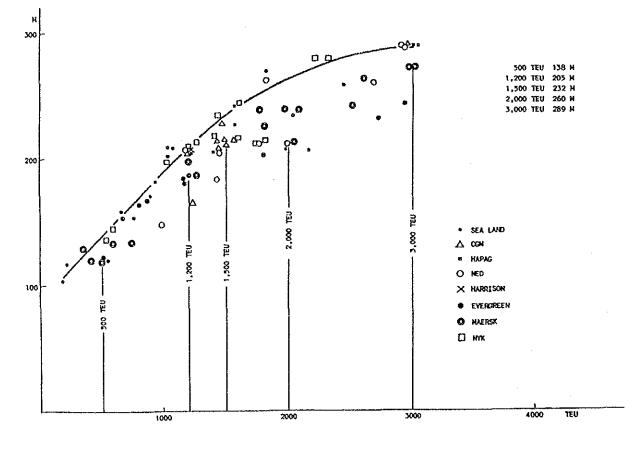
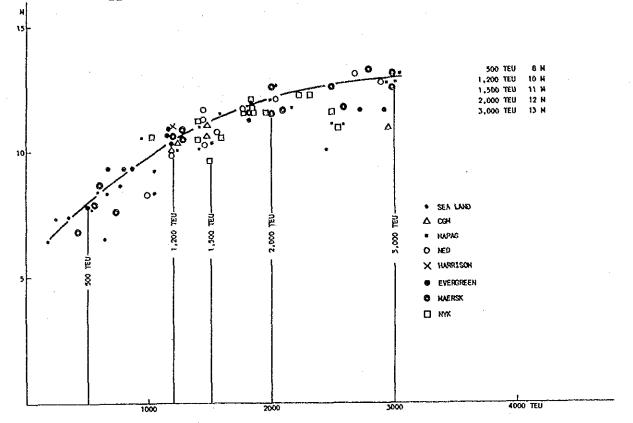


Appendix 9.1.1 Relationship between DWT and TEU

Appendix 9.1.2 Relationship between LOA and TEU





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

Y	ear	ar Loaded Conta			s Empty Containers				Grand Total				
		20		40		otal 20		40		20	40	Total	
1985	Import Export Total											(TEU)	
1986	import Export Total												
1987	İmport Export Total	1,282 1,309 2,591	(47.0)	1,136 1,161 2,297	2,418 2,470 4,889	963 175 1,138	(47,0)	854 155 1,009	1,817 330 2,147	2,245 1,484 3,729	1,190 1,316 3,306	< 6,225> < 4,116>	4,235 2,800 7,035
1988	Import Export Total	8,241 2,722 10,963	(18,2)	1,849 597 2,446	10,090 3,319 13,409	1,141 4,264 5,405	(18,3)	250 963 1,213	1,391 5,227 6,618	9,382 6,986 16,368	2,099 1,560 3,659	<13,580> <10,106>	11,481 8,546 20,027
1999 (JAN - NOV)	Import Export Total	10,887 2,899 13,786	(15.0)	1,921 511 2,432	12,808 3,410 16,218	687 3,671 4,358	(15.0)	121 648 769	808 4,319 5,127	11,574 6,570 18,144	2,042 1,159 3,201	<15,658> < 8,888>	13,616 7,729 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	Containe	rized Cargo	Volume	Imbalance Ratio	Numb	Empty Container Ratio		
		() Export	<li>(2) Import</li>	<li>Total</li>	(()-@)/()	() Loaded	(5) Empty	(i) Total	\$/\$
		(tons)	(tons)	(tons)	2	(TEUs)	(TEUs)	(TEUs)	
1985				1 A. A.	l.				·
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/ Year		Num	ber of Load	ed Containe	r	Containerized Cargo Volume Including	(2) Containerized Cargo Volume Excluding	Unit Weight
Export		20 ft	40 ft	Total	() TEU		Tare Weight	(@/())
	1987	(53%) 1,282	(478) 1,136	(100%) 2,418	3,554	33,175 tons	26,250 tons	7.39 Lons/TEU
Import	1968	(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			· · ·	
	1987	(53%) 1,309	(47%) 1,161	(100%) 2,470	3,631	55,314	48,240	13.29
Export	1988	(82%) 2,722	(18N) 597	(100 <b>v</b> ) 3,319	3,916	62,299	53,949	13.78
	1989	(85 <b>%)</b> 2,899	(15 <b>%</b> ) 511	(100%) 3,410				

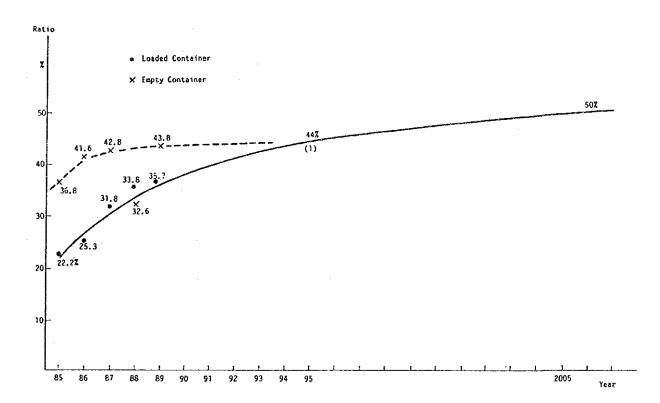
Note: Tare Weight ; 2.3 tons (20 feet), 3.5 tons (40 feet)

Y	ear _	Loaded Containers				Empty Containers				Grand Total			
·		20 40		Total	20		40		20	40	Total		
			•		· .							<teu></teu>	
	Import	595	•	- 88	683	883		482	1,365	1,478	570	< 2,618>	1,535
1985	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		4,479
	Import	649		144	793	1,160		775	1,935	1,809	919	< 3,647>	2,728
1986	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		5,581
	Import	849		338	426	892		819	1,711	1,740	1,157	< 4,054>	2,897
1987	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		6,783
	Import	1,191		708	1,899	3,189		1,788	4,977	4,380	2,496	< 9,372>	6,876
1988	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		15,717
1999	Import	1,597		990	3,607	1,807		1,612	3,419	3,404	2,602	< 8,608>	6,006
(JAN -	Export	4,299		2,278	5,557	1,107		659	1,766	5,406	2,937	<11,280>	8,343
NOV)	Total	5,896	(35.7)	3,268	9,164	2,914	(43,8)	2,271	5,185	8,810	5,539		14,349

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

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

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



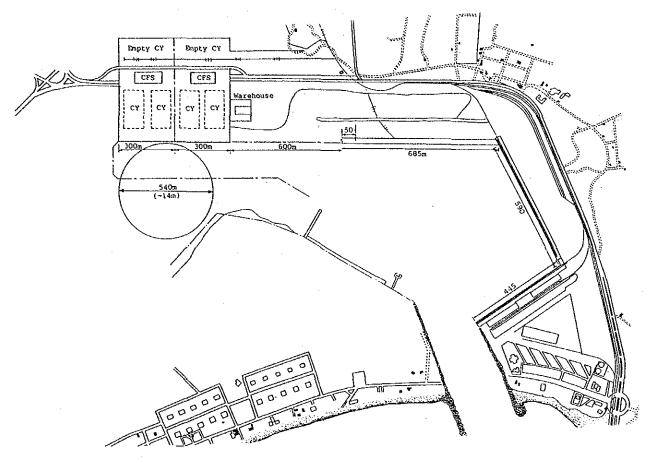
Appendix 9.2.3	Relation between the Imbalance Ratio of Import/Export
	Containerized Cargo Volume and Empty Container Ratio
	(Port of Manzanillo)

	Year	Containe	rized Cargo	Volume	Imbalance Ratio	Numb	er of Conta	iner	Empty Container
÷ .	leat	(i) Export	<li>(2) Import</li>	() Total	(()-())/()	bəbsol 🛈	(5) Empty	③ Total	Ralio (\$/@(\$/@)
		(tons)	(tons)	(tons)		(TEUs)	(TEUs)	(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	20,593	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)

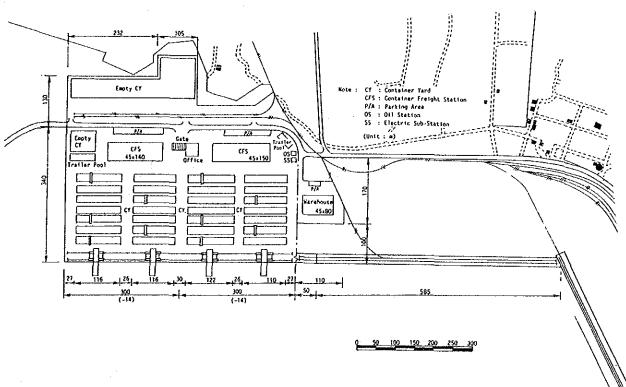
lmport/	Year	Num	ber of Load	ed Containe	r	Containerized Cargo Volume Including	(2) Containerized Cargo Volume Excluding	Unit Weight
Export		20 ft	40 ft	Total	O TEU	Tare Weight	Tare Weight	((2)/(1))
	1985	(871) 595	(13%) 88	(100%) 683	771	8,177 tons	6,500 tons	8.43 tons/TEU
Import	1986	(82%) 649	(18%) 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 <b>%)</b> 1,191	(37%) 708	1,899	2,607	21,193	15,976	6,13
	1985	(75%) 1,632	(25%) 546	(100%) 2,178	2,724	32,798	27,133	9.96
Export	1986	(72 <b>\</b> ) 1,828	(28%) 697	(100%) 2,525	3,222	41,110	34,466	10.70
	1987	(67%) 2,260	(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)

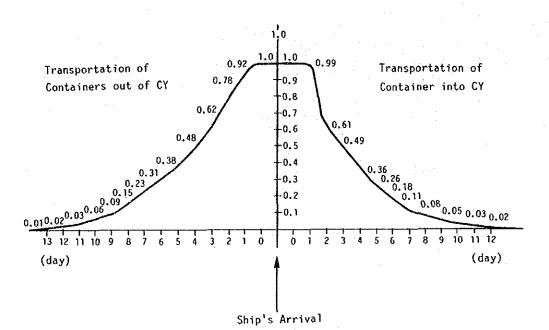


Appendix 9.2.5 General Layout Plan of Container Terminal Alternative III

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



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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 would, 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)  $Tb = (Ws/Q \times H \times \eta + Td) \times D/D^{1}$ 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.)  $\eta$  : 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 ( )  $\rho = V \times Tb/D \times Ws/K$  $\rho$  : 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)

 $V = D \times W s \times \rho \times K/T b$ 

#### 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( $\rho$ ) are calculated in Table (1) and Table (2).

Table (1) shows the relation between handling capacity(Q) and annual cargo volume (V) as paramenters of berth occupancy( $\rho$ ).

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 = 500t/h.

V= 1,300,000t

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.

One 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 <b>,</b> 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( $\rho$ ), service time (Tb) 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.

year Cargo	1990	1991	1992	1993	1994	1995
ρ <sub>1</sub> Pallet Tbl	0.083 30.3	0.083 30.3	0.083 30.3	0.083 10.2	-	-
Rod, Bar P2	0.114	0.114	0.114	0.114	0.114	0.114
&Coil Tb2	41.6	41.6	41.6	41.6	41.6	41.6
ρ <sub>3</sub>	0.086	0.086	0.17	0.127	0.063	0.021
Slab Tb3	31.4	31.4	62.0	46.2	22.9	7.7
ρ4		0.021	0.036	0.054	0.091	0.146
Sheet Tb4		7.7	13.1	19.7	33.2	53.3
ρ <sub>5</sub>	0.283	0.283	0.283	0.283	0.283	0.283
Scrup Tb5	103.2	103.2	103.2	103.2	103.2	103.2
ρt	0.511	0.592	0.686	0.605	0.551	0,564
Total Tbt	208.5	216.2	250.2	220.1	200.9	205,8

Table (1) Berth occupancy & service time

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

Q(1	t/hr.)	120	230	300	400	500	600	800	1,000
Ws	(t)	· · · · · · · · · · ·		<b>-</b>	25,000				
н (1	hr.)				18				
Q*I	H(t/d)	2,160	4,140	5 <b>,</b> 400	7,200	9,000	10,800	14,600	18,000
тb	(day)	12.92	6,99	5,49	3.97	3,51	3.01	2.37	2.0
Ws	*D*10 <sup>6</sup> Tb	706	1,305	1,662	2,298	2,599	3,031	3,850	• 4,517
	$\rho = 0.1$	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
V	0.4	284	524	664	919	1,040	1,212	1,540	1,807
(x10 <sup>3</sup> )	05	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

(	Q(t/hr.)	120	230	300	400	500	600	800	1,000		
1	Ws(t)	25,000									
	H(hr.)	:			18						
(	2*H(t/d)	2,160	4,140	5,400	7,200	9,000	10,800	14,600	18,000		
r	Fb(day)	12.92	6.99	5.49	3.97	3.51	3.01	2.37	2.02		
	$\times 10^{3}(t)$										
	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		
ρ	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		
	1,200			0,722	0.522	0.401	0,395	0.311	0.264		
	1,400				0.609	0.538	0.451	0.363	0.309		

Table (3) Relation between handling capacity(Q) and berth occupancy( $\mu$ )

#### 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 withe 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.

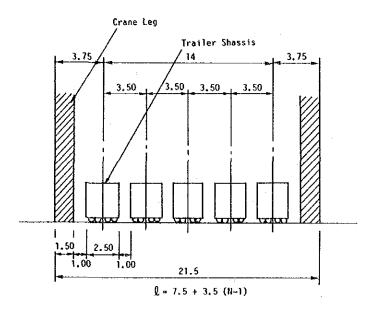
#### 3.2 Manzanillo

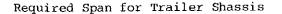
The planned container berth is the first one at Manzanillo.

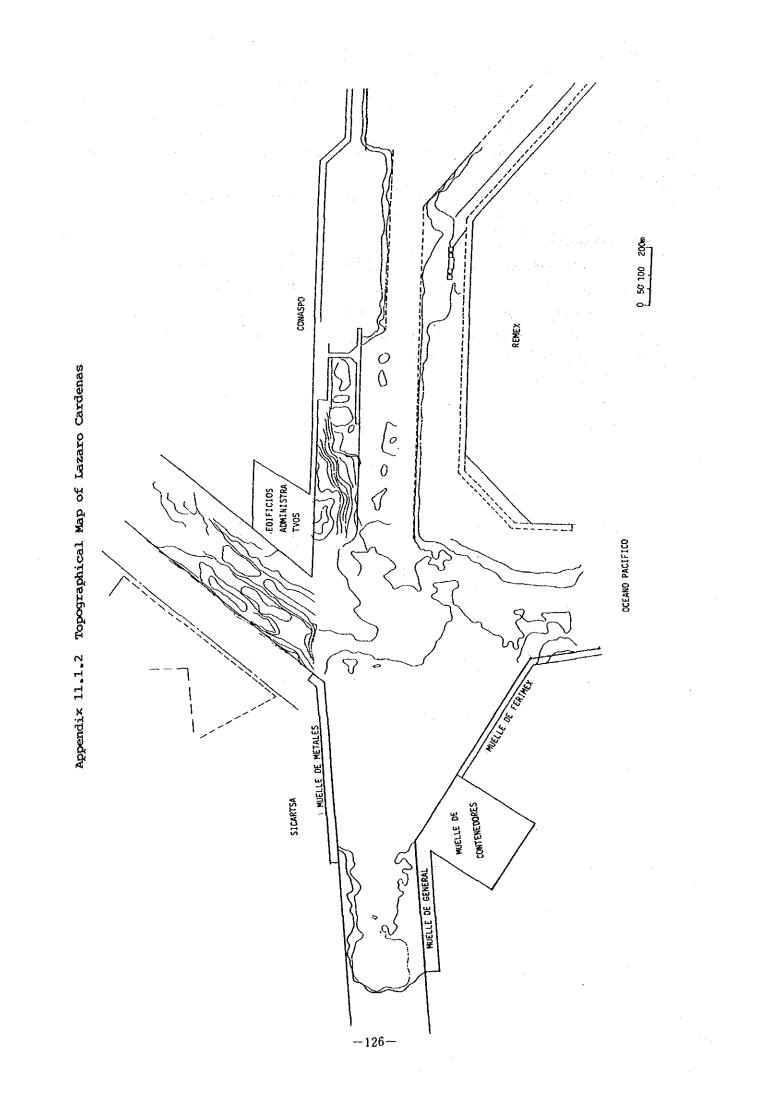
There is no limitation to determine the rail gauge of the new crane. Desirable gauge of the rail for the panamax is about 20M. However, one more traffic lane can be available if span is enlarged by only 1.5M

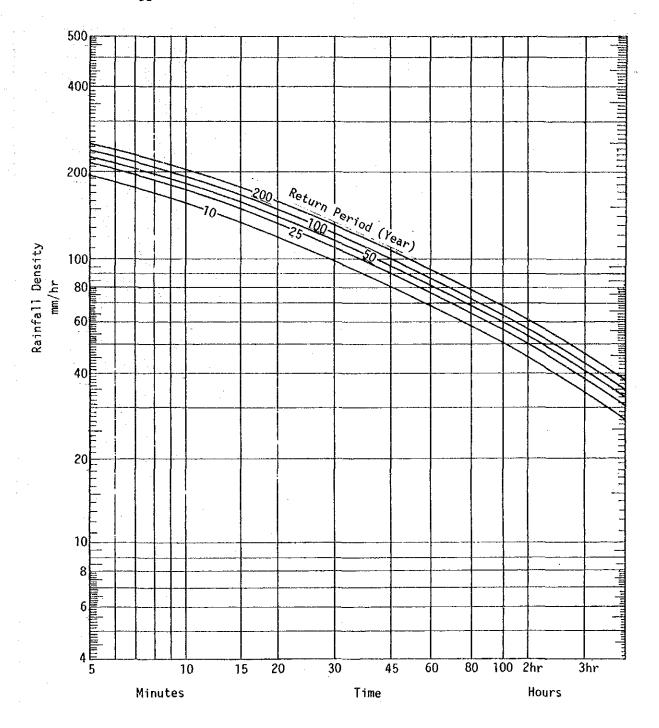
Additional cost for expanding the lane from 20M to 21,5M will be negligibly small.

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

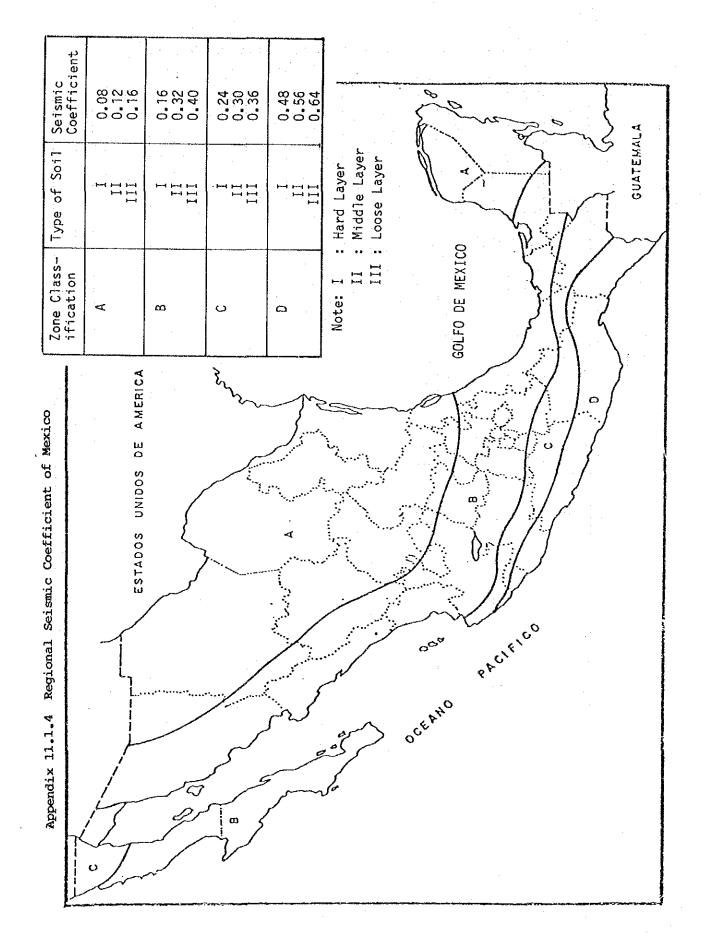








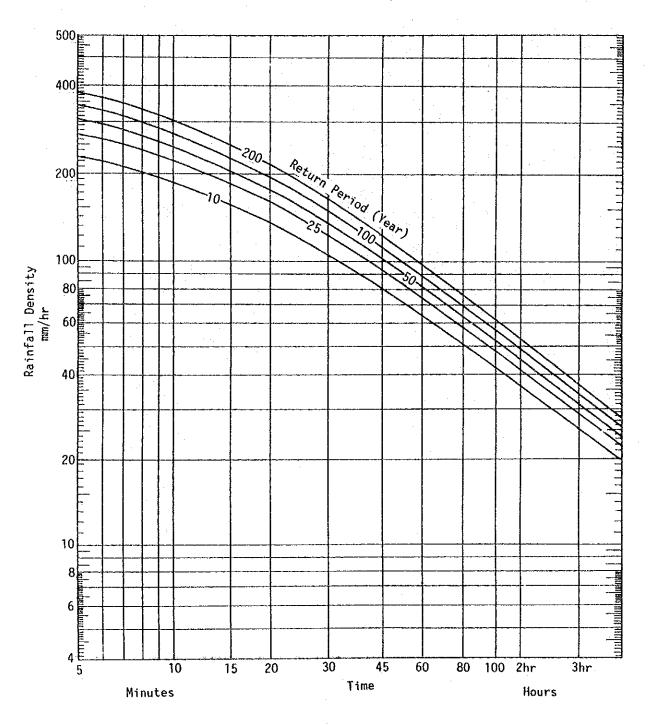
Appendix 11.1.3 Rainfall Density of Lazaro Cardenas



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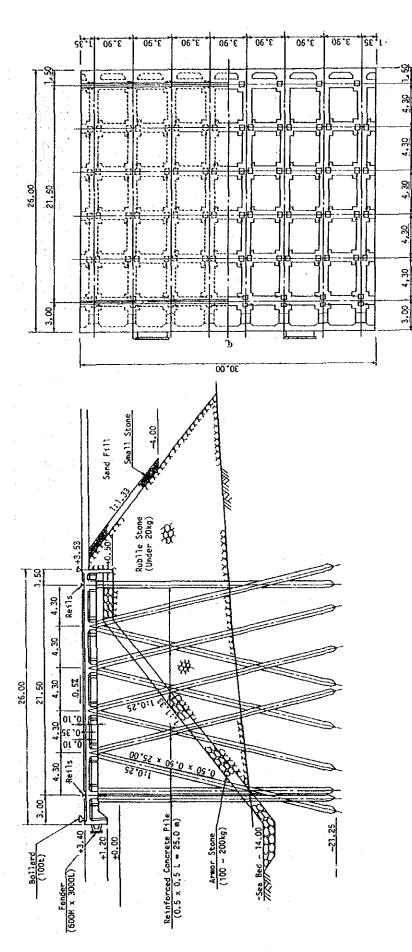


Topographical Map of Manzanillo Appendix 11.2.1

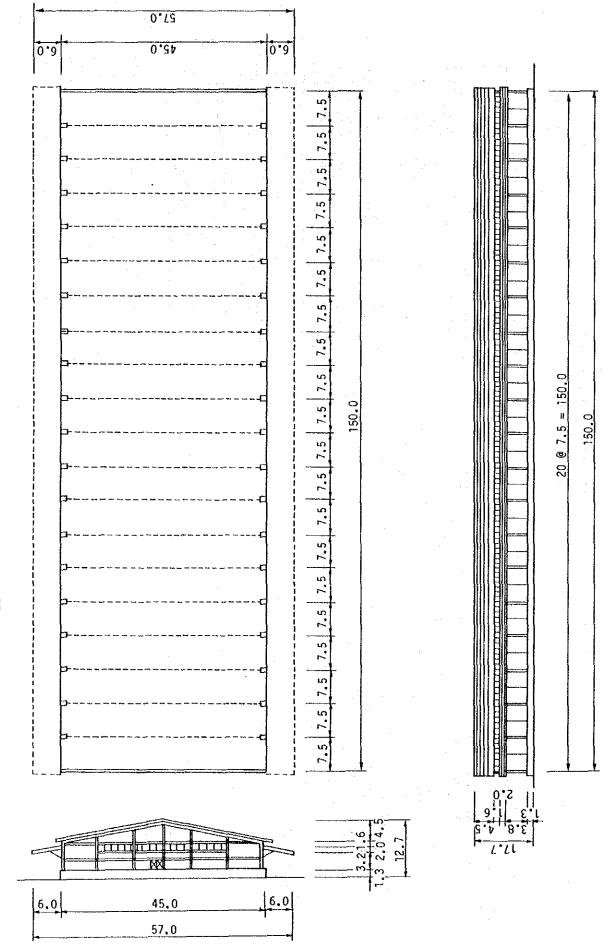


Appendix 11.2.2 Rainfall Density of Manzanillo

Appendix 11.2.3 Container Berth (Long Term Plan)

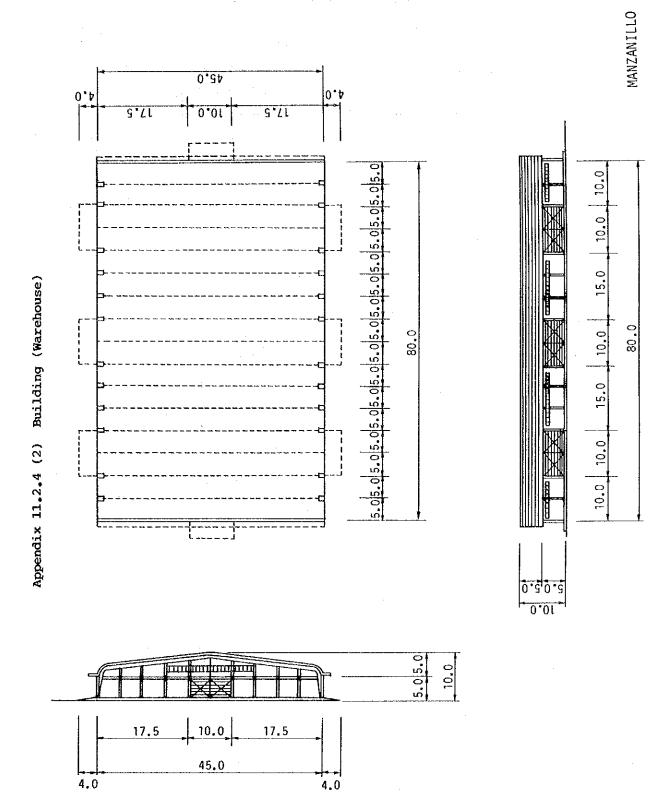


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Appendix 11.2.4 (1) Building (CFS)

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### 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 limitation 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

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

(Unit: tons)

(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 Gantr	y Crane	Ship Crar	ie	The Number	Handling	Productivity
	Productivity (units/n.gang)	No, of Crane	Productivity (unit/h/gang)	No, of Crane	of gangs	hour/day (hours)	(TEU/day)
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	ľ	2	18	675
Guaymas	20	1	10	1	2	18	675

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

# (2) General Cargo

	Ship Cra		Number	Handling Hours	
Port	Productivity (tons/hour)	Numbers	of gang	hour/day (hours)	Productivity (tons/day)
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	Contaienr Cargo (units)	General Cargo (tons)
Lazaro Cardenas	700	400
Salina Cruy	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.

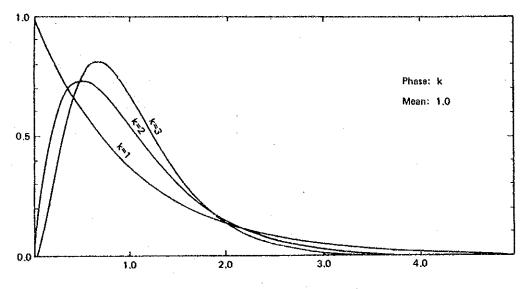


Fig. (1) Erlung Distribution

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 sips 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 ar 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.

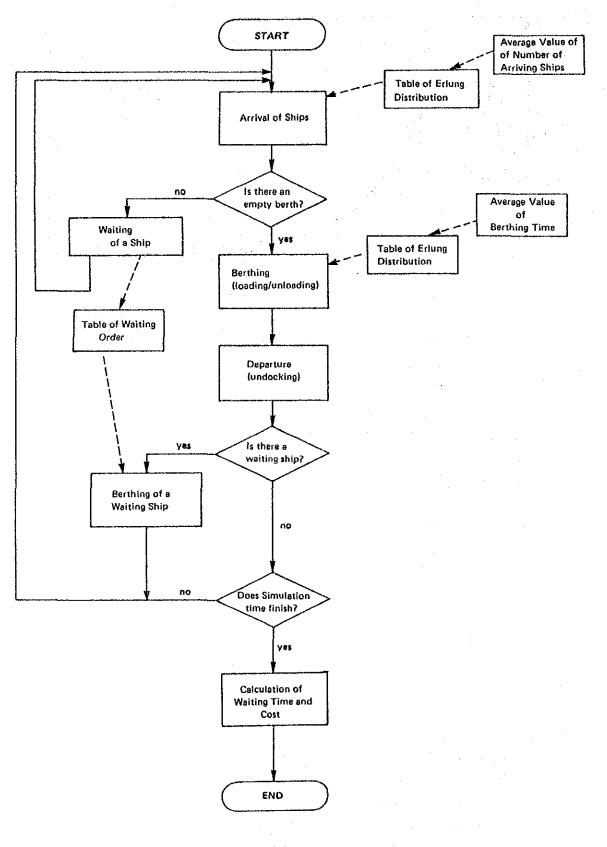


Fig. (2) Flow Chart of the Simulation Model

Appendix 12.2.4 Summary of the Market Prices (Lazaro Cardenas)

Appendix 12.2.5 Summary of the Shadow Prices (Lazaro Cardenas)

(Unit: million pesos)

Present Value 6,284 4,870 855 663 398 308 239 185 143 111 14 8,110 3,774 2,924 2,372 1,838 1,425 1,104 514 86 40 6 H σ ì -36,480 67 23 Difference -36,480 10,466 10,466 10,958 10,958 10.466 10,958 10,958 10,958 10,958 10,958 10,958 10,958 10,958 10,958 10,958 10,958 10,958 10,958 10,466 10.958 10,958 10,958 10,958 10,958 10.958 10.958 10,958 278,842 10,466 10,958 Construction Maintenane 1,594 46,226 1,594 1,594 36,480 36,226 1,594 36,480 1,594 1,594 1,594 1,594 1,594 1,594 1,594 1,594 1,594 1,594 1,594 1,594 1,594 1,594 **1,**594 1,594 1,594 1,594 1,594 1,594 1,594 1,594 1,594 1,594 1,594 1,594 1,594 82,706 Cost 783 Labor Cost 228 6,612 228 228 228 228 228 228 228 Time Cost Navigation Cost 3,469 98,866 3,122 3,122 3,122 3,122 3,122 3,469 3,469 3,469 Staying Cost 1,451 1,451 1,306 1,306 1,306 1,451 1,451 1,451 1,306 1,306 1,451 1,451 1,451 1,451 1.451 1,451 1,451 1.451 1,451 1,451 1,451 1,451 1,451 1,451 1,451 1,451 41,354 1,451 1,451 1,451 Land Transport Cost 7,377 213,933 7,377 7,377 7,377 7,377 7,377 7,377 7,377 7,377 7,377 7.377 7,377 7,377 7.377 7,377 7,377 7,377 7.377 7,377 7,377 7,377 7,377 7,377 7,377 7,377 7,377 7,377 Benefit .2,552 361,548 12,552 12,552 12,552 12,552 12,552 12,552 12,552 12,552 12,552 12,552 12,552 12,552 12,552 12,552 12,552 12,552 12,552 2,060 12,060 12,060 12,060 12,552 12,552 12,552 12,552 12,552 12,552 12,060 EIRR (%) =29.05 Total Year 2008 2009 2015 2000 2005 2006 2007 2010 2012 2013 2014 2016 2017 2018 2019 2020 2022 2023 1994 1996 1997 1998 1999 2001 2002 2003 2004 201.1 2021

### Appendix 12.2.6 The Result of Sensitivity Analysis (Lazaro Cardenas)

Table (1) Case A

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         1,696           2003         12,552         1,753         10,799         1,067           2004         12,552         1,753         10,799         847           2005         12,552         1,753         10,799         672           2007         12,552         1,753         10,799         336           2018         12,552         1,753         10,799         336           2019         12,552         1,753         10,799         133			Table (	1) Case A	
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200912,5521,75310,799336201012,5521,75310,799266201112,5521,75310,799211201212,5521,75310,799168201312,5521,75310,799133201412,5521,75310,799105201512,5521,75310,79984201612,5521,75310,79966201712,5521,75310,79953201812,5521,75310,79933202012,5521,75310,79926202112,5521,75310,79933202012,5521,75310,79921202212,5521,75310,79921202312,5521,75310,79913	2007	12,552	1,753	10,799	533
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201112,5521,75310,799211201212,5521,75310,799168201312,5521,75310,799133201412,5521,75310,799105201512,5521,75310,79984201612,5521,75310,79966201712,5521,75310,79953201812,5521,75310,79942201912,5521,75310,79933202012,5521,75310,79926202112,5521,75310,79921202212,5521,75310,79917202312,5521,75310,79913	2009	12,552	1,753	10,799	336
201212,5521,75310,799168201312,5521,75310,799133201412,5521,75310,799105201512,5521,75310,79984201612,5521,75310,79966201712,5521,75310,79953201812,5521,75310,79942201912,5521,75310,79933202012,5521,75310,79926202112,5521,75310,79921202212,5521,75310,79917202312,5521,75310,79913	2010	12,552	1,753	10,799	266
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201512,5521,75310,79984201612,5521,75310,79966201712,5521,75310,79953201812,5521,75310,79942201912,5521,75310,79933202012,5521,75310,79926202112,5521,75310,79921202212,5521,75310,79917202312,5521,75310,79913	2013	12,552	1,753	10,799	133
201612,5521,75310,79966201712,5521,75310,79953201812,5521,75310,79942201912,5521,75310,79933202012,5521,75310,79926202112,5521,75310,79921202212,5521,75310,79917202312,5521,75310,79913	2014	12,552	1,753	10,799	105
201712,5521,75310,79953201812,5521,75310,79942201912,5521,75310,79933202012,5521,75310,79926202112,5521,75310,79921202212,5521,75310,79917202312,5521,75310,79913	2015	12,552	1,753	10,799	. 84
201812,5521,75310,79942201912,5521,75310,79933202012,5521,75310,79926202112,5521,75310,79921202212,5521,75310,79917202312,5521,75310,79913	2016	12,552	1,753	10,799	66
201912,5521,75310,79933202012,5521,75310,79926202112,5521,75310,79921202212,5521,75310,79917202312,5521,75310,79913	2017	12,552	1,753	10,799	53
202012,5521,75310,79926202112,5521,75310,79921202212,5521,75310,79917202312,5521,75310,79913	2018	12,552	1,753	10,799	42
202112,5521,75310,79921202212,5521,75310,79917202312,5521,75310,79913	2019	12,552	1,753	10,799	33
202212,5521,75310,79917202312,5521,75310,79913	2020	12,552	1,753	10,799	26
2023 12,552 1,753 10,799 13	2021	12,552	1,753	10,799	21
	2022	12,552	1,753	10,799	17
Total 361,548 90,977 270,571 -4	2023	12,552	1,753	10,799	13
	Total	361,548	90 <b>,</b> 977	270,571	-4

EIRR(%) = 26.04

Table (2) Case B

		· .	(unit: 1	nillion pesos)
Year	Benefits	Costs	Difference	Present valu
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 <b>,</b> 297	1,594	9,703	16
2023	11,297	1,594	9,703	13
Total	325,393	82,706	242,687	10

EIRR(8) = 25.73

Table (3) Case C

					milition becopy
	Year	Benefits	Costs	Difference	Present value
	1994	· 0	40,128	~40,128	-40,128
	1995	10,854	1,753	9,101	7,399
Ì	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
ĺ	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
	بجهوني فكف المحجب المجرار والا				

(unit: million pesos)

EIRR(%) = 23.00

# Appendix 12.3.1 Productivity of Each Port

	Quayside Gantr	y Crane	Ship Crar	ie	The Number	Handling	Productivity
	Productivity (units/n.gaug)		Productivity (unit/h/gang)	No. of Crane	of gangs	hour/day (hours)	(TEU/day)
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

# Table (1) Container Cargo

Note: Calcultated by the portion of 20' and 40' container s as 75:25

at each port as follows:

Port	120	*40 <sup>°</sup>	
			(unit: %)
Manzanillo	56	44	
Salina Cruz	75	25	
Guaymas	75	25	

### Table (2) General Cargo

	Ship Cr.	ane	Number	Handling Hours	
Port	Productivity (tons/hour)	Numbers	of gang	hour/day (hours)	Productivity (tons/day)
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	Contaienr 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)

Maintenane				497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	13,419
Construction			14,169		-										-																14,169
Cost (W/O)	0	0	14,169	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	497	27,588
Labor Cost				82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	2,214
Tíme Cost				359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	359	9,693
Navigation Cost				4,114	4,114	4,114	4,114	4,114	4,571	4,571	4,571	4,571	4,571	4,571	4,571	4,571	4,571	4,571	4,571	4,571	4 <b>,</b> 571	4,571	4,571	4,571	4,571	4,571	4,571	4,571	4,571	4,571	121,132
Staying Cost			~	2,623	2,623	2,623	2,623	2,623	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	2,886	76,607
Land Transport Cost				11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	11,294	31,294	11,294	11,294	304,938
Benefit	0	0	0	18,472	18,472	18,472	18,472	18,472	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	19,192	514,584
Үеаг	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total

Appendix 12.3.4 Summary of the Shadow Prices (Manzanillo)

(Unit: million pesos)

Present Value 829 495 435 -21 10,409 3,418 1,219 942 728 640 382 -45,919 -18,463 9,151 8,045 7,072 6,217 5,723 5,031 4,423 3,888 3,005 2,642 2,322 2,042 1,795 1,578 1,387 1,072 563 -21,092 Difference -( - ) 16,040 16,040 16,040 16,040 16,040 16,040 15,320 16,040 332,266 -52,233 -23,889 15,320 15,320 16,040 16,040 16,040 16,040 16,040 16,040 16,040 16,040 16,040 16,040 16,040 16,040 16,040 -21,092 15,320 15,320 16,040 16,040 Maintenane 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 77,525 2,800 2,800 2,800 2,800 2,800 2,800 2,800 234 1,691 Construction 21,092 51,999 34,169 107,260 2,800 2,800 2,800 2,800 21,092 52,233 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 2,800 184,785 35,860 2,800 2,800 2,800 2,800 Cost (W/T) 462 462 462 462 462 462 462 462 462 24,445 0 0 462 162 462 462 462 462 462 462 462 462 462 462 462 462 462 11,971 462 162 Cost (W/O) 462 Labor Cost 225 2 2 2 2 2 2 20 20 2 20 2 2 2 50 55 20 20 1,890 2 5 2 2 2 20 359 359 359 359 9,693 359 Time Cost Navigation Cost 4,571 4**,**571 4,571 4,571 4,571 4,571 4,571 121,132 4,114 4,571 4,571 4,571 4,571 4,571 114 1,114 4,571 4,571 4**,**571 4,571 4**,**571 4,571 4,571 4,571 4,571 1,114 1,114 4,571 Staying Cost 2,886 2,886 2,886 2,886 2,886 2,886 2,886 2,886 2,886 2,886 2,886 2,886 76,607 2,886 2,886 2,886 2,886 2,886 2,386 2,886 2,886 2,886 2,886 2,886 2,886 2,623 2,623 2,623 2,623 2,623 Land Transport Cost 10,492 10,492 L0,492 10,492 10.492 10,492 10,492 10,492 10,492 10,492 10,492 10,492 0,492 10,492 10,492. 10,492 10,492 10,492 283,284 .0,492 L0,492 10,492 10,492 10,492 0,492 0,492 LO,492 10,492 17,658 17,658 0 0 18,378 492,606 Benefit 0 17,658 17,658 17,658 18,378 18,378 18,378 18,378 18,378 18,378 18,378 18.378 18,378 18,378 18,378 18,378 18,378 18,378 18,378 8,378 8,378 8,378 8,378 18,378 8,378 EIRR (%) =13.75 Total Year 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

# Appendix 12.3.5 The Result of Sensitivity Analysis

Table (1) Case A

		N	(noite t	: million pesos)						
	Benefits	Costs	Difference	Present value						
Year	0	23,201	-23,200	-23,201						
1992		57,456	-57,456	-51,150						
1993	0	26,278	-26,278	-20,826						
1994	0		15,086	10,644						
1995	17,658	2,572	15,086	9,475						
1996	17,658	2,572		8,435						
1997	17,658	2,572	15,086							
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

Year	Benefits	Costs	Difference	nillion pesos) 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
	443,340	160,340	283,000	10

	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 <b>,</b> 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 <b>,</b> 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
i	L	L	<u> </u>		

(unit: million pesos)

EIRR(\$) = 10.84

#### Appendix 13.1.1 Calculation Table of Depreciation Expence 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 <sup>1</sup> & 20 <sup>1</sup>	7	188	.1	1,316	7	0.14	184	
Fork-Lift 40T	1	1,764	1	1,764	7	0.14	246	
31	3	88	1	264	7	0.14	36	
21	2	62	1	124	- 7	0.14	17	
Tug boat4,000ps	2	13,800	0.28	3,864	15	0.067	258	: <u></u>
Sub Total				33,193			3,122	
Procurement								
Quaysido 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	
5 <b>T</b>	2	188	1	376	7	0,14	34	
2T	4	62	1	248	7	0 <b>.</b> 14	34	
Sub Total				36,325			3,844	
Total				69,518		}	6,966	

## Appendix 13,1,1 Calculation Table of Depreciation Expence and Repoacement Schedule

	ъ.						Unit:million	pesos
Item	No	Unit Value	A.R	Sum	Life Cycle	Ratio	Depreciation Expense	Remark
Existing							1	
Breakwater	630m	250	0.5*	22,050	40	0.025	551	
			0.28					
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 <sup>2</sup>	0.89	1	2,563	25	0.04	102	]
C.Y	84,000m <sup>2</sup>	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	1
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	ļ
Sub Total				8,320			415	
Total		1.		86,631			2,769	

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

### Appendix 13.1.1 Calculation Table of Depreciation Expense 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	
Зт	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	
21	25	62	1	1,550	- 7	0.14	217	
Sub Total				55,022			5,225	
Total				77,401			7,437	

#### Appendix 13.1.1 Calculation Table of Depreciation Expence and Repoacement Schedule

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

(With case)

unit: million pesos

		:						-
Item	No	Unit Value	A.R	Sum	Life Cycle	Ratio	Depreciation Expense	Remark
Existing								
Breakwater	400n	250	0.5*	26,000	40	0.025	650	
			0.52					-
Navigation Aids	1	1,213	0.52	630	7	0,14	88	ν.
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	

### Appendix 13.1.1 Calculation Table of Depreciation Expence and Replacement Schedule

Itea	No	Investment	Life	1995	2001	2008	2009	2015	2022	2024	Total
Existing											
Quayside Gantry Crane	:1	18,935	15				16,953			16,953	33,906
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	1,318		1,316	1,316		5,284
Fork-Lift 40 t	1	1,784	7		1,764	1,764		1,784	1,784		7,058
3 t	3	264	7		284	264	- A	264	264		1,056
-2 t	2	124	7		124	124	· .	124	124		496
Tugboat	2	3,864	15		1.1		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		1.1.1.1	16,953	33,906
Transfer Crane	. 4	16,576	7		16,576	16,576	. '	16,576	16,576		66,304
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	376	7		376	376		378	376		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

Table (5) Replacement Schedule of Lazaro Cardenas ESP

Appendix 13.1.1 Calculation Table of Depreciation Expence and Replacement Schedule

Table (6) Replacement Schedule of Lazaro Cardenas Puertos Mexicanos

Unit : Million Pesos

Unit : Million Pesos

Iten	No	Investment	Life	1995	2001	2008	2015	2019	2022	Total
Existing	1									
Break Water	1	22,050	40							
Quaywall	1	31.360	40							
Navigation Aids	1	246	7		246	246	246		246	984
C.F.S	1	2,563	25					2.563		2,563
Ċ.Ÿ	1	22,092	25					22,092		22,092
Subtotal		78,311			246	248	246	24,655		25,639
Procurement	1									
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 î	554	7		554	554	554		554	2,216
Pence	1	226	7		226	226	226		228	904
Subtotal		8,320			780	780	780	7,540	780	10,680
Iotal		88,631			1,026	1,026	1,026	32,195	1,026	36,299

#### Appendix 13.1.1 Calculation Table of Depreciation Expence and Replacement Schedule

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Table (7) Replacement Schedule of Manzanillo ESP

Unit : Million Peso
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Item	No	Investment	Life	1995 2	001	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	Ĩ	1.764	7		764	1.764		1,764	1.764		7,056
25 t	ī	1110	7		110			1110	<b>į</b> 110		4,440
5 t	2	376	7		376	1110 376		376	376		1,504
3 +	7	616	$\dot{7}$		616	616		816	618		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	[										0
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		1.780
2 t	25	1,550	7		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,		30,940	46,461	30,940	30,940	46,461	216,682

#### Appendix 13.1.1 Calculation Table of Depreciation Expence 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.F.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

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Appendix 13.2.1 Profit/Loss Statement and Cash Flow Statement of Lazaro Cardenas (ESP)

Container	With	Case					Uait ; W	1111an Pes	03																											
<u>Iles</u>	1989	1990	1091	1892	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2001	2005	2006	2007	2005	2009	2010	2011	2012	2013	2014	2015	2018	2017	2018	2019	2020	2021	2022	2023	2024
REVENUE Operation : Container Operation : General C.P.S Tugboat Revenue Total	0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	18.822 142 204 1.104 20,072	18,622 142 204 1,104 20,072	18,622 142 204 1,104 20,072	18,622 142 204 1,164 20,072	18,622 142 204 1,104 20,072	18,622 142 704 1,104 20,072	18,822 142 204 1,104 20,072	18,822 142 204 1,104 20,072	18,822 142 204 1,104 20,072	18,622 142 204 1,104 20,072	18,622 142 204 1,104 20,072	18,622 142 204 1,104 20,072	18,672 147 204 1,104 20,077	18.672 142 204 1.104 20.072	18,622 142 204 1,104 20,072	18,622 142 204 1,104 20,672	18.622 142 204 1,104 20,072	18,622 142 204 1,101 20,072	18,822 142 204 1,105 20,072	18,622 142 204 1,104 20,072	18,627 142 204 1,104 20,072	18,622 142 204 1,104 20,072	18,622 142 204 1,104 20,072	18.622 142 204 1,104 20,072	18,622 142 204 1,104 20,072	18,622 142 204 1,104 20,072	18,622 142 204 1,104 20,072	18,622 142 204 1,104 20,072	18,622 142 201 1,101 20,072	16,622 142 204 1,104 20,072
EXPENSE Personnel Cost Bainteaance Cost Administration Cost Oepreciation Empense Operating Cost Total	0 0 0 0 0	0 0 0 0 0	0 0 0 0	000000000000000000000000000000000000000	000000000000000000000000000000000000000	0 0 0 0	758 7,587 2,780 1,024 6,965 19,145	788 7,587 2,780 1,024 6,966 19,145	788 7,587 2,780 1,924 6,966 19,145	788 7,537 7,780 1,024 8,886 19,145	788 7,587 2,780 1,024 6,865 19,145	788 7.587 2.780 1.074 6.966 19.145	788 7,587 2,780 1.024 6,986 19,145	788 7,587 2,780 1,024 6,966 19,145	788 7,587 2,780 1,024 6,086 19,145	788 7,587 2,780 1,074 6,986 19,145	788 7,587 2,780 1,024 6,968 19,145	788 7,587 2,780 1,024 6,966 19,145	788 7,557 2,780 1.024 6,966 J9,145	788 7.587 2.780 1.024 8.966 19.145	788 7,587 2,780 1,024 6,966 19,145	788 7,587 2,780 1,024 6,988 19,145	788 7,587 2,780 1,024 6,966 19,145	788 7,587 7,780 1,024 6,986 19,145	788 7,587 2,780 1.024 8,980 10,145	788 7,587 2,780 1,024 6,966 19,145	788 7,587 2,780 1,024 0,986 19,145	788 7.587 2.780 1.024 6.986 19.145	788 7,587 2,780 1,024 6,966 19,145	788 7,587 2,780 1,024 6,966 19,145	788 7,587 2,780 1,024 6,906 19,145	788 7,587 2,780 1,024 6,966 19,145	768 7,587 2,780 1,024 6,966 19,145	788 7,587 2,780 1,024 6.986 19,145	788 7,587 2,780 1.024 6,966 19,145	788 7,587 2,780 1,024 6,966 19,145
Net Operating Income N.O.I Sefere Depreciation	0	0 û	0	0	ů O	0 0	927 7,893	927 7,893	927 7,893	927 7,693	927 7,893	927 7,893	927 7,893	927 7,893	927 7,893	927 7,893	927 7,893	927 7,893	927 7,893	927 7,893	927 7,893	927 7,893	977 7,893	927 7,893	927 7,893	927 7,893	927 7,893	927 7,893	977 7,893	927 7,893	927 7,893	927 7,893	927 7,893	927 7,893	927 7,893	927 7,893
Other Income/Bapense Interest on Lond (HB) Interest on Lond (HB) Interest on Lond (Other Other Income/Income Int Income Before Tax Income Tax Mat Income Accumulated Not Income	0 a) 0 (a) 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	·1.186	0 1,188 142 1,328 -1,328 0 -1,328 -2,513	0	0 1.087 636 -1.723 -796 -796 -4,797	~	139		1,244 692 0 552 1,479 518 962 -3,092	1,744 593 0 1,151 2,078 727 1,351 -1,741	957	651 395 0 256 1,183 414 769 795	1,130 295 0 834 1,761 816 1,145 1,939	1,850 198 0 1,453 2,380 833 1,547 3,485	2,213 99 0 2,115 1,042 1,065 1,977 5,463	2,823 0 2,823 3,750 1,312 2,437 7,900	3,573 0 3,573 4,500 1,575 2,925 10,825	4,376 0 4,376 5,303 1,858 3,447 14,272	3,012 0 3,012 3,939 1,379 2,560 16,832	1,131 0 1,131 2,058 720 1,338 18,170	1,763 0 1,763 2,690 942 1,749 19,919	2,439 0 2,439 3,386 1,178 2,133 22,107	3,162 0 3,162 4,089 1,431 2,558 24,765	3,936 0 3,936 4,863 1,702 3,161 27,926	4,764 0 4,764 5,691 1,992 3,699 31,625	3,428 0 3,428 4,355 1,574 2,831 34,456	4,220 0 4,220 5,147 1,802 3,346 37,802		5.978 0 5.976 6.903 2.418 4.487 46,185	6,946 0 6,946 7,873 2,756 5,118 51,303	7,935 0 7,985 8,912 3,119 5,793 57,086	3,508		3,147 5,814 75,971
Orstating Ratio Working Ratio Interest Earand Batle							95 61 0.54	93 61 0.59	95 61 1.01	95 61 1.17	95 61 1 34	95 61 1.56	95 61 1.88	35 61 2.35	95 81 3.13	95 61 4.69	95 61 9.38	95 61	95 G1	95 61	95 61	95 61	95 61	95 61	95 61	95 61	95 61	95 В}	95 61	95 81	95 61	95 61	95 61	95 61	95 61	95 61

Table (1) P/L Statement of Lazaro Cardenas ESP

Table (2)	Cash	Flow	Statement	of	Lazaro	Cardenas	ESP
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Container	With	Cana											-, -																							
concarner	WI CH	case					U	ait : #111	ion Pesos																											
[Leo	1959	1990	1991	1992	1995	1991	1995	1995	T997	1998	1999	2050	2001	2002	2003	2004	2005	2005	1007	2006	2009	2010	2011	2012	2013	2014	2615	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cash Seggining	0	Û	0	O	-1,186	-2,513	-5,301	-431	5,123	11,185	17,771	24,916	32,660	9,788	18,146	23,573	31,619	40,326	51,012	62.508	43.025	16,163	25,188	34,844	45,176	56,231	68,051	48,970	80,291	72,404	85,365	99,234	114,073	129,951	129,951	115,193
Cash Flow N.O.1 Before Depreciation Long Tera Loan Government Funds Interest on Deposit Alash Laflow Total	n 0 0 0 0	0 0 0 0	0 15.600 21.847 0 37,447	0 0 0 0	0 0 0 0	0 6 0 0	7.893 0 0 7.893	7,893 0 0 7,893	7,893 0 0 359 8.252	7,893 0 783 8,876	7,893 0 1,244 9,137	7,893 0 1,744 9,637	7,893 0 2,285 10,179	7,893 6 651 8,544	7,893 0 0 1,130 9,023	7,893 0 1,650 9,543	7.893 0 2.213 10,106	7,893 0 2,823 10,716	7,893 0 3,573 11,465	7,893 G 0 4,376 12,269	7.893 0 3.012 10,905	7,893 0 1,131 9,024	7,893 0 1,763 9,656	7,893 0 2,439 10,332	7.893 0 3.182 11,055	7,893 0 3,936 11,829	7,893 0 0 4,764 12,657	7,893 0 3,428 11,321	7,893 0 4,220 12,113	7,893 0 5,068 12,961	7,893 0 0 5,975 13,869	7,893 0 6,940 14,839	7,893 0 7,985 15,878	7,893 0 9,097 16,990	7.893 0 9,097 16,990	7,893 0 0 6,064 15,957
Cash Dutflow Investment Loan Repayment Interest on Loan (Uthern Interest on Loan (Othern Interest on Loan (Othern)	0 0 0 0	0 0 0 0	37, 467 0 0 37, 447	0 0 1,186 0 1,186	0 0 1,186 142 1,328	0 1,300 1,188 302 2,787	0 1,300 1,087 836 3,023	0 1,300 938 52 2,340	0 1,300 589 0 2,169	1,300 750 2,090	1.300 692 0 1_922	0 1,300 583 0 1,893	31,748 1,300 494 0 33,542	0 1.300 395 0 1.695	0 1,300 295 0 1,505	0 1,300 198 0 1,493	0 1,300 89 0 1,359	0 0 0	0 0 0 0	31,748 0 0 31,748	37,770 6 0 37,770	0 0 0 0 0	0 0 0 0	0 0 0	0 0 0 0 0	0 6 0 0 0	31,748 0 0 31,748	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	31,748 0 0 31,748	0 0 0	37,770 0 0 37,770 37,770
Jafles - Gutfles	0	Ð	0	-1,186	-1,328	-2,787	4,870	5,553	6,C62	6,588	7,145	7,744	-23,363	8.849	7,427	8,016	8,708	10,716	11,466	-19,479	-26,865	9,024	9,656	10,332	11,055	11,829	-19,091	11,321	12,113	12,961	13,869	14,839	15,878	-14,758	16,990	-21,813
Cash Ending	0	<u> </u>	0	1,186	-2.513	-5,301	-131	5,113	11,185	17,771	24,816	32,680	9,798	16,148	13,573	31.619	40,326	51,042	62,508	43,028	16,163	25,188	34.844	45,176	56,231	58,081	48,970	60,291	72,404	85,385	99,234	114,073	129,951	115, 193	146,941	93,380
Debt Service Coverage Bat	10						3	3	4	4	4	4	4	5	5	5	6																			

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Appendix 13.2.2 Profit/Loss Statement and Cash Flow Statement of Lazaro Cardenas (Puertos Mexicanos)

Container	With	Case						Vait : All	lion Pesos							·																				
[[ca	1280	1990	1991	1892	1993	1994		1996		1958	1899	2000	2001	2002	2003	2001	2005	1006	2007	2008	2009	2010	2011	2012	2013	2011	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Revenue Ratranco Qua Barthiag Dué Vharf Usage Duc Narchousa Bae C.F.S. Using Due Revenue Total	0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	2,202 3 327 0 81 2,813	2,202 327 0 81 2.613	2,202 3 327 0 81 7,613	2,202 3 327 0 81 2,613	2,202 3 327 0 31 2,613	2,202 3 327 0 &1 2,613	2,202 327 0 81 2,613	2,202 3 327 0 81 2,613	2,202 3 327 0 81 2,613	2, 202 327 0 81 2,613	2,202 3 327 0 81 2,813	2,202 3 327 0 81 2,813	2,202 327 0 81 2,613	2,202 3 327 0 81 2,813	2.202 3 327 0 81 2.613	2,202 3 327 0 51 2,613	2.202 3 327 0 81 2.613	2,202 3 327 0 81 2,613	2,202 3 327 0 81 2,613	2,202 327 0 81 2,613	2.202 3 327 0 81 2.613	2,202 327 0 81 2,613	2,202 3 327 0 81 2,613	2,202 3 327 0 81 2,613	2,202 327 0 81 2,613	2,202 327 0 \$1 2,613	2,202 327 0 81 2,813	2,202 327 0 81 2,813	2,202 327 0 81 2,813	2,702 327 0 81 2,813
Expense Naiatenance Dragging Personet Cost Naiatenance Cost Administration Cost Dopreciation Expense Operating Cost Total	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 71 868 35 2,789 3,741	0 71 868 35 2,789 3,741	0 71 866 35 2,769 3,741	0 71 868 35 2,769 3,741	0 71 868 35 2,769 3,741	100 71 855 35 2,769 3,841	0 71 860 35 2,769 3,741	0 71 868 35 2,769 3.741	0 71 868 35 2,769 3,741	0 71 880 35 2,769 3,741	100 71 888 35 2.769 3.841	0 71 866 35 2,789 3,741	0 71 866 35 2.769 3,741	0 71 868 35 2,769 3,741	0 71 868 35 2,769 3,741	100 71 868 35 2,769 3,841	0 71 866 35 2,769 3,741	0 71 868 35 2, 769 3, 741	0 71 888 35 2,789 3,741	0 71 866 35 2.769 3.741	100 71 868 35 2,789 3,841	0 71 865 35 2,769 3,741	0 71 368 35 2,769 3,741	0 71 868 35 2,769 3,741	0 71 386 35 2,769 3,741	100 71 866 35 2,769 3,841	0 71 866 35 2,769 3,741	0 71 868 35 2,769 3,741	0 71 866 35 2,769 3,741	0 71 868 35 2,769 3,741
Net Operating Income N.O.L Before Depreciation	0	0	0 0	0	0	0 0	1,128 1,841	1,128 1,841	-1.128 1.041	-1,126 1,641	-1,128 1,641	-1,228	1,128	-1,128 1,641	1,641	1,128 1,841	-1,728 1,541	1,128	1,841	-1,128 1,641	1,128	-1,228	-1,128 1,641	-1,128 1,811	1,128	1.128	1,226	1,128	-1,128	1,128 1,641	-1,128 1,641	-1.228 1.541	1,128 1,641	-1,128 1,841	1.128 1.641	·1.128 1.641
Other Income/Expense Interest on Deposit Interest on Losn (W.B) Interest on Losn (Others <u>Other Income/Expense Fat</u> Met Income Accumulated Rel Income	0 6 910 0 0	0 0	0	0 G	0 0 0 0 0 0		-1,128	115 0 <u>115</u> -1,013 -2,141	238 0 238 - 890 - 3,931	389 0 389 -759 -3,790	\$10 0 510 -618 -4,408	861 0 861 -587 -4,975	808 0 808 -320 -5,296	907 0 907 -221 -5,516	1,035 0 1,085 42 -5,559	1,277 0 1,277 149 -5,110	1,481 0 1,481 253 -5,158	1,685 0 1,685 557 - 1,600	1,918 0 1,918 790 3,810	2,167 0 2,167 1,039 -2,771	2,362 0 2,362 1,234 -1,537	-123	2.928 0 2,928 1,800 1,617	3,248 0 3,248 2,120 3,797	3,590 0 3,590 2,462 6,259	3.958 0 3.955 2.828 5.088	4,348 0 4,348 3,120 12,208	4,682 0 4,682 1,554 15,761	5,124 0 5,124 3,996 19,758	5,598 0 5,598 1,470 24,227	8, 104 0 6, 104 4, 976 29, 204	4,393 0 4,393 3,165 32,368	4,801 0 4,801 3,673 36,042	5,252 0 5,252 4,124 40,186	0 0 5,663 4,535 44,701	49,747
Operating Natio Working Natio							143 70	143	143 70	143 70	143 70	147 68	143 70	143 70	143 70	143 70	147 68	143 70	143 70	143 70	143 70	147 65	143 70	143 70	143 70	143 70	147 83	143 70	143 70	143 70	143 70	68 68	143 70	143 70	143 70	143 70

Table (1) P/L Statement of Lazaro Cardenas PM

Table (2) Cash Flow Statement of Lazaro Cardenas PM

Container	Wi	ch Ca	ase						Boit : Hil	lion Peson																											
lica.	l	81	1990	1991	1992	1991	1994	1995	1996	1997	1958	1999	2000	2001	7602	2003	2004	2005	2008	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	1019	2020	2021	2022	2023	2024
Cash deggieing		0	0	Q	9	٥	0	0	1,841	3,397	5,276	7,288	8.437	11,539	12,981	15,519	18,238	21.154	24,075	27.402	30,981	33,743	37,748	41.829	45,398	51,287	\$8,518	62,116	68,870	73,201	79,967	87,205	82,758	68,589	75,032	\$0, \$99	88,203
Cash Plos N.O.I Before Depreciation Long Tera Lonn Government Vunds Interest on Deposit #Ganh Infloy Jotal		0 0 0 0	0	0 0 10,935 0 10,935	0 0 0 0	0 0 0 0	0 0 0 0	1,611 0 0 1,641	1,841 0 0 115 1,758	1,641 0 238 1,879	1.641 0 369 2,010	1,641 0 510 2,151	1,541 8 0 861 2,202	1,841 0 808 2,449	1,841 0 907 2,545	1,641 0 0 1,086 2,727	1,641 0 1,277 2,918	1,541 0 1,481 3,022	1,841 0 1,685 3,326	1,841 0 1,918 3,559	1.641 0 2.167 3,805	1,641 0 2,362 4,003	1,5(1 0 2,642 4,183	1,841 0 0 2,923 4,569	1.841 0 3,248 4,889	1.611 0 3.590 5,231	1.841 0 3.958 5,597	1,541 0 9 4,348 5,889	1,841 0 4,882 6,323	1,841 0 5,124 6,765	1.841 0 5,598 7,79	1,641 0 0 6,104 7,745	1.541 0 4,393 5,934	1.841 0 4.801 8,442	1,641 0 5,252 6,893	1,841 0 5,663 7,304	1,841 0 8,174 7,815
Cash Ostflor Investment Loan Repayment Interest on Loan (U.8) Interest on Loan (Others) "Cash Outflow Totat	)	0 0 0 0	0 0 0	10,935 0 0 10,835	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0	100 0 0 100	1,028 0 0 1,028	0 9 0 0	0 0 0 0	0 0 0 0	100 0 9 100	0 6 0 0	0 0 0 0	1,026 0 0 1,025	0 0 0 0	100 0 0 100	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0	1,126 0 0 1,128	0 0 0 0	0 0 0 0	0 0 0 0	32,195 0 0 32,195	100 0 0 100	0 0 0 0 0	1,028 0 0 1,025	0 0 0 0	0 0 0 0
Inflom - Outflow		0	0	0	٥	0	Û	1,641	1,758	1,879	2,010	2,151	2,102	1,423	2.548	2.727	2,918	2.922	3,326	3,559	2,782	4,003	4,083	4,589	4,889	5,231	5,597	4,763	6,323	8,785	7,239	24,450	5,834	8,442	5,867	7,304	7,815
Cash Ending		. Q	0		Q	0	00	1,641	3,397	5,278	7,288	9,437	11,539	12,981	15.510	18,238	21.154	24,075	27,402	30,951	33,743	37,748	41,829	46,398	51,287	56,518	82,116	68,879	73,201	79,967	87.205	82,756	68,589	75,032	80,899	88,203	98,018

# Appendix 13.2.3 FIRR Calculation of the Port of Cazaro Cardenas

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

			FIRR(\$) =	10.06	1	lase 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
1998	8.002.00	12,885.00	8,883.00	3,718.62	7,978.79	4,262.18
1997	8,002.00	12,885.00	8,883.00	3,378.91	7,249.49	3,872.58
1998	6.002.00	12,885.00	6,883.00	3,068.24	8,586.85	3,518.61
1999	8,002.00	12,885.00	6,883.00	2,787.79	5,984.78	3,198.99
2000	8,002.00	12,885.00	8,883.00	2,532.97	5,437.75	2,804.77
2001	6,002.00	12.885.00	6,883.00	2,301.45	4,940.71	2,639.20
2002	6.002.00	12,885.00	6,883.00	2,091.08	4,489.11	2,398.0
2003	6.002.00	12,885.00	6,883.00	1.899.95	4,078.78	2,178.8
2004	6.002.00	12,885.00	6,883.00	1.726.28	3,705.96	1,979.6
2005	6,002.00	12,885.00	8,883,00	1.568.49	3,367.22	1,798.7
2008	6.002.00	12,885.00	8,883.00	1,425.13	3,059.44	1,834.3
2007	6,002.00	12,885.00	6,883.00	1,294,86	2,779.79	1,484.9
2008	6,002.00	12,885.00	8,883.00	1,178.51	2,525.71	1,349.2
2009	8.002.00	12.885.00	8.883.00	1.068.97	2,294,84	1.225.8
2010	8.002.00	12,885.00	8,883.00	971.28	2.085.08	1.113.8
	8.002.00	12.885.00	8.883.00	882.48	1,894.50	1,012.0
2011	6,002.00	12,885.00	0,883.00	801.82	1.721.33	919.5
2012	6,002.00	12,885.00	6.883.00	728.53	1,563.99	835.4
2013	8,002.00	12.885.00		661.94	1,421.04	759.1
2014	8.002.00	12.885.00	6.883.00	601.43	1,291.15	689.7
2015	8,002.00	12.885.00	8.883.00	548.48	1,173.13	626.6
2018	8,002.00	12,885.00	8.883.00	498.51	1,085.90	589.3
2017	6,002.00	12.885.00	8.883.00	451.13	968.47	517.3
2018	6.002.00	12,885.00	6,883.00	409.89	879.95	470.0
2019	6.002.00	12,885.00	6.883.00	372.43	799.52	427.0
2020	8.002.00	12.885.00	6,883.00	338.38	726.44	388.0
2021	6,002.00	12,885.00	6,883.00	307.45	660.04	352.5
2022	8,002.00	12,885.00	6,883.00	279.35	599.71	320.3
2023	6.002.00	12.885.00	6,883.00	253.82	544.89	291.0
2024 Total	228,442.00		158,108.00	90.610.85	80.855.82	45.1

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

PIRR(\$) = 8.44

Case : &

<u> </u>			Benefit	<b>D D</b>	D.D. Cit	D 11-1
Year	Cost	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
1982	0.00	0.00	0.00	0.00	0.00	0.00
1993	0.00	0.00	0.00			
1994	0.00	0.00	0.00		0.00	
1995	6,602.00	12,885.00	6,283.00			4,543.69
1996	6,602.00	12,885.00	6,283.00	4,402.79	8,592.84	4,190.05
1997	8,602.00	12,885.00	6,283.00	4,060.12	7,924.05	3,863.94
1998	8,602.00	12,885.00	8,283.00	3,744.11	7,307.32	3,563.20
1999	8,602.00	12,885.00	8,283.00	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	5,730.48	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	8,283.00	2,302.57	4,493.87	2,191.31
2005	6,802.00	12,885.00	8,283.00	2,123.35	4,144.11	2,020.78
2006	6,802.00	12,885.00	6,283.00	1,958.09	3,821.57	1,863.48
2007	8,602.00	12,885.00	6,283.00	1,805.69	3,524.13	1,718.44
2008	8.602.00	12,885.00	6,283.00	1,665.15	3,248.85	1,584.89
2009	6,602.00	12,885.00	8,283.00	1,535.65	2,998.91	1,461.36
2010	6,602.00	12,885.00	6,283.00	1,416.04	2,763.65	1,347.62
2011	6,602.00	12,885.00	6,283.00	1,305.83	2,548.56	1,242.73
2012	6,802.00	12,885.00	6,283.00	1,204.19	2,350.20	1,146.01
2013	6,602.00	12,885.00	6,283.00	1,110.47	2,167.28	1,056.81
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
2018	6,602.00	12,885.00	6,283.00	870.84	1,699.60	828.76
2017	8.602.00	12.885.00	6,283.00	803.06	1,567.32	764.28
2018	6,602.00	12,885.00	6,283.00	740.58	1,445.33	704.77
2019	6,602.00	12,885.00	6,283.00	682.92	1,332.84	649.92
2020	8.602.00	12.885.00	8,283.00	629.77	1,229.10	599.34
2021	8.602.00	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		470.01
2024	6.602.00	12,885.00	6.283.00	455.43	888.85	433.42
Total	251,280.00	386,550.00	135,270.00	109.166.84	109,190.41	23.56

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### Appendix 13.2.3 FIRR Calculation of the Port of Cazaro cardenas

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

		• •	PIRR(S) =	8.27	<b>i</b> .	Case : B
	1		Benefit			
Year	Cost	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
1894	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	4.070.90
1996	6,002.00	11,598.00	5,594.00	4,034.18	7,794.13	3,759.95
1997	6,002.00	11,598.00	5,594.00	3,728.04	7,198.78	3,472.75
1998	6,002.00	11,598.00	5,594.00	3,441.43	8,648.92	3,207.49
1999	6,002.00	11,596.00	5,594.00	3,178.56	8,141.06	2,962.49
2000	8,002.00	11,598.00	5,594.00	2,935.77	5,671.98	2,736.21
2001	6,002.00	11,598.00	5,594.00	2,711.53	5,238.74	2.527.21
2002	8,002.00	11,596.00	5,594.00	2,504.42	4,838.59	2,334.17
2003	6,002.00	11,596.00	5,594.00	2,313.12	4,469.00	2,155.88
2004	8,002.00	11,596.00	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	6,002.00	11,598.00	5,594.00	1,822.53	3,521.18	1.698.64
2007	6,002.00	11,598.00	5,594.00	1,683.32	3,252.21	1,568.89
2008	6,002.00	11,598.00	5,594.00	1,554.74	3,003.79	1,449.05
2009	6,002.00	11,598.00	5,594.00	1,435.98	2,774.35	1,338.37
2010	6,002.00	11,596.00	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	2,386.71	1,141.72
2012	6,002.00	11,598.00	5,594.00	1,131.42	2,185.94	1,054.51
2013	8,002.00	11,586.00	5,594.00	1,045.00	2,018.97	973.97
2014	6,002.00	11,596.00	5,594.00	965.18	1,864.75	809.57
2015	6,002.00	11,598.00	5,594.00	891.46	1,722.32	830.86
2016	6,002.00	11,598.00	5,594.00	823.37	1,590.76	767.40
2017	6,002.00	11,596.00	5,594.00	760.47	1.469.25	708.78
2018	6,002.00	11,596.00	5,594.00	702.39	1,357.03	654.64
2019	6,002.00	11,598.00	5,594.00	648.74	1,253.37	604.64
2020	6,002.00	11,596.00	5,594.00	599.18	1,157.84	558.45
2021	6,002.00	11,598.00	5,594.00	553.42	1,089.21	515.80
2022	6,002.00	11,598.00	5,594.00	- 511.14	987.54	478.40
2023	6,002.00	11,596.00	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	347,880.00	119,438.00	100,292.32	100,291.92	-0.40

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Container With Case Eail : Million Peson 1949 1900 1991 1993 1994 1995 1996 1997 1998 1999 2005 2001 2002 2003 2004 2005 2008 2009 2010 2011 2012 2013 2014 2015 2015 Ites REYENUE Operation : Container Operation : Concrat C.P.S Tugboat Revenue Total 21,992 21,997 21,992 86 86 86 962 962 962 962 763 763 783 23,803 23,803 23,803 21,992 21,992 38 86 962 962 783 763 23,803 23,803 21.995 21,992 21,992 86 85 86 962 967 967 967 763 763 763 23,803 23,803 23,803 21,992 21,992 85 88 982 982 783 783 73,803 23,803 21,997 21,992 86 86 962 982 763 763 23,603 23,803 21,992 86 982 783 73,803 21,092 85 952 763 23,803 21,992 88 962 763 73,803 21,992 21,992 21,992 85 85 85 962 962 962 763 763 763 73,803 23,803 23,803 21,992 86 982 783 23,603 21,592 86 962 783 23,603 21,992 86 962 763 23,803 21,992 80 982 783 23,803 ň KIPERSE Personnel Cost Union Cost Halatemanca Cost Idministration Cost Depreciation Expense Operating Cost Total 1,157 9,218 3,038 1,487 7,437 22,398 1,152 9,218 3,098 1,497 7,437 22,398 1,152 9,216 3,098 1,497 7,437 22,398 1,152 9,210 3,028 1,497 7,417 72,398 1.152 9,216 3.098 1.197 7,437 22,398 1,157 9,218 3,098 1,497 7,437 72,398 1,152 9,218 3,098 1,497 7,437 72,398 1,152 9,216 3,098 1,497 7,437 22,398 1,152 9,216 3,098 1,497 7,437 22,398 1,152 9,216 3,096 1,497 7,437 22,398 1,152 9,218 3,696 1,497 7,437 22,398 1,152 9,218 3,096 1,497 7,437 22,398 1,152 9,216 3,096 1,497 7,437 22,395 1,152 9,218 3,098 1,497 7,437 22,398 1,152 9,218 3,098 1,497 7,437 22,398 1,152 9,218 3,096 1,497 7,437 72,398 1,152 9,216 3,095 1,197 7,437 22,398 1,152 9,216 3,098 1,497 7,437 22,398 1,152 9,218 3,098 1,497 7,437 22,398 1,152 9,210 3,098 1,497 7,437 22,398 1,152 9,218 3,098 1,497 7,437 22,398 1,153 9,216 3,096 1,493 7,433 22,398 000000 0000 000 L,405 8,842 1,405 8,842 1,405 8,842 1,405 1,405 8,842 1,405 8,842 1,405 1,405 i,405 1,405 8,842 8,842 8,842 1,405 1.405 8,842 8,842 1.405 8,842 1.405 1.405 1.405 1.405 1.405 1.405 8.842 8.842 8.842 8.842 8.842 8.842 1,405 8,842 1.405 8,842 Net Operating Income N.D.1 Defore Depreciation 0 0 0 0 ° 0 0 Q 1,405 8,842 Other Income/Kapense Interest on Oepsil Interest on Loan (9.8) Interest on Loan (9.8) Other Income/Kapense Total Income Gefor Ins Income Gefor Ins Mat Income Accusulated Net Income 5,983 132 0 5,831 7,236 2,533 4,703 30,211 4,017 395 0 3,822 5,027 1,759 3,268 12,570 1,183 527 0 658 2,061 721 1,339 2,561 1,848 527 0 1,321 2,728 954 1,772 4,333 2,676 343 0 2,333 3,738 1,308 2,430 15,000 3,411 290 6 3,121 4,526 1,584 2,942 17,942 5,051 185 0 4,866 6,271 2,195 4,076 25,508 8,943 79 0 8,864 8,269 2,594 5,375 35,588 7.985 26 0 7.989 9.374 3.281 5.093 41.678 5,795 0 0 0 527 32 559 848 298 550 288 2,535 501 3,249 1.201 237 581 527 8,982 4.837 6,319 7,916 8,089 0 10,344 9,52 281 0 2,034 3,439 1,204 2,238 8,568 0 4,837 6,242 2,185 4,057 51,187 0 3,984 5,369 1,879 3,450 21,432 0 34 1,439 504 938 1,222 2,801 4,208 1,472 2,734 9,302 6,982 8,387 7,935 5,451 47,130 5,795 7,200 2,520 4,680 55,867 6,819 8,224 2,379 5,346 61,213 7,916 9,321 3,282 6.058 67,272 - 181 -184 -284 ŏ Operating Matio Vorking Ratio Interest Earsed Ratio 94 63 3 84 63 3 94 63 54 - 91 53 94 63 11 94 63 18 94 83 3 94 83 94 83 94 83 3 94 63 3 94 83 3 94 63 84 63 94 63 8 94 83 94 63 94 63 94 63 94 83 94 63 94 53

Appendix 13.3.1 Profit/Loss Statement and Cash Flow Statement of Manzanillo (ESP)

With Case

Container

Table (2) Cash Flow Statement of Manzanillo ESP

Table (1) P/L Statement of Manzanillo ESP

Concarner	MTCU A	case																																		
								Qnit : Hil	Hos Pesos	3																										
lten	010	1990	1991	1992	1993	1994	1995	1098	1997	1998	1919	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2611	2012	2013	2014	2015	2018	2017	2018	2019	2020	2021	2022	2023	2024
Cash Seggiaing	0	0	0	0	0	0	-284	8,019	16,896	28,393	36,218	48,418	\$7,335	38,233	18,733	80,070	72,150	85,182	99,179	114,208	99,741	69,104	82,783	97,420	113,081	129,839	147,769	136,015	154,378	174,027	195,051	217,546	241,617	267,372	263,990	291,311
Cash Piou N.O.I Before Depreciation Leag Term Loan Governant Punds Interest on Deposit ACash Inflow Iotal	0 0 0 0	0 0 0	0 0 0 0	0 0 0 0	0 3.380 24.106 0 27.488	0 3,380 24,108 0 27,488	8,842 0 0 0 8,842	8,842 0 581 9,403	8,542 0 0 1,183 10,025	8,842 0 0 1,848 10,690	8,842 0 2,535 11,377	8,842 0 0 3,249 12,091	8,842 0 4,017 17,359	<b>8,842</b> 0 2,876 11,518	8,842 0 3,411 12,253	8,842 0 4,201 13,043	8,842 0 5,051 13,893	8,842 0 5,983 14,805	8,842 0 6,943 15,785	8,842 0 7,995 16,837	8,842 0 0 6,982 15,824	8,842 0 4,837 13,679	8,842 0 5,795 14,637	8,842 0 9 8,819 15,581	8,842 0 7,916 16,758	8,842 0 9,089 17,931	5,842 0 10,344 19,185	8,842 0 9,521 18,363	8.842 0 10,806 19,648	8,842 0 12,182 21,024	8,842 0 13,654 22,486	8,842 0 15,223 24,070	8,842 0 16,913 25,755	8,842 0 18.716 27,558	8.842 0 0 18.479 27,321	8.842 0 0 20.392 79,234
Cash Outflow Investeent Loam Repayment Interest on Loam (V-B) Interest on Loam (Othera) «Cash Outflow Total	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	27,488 0 0 27,488	27,488 264 27,750	0 527 32 559	0 527 527 527	527 527	0 338 527 0 885	0 878 501 0 1,177	0 678 448 0 1,124	30,940 878 395 0 37,011	0 876 343 0 1,019	0 878 290 0 988	0 676 237 0 913	0 678 185 0 581	0 678 132 0 808	0 878 79 0 755	30,940 338 28 0 31,304	46,481 0 0 46,481	0 0 0 0	8 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0	30,940 0 0 30,940	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	30,940 0 0 30,940	0 0	48,461 0 0 48,461
Inflow - Outflow	0	0	0	0	Û	- 264	6,283	6,876	9,498	9,825	10,200	10,987	-19,152	10,499	11,287	12,130	13,032	13,997	15.030	-14,487	·30.637	13,679	14,637	15,681	18,758	17,931	-11,754	18,363	19,648	21,024	22,496	24,070	25,755	-3,382	27,321	-17,227
Cash Ending	<b>\$</b>	0	0	0	0	-284	8,019	18,898	26,393	36,718	46,418	57,385	35,233	48,733	60,020	72,150	85,182	99,179	114,204	99,741	69,104	82,783	37,420	113,031	129,839	147,769	138,015	154,378	174,027	195,051	217,546	241.617	267,372	263,890	291,311	274,084
Debt Sorvice Coverage Batio							17	17	17	10	8	8	8	9	3	10	10	11	12	24																

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18	2017	2018	2019	2020	2021	2022	2023	2024
92	21,897	21,992	71,992	21,992	21,992	21,992	21,992	21,992
58 92	36	86	86	88	86	86	88	86
33	962 763	982 783	082 763	982 763	962 783	982 763	982 763	982 763
)3 )3	23.803	23,803	23,803	23,803	23,803	23,803	23,803	23,803
	401000	101000	101040	101000	131003	20,000	191604	191049
52	1,152	1,152	1,152	1,152	1,152	1,152	1,152	1,152
i 8	9,216	9,216	9,218	9,216	9,216	9.216	9,216	9,216
36	3.098	3,096	3,096	3,096	3,096	3,098	3,098	3,096
7	1,497	1,497	1,497	L 497	1, 197	1, 197	1, 197	1,497
17 18	7.437	7,437	7,437	7,437	7,437	7,437	7,437	7,437
14	22,398	22,398	22,393	22.398	22,398	22,398	22,398	22,398
)5	1,405	1.405	1.405	1.405	1,405	1.405	1,405	1,105
12	6,842	8,842	8,842	8,842	8,842	8,842	8,842	8,842
				15 454				
n -	10,806 በ	12,182	13,054	15,228	18,913 N	18,716	18.479	20,392
000000000000000000000000000000000000000	0 0	ŏ	U Ú	0	Ň	Ň	ň	0
ŭ –	10,805	12,182	13,654	15,228	16.913	18,718	18.479	20,392
18	12.211	13.587	15,059	16.633	18.318	20,121	19,884	21,797
14	4,274	4,755	5,270	5,822	6,411	7.012	8,959	7,629
12	7,937	8,831	9,788	10.812	11,907	13,079	12.925	14,168
n.	98,789	105,600	115,388	128,200	138,107	151,185	164,110	178,278
14 13	94	91	94	94	94	94		94
3	63	63	63	83	63	63	63	63

Appendix 13.3.2 Profit/Loss Statement and Cash Flow Statement of Manzanillo (Puertos Mexicanos)

Container	With	Case			. a	alt : 311	11on Pesos																													
(Leb	1889	1090	1991	1991	1993	[89]	1995	1998	1997	1998	1999	2000	2001	2002	2001	2004	2005	2008	2007	2008	1009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Revenue Entranco Due Borthing Due Vinstf Usage Due Vinstf Usage Due C.P.S. Uning Bue Revenue fotai	0 0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	2,595 346 0 197 3,141	2,595 346 0 197 3,141	2,595 346 0 197 3,141	2,595 346 0 197 3,141	2,595 3 348 0 197 3,141	2,595 346 0 197 3,141	2,595 348 0 197 3,141	2,595 346 0 197 3,141	2,595 346 0 187 3,141	2,595 348 9 197 3,141	2,595 348 0 197 3,141	2,595 348 0 197 3,141	2,595 348 0 197 3,141	2,595 348 0 197 3,141	2,595 340 0 197 3,141	2,595 348 0 197 3,141	2,595 346 0 197 3,141	2,595 346 0 197 3,141	2,595 348 0 187 3,141	2,595 348 0 197 3,141	2,595 346 0 (97 3,14)	2,595 346 0 197 3,141	2.595 348 0 197 3,141	2,595 348 0 187 3,141	2,595 346 0 197 3,141	2,595 348 0 197 3,141	2,595 348 0 197 3,141	2,595 346 0 197 3,141	2, \$95 348 0 197 3, 141	2,595 3 348 0 197 3,141
Esponso Personnel Cost Naintenanco Cost Adaloistration Cost Oppreciation Esponso Oppreciation Esponso	0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 105 908 52 2,826 3,891	0 105 903 2,828 3,891	0 105 908 52 2.826 3.681	0 105 908 52 2,828 3,891	0 105 908 52 2,826 3,891	830 105 908 52 1,826 4,521	0 105 903 52 2,823 3,891	0 105 908 57 2,828 3,891	0 105 908 57 2,828 3,891	0 908 52 2,828 3,89(	830 105 808 52 2,828 1,521	0 105 908 52 2,828 3,891	0 105 508 52 2.828 3,891	0 105 908 52 2,828 3,891	0 105 908 52 2,826 3,891	830 105 908 52 2.828 4.521	0 105 908 52 2,826 3,891	0 105 908 52 2,826 3,691	0 105 908 52 2,826 3,891	0 105 908 32 2.826 3.891	630 L05 908 52 2.828 4.521	0 105 908 52 2,826 3,391	0 105 908 52 2,828 3,891	0 105 908 52 2,826 3,891	0 105 908 52 2,826 3,891	830 105 808 52 2,876 4,521	0 105 908 52 2.826 3.891	0 105 908 52 2,826 3,881	0 105 908 52 2,828 3,891	0 105 908 52 2,818 3,891
Net Operating Income B.O.I Before Depreciation	0 0	0	0 0	0 0	0 0	0	-750 2,078	-750 2,076	-750 2,076	- 750 2,078	-750 2,076	1,380 1,446	-750 2,078	-750 2.078	-750 2,078	-750 2,076	-1,380 1,446	-750 2,078	-750 2,078	-759 2,078	-750 2,078	-1.380 1.446	-750 2,078	-750 2.076	-750 2,076	-750 2,076	-1.380 1.448	-750 2,076	-750 2.076	-750 2,078	-750 2.076	1,380	-750 2.078	-750 2,076	-750 2,078	-750 2,076
Other lucomo/Espense Interest on Daposit Isterest on Loan (Y.B) Isterest on Loan (Y.B) Other Income/Espense Total Net Income Eccusulated Het Income	0 0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0	0  83 0 - 183 - 183 - 183	0 385 22 -367 -387 -580	0 385 68 -433 -1,183 -1,753	75 365 0 -290 -1,040 -2,793	200 355 0 -165 -815 -3,708	318 347 0 -79 -779 -4,457	428 310 0 118 -632 -5,119	549 274 0 275 1,105 -6,224	590 237 0 357 	683 201 482 -268 -8,890	829 164 0 685 -85 -6,975	958 128 0 860 119 -8,864	1,161 91 0 - 1,070 - 310 - 7,175	1,257 55 0 1,203 453 -6,722	1,454 18 0 1,438 686 -5,038	1,884 0 1,884 934 -5,102	1,903 0 1,903 1,153 -3,950	2,181 0 2,181 801 -3,145	2,388 0 2,388 1.638 -1.510	2,701 0 2,701 1,951 441	3,035 0 3,035 2,285 2,728	3,393 0 3,393 2,643 5,388	3.776 0 3.778 2.396 7.784	4,050 0 4,050 3,300 11,664	4.479 0 4.479 3.729 14.794	4.938 0 4.938 4.138 18.981	5,429 0 5,429 4,079 23,680	1,685 0 3,685 2,305 25,985	3,997 0 3,997 3,247 29,213	0	4,833 0 4,833 4,083 36,989	5,317 0 5,317 4,567 (1,538
Operating Ratio Working Ratio								124 34	124 34	124 34	124 34	144 ··· 54	124 34	124 34	124 34	124 34	144 54		- 124 34	124 34	124 34	144 54	124 34	124 34	124 34	111 34	ાસ કર્મ	124 34	124 34	124 34	124 34	144 54	124 34	124 34	124 34	121 31

Table (1) P/L Statement of Manzanillo PM

Table (2) Cash Flow Statement of Manzanillo PM

Container	With Case																																	
					I	Voit : Mill	lion Peson																											
ILea	1989 1990	1991 1993	1852	1994	[995	1996	1997	1998	(999	1000	2001	2002	2003	2004	2005	2008	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Cash Beggining	0 0	0 0	0	-183	- 589	1.073	2,859	4,538	6,115	7,841	8,424	9,754	11.844	14, 117	18,588	17,963	20,774	24,052	27,182	31,160	34,118	38,582	43,359	<b>46,4</b> 70	53,939	57,860	63,988	70,54Z	77,555	52,645	\$7,106	63,180	69,049	75,958
Cash flow R.O.; Before Depreciation Long Term Loan Government Funds laterast on Deposit "Cash latton Tatal	8 0 9 0 8 0 0 0 9 0 9 0	0 0 0 6,409 0 18,758 0 0 0 25,175	0 8,409 32,495 0 38,904	0 17,397 17,397	2,078 0 0 2,078	2.078 0 75 2,151	2,078 0 200 2,278	2,078 0 318 2,394	2,078 9 428 2,504	1,448 0 0 549 1,995	2,078 0 0 590 2,656	2.076 0 683 2,759	2,075 0 879 2,905	2.075 0 988 3.054	1,418 0 1,181 2,607	2,076 0 1.257 3,333	2,078 0 1,454 3,530	2,076 0 1.684 3,760	2.076 0 1.903 3.979	1,446 0 2,181 3,627	2,078 0 2,388 4,164	2.078 0 2.701 4.777	2,076 0 3,035 5,111	2.078 0 3,393 5,469	1.448 0 0 3,778 5,222	2,978 0 4,050 6,128	2,078 0 4,479 8,555	2,078 0 4,938 7,014	2,078 0 5,429 7,505	1.448 0 3.085 5.131	2,078 0 3,997 6,073	2,078 0 4,423 6,499	2,075 0 4.833 8,909	2.076 0 5.317 7,393
Cash Outflow Investment Loan Repayment Interest om Loan (W.B) Imterest om Loan (Others) Gash Outflow Total	0         0           0         0           0         0           0         0           0         0           0         0           0         0	0 25,175 0 0 0 0 0 0 0 25,175	38,904 0 183 39,087	17,397 0 385 22 17,784	0 0 385 68 433	0 0 365 0 385	0 734 385 0 599	0 488 347 0 815	0 458 310 0 778	670 468 274 0 1,412	830 488 237 0 1,335	0 468 201 0 669	0 488 184 0 832	0 468 128 0 596	679 468 91 0 1,229	9 468 55 0 523	234 18 0 252	830 0 630	0 0 0 0	870 0 0 870	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	1,300 9 0 1,300	0 0 0 0	0 0 0 0	0 0 0 0	32,415 0 0 32,415	870 0 0 670	0 0 0 0	830 0 0 0 630	0 0 0 0	0 0 0 0
Inflam - Gutflow	<b>Q</b> 0	0 0	-183	-387	1,843	1,788	1,877	1,579	1,728	583	1,330	7,090	2,273	2,465	1.378	2,811	3,278	3,130	3,979	2,957	4,164	4,777	5,111	5,469	3.922	8,126	8,555	7,014	-24,910	4,481	6,073	5,869	6.909	7,393
Gash Ending	00	0 0	·183	-569	1,073	2,859	4,536	6,115	7,841	8.424	9,754	11,844	<u>14.117</u>	18,588	17,963	20,774	24,052	27,182	31,160	34,118	38,582	43,359	48,470	\$3,039	57,580	83,986	70,542	77,555	57,845	57,108	63,180	69,049	75,958	83,351
Debt Sorvice Coverage Ratio					6	6	3	3	3	2	3	3	3	. 3	3	4	8																	

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# Appendix 13.3.3 FIRR Calculation of the Port of Manzanillo

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

FIRR(%) = 6.58

			Benefit			1
Year	Cost	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	-58,245.38
1994	31,712.00	0.00	-31,712.00	27,876.00	0.00	-27,678.00
1995	8,527.00	18,847.00	10,120.00	6,952.10	15,202.97	8,250.88
1998	8,527.00	18,647.00	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	13,268.09	7,200.78
1998	8,527.00	18,647.00	10,120.00	5,668.07	12,395.05	6,726.97
1999	8,527.00	18,647.00	10,120.00	5,295.11	11,579.45	6,284.34
2000	8,527.00	18,647.00	10,120.00	4,946.70	10,817.52	5,870.83
2001	8,527.00	18,647.00	10,120.00	4,621.20	10,105.73	5,484.53
2002	8,527.00	18,647.00	10,120.00	4,317.13	9,440.77	5,123.65
2003	8,527.00	18,647.00	10,120.00	4,033.08	8,819.57	4,786.51
2004	8,527.00	18,647.00	10,120.00	3,767.89	8,239.24	4,471.56
2005	8,527.00	18,647.00	10,120.00	3,519.77	7,697.10	4,177.33
2006	8,527.00	18,647.00	10,120.00	3,288.17	7,190.63	3,902.46
2007	8,527.00	18,647.00	10,120.00	3,071.81	6,717.49	3,645.68
2008	8,527.00	18,647.00	10,120.00	2,889.68	6,275.48	3,405.79
2009	8,527.00	18,647.00	10,120.00	2,680.86	5,862.55	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	18,647.00	10,120.00	2,339.66	5,116.42	2,778.76
2012	8,527.00	18,647.00	10,120.00	2,185.71	4,779.76	2,594.05
2013	, 8,527.00	18,647.00	10,120.00	2,041.89	4,465.25	2,423.36
2014	8,527.00	18,647.00	10,120.00	1,907.54	4,171.44	2,263.90
2015	8,527.00	18,647.00	10,120.00	1,782.02	3,896.98	2.114.94
2016	8,527.00	18,647.00	10,120.00	1,664.77	3,640,54	1,975.77
2017	8,527.00	18,847.00	10,120.00	1,555.22	3,400.99	1,845.77
2018	8,527.00	18,647.00	10,120.00	1,452.89	3,177.21	1,724.32
2019	8,527.00	18,647.00	10,120.00	1,357.29	2,988.15	1,610.86
2020	8,527.00	18,647.00	10,120.00	1,267.98	2,772.84	1,504.86
2021	8,527.00	18,647.00	10,120.00	1,184.55	2,590.39	1,405.84
2022	8,527.00	18,647.00	10,120.00	1,108.60	2,419.94	1,313.34
2023	8,527.00	18,647.00	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(3) = 5.16	

Case : Å

Base Case

			Benefit		<b>D D</b>	P.Value
Year	Cost	Benefit	Cost	P.Cost	P.Benefit	
1992	27,892.00	0.00	-27,692.00	27,692.00	0.00	-27,892.0
1993	66,227.00	0.00	-66,227.00	62,809.69	0.00	-62,809.6
1994	34,883.00	0.00	-34,883.00	31,375.95	0.00	-31,375.9
1995	9.379.00	18,647.00	9,268.00	8,000.76	15,906.83	7,908.0
1996	9,379.00	18,647.00	9,268.00	7,587.92	15,086.04	7,498.1
1997	9,379.00	18,647.00	9,288.00	7,198.38	14,307.60	7,111.2
1998	9,379.00	18.847.00	9.268.00	6,825.05	13,589.32	6,744.2
1999	9,379.00	18,647.00	9.268.00	6,472.88	12,869.15	6,396.2
2000	9,379.00	18.847.00	9,268.00	6,138.88	12,205.10	6,066.2
2001	9.379.00	18.647.00	9,268.00	5.822.11	11,575.32	5,753.2
2002	9,379.00	18.847.00	9,268.00	5,521.69	10,978.03	5,456.3
2002	9,379.00	18,847.00	9,268.00	5.236.77	10,411.56	5,174.7
2004	9,379.00	18.647.00	9,268.00	4,986.55	9.874.33	4,907.7
2005	9.379.00	18.847.00	9,268.00	4.710.28	9,364.81	4,854.5
2005	9,379.00	18,847.00	9,268.00	4.467.23	8,881.59	4 414 3
2008	9,379.00	18.647.00	9.268.00	4.236.72	8,423.30	4,186.5
		18.647.00	9,288.00	4,018.10	7,988.66	3,970.5
2008	9,379.00	18,647.00	9.288.00	3,810.77	7,576.44	3,765.6
2009	9,379.00		9.268.00	3,614.13	7,185.50	3,571.3
2010	9,379.00	18,647.00	9.268.00	3.427.65	6.814.72	3.387.0
2011	9,379.00	18,647.00	9.268.00	3,250.78	8,463.09	3,212.
2012	9,379.00	18,647.00		3,083.04	6.129.59	3,048
2013	9,379.00	18,647.00	9,268.00	2,923.95	5,813.30	2.889
2014	9,379.00	18,647.00	9,268.00		5,513.34	2.740.
2015	9,379.00	18,647.00	9,268.00	2,773.08	5.228.85	2.598
2016	9,379.00	18,647.00	9,288.00	2,629.99	4.959.04	2,464
2017	9,379.00	18,647.00	9,268.00	2,494.28		2,337
2018	9,379.00	18,647.00	9,268.00	2,365.57	4,703.15	2,216.
2019	9,379.00	18,647.00	9,268.00	2,243.51	4,480.47	
2020	9,379.00	18,647.00	9,268.00	2.127.75	4,230.31	2,102.
2021	9,379.00	18,647.00	9,268.00	2,017.95		1,994.0
2022	9,379.00	18,647.00	9,268.00	1,913.83	3,805.01	1.891
2023	9,379.00	18,647.00	9,268.00	1,815.07	3,808.67	1,793.
2024	9,379.00	18,647.00	9,268.00	1,721.42	3,422.48	1,701.
lotal	410.172.00	559,410.00	149,238.00	245,291.73	245,367.59	75.

#### Appendix 13.3.3 FIRR Calculation of the Port of Manzanillo

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

	1					•
······			Benefit	· · · ·		T
Year	Cost	Benefit 0.00	- Cest	P.Cost	P.Bonefit	P.Value
1992	25,175.00	0.00	·25,175.00	25,175.00	0.00	-25,175.00
1993	80,207.00	0.00	-80,207.00	57,190.63	0.00	-57,190.63
1994	31,712.00	0.00	-31,712.00	28,814.06	0.00	-28,614.06
1895	8,527.00	16,782.00	8,255.00	7,308.53	14,383.92	7,075.40
1998	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	
1998	8,527.00		8.255.00	6.264.17	12.328.52	8,064.35
1999	8.527.00	16,782.00	8,255.00	5,950.34	11,710.86	5,760.53
2000	8,527.00		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	10,586.83	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	18,782.00	8,255.00	4.844.55	8,534.58	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	4.371.28	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		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	3.558.94	7,004.35	3.445.41
2010	8,527.00	18,782.00	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		2,953.08
2013	8.527.00	16,782.00	8,255.00	2.897.56	5,702.68	2.805.13
2014	8.527.00	18,782.00	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	18,782.00	8,255.00	2,483.51	4,887.80	2,404.29
2017	8.527.00	18,782.00	8,255.00	2.359.08	4.842.92	2,283.83
2018	8,527.00	18,782.00	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	18,782.00	8,255.00	2,021.98	3,979.46	1,957.48
2021	8,527.00	18,782.00	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 1,593.71
2024	8,527.00	18,782.00	8,255.00	1,648.22	3,239.93	1,593.71
Total	372,904.00	503,460.00	130,556.00	225,645.97	225,674.87	28.90

PIRR(2) = 5.01

Case : B

