01/12/91	01/26/91	* 125,190	---
74.	01/12/91	01/26/91	* 321,097	---
75.	02/20/91	03/06/91	* 241,591	---
76.	02/20/91	03/06/91	* 21,932	---
77.	03/03/91	03/22/91	---	141,528
78.	03/03/91	03/22/91	70,094	---
79.	03/28/91	04/27/91	* 491,042	---
80.	03/28/91	04/27/91	* 721,102	---
81.	03/28/91	04/27/91	* 492,408	---
82.	03/28/91	04/27/91	---	☒ 183,009
83.	03/28/91	04/27/91	18,688	---
84.	04/24/91	05/12/91	---	☒ 333,860
85.	04/24/91	05/18/91	☒ 47,452	---

* denotes FAS payment.

☒ denotes payment from which liquidated damages have been deducted.

ANNEX C (3 of 4)

Total Amount Certified	\$ 41,656,778	LE 12,539,252
Less Change Order Payments	(102,607)	(25,123)
Less US\$ Mob. and LE Advance	<u>(3,010,200)</u>	<u>(2,600,000)</u>
** Total Amt. of Orig. Cont. Earned	38,543,969	9,914,129
Less Repayments	(2,568,012)	(1,982,825)
Less Retainage	(3,662,417)	(993,925)
Plus Change Order Payments	102,607	25,123
Plus US\$ Mob. and LE Advance	3,010,200	2,600,000
Total Amt. Certified For Payment	\$ 35,426,349	LE 9,562,502

** This will total the original Contract amount of US\$ 53,066,009 and LE 13,000,000 when the work is complete.

The total earned US\$ 38,543,969 represents 73% of the total US\$ payment for the project. The total bid price was US\$ 53,066,009.

Invoices certified for payment under the entries marked with an * are for FAS payment articles and total \$ 27,613,925. The certified payment value amounts to a total of \$ 25,680,152 for FAS and \$ 1,933,773 for Freight. The total bid value for FAS was \$ 29,222,963 and \$ 2,235,252. The certified payments to date represent 88% and 87% of the total US\$ value for that work, respectively.

Invoices certified for payment under the unmarked dollar entries are for design, construction, and O & M articles, and total \$ 10,921,049. The total bid value for US\$ design and construction was \$ 16,096,209. The certified payments to date represent 68% of the total US\$ value for that work.

Invoices certified for payment under the LE payment column are for design and construction, and total LE 9,772,601. The total bid value for LE design and construction was LE 13,000,000. The certified payments to date represent 75% of the total LE value for that work.

Liquidated Damages amounting to \$ 928,655 and LE 227,500 have been recommended for assessment from the Contractor's payments representing seven weeks of penalty at 0.25% per week.

ANNEX C (4 of 4)

<u>Summary:</u>	<u>US\$</u>	<u>LE</u>
Percent Overall Project Complete	73%	75%
Percent FAS Complete	88%	-
Percent Freight Complete	87%	-
Percent Construction and Design Complete	68%	75%

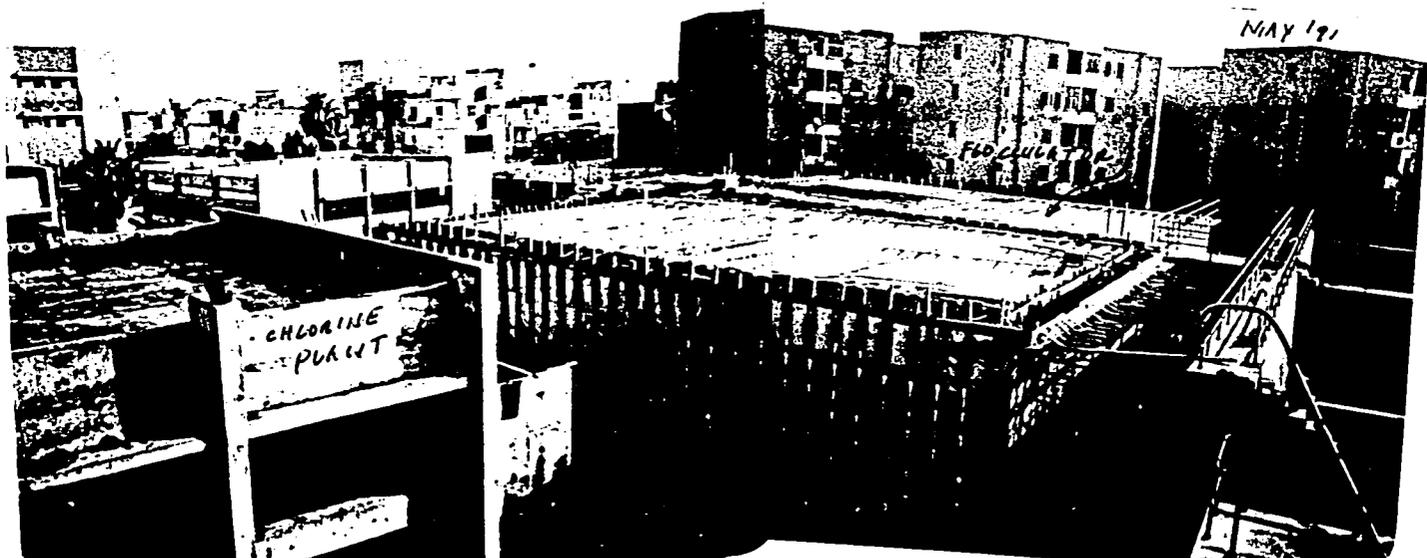
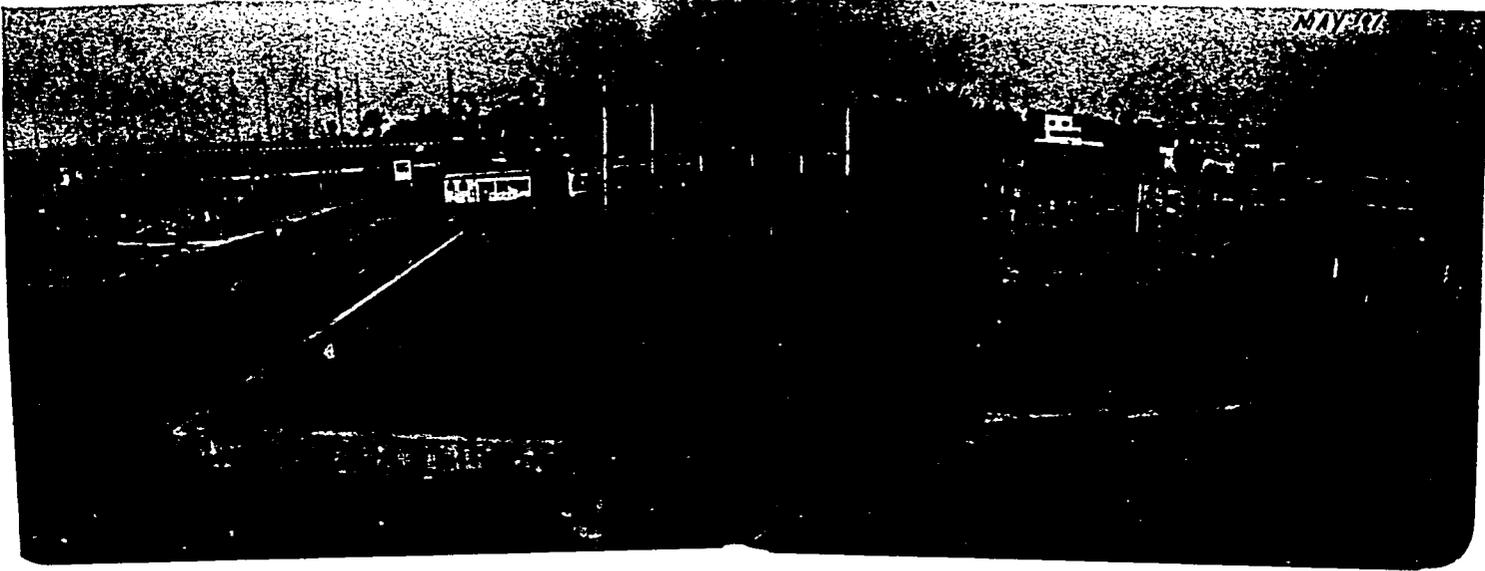
Comparison With Cash Flow Schedules

Scheduled payments through May 1991 should be compared to the total amount paid plus retainage less change order payments and US\$ and LE advances.

(a) Total amount paid to date	\$ 35,975,959	LE 7,931,304
(b) Schedule dated Aug. 1988	\$ 47,949,859	LE 10,400,000
(c) Schedule dated Jan. 1990	\$ 46,028,590	LE 9,941,841

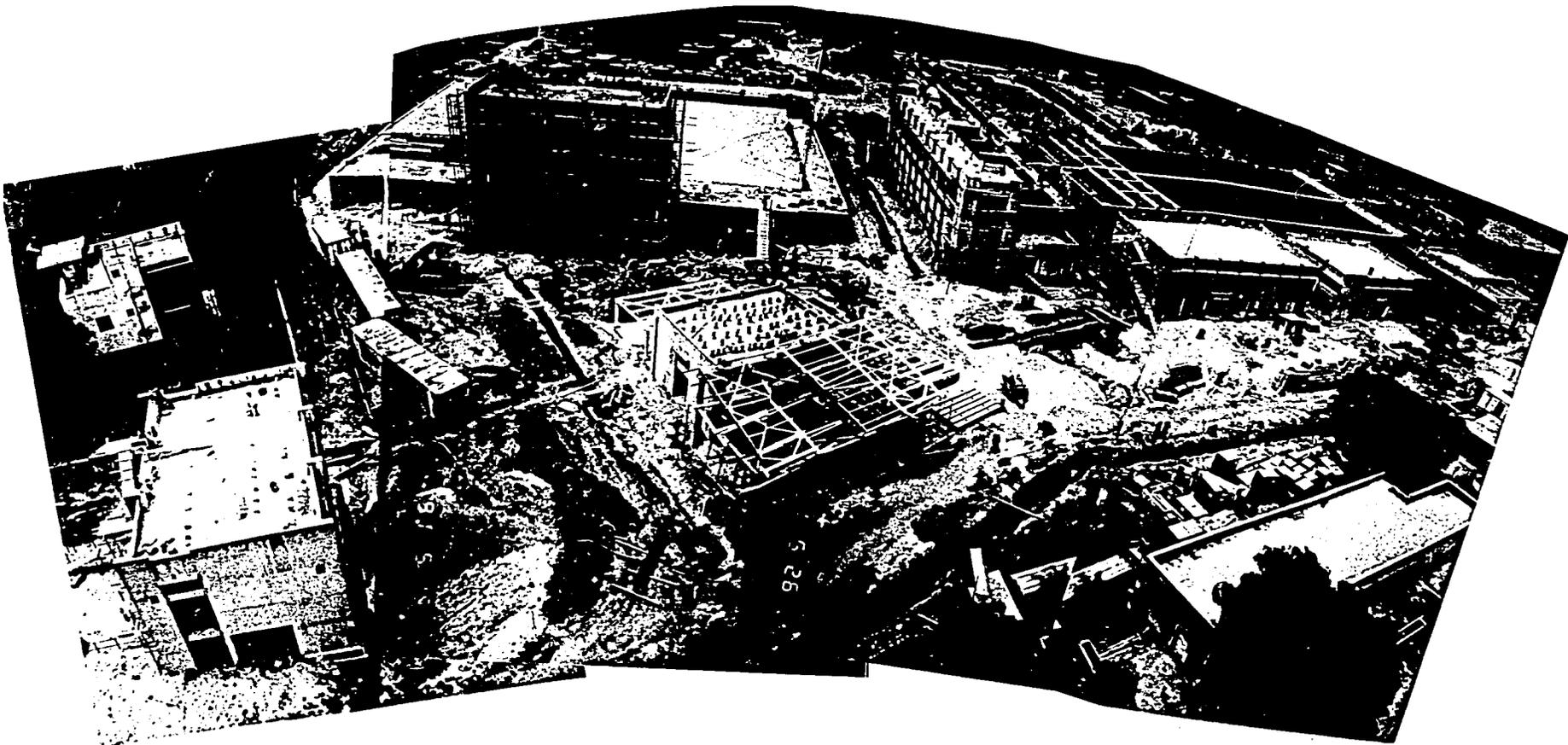
The overall value of the work completed to date in US\$ is 75% of the August 1988 cash flow schedule and 78% of the January 1990 cash flow schedule. For LE, they are 76% and 80%, respectively.

ANNEX D
PHOTOGRAPHS



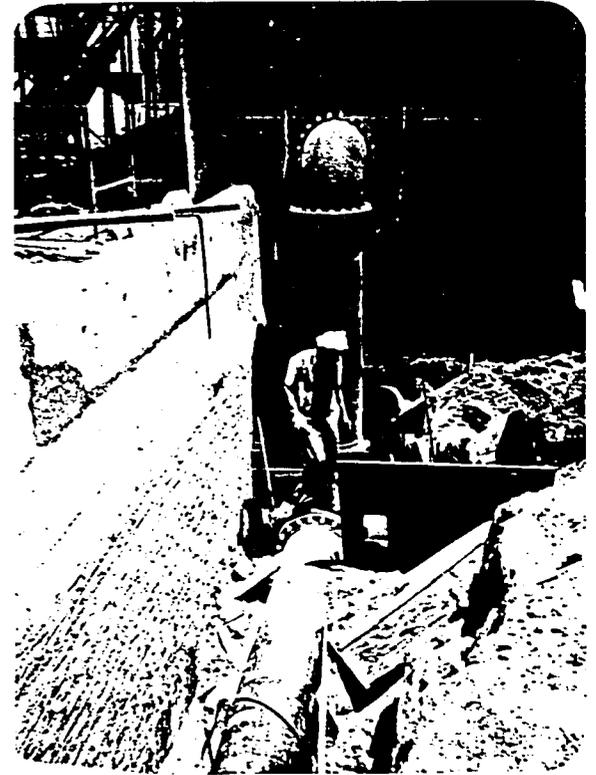
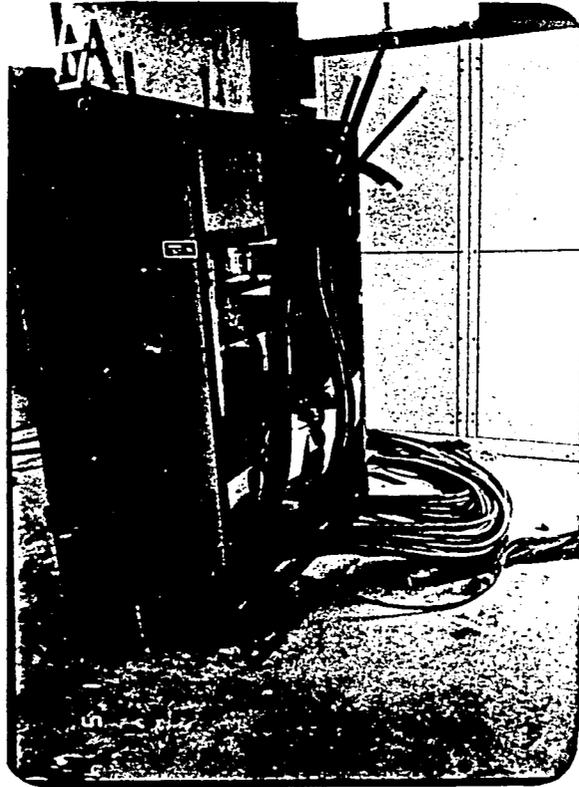
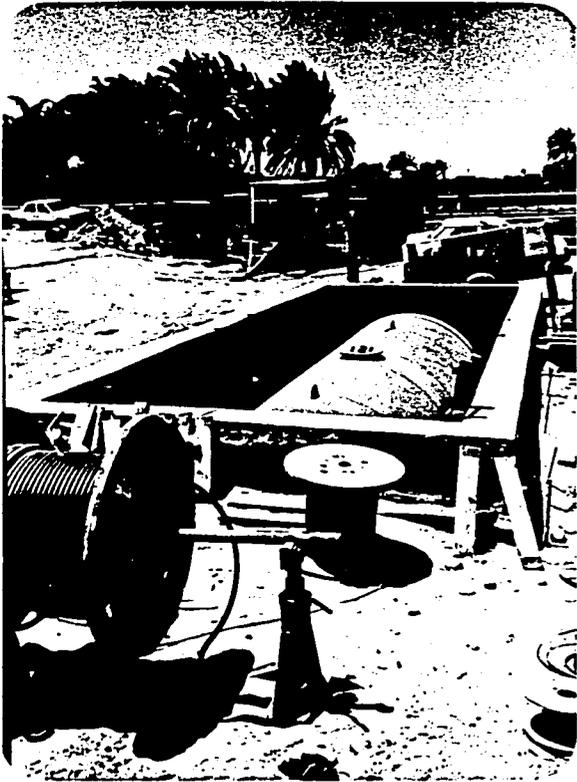
BENI SUF

5.



Kohafa Water Treatment Plant Site

51-



MINIA WATER TREATMENT PLANT

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