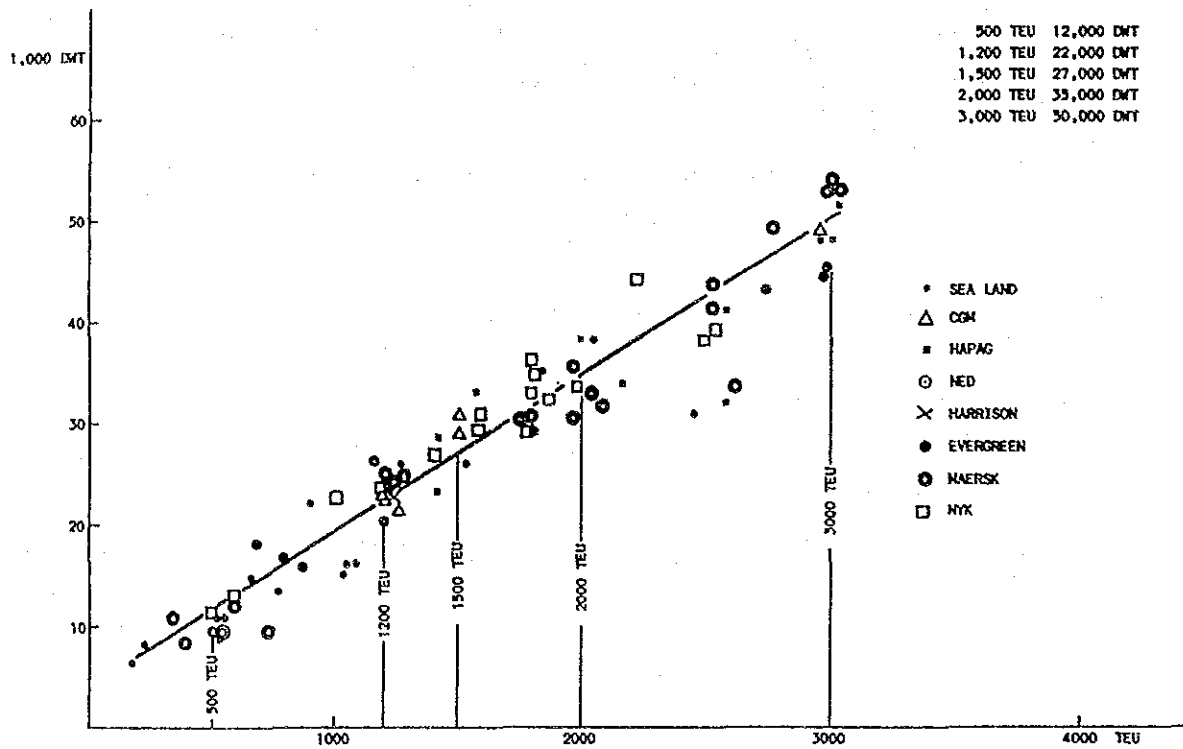
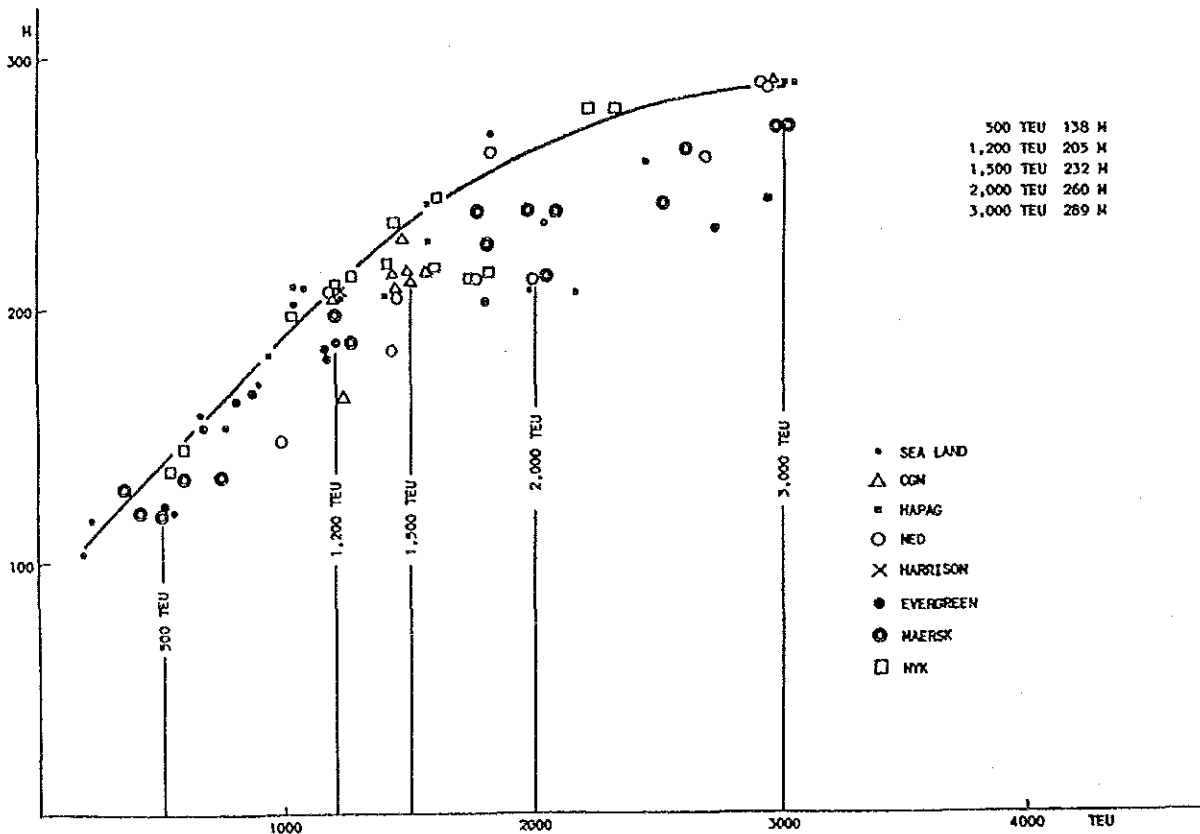


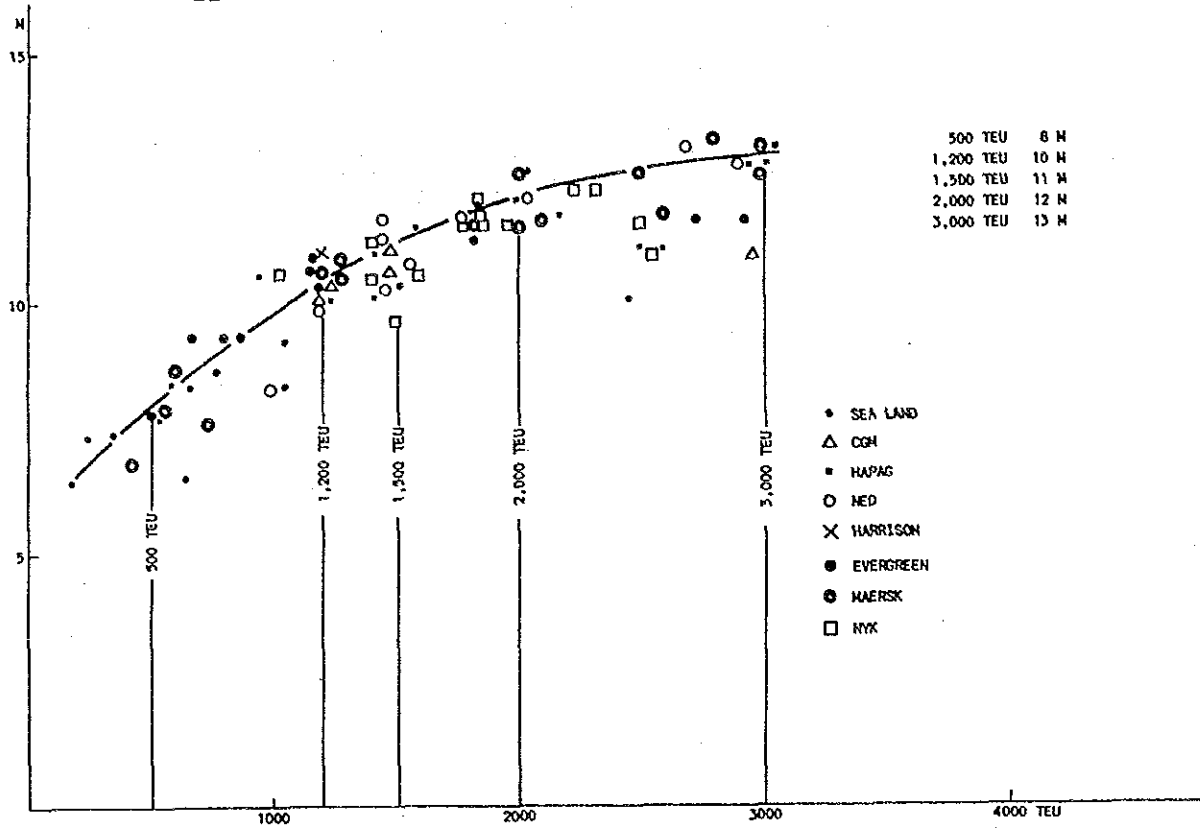
Appendix 9.1.1 Relationship between DWT and TEU



Appendix 9.1.2 Relationship between LOA and TEU



Appendix 9.1.3 Relationship between Full Draft and TEU



Appendix 9.1.4 Ratio of 20/40 Feet Containers (Port of Lazaro Cardenas)

Year		Loaded Containers			Empty Containers			Grand Total			
		20	40	Total	20	40	Total	20	40	Total	
1985	Import									<TEU>	
	Export										
1986		Import									
		Export									
		Total									
1987	Import	1,282	1,136	2,418	963	854	1,817	2,245	1,190	< 6,225 >	4,235
	Export	1,309	1,161	2,470	175	155	330	1,484	1,316	< 4,116 >	2,800
		Total	(47.0) 2,297	4,888	1,138	(47.0) 1,009	2,147	3,729	3,306		7,035
1988	Import	8,241	1,849	10,090	1,141	250	1,391	9,382	2,099	<13,580>	11,481
	Export	2,722	597	3,319	4,264	963	5,227	6,986	1,560	<10,106>	8,546
		Total	(18.2) 2,446	13,409	5,405	(18.3) 1,213	6,618	16,368	3,659		20,027
1999 (JAN - NOV)	Import	10,887	1,921	12,808	687	121	808	11,574	2,042	<15,658>	13,616
	Export	2,899	511	3,410	3,671	648	4,319	6,570	1,159	< 8,888 >	7,729
		Total	(15.0) 2,432	16,218	4,358	(15.0) 769	5,127	18,144	3,201		21,345

Note: () ; Share of 40 feet containers (%)
< > ; Total in terms of TEU

Appendix 9.1.5 Relation between the Imbalance Ratio of Import/Export Containerized Cargo Volume and Empty Container Ratio (Port of Lazaro Cardenas)

Year	Containerized Cargo Volume			Imbalance Ratio (① - ②) / ③	Number of Container			Empty Container Ratio ⑤ / ④
	① Export (tons)	② Import (tons)	③ Total (tons)		④ Loaded (TEUs)	⑤ Empty (TEUs)	⑥ Total (TEUs)	
1985								
1986								
1987	55,314	33,175	88,489	0.250	7,185	3,156	10,341	0.305
1988	62,299	92,100	154,399	0.193	15,855	7,831	23,686	0.331
1995	281,000	241,000	522,000	0.077				0.25
2005	Lazaro Cardenas	693,000	498,000	1,191,000	0.166			0.25
	Feeder	407,000	175,000	582,000	0.399			0.20
	Total	1,100,000	673,000	1,773,000	0.241			0.25

Appendix 9.1.6 Calculation of Unit Weight of Containerized Cargo on a TEU Basis (Port of Lazaro Cardenas)

Import/ Export	Year	Number of Loaded Container				Containerized Cargo Volume Including Tare Weight	② Containerized Cargo Volume Excluding Tare Weight	Unit Weight (② / ①)
		20 ft	40 ft	Total	① TEU			
Import	1987	(53%) 1,282	(47%) 1,136	(100%) 2,418	3,554	33,175 tons	26,250 tons	7.39 tons/TEU
	1988	(82%) 8,241	(18%) 1,849	(100%) 10,090	11,939	92,100	66,674	5.58
	1989	(85%) 10,887	(15%) 1,921	(100%) 12,807				
Export	1987	(53%) 1,309	(47%) 1,161	(100%) 2,470	3,631	55,314	48,240	13.29
	1988	(82%) 2,722	(18%) 597	(100%) 3,319	3,916	62,299	53,949	13.78
	1989	(85%) 2,899	(15%) 511	(100%) 3,410				

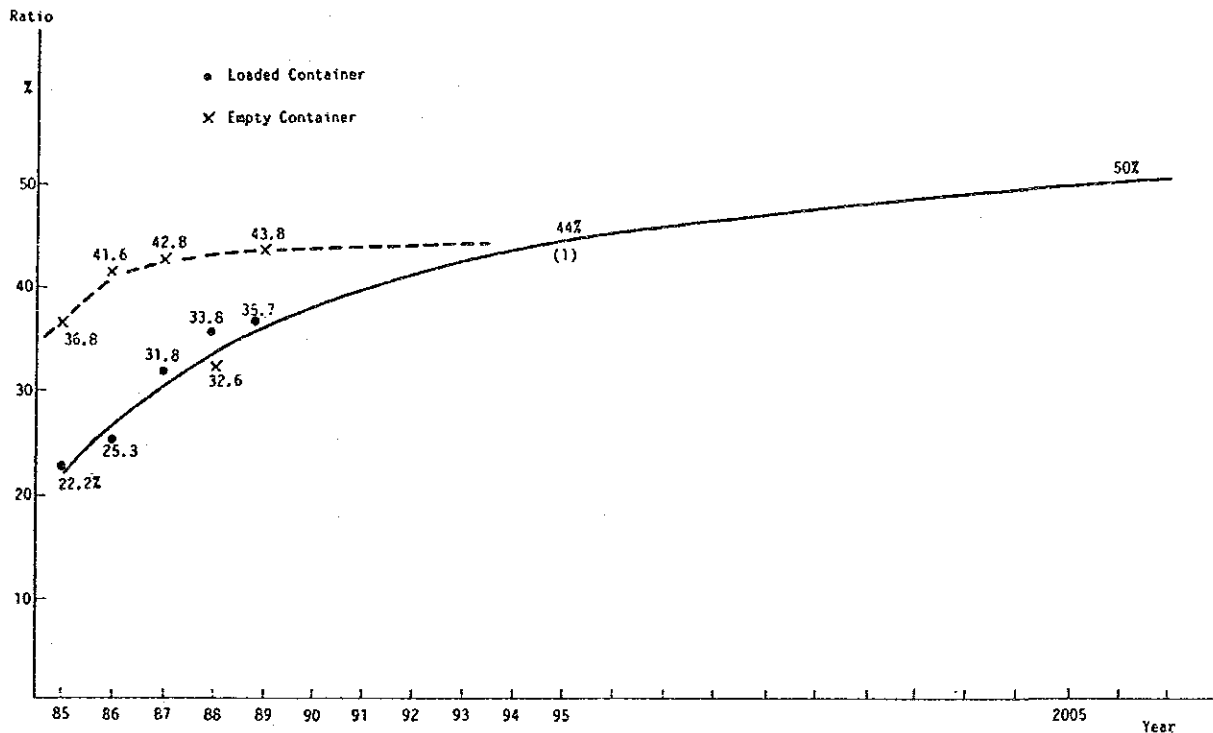
Note: Tare Weight ; 2.3 tons (20 feet), 3.5 tons (40 feet.)

Appendix 9.2.1 Ratio of 20/40 Feet Containers (Port of Manzanillo)

Year		Loaded Containers			Empty Containers			Grand Total			
		20	40	Total	20	40	Total	20	40	Total	
1985	Import	595	88	683	883	482	1,365	1,478	570	< 2,618 >	1,535
	Export	1,632	546	2,178	139	114	253	1,771	660	< 3,091 >	2,431
	Total	2,227	(22.2)	634	2,861	1,022	(36.8)	596	1,618	3,249	1,230
1986	Import	649	144	793	1,160	775	1,935	1,809	919	< 3,647 >	2,728
	Export	1,828	697	2,525	160	168	328	1,988	865	< 3,718 >	2,853
	Total	2,447	(25.3)	841	3,318	1,320	(41.6)	943	2,263	3,797	1,784
1987	Import	848	338	426	892	819	1,711	1,740	1,157	< 4,054 >	2,897
	Export	2,268	1,113	4,141	376	129	505	2,644	1,242	< 5,128 >	3,886
	Total	3,116	(31.8)	1,451	4,567	1,268	(42.8)	948	2,216	4,384	2,399
1988	Import	1,191	708	1,899	3,189	1,788	4,977	4,380	2,496	< 9,372 >	6,876
	Export	5,229	2,568	7,791	872	172	1,044	6,101	2,740	< 11,581 >	8,841
	Total	6,420	(33.8)	3,276	9,690	4,061	(32.6)	1,960	6,021	10,481	5,236
1999 (JAN - NOV)	Import	1,597	990	3,607	1,807	1,612	3,419	3,404	2,602	< 8,608 >	6,006
	Export	4,299	2,278	5,557	1,107	659	1,766	5,406	2,937	< 11,280 >	8,343
	Total	5,896	(35.7)	3,268	9,164	2,914	(43.8)	2,271	5,185	8,810	5,539

Note: () ; Share of 40 feet containers (%)
< > ; Total in terms of TEU

Appendix 9.2.2 Ratio of Loaded 40-foot Containers to Total Containers (Port of Manzanillo)



Appendix 9.2.3 Relation between the Imbalance Ratio of Import/Export Containerized Cargo Volume and Empty Container Ratio (Port of Manzanillo)

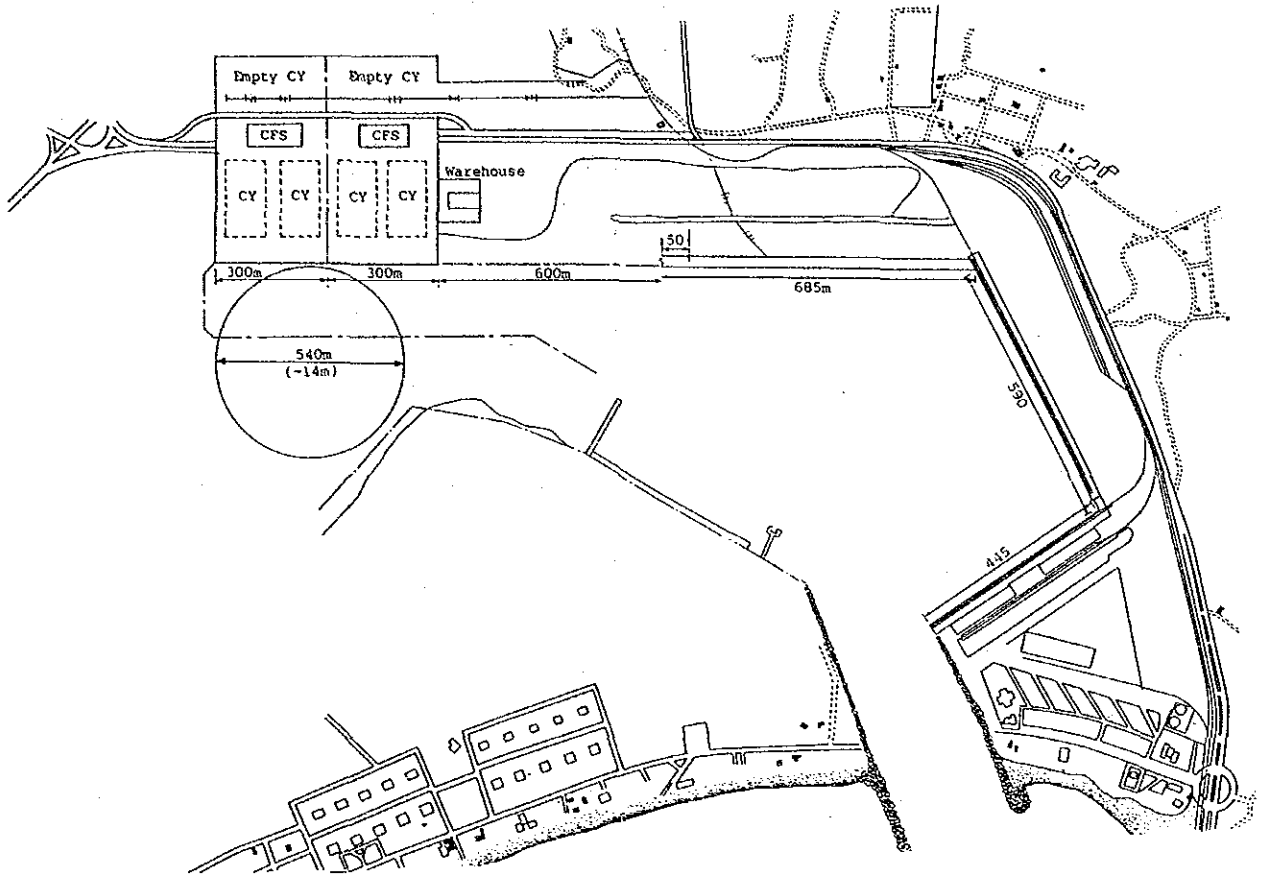
Year	Containerized Cargo Volume			Imbalance Ratio (① - ②) / ③	Number of Container			Empty Container Ratio ⑤ / (⑤ / ④)
	① Export (tons)	② Import (tons)	③ Total (tons)		④ Loaded (TEUs)	⑤ Empty (TEUs)	⑥ Total (TEUs)	
1985	32,798	8,177	40,975	0.601	3,495	2,214	5,709	0.388 (0.633)
1986	41,110	7,408	48,518	0.695	4,159	3,206	7,365	0.435 (0.771)
1987	56,152	12,853	69,005	0.627	6,018	3,164	9,182	0.344 (0.526)
1988	142,308	21,193	163,501	0.740	12,972	7,981	20,953	0.381 (0.615)
1995	432,000	204,000	636,000	0.358				0.25
2005	Manzanillo	894,000	390,000	1,284,000	0.358			0.30
	Feeder	382,000	217,000	598,000	0.276			0.20
	Total	1,276,000	607,000	1,882,000	0.355			0.25

Appendix 9.2.4 Calculation of Unit Weight of Containerized Cargo on a TEU Basis (Port of Manzanillo)

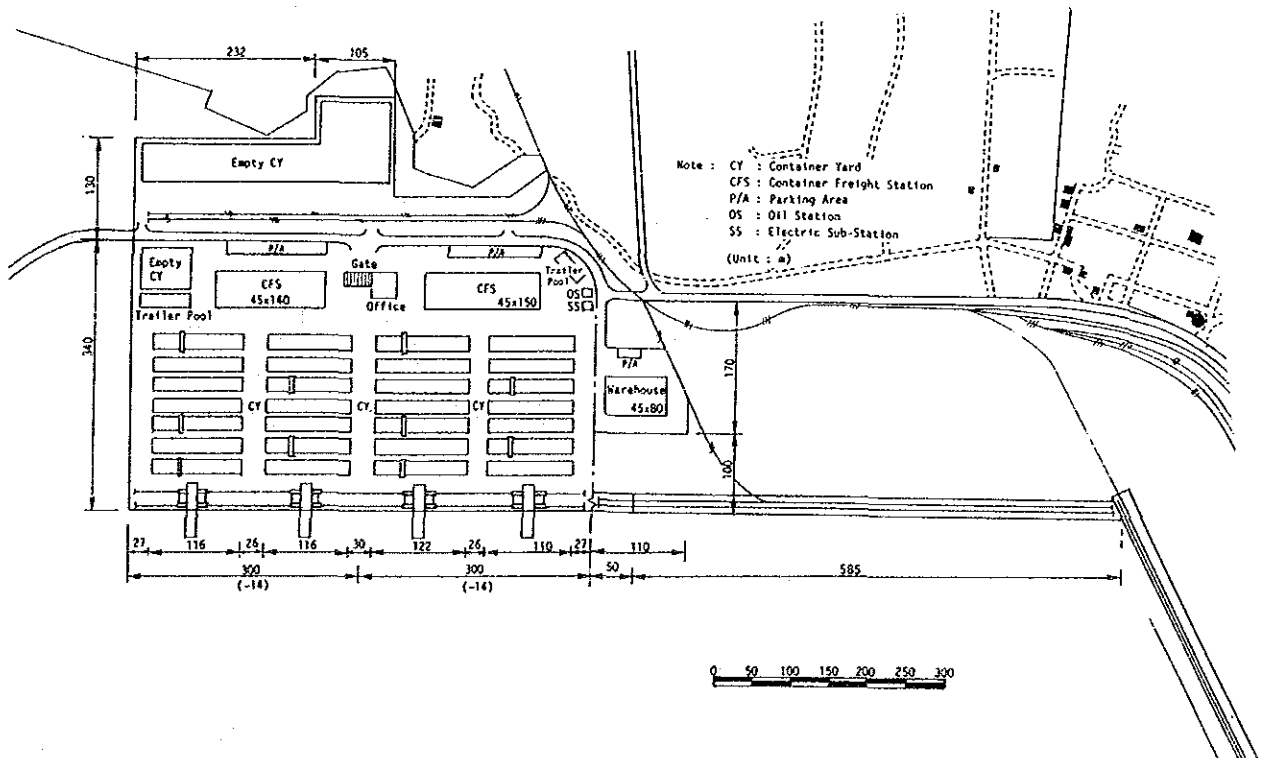
Import/ Export	Year	Number of Loaded Container				Containerized Cargo Volume Including Tare Weight	② Containerized Cargo Volume Excluding Tare Weight	Unit Weight: (② / ①)
		20 ft	40 ft	Total	① TEU			
Import	1985	(87%) 595	(13%) 88	(100%) 683	771	8,177 tons	6,500 tons	8.43 tons/TEU
	1986	(82%) 649	(18%) 144	(100%) 793	937	7,408	5,411	5.78
	1987	(72%) 848	(28%) 338	(100%) 1,186	1,524	12,853	9,720	6.38
	1988	(63%) 1,191	(37%) 708	(100%) 1,899	2,607	21,193	15,976	6.13
Export	1985	(75%) 1,632	(25%) 546	(100%) 2,178	2,724	32,798	27,133	9.96
	1986	(72%) 1,828	(28%) 697	(100%) 2,525	3,222	41,110	34,466	10.70
	1987	(67%) 2,268	(33%) 1,113	(100%) 3,381	4,494	56,152	47,040	10.47
	1988	(67%) 5,229	(33%) 2,568	(100%) 7,797	10,365	142,308	121,293	11.70

Note: Tare Weight ; 2.3 tons (20 feet), 3.5 tons (40 feet)

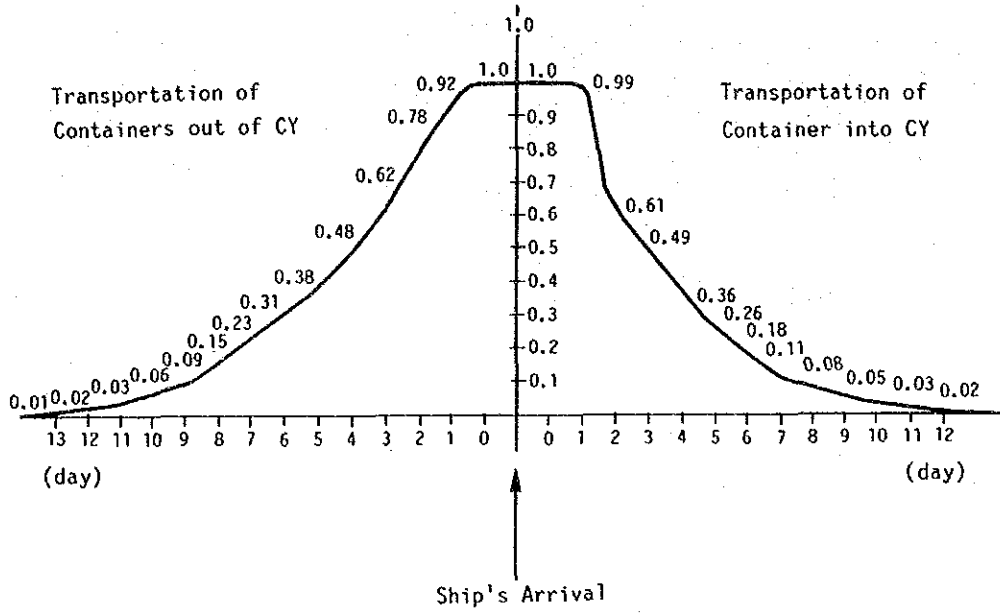
Appendix 9.2.5 General Layout Plan of Container Terminal Alternative III



Appendix 9.2.6 Layout Plan of Container Terminals Alternative II
(Port of Manzanillo : 2005)



Appendix 10.1.1 Dwell Time of Containers at CY
 (Example at a Japanese Port)



Appendix 10.3.1

Historical Trend of the Management and Operation Body of Silo

In many countries in the world, the following steps can be observed with respect to the management and operation body of silo, although the management and operation body of silo is greatly influenced by the social and economic conditions of the country.

a. First stage

Grain silo in port area had constructed commonly by the central or local government according to the main reasons of the effective control by the governmentary food policy and the repletion of social overhead capital.

b. Second stage

The third sectors, consortium organized by the government bodies and private enterprises were established for the port grain terminal.

c. Third stage

Private enterprises, mainly warehouse and/or wharf company had followed to the third sectors.

d. Fourth stage

Private enterprises, mainly grain dealers, such as international trading company, have constructed port grain terminals for steady supply to the combinative food industries.

Appendix 10.3.2 The Formulas for Calculations and the Results

The formulas for calculations and the results are as follows:

1. Formulas

a. Service time (Tb)

$$Tb = (Ws/Q \times H \times \eta + Td) \times D/D'$$

Tb : Service times (days)

Ws : Average cargo volume per ship (Ws = 23,000t)

Q : Handling capacity (t/h)

H : Work hours a day (H = 24 hrs.)

η : Efficiency of work hours ($\eta = 0.75$)

Td : Times for berthing and deberthing (Td = 0.5 days)

D : Days for a year (D = 365 days)

D' : Actual work days a year (D' = 340 days)

b. Berth occupancy (ρ)

$$\rho = V \times Tb/D \times Ws/K$$

ρ : Berth occupancy

V : Annual cargo volume (t)

K : Numbers of berths (berth No.3 - one berth)

(berths No.1 and No.2 - two berths)

c. Annual cargo volume (V)

$$V = D \times Ws \times \rho \times K/Tb$$

2. Results of calculations

a. Berth No.3 (with an Existing Unloader)

The existing unloader is transferred to berth No.3 in the improvement plan. This unloader handles only bulk cargoes of coal and pellet. Because this unloader is specially designed for bulk cargoes.

The relations among cargo handling capacity(Q), annual cargo volume(V) and berth occupancy(ρ) are calculated in Table (1) and Table (2).

Table (1) shows the relation between handling capacity(Q) and annual cargo volume (V) as parameters of berth occupancy(ρ).

Table (1),(2) shows the relation between handling capacity(Q) and berth occupancy rate of $\rho = 0.5$. In Table (1) annual cargo volume (V) becomes as follows with $\rho = 0.5$ and $Q = 500\text{t/h}$.

$$V = 1,300,000\text{t}$$

This is the total cargo volume of coal and pellet on the berth No.3.

Supposing cargoes of coal are unloaded only from this berth, the volume at coal becomes 250,000 tonnage. Remaining cargoes of 1,050,000 tonnage ($1,300,000 - 250,000 = 1,050,000$) are pellet cargoes.

On the other hand, total volume of pellet cargoes are 1,800,000 tonnage, and then the excess pellet cargoes of 750,000t must be unloaded from Berths No.1 and No.2.

Consequently, cargoes and volumes handled on berth No.3 are as follows:

Coal	:	250,000t
Pellet	:	1,050,000t
Total	:	1,300,000t

b. Berths No.1 and No.2 (with a New Crane and Ship Gears)

The cargo volume to be handled on these two wharves is given in Table 10.3.9. The productivities of various cargoes in subject are also given in Table 10.3.5 - 10.3.8.

The berth occupancy(ρ), service time (T_b) and their total values are described in Table 10 (3).

These values of berth occupancy and service time are for one berth. While the evaluation of berth occupancy of 60% is considered proper for two berths, two years of 1992 and 1993 should be over this occupancy rate. However, as these values are not so high, all the planned cargo volumes are possible to be handled on two wharves by increasing wharf using period a little longer.

Table (1) Berth occupancy & service time

year Cargo	1990	1991	1992	1993	1994	1995
$\rho 1$ Pallet Tbl	0.083 30.3	0.083 30.3	0.083 30.3	0.083 10.2	- -	- -
Rod, Bar $\rho 2$ &Coil Tb2	0.114 41.6	0.114 41.6	0.114 41.6	0.114 41.6	0.114 41.6	0.114 41.6
$\rho 3$ Slab Tb3	0.086 31.4	0.086 31.4	0.17 62.0	0.127 46.2	0.063 22.9	0.021 7.7
$\rho 4$ Sheet Tb4		0.021 7.7	0.036 13.1	0.054 19.7	0.091 33.2	0.146 53.3
$\rho 5$ Scrup Tb5	0.283 103.2	0.283 103.2	0.283 103.2	0.283 103.2	0.283 103.2	0.283 103.2
ρt Total Tbt	0.511 208.5	0.592 216.2	0.686 250.2	0.605 220.1	0.551 200.9	0.564 205.8

Table (2) Relation between handling capacity (Q) and cargo volume(V)

Q(t/hr.)	120	230	300	400	500	600	800	1,000	
Ws(t)	25,000								
H(hr.)	18								
Q*H(t/d)	2,160	4,140	5,400	7,200	9,000	10,800	14,600	18,000	
Tb(day)	12.92	6.99	5.49	3.97	3.51	3.01	2.37	2.0	
$\frac{Ws*D*10^6}{T_b}$	706	1,305	1,662	2,298	2,599	3,031	3,850	4,517	
V (x10 ³)	$\rho = 0.1$	71	131	166	229	260	303	385	452
	0.2	142	262	332	459	520	606	770	903
	0.3	213	393	499	689	780	909	1,155	1,355
	0.4	284	524	664	919	1,040	1,212	1,540	1,807
	0.5	355	655	831	1,149	1,299	1,516	1,295	2,259
	0.6	426	786	997	1,379	1,715	1,818	2,310	2,710
	0.7	497	917	1,163	1,609	2,001	2,121	2,695	3,462
	0.8	568	1,048	1,329	1,838	2,287	2,425	3,980	3,613
	0.9	639	1,179	1,496	2,068	2,573	2,728	3,465	4,065

Table (3) Relation between handling capacity(Q) and berth occupancy(μ)

Q(t/hr.)	120	230	300	400	500	600	800	1,000	
Ws(t)	25,000								
H(hr.)	18								
Q*H(t/d)	2,160	4,140	5,400	7,200	9,000	10,800	14,600	18,000	
Tb(day)	12.92	6.99	5.49	3.97	3.51	3.01	2.37	2.02	
ρ	$\times 10^3$ (t)								
	v 200	0.283	0.153	0.120	0.086	0.076	0.066	0.052	0.044
	300	0.424	0.299	0.180	0.130	0.155	0.099	0.178	0.066
	400	0.566	0.306	0.240	0.174	0.154	0.132	0.104	0.088
	500	0.707	0.382	0.300	0.217	0.192	0.165	0.129	0.110
	600		0.459	0.360	0.262	0.230	0.198	0.156	0.133
	700		0.536	0.421	0.304	0.269	0.231	0.182	0.155
	800		0.612	0.481	0.348	0.308	0.264	0.208	0.177
	900		0.689	0.541	0.391	0.346	0.297	0.233	0.199
	1,000		0.765	0.601	0.434	0.384	0.329	0.259	0.221
			0.722	0.522	0.401	0.395	0.311	0.264	
				0.609	0.538	0.451	0.363	0.309	

Appendix 11.1.1

Rail Gauge of the Quayside Gantry Crane

The rail gauge (or crane span) of the quayside gantry crane will be determined by stability and wheel load of the crane, space for the required traffic lanes, and structural limitation of rail foundation.

1. Stability and wheel load of the crane

The practical rail gauge for the quayside gantry crane was 16M gauge on the first generation crane (about 25 years ago).

Since that time, the required crane size became larger and larger to cope with larger container vessels.

However, the rail gauge of the quayside gantry crane could not be enlarged except just in case at a new container terminal.

Some larger gantry cranes have been manufactured with the same rail gauge, but with difficulty.

From the point of view of stability of the quayside gantry crane, desirable rail gauge for the panamax will be about 20M.

2. Space for the required traffic lanes

It is very important to keep enough space for the required traffic lanes in the crane span.

However, there is not any formula to determine necessary number of the required traffic lanes.

In general at least three traffic lanes will be necessary, but more lanes are desirable to achieve smooth crane operation and to get high throughput.

Price of the crane will increase if the crane gauge is enlarged over the desirable gauge of 20M to ensure stability of the crane.

3. Conclusion

3.1 Lazaro Cardenas

The desirable rail gauge to ensure stability of the crane for the panamax will be about 20M.

There is a quayside gantry crane already installed. The rail gauge of

the crane is 16.76M.

An additional gantry crane will be installed on the existing rail of the existing crane.

Thus the rail gauge of the crane will be limited to 16.76M.

3.2 Manzanillo

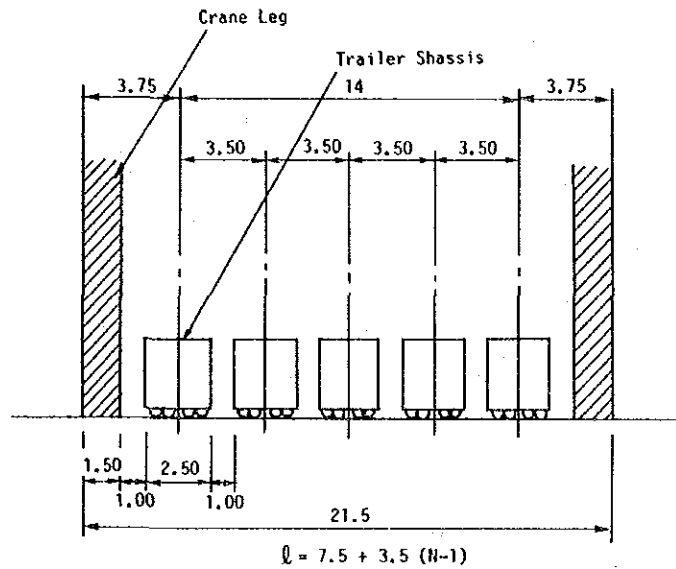
The planned container berth is the first one at Manzanillo.

There is no limitation to determine the rail gauge of the new crane.

Desirable gauge of the rail for the panamax is about 20M. However, one more traffic lane can be available if span is enlarged by only 1.5M

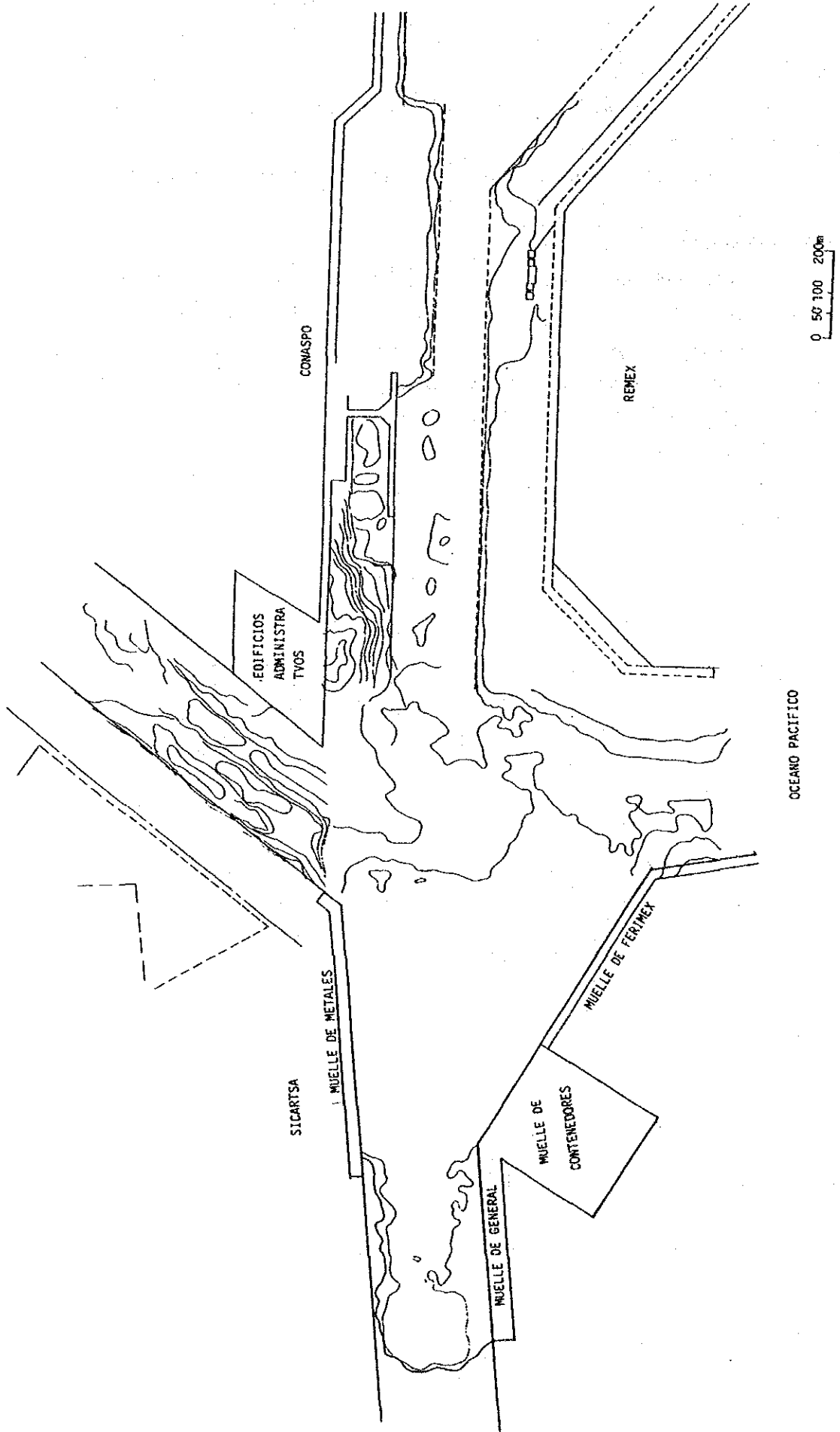
Additional cost for expanding the lane from 20M to 21,5M will be negligibly small.

Thus the recommendable rail gauge of the new quayside gantry crane will be 21.5M.

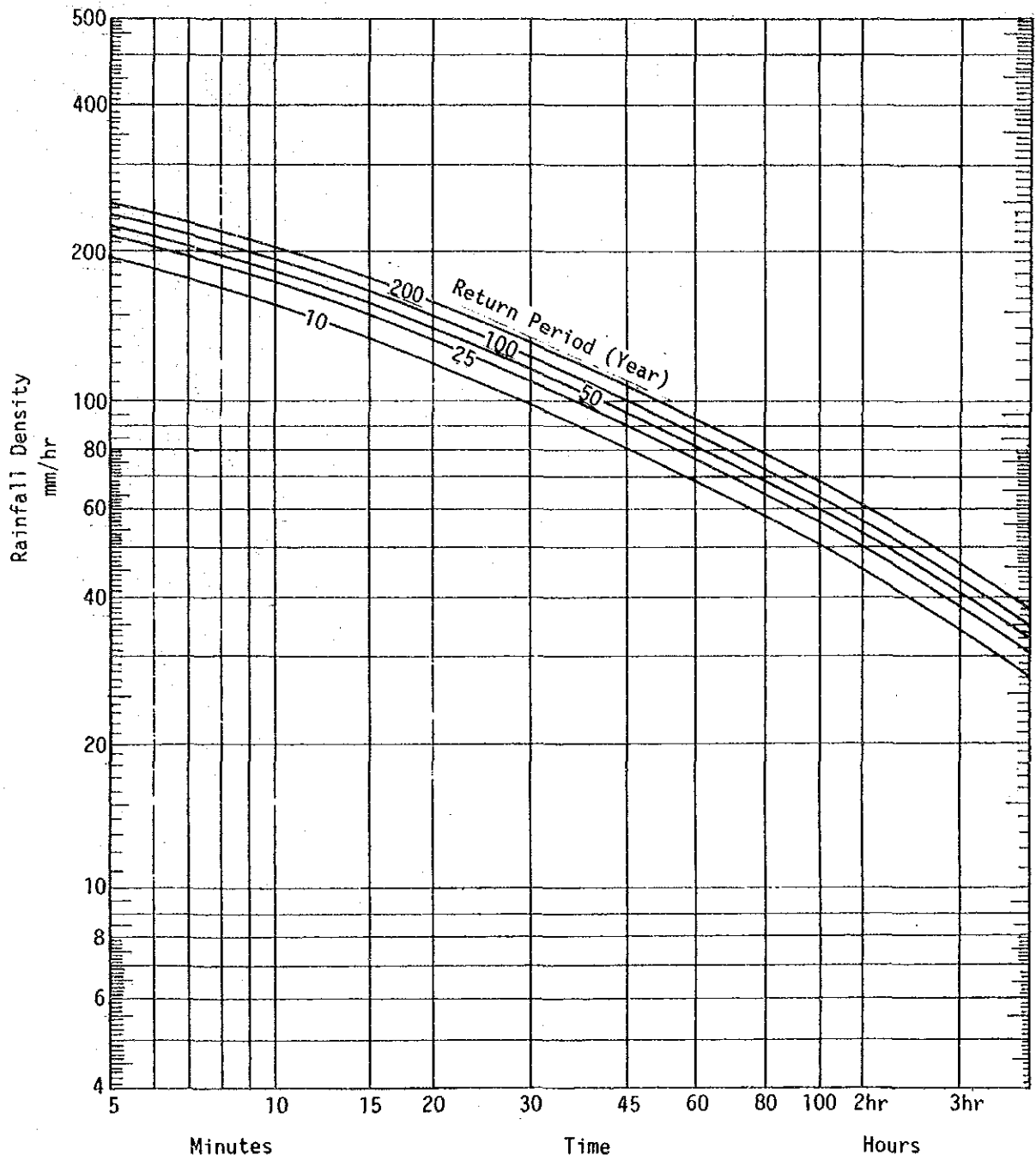


Required Span for Trailer Shassis

Appendix 11.1.1.2 Topographical Map of Lazaro Cardenas

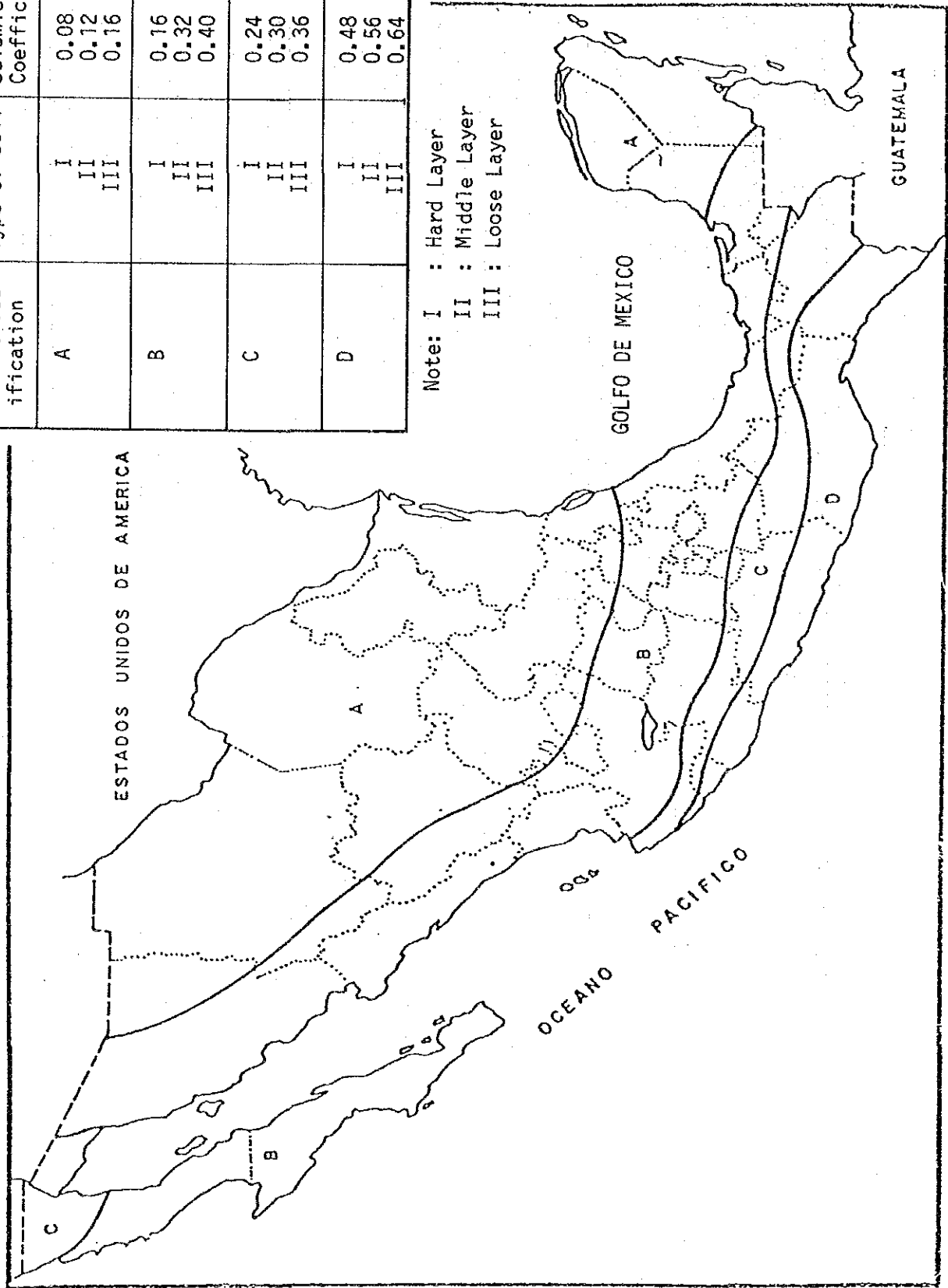


Appendix 11.1.3 Rainfall Density of Lazaro Cardenas

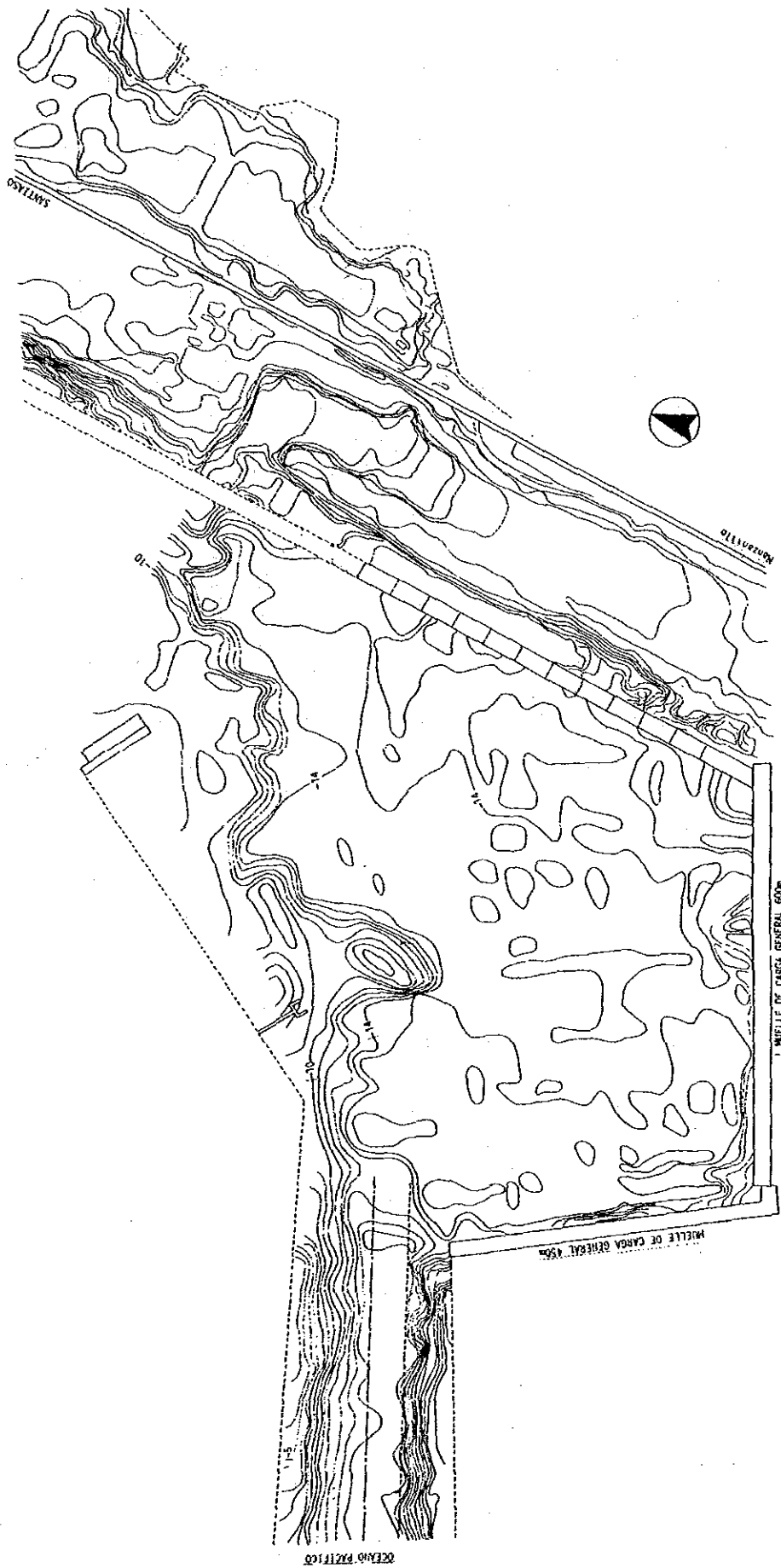


Appendix 11.1.4 Regional Seismic Coefficient of Mexico

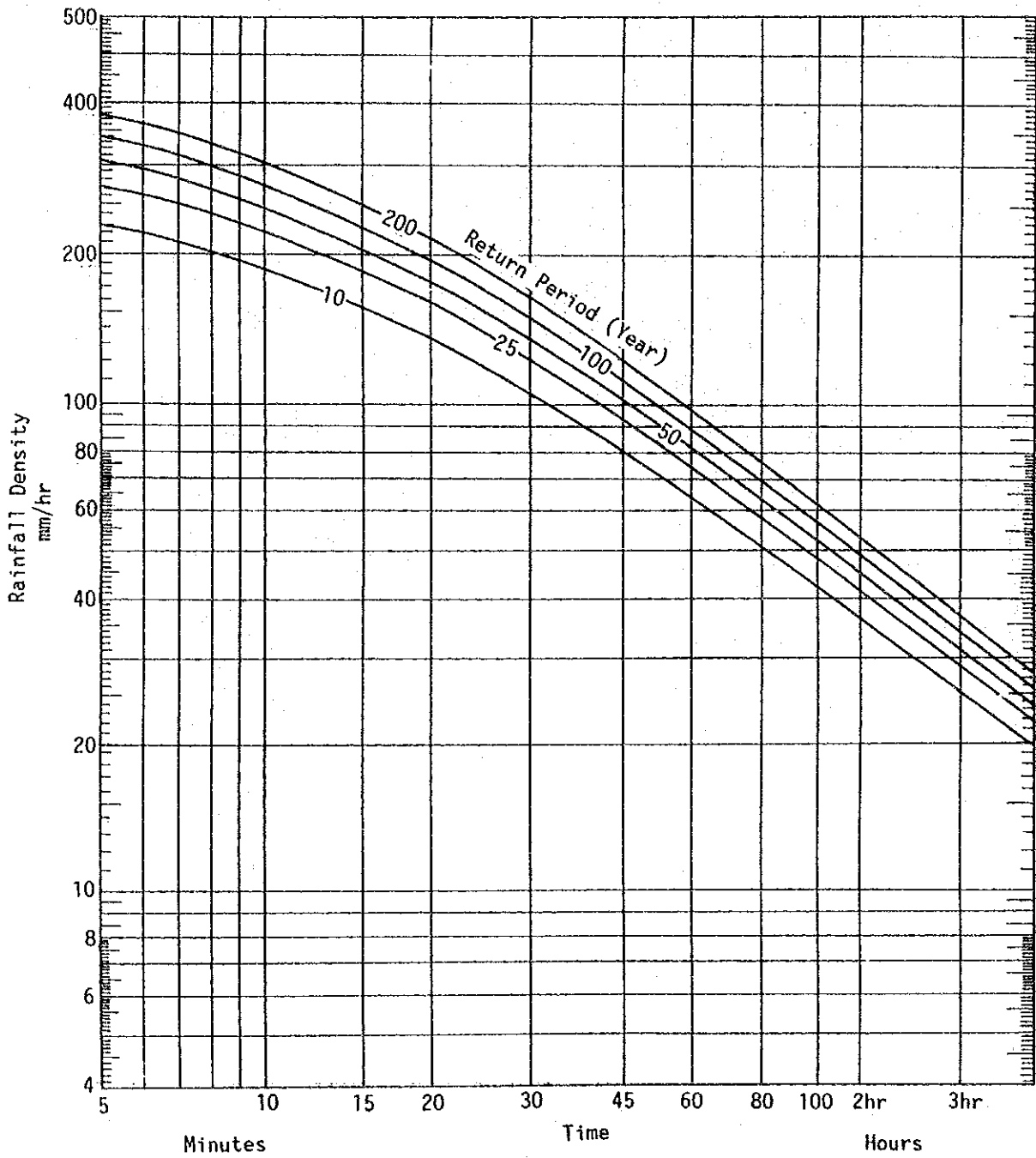
Zone Classification	Type of Soil	Seismic Coefficient
A	I	0.08
	II	0.12
	III	0.16
B	I	0.16
	II	0.32
	III	0.40
C	I	0.24
	II	0.30
	III	0.36
D	I	0.48
	II	0.56
	III	0.64



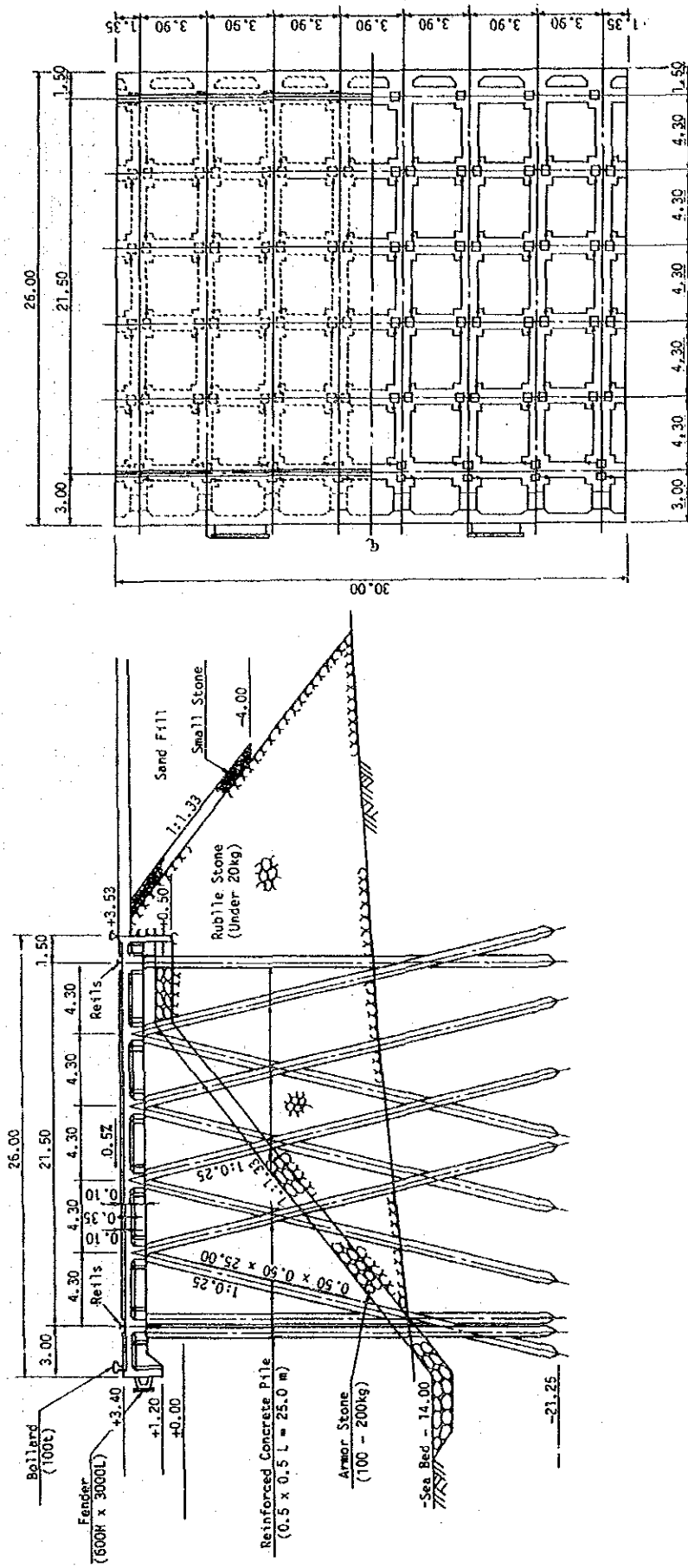
Appendix 11.2.1 Topographical Map of Manzanillo



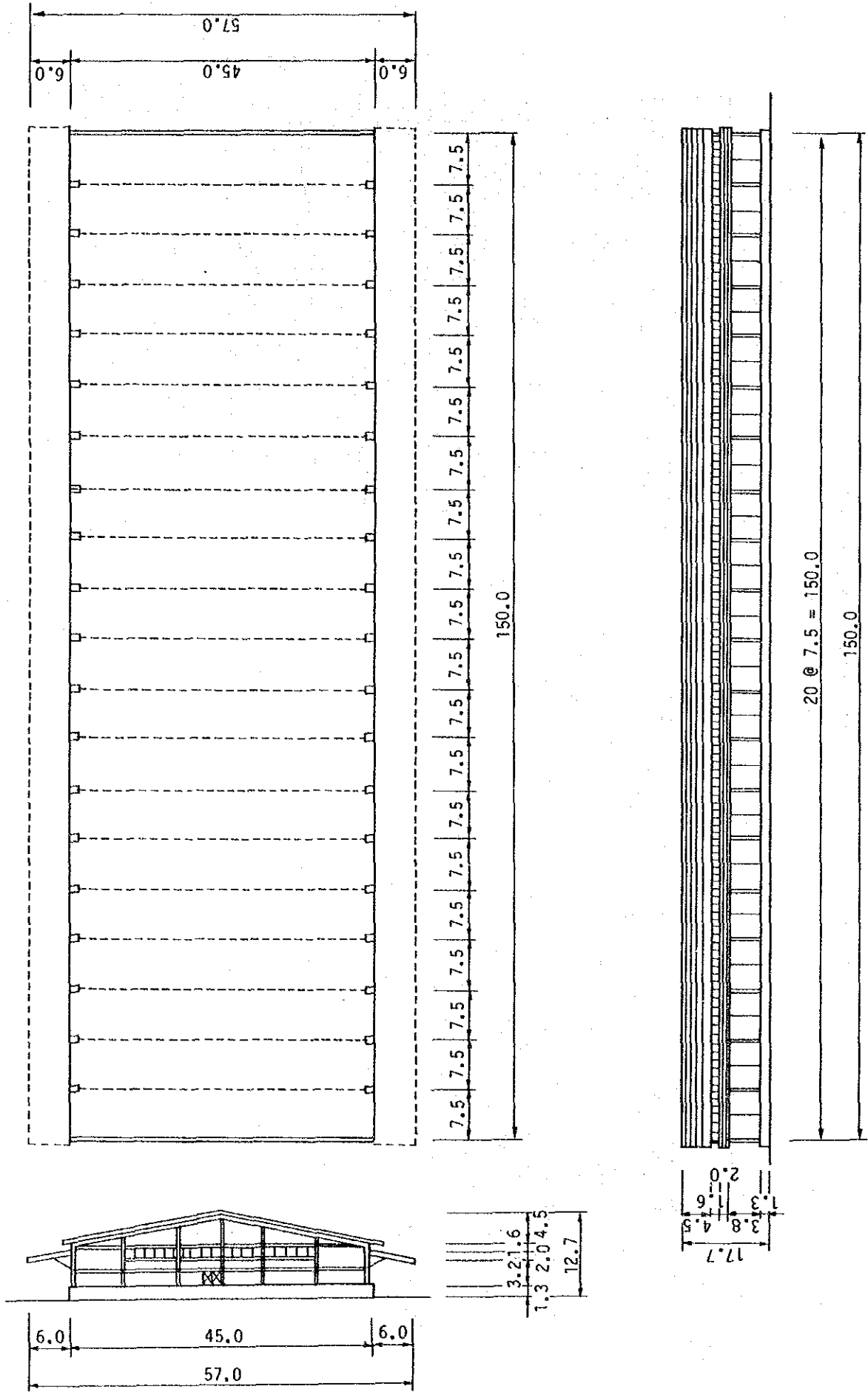
Appendix 11.2.2 Rainfall Density of Manzanillo



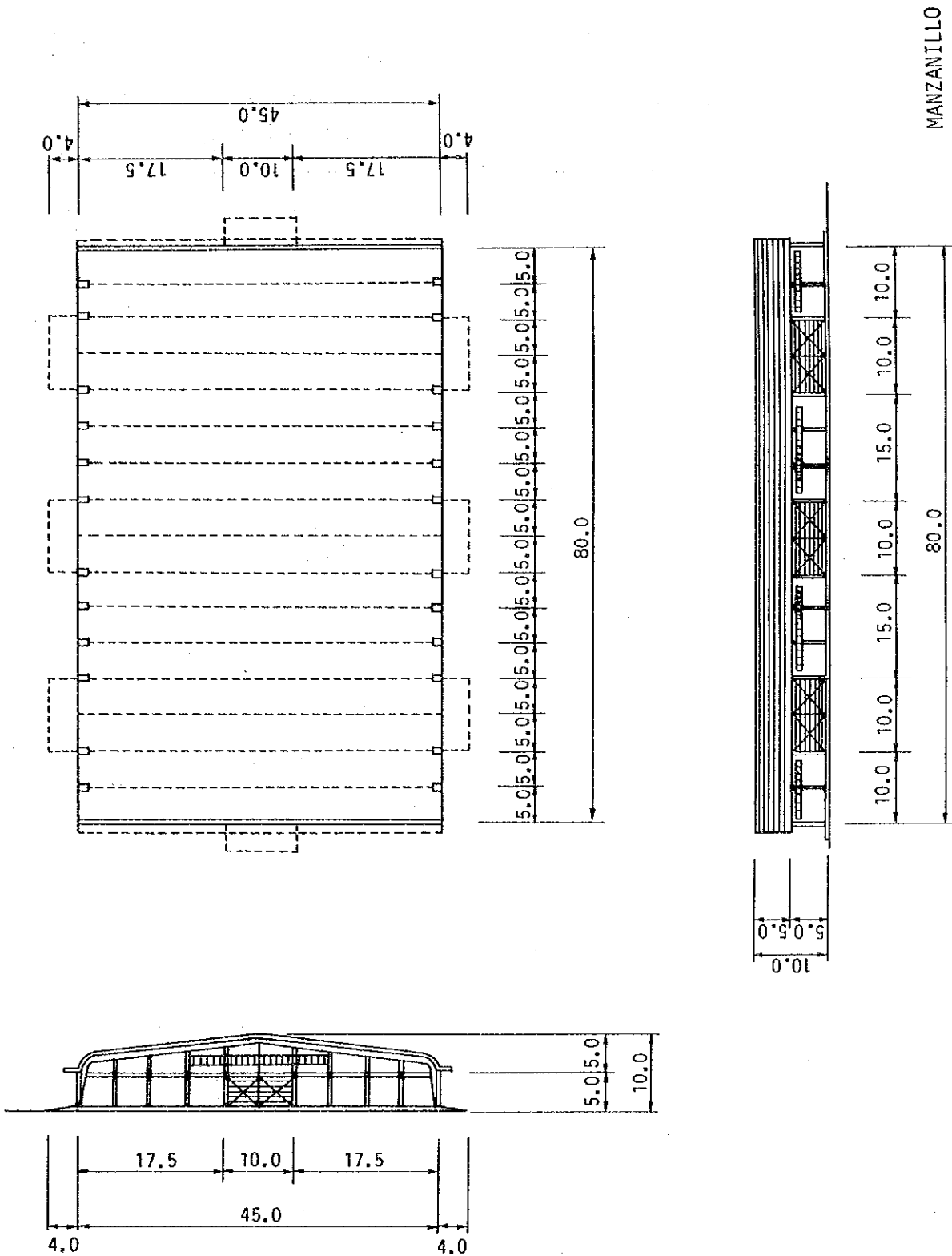
Appendix 11.2.3 Container Berth (Long Term Plan)



Appendix 11.2.4 (1) Building (CFS)



Appendix 11.2.4 (2) Building (Warehouse)



Appendix 12.1.1 Maximum Cargo Volume in Without Case

i. The maximum cargo volume that can be handled at each port is examined from 2 points of views. One is the limitation of the Berth occupancy rate (case A), and the other is the limitaiton of the yard capacity (case B) within which the cargoes are handled in a smooth operation. In addition both of them have to be reexamined the hindrance from the lack of handling machinery at both two ports.

ii. The result of the examination and reexamination are presented in Table (1).

Table (1) The Container Cargo Volume Limited by Case A and Case B

(Unit: tons)

Port	Case	
	A	B
Layars Cordenas	486,700	272,700
Manzanillo	582,300	313,600

(Lazaro cardenas)

Case A : Berth Occupancy Rate = 50%

Case B : The Number of Slots = 560 (loaded only)

(Manzanillo)

Case A : Berth Occupancy Rate = 50%

Case B : The Number of Slots = 609 (loaded only)

(Reexamination by the faculty of the existing handling machines : if the case B is adopted, the existing handling machines do not hinder the yard handling operation.)

iii. The each cargo volume of the each without case is subject to the volume in the case B in this study.

Appendix 12.2.1 Productivity of Each Port

(1) Container Cargo

	Quayside Gantry Crane		Ship Crane		The Number of gangs	Handling hour/day (hours)	Productivity (TEU/day)
	Productivity (units/n.gang)	No. of Crane	Productivity (unit/h/gang)	No. of Crane			
Lazaro Cardenas (with case)	20	2			2	18	900
Lazaro Cardenas (without case)	20	1	10	1	2	18	675
Salina Cruz	20	1	10	1	2	18	675
Guaymas	20	1	10	1	2	18	675

Note: Calculated by the portion of 20' and 40' containers as 75:25 at each port.

(2) General Cargo

Port	Ship Crane		Number of gang	Handling Hours hour/day (hours)	Productivity (tons/day)
	Productivity (tons/hour)	Numbers			
Lazaro Cardenas (with case)	30 t	3	3	18	1,620
Lazaro Cardenas (without case)	30 t	3	3	18	1,620
Salina Cruz	30 t	3	3	18	1,620
Guaymas	30 t	3	3	18	1,620

Appendix 12.2.2 Handling Cargo Volume per Ship by Port

Port	Container Cargo (units)	General Cargo (tons)
Lazaro Cardenas	700	400
Salina Cruz	500	200
Guaymas	500	200

Note: Including empty containers that is 25% of the total

Appendix 12.2.3 Summary of Method of Simulation by Queuing Theory

1) Application of queuing theory to port planning

Ships calling at a port expect to be moored at a designated berth immediately, in the order of arrival, and carry out cargo handling. If a ship is already berthed at the quay and there is no room, the latter ship has to wait until after the first ship completes its cargo handling and leaves. (The ship expects to be berthed as soon as it enters a port. However, the port management body wants to minimize the number of quays in order to increase efficiency, that is to minimize investment. how to balance these conflicting desires, namely, what service level should be set, is important in port planning.)

This phenomenon of ships arriving and leaving a port can be analyzed by queuing theory, as in the analysis of the situation at a bank, where variables include the number of windows and the time each customer takes at the windows. For a port, the variables include the arrival of ships, the number of berths and the berthing time. Great efforts are being exerted to clarify the pattern of ship entries and the berthing time at ports. As to the pattern of ship entries, normally it is a random: Poisson arrivals, namely, entry time intervals are of exponential distribution.

As for container ships, in case of limited routes with limited shipping lines like the objective ports, the entry time intervals will follow the phase 3 to 7 of Erlung distribution (see Fig. 1) because of the regular calling pattern of container ships.

In the pattern of the berthing time by ships as expressed by a histogram, normally there is one peak that is rather on the left side and it often conforms to the Erlung distribution in Phase 2 or Phase 3 (See Fig. 1).

As for container ships, in case of limited routes with limited shipping lines like the objective ports, the berthing times will also follow the phase 3 to 7 Erlung distribution because of the relatively similar handling volume per ship.

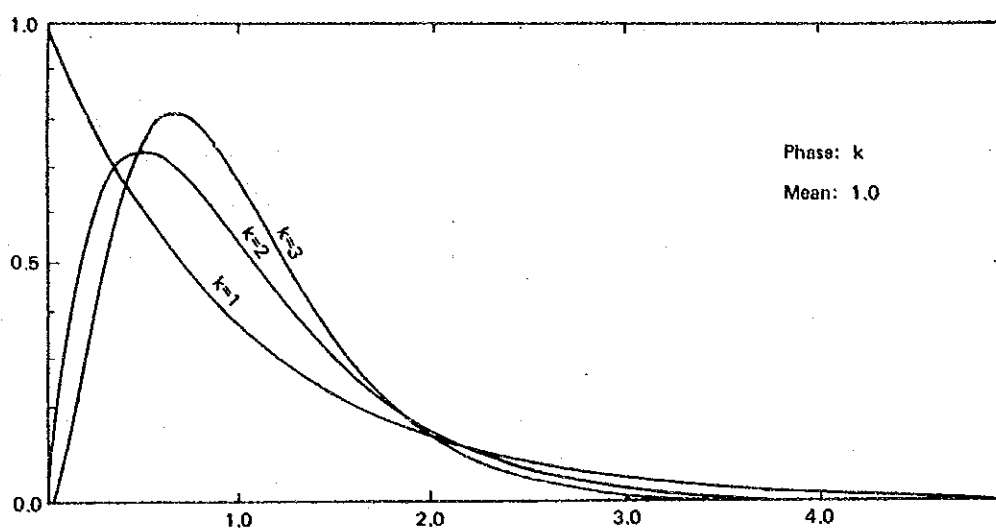


Fig. (1) Erlung Distribution

As is known already, the following four factors are indispensable to the determination of the queuing phenomenon:

- ① Distribution of arrivals of ships to be berthed
- ② Distribution of berthing time
- ③ Number of berths
- ④ Methods of service

Factor ④ concerns such matters as service in the order of arrival or preferential service. Normally, service in the order of arrival predominates but, in the case of a container port, preferential service is sometimes given to full-container ships.

2) Methodology of simulation test

Queuing theory has been used to make a projection concerning the situation of ships calling at or leaving a port. However, theoretical analysis alone cannot cope with the complicated reality of port activities. For this reason, a computer is used to follow the movement of ships, i.e. entering/berthing, loading/unloading and leaving.

The flow of the simulation model is shown in Fig. (2).

In general, input data are comprised of ship types, number of berths, frequency distribution of calling ships, and frequency distribution of mooring time. Output data are comprised of the number of waiting ships, their waiting time and berth occupancy.

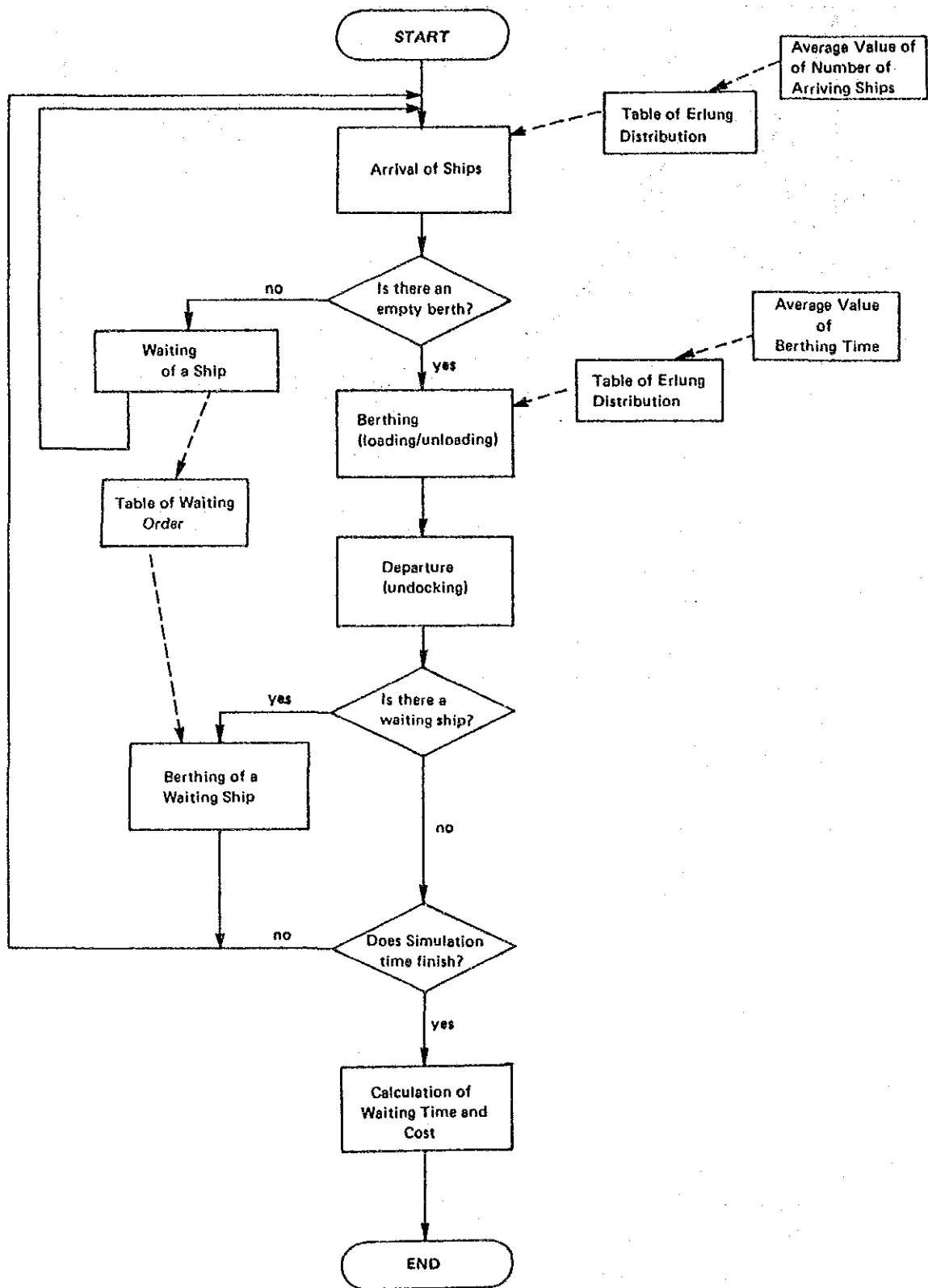


Fig. (2) Flow Chart of the Simulation Model

Appendix 12.2.4 Summary of the Market Prices (Lazaro Cardenas)

(Unit: million pesos)

Year	Benefit	Land Transport Cost	Staying Cost	Navigation Cost	Time Cost	Labor Cost	Cost	Construction	Maintenane
1994	0						48,382	48,382	
1995	12,628	7,941	1,306	3,122	228	31	1,716		1,716
1996	12,628	7,941	1,306	3,122	228	31	1,716		1,716
1997	12,628	7,941	1,306	3,122	228	31	1,716		1,716
1998	12,628	7,941	1,306	3,122	228	31	1,716		1,716
1999	12,628	7,941	1,306	3,122	228	31	1,716		1,716
2000	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2001	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2002	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2003	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2004	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2005	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2006	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2007	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2008	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2009	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2010	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2011	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2012	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2013	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2014	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2015	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2016	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2017	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2018	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2019	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2020	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2021	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2022	13,120	7,941	1,451	3,469	228	31	1,716		1,716
2023	13,120	7,941	1,451	3,469	228	31	1,716		1,716
Total	378,020	230,289	41,354	98,866	6,612	899	98,146	48,382	49,764

Appendix 12.2.5 Summary of the Shadow Prices (Lazaro Cardenas)

(Unit: million pesos)

Year	Benefit	Land Transport Cost	Staying Cost	Navigation Cost	Time Cost	Labor Cost	Cost	Construction	Maintenance	Difference	Present Value
1994	0						36,480	36,480		-36,480	-36,480
1995	12,060	7,377	1,306	3,122	228	27	1,594		1,594	10,466	8,110
1996	12,060	7,377	1,306	3,122	228	27	1,594		1,594	10,466	6,284
1997	12,060	7,377	1,306	3,122	228	27	1,594		1,594	10,466	4,870
1998	12,060	7,377	1,306	3,122	228	27	1,594		1,594	10,466	3,774
1999	12,060	7,377	1,306	3,122	228	27	1,594		1,594	10,466	2,924
2000	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	2,372
2001	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	1,838
2002	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	1,425
2003	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	1,104
2004	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	855
2005	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	663
2006	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	514
2007	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	398
2008	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	308
2009	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	239
2010	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	185
2011	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	143
2012	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	111
2013	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	86
2014	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	67
2015	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	52
2016	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	40
2017	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	31
2018	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	24
2019	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	19
2020	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	14
2021	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	11
2022	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	9
2023	12,552	7,377	1,451	3,469	228	27	1,594		1,594	10,958	7
Total	361,548	213,933	41,354	98,866	6,612	783	82,706	36,226	46,226	278,842	-2

EIRR (%) = 29.05

Appendix 12.2.6 The Result of Sensitivity Analysis
(Lazaro Cardenas)

Table (1) Case A

(unit: million pesos)

Year	Benefits	Costs	Difference	Present value
1994	0	42,128	-40,128	-40,128
1995	12,060	1,753	10,307	8,177
1996	12,060	1,753	10,307	6,488
1997	12,060	1,753	10,307	5,147
1998	12,060	1,753	10,307	4,084
1999	12,060	1,753	10,307	3,240
2000	12,552	1,753	10,799	2,694
2001	12,552	1,753	10,799	2,137
2002	12,552	1,753	10,799	1,696
2003	12,552	1,753	10,799	1,345
2004	12,552	1,753	10,799	1,067
2005	12,552	1,753	10,799	847
2006	12,552	1,753	10,799	672
2007	12,552	1,753	10,799	533
2008	12,552	1,753	10,799	423
2009	12,552	1,753	10,799	336
2010	12,552	1,753	10,799	266
2011	12,552	1,753	10,799	211
2012	12,552	1,753	10,799	168
2013	12,552	1,753	10,799	133
2014	12,552	1,753	10,799	105
2015	12,552	1,753	10,799	84
2016	12,552	1,753	10,799	66
2017	12,552	1,753	10,799	53
2018	12,552	1,753	10,799	42
2019	12,552	1,753	10,799	33
2020	12,552	1,753	10,799	26
2021	12,552	1,753	10,799	21
2022	12,552	1,753	10,799	17
2023	12,552	1,753	10,799	13
Total	361,548	90,977	270,571	-4

EIRR(%) = 26.04

Table (2) Case B

(unit: million pesos)

Year	Benefits	Costs	Difference	Present value
1994	0	36,480	-36,480	-36,480
1995	10,854	1,594	9,260	7,365
1996	10,854	1,594	9,260	5,858
1997	10,854	1,594	9,260	4,659
1998	10,854	1,594	9,260	3,706
1999	10,854	1,594	9,260	2,947
2000	11,297	1,594	9,703	2,456
2001	11,297	1,594	9,703	1,954
2002	11,297	1,594	9,703	1,554
2003	11,297	1,594	9,703	1,236
2004	11,297	1,594	9,703	983
2005	11,297	1,594	9,703	782
2006	11,297	1,594	9,703	622
2007	11,297	1,594	9,703	495
2008	11,297	1,594	9,703	393
2009	11,297	1,594	9,703	313
2010	11,297	1,594	9,703	249
2011	11,297	1,594	9,703	198
2012	11,297	1,594	9,703	157
2013	11,297	1,594	9,703	125
2014	11,297	1,594	9,703	100
2015	11,297	1,594	9,703	79
2016	11,297	1,594	9,703	63
2017	11,297	1,594	9,703	50
2018	11,297	1,594	9,703	40
2019	11,297	1,594	9,703	32
2020	11,297	1,594	9,703	25
2021	11,297	1,594	9,703	20
2022	11,297	1,594	9,703	16
2023	11,297	1,594	9,703	13
Total	325,393	82,706	242,687	10

EIRR(%) = 25.73

Table (3) Case C

(unit: million pesos)

Year	Benefits	Costs	Difference	Present value
1994	0	40,128	-40,128	-40,128
1995	10,854	1,753	9,101	7,399
1996	10,854	1,753	9,101	6,015
1997	10,854	1,753	9,101	4,891
1998	10,854	1,753	9,101	3,976
1999	10,854	1,753	9,101	3,233
2000	11,297	1,753	9,543	2,756
2001	11,297	1,753	9,543	2,241
2002	11,297	1,753	9,543	1,822
2003	11,297	1,753	9,543	1,481
2004	11,297	1,753	9,543	1,204
2005	11,297	1,753	9,543	979
2006	11,297	1,753	9,543	796
2007	11,297	1,753	9,543	647
2008	11,297	1,753	9,543	526
2009	11,297	1,753	9,543	428
2010	11,297	1,753	9,543	348
2011	11,297	1,753	9,543	283
2012	11,297	1,753	9,543	230
2013	11,297	1,753	9,543	187
2014	11,297	1,753	9,543	152
2015	11,297	1,753	9,543	124
2016	11,297	1,753	9,543	100
2017	11,297	1,753	9,543	82
2018	11,297	1,753	9,543	66
2019	11,297	1,753	9,543	54
2020	11,297	1,753	9,543	44
2021	11,297	1,753	9,543	36
2022	11,297	1,753	9,543	29
2023	11,297	1,753	9,543	24
Total	325,393	90,977	234,417	25

EIRR(%) = 23.00

Appendix 12.3.1 Productivity of Each Port

Table (1) Container Cargo

	Quayside Gantry Crane		Ship Crane		The Number of gangs	Handling hour/day (hours)	Productivity (TEU/day)
	Productivity (units/n.gang)	No. of Crane	Productivity (unit/h/gang)	No. of Crane			
Manzanillo (with case)	20	2	-	-	2	18	1,037
Manzanillo (without case)	-	-	10	3	3	16	691
Salina Cruz	20	1	10	1	2	18	675
Guaymas	20	1	10	1	2	18	675

Note: Calculated by the portion of 20' and 40' container s as 75:25 at each port as follows:

Port	'20	'40
		(unit: %)
Manzanillo	56	44
Salina Cruz	75	25
Guaymas	75	25

Table (2) General Cargo

Port	Ship Crane		Number of gang	Handling Hours hour/day (hours)	Productivity (tons/day)
	Productivity (tons/hour)	Numbers			
Manzanillo (with case)	30 t	3	3	18	1,620
Manzanillo (without case)	30 t	3	3	16	1,440
Salina Cruz	30 t	3	3	18	1,620
Guaymas	30 t	3	3	18	1,620

Appendix 12.3.2 Handling Cargo Volume per Ship by Port

Port	Container Cargo (units)	General Cargo (tons)
Manzanillo	650	300
Salina Cruz	500	200
Guaymas	500	200

Note: Including empty containers that is 25% of the total

Appendix 12.3.3 Summary of the Market Prices (Manzanillo)

(Unit: million pesos)

Year	Benefit	Land Transport Cost	Staying Cost	Navigation Cost	Time Cost	Labor Cost	Cost (W/O)	Construction	Maintenance
1992	0						0		
1993	0						0		
1994	0						14,169	14,169	
1995	18,472	11,294	2,623	4,114	359	82	497		497
1996	18,472	11,294	2,623	4,114	359	82	497		497
1997	18,472	11,294	2,623	4,114	359	82	497		497
1998	18,472	11,294	2,623	4,114	359	82	497		497
1999	18,472	11,294	2,623	4,114	359	82	497		497
2000	19,192	11,294	2,886	4,571	359	82	497		497
2001	19,192	11,294	2,886	4,571	359	82	497		497
2002	19,192	11,294	2,886	4,571	359	82	497		497
2003	19,192	11,294	2,886	4,571	359	82	497		497
2004	19,192	11,294	2,886	4,571	359	82	497		497
2005	19,192	11,294	2,886	4,571	359	82	497		497
2006	19,192	11,294	2,886	4,571	359	82	497		497
2007	19,192	11,294	2,886	4,571	359	82	497		497
2008	19,192	11,294	2,886	4,571	359	82	497		497
2009	19,192	11,294	2,886	4,571	359	82	497		497
2010	19,192	11,294	2,886	4,571	359	82	497		497
2011	19,192	11,294	2,886	4,571	359	82	497		497
2012	19,192	11,294	2,886	4,571	359	82	497		497
2013	19,192	11,294	2,886	4,571	359	82	497		497
2014	19,192	11,294	2,886	4,571	359	82	497		497
2015	19,192	11,294	2,886	4,571	359	82	497		497
2016	19,192	11,294	2,886	4,571	359	82	497		497
2017	19,192	11,294	2,886	4,571	359	82	497		497
2018	19,192	11,294	2,886	4,571	359	82	497		497
2019	19,192	11,294	2,886	4,571	359	82	497		497
2020	19,192	11,294	2,886	4,571	359	82	497		497
2021	19,192	11,294	2,886	4,571	359	82	497		497
Total	514,584	304,938	76,607	121,132	9,693	2,214	27,588	14,169	13,419

Appendix 12.3.4 Summary of the Shadow Prices (Manzanillo)

(Unit: million pesos)

Year	Benefit	Land Transport Cost	Staying Cost	Navigation Cost	Time Cost	Labor Cost	Cost (W/O)	Cost (W/T)	Construction	Maintenance	Difference	Present Value
1992	0						0	21,092	21,092		-21,092	-21,092
1993	0						0	52,233	51,999	234	-52,233	-45,919
1994	0						11,971	35,860	34,169	1,691	-23,889	-18,463
1995	17,658	10,492	2,623	4,114	359	70	462	2,800		2,800	15,320	10,409
1996	17,658	10,492	2,623	4,114	359	70	462	2,800		2,800	15,320	9,151
1997	17,658	10,492	2,623	4,114	359	70	462	2,800		2,800	15,320	8,045
1998	17,658	10,492	2,623	4,114	359	70	462	2,800		2,800	15,320	7,072
1999	17,658	10,492	2,623	4,114	359	70	462	2,800		2,800	15,320	6,217
2000	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	5,723
2001	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	5,031
2002	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	4,423
2003	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	3,888
2004	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	3,418
2005	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	3,005
2006	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	2,642
2007	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	2,322
2008	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	2,042
2009	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	1,795
2010	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	1,578
2011	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	1,387
2012	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	1,219
2013	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	1,072
2014	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	942
2015	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	829
2016	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	728
2017	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	640
2018	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	563
2019	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	495
2020	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	435
2021	18,378	10,492	2,886	4,571	359	70	462	2,800		2,800	16,040	382
Total	492,606	283,284	76,607	121,132	9,693	1,890	24,445	184,785	107,260	77,525	332,266	-21

EIRR (%) = 13.75

Appendix 12.3.5 The Result of Sensitivity Analysis

Table (1) Case A

(unit: million pesos)

Year	Benefits	Costs	Difference	Present value
1992	0	23,201	-23,200	-23,201
1993	0	57,456	-57,456	-51,150
1994	0	26,278	-26,278	-20,826
1995	17,658	2,572	15,086	10,644
1996	17,658	2,572	15,086	9,475
1997	17,658	2,572	15,086	8,435
1998	17,658	2,572	15,086	7,509
1999	17,658	2,572	15,086	6,685
2000	18,378	2,572	15,806	6,235
2001	18,378	2,572	15,806	5,551
2002	18,378	2,572	15,806	4,942
2003	18,378	2,572	15,806	4,399
2004	18,378	2,572	15,806	3,916
2005	18,378	2,572	15,806	3,486
2006	18,378	2,572	15,806	3,104
2007	18,378	2,572	15,806	2,763
2008	18,378	2,572	15,806	2,460
2009	18,378	2,572	15,806	2,190
2010	18,378	2,572	15,806	1,949
2011	18,378	2,572	15,806	1,735
2012	18,378	2,572	15,806	1,545
2013	18,378	2,572	15,806	1,375
2014	18,378	2,572	15,806	1,224
2015	18,378	2,572	15,806	1,090
2016	18,378	2,572	15,806	970
2017	18,378	2,572	15,806	864
2018	18,378	2,572	15,806	769
2019	18,378	2,572	15,806	685
2020	18,378	2,572	15,806	609
2021	18,378	2,572	15,806	543
Total	492,606	176,374	316,232	-25

EIRR(%) = 12.33

Table (2) Case B

(unit: million pesos)

Year	Benefits	Costs	Difference	Present value
1992	0	21,092	-21,092	-21,092
1993	0	52,233	-52,233	-52,233
1994	0	23,889	-23,899	-23,899
1995	17,892	2,338	13,554	9,601
1996	17,892	2,338	13,554	8,559
1997	17,892	2,338	13,554	7,629
1998	17,892	2,338	15,554	6,801
1999	17,892	2,338	15,554	6,063
2000	16,540	2,338	14,202	5,663
2001	16,540	2,338	14,202	5,048
2002	16,540	2,338	14,202	4,500
2003	16,540	2,338	14,202	4,011
2004	16,540	2,338	14,202	3,576
2005	16,540	2,338	14,202	3,187
2006	16,540	2,338	14,202	2,841
2007	16,540	2,338	14,202	2,533
2008	16,540	2,338	14,202	2,258
2009	16,540	2,338	14,202	2,013
2010	16,540	2,338	14,202	1,794
2011	16,540	2,338	14,202	1,599
2012	16,540	2,338	14,202	1,426
2013	16,540	2,338	14,202	1,271
2014	16,540	2,338	14,202	1,133
2015	16,540	2,338	14,202	1,010
2016	16,540	2,338	14,202	900
2017	16,540	2,338	14,202	803
2018	16,540	2,338	14,202	715
2019	16,540	2,338	14,202	638
2020	16,540	2,338	14,202	568
2021	16,540	2,338	14,202	507
Total	443,340	160,340	283,000	10

EIRR(%) = 12.18

Table (3) Case C

(unit: million pesos)

Year	Benefits	Costs	Difference	Present value
1992	0	23,201	-23,201	-23,201
1993	0	57,456	-57,456	-57,456
1994	0	26,278	-26,278	-26,278
1995	15,892	2,572	13,320	9,782
1996	15,892	2,572	13,320	8,825
1997	15,892	2,572	13,320	7,962
1998	15,892	2,572	15,320	7,183
1999	15,892	2,572	15,320	6,481
2000	16,540	2,572	13,968	6,132
2001	16,540	2,572	13,968	5,532
2002	16,540	2,572	13,968	4,991
2003	16,540	2,572	13,968	4,503
2004	16,540	2,572	13,968	4,062
2005	16,540	2,572	13,968	3,665
2006	16,540	2,572	13,968	3,307
2007	16,540	2,572	13,968	2,983
2008	16,540	2,572	13,968	2,692
2009	16,540	2,572	13,968	2,428
2010	16,540	2,572	13,968	2,191
2011	16,540	2,572	13,968	1,977
2012	16,540	2,572	13,968	1,783
2013	16,540	2,572	13,968	1,609
2014	16,540	2,572	13,968	1,452
2015	16,540	2,572	13,968	1,310
2016	16,540	2,572	13,968	1,181
2017	16,540	2,572	13,968	1,066
2018	16,540	2,572	13,968	962
2019	16,540	2,572	13,968	868
2020	16,540	2,572	13,968	783
2021	16,540	2,572	13,968	706
Total	443,340	176,374	266,966	-11

EIRR(%) = 10.84

Appendix 13.1.1 Calculation Table of Depreciation Expense and Replacement Schedule

Table (1) Table of Depreciation Expenses at Lazaro Caudenas ESP

(With case)

unit: million pesos

Item	No	Unit Value	A.R	Sum	Life Cycle	Ratio	Depreciation Expense	Remark
Existing								
Quayside Gantry Crane	1	16,953	1	16,953	15	0.067	1,135	
Transfer Crane	2	4,144	1	8,288	7	0.14	1,160	
Chassis 40' & 20'	10	62	1	620	7	0.14	86	
Tractor 40' & 20'	7	188	1	1,316	7	0.14	184	
Fork-Lift 40T	1	1,764	1	1,764	7	0.14	246	
3T	3	88	1	264	7	0.14	36	
2T	2	62	1	124	7	0.14	17	
Tug boat 4,000ps	2	13,800	0.28	3,864	15	0.067	258	
Sub Total				33,193			3,122	
Procurement								
Quayside Gantry Crane	1	16,953	1	16,953	15	0.067	1,135	
Transfer Crane	4	4,144	1	16,576	7	0.14	2,320	
Chassis 40' & 20'	5	62	1	310	7	0.14	43	
Tractor 40' & 20'	4	188	1	752	7	0.14	105	
Fork-Lift 25T	1	1,110	1	1,100	7	0.14	155	
5T	2	188	1	376	7	0.14	34	
2T	4	62	1	248	7	0.14	34	
Sub Total				36,325			3,844	
Total				69,518			6,966	

A.R: Allocation Rate

Appendix 13.1.1 Calculation Table of Depreciation Expense and Repocement Schedule

Table (2) Table of depreciation Expenses at Lazaro Cardenas Puertos Mexicanos

(With case)

Unit: million pesos

Item	No	Unit Value	A.R	Sum	Life Cycle	Ratio	Depreciation Expense	Remark
Existing Breakwater	630m	250	0.5* 0.28	22,050	40	0.025	551	
Quaywall	280m	112	1	31,360	40	0.025	784	
Navigation Aids	1	880	0.28	246	7	0.14	34	
C.F.S	2,880m ²	0.89	1	2,563	25	0.04	102	
C.Y	84,000m ²	0.263	1	22,092	25	0.04	883	
Sub Total				78,311			2,354	
Procurement								
Pavement	1	4,827	1	4,827	25	0.04	183	
Gate	1	857	1	857	25	0.04	34	
Utilities	1	1,856	1	1,856	25	0.04	74	
Electricities	1	554	1	554	7	0.14	77	
Fence	1	226	1	226	7	0.14	37	
Sub Total				8,320			415	
Total				86,631			2,769	

A.R: Allocation Rate

Appendix 13.1.1 Calculation Table of Depreciation Expende and Repoacement Schedule

Table (3) Table of Depreciation Expenses at Manzanillo ESP

(With case)

unit: million pesos

Item	No	Unit Value	A.R	Sum	Life Cycle	Ratio	Depreciation Expense	Remark
Existing								
Transfer Crane	1	4,144	1	4,144	7	0.14	580	Rubber
Chassis 40' & 20'	5	62	1	310	7	0.14	43	
Tractor 40' & 20'	8	188	1	1,504	7	0.14	210	
Fork-Lift 40T	1	1,764	1	1,764	7	0.14	246	
25T	1	1,110	1	1,110	7	0.14	55	
5T	2	188	1	376	7	0.14	52	
3T	7	88	1	616	7	0.14	86	
Tugboat 3000ps	1	10,345	0.52	5,379	15	0.067	360	
4000ps	1	13,800	0.52	7,176	15	0.067	480	
Sub Total				22,379			2,212	
Procurement								
Quaysido Gantry Crane	2	16,953		33,906	15	0.067	2,271	
Transfer Crane	4	4,144	1	16,576	7	0.14	2,320	
Chassis 40' & 20'	29	62	1	1,798	7	0.14	251	
Tractor 40' & 20'	4	188	1	752	7	0.14	105	
Folk-Lift 3T	5	88	1	440	7	0.14	61	
2T	25	62	1	1,550	7	0.14	217	
Sub Total				55,022			5,225	
Total				77,401			7,437	

A.R: Allocation Rate

Appendix 13.1.1 Calculation Table of Depreciation Expenditure and Replacement Schedule

Table (4) Table of Depreciation Expenses at Manzanillo Puerto Mexicanos

(With case)

unit: million pesos

Item	No	Unit Value	A.R	Sum	Life Cycle	Ratio	Depreciation Expense	Remark
Existing Breakwater	400m	250	0.5*	26,000	40	0.025	650	
			0.52					
Navigation Aids	1	1,213	0.52	630	7	0.14	88	
Sub total				26,630			738	
Procurement Quaywall	1	31,829	1	31,829	40	0.025	795	
Pavement	1	12,966	1	12,966	25	0.04	518	
C.F.S	1	6,183	1	6,183	25	0.04	247	
Building	1	820	1	820	25	0.04	32	
Warehouse	1	4,467	1	4,467	25	0.04	178	
Gate	1	857	1	857	25	0.04	34	
Vtilities	1	7,122	1	7,122	25	0.04	284	
Sub Total				64,244			2,088	
Total				90,874			2,826	

A.R: Allocation Rate

Appendix 13.1.1 Calculation Table of Depreciation Expenditure and Replacement Schedule

Table (5) Replacement Schedule of Lazaro Cardenas ESP

Unit : Million Pesos

Item	No	Investment	Life	1995	2001	2008	2009	2015	2022	2024	Total
Existing											
Quayside Gantry Crane	1	16,935	15				16,953			16,953	33,908
Transfer Crane	2	8,288	7		8,288	8,288		8,288	8,288		33,152
Chassis 40' & 20'	10	620	7		620	620		620	620		2,480
Tractor 40' & 20'	7	1,316	7		1,316	1,316		1,316	1,316		5,284
Fork-Lift 40 t	1	1,784	7		1,784	1,784		1,784	1,784		7,058
3 t	3	284	7		284	284		284	284		1,058
2 t	2	124	7		124	124		124	124		498
Tugboat	2	3,864	15				3,864			3,864	7,728
Subtotal		33,193			12,376	12,376	20,817	12,376	12,376	20,817	91,138
Procurement											
Quayside Gantry Crane	1	16,953	15				16,953			16,953	33,908
Transfer Crane	4	16,576	7		16,576	16,576		16,576	16,576		68,304
Chassis 40' & 20'	5	310	7		310	310		310	310		1,240
Tractor 40' & 20'	4	752	7		752	752		752	752		3,008
Fork-Lift 25 t	1	1,110	7		1,110	1,110		1,110	1,110		4,440
5 t	2	378	7		378	378		378	378		1,504
2 t	4	248	7		248	248		248	248		992
Subtotal		36,325			19,372	19,372	16,953	19,372	19,372	16,953	111,394
Total		69,518			31,748	31,748	37,770	31,748	31,748	37,770	202,532

Appendix 13.1.1 Calculation Table of Depreciation Expenditure and Replacement Schedule

Table (6) Replacement Schedule of Lazaro Cardenas Puertos Mexicanos

Unit : Million Pesos

Item	No	Investment	Life	1995	2001	2008	2015	2019	2022	Total
Existing										
Break Water	1	22,050	40							
Quaywall	1	31,360	40							
Navigation Aids	1	248	7		248	248	248		248	984
C.P.S	1	2,563	25					2,563		2,563
C.Y	1	22,092	25					22,092		22,092
Subtotal		78,311			248	248	248	24,855	248	25,639
Procurement										
Pavement	1	4,827	25					4,827		4,827
Gate	1	857	25					857		857
Utilities	1	1,856	25					1,856		1,856
Electricities	1	554	7		554	554	554		554	2,218
Fence	1	228	7		228	228	228		228	904
Subtotal		8,320			780	780	780	7,540	780	10,660
Total		86,631			1,028	1,028	1,028	32,195	1,028	36,299

Appendix 13.1.1 Calculation Table of Depreciation Expenditure and Replacement Schedule

Table (7) Replacement Schedule of Manzanillo ESP

Unit : Million Pesos

Item	No	Investment	Life	1995	2001	2008	2009	2015	2022	2024	Total
Existing											
Transfer Crane	1	4,144	7		4,144	4,144		4,144	4,144		16,576
Chassis 40' & 20'	5	310	7		310	310		310	310		1,240
Tractor 40' & 20'	8	1,504	7		1,504	1,504		1,504	1,504		6,016
Fork-lift 40 t	1	1,764	7		1,764	1,764		1,764	1,764		7,056
25 t	1	1,110	7		1,110	1,110		1,110	1,110		4,440
5 t	2	376	7		376	376		376	376		1,504
3 t	7	616	7		616	616		616	616		2,464
Tugboat	2	12,555	15				12,555			12,555	25,110
Subtotal		22,379			9,824	9,824	12,555	9,824	9,824	12,555	64,406
Procurement											
Quayside Gantry Crane	2	33,906	15				33,906			33,906	67,812
Transfer Crane	4	16,576	7		16,576	16,576		16,576	16,576		66,304
Chassis 40' & 20'	29	1,798	7		1,798	1,798		1,798	1,798		7,192
Tractor 40' & 20'	4	752	7		752	752		752	752		3,008
Fork-lift 3 t	5	440	7		440	440		440	440		1,760
2 t	25	1,550	7		1,550	1,550		1,550	1,550		6,200
Subtotal		55,022			21,116	21,116	33,906	21,116	21,116	33,906	152,276
total		77,401			30,940	30,940	46,461	30,940	30,940	46,461	216,682

Appendix 13.1.1 Calculation Table of Depreciation Expenditure and Replacement Schedule

Table (8) Replacement Schedule of Manzanillo Puertos Mexicanos

Unit : Million Pesos

Item	No	Investment	Life	1995	2001	2008	2015	2019	2022	Total
Existing										
Break Water	1	26,000	40							
Navigation Aids	1	630	7		630	630	630		630	2,520
Subtotal		26,630			630	630	630		630	2,520
Procurement										
Quaywall	1	31,829	40							
Pavement	1	12,966	25				12,966			12,966
C.P.S	1	6,183	25				6,183			6,183
Building	1	820	25				820			820
Warehouse	1	4,467	25				4,467			4,467
Gate	1	4,467	7					857		857
Utilities	1	857	7					7,122		7,122
Subtotal		8,320						32,415		32,415
Total		86,631			630	630		32,415	630	34,305

Appendix 13.2.3 FIRR Calculation of the Port of Cazaro Cardenas

Table (1) Cost/Benefit and FIRR at Lazaro Cardenas ESP & PM

FIRR(%) = 10.08

Base Case

Year	Cost	Benefit	Benefit - Cost	P.Cost	P.Benefit	P.Value
1991	48,382.00	0.00	-48,382.00	48,382.00	0.00	-48,382.00
1992	0.00	0.00	0.00	0.00	0.00	0.00
1993	0.00	0.00	0.00	0.00	0.00	0.00
1994	0.00	0.00	0.00	0.00	0.00	0.00
1995	6,002.00	12,885.00	6,883.00	4,090.51	8,781.45	4,690.94
1996	6,002.00	12,885.00	6,883.00	3,718.62	7,978.79	4,262.18
1997	6,002.00	12,885.00	6,883.00	3,378.91	7,249.49	3,872.58
1998	6,002.00	12,885.00	6,883.00	3,068.24	6,586.85	3,518.61
1999	6,002.00	12,885.00	6,883.00	2,787.79	5,984.78	3,198.99
2000	6,002.00	12,885.00	6,883.00	2,532.97	5,437.75	2,904.77
2001	6,002.00	12,885.00	6,883.00	2,301.45	4,940.71	2,639.26
2002	6,002.00	12,885.00	6,883.00	2,091.08	4,489.11	2,388.02
2003	6,002.00	12,885.00	6,883.00	1,899.95	4,078.78	2,178.83
2004	6,002.00	12,885.00	6,883.00	1,726.28	3,705.96	1,979.68
2005	6,002.00	12,885.00	6,883.00	1,568.40	3,367.22	1,798.72
2006	6,002.00	12,885.00	6,883.00	1,425.13	3,059.44	1,634.31
2007	6,002.00	12,885.00	6,883.00	1,294.86	2,779.79	1,484.93
2008	6,002.00	12,885.00	6,883.00	1,178.51	2,525.71	1,349.20
2009	6,002.00	12,885.00	6,883.00	1,068.97	2,294.84	1,225.88
2010	6,002.00	12,885.00	6,883.00	971.28	2,085.08	1,113.83
2011	6,002.00	12,885.00	6,883.00	882.48	1,894.50	1,012.02
2012	6,002.00	12,885.00	6,883.00	801.82	1,721.33	919.51
2013	6,002.00	12,885.00	6,883.00	728.53	1,563.99	835.47
2014	6,002.00	12,885.00	6,883.00	661.94	1,421.04	759.10
2015	6,002.00	12,885.00	6,883.00	601.43	1,291.15	689.71
2016	6,002.00	12,885.00	6,883.00	546.48	1,173.13	626.67
2017	6,002.00	12,885.00	6,883.00	496.51	1,065.90	569.39
2018	6,002.00	12,885.00	6,883.00	451.13	968.47	517.35
2019	6,002.00	12,885.00	6,883.00	409.89	879.95	470.06
2020	6,002.00	12,885.00	6,883.00	372.43	799.52	427.09
2021	6,002.00	12,885.00	6,883.00	338.38	726.44	388.05
2022	6,002.00	12,885.00	6,883.00	307.45	660.04	352.58
2023	6,002.00	12,885.00	6,883.00	279.35	599.71	320.36
2024	6,002.00	12,885.00	6,883.00	253.82	544.89	291.07
Total	228,442.00	388,550.00	158,108.00	90,610.65	90,855.82	45.16

Table (2) Cost/Benefit and FIRR at Lazaro Cardenas ESP & PM

FIRR(%) = 8.44

Case : A

Year	Cost	Benefit	Benefit - Cost	P.Cost	P.Benefit	P.Value
1991	53,220.00	0.00	-53,220.00	53,220.00	0.00	-53,220.00
1992	0.00	0.00	0.00	0.00	0.00	0.00
1993	0.00	0.00	0.00	0.00	0.00	0.00
1994	0.00	0.00	0.00	0.00	0.00	0.00
1995	6,602.00	12,885.00	6,283.00	4,774.39	8,318.08	4,543.69
1996	6,602.00	12,885.00	6,283.00	4,402.79	8,592.84	4,190.05
1997	6,602.00	12,885.00	6,283.00	4,060.12	7,924.05	3,863.94
1998	6,602.00	12,885.00	6,283.00	3,744.11	7,307.32	3,563.20
1999	6,602.00	12,885.00	6,283.00	3,452.70	6,738.58	3,285.87
2000	6,602.00	12,885.00	6,283.00	3,183.98	6,214.11	3,030.13
2001	6,602.00	12,885.00	6,283.00	2,936.16	5,730.46	2,794.29
2002	6,602.00	12,885.00	6,283.00	2,707.64	5,284.45	2,576.81
2003	6,602.00	12,885.00	6,283.00	2,498.90	4,873.16	2,378.25
2004	6,602.00	12,885.00	6,283.00	2,302.57	4,493.87	2,191.31
2005	6,602.00	12,885.00	6,283.00	2,123.35	4,144.11	2,020.76
2006	6,602.00	12,885.00	6,283.00	1,958.09	3,821.57	1,863.48
2007	6,602.00	12,885.00	6,283.00	1,805.69	3,524.13	1,718.44
2008	6,602.00	12,885.00	6,283.00	1,665.15	3,240.85	1,584.89
2009	6,602.00	12,885.00	6,283.00	1,535.55	2,996.91	1,461.36
2010	6,602.00	12,885.00	6,283.00	1,416.04	2,763.05	1,347.62
2011	6,602.00	12,885.00	6,283.00	1,305.83	2,548.56	1,242.73
2012	6,602.00	12,885.00	6,283.00	1,204.19	2,350.20	1,148.01
2013	6,602.00	12,885.00	6,283.00	1,110.47	2,167.28	1,058.81
2014	6,602.00	12,885.00	6,283.00	1,024.04	1,998.60	974.58
2015	6,602.00	12,885.00	6,283.00	944.34	1,843.05	898.71
2016	6,602.00	12,885.00	6,283.00	870.84	1,699.60	828.78
2017	6,602.00	12,885.00	6,283.00	803.06	1,567.32	764.28
2018	6,602.00	12,885.00	6,283.00	740.56	1,445.33	704.77
2019	6,602.00	12,885.00	6,283.00	682.92	1,332.84	649.92
2020	6,602.00	12,885.00	6,283.00	629.77	1,229.10	599.34
2021	6,602.00	12,885.00	6,283.00	580.75	1,133.44	552.69
2022	6,602.00	12,885.00	6,283.00	535.55	1,045.22	509.67
2023	6,602.00	12,885.00	6,283.00	493.87	963.87	470.01
2024	6,602.00	12,885.00	6,283.00	455.43	888.85	433.42
Total	251,280.00	388,550.00	135,270.00	109,166.84	109,190.41	23.56

Appendix 13.2.3 FIRR Calculation of the Port of Cazaro cardenas

Table (3) Cost/Benefit and FIRR at Lazaro Cardenas ESP & PM

FIRR(%) = 8.27

Case : B

Year	Cost	Benefit	Benefit - Cost	P.Cost	P.Benefit	P.Value
1991	48,382.00	0.00	-48,382.00	48,382.00	0.00	-48,382.00
1992	0.00	0.00	0.00	0.00	0.00	0.00
1993	0.00	0.00	0.00	0.00	0.00	0.00
1994	0.00	0.00	0.00	0.00	0.00	0.00
1995	8,002.00	11,598.00	5,594.00	4,367.81	8,438.70	4,070.80
1996	8,002.00	11,598.00	5,594.00	4,034.18	7,794.13	3,759.95
1997	8,002.00	11,598.00	5,594.00	3,728.04	7,198.79	3,472.75
1998	8,002.00	11,598.00	5,594.00	3,441.43	6,648.82	3,207.49
1999	8,002.00	11,598.00	5,594.00	3,178.58	6,141.08	2,962.49
2000	8,002.00	11,598.00	5,594.00	2,935.77	5,671.88	2,736.21
2001	8,002.00	11,598.00	5,594.00	2,711.53	5,238.74	2,527.21
2002	8,002.00	11,598.00	5,594.00	2,504.42	4,838.59	2,334.17
2003	8,002.00	11,598.00	5,594.00	2,313.12	4,469.00	2,155.88
2004	8,002.00	11,598.00	5,594.00	2,138.44	4,127.65	1,991.21
2005	8,002.00	11,598.00	5,594.00	1,973.25	3,812.38	1,839.11
2006	8,002.00	11,598.00	5,594.00	1,822.53	3,521.18	1,698.84
2007	8,002.00	11,598.00	5,594.00	1,683.32	3,252.21	1,568.89
2008	8,002.00	11,598.00	5,594.00	1,554.74	3,003.79	1,449.05
2009	8,002.00	11,598.00	5,594.00	1,435.88	2,774.35	1,338.37
2010	8,002.00	11,598.00	5,594.00	1,328.30	2,562.44	1,236.14
2011	8,002.00	11,598.00	5,594.00	1,224.99	2,366.71	1,141.72
2012	8,002.00	11,598.00	5,594.00	1,131.42	2,185.94	1,054.51
2013	8,002.00	11,598.00	5,594.00	1,045.00	2,018.87	973.97
2014	8,002.00	11,598.00	5,594.00	965.18	1,864.75	899.57
2015	8,002.00	11,598.00	5,594.00	891.46	1,722.32	830.86
2016	8,002.00	11,598.00	5,594.00	823.37	1,590.78	767.40
2017	8,002.00	11,598.00	5,594.00	760.47	1,469.25	708.78
2018	8,002.00	11,598.00	5,594.00	702.39	1,357.03	654.84
2019	8,002.00	11,598.00	5,594.00	648.74	1,253.37	604.84
2020	8,002.00	11,598.00	5,594.00	599.18	1,157.84	558.45
2021	8,002.00	11,598.00	5,594.00	553.42	1,069.21	515.80
2022	8,002.00	11,598.00	5,594.00	511.14	987.54	478.40
2023	8,002.00	11,598.00	5,594.00	472.10	912.11	440.01
2024	8,002.00	11,598.00	5,594.00	438.04	842.44	406.40
Total	228,442.00	347,860.00	119,438.00	100,292.32	100,291.82	-0.40

Appendix 13.3.3 FIRR Calculation of the Port of Manzanillo

Table (1) Cost/Benefit and FIRR at Manzanillo ESP & PM

FIRR(%) = 6.56

Base Case

Year	Cost	Benefit	Benefit - Cost	P.Cost	P.Benefit	P.Value
1992	25,175.00	0.00	-25,175.00	25,175.00	0.00	-25,175.00
1993	60,207.00	0.00	-60,207.00	56,245.38	0.00	-56,245.38
1994	31,712.00	0.00	-31,712.00	27,878.00	0.00	-27,878.00
1995	8,527.00	18,847.00	10,120.00	6,952.10	15,202.97	8,250.88
1996	8,527.00	18,847.00	10,120.00	6,494.65	14,202.62	7,707.97
1997	8,527.00	18,847.00	10,120.00	6,067.30	13,288.09	7,200.78
1998	8,527.00	18,847.00	10,120.00	5,688.07	12,395.05	6,726.97
1999	8,527.00	18,847.00	10,120.00	5,295.11	11,579.45	6,284.34
2000	8,527.00	18,847.00	10,120.00	4,946.70	10,817.52	5,870.83
2001	8,527.00	18,847.00	10,120.00	4,621.20	10,105.73	5,484.53
2002	8,527.00	18,847.00	10,120.00	4,317.13	9,440.77	5,123.65
2003	8,527.00	18,847.00	10,120.00	4,033.06	8,819.57	4,786.51
2004	8,527.00	18,847.00	10,120.00	3,767.89	8,239.24	4,471.56
2005	8,527.00	18,847.00	10,120.00	3,519.77	7,697.10	4,177.33
2006	8,527.00	18,847.00	10,120.00	3,288.17	7,190.63	3,902.46
2007	8,527.00	18,847.00	10,120.00	3,071.81	6,717.49	3,645.68
2008	8,527.00	18,847.00	10,120.00	2,889.68	6,275.48	3,405.79
2009	8,527.00	18,847.00	10,120.00	2,680.86	5,882.55	3,181.69
2010	8,527.00	18,847.00	10,120.00	2,504.46	5,476.80	2,972.34
2011	8,527.00	18,847.00	10,120.00	2,339.66	5,116.42	2,778.76
2012	8,527.00	18,847.00	10,120.00	2,185.71	4,779.76	2,594.05
2013	8,527.00	18,847.00	10,120.00	2,041.89	4,465.25	2,423.36
2014	8,527.00	18,847.00	10,120.00	1,907.54	4,171.44	2,263.90
2015	8,527.00	18,847.00	10,120.00	1,782.02	3,896.86	2,114.94
2016	8,527.00	18,847.00	10,120.00	1,684.77	3,640.54	1,975.77
2017	8,527.00	18,847.00	10,120.00	1,555.22	3,400.89	1,845.77
2018	8,527.00	18,847.00	10,120.00	1,452.89	3,177.21	1,724.32
2019	8,527.00	18,847.00	10,120.00	1,357.29	2,968.15	1,610.86
2020	8,527.00	18,847.00	10,120.00	1,287.98	2,772.84	1,504.86
2021	8,527.00	18,847.00	10,120.00	1,184.55	2,590.39	1,405.84
2022	8,527.00	18,847.00	10,120.00	1,108.60	2,419.94	1,313.34
2023	8,527.00	18,847.00	10,120.00	1,033.79	2,260.71	1,226.92
2024	8,527.00	18,847.00	10,120.00	965.77	2,111.95	1,146.19
Total	372,904.00	559,410.00	186,506.00	201,039.83	201,063.62	23.79

Table (2) Cost/Benefit and FIRR at Manzanillo ESP & PM

FIRR(%) = 5.16

Case : A

Year	Cost	Benefit	Benefit - Cost	P.Cost	P.Benefit	P.Value
1992	27,892.00	0.00	-27,892.00	27,892.00	0.00	-27,892.00
1993	66,227.00	0.00	-66,227.00	62,809.89	0.00	-62,809.89
1994	34,883.00	0.00	-34,883.00	31,375.95	0.00	-31,375.95
1995	9,379.00	18,847.00	9,268.00	8,000.76	15,906.83	7,908.07
1996	9,379.00	18,847.00	9,268.00	7,587.92	15,086.04	7,498.12
1997	9,379.00	18,847.00	9,268.00	7,196.38	14,307.60	7,111.21
1998	9,379.00	18,847.00	9,268.00	6,825.05	13,569.32	6,744.28
1999	9,379.00	18,847.00	9,268.00	6,472.88	12,869.15	6,398.27
2000	9,379.00	18,847.00	9,268.00	6,136.82	12,205.10	6,066.22
2001	9,379.00	18,847.00	9,268.00	5,822.11	11,575.32	5,753.21
2002	9,379.00	18,847.00	9,268.00	5,521.69	10,978.03	5,456.34
2003	9,379.00	18,847.00	9,268.00	5,236.77	10,411.56	5,174.79
2004	9,379.00	18,847.00	9,268.00	4,966.55	9,874.33	4,907.77
2005	9,379.00	18,847.00	9,268.00	4,710.28	9,364.81	4,654.53
2006	9,379.00	18,847.00	9,268.00	4,487.23	8,881.59	4,414.36
2007	9,379.00	18,847.00	9,268.00	4,236.72	8,423.30	4,188.58
2008	9,379.00	18,847.00	9,268.00	4,018.10	7,988.66	3,970.55
2009	9,379.00	18,847.00	9,268.00	3,810.77	7,576.44	3,765.67
2010	9,379.00	18,847.00	9,268.00	3,614.13	7,185.50	3,571.36
2011	9,379.00	18,847.00	9,268.00	3,427.65	6,814.72	3,387.08
2012	9,379.00	18,847.00	9,268.00	3,250.78	6,463.09	3,212.31
2013	9,379.00	18,847.00	9,268.00	3,083.04	6,129.59	3,048.55
2014	9,379.00	18,847.00	9,268.00	2,923.95	5,813.30	2,869.35
2015	9,379.00	18,847.00	9,268.00	2,773.08	5,513.34	2,740.26
2016	9,379.00	18,847.00	9,268.00	2,629.89	5,228.85	2,598.86
2017	9,379.00	18,847.00	9,268.00	2,494.28	4,959.04	2,464.76
2018	9,379.00	18,847.00	9,268.00	2,365.57	4,703.15	2,337.58
2019	9,379.00	18,847.00	9,268.00	2,243.51	4,460.47	2,218.96
2020	9,379.00	18,847.00	9,268.00	2,127.75	4,230.31	2,102.56
2021	9,379.00	18,847.00	9,268.00	2,017.95	4,012.03	1,994.07
2022	9,379.00	18,847.00	9,268.00	1,913.83	3,805.01	1,891.18
2023	9,379.00	18,847.00	9,268.00	1,815.07	3,608.67	1,793.59
2024	9,379.00	18,847.00	9,268.00	1,721.42	3,422.46	1,701.04
Total	410,172.00	559,410.00	149,238.00	245,281.73	245,367.59	75.85

Appendix 13.3.3 FIRR Calculation of the Port of Manzanillo

Table (3) Cost/Benefit and FIRR at Manzanillo ESP & PM

FIRR(%) = 5.01

Case : 8

Year	Cost	Benefit	Benefit Cost	P.Cost	P.Benefit	P.Value
1992	25,175.00	0.00	-25,175.00	25,175.00	0.00	-25,175.00
1993	60,207.00	0.00	-60,207.00	57,190.63	0.00	-57,190.63
1994	31,712.00	0.00	-31,712.00	28,614.06	0.00	-28,614.06
1995	8,527.00	16,782.00	8,255.00	7,308.53	14,383.92	7,075.40
1996	8,527.00	16,782.00	8,255.00	6,942.37	13,663.29	6,720.92
1997	8,527.00	16,782.00	8,255.00	6,594.56	12,978.76	6,384.20
1998	8,527.00	16,782.00	8,255.00	6,264.17	12,328.52	6,064.35
1999	8,527.00	16,782.00	8,255.00	5,950.34	11,710.86	5,760.53
2000	8,527.00	16,782.00	8,255.00	5,652.22	11,124.15	5,471.93
2001	8,527.00	16,782.00	8,255.00	5,369.05	10,566.83	5,197.78
2002	8,527.00	16,782.00	8,255.00	5,100.08	10,037.43	4,937.37
2003	8,527.00	16,782.00	8,255.00	4,844.55	9,534.56	4,690.01
2004	8,527.00	16,782.00	8,255.00	4,601.83	9,058.87	4,455.04
2005	8,527.00	16,782.00	8,255.00	4,371.26	8,603.13	4,231.84
2006	8,527.00	16,782.00	8,255.00	4,152.28	8,172.11	4,019.83
2007	8,527.00	16,782.00	8,255.00	3,944.25	7,762.69	3,818.43
2008	8,527.00	16,782.00	8,255.00	3,748.64	7,373.78	3,627.13
2009	8,527.00	16,782.00	8,255.00	3,558.84	7,004.35	3,445.41
2010	8,527.00	16,782.00	8,255.00	3,380.63	6,653.43	3,272.80
2011	8,527.00	16,782.00	8,255.00	3,211.26	6,320.09	3,108.83
2012	8,527.00	16,782.00	8,255.00	3,050.38	6,003.48	2,953.08
2013	8,527.00	16,782.00	8,255.00	2,897.56	5,702.66	2,805.13
2014	8,527.00	16,782.00	8,255.00	2,752.39	5,416.98	2,664.59
2015	8,527.00	16,782.00	8,255.00	2,614.49	5,145.59	2,531.10
2016	8,527.00	16,782.00	8,255.00	2,483.51	4,887.80	2,404.29
2017	8,527.00	16,782.00	8,255.00	2,359.08	4,642.92	2,283.83
2018	8,527.00	16,782.00	8,255.00	2,240.89	4,410.31	2,169.41
2019	8,527.00	16,782.00	8,255.00	2,128.63	4,189.35	2,060.73
2020	8,527.00	16,782.00	8,255.00	2,021.98	3,979.46	1,957.48
2021	8,527.00	16,782.00	8,255.00	1,920.68	3,780.09	1,859.41
2022	8,527.00	16,782.00	8,255.00	1,824.45	3,590.71	1,766.26
2023	8,527.00	16,782.00	8,255.00	1,733.05	3,410.82	1,677.77
2024	8,527.00	16,782.00	8,255.00	1,646.22	3,239.93	1,593.71
Total	372,904.00	503,460.00	130,556.00	225,645.97	225,674.87	28.80

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