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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT PERFORMANCE AUDIT REPORT

LIBERIA PORT OF MONROVIA DREDGING PROJECT

(LOAN 617-LBR)

January 27, 1975

Operations Evaluation Department

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1969-1974: US$ 1.0 = Lib$ 1.0

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PROJECT PERFORMANCE AUDIT MEMORANDUM
LIBERIA PORT OF MONROVIA DREDGING PROJECT

Introduction

This report represents an audit of achievements under the Liberia Port of Monrovia Dredging Project, for which Loan 617-LBR of June 20, 1969, was mostly disbursed by October 1973.1/ It is based mainly on a review of the attached Project Completion Report (PCR), as prepared by the Bank's Western Africa Regional Office, against other relevant reports and important material from the Bank files and on discussions with some of the Bank staff who had been involved in the project.

The Project

The Government of Liberia first approached the Bank in late 1966 about a loan to help finance improvements in the Port of Monrovia, the country's major port. The main item of the proposal was dredging to accommodate the larger vessels expected to carry iron ore exports. The Bank considered the proposal favorably, but was particularly interested in three issues. One was the need to strengthen the National Port Authority (NPA) so that it could be able to administer the ports under its jurisdiction adequately, and to be able to take over the operations of the Port of Monrovia from the Monrovia Port Management Company (MPMC, a company headquartered in New York which had a contract for the management of the port). A second issue was the relations of the Government with the mining companies; the Bank was concerned lest the companies receive most of the benefits of the proposed investments. An additional point, closely related to these first two issues, was the need to decide on the timing of implementation of a revised system of port charges. A final issue was the Government's plans to greatly expand facilities at Port Harper, a project the Bank considered economically unjustified.

Contacts between the Government and the Bank continued during 1967 and a satisfactory solution was found for the first two issues. Discussions about the Port Harper expansion program continued for another two years. A formal request for a loan was submitted in February 1968. The Government wanted the loan processed as soon as possible because it had committed itself to Japanese iron ore buyers to complete dredging in the port to 42 ft by April 1, 1969, (the depth then was 38 ft). However, this schedule proved difficult to meet mainly due to Bank staff constraints and to unexpected problems in project design. An appraisal mission was sent in September 1968, and the Loan Agreement was signed in June 1969. This nine-month lag can be

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1/ The project is completed, but US$ 333,000 from the loan remain undisbursed. These funds are earmarked for the preparation of a development plan for Liberian ports, an item originally not included in the project. Preparation of the plan is now underway and will be completed in 1975.

partly attributed to further discussions dealing with the Port Harper issue.[1/] Taking into account the above mentioned deadline for dredging, the Bank had agreed during negotiations to retroactively finance dredging costs (amounting to US$ 465,000) from February 1, 1969, so that dredging could begin before the loan became effective. The Government felt that the Japanese buyers would be satisfied if dredging started before April 1, 1969, even it it was not completed by that date.

The project called for expenditures estimated at US$ 4.2 million equivalent and comprised the following: a) dredging the approaches and an area within the port to accommodate bulk ore carriers and tankers requiring 45 ft of water; b) provision of two 1,250 hp tugs and a pilot launch; c) provision of additional buoying and lighting of navigable channels; d) management assistance to NPA; e) engineering consultants' services for the dredging program; and f) consultants' services to prepare feasibility studies for the development of road approaches to the port. The US$ 3.6 million Bank loan was to cover the total foreign exchange cost of the project. The Loan Agreement contained special covenants aimed at improving NPA's organizational efficiency.

Project Implementation

The project was implemented with little deviation from the original plan. Actual costs were US$ 4.28 million equivalent or 1.4% above the US$ 4.22 estimated at appraisal time (PCR, p.7).

There was a three-month delay in dredging mainly due to modifications in the location of the turning basin to avoid dredging in hard rock, the removal of which would have resulted in substantially higher costs and longer delays. The two tugs and pilot launch and the additional buoying and lighting were purchased on schedule, although the two tugs were equipped with 1,700 hp instead of 1,250 hp engines as envisaged at appraisal time. The consultants employed in the dredging program and in the preparation of feasibility studies performed satisfactorily.

The main difficulties were found in the implementation of management assistance to NPA. Although NPA took over the operations of the Port of Monrovia in July 1972, the difficulties in providing this assistance--the port operations advisor was terminated after one year and there were delays in the appointment of a port accounting advisor--delayed the implementation of necessary improvements and studies (PCR, pp. 5-6). These included the preparation of the tariffs study, which finally had to be undertaken by a consultant, and the preparation of a development program for Liberian ports. Recent difficulties in handling timber exports in Monrovia have also been attributed

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1/ In the end, the Government went ahead with a reduced version of the Port Harper program which included the renewal of the existing facilities.

to delays in implementing operational improvements as part of overall port planning.

Most of the covenants were adhered to (PCR, pp.1-3). However, the Government has yet to implement the revaluation of all NPA port assets, while NPA has not been able to complete the comprehensive port development program.

The economic benefits expected to result from the use of ships of larger size in the iron ore trade have materialized. With the harbor deepened to 45 ft, fully laden 80,000 dwt 1/ vessels can be berthed as compared to the pre-project maximum of 50,000 dwt. As a result, the average volume of cargo for vessels above 50,000 dwt increased from 58,000 tons in 1971 to 60,000 tons in 1972 and 67,000 tons in 1973. Vessels above 50,000 dwt carried 52% of total traffic volume in 1972 and 69% in 1973. Actual traffic volume has been close to the appraisal estimate, although iron ore exports have been fluctuating due to world market conditions (PCR, p.9). The project's economic rate of return is expected to be about 40% as compared with the appraisal estimate of 28% (PCR, pp.9-11) due mainly to the greater than anticipated share of total traffic carried by vessels above 50,000 dwt. This recalculation is based on the assumption that an increase in ship size from 50,000 to 67,000 dwt results in a 15% reduction in transport costs, and that the projected annual iron ore export volume of 11.3 million tons will be maintained through 1986. What has not been possible to establish in this audit is the proportion of the project benefits that has been retained by Liberia and the proportion kept by the foreign shipping and mining companies. It is likely, however, that the modification of the system of port charges, which is now based on the size of vessels, and the country's 50% share of the mining companies' profits, have helped to retain a significant part of the benefits in the country. This issue is important, and should be the subject of an in-depth study by the Operations Evaluation Department, probably including other projects where this issue has also arisen.

The financial situation of NPA appears better than forecasted at appraisal time due to the slightly higher than expected traffic volume and a tariff increase in 1971 (PCR, pp.12-15). Actual net income has exceeded the appraisal estimate every year since 1970, while the return on average net fixed assets has been greater than the appraisal in every year except 1972. Most financial indicators, however, are not very significant because assets have not been properly revalued.

The Bank's Role

Aside from its financial support, a major contribution of the Bank has been its efforts to strengthen NPA both before and after the signing of the loan. The Bank played an important role in advising NPA in their negotiations for a management contract with MPMC, which operated the port until

1/ Deadweight ton.

July 1, 1972. It also rightly objected to the proposed plan for the expansion of Port Harper. However, the Bank could perhaps have been more forceful in stressing the importance of management assistance, the need of solving the difficulties faced in the hiring of some of the advisors, and the advantages of clarifying NPA's financial position through an earlier revaluation of assets.

Another, perhaps more important Bank contribution, was to raise the issue of the distribution of benefits, to insure that most of the project benefits accrue to the country. It has not been possible to establish the outcome of these efforts, but the revision of the system of port charges was clearly a step in the right direction.

Conclusions

The project has been largely successful. The investments were made without serious problems and the rate of return is expected to be higher than originally estimated. However, the final impact of the project on the Liberian economy remains unclear. The NPA has shown improvement in its operations, but at a slower pace than what was envisaged.

ATTACHMENT

Project Completion Report
Port of Monrovia Dredging Project

1. Project Data

1.01	Amount of Loan	US$ 3,600,000
	Amount disbursed (Oct. 31, 1973)	US$ 3,267,025.14
	Amount in awarded contracts	US$ 3,267,025.14
	Date of Loan Agreement	June 20, 1969
	Closing Date (Original)	November 30, 1971
	Closing Date (Latest Revision)	May 31, 1975
	Current Exchange Rate	US$ 1.0 = Lib $ 1.0

1.02 The project (Maps 1 and 2) provided for:

a) dredging the entrance and approaches, and an area within the port to accommodate bulk ore carriers requiring about 45 ft of calm water;

b) provision of two 1250 hp tugs and a pilot launch;

c) provision of additional buoying and lighting equipment for the navigable channels;

d) management assistance to NPA;

e) engineering consultants' services; and

f) consultants' studies of road approaches to the port.

1.03 Under the Loan Agreement with the Republic of Liberia and the Project Agreement with the National Port Authority (NPA), the following were the main special covenants.

A. Government undertook to:-

(a) re-lend to NPA an amount of US$ 3,385,000 out of the proceeds of the Loan on terms and conditions satisfactory to the Bank;

(b) ensure that NPA carried out its Project Agreement obligations;

(c) revise NPA legislation before June 20, 1970;

(d) ensure that no exemptions from the tariffs, dues and other charges of NPA for past services are claimed or enjoyed by any Government department;

(e) exempt NPA from payments to the Government by way of (i) return on the Government equity, or (ii) interest charges on the outstanding US Loan, or (iii) taxes, or (iv) distribution of surplus revenues, until NPA prepares a comprehensive port development program;

(f) ensure that port users are adequately represented on the Board of NPA; and

(g) assign, on termination of the Monrovia Port Management Contract, to an appropriate Government agency, the responsibility for the maintenance and operation of the Mesurado Bridge, United Nations Drive and St. Paul River Bridge.

B. NPA undertook to:-

(h) arrange prior to December 31, 1969, with the Monrovia Port Management Company (MPMC) or other acceptable firm, for the management of all or any NPA ports;

(i) as soon as possible, (i) establish an adequate organizational structure, (ii) engage suitable personnel including a Port Adviser and Port Accounting Adviser, (iii) cause MPMC to appoint a Port Engineer, and (iv) prepare a comprehensive program for development of the NPA ports;

(j) transmit to the Bank its annual accounts as audited by an approved auditor, along with his report, not later than four months after the end of its fiscal year; and

(k) to make property insurance arrangements acceptable to the Bank.

C. Government and NPA jointly undertook to:-

(1) revise tariffs and charges relating to the Port of Monrovia by May 31, 1970, and review them from time to time so as to ensure generation of revenue sufficient to (i) cover operating expenses in respect of the Port of Monrovia, including adequate maintenance and depreciation, (ii) yield an annual return of at least 5% for 1971 and 7% for 1972 and thereafter on the value of NPA's net fixed assets in operation at the Port, and (iii) cover interest and amortization of debt and maintain adequate working capital and revenues; and

(m) re-value all fixed assets in operation in the NPA ports by the end of 1970.

2. Summary

2.01 The project with minor revisions has been physically executed as envisaged at appraisal.

2.02 The benefits anticipated at appraisal have accrued and tankers and ore carriers of up to 90,000 tons dwt now regularly call at Monrovia.

2.03 NPA has fulfilled its loan covenants to a reasonable extent, but:-

(a) it has been slow to arrange the Liberian port development study. Interim study recommendations are expected in 1974;

(b) it has not succeeded in recruiting a Port Engineer. It promises to make fresh efforts to do so;

(c) the engagement of a port operations adviser was for a shorter term than envisaged at appraisal. NPA has instead agreed to engage consultants as and when necessary;

(d) it has experienced difficulty in recovering charges from Government departments for the use of port services in compliance with the covenant precluding exemptions from such charges. However, NPA is trying to reach a settlement with Government on outstanding debts, and is aware of its obligations for the future.

2.04 The Government has also fulfilled its loan obligations, but:-

(a) it had at one time failed to ensure adequate commercial representation on the Board of NPA. This has been remedied at the Bank's request;

(b) it has not, with NPA, completed the revaluation of all NPA port assets but this will be done along with the forthcoming Liberian port development study; and

(c) it had not, with NPA, ensured the achievement at the Port of Monrovia of the stipulated rate of financial return of 7% in 1972.

2.05 The project has achieved an economic rate of return of about 40% compared to the 28% assumed at appraisal (paras. 6.01 - 6.08).

2.06 The finances of NPA are in a fairly healthy condition in that debt charges are being met and NPA can pursue limited objectives for port development; however, the overall financial position will need a careful review on re-evaluation of assets.

2.07 NPA has acquired direct control of Liberian ports to a reasonable extent considering the level of its expertise and resources.

3. <u>Action Taken and Recommendations</u>

3.01 Government has been informed of the Bank's acceptance of the Terms of Reference and the proposed short list of consultants for the Liberian Port Development Study.

4. Physical Execution of the Project

Dredging

4.01 Dredging the harbor and channel to permit safe passage of iron ore carriers of 45 ft draft (about 80,000 tons dwt) was satisfactorily completed. An area of approximately 60 acres of reclaimed land resulted from dredging operations.

4.02 The dredged area differs in detail from that envisaged at appraisal because of minor modifications to the location of the turning basin to avoid dredging in hard rock. At appraisal, it was envisaged that this rock would be removed by NPA at its own expense but the modifications to the turning area agreed during construction resulted in an overall saving in expenditure to NPA.

4.03 Dredging commenced in November 1968 and was completed in March 1970. The appraisal envisaged that the bulk of the work would be completed during 1969 and the delay is largely accounted for by the additional dredging resulting from the modifications to the turning basin.

4.04 The Contractor for dredging was the Bauer Construction and Dredging Company (US) and the consultant was Lyon Associates Inc. (US). The work of the contractor was satisfactory.

4.05 The project has not had any noticeable effect on the natural regime within the harbor, and maintenance dredging since project completion has followed expectations.

Craft and Navigational Aids

4.06 The first of the two tugs provided under the project was supplied by the former Monrovia Port Management Co. (MPMC) to NPA at a negotiated price because the Bank agreed that the need for a tug was sufficiently urgent to dispense with the normal tendering procedure. The second tug was supplied by the Equitable Equipment Co. (US) after competitive tendering. Both tugs are in general compliance with appraisal requirements, although the engines are of 1700 hp compared with the 1250 hp envisaged.

4.07 A pilot launch was supplied by the lowest competitive tenderer, James & Stone (Brighthingsea) Ltd. (UK), but payment was made directly by NPA without use of Loan funds.

4.08 All craft have proved satisfactory in service. The consultant in each case was Richard Taubler Inc. (USA).

4.09 Lights and buoys were supplied under the direction of the same consultant, by the Pennwalt Corporation (USA). NPA have complained that spares have been difficult to procure and expensive.

Technical Services - Consulting Services

4.10 Consultants for the dredging contract, Lyon Associates, Inc. (USA), have completed their duties satisfactorily. However, some NPA staff questioned whether the consultants had adequately foreseen the extent of hard rock within the area to be dredged, and also whether the bed slope at the periphery of the dredged area had been dredged to a sufficiently flat slope to prevent the slippage of additional material into the dredged area. Both consultants and contractor have long since left the site and could not therefore be consulted on these matters. From an examination of the records within the Bank, the mission concludes that the consultant exercised reasonable judgment. Material, which may have slipped into the dredged area, has subsequently been removed by maintenance dredging.

4.11 Consultant naval architects, Richard Taubler Inc. (USA), have also completed their work, which must similarly be regarded as satisfactory. Nevertheless, doubts remain as to the adequacy of their evaluation of the cost and availability of equipment spares in the bid analysis of navigation lights.

4.12 Consulting engineers, Stanley Consultants Inc. (USA), have completed their work under the project for the following feasibility studies of road improvements leading to the Port of Monrovia.

(a) Mesurado River Bridge

(b) United Nations Drive from Mesurado to St. Paul Bridge

(c) Monrovia Freeway from UN Drive junction to Monrovia-Kakata Highway at Paynesville.

The road works recommended by the consultants are included in the Second Highway Project. The detailed designs under the highway project have however failed to anticipate recent increases in log traffic to the port. The matter has been brought to the attention of the Highways Division.

4.13 A financial adviser was engaged by NPA on January 1, 1971 for a two year contract in compliance with the Loan Agreement. His contract was renewed on January 1, 1973, but has ceased to be a charge against the Loan. He advises Mr. Tubman, NPA managing director, on various financial and administrative matters.

4.14 The financial adviser's appointment has been of value to NPA, and in particular to the present managing director in the administration of the loan. However, some of the duties envisaged for him at appraisal, notably cost studies for tariff review and asset revaluation, have been undertaken largely by the Comptroller. The financial adviser established accounting systems at Greenville and Harper, but in the planning and training of accounting personnel he was less successful. The role of advisers and of the staffing of the managing director's office is also discussed in paragraphs 8.07 and 8.08.

Technical Services - Advisers

4.15 A port operations adviser was appointed in July 1971, but his services were terminated by NPA on July 3, 1972 on grounds strongly contested by the adviser. The Bank agreed on September 28, 1972 to a proposal by NPA that another adviser need not be appointed before the Closing Date and that instead consultants would be appointed to furnish operational advice if required. The appointment of consultants for this purpose is not at present contemplated or needed but consultants may be required later if NPA were to assume control of part of Port Buchanan, or a greater measure of control at Monrovia Freeport.

4.16 Delay in the appointment of a port accounting adviser resulted in a study of port tariffs being entrusted to consultants, Muller, Fox, and Pennington (USA), under the project. Moreover, the preoccupation of this adviser and the operations adviser with organizational, financial and operational policy matters and the premature termination of the latter's appointment contributed to a delay in forumulating a development plan for all Liberian ports. The absence of a port operations adviser may also have contributed to NPA's recent difficulties in handling logs at Monrovia. However, the Monrovia port operations as a whole, appear to be satisfactory.

Progress Reports

4.17 NPA has been informed that further progress reports are not required other than an annual review of all their activities. During the construction period of the project, NPA's quarterly reports did not always fully meet the Bank's requirements.

Project Cost

4.18 The following table discloses broad agreement between the final costs of the principal project items and costs assumed at appraisal.

Loan Category	Item	Appraisal Local	Appraisal Foreign	Appraisal Total	Final Local	Final Foreign	Final Total	% variation on cost on appraisal
						US$ or Lib$ '000		
I	Dredging	400	1600	2000	531	1917	2448	+ 22.40
II	Tugs, Pilot Boat and Navigational Equipment	50	1150	1200	35	1303	1338	+ 11.50
III	Consultancy other than road studies	50	200	250	49	209	258	+ 3.20
IV	Consultants for road feasibility studies	40	215	255	40	194	234	- 8.23
V	Unallocated	80	435	515				
	Sub-total				655	3623	4278	+ 1.37
VI	Undisbursed Unallocated				-	333	333	
	Total	620	3600	4220	655	3956	4611	+ 9.27

As already noted, the increase in dredging cost is primarily due to a quantity increase because of the modification to the turning basin. The variation in cost of all other items is within the amount provided by the contingency of 15% allowed at appraisal. Details of the costs of individual items is given in Annex 1.

Loan Disbursements

4.19 NPA made direct payments from their own resources for all or part of some project items, an example, already noted, being the pilot boat supplies under Loan Category II. The table below shows the amount disbursed against each Loan category and the undisbursed amount of US dollars which the Bank has agreed may be used towards the cost of a development plan of Liberian ports.

		US$			
Category	Description	Original Loan Allocation	Revised Loan Allocation	Disbursed	Undisbursed
I	Dredging	1,600,000	1,900,000	1,839,902.00	60,098 .00
II	Tugs and Equipment	1,150,000	1,150,000	1,076,927.75	73,072.25
III	Consultants for I & II	200,000	200,000	156,447.99	43,552.01
IV	Consultants for road study	215,000	215,000	193,747.40	21,252.60
V	Unallocated	435,000	135,000	-	135,000.00
		3,600,000	3,600,000	3,267,025.14	332,974.86

4.20 At appraisal, the estimated disbursement schedule was prepared on an annual basis only; the following table compares this with actual disbursements.

	Cumulative Disbursements (US$ Million)		
Calendar Year	Appraisal	Actual	% Variation
1969	3.0	1.36	-54.6
1970	3.5	3.03	-12.2
1971	3.6	3.21	-10.8
1972		3.25	
1973		3.32	

4.21 A schedule of quarterly disbursements for the project and of estimated disbursements of remaining funds for a port development plan are shown in Annex 2.

Closing Date

4.22 The original closing date for the Loan was November 30, 1971, later extended to November 30, 1973 and again to May 31, 1975. A further extension to December 31, 1975 to allow the completion of the port development study may be necessary. This should be reviewed when the consultants' proposals have been received.

5. Traffic

5.01 A summary of traffic for the years since appraisal are shown below, and a comparison between the latest forecasts and the appraisal is shown in Annex 3. The 1973 traffic estimate is based upon 9 months' data.

5.02 Petroleum traffic was substantially greater than the appraisal forecast in 1971, slightly more in 1972, but in 1973 there was an offsetting decline which brought the total volume 1970/73 back to slightly above the forecast trend.

5.03 By contrast, general cargo traffic declined in 1972 after being slightly above the appraisal forecast previously. Recovery in 1973 is likely to bring the four year total to 4% above forecast.

5.04 Iron ore traffic has also fluctuated. In 1970, it was about 22% above the appraisal forecast as a result of one company (BMC) achieving more rapid growth than expected. In 1971, however, world demand conditions restricted output to near forecast levels, a relationship which also held in 1972. In 1973, forecast demand is likely to be exceeded, again due to strong world demand.

5.05 The appraisal assumed that an average of 11.3 million tons per annum would be exported by 1986; there is no reason to alter this forecast, the above-average 1973 volume being probably a cyclical effect. Any adverse effect of increased petroleum prices on total demand in industrial countries of Europe and North America will tend to be offset by Liberia's relatively close adjacency, and therefore low transportation costs to these markets.

6. Economic Evaluation

6.01 The economic benefit expected to result from the project arises from vessel economies of scale. With the original 38 ft alongside, vessels larger than 50,000 dwt would generally not have been able to berth fully laden; with the harbor deepened to 45 ft, fully laden 80,000 dwt vessels could be handled. The savings per ton of cargo was estimated at 15% with the larger vessels.

6.02 Analysis of data for 1972 and 1973 (to September) indicates the following pattern for iron ore vessels of 50,000 dwt and over. Petroleum vessels are unlikely to reach 50,000 dwt on Monrovian traffic volumes and are therefore excluded from this analysis of benefits.

Traffic Volume by Vessel Size

	1972	1973 (est)
Vessel Size (000 dwt)	50+	50+
% of Traffic Volume	52	69

6.03 The average volume of cargo for vessels above 50,000 dwt increased from 60,000 tons to an estimated 67,000 tons between 1972 and 1973. The average large vessel size was probably about 58,000 tons in 1971.

6.04 The maximum volume, which could have been carried by any vessel in the absence of the project, was 50,000 tons. Therefore, the benefit is the saving in transport costs of increasing the average load of these vessels to 58, 60 and 67 thousand tons in 1971, 1972 and 1973 respectively. The change, if any, in the average load of vessels smaller than 50,000 dwt is not attributable to the project.

6.05 The long-term transport cost saving with increased vessel size is most appropriately based upon shadow prices of vessel operations, rather than actual rates which **fluctuate** in accordance with the state of the market. A recent study 1/ shows the shadow price cost reduction per ton of cargo as slightly under 15% for an increase from 50,000 to 58,000 and 60,000 dwt, and over 15% for 50,000 to 67,000 dwt.

6.06 Freight rates averaged $2.3 per ton at time of project appraisal. The benefit resulting from the cost reduction was accordingly about 32, 34 and 36 cents per ton affected in 1971, 1972 and 1973 respectively.

6.07 The appraisal forecast of 11.3 million tons of iron ore shipped annually is still employed for benefit calculation, the 1973 tonnage being considered a short-term fluctuation from trend. Assuming a further increase in vessel size and the percentage of traffic carried in large vessels, the benefits for the three years 1971-73 and the period up to 1986 are shown below:

	Total Traffic million tons	Traffic Affected %	Saving (¢ per ton)	Total Saving ($ million)
1971	10.6	50	32	1.7
1972	11.2	52	34	2.0
1973	12.6	69	36	3.1

	Total Traffic million tons	% in Vessels above 50000 dwt	Av. Large Vessels Size(000 dwt)	Av.Saving Per ton(¢)	Annual Saving ($ million)
1973	12.6	69	67	36	3.1
1986	11.3	85	80	41	3.9

1/ R.O.Goss "The Cost of Ships Time", Dept. of Trade & Industry, London, Jan. 1974

6.08 On the basis of the above benefit increase and assuming a constant rate of change during the intervening period, the economic rate of return is now estimated as a little over 40% as compared with the appraisal estimate of 28%. If the vessel size stabilized about the current level, the return would still be over 35%.

7. Tariffs and Finances

A. Tariffs

Port of Monrovia

7.01 At appraisal, it was realized that there was need for rationalizing and revising the tariff structure. It was contemplated that the port accounting adviser, whose services were to be financed under the Loan, would advise NPA on tariff reforms. It was agreed that tariffs would be reasonably related to costs and that the first revision would be effected by May 31, 1970. However, there was delay in recruiting a port accounting adviser. Consequently, the work of studying the tariff structure was entrusted to consultants, Muller, Fox and Pennington (USA). They submitted their recommendations in July 1970. After lengthy discussions between the authorities and port users, a new tariff schedule was developed, relating new tariffs to the costs of services and facilities. A major structural change incorporated therein was that the charges to vessels for entering the port and for lying alongside the quay were based on the size of the vessel, whereas previously the charges were based on tonnage of cargo landed/loaded. On being made effective, the revised tariffs evoked opposition from some interests, but this was subdued, and the revised basis of vessel charges has been found to be a beneficial reform. Further rationalization and revisions of the tariffs have been effected with the assistance of the Comptroller. The amendments have related mainly to rates for pilotage, fork lifts, overtime, iron ore, palm oil, idle labor and storage, and latex terminal and car park rents. A revision of crane and log-handling rates with a view to making an adequate recovery of the proposed outlay on equipment is now under consideration. The rates are kept under review in the light of costs.

Other Ports

7.02 At appraisal, it was noted that the port charges at Greenville were slightly higher than those at Monrovia. Since then, minor tariff amendments have been made for Greenville. Pending the introduction of completely new tariffs, conforming to Monrovia's, *ad hoc* adjustments are envisaged. Minor amendments have also been effected to the tariffs of Cape Palmas, but more substantial *ad hoc* changes would probably be necessary towards the costs of the remedial works and improvements. A complete restructuring of the tariffs would have to await long-term plans for the port.

B. Finances

Accounting

7.03 As part of the re-organization of NPA, coincidentally with the taking over of the assets and management of the Freeport of Monrovia from July 1, 1972, all principal accounting is being performed at NPA headquarters. The assets of Monrovia, including the original assets of 1948 and those of Greenville and Cape Palmas, form a part of the accounts of NPA as from July 1, 1972. These accounts also incorporate the outstanding balance (US$17.4 million as at July 1, 1972) of the debt to the Liberian Government in respect of the USA loan for Monrovia port construction, being repaid at present at the annual rate of US$375,000. An integrated system of financial and cost accounts has been gradually introduced and appears to be satisfactory, but refinements will be necessary having regard to the financial covenants and the possibility of further port development being undertaken. A drawback of the system is that it is mainly manual; however, computerization of payrolls, etc., is proposed to be introduced on an experimental basis and enlarged if found advantageous. In 1972, as in the previous two years, Coopers & Lybrand (UK) were retained as external auditors by NPA. The audited accounts for the half-year ending December 31, 1972 were not ready for the mission. The delay was ascribed to initial difficulties of integration of accounts, following the take-over of Monrovia, and resolution of the question of adoption of calendar year as NPA's financial year. The audited balance sheet of NPA, as at December 31, 1972, together with the related operating statement and the auditor's report were received in the Bank on November 26, 1973. Simultaneously with the refinement of accounting, NPA is attempting to improve budgeting, particularly of engineering expenditure, to ensure that estimates are more realistic and a better control over expenditure is exercised.

Financial Position

7.04 Income accounts for the Freeport of Monrovia, giving comparison between actuals and appraisal forecasts (made in 1968/69) for 1970/73, are at Annex 4. These accounts are summarized in a table on the next page.

7.05 Earnings are generally better than forecast due to (a) actual traffic being higher than envisaged, and (b) certain tariff increases. Working expenses conformed to the appraisal estimates during 1970 and 1971, showed some increase in 1972 and have levelled off in 1973. The income accounts of actuals pertaining to the periods prior to July 1, 1972, have been modified to include depreciation on the original assets at the rate adopted for NPA's accounts for the half-year ending December 31, 1972. This has been done for comparison purposes, since the relative appraisal forecasts allowed for depreciation of the old assets. At appraisal, the original assets were valued at $18.15 million (gross) whereas these have been taken on the books of NPA on July 1, 1972 at $15.03 million (gross). Consequently, the aggregate depreciation is relatively less. This has contributed partly to the higher net operating revenue and net income being realized than forecast. As a result, the operating and turnover ratios, the financial return and interest and debt service coverage are better than envisaged. The

(Continued on page 14)

($'000)

	Monrovia Port Management Company						National Port Authority				
	1970		1971		Jan. 1 to June 30 1972		July 1 to Dec. 30 1972		Jan. 1 to June 30 1973		1973
	Actuals	Appraisal Forecasts	Actuals	Appraisal Forecasts	Actuals	Proportionate Appraisal Forecasts	Actuals	Proportionate Appraisal Forecasts	Actuals	Proportionate Appraisal Forecasts	Budget Estimates
Operating Revenue	5059	4193	5466	4682	3006	2444	2591	2444	2794	2472	5362
Working Expenses	2724	2647	2904	2908	1879	1463	1635	1463	1547	1513	3365
Depreciation and Amortization	683	984	788	937	482	418	516	419	521	426	1015
Total Operating Expenses	3407	3631	3692	3845	2361	1881	2151	1882	2068	1939	4380
Net Operating Revenue	1652	562	1774	837	645	563	440	562	726	533	982
Interest - Revenue Charges	152	207	200	220	41 89	106	91 87	105	91 91	103	190 190
Other non-operating revenue	—	—	—	—	—	—	69	—	8	—	6
Net Income	1500	355	1574	617	597	457	513	457	734	430	988
Operating Ratio (%)	67	87	67	82	78	77	83	77	74	78	82
Average Net Value of Fixed Assets in use	14808	17052	16120	16631	16371	15852	17077	15852	16943	15193	16943
Turnover (%)	34	24	34	28	18	15	15	15	16	16	32
Return on Average Net Fixed Assets (%)	11.1	3.3	11.0	5.0	3.9	3.5	2.6	3.5	4.3	3.5	5.8
Times Interest Charges covered	10.9	2.7	8.9	3.8	7.2	5.3	5.1	5.3	8.0	5.2	5.2
Times Debt Service covered	4.4	2.7	3.9	2.6	6.6	5.1	1.8	1.7	6.6	4.8	2.6

rate of return for 1971 was 11% as against 5% stated in the financial covenant. However, the position deteriorated in 1972, the composite rate of return for the two half-years ending December 31, 1972 being 6.5% as against the stipulated rate of 7%. This was due to an increase in operating expenses. On the basis of the actuals for the first half of 1973, the return for the year may be about 8.5%. However, it has to be taken into consideration that NPA has yet to fulfill the covenant regarding revaluation of its assets. This will now be done by the consultants to be appointed for the port development study. If the assets on revaluation were found to be appreciably higher in value, the rates of return would probably be substantially less, as more depreciation would have to be provided and the asset base would be larger. Nevertheless, coverage of charges and debt service might be satisfactory. NPA and the Government should be asked to keep the position under continuous review and to take remedial measures if any are warranted for complying with the related loan covenants.

7.06 Balance sheets corresponding to the above-mentioned income accounts of Monrovia will be found at Annex 5 and are summarized below:

('$000)

	1970		1971		Jan. to June 1972	1972
	Actuals	Appraisal Forecasts	Actuals	Appraisal Forecasts		Appraisal Forecasts
ASSETS						
Net Fixed Assets	17,202	17,052	17,224	16,210	17,841	15,494
Net Current Assets	3,491	2,256	2,414	3,305	2,065	4,386
Total	20,693	19,308	19,638	19,515	19,906	19,880
CAPITAL AND LIABILITIES						
Long-term Debt	20,844	20,683	18,295	20,273	20,311	19,723
Equity (Deficit)	(151)	(1,375)	1,343	(758)	(405)	157
Total	20,693	19,308	19,638	19,515	19,906	19,880
Ratio of Current Assets to Current Liabilities	15.0	7.1	6.4	9.7	3.0	12.2
Ratio of Liquid Assets to Current Liabilities	13.6	6.3	5.7	8.9	2.7	11.5
Debt/Equity Ratio	100/0	100/0	93/7	100/0	100/0	99/1

7.07 The balance sheets relating to actuals have been modified to incorporate the value of the original assets ($15.03 million) as adopted for taking these on the books of NPA (after allowing for accumulated depreciation of $3.38 million) on July 1, 1972. This adjustment has been made to allow comparison with the appraisal forecasts. The auditors have remarked in their report on the NPA's accounts for the half-year ended December 31, 1972, that they have not seen adequate evidence to support the original fixed assets included in the accounts at a net book value of $11.65 million on the basis of an appraisal of the assets by the Authority's staff. Revaluation of NPA's assets by consultants for the port development study will now have to be awaited and the financial position re-assessed in the light thereof. The ratios of current and liquid assets to current liabilities, and the cash and bank balances, despite decline during the period, remained at acceptable levels. However, an unsatisfactory feature was the non-abatement in the balance of receivables, which aggregated about $1.2 million as on June 30, 1972. This is commented on again below in connection with NPA's balance sheets for the subsequent period. The debt/equity ratio is unfavorable because of the inclusion of the port debt to the United States.

7.08 Income accounts for all ports for 1970-73, containing comparative figures of actuals and appraisal forecasts, are at Annex 6. A summary of the accounts is on the next page.

($ '000)

	1970		1971		1972		Jan. 1 to June 30 1973		1973
	Actuals	Appraisal Forecasts	Actuals	Appraisal Forecasts	Actuals	Appraisal Forecasts	Actuals	Appraisal Forecasts	Budget Estimates
Operating Revenue	5,640	4,251	6,077	4,802	6,207	5,013	3,179	2,537	6,022
Working Expenses	3,318	2,692	3,447	3,003	3,917	3,026	1,802	1,565	3,794
Depreciation and Amortization	683	1,137	788	1,243	1,046	1,143	587	579	1,145
Total Operating Expenses	4,001	3,829	4,235	4,246	4,963	4,169	2,389	2,144	4,939
Net Operating Revenue	1,639	422	1,842	556	1,244	844	790	393	1,083
Interest-Revenue Charges	152	320	200	388	132 176	340	91 91	159	190 190
Other Non-Operating Revenue					69		8		6
Net Income	1,487	102	1,642	168	1,269	504	798	234	1,089
Operating Ratio (%)	71	90	70	88	80	83	75	84	82
Turnover (%)	-	-	-	-	33	23	17	24	33
Return on Average Net Fixed Assets in Use (%)	-	-	-	-	6.5	3.9	4.3	3.8	5.9
Times Interest Charges Covered	10.8	1.3	9.2	1.4	7.1	2.5	8.7	2.5	5.7
Times Debt Service Covered	4.4	1.3	4.0	1.1	3.2	1.7	7.3	1.6	2.9

As Monrovia's share of the total revenue and expenditure is dominant, the explanatory remarks regarding variations in revenue and expenditure from forecasts, made in paragraph 7.05 above, apply here also. However, significant features of the accounts of Greenville and Cape Palmas need to be mentioned. Up to July 1, 1972, the original assets of Greenville were not included in the accounts and, as a corollary, no provision was made for depreciation or replacement. The annual revenue surplus of the port was thus inflated by about $50,000. Moreover, there is no burden of debt service, as this is carried by the Government. Cape Palmas operated at a loss during 1970 and 1971 despite the non-accounting of depreciation. In the case of this port also, there is no burden of debt service. Its financial position is relatively weak, because of the small magnitude of traffic handled. The capital outlay on major repairs will aggregate $1.2 million towards the recovery of which an increase in tariffs to the full extent may be difficult. Variations between the figures of actuals and the appraisal forecasts and the corresponding ratios in the consolidated income accounts is partly due to allowance having been made for depreciation and debt service for Greenville and Cape Palmas in the forecasts. The results indicate that Monrovia is subsidizing the other ports. This cannot be continued in the long-term, and NPA will have to take all possible measures to make the other ports financially self-dependent. Suitable financial targets would have to be prescribed, when the revaluation of assets by consultants is completed.

7.09 Balance sheets of NPA for all ports for 1972 and 1973 with comparative figures for actuals and appraisal forecasts can be found at Annex 7. A summary is given below:

($ '000)

	July 1 to Dec 31 1972 Actuals	Jan 1 to Dec 31 1972 Appraisal Forecasts	Jan 1 to June 30 1973 Actuals	Jan 1 to Dec 31 1973 Appraisal Forecasts
ASSETS				
Net Fixed Assets	19,380	21,296	18,939	20,388
Net Current Assets	4,592	2,766	5,635	3,274
Total	23,972	24,062	24,574	23,662
CAPITAL AND LIABILITIES				
Long-term Debt	20,069	21,827	20,237	20,958
Equity	3,903	2,235	4,337	2,704
Total	23,972	24,062	24,574	23,662
Ratio of Current Assets to Current Liabilities	7.9	8.1	9.9	9.2
Ratio of Liquid Assets to Current Liabilities	7.4	7.3	9.2	8.4
Debt/Equity Ratio	84/16	91/9	82/18	89/11

7.10 The fixed assets of the ports of Greenville and Cape Palmas were valued ad hoc for the purpose of incorporation in the NPA's accounts for the half-year ended December 31, 1972. The mission was told that some old assets were unidentifiable. In order that the financial viability of each port can be properly gauged in terms of the investment in fixed assets at present values, revaluation by consultants will have to be awaited. While the ratios of current and liquid assets to current liabilities are fairly high and cash and bank balances have increased by about 8% during the six months ending June 30, 1973, an unhealthy feature of operations has been the rise in receivables in the same period. The increase was from $1.0 million to $1.4 million despite any appreciable increase in gross revenue. Of the latter amount, about 35% represented outstandings of over three months. Substantial dues are owed by three individual concerns, while the Government has also appreciable old outstandings. NPA will have to be urged to take further suitable action towards expediting recoveries. The debt/equity ratio is unfavorable, but will improve gradually as debt is redeemed.

8. Organization Management and Performance of the Borrower

8.01 In accordance with the Loan Agreement, NPA was established by legislation on April 20, 1967, as the authority responsible for the maintenance and operation of all public ports in Liberia. Accordingly, it was invested with adequate powers for the control of planning, design and construction of ports and with appropriate financial and administrative autonomy. The legislation establishing the authority was revised with Bank concurrence on June 20, 1970.

8.02 When NPA was created, the principal Liberian ports of Monrovia, Buchanan, Greenville (sometimes called Sinoe) and Cape Palmas (sometimes called Port Harper) were operated under concessionary agreements. NPA has commenced the acquisition and control of these ports.

8.03 Monrovia came under direct NPA control on July 1, 1972, when the Monrovia Port Management Company (MPMC) ceased to exist in Liberia. However, there remains within the Port of Monrovia numerous piers and other installations under the concessionary control of mining and other commercial companies on leases expiring at various dates to 1989.

8.04 Greenville, a minor coastal and lighterage port, is under NPA control with some responsibility for lighterage exercised by Scanship.

8.05 Cape Palmas (Port Harper), which is also a minor lighterage and coastal port, came under direct NPA control October 1, 1972.

8.06 Buchanan is a major port owned and operated by the Liberian American Swedish Mineral Co. (LAMCO). Negotiations have been conducted for some time between LAMCO and the Government on the role which NPA should play in the management and ownerhsip of the port. Government at present has an equity holding in LAMCO. The end of these negotiations is not yet in sight, possibly because of Government's equity interest and possibly because NPA does not have sufficient staff to take on such a large new responsibility.

Staffing

8.07 Annex 8 shows the latest available staffing arrangements of NPA. The posts of Director of Central Services and Chief Engineer are at present vacant. The work of the Central Services department is being temporarily undertaken by the General Manager and an expatriate is acting Chief Engineer. The Bank has already written to NPA recommending the appointment of a Chief Engineer particularly during the period when NPA becomes involved in the work of the Liberian Port development study. NPA has given an undertaking to renew its attempt to recruit a suitable candidate on completion of the tour of the acting Chief Engineer.

8.08 NPA has for some time been reviewing its staffing arrangements. It proposes to relinquish one of its two Monrovia offices, leaving one office in Monrovia town center for administrative convenience and one within the customs zone at the port. Two Liberian management trainees have been brought into the Managing Director's department in an attempt to facilitate centralized control. At present, however, Buchanan is largely independent of NPA; traffic at the ports of Greenville and Cape Palmas is nominal, and for most practical purposes, NPA's time is directed to the management of Monrovia. It would appear to be in NPA's interests to avoid any further expansion of its headquarters staff and of their powers until such time as ports other than Monrovia assume greater importance in NPA's affairs. The objectives of training and advisory services provided under the project have reasonably been attained. However, middle management on the accounting and financial side appears to need further improvement, particularly if present expatriate staff were to leave the Authority. In addition, some specialized training would be necessary if automated accounting procedures were to be adopted as NPA at present contemplates.

9. Future Prospects for Liberian Ports

9.01 The delay in preparation of a comprehensive development plan for Liberian ports has made it difficult for NPA to anticipate its future investment needs and to provide the best service to Liberian industry. Monrovia, for example, has been ill prepared to meet the present glut of timber exports; and expensive remedial work has been undertaken at Cape Palmas in the absence of agreement as to the actual port needs of the area.

9.02 However, Terms of Reference for the Development Plan have recently been agreed with the Bank and preliminary proposals from consultants are expected during 1974, and final recommendations in 1975.

9.03 The results of a study of the Port of Greenville by a German Government mission are expected to be made available shortly to NPA with copy to the Bank. Vessels are often unable to berth at Greenville because of sea conditions and the quay wall is in need of repair.

9.04 The Cape Palmas breakwater and jetty are undergoing major repairs, and improvements are being made ashore in order to keep the port in operation for coastal traffic. Larger vessels lie offshore. The contract for breakwater and jetty repairs was awarded to Raymond International (Liberia) in the amount of US$ 561,000 in January 1973, at a time when the total cost of repairs and improvements was estimated at US$ 800,000. The estimate of final cost is now US$ 1,200,000, largely because the work started on the basis of preliminary engineering. NPA's justification for this large expenditure is that it is obliged to maintain the existence of the port as a social service and because of its economic prospects. Consequently, although the proposal to repair the breakwater was referred to the Bank for comment, the decision to award the contract was taken without waiting for the recommendations of the Liberian port development study as the Bank would have preferred.

9.05 Development plans for Buchanan have been prepared by LAMCO but until agreement is reached between LAMCO and the Government, further private investment in Buchanan is unlikely.

9.06 Monrovia Freeport is functioning reasonably satisfactorily but access to the port is unsatisfactory and because timber is now regarded as a permanent export commodity, the provision of storage, handling and loading facilities for timber is planned.

9.07 With the prospect of iron ore exports from foreign sources through Liberian ports and of timber and timber products, some changes to the present pattern of Liberian port traffic may emerge from the port development study. The preliminary results of the study are expected to be available during 1974.

Western Africa Regional Office

April, 1974

ANNEX 1

Project Expenditure

Loan Category		US$ or Lib. $ Total	Foreign	Local
I	Dredging	2,448,237.30	1,917,177.00	531,060.30
II	Tug "Providence Island"	468,022.27	458,022,27	10,000.00 1/
	Tug "Stocktom Creek"	675,144.54	665,144.54	10,000.00 1/
	Pilot Launch	73,232.70	68,232.70	5,000.00 1/
	Navigational equipment	121,300.00	111,300.00	10,000.00 1/
	Sub-total	1,337,699.51	1,302,699.51	35,000.00
	Consultancy: Lyon's Associates Inc. For dredging	173,145.58	130,000.00 2/	43,145.58
III	Richard Taubler Inc.			
	For tugs	9,421.96	9,421.96	-
	For launch	2,435.32	2,435.32	-
	For navigational aids	1,500.00	1,500.00	-
	Muller Fox & Pennington For tariff study	27,683.00	26,997.57	685.43
	Port Advisor and Financial Advisor	73,814.14	38,814.14	5,000.00
	Sub-total	258,000.00	209,168.99	48,831.01
IV	Consultancy for road feasibility studies	233,747.40	193,747.40	40,000.00 3/
	Total	4,277,684.21	3,622,792.90	654,891.31

1/ Assessed local cost.

2/ Assessed foreign element of total costs all of which were paid in US$.

3/ Assessed local contribution by the Ministry of Public Works to the study. This cost not identifiable in accounts.

LIBERIA

Port of Monrovia Dredging Project

Schedule of Cumulative Disbursements in US$ Millions

IBRD Fiscal Year and Quarter	Actual Disbursements	Appraisal Estimate	New Disbursement Estimate at January 31, 1974 1/
1969/70			
1	0.55		
2	1.36	3.00	
3	1.63		
4	1.99		
1970/71			
1	2.88		
2	3.03	3.50	
3	3.03		
4	3.12		
1971/72			
1	3.17		
2	3.21	3.60	
3	3.22		
4	3.25		
1972/73			
1	3.25		
2	3.27		
3			3.27
4			3.27
1973/74			
1			
2			3.27
3			3.30
4			3.35
			3.40
1974/75			
1			3.45
2			3.55
3			3.60

1/ Estimated disbursements assuming Bank contribution to port development study is disbursed over full period of study.

MONROVIA PORT TRAFFIC (000 Tons)

	1969		1970		1971		1972		1973	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)*	(2)
General Cargo	508	540	580	530	542	505	464	515	585	525
Fuel & Crude Oil	318	405	474	450	661	475	540	500	315	515
Iron Ore	9914	9950	12131	9950	10658	9950	11250	11350	12600	11350
Total (3)	10740	10895	13185	10930	11861	10930	12254	12365	13500	12390

(1) Actual (2) Appraisal forecast (3) Excluding clinker

* Based on 9 months data

LIBERIA

Port of Monrovia Dredging Project

Freeport of Monrovia

Income Account as at December 31 each year
($ '000)

	Monrovia Port Management Company						National Port Authority				
	1970		1971		Jan 1 to June 30 1972		July 1 to Dec 31 1972		Jan 1 to June 30 1973		1973
	Actuals	Appraisal Forecasts 1/	Actuals	Appraisal Forecasts 1/	Actuals	Proportionate Appraisal Forecasts 1/	Actuals	Proportionate Appraisal Forecasts	Actuals	Proportionate Appraisal Forecasts	Budget Estimates
Operating Revenue											
Cargo-handling	1,316	857	1,294	867	666	439	584	438	601	447	1,291
Wharfage	577	453	883	456	440	229	256	230	349	235	1,498
Harbour dues	753	713	736	718	470	373	479	372	515	374	863
Iron ore fees	688	697	748	845	378	483	469	484	405	484	Included in Wharfage
Storage	288	225	314	220	194	110	136	110	167	112	262
Pilotage, mooring, berthing and towage	906	496	997	496	474	248	512	248	564	248	1,020
Other (fresh water sales, equipment and land rentals, etc.)	501	298	494	298	384	149	155	149	193	149	428
Additional revenue from 27% increase in port charges	-	454	-	782	-	413	-	413	-	423	-
Total	5,059	4,193	5,466	4,682	3,006	2,444	2,591	2,444	2,794	2,472	5,362
Operating Expenses											
Salaries, wages and other staff expenses	1,827	1,647	1,884	1,703	1,0[illegible]	886	948	885	656	926	1,297
Repairs & maintenance (excluding maintenance dredging))	444	(490	(470	(501	302	253	230	254	191	257	639
Provision for maintenance dredging)	-	(-	(-	(200	25	100	125	100	55	100	110
General charges -											
Insurance	128	100	143	100	77	50	20	50	-	50	-
Other	325	410	407	404	424	174	58	174	111	180	147
Allocation of expenditure on General Administration (Headquarters)	-	-	-	-	-	-	254	-	534	-	1,172
Sub-total - Cash outgoings	2,724	2,647	2,904	2,908	1,879	1,463	1,635	1,463	1,547	1,513	3,365
Depreciation on:											
Assets other than original assets (shown in the company's accounts)	391)	696	445)	693	300)	318	319)	319	364)	326	700
Original assets (not shown in the company's accounts)	141)	-	141)	-	71)	-	70)	-	71)	-	140
Allocation of depreciation on Headquarters assets							8		27		55
Amortization of dredging costs	151	288	202	244	111	100	119	100	59	100	120
Total	3,407	3,631	3,692	3,845	2,361	1,881	2,151	1,882	2,068	1,939	4,380
Net Operating Revenue	1,652	562	1,774	837	645	563	440	562	726	533	982
Interest -											
Revenue	-	-	-	-	41	-	91	-	91	-	190
Charges	152	207	200	220	89	106	87	105	91	103	190
Other non-operating revenue	-	-	-	-	-	-	69	-	8	-	6
Net Income	1,500	355	1,574	617	597	457	513	457	734	430	988
Operating Ratio (%)	67	87	67	82	78	77	83	77	74	78	82
Average Net Value of Fixed Assets in Use	14,808	17,052	16,120	16,631	16,371	15,852	17,077	15,852	16,943	15,193	16,943
Turnover (Gross Operating Revenue as % of Average Net Fixed Assets in Use)	34	24	34	28	18	15	15	15	16	16	32
Return on Average Net Fixed Assets in Use (%)	11.1	3.3	11.0	5.0	3.9	3.5	2.6	3.5	4.3	3.5	5.8
Times Interest Charges covered by Net Operating Revenue	10.9	2.7	8.9	3.8	7.2	5.3	5.1	5.3	8.0	5.2	5.2
Times Debt Service covered by cash generated from operations	4.4	2.7	3.9	2.6	6.6	5.1	1.8	1.7	6.6	4.8	2.6

Source: MPMC and NPA forecasts and accounts as modified by Bank missions

1/ Shown in Appraisal Report as under NPA

February 1974

ANNEX 4

LIBERIA

Port of Monrovia Dredging Project

Freeport of Monrovia

Monrovia Port Management Company

Balance Sheet as at December 31 each year

($ '000)

	1970		1971		Jan. to June 1972	1972
	Actuals	Appraisal Forecasts 1/	Actuals	Appraisal Forecasts 1/	Actuals	Appraisal Forecasts 1/
ASSETS						
Fixed Assets						
Gross value included in Co.'s accounts	4683	8917 2/	5140	9011 2/	6120	9132 2/
Gross value of original assets not included in Co.'s accounts	15025	18151	15025	18151	15025	18151
Sub-total	19708	27068	20165	27162	21145	27283
Less: Accumulated depreciation on						
Assets other than original assets (shown in Co.'s accounts)	2879	4141	3106	4839	3301	5438
Original assets (not shown in Co.'s accounts)	3103	5875	3244	6113	3314	6351
Sub-total	13726	17052	13815	16210	14530	15494
Unamortized dredging costs	2451	-	2249	-	2148	-
Net Fixed Assets in use	16177	17052	16064	16210	16678	15494
Work-in-Progress	1025	-	1160	-	1163	-
Net Fixed Assets	17202	17052	17224	16210	17841	15494
Current Assets						
Inventories	345	300	337	300	323	300
Receivables and payments in advance	1243	635	1054	635	1274	635
Cash and Bank balances	2153	1691	1466	2750	1499	3841
Total	3741	2626	2857	3685	3096	4776
Less: Current Liabilities						
Payables	200	370	383	380	692	390
Provisions	50		60		339	
Total	250	370	443	380	1031	390
Net Current Assets	3491	2256	2414	3305	2065	4386
Total Net Assets	20693	19308	19638	19515	19906	19880
CAPITAL AND LIABILITIES						
Long-term Debt						
Due to Government of Liberia						
Port Debt of United States	17810	17348	17435	16973	17435	16598
Advances in respect of IBRD Loan	3034	3335	860	3300	2876	3125
Total	20844	20683	18295	20273	20311	19723
Equity Equivalent (Deficit)	(151)	(1375)	1343	(758)	(405)	157
Total Capital and Liabilities	20693	19308	19638	19515	19906	19880
Ratio of Current Assets to Current Liabilities	15.0	7.1	6.4	9.7	3.0	12.2
Ratio of Liquid Assets to Current Liabilities	13.6	6.3	5.7	8.9	2.7	11.5
Debt/Equity Ratio	100/0	100/0	93/7	100/0	100/0	99/1

Source: MPMC and NPA forecasts and accounts as modified by Bank missions

1/ Shown in Appraisal Report under NPA

2/ Includes gross amount of dredging costs

February 1974

ANNEX 5

LIBERIA

Port of Monrovia Dredging Project
Companies/National Port Authority

Consolidated Income Account for all ports as at December 31 each year
($'000)

	1970 Actuals	1970 Appraisal Forecasts	1971 Actuals	1971 Appraisal Forecasts	1972 Actuals	1972 Appraisal Forecasts	Jan. 1 to June 30 1973 Actuals	Jan. 1 to June 30 1973 Proportionate Appraisal Forecasts	1973 Budget Estimates
Operating Revenue									
Port of Monrovia	5059	4193	5466	4682	5597	4888	2794	2472	5362
Port of Greenville	275)	58	330)	120	375)	125	264)	65	367
Port of Cape Palmas (Harper)	306)		281)		235)		121)		293
Total	5640	4251	6077	4802	6207	5013	3179	2537	6022
Operating Expenditure									
Port of Monrovia	2724	2647	2904	2908	3514	2926	1547	1513	3365
Port of Greenville	187)	45	209)	95	199)	100	142)	52	314
Port of Cape Palmas (Harper)	407)		334)		204)		113)		115
Sub-total-Cash outgoings	3318	2692	3447	3003	3917	3026	1802	1565	3794
Depreciation & Amortization									
Port of Monrovia	683	984	788	937	998	837	521	426	1015
Ports of Greenville and Cape Palmas	-	153	-	306	48	306	66	153	130
Total	4001	3829	4235	4246	4963	4169	2389	2144	4939
Net Operating Revenue	1639	422	1842	556	1244	844	790	393	1083
Interest									
Revenue	-	-	-	-	132	-	91	-	190
Charges	152	320	200	388	176	340	91	159	190
Other non-operating revenue	-	-	-	-	69	-	8	-	6
Net Income	1487	102	1642	168	1269	504	798	234	1089
Operating Ratio (%)	71	90	70	88	80	83	75	84	82
Turnover (%)	-	-	-	-	33	23	17	24	33
Return on Av. Net Fixed Assets in Use (%)	-	-	-	-	6.5	3.9	4.3	3.8	5.9
Times Interest Charges covered by Net Operating Revenue	10.8	1.3	9.2	1.4	7.1	2.5	8.7	2.5	5.7
Times Debt Service covered by cash generated from operations	4.4	1.3	4.0	1.1	3.2	1.7	7.3	1.6	2.9

Note: The managements of Ports were taken over by NPA as under:

Monrovia: July 1, 1972

Greenville: January 1, 1970

Cape Palmas: October 1, 1972

Source: Company and NPA forecasts and accounts as modified by Bank missions

ANNEX 7

LIBERIA

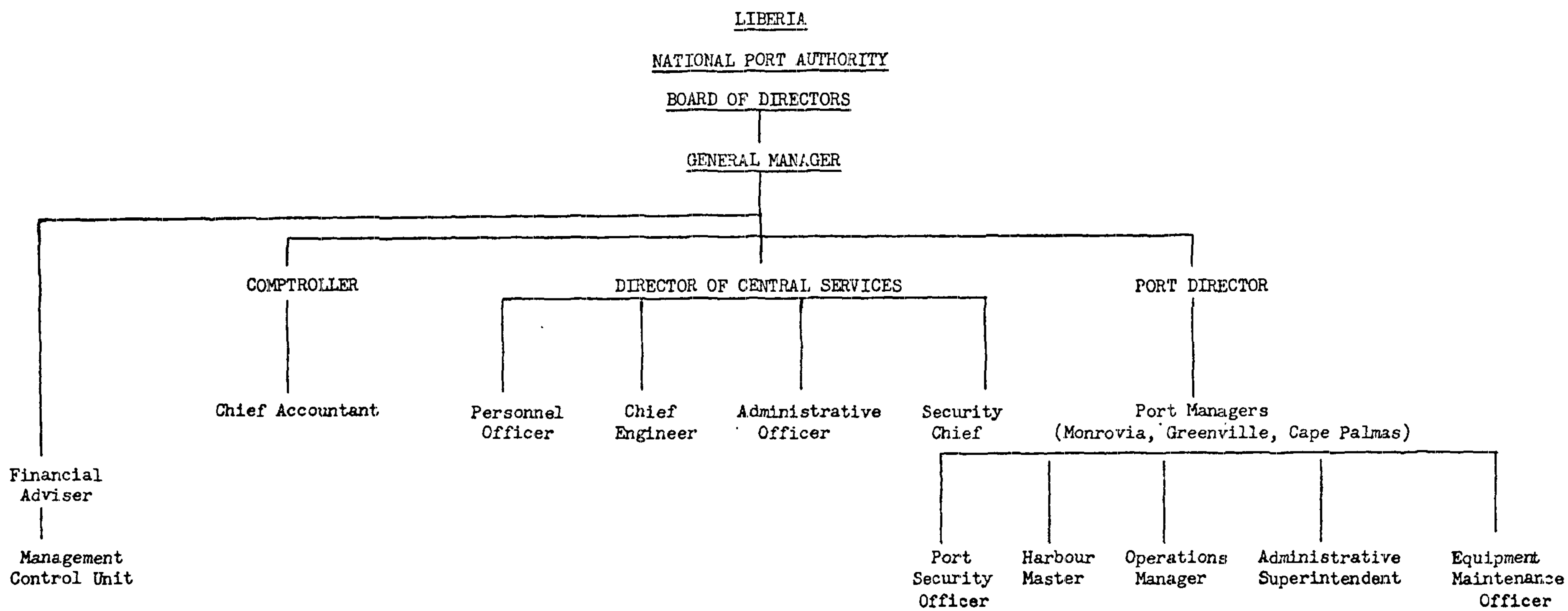
Port of Monrovia Dredging Project
National Port Authority
Balance Sheet as at December 31 each year
(US $ '000)

	Jul.1 to Dec.31 1972 Actuals	Jan.1 to Dec. 31 1972 Appraisal Forecasts	Jan.1 to June 30 1973 Actuals	Jan.1 to Dec. 31 1973 Appraisal Forecasts
ASSETS				
Fixed Assets				
Port of Monrovia				
Gross value	19085	27283	19187	27533
Accumulated depreciation	6254	11789	6818	12641
Sub-total	12831	15494	12369	14892
Unamortized dredging costs	4645	-	4042	-
Net Fixed Assets in use	17476	15494	16411	14892
Port of Greenville				
Gross value	967		967	
Accumulated depreciation	48		86	
Sub-total	919		881	
Unamortized dredging costs	112		112	
Net Fixed Assets in use	1031		993	
Port of Cape Palmas				
Gross value	211	9300	211	9300
Accumulated depreciation	16	3498	30	3804
Net Fixed Assets in use	195	5802	181	5496
Headquarters				
Gross value	531	-	531	-
Accumulated depreciation	251	-	282	-
Net Fixed Assets in use	280		249	
Work-in-Progress	398		1105	
Net Fixed Assets	19380	21296	18939	20388
Current Assets				
Inventories	311	300	425	300
Receivables and payments in advance	1092	635	1690	635
Cash and Bank balances	3856	2221	4155	2739
Total	5259	3156	6270	3674
Less Current Liabilities				
Payables	449	390	479	400
Provisions	218		156	
Total	667	390	635	400
Net Current Assets	4592	2766	5635	3274
Total Net Assets	23972	24062	24574	23662
CAPITAL AND LIABILITIES				
Long-term debt due to Government of Liberia				
Port Debt of United States	17060	16598	17060	16223
Advance in respect of IBRD Loan	3009	3125	3177	2935
Greenville and Harper Port debt	-	2104	-	1800
Total	20069	21827	20237	20958
Equity Equivalent	3903	2235	4337	2704
Total Capital and Liabilities	23972	24062	24574	23662
Ratio of Current Assets to Curent Liabilities	7.9	8.1	9.9	9.2
Ratio of Liquid Assets to Current Liabilities	7.4	7.3	9.2	8.4
Debt/Equity Ratio	84/16	91/9	82/18	89/11

Source: NPA forecasts and accounts as modified by Bank missions

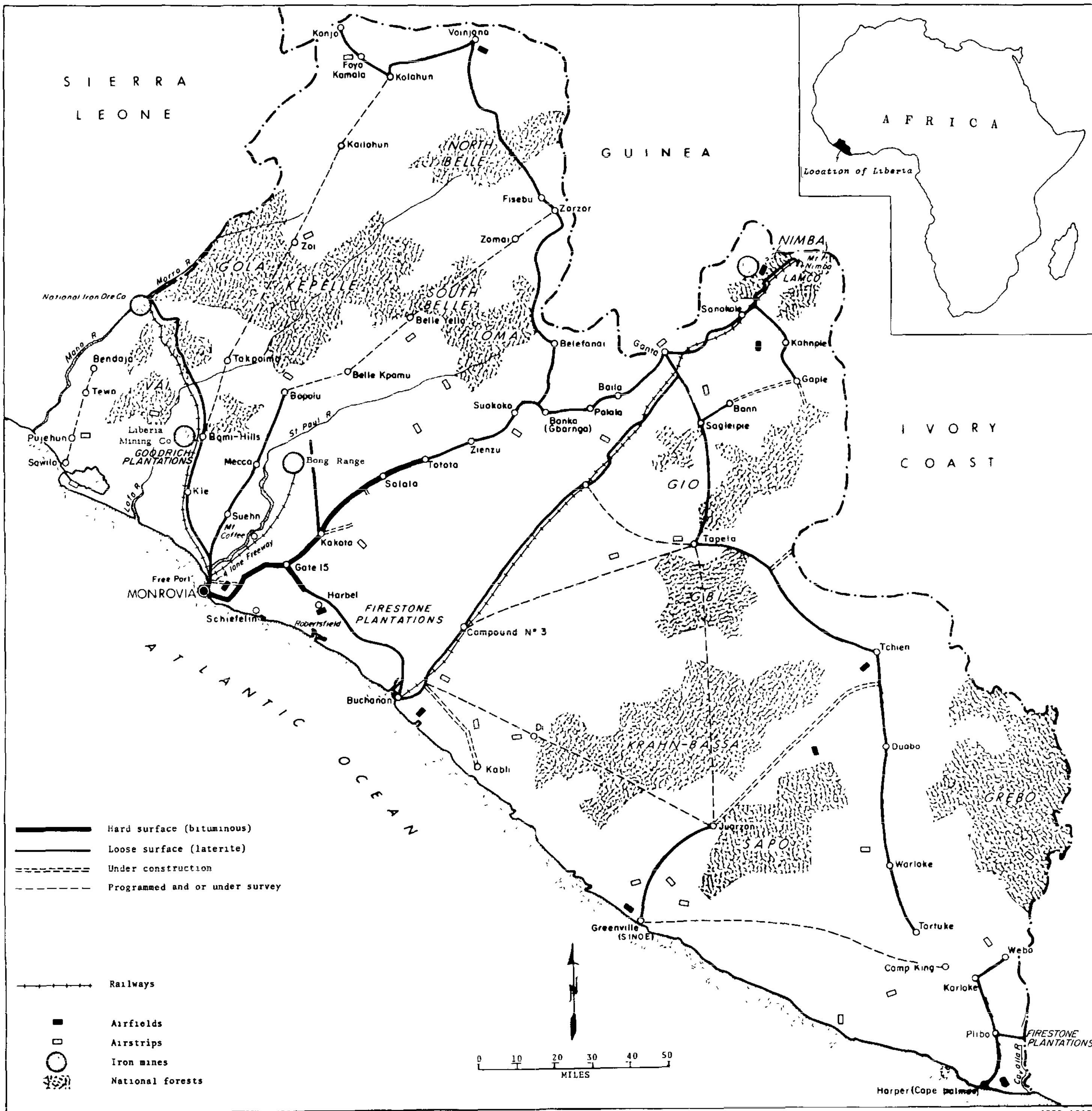
February 1974

ANNEX 8


LIBERIA
NATIONAL PORT AUTHORITY
BOARD OF DIRECTORS
GENERAL MANAGER
COMPTROLLER
DIRECTOR OF CENTRAL SERVICES
PORT DIRECTOR
Chief Accountant
Personnel Officer
Chief Engineer
Administrative Officer
Security Chief
Port Managers (Monrovia, Greenville, Cape Palmas)
Financial Adviser
Management Control Unit
Port Security Officer
Harbour Master
Operations Manager
Administrative Superintendent
Equipment Maintenance Officer

LIBERIA
TRANSPORT FACILITIES

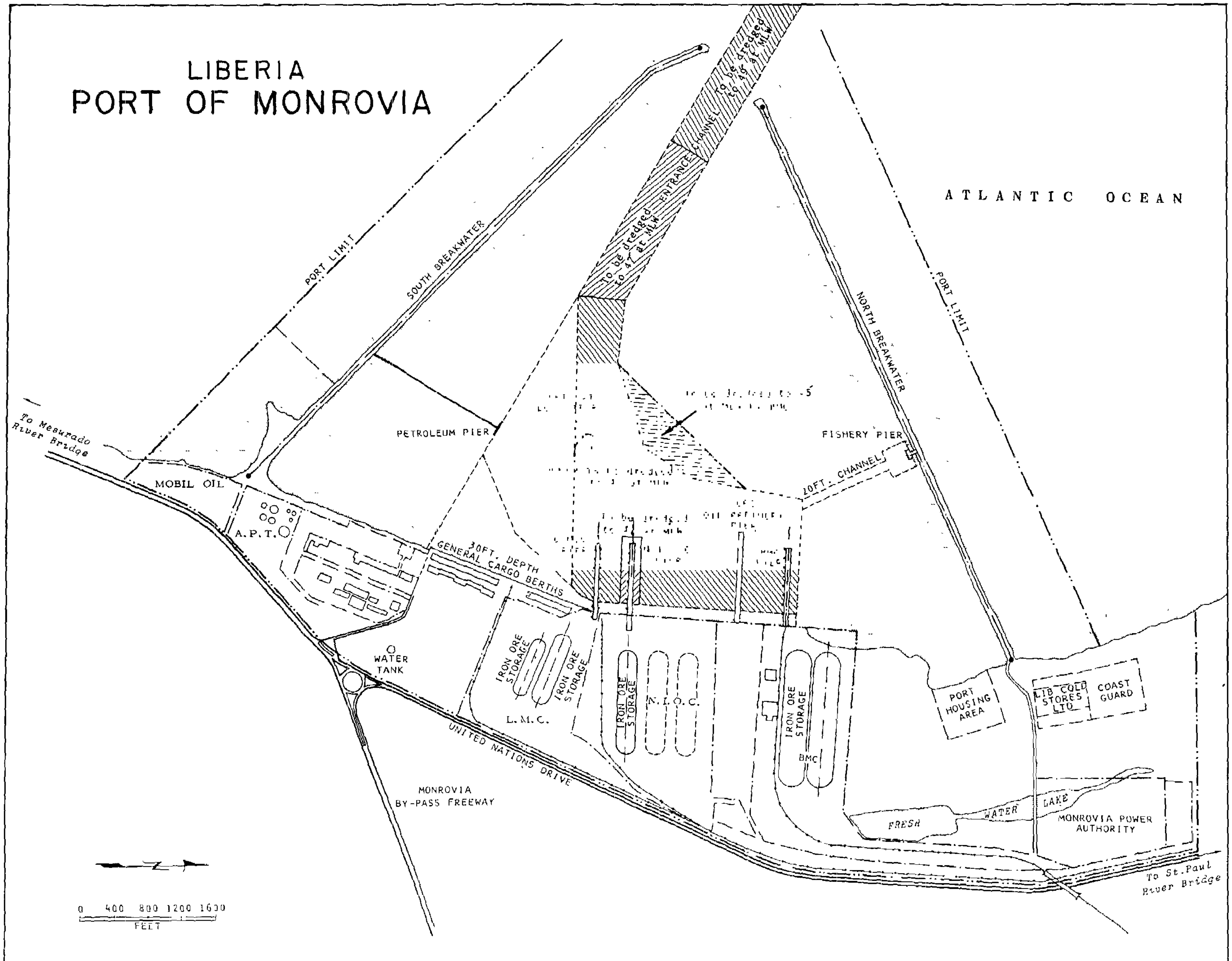
MAP 1



NOVEMBER 1968

IBRD 1803R

MAP 2



NOVEMBER 1968

IBRD 2388