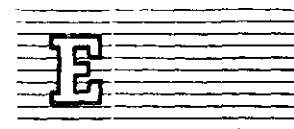


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GUIDELINES FOR THE EVALUATION OF TRANSSHIPMENT OPPORTUNITIES:
THE CASE OF ST. LUCIA

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PREFACE

The St. Lucia Air and Sea Ports Authority made a request (see Annex I) to the Subregional Headquarters for the Caribbean of the United Nations Economic Commission for Latin America (ECLA) at Port of Spain, Trinidad and Tobago, for a maritime transport specialist to visit the ports of Castries and Vieux Fort in order to make a preliminary evaluation of existing infrastructures in the light of Government plans and studies, and subsequently to offer suggestions on how they might carry out their mandates in trade promotion and transshipment. During the gathering of information for this document, which took place at Castries and Vieux Fort, St. Lucia, 25-26 July 1983, and at Miami, Florida, 27 July 1983, the following organizations and persons made important contributions:

- Port Council of St. Lucia - George Girard.
- Port of St. Lucia - Leonard Monplaisir, Robin Seals and Simon Hippolyte.
- Port of Vieux Fort - Oliviere Cadet.
- Regional Co-operation in the Development of Shipping (UNSHIPRO)
 - Jose Zuloaga and Enrique Molina-Vallejo. Moncorde-Nopal
- ine - Roland Malins-Smith.
- Tropical Shipping Company - Rick Murrell and Jean Puroi.

I. Introduction

(a) General characteristics of the port of Castries

The port of Castries (see Annex II) is a natural harbour located in the northern part of St. Lucia on the leeward coast (the side of the island sheltered from the wind). The entrance channel is 400 feet wide and has a minimum water depth of 42 feet. The tidal range is one and one-half feet. The port has an area of sixteen acres and has six berths of approximately 450 to 720 feet in length with 18 to 25 feet of water alongside. It should be highlighted that berths two to six usually have 27 to 35 feet of water depth. The reason for the reduction in water depth at those berths is the failure to remove accumulated sedimentation, since the last dredging took place two and one-half years ago. The grab dredge employed by the Port Authority is currently inoperative and lacks hopper barges to facilitate removal of dredged material.

The covered storage capacity is 100 000 square feet, divided into seven warehouses (see Annex III); the first and second serve berth one, the third serves berth two, the fourth and fifth serve berth three, the sixth serves berths four and five, and the last berth six. It should be noted that berth six is utilized by car carriers to discharge automobiles (St. Lucia is a regional distributio~ centre for certain Japanese manufacturers) and by banana vessels to load their cargo. As a result of the latter activity, the warehouse adjacent to that berth is divided into two parts, one for the storage of newly cut bananas for export and the other for general cargo.

While container storage capacity is estimated to be as much as 3 500 twenty-foot equivalent units (TEUs) 1/, it is necessary to understand that the number of containers stored depends upon space available, whether block or row storage is utilized, the container handling/stacking equipment utilised, and whether the containers are placed in separate stacks for export, import, empty and damaged units. Moreover, at many multi-user container terminals, such separate stacks are utilised for each shipping line 2/. In this connection, the port

1/ The acronym TEU or twenty-foot equivalent unit refers to a Series I International Organization for Standardization (ISO) container of 6 000mm length, 2 438mm width and 2 438mm or 2 591mm height (20 feet x 8 feet x 8 feet or 8 feet 6 inches) and is commonly utilised as a base measure for, inter alia, vessel carrying capacity and port productivity.

2/ Cargo Systems, September 1983, p. 7.

of Castries has evolved container handling procedures based upon three types of equipment; i.e., a mobile crane with a capacity of 140 tons, chassis and one 30 ton forklift truck without a spreader. Basically, containers which do not have forklift pockets or exceed 20 tons gross weight are unloaded directly from vessels by either the ship's own gear or the mobile crane onto waiting chassis for movement to the storage area. While 3 500 TEUs with forklift pockets and weighing less than 30 tons might be stacked two high in that area, the estimate would have to be reduced where each container must be placed on a chassis.

The importance of adequate space and facilities, i.e., refrigeration outlets, forklift trucks, cramage, etc., to handle and store containers as well as to provide services for cargoes carried cannot be overstated. With reference to the space needed for container storage, it is interesting to note that Sea-Land Services, Inc., recently changed its Pacific Northwest container terminal from Seattle to Tacoma, Washington, United States of America (USA), due to the latter port having adequate land for terminal development and for future expansion 3/. The size of marine terminals varies depending upon traffic demands, handling equipment utilised and available land, but on the average a modern container terminal requires from 35 to 50 acres (14 to 20 hectares) per vessel berth 4/. In the Caribbean the Port of Bustamante, Jamaica, has devoted 45 acres to container handling/storage operations and has plans for expansion 5/, while at Port of Spain, Trinidad and Tobago, it has been found that the container storage area --which can hold up to 4 492 TEUs-- is insufficient due to that country's trade flow imbalance and, hence, large number of empty units awaiting return cargoes 6/.

In common with many city ports of the Caribbean such as Santo Domingo, Dominican Republic, Port-au-Prince, Haiti, and Port of Spain, Trinidad and Tobago, Castries has topographical and urban restrictions on its expansion. Not only is the port surrounded by mountains, but also by a city of approximately 30 000 inhabitants, which is nearly 25 per cent of the population of St. Lucia. As was noted in a study

3/ Fairplay International Shipping Weekly, 23 June 1983, p. 18; 19 August 1982, p. 11; and 8 July 1982, p. 14.

4/ U.S. Department of Transportation, The U.S. Stevedoring and Marine Terminal Industry, March 1983, p. 6.

5/ National Magazine Company, Containerisation International Yearbook 1982, p. 137.

6/ Cargo Systems, August 1982, pp. 27, 29.

entitled Cul-de-Sac Valley: Development of the Free Port Industrial Zone,

"...the port of Castries cannot achieve its full potential without additional land for port related activities..." 7/.

In view of these restrictions the opportunities for growth at the port of Castries are limited and must, therefore, be carefully evaluated to ensure maximum benefit for the national economy as a whole.

(b) General characteristics of the port of Vieux Fort

The port of Vieux Fort (see Annex IV) is on the leeward coast at the southern extremity of St. Lucia. The port is located in a U shaped bay and is separated from the windward side of the island by a narrow neck of land with low hills. These hills do not impede the wind, but, as the prevailing winds at Vieux Fort are offshore or come from the island, they do not create any major problems for vessels approaching the pier. The port itself consists of a single pier 1 000 feet long, of which 535 feet are used by deep-sea merchant vessels. The section of the pier utilized by such vessels is 54 feet wide, is partially covered with a roof to protect cargoes such as fanana boxes from rain during loading operations, and has a minimum water depth of 28 feet. It should be noted that the single "finger" pier does not have a wide enough apron for the placement of cranes and other cargo handling equipment such as are used at the berths in Castries. Further, even if mobile cranes were available, it would require removal of the roof to permit operations on the deep-sea vessel section of the pier. Due to the narrowness of the pier, traffic for most cargo-carrying vessels is one way and time consuming. As a result, cargo-grouping operations are largely carried out at the shoreside warehouse. For example, this situation means that the movement of bananas from shoreside to Geest vessels is accomplished manually: the women of Vieux Fort are employed to carry the boxes from storage to the ship's cranes, while the men of that village stow the banana boxes in the refrigerated cargo holds.

While the village of Vieux Fort is approximately 3 kilometres from the port, thereby eliminating urban limitations such as those suffered by Castries, there are, nonetheless, topographic restrictions which severely limit the space available for expanding port services.

7/ U.N. Consultant Team, Cul-de-Sac Valley: Development of the Free Port Industrial Zone, 1 December 1978, p. 1.

Vieux Fort Bay is surrounded by steep hills which restrict the amount of level ground which might be used for the storage of containers and general cargo. It is estimated that the distance between the beach and hills is not more than 300 metres, and this is largely occupied by a diesel-electric power generation plant, a small warehouse with a low ceiling which limits cargo storage and handling operations, a port maintenance building, an access road and an inoperative flour mill. It would appear, therefore, that for Vieux Fort to be utilized as a transshipment centre for containers, large investments would be required to alter the existing topography and develop new physical port infrastructures.

(c) St. Lucian trade flows

As can be seen from table 1, St. Lucia's commercial exchanges are principally with the countries of North America, the Caribbean and Europe --in order of declining trade volumes. The most vigorous import trade is with the USA, while the principal export trades are with other CARICOM countries and the European Economic Community (EEC) --the latter trade being largely composed of bananas to the U.K. However, banana exports from Castries and Vieux Fort (see table 2) declined 37.6 per cent in 1980 due to a hurricane which destroyed part of the plantations, and 41.2 per cent in 1981 due to a prolonged drought during the latter part of that year, particularly in the south of the island, and inadequate supplies of inputs 8/. Fortunately, during 1982 banana plantations regained previous levels of production and exports increased 66.6 per cent. Other export trades of St. Lucia are minimal, except those to CARICOM Member States. It is instructive to note that this trade has had an important impact on the economy of St. Lucia. For example, during 1980 the intra-Caribbean trade of St. Lucia amounted to EC\$ 112.8 million (US\$ 39.6 million) 9/ and generated 3 000 jobs, according to the Prime Minister of St. Lucia, Mr. John Compton 10/. The other principal import trades with North America, the EEC and the Far East, show signs of stability.

While table 4 indicates that the export and import volumes of Vieux Fort are relatively balanced, table 3 shows that export volumes from Castries are only about 12-23 per cent of those for import cargoes. Even though Vieux Fort has balanced trade flows while those of Castries are of a markedly unbalanced nature, however, it should be

8/ Ministry of Finance, Planning and Statistics, St. Lucia, Economic Review 1982, March 1983, p. 17.

9/ CARICOM, Heads of State Magazine, 3 July 1983, p. 3.

10/ Express, 4 July 1983.

clearly noted that the volumes indicated in tables 3 and 4 are small. For example, during 1982 St. Lucian imports amounted to 235 453 tons or 1.9 tons per capita, with exports reaching 106 090 tons or 0.8 tons per capita. Due to the characteristics of St. Lucian commercial exchanges, i.e., rather small trade volumes of an unbalanced nature, it would appear important to make an evaluation of such flows, as explained in more depth in part II (a) and (b) of this document, to determine whether a trade basis exists for attracting transshipment cargoes to Castries and Vieux Fort before making investments in additional port infrastructures.

The total movement of containers during 1982, as can be seen in table 5, was 4 659 TEUs or an average monthly throughput (arrival and departure) of approximately 399 TEUs. The current possibilities for growth in domestic TEU throughput at Castries depend on the amount of general cargo imports which can be containerised. If, for example, it is assumed that 80 per cent of that cargo is suitable for containerisation and that each container would carry an average of 15 tons of cargo, then the number of TEUs currently arriving (2 185 during 1982) would be increased by approximately 6 560 additional units. As well as considering the use of containers for general cargo imports to increase domestic TEU arrivals at Castries, which in turn might lead to the attraction of transshipment traffic (see part II (b) (ii) of this document), it is necessary to evaluate domestic capacity to produce goods which might be exported in containers, transport systems for the movement of containers to and from St. Lucia, and existing port infrastructures for container handling and storage.

As is common with most developing countries, the use of containers in St. Lucian trades is totally unbalanced. The number of containers utilised for the import of goods amounted to 2 185 TEUs during 1982, and all went back empty, together with an additional 289 TEUs which arrived in earlier reporting periods. In response to such imbalances, container owners such as leasing companies and shipping lines require importers and other users to pay for repositioning costs incurred. One container leasing company charges lessees US\$ 25 to 625 11/, depending on the degree of imbalance and distance to next use, to relocate empty containers. This empty container relocation cost usually results in an increase in the price of imports to pay for such "dead freight". To avoid such extra costs, every effort should be made to utilise arriving containers in St. Lucian export trades.

11/ CEPAL, Establishing container repair and maintenance enterprises in Latin America and the Caribbean (E/CEPAL/G.1243), p. 17.

Table 1
TRADE FLOWS
OF
ST. LUCIA ^{*}/

Countries	Imports		Exports	
	1981	1982	1981	1982
U.S.A.	134.3(45.7)	116.9(39.8)	11.2(3.8)	12.6(4.3)
Japan	16.8(5.7)	14.9(5.1)	0.1(-)	---
Canada	13.8(4.7)	13.9(4.7)	0.2(-)	0.1(-)
Trinidad/Tobago	38.1(13.0)	34.9(11.9)	7.5(2.6)	12.4(4.2)
Other CARICOM	34.8(11.8)	26.4(9.0)	43.1(14.7)	36.6(12.4)
U.K.	50.0(17.0)	29.8(10.1)	41.2(14.0)	43.9(14.9)
Other EEC	21.5(7.3)	32.2(11.0)	1.1(0.4)	1.4(0.5)
Others	38.7(13.2)	49.7(16.9)	7.9(2.7)	5.3(9.8)
Totals	348.0(118.4)	318.7(108.4)	112.3(38.2)	112.3(38.2)

Source: Ministry of Finance, Planning and Statistics, St. Lucia, Economic Review 1982, March 1983, p. 61.

^{*}/ All trade figures are shown in EC\$(US\$).

Table 2
BANANA EXPORTS
FROM
CASTRIES AND VIEUX FORT ^{*}/

PORTS	1979	1980	1981	1982
Castries	27 902	16 473	10 809	33 237
Vieux Fort	24 176	16 036	8 381	24 005
Totals	52 078	32 509	19 190	57 242
Percentage change + (-)		(37.6)	(42.1)	66.6

Source: Prepared from information provided by the St. Lucia Air and Sea Ports Authority.

^{*}/ All cargo movement figures are in short tons of 2 000 pounds.

Table 3
CARGO MOVEMENTS
AT
THE PORT OF CASTRIES */

	1980	1981	1982
IMPORTS			
General cargo	129 668	128 209	120 548
Bulk liquid	31 082	32 513	30 861
Bulk dry	3 615	4 642	1 030
Containerised cargo	32 340	30 703	41 099
Totals	196 705	196 067	193 538
EXPORTS			
Bananas	16 473	10 809	33 237
Others	14 457	13 488	11 486
Totals	30 984	24 297	44 723

Source: Prepared from information provided by the St. Lucia Air and Sea Ports Authority.

*/ All cargo movement figures are in short tons of 2 000 pounds.

Table 4
CARGO MOVEMENTS
AT
THE PORT OF VIEUX FORT */

	1980	1981	1982
IMPORTS			
General cargo	25 333	19 823	21 410
Bulk liquid	12 218	11 784	17 482
Bulk dry	3 316	1 770	3 023
Totals	40 867	33 377	41 915
EXPORTS			
Bananas	16 036	8 381	24 005
Others	27 807	29 919	35 872
Totals	43 843	38 300	61 367

Source: Prepared from information provided by the St. Lucia Air and Sea Ports Authority.

*/ All cargo movement figures are in short tons of 2 000 pounds.

Table 5
CONTAINER ARRIVALS AND DEPARTURES
AT
THE PORT OF CASTRIES */

	1980	1981	1982
Arrivals			
Loaded	2 206	2 019	2 185
Empty	-	-	-
Departures			
Loaded	-	-	-
Empty	2 261	2 018	2 474
Total	4 467	4 037	4 659

Source: Prepared from information provided by the St. Lucia Air and Sea Ports Authority.

*/ All figures for container arrivals and departures are in TEUs.

II. General considerations for establishing transshipment centres

With the exception of certain vessels utilised as floating storage or transshipment centers, ships are generally considered in useful production only when moving goods toward their destinations. The productivity of a modern container ship in terms of ton-miles per annum is between five and eight times that of a conventional cargo liner, and the productivity of a crew member on a large container ship in terms of ton-miles per seaman is approximately ten times that of a person on a conventional liner vessel in 1965 12/. As the large amounts of capital required for container ships and other high-technology vessels demand their intensive use in order to generate an adequate return on investment, the possibility of them calling at small ports for limited amounts of cargo is restricted 13/. As a result, the tendency today is for these ships to call at fewer ports at each end of the voyage 14/ and to utilise equally capital-intensive cargo handling infrastructures to reduce port stay times to a minimum. Increasing importance, therefore, must be placed not only on the utilisation of transshipment and feeder transport services, but also on an evaluation of the factors which make such services viable from the point of view of developing countries. While there are many factors which should be taken into consideration when making a preliminary evaluation of the infrastructures at Castries and Vieux Fort for the transshipment of containers, some of the more important are (a) domestic cargo flows, (b) geographical location and (c) external factors.

(a) Domestic cargo flows

It should be understood from the outset that a port is not an entity that can be viewed in isolation. Its successful development depends on factors such as geography, the international economic situation, economic policies of major trade partners, the size and

12/ Alexander, Sir Lindsay, The Challenges to British Shipping 1965-1990, the 13th Blackadder Lecture 1979, published by the North-East Coast Institution of Engineers and Shipbuilders, Newcastle-upon-Tyne.

13/ Fairplay International Shipping Weekly, 22 September 1983, p. 14.

14/ CEPAL, Survey of Hawaiian inter-island maritime transport systems in the light of their significance for Caribbean inter-island transport (E/CEPAL/1085), p. 2.

extent of its hinterland, the activities of other ports, the establishment of industries, agricultural production, the efficiency of its cargo handling facilities, sources of financing for improvements and political factors, particularly those affecting of investment.

(1) Sources of demand for transshipment services. A number of Caribbean and Latin American countries have established transshipment facilities or have made plans to do so. The demand each seeks to satisfy arises from one or a combination of different sources. For example, certain transshipment centres were established in response to congestion at other ports, the lack of facilities for large vessels and their cargoes at neighbouring ports, the lack of ports in the case of land-locked countries, the need of extra-regional manufacturers to establish local distribution centres, and the relatively small volumes of cargo destined for other ports. As each of these and other sources of demand for transshipment services gives rise to investment proposals for additional port infrastructures, it should be understood that the domestic cargo flows of a port play a pivotal role in determining the long-term viability of a transshipment center and, hence, the justification for such investment proposals.

It is important to note that two shipping lines, Concorde-Nopal and Tropical Shipping Company, have demonstrated an interest in the use of Castries as a container transshipment centre. While both these shipping lines are considering the use of that port for transshipment purposes, each seeks to satisfy different needs. Concorde-Nopal Line (CNL), on the one hand, seeks to avoid congestion ^{15/} and waterfront labour problems at Port of Spain, Trinidad and Tobago, through the transshipment of containers bound for that country at Castries. Currently, CNL transships containers destined for Trinidad and Tobago at Boca Chica, Dominican Republic, and its vice-president of marketing and planning, Mr. R. Malins-Smith, indicated that utilisation of Castries is not being actively pursued but remains an option, depending on the situation at Port of Spain and the costs for transshipment of containers at Castries in comparison to other Caribbean locations.

On the other hand, Tropical Shipping Company is currently using St. Thomas, Virgin Islands, as a transshipment centre. Nonetheless, Mr. R. Murrell, vice president of operations, indicated that they seek a southern Caribbean transshipment location and consider Castries ideal. He estimates that the use of Castries for the transshipment of containers coming to this region from the Middle East would involve a

^{15/} The Shipping Association of Trinidad and Tobago, Newsletter, Issue No. 83, July 1983, p. 2.

maximum of 300 TEU per week and create full-time employment for 25 people. While Mr. Murrell does not believe that Castries will ever be a major container transshipment centre, he pointed out that the private sector should be allowed to develop the potential which exists.

These demonstrations of interest in the use of Castries as a container transshipment centre require careful evaluation to determine whether the lines are responding to short or long-term demand; estimated monthly and annual flows of containers; foreseeable increases in the number of containers to be transshipped; other transshipment alternatives and the ease or otherwise of using them; the economic and social costs for upgrading port infrastructures to satisfy commercial requirements of shipping lines (these costs must be determined in order to estimate whether the rates that can be charged for transshipment services are attractive enough to encourage shipping lines to use the port); and the availability of back-haul cargoes so that shipping lines can avoid unremunerative ballast voyages.

(ii) Transshipment centres at Curacao, Jamaica and Puerto Rico. Of the Caribbean transshipment facilities which might provide information to help the evaluation of Castries and Vieux Fort as possible centres, the experiences of Curacao, Jamaica and Puerto Rico would seem relevant. The Curacao transshipment facility was established both for domestic cargo flows and in an effort to complement similar activities for liquid-bulk cargoes moving between North, Central and South America. Since that time, free zones have been added to the container transshipment facility in order to participate in the assembly and elaboration of products. It should be understood that a major part of the current demand for container transshipment services at Curacao arises in connection with cargoes moving between Europe and North America and Venezuela. Venezuela has plans for the construction of container handling facilities at its ports, but until they are completed Curacao should remain a focal point for the movement of that country's containerised goods. In response to the current world economic recession and the need to generate new sources of employment, Curacao is investing US\$ 48 million to enlarge its facility so that transshipment traffic can be attracted not only for the North Coast of South America but also for the countries of the Eastern Caribbean. This new facility is scheduled to be operational by the end of 1983 16/.

16/ Cargo Systems, October 1982, pp. 66, 67.

Both regional and extra-regional carriers, e.g., Sea-Land Services, Inc. and the West Indies Shipping Corporation (WISCO), utilize Jamaica as a container transshipment centre for their cargoes bound for the Central American Isthmus. In contrast with the destination ports served by Curacao, the transshipment of containerised cargoes at Jamaica for Central America is not based on the lack of appropriate port facilities in those countries, as Central America has at least 17 ports with container handling/storage facilities, but rather on the relatively small cargo volumes to be shipped to that area. However, if cargo volumes to the Central American countries increase, the transport services to that sub-region might be changed from indirect to direct. It is interesting to note that Sea-Land Services, Inc. recently announced that it is to begin a direct weekly service from New Orleans to Guatemala, Honduras, Jamaica and Puerto Rico, in addition to its regular weekly Northeast Gateway Service between USA East Coast ports and those of the Caribbean 17/. The impact that this service change will have on the demand for transshipment services in Jamaica remains to be seen. Nonetheless, it does demonstrate the tenuous nature of the demand for transshipment services and the need to view such services as ancillary to those for domestic cargo flows.

While the ratio of transshipped cargo to domestic cargo for Jamaica in 1976 was 1 to 3, by 1980 that ratio was completely reversed 18/. During 1981 the Port Authority of Jamaica recorded 95 000 container moves, of which 65 000 were transshipment traffic 19/. With reference to the relationship between domestic and transshipment cargo flows, Mr.N. Hylton, Chairman and Chief Executive, Port Authority of Jamaica, stated that

"It is easier to attract transshipment cargo if the domestic cargo base is strong. When Jamaica's imports fell, due to the shortage of foreign exchange, it became more and more difficult to persuade the shipping lines to use the port for transshipment." 20/.

17/ Port Record, July 1983, p. 25.

18/ Seatrade, January 1982, p. 105.

19/ Cargo Systems, Aug 1st 1982, p. 25.

20/ Hylton, N., A container terminal and its role in a developing economy - transshipment and the concept of the 'free zone', a

In recognition of the need for a strong domestic cargo base to attract shipping lines and, hence, transshipment cargoes to the port of Hampton Roads, Virginia, USA, the Virginia Port Authority is trying to encourage more small to medium-sized local businesses to trade internationally 21/. It should be understood, therefore, that the ratio of transshipped to domestic cargo is a most important indicator of the long-term viability of a transshipment centre.

Finally, Puerto Rico accounts for approximately 50 per cent of all seaborne cargo handled in the Caribbean 22/. To attract transshipment traffic, the facilities at San Juan and Ponce have been expanded and free trade zones opened. As Puerto Rico has a large domestic import and export movement of containers between its ports and those of Europe and North America, many shipping lines serving that country have made commercial decisions to utilize its ports for the transshipment of containers bound for other Caribbean countries which have lesser flows. For example, during 1982 San Juan had a throughput (arrival and departure) of 916 857 TEU, an increase of 8.9 per cent over 1981, which qualifies it as seventh in the container port traffic league after Rotterdam, New York, Hong Kong, Kobe, Kaohsiung and Singapore 23/. Thus, the source of demand for transshipment services and the relation between domestic and transshipment cargo flows are most important considerations and must be carefully evaluated in order to ensure that port investments needed to satisfy such demand can be fully justified in both the short and long terms.

(b) Geographical location

(i) Proliferation of Caribbean transshipment centres. Because of the advantageous geographical proximity of the Caribbean to important markets in North, Central and South America and major trade routes utilizing the Panama Canal, an increasing number of countries of that subregion offer transshipment services for container, RO-RO and liquid-bulk cargoes. For example, during February 1983 the US Virgin Islands dedicated a US\$ 23 million container/RO-RO port which has 30

20/ (Cont.) paper presented at the conference on "Containerisation and the developing world" (see collected conference papers, pp. 57-62), organised by Containerisation International, London, U.K., 6-7 October 1980.

21/ Containerisation International, August 1983, p. 65.

22/ Cargo Systems, August 1982, p. 11.

23/ Containerisation International, December 1983, p. 60.

acres of storage space, 1 000 feet of dock, a computerised container location system and a 35 ton gantry crane, with the aim of becoming a major transshipment centre for the Caribbean and possibly Central and South America 24/. By the end of 1983 Aruba will complete a US\$ 30 million expansion of its port and seeks to offer transshipment services for incoming cargoes from Europe to other Caribbean islands and outbound cargoes from South America to the USA 25/. The Government of Panama is investing an estimated US\$ 48 million in its Atlantic coast ports of Cristobal and Coco Solo in order to develop the former as a major container transshipment centre for Caribbean and Central American countries, and the latter as a RO-RO and general cargo port 26/. The transshipment centre at Cristobal will be in operation by the end of 1983 and is to have space for storing 3 000 containers, including eight racks for refrigerated units, a container freight station with a total area of 6 280 square metres, a container repair and maintenance shop, and two gantry cranes with 40 ton capacity each, the first of which is to be installed by the second half of 1984 and the second a year later 27/. Similarly, other countries of the Central American Isthmus have made plans to construct --or are already constructing-- pipelines, railroads and ports to offer transshipment and landbridge services between the Atlantic and Pacific Oceans 28/. It should be highlighted that competition for Caribbean transshipment traffic is not limited to countries of that subregion but also includes continental USA ports such as Miami, Florida, which opened up a new container terminal during 1982 for that specific purpose. As a result of the large number of transshipment centres in and around the Caribbean, it would appear important that a careful evaluation be made of the competition created by such centres to determine what part of the transshipment market is not served by them or might be more adequately served at a St. Lucian facility.

(ii) Relation between geographical location and domestic cargo flows. The Mexican landbridge between the ports of Salina Cruz on the Pacific Ocean and Coatzacoalcos on the Caribbean offers both transshipment and landbridge services, and would appear to present a working example of the relationship between geographical location, domestic cargo flows and the demand for transshipment services. This

24/ Seatrade, March 1983, p. 13.

25/ Cargo Systems, October 1982, p. 66.

26/ International Construction, September 1982, p. 3.

27/ Ports and Harbors, November 1983, p. 29.

28/ Seatrade, Latin American Shipping/IEMMI, 1983, pp. 92, 112, 129.

landbridge was originally established in 1905, but fell into disuse when the Panama Canal opened in 1914. As part of the Mexican National Industrial Development Plan, it was decided to rehabilitate and modernize the landbridge in order to provide a cross-continent route as an alternative to the Panama Canal. Since this landbridge would reduce the sea distance between, for example, San Francisco and New York by 3 800 kilometres, with corresponding savings of time and fuel, it was projected that 70 000 to 90 000 containers would be handled during the first year of operation 29/. Nonetheless, as was reported in Containerisation International, June 1983, pages 67-69, Servicio Multimodal Transistmico, which operates the landbridge, indicated that during the first year since its inauguration on 1 April 1982 the landbridge has not been utilised.

While the lack of demand for landbridge/transshipment services in Mexico could be due in a large part to the current world economic recession, it is necessary to understand that there exists a relation between geographical location, domestic cargo flows and the demand for transshipment services. Of the many possible sources of demand for the Mexican landbridge, it was originally envisioned that during 1982 approximately 10 per cent of the liner vessels trading between the Far East and Europe might unload their containers at Salina Cruz to be reembarked on other vessels at Coatzacoalcos, thereby avoiding the Panama Canal and reducing the overall transit time and distance, with this percentage increasing to 25 in 1990 and 50 by the year 2000 30/. As the hinterland surrounding Salina Cruz generates only a limited amount of containerisable cargo, however, such vessels continue to utilise the Panama Canal or to call at other ports for which they have larger cargo consignments and which can, at the same time, provide transshipment/landbridge services if so desired.

In response to this situation, the national shipping line of Mexico, Transportación Marítima Mexicana S.A. (TMM), is considering the linking up of its Mexico/USA/Far East and Europe container services to utilise the Salina Cruz/Coatzacoalcos landbridge. This would involve the movement of containers from the USA ports of Oakland and Long Beach to Salina Cruz for rail transport across the Isthmus of Tehuantepec to Coatzacoalcos, where they would be loaded onto vessels which serve Europe 31/.

29/ Seatrade, Latin American Shipping/IEMMI, 1981, p. 65; and Cargo Systems, April 1981, p. 36.

30/ Container News, October 1980, pp. 20, 21.

31/ Containerisation International, June 1983, p. 5, and August 1983, p. 31.

From the foregoing it should be understood that an appropriate geographical location is a fundamental prerequisite for the establishment of a container transshipment centre. Even if this condition is satisfied, however, it merely represents one of the factors taken into account by shipping lines when making a commercial decision whether to use a particular facility. In fact, it would appear that shipping lines mostly evaluate the quantity of their cargo consignments to a port to determine whether that port will be used as a transshipment centre for other cargoes carried. Thus, a careful evaluation should be made to determine if Castries and Vieux Fort have appropriate geographical locations and whether there are sufficient domestic import and export cargo flows to justify the use of those locations as transshipment centres.

(c) External factors

There are a number of factors outside the control of a port desiring to provide transshipment services which must be understood and evaluated prior to establishing a centre. These factors include the world economic situation, commercial decisions of shipping lines with reference to areas such as service frequency, ports of call, types of vessels assigned to the service (i.e., whether they will have their own container handling equipment), port costs and dues of competing transshipment centres, trade and shipping documentation requirements, freight rates for direct shipments to out ports sought to be served as compared with those for transshipment, plans of the countries and ports sought to be served in areas such as industry, agriculture and energy (since growth in trade results in a shift from indirect to direct shipments) ^{32/}, types and volumes of cargoes to be transhipped, frequency and quality of feeder transport systems between the transshipment centre and out ports, and many others.

(i) World economic situation. It should be understood that the world economic situation determines both the volume and direction of trade and, hence, the demand for transport and transshipment services. This is most readily seen from the changes which have occurred in the demand for petroleum products in the USA and their effect on the demand for transshipment services in the Caribbean. As will be recalled, during October 1973 the Organization of Petroleum Exporting Countries (OPEC) decided to raise the price of crude oil from US\$ 1.88 to US\$ 3.15 per barrel and on 1 December of the same year to US\$ 11.65 per barrel ^{33/}. Based upon these as well as subsequent increases in

^{32/} Containerisation International, June 1983, p. 31.

^{33/} Mullen, J.W., World oil prices: Prospects and implications for energy policy-makers in Latin America's oil-deficit countries. "Cuadernos de la CEPAL", 1978, pp. 15-16.

the price of crude oil, worldwide demand for petroleum began to stabilize and finally decrease. Prior to this period of rapid crude-oil price increases, the size of vessels was increasing. For example, as recently as 1965 there were practically no ships in the world which had a dead weight (dwt) of more than 100 000 tons. But as the demand for the transport of liquid-bulk cargoes escalated and as economies of scale became apparent, vessel sizes began to increase, ultimately reaching slightly more than 550 000 dwt. Due to the lack of deep-water ports in the USA for vessels of this size, many Caribbean islands began to offer petroleum transshipment and refining services. However, with the reduction in demand for petroleum in the USA the impact on Caribbean liquid-bulk transshipment centres was immediate. In fact, due to the current situation in the international market for petroleum, there is every indication that the Hess Oil Company is having serious reservations about proceeding with the construction of a refinery to complement the oil storage and transfer facility at Cul-de-Sac Valley, St. Lucia 34/.

The worldwide decline in demand for petroleum products is not an isolated case. It should be understood that during 1982 total seaborne trade declined by 8.4 per cent, after a 4 per cent reduction in 1981 35/. The continued decline of seaborne trade in 1983 was due largely to a reduction in world economic growth and to related factors such as the widespread use of import restrictions to overcome balance-of-payments difficulties 36/. As a result of the decline in seaborne trade, many vessels have been laid up, i.e., placed in an inactive status at a safe berth or anchorage with a small maintenance crew until better trading conditions return. For example, during June 1981 17 305 000 dwt of both dry and liquid-cargo vessels were placed in lay-up and by May 1983 the total tonnage in this situation had increased to a peak of 100 484 000 dwt 37/, thereafter decreasing to 90 286 dwt by August 1983 38/. It is instructive to note that with the decline in seaborne trade there has been a concomitant decline in the demand for transshipment services. For example, during 1982 the leading French port of Le Havre experienced a reduction of 76 227 TEUs or 12.4 per cent, as compared with a total of 612 258 TEUs in 1981,

34/ Ministry of Finance, Planning and Statistics, St. Lucia, Economic Review 1982, March 1983, p. 11.

35/ UNCTAD, Review of Maritime Transport, 1982 (TD/B/C.4/258), p. 1.

36/ OECD, Economic Outlook, No. 32, December 1982.

37/ Seatrade, July 1983, Market Review.

38/ Seatrade, October 1983, Market Review.

which is attributed to the decline in transshipment traffic to and from the United Kingdom 39/.

(ii) Commercial decisions of shipping lines. While commercial decisions of shipping lines might appear to be beyond the control of port authorities, such is not entirely the case. Most ocean carriers incur costs not only for the line haul but also for carriage operations to final destinations. Where such operations involve an additional sea leg, port costs for unloading main-line vessels at transshipment ports, subsequent reloading on feeder vessels for transport to out ports and the port costs at the final destination assume such proportions as to become the key to profitability for shipping lines. For example, Nedlloyd Lines (Antilles) N.V., has temporarily suspended its Caribbean services from the Atlantic and Gulf Coasts of the USA to Antigua, Aruba, Barbados, Curacao, Guyana, Suriname and Trinidad due to the high level of costs and low level of freight rates 40/.

Due to the high cost of loading and unloading vessels, the freight rates for goods moving to and from the Caribbean as well as within that area must be studied to determine if there are any situations in which a transshipment operation would result in a lower overall cost or provide a more rapid or higher quality service 41/. While it might be thought that such situations do not exist, it should be noted that a direct shipment of 200 tons of coffee from Indonesia to the USA during April 1982 cost shippers US\$ 182 per ton, whereas it would only have cost US\$ 150 per ton if it had been shipped to the USA with transshipment in Singapore 42/. As a result of the cumulative nature of costs when a transshipment operation is required, any port desiring to offer such services must ensure that its costs are as low as possible and its efficiency, in terms of both labour and infrastructure, is as high as possible. In this context it is instructive to note that Antwerp, Belgium, a key transshipment port for continental Europe, had a container throughput in 1982 of 846 029 TEUs --an increase of 6.5 per cent over 1981 43/-- despite fierce competition from other similarly located ports. This increase was largely due to harmonious relations between its terminal operators and

39/ Containerisation International, July 1983, p. 48.

40/ Via Port of New York-New Jersey, July 1983, p. 4.

41/ Fairplay International Shipping Weekly, 27 October 1983, p. 63.

42/ Seatrade, June 1982, p. 4.

43/ Containerisation International, August 1983, p. 21.

waterfront unions, and high labour productivity; in this latter connection it may be noted that 2.8 tons are loaded at Antwerp per man hour, compared with 2.4 at Rotterdam and 1.8 at Bremen and Hamburg 44/.

Assuming a port has low cargo handling costs, an efficient workforce and infrastructure, an adequate geographical location in relation to liner services and trade flows, sufficient domestic import and export cargoes upon which the establishment of a transshipment operation might be based, and unutilised land to accommodate increases in demand, an analysis might be undertaken to determine possible users of the transshipment centre, i.e., shipping lines, shippers, consignees, feeder transport companies and out ports, and the extent to which the use of such a centre would either maintain or reduce their operating costs and improve the efficiency of their services. Other areas which should be evaluated are freight rates for direct shipments to the out ports sought to be served as compared with those for transshipment, plans of the countries and out ports to be served, types and volumes of cargoes to be transshipped, and frequency and quality of feeder transport systems between the transshipment centre and out ports.

(iii) Role of feeder transport systems. The offer of transshipment services might seem to be unrelated to feeder transport systems, but such is not the case. In order to ensure adequate feeder transport services between the Port of Bustamante, Jamaica, and the out ports served, that country participates as part owner in both Naviera Multinacional del Caribe (NAMUCAR) and WISCO, the two multinational subregional carriers. Further, Kingston Terminal Operators, the company which manages the Jamaica transshipment centre, have given serious consideration to the establishment of feeder services to the out ports not served by those lines. As was stated by Mr. N. Hylton, Chairman and Chief Executive, Port Authority of Jamaica,

"...a developing country, with its limited resources, has to promote or participate in feeder services to ensure the success of its investment in transshipment facilities." 45/.

44/ Seatrade, February 1983, p. 91.

45/ Hylton, N., A container terminal and its role in a developing economy - transshipment and the concept of the 'free zone', a paper presented at the conference on "Containerisation and the

While port authorities which seek to attract transshipment cargoes must be concerned with the availability of feeder transport services, so also must be shipping lines. For example, Evergreen Line of Taiwan is scheduled to commence a round-the-world container service on 5 April 1984. Its immediate plans call for the establishment of a Caribbean/Central American feeder transport service with, possibly, Cristobal, Panama, as a transshipment centre 46/.

(iv) Distribution of the benefits from transshipment operations. Generally, it is assumed that the utilisation of transshipment centres can benefit all parties involved in such operations, i.e., exporters, importers, principal as well as out ports, shipping lines, feeder transport companies and consumers. It is instructive to note that the Melton Shipping Group of the U.K. has demonstrated that small vessels of about 2 000 dwt can compete effectively in a service between Europe and North America, notwithstanding prevailing very low freight rates in that trade. This service has been found not only to be economic but also to have the flexibility to provide direct services to ports with limited cargo flows. Furthermore, the North British Maritime Group is to commence a trans-Atlantic service with two mini-bulkers in the 2 000-3 000 dwt range 47/. Looking into the future, the vice-president of transport for AB Volvo, Mr. R. Svensson, believes that the use of small vessels to provide more frequent and reliably timed deliveries can be justified by the saving achieved through reductions in the amounts of capital tied up in inventories, and that efforts to reduce the total flow of goods through materials administration techniques will result in revolutionary changes in transport systems 48/.

The use of small vessels is not limited to trades between developing countries, as the national shipping line of Paraguay employs similar vessels in its trade with European countries and has found them suited for this purpose and economic to operate. In fact, a principal reason for using small vessels in the Paraguay/Europe trade was to avoid the costs of transshipment operations, i.e.,

45/ (Cont.) developing world" (see collected conference papers, pp. 57-62), organised by Containerisation International, London, organised by Containerisation International, London, U.K., 6-7 October 1980.

46/ Containerisation International, March 1983, pp. 65, 67.

47/ Fairplay International Shipping Weekly, 14 July 1983, p. 6; 4 August 1983, p. 18, and 25 August 1983 p. 10.

48/ Containerisation International, June 1983, pp. 37-39.

cranage, shore labour, dock fees, etc., at Buenos Aires, Argentina. It would therefore seem advisable to prepare a study which goes beyond an examination of the feasibility of establishing a transshipment centre at a specific location and seeks to determine the benefits, if any, which might be obtained from the transshipment of goods, the distribution of those benefits among the various parties to such an operation and the alternatives to transshipment.

III. Marine industries related to container transshipment

The favourable geographical position of countries that border on the Caribbean, with easy access to major markets of North, Central and South America, provides those countries with promising natural locations for many marine industries. While there are numerous marine industries which are related to the transshipment of containers, some of the more important might be (a) offshore banking and ship management services, (b) mobile vessel repair services, (c) a multinational dredging company, and (d) transshipment of dry-bulk commodities 49/.

(a) Offshore banking and ship management services

For any country considering the establishment of a transshipment centre, it would seem appropriate that the original evaluation should also determine if the functions related to the administration and operation of such a centre could be expanded to include various offshore banking and ship management services. Offshore banking and finance is a little known area, and the benefits derived from such activities have generally been assumed to be relatively minor. However, a recent study prepared by the Stanford Research Institute has been much more positive in its assessment of the benefits to be obtained. This study estimates the revenue earned by the Netherlands Antilles in 1981 at US\$ 75 million, which was double that of 1979 and amounted to 20 per cent of all tax revenue. Since the tax rate on profits is approximately 3 per cent, it was estimated that loans totaling US\$ 35 billion were made that year. Furthermore, an estimated 5 000 jobs are involved in offshore banking and finance, which is more than two refineries provide 50/. Other Caribbean countries such as the Cayman Islands 51/ and Panama 52/ offer these as well as other offshore services.

49/ The ideas concerning mobile vessel repair services and transshipment of dry-bulk commodities were originally presented in the ECLA document entitled Marine project ideas for the Haitian port of Miragoane (E/CEPAL/R.333), pp. 12, 13.

50/ The Economist Intelligence Unit, Quarterly Economic Review of Venezuela, Netherlands Antilles, Suriname, No.1, 1983, p. 25.

51/ Seatrade, June 1981, p. 111.

52/ Seatrade, Latin American Shipping/IEMMI, 1983, p. 131.

It should be recognised that banks provide an important focal point for services to marine industries and that with adequate tax incentives, a network of telephone and telex communications, airline services and an enjoyable work and social environment, many might consider locating in St. Lucia. Likewise, ship management companies depend on the same infrastructural services and, as they have been successfully established in land-locked countries such as Switzerland 53/, might also give consideration to St. Lucia as an operational site. Historically, the nucleus of shipowners, managers and banks has relied to a great degree on physical proximity for operational efficiency and for that reason London, U.K., has been a maritime centre for at least four hundred years 54/. However, with the advent of satellite communications the possibility of locating companies such as these in countries with more favourable financial and natural climates has become a reality.

(b) Mobile vessel repair services

The opportunity to offer mobile repair services to the vessels of shipping lines which call at ports of this region stems from a number of factors such as dramatic reduction in vessel crew sizes (from over 40 crew members as late as 1970 to 18 and even less today) 55/, and in the length of time vessels spend in ports to load and discharge cargo (down from 5 days to less than one day), as well as the increasing period of up to 3 years and even more between vessel haul-outs due to improved bottom paints 56/ and in-water surveys by classification societies. The reduction in the number of crew members has changed the nature of the mariner's trade from the operation, maintenance and repair of vessels to that of operation with only limited maintenance. Moreover, the limited port stays and extended periods of navigation for vessels have considerably reduced the opportunities for carrying out preventive maintenance procedures on, for example, one or more cylinders of the main engine at each port, and for making important repairs at the once-customary annual haul-out. As much of the ships' routine maintenance is increasingly being carried out by shoreside

53/ Fairplay International Shipping Weekly, 8 September 1983, p. 12; Seatrade, February 1983, p. 52.

54/ Seatrade, March 1983, p. 163.

55/ Fairplay International Shipping Weekly, 3 March 1983, p. 7; Seatrade, February 1982, p. 23.

56/ Fairplay International Shipping Weekly, 27 October 1983, pp. 12-17, and 30 September 1982, pp. 22-30; Shipping World and Shipbuilder, March 1983, pp. 141-145.

crews 57/, a British shiprepairer has created a mobile workshop in a standard 20 foot I.S.O. container to provide the repair and maintenance services required by vessels while in port and during cargo loading and discharge operations 58/.

It might appear that a small country such as St. Lucia would lack the critical mass of skilled technicians and equipment to repair deep-sea merchant vessels. However, since St. Lucia utilises diesel motors as prime movers for the generation of all of its electricity, such is not the case. For example, at the port of Vieux Fort there is a diesel-electric plant for the needs of the nearby village which is operated, repaired and maintained by St. Lucians. It therefore seems reasonable that the critical mass of skills and equipment utilised for the generation of electricity might be redirected toward the carrying out of similar functions aboard merchant vessels during cargo loading and discharge operations at the ports of Castries and Vieux Fort. As the establishment of a mobile vessel repair service would seem to merit further study, discussions could be held with representatives of the major shipping lines --Bermuth, Concorde-Nopal Lines, Cunard, Marine Bulk Carriers, Nedlloyd, Pan Atlantic Lines, Saguenay Shipping Ltd., Samba, Tek, and Tropical Shipping Company-- which serve Castries and Vieux Fort to determine their repair and maintenance needs and the possibility of having such needs fulfilled while at those ports.

(c) A multinational dredging company

As noted in part I of this document, due to the unserviceable state of the grab dredge and lack of hopper barges, the port of Castries has not been given maintenance dredging to remove accumulated sedimentation in two and one-half years. As the minimum water depth required for main-line vessels is 44.3 feet (13.5 meters) 59/, not only the ports of St. Lucia but also those of most other Caribbean countries require regular dredging services to maintain entrance channel and harbour depths. Although this need exists, however, the majority of the Caribbean countries do not have enough ports to provide continuous employment for a dredge and the funds for its acquisition. In response to this situation many Caribbean countries contract with extra-regional companies for dredging services.

57/ Fairplay International Shipping Weekly, 16 June 1983, p. 17;
8 April 1982, pp. 22, 24.

58/ Fairplay International Shipping Weekly, 21 July 1983, p. 29;
11 March 1982, p. 39.

59/ IAPH, Ports and dredging in the developing countries, June 1983,
p. 4.

To avoid the outflow of foreign exchange that such contracting entails and, at the same time, create a basis which would provide a dredge with continuous employment, the St. Lucia Air and Sea Ports Authority as well as other interested ports in the Caribbean might wish to jointly consider the advantages of forming a multinational enterprise for the purchase and operation of a dredge. Other than the political will needed on the part of St. Lucia and other interested Caribbean countries to establish such an enterprise, major considerations include the volumes and types of materials to be dredged, distances from job sites to areas where dredged material is to be disposed, distances between participating ports, the frequency of repetition of dredging, the cost of purchasing, operating and maintaining dredging equipment, availability of suitable financing for acquisition of such equipment and training programmes for operating personnel.

(d) Transshipment of dry-bulk commodities

In view of the proliferation of container and liquid-bulk transshipment centres in the Caribbean, it should be recognized that many of the countries of that sub-region have certain locational advantages in relation to the trade flows of North, Central and South America as well as within their own area. Although the Caribbean has such locational advantages, however, as yet, no major transshipment centre has been established for dry-bulk commodities. For example, the wheat, corn and soybean imports of the Caribbean Community (CARICOM) and Central American countries, the Dominican Republic, Haiti, Mexico, Panama and Venezuela from New Orleans, Louisiana, USA, amount to over 1.6 million tons per year ^{60/} and might well provide the necessary commercial basis for a sub-regional bulk-grain purchase, transport ^{61/} and transshipment operation.

Based upon the tonnages these grain flows represent, efficiencies of scale might be obtained through the establishment of a common transport system which utilises one or more large bulk carriers. While the grain imports to such countries are often carried as general cargo or by bulk carriers of less than 14 000 dwt, it is instructive to note that in the grain trade between Buenos Aires and Rotterdam it has been found that bulk carriers of 20 000 dwt cost approximately US\$ 30.50 per delivered ton of grain, while those of 60 000 dwt permit a reduction in such cost to approximately US\$ 19.60 per ton. Assuming such vessels might be used for grain imports to the countries in

^{60/} Port of New Orleans, Foreign Trade Statistics, Calendar Year 1982.

^{61/} UNCTAD, Shipping feasibility study for the transportation of grain to selected Caribbean States, March 1983.

question, the savings in transport costs would be partially offset by the costs of transshipment, which are normally US\$ 4-5 per ton 62/, and of transport to final destinations. Not only would the overall cost of delivered grain would be less with transshipment: it should also be highlighted that the use of such a centre would dramatically reduce the need for extensive grain handling and storage facilities at the Caribbean outports served.

As most Caribbean countries have continuing import requirements for grain and other dry-bulk commodities such as fertilisers, it would appear opportune to evaluate the feasibility of establishing such a centre at either Castries or Vieux Fort. However, due to the limited amount of space at both Castries and Vieux Fort for a shore-based transshipment centre for dry-bulk cargoes, the study should also evaluate the alternative of placing a floating terminal at one of those ports. While this might appear unusual, it should be noted that numerous ports such as New Orleans 63/, Buenos Aires and Rotterdam 64/ utilize floating grain terminals. Moreover, many surplus dry-bulk vessels could be modified for such service 65/ in periods of as little as six weeks. The advantages of floating dry-bulk terminals are that they can be on-site and operational in much less time than comparable shore-based facilities 66/, they can easily be relocated in response to changes in trade patterns, utilise safe anchorages with adequate water depths for revenue producing activities, and rely less on shore-based services such as electric power, housing and others of a social nature.

62/ Seatrade, October 1983, p. 117.

63/ Fairplay International Shipping Weekly, 2 December 1982, p. 20.

64/ Fairplay International Shipping Weekly, 16 September 1982, p. 13.

65/ Seatrade, May 1983, pp. 53, 55.

66/ Seatrade, May 1982, pp. 87, 89.

IV. Conclusions and recommendations

As indicated in the terms of reference for the preparation of this document, suggestions were to be made to assist the St. Lucia Air and Sea Ports Authority in evaluating the possibility of establishing transshipment centres at Castries and Vieux Fort. In compliance with these terms of reference, study guidelines have been developed and examples given to assist the Ports Authority with its mandate. Additionally, four project ideas which came to light during the gathering of information for this document have been presented in part III, and might be given consideration by the Ports Authority as areas for future investigation.

It is most important to understand that the critical mass of skills, equipment and infrastructure utilised at a transshipment centre calls for substantial investments, the training of personnel, genuine co-operation between the port authority, terminal operators and waterfront unions to ensure high productivity at a low cost, an appropriate geographical location in relation to liner services and trade flows, frequent feeder transport services which employ appropriate technologies, adequate domestic cargo flows and sufficient unutilised land to accommodate increases in demand. Since the reasons put forward by Concorde-Nopal Line and Tropical Shipping Company for utilising Castries, St. Lucia, as a transshipment centre appear valid, a study is needed to evaluate the areas highlighted in part II of this document to ensure that a decision to offer such services will bring maximum benefits to the national economy as a whole, both in the short and long terms.

It has been generally assumed that all parties in the distribution chain are benefited from the transshipment of goods. For example, overall transport costs are said to be reduced as main line vessels which utilise transshipment facilities are permitted to reduce the number of ports of call and the time spent at each for cargo loading and discharge operations. However, as was discussed in part II (a) (iv) of this document, there are very real situations in which such benefits are either minimal or do not exist. While a study to determine the feasibility of establishing a transshipment centre at a specific location would indicate the benefits and cost to the organisation or country involved, such a study would normally not indicate the benefits and cost to other parties such as out ports, consignees, etc., which could assist sub-regional planning efforts. In order to determine the circumstances under which transshipment operations might keep down or reduce transport costs and provide higher-quality or more rapid service, as well as the distribution of benefits among the parties to such an operation and the alternatives to transshipment, it is believed that further investigation should be directed towards the resolution of these points.

Annex 1

NOTE FOR FILE

Note concerning request for Larry Burkhalter to visit St. Lucia

In response to a telex from Marco Antonio Mastrobuono, who was in St. Lucia, I made a telephone call to Mr. George Girard. In brief, Mr. Girard indicated:

1. that a law was in the process of being published concerning establishment of an authority to manage airports;
2. it was contemplated to merge that authority with the existing Port Authority;
3. major concerns of St. Lucia were for trade promotion and transshipment.

Their immediate interests are:

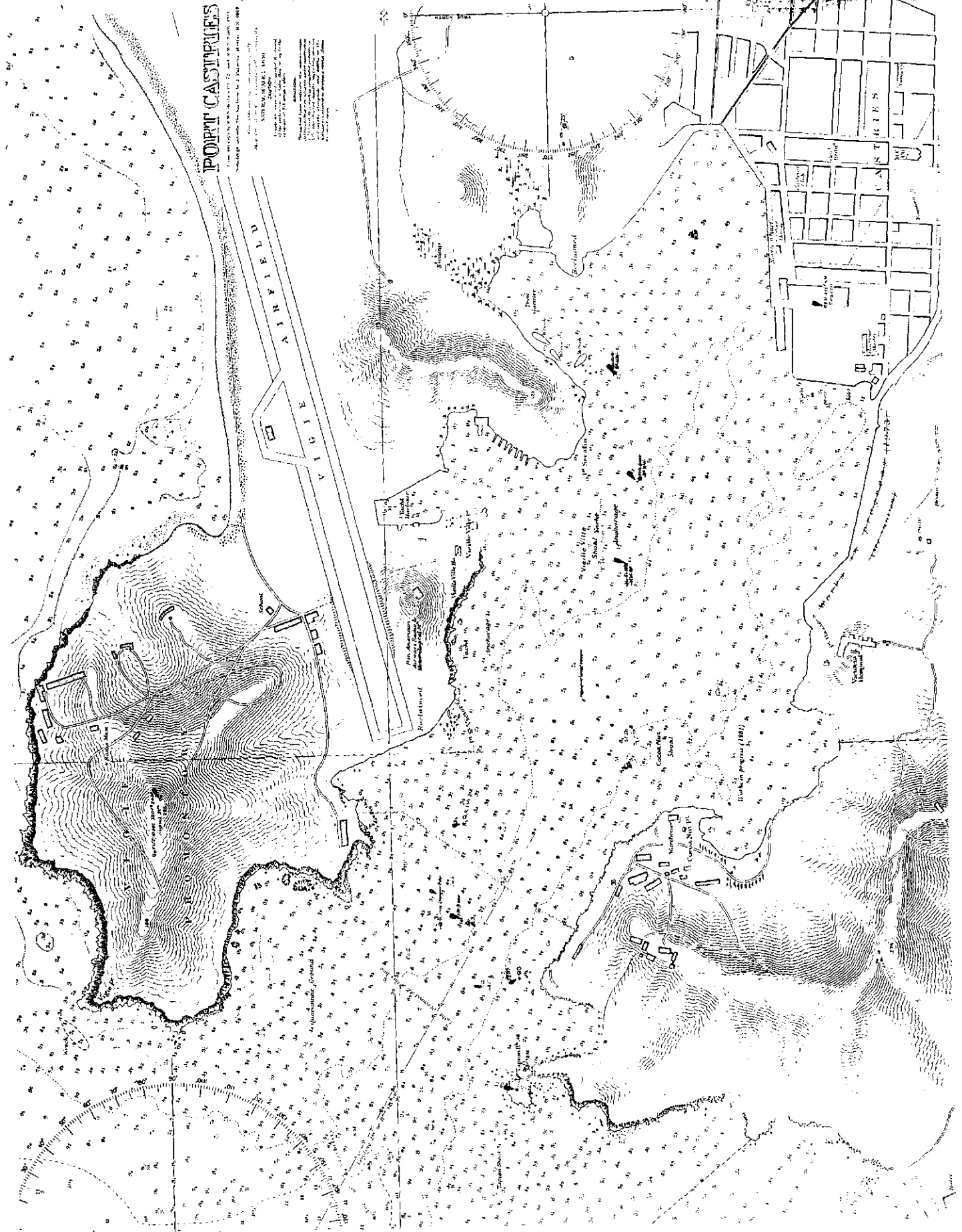
1. to set up machinery to administer the new authority;
2. to implement the transshipment project.

Mr. Girard would like Mr. Burkhalter to visit for discussions and to get a first-hand impression of the situation and the thinking of the St Lucian Government Officials and subsequently to offer suggestions on how they could go about their mandates in the areas of trade promotion and transshipment. Mr. Girard also wanted to find out what assistance ECLA could render in the present context. Mr. Girard's telephone number: 22296 and 22561 Ext. 49.

Following discussions with Mr. Burkhalter, I spoke with Mr. Brown. Telexed authorisation for Mr. Burkhalter's visit arrived this morning.

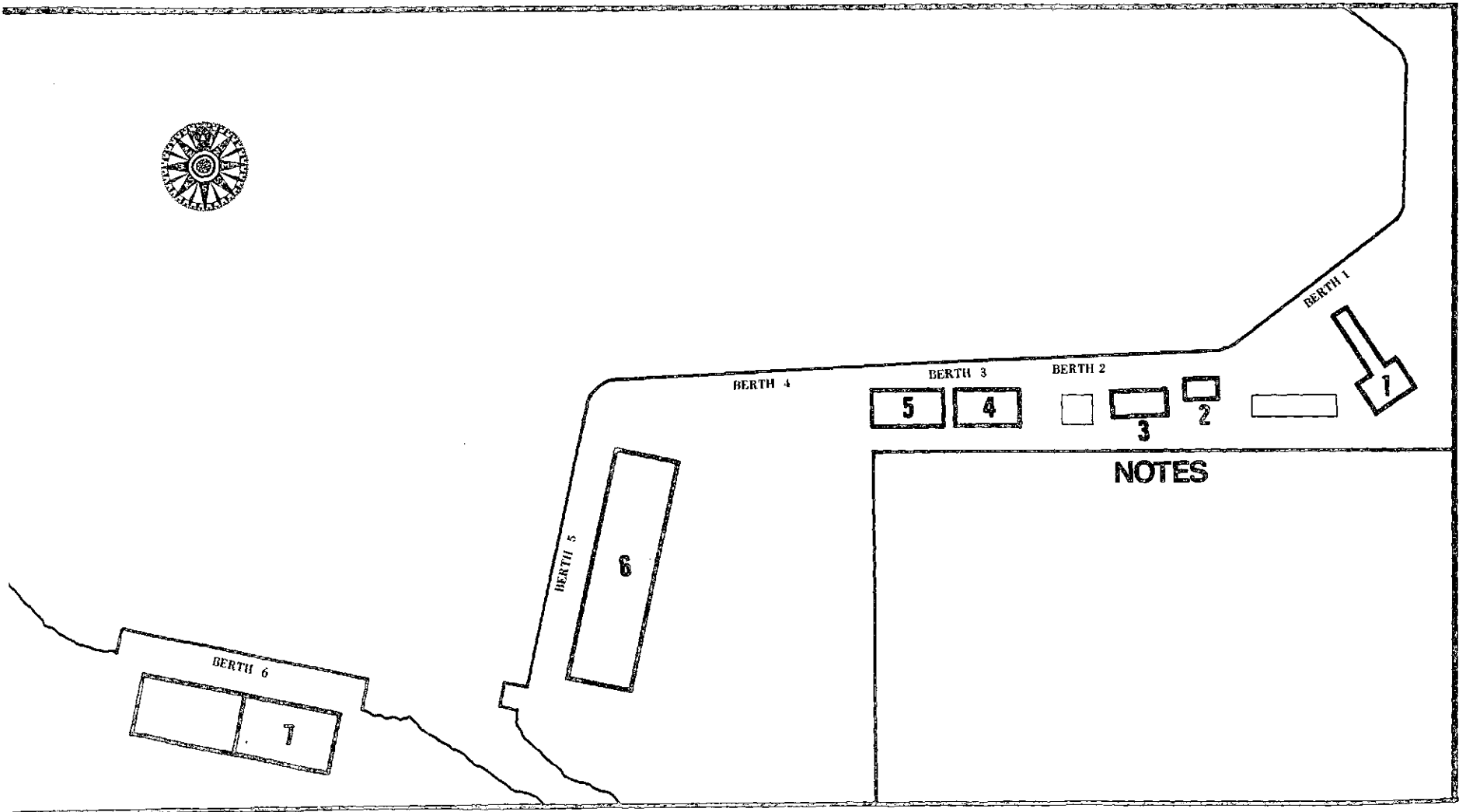
Wilfred Whittingham
Deputy Director

21 July 1983
Port-of-Spain



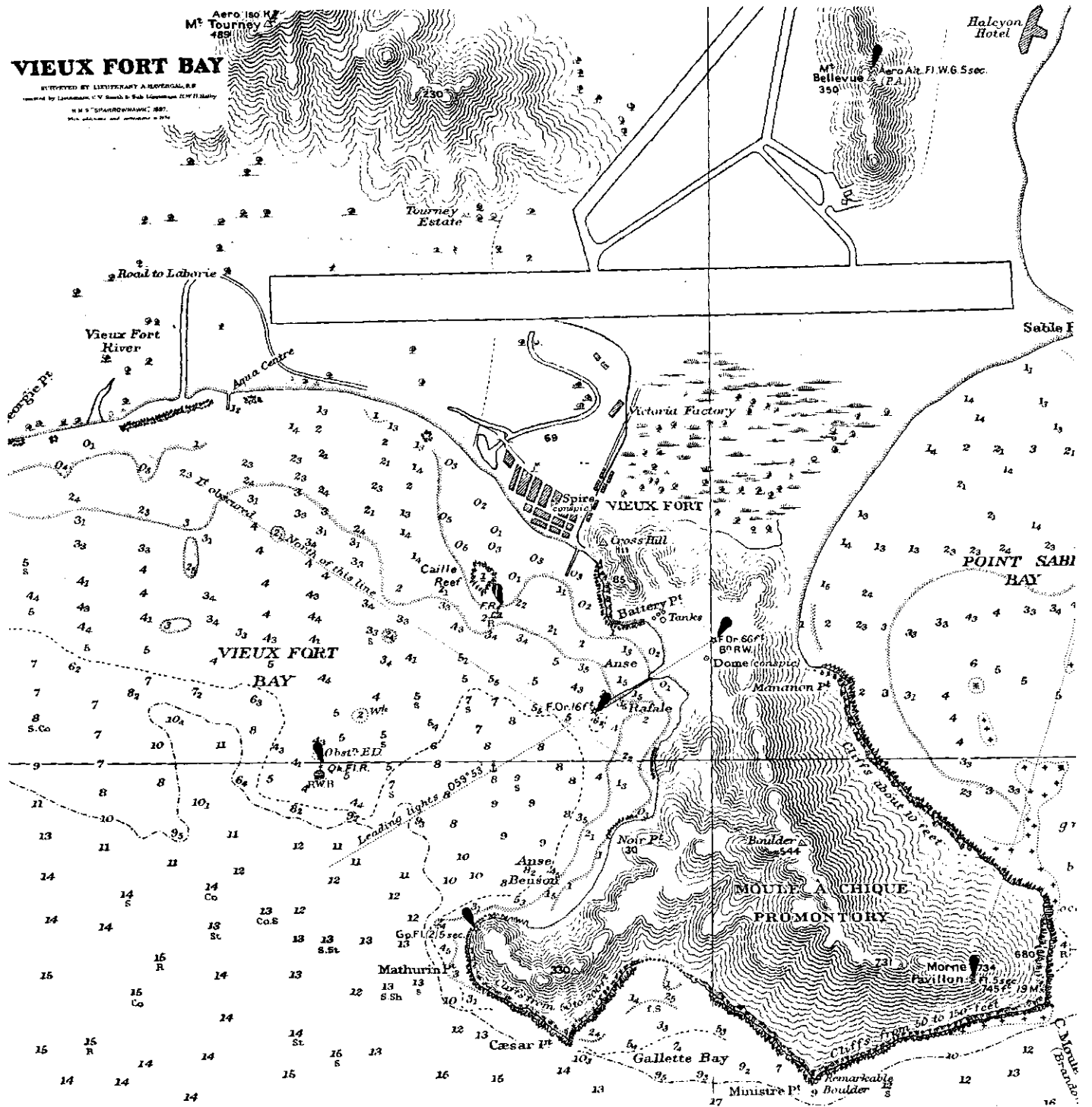
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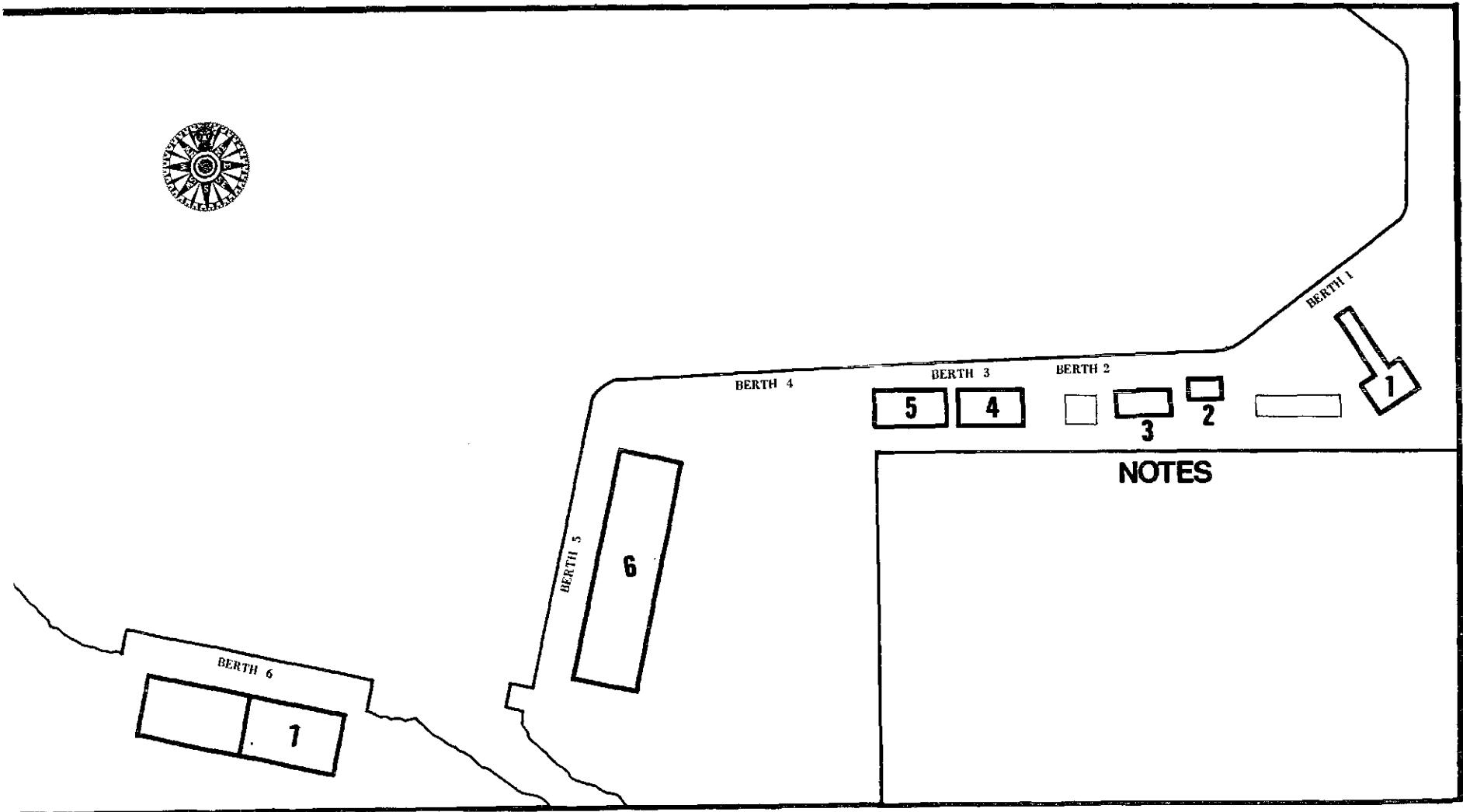
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 Projection: UTM
 Zone: 18N
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 Contour Interval: 10 feet
 Vertical Datum: Mean Sea Level
 Horizontal Datum: WGS 84
 Projection: UTM
 Zone: 18N
 Datum: WGS 84



VIEUX FORT BAY

REVISED BY LIEUTENANT A. ROYAL, R.F.
Surveyed by Lieutenant C. V. Smith & Sub-Lieutenant J. W. H. Malby
H.M.S. "SPARROWHAWK" 1887.
This edition not published in 1914.





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