Appendix - B

Construction Cost for Master Plan (A 1-1)

(Unit:Thousand Lempiras)

Facilities			Unit	Q'ty	Unit Cost	Foreign Portion	Local Portion	Total
A	A-1	Unit Cargo Terminal						
	1	Wharf (-12)	m	555	288.8400	43,282.7	117,023.5	160,306.2
	2	Dredging (-12)	m3	746,760	0.0064	504.7	4,274.6	4,779.3
	3	Revetment (-5.0)	m	480	16.2000	894.2	6,881.8	7,776.0
	4	Reclamation	m3	637,580	0.0063	289.9	3,726.9	4,016.8
	5	Container/Reefer Yard	m2	66,951	0.1499	1,485.8	8,550.1	10,036.0
	6	Road/Open Space	m2	100,724	0.1499	2,258.8	12,839.8	15,098.5
		Sub-Total				48,716.1	153,296.6	202,012.7
	A-2	Domestic Cargo Terminal						
	7	Wharf (-4.5)	m	200	48.8700	1,642.0	8,132.0	9,774.0
	8	Dredging (-4.5)	m	15,300	0.0063	17.4	79.0	96.4
	9	Training Wall	m	330	6.5800	304.0	1,867.4	2,171.4
	10	Revetment (-2.0)	m	50	6.9200	47.4	298.6	346.0
	11	Reclamation	m3	79,349	0.0063	90.0	409.9	499.9
	12	Yard	m2	13,160	0.1073	307.3	1,104.8	1,412.1
	13	Road/Open Space	m2	8,925	0.1073	208.4	749.3	957.7
		Sub-Total				2,616.5	12,640.9	15,257.4
	A-3	By-Pass Road (L=1,380m)						
	14	Revetment (-2.0)	m	1,380	4.4600	861.7	5,293.1	6,154.8
	15	Reclamation	m3	71,291	0.0063	80.8	368.3	449.1
	16	Road/Open Space	m2	15,180	0.1073	354.5	1,274.3	1,628.8
		Sub-Total				1,297.0	6,935.7	8,232.7
	A-4	Landscape/Tree-planting	Works					
	17	By-pass Road etc	L.S	1		90.0	395.9	485.9
		Total of Civil Works				52,719.6	173,269.2	225,988.8
B								
		Building						
	18	C.F.S.	m2	6,750	2.0000	2,400.0	11,100.0	13,500.0
	19	Office/Maintenance Shop	m2	3,000	1.8000	1,296.0	4,104.0	5,400.0
		Sub-Total				3,696.0	15,204.0	18,900.0
C								
	20	Utilities				2,355.8	7,646.9	10,002.7
D		Cargo Handling Equip.						
	21	Gantry Crane	nos.	2	45,000.0	90,000.0	0.0	90,000.0
	22	Staddle Carrier	nos.	7	4,700.0	32,900.0	0.0	32,900.0
	23	Tractor Head	nos.	15	714.0	10,710.0	0.0	10,710.0
	24	Chassis	nos.	30	103.0	3,090.0	0.0	3,090.0
	25	Folklift(7.5T)	nos.	4	459.0	1,836.0	0.0	1,836.0
	26	Folklift(4.0t)	nos.	8	272.0	2,176.0	0.0	2,176.0
		Sub-Total				140,712.0	0.0	140,712.0
E		Total Costs (A--D)				199,483.3	196,120.0	395,603.3
F		Engineering Service	L.S			16,965.9	0.0	16,965.9
G		Physical Contingency	L.S			3,880.3	11,724.5	15,604.7
H		Grand Total				220,329.5	207,844.5	428,173.9
I		(Rounded)				221,000.0	208,000.0	429,000.0

Construction Cost for Master Plan (A 1-2)

(Unit:Thousand Lempiras)

		Facilities	Unit	Q'ty	Unit Cost	Foreign Portion	Local Portion	Total
	A-1	Unit Cargo Terminal						
	1	Wharf (-12)	m	555	288.8400	43,282.7	117,023.5	160,306.2
	2	Dredging (-12)	m3	887,774	0.0064	504.7	5,177.1	5,681.8
	3	Revetment (-5.0)	m	725	16.2000	894.2	10,850.8	11,745.0
	4	Reclamation	m3	1,133,278	0.0063	289.9	6,849.8	7,139.7
	5	Container/Reefer Yard	m2	80,341	0.1499	1,485.8	10,557.3	12,043.1
	6	Road/Open Space	m2	169,659	0.1499	2,258.8	23,173.1	25,431.9
		Sub-Total				48,716.1	173,631.5	222,347.6
	A-2	Domestic Cargo Terminal						
	7	Wharf (-4.5)	m	200	48.8700	1,642.0	8,132.0	9,774.0
A	8	Dredging (-4.5)	m	15,300	0.0063	17.4	79.0	96.4
	9	Training Wall	m	330	6.5800	304.0	1,867.4	2,171.4
	10	Revetment (-2.0)	m	50	6.9200	47.4	298.6	346.0
	11	Reclamation	m3	79,349	0.0063	90.0	409.9	499.9
	12	Yard	m2	13,160	0.1073	307.3	1,104.8	1,412.1
	13	Road/Open Space	m2	8,925	0.1073	208.4	749.3	957.7
		Sub-Total				2,616.5	12,640.9	15,257.4
	A-3	By-Pass Road (L=1,380m)						
	14	Revetment (-2.0)	m	1,380	4.4600	861.7	5,293.1	6,154.8
	15	Reclamation	m3	71,291	0.0063	80.8	368.3	449.1
	16	Road/Open Space	m2	15,180	0.1073	354.5	1,274.3	1,628.8
		Sub-Total				1,297.0	6,935.7	8,232.7
	A-4	Landscape/Tree-planting	Works					
	17	By-pass Road etc	L.S	1		90.0	395.9	485.9
		Total of Civil Works				52,719.6	193,604.1	246,323.7
		Building						
B	18	C.F.S.	m2	6,750	2.0000	2,400.0	11,100.0	13,500.0
	19	Office/Maintenance Shop	m2	3,000	1.8000	1,296.0	4,104.0	5,400.0
		Sub-Total				3,696.0	15,204.0	18,900.0
C								
		Utilities				2,355.8	8,387.3	10,743.1
		Cargo Handling Equip.						
	20	Gantry Crane	nos.	2	45,000.0	90,000.0	0.0	90,000.0
D	21	Staddle Carrier	nos.	7	4,700.0	32,900.0	0.0	32,900.0
	22	Tractor Head	nos.	15	714.0	10,710.0	0.0	10,710.0
	23	Chassis	nos.	30	103.0	3,090.0	0.0	3,090.0
	24	Folklift(7.5T)	nos.	4	459.0	1,836.0	0.0	1,836.0
	25	Folklift(4.0t)	nos.	8	272.0	2,176.0	0.0	2,176.0
		Sub-Total				140,712.0	0.0	140,712.0
E		Total Costs (A--D)				199,483.4	217,195.4	416,678.8
F		Engineering Service	L.S			18,019.7	0.0	18,019.7
G		Physical Contingency	L.S			3,880.3	12,379.1	16,259.4
H		Grand Total				221,383.3	229,574.5	450,957.9
I		(Rounded)				222,000.0	230,000.0	451,000.0

Construction Cost for Master Plan (A1-3)

(Unit:Thousand Lempiras)

		Facilities	Unit	Q'ty	Unit Cost	Foreign Portion	Local Portion	Total
A	A-1	Unit Cargo Terminal						
	1	Wharf (-12)	m	555	288.8400	43,282.7	117,023.5	160,306.2
	2	Dredging (-12)	m3	1,058,455	0.0064	504.7	6,269.4	6,774.1
	3	Revetment (-5.0)	m	200	16.2000	894.2	2,345.8	3,240.0
	4	Reclamation	m3	244,302	0.0063	289.9	1,249.2	1,539.1
	5	Container/Reefer Yard	m2	46,866	0.1499	1,485.8	5,539.4	7,025.2
	6	Road/Open Space	m2	113,134	0.1499	2,258.8	14,700.0	16,958.8
		Sub-Total				48,716.1	147,127.3	195,843.4
	A-2	Domestic Cargo Terminal						
	7	Wharf (-4.5)	m	200	48.8700	1,642.0	8,132.0	9,774.0
	8	Dredging (-4.5)	m	15,300	0.0063	17.4	79.0	96.4
	9	Training Wall	m	330	6.5800	304.0	1,867.4	2,171.4
	10	Revetment (-2.0)	m	50	6.9200	47.4	298.6	346.0
	11	Reclamation	m3	79,349	0.0063	90.0	409.9	499.9
	12	Yard	m2	13,160	0.1073	307.3	1,104.8	1,412.1
	13	Road/Open Space	m2	8,925	0.1073	208.4	749.3	957.7
		Sub-Total				2,616.5	12,640.9	15,257.4
	A-3	By-Pass Road (L=1,380m)						
	14	Revetment (-2.0)	m	1,380	4.4600	861.7	5,293.1	6,154.8
	15	Reclamation	m3	71,291	0.0063	80.8	368.3	449.1
	16	Road/Open Space	m2	15,180	0.1073	354.5	1,274.3	1,628.8
		Sub-Total				1,297.0	6,935.7	8,232.7
	A-4	Landscape/Tree-plantig	Works					
	17	By-pass Road etc	L.S	1		90.0	395.9	485.9
		Total of Civil Works				52,719.6	167,099.9	219,819.5
B		Building						
	18	C.F.S.	m2	6,750	2.0000	2,400.0	11,100.0	13,500.0
	19	Office/Maintenance Shop	m2	3,000	1.8000	1,296.0	4,104.0	5,400.0
		Sub-Total				3,696.0	15,204.0	18,900.0
C		Utilities				2,355.8	7,577.9	9,933.6
D		Cargo Handling Equip.						
	20	Gantry Crane	nos.	2	45,000.0	90,000.0	0.0	90,000.0
	21	Staddle Carrier	nos.	7	4,700.0	32,900.0	0.0	32,900.0
	22	Tractor Head	nos.	15	714.0	10,710.0	0.0	10,710.0
	23	Chassis	nos.	30	103.0	3,090.0	0.0	3,090.0
	24	Folklift(7.5T)	nos.	4	459.0	1,836.0	0.0	1,836.0
	25	Folklift(4.0t)	nos.	8	272.0	2,176.0	0.0	2,176.0
		Sub-Total				140,712.0	0.0	140,712.0
E		Total Costs (A--D)				199,483.3	189,881.8	389,365.1
F		Engineering Service	L.S			16,654.0	0.0	16,654.0
G		Physical Contingency	L.S			3,880.3	11,659.1	15,539.4
H		Grand Total				220,017.6	201,540.9	421,558.5
I		(Rounded)				220,000.0	202,000.0	422,000.0

Construction Cost for Master Plan (A 2)

(Unit:Thousand Lempiras)

Facilities			Unit	Q'ty	Unit Cost	Foreign Portion	Local Portion	Grand Total
	A-1	Unit Cargo Terminal						
	1	Wharf (-12)	m	370	288.8400	43,282.7	63,588.1	106,870.8
	2	Dredging (-12)	m3	437,854	0.0064	504.7	2,297.6	2,802.3
	3	Revetment (-5.0)	m	400	16.2000	894.2	5,585.8	6,480.0
	4	Reclamation	m3	255,638	0.0063	289.9	1,320.6	1,610.5
	5	Container/Reefer Yard	m2	44,252	0.1499	1,485.8	5,147.6	6,633.4
	6	Road/Open Space	m2	67,273	0.1499	2,258.8	7,825.5	10,084.2
		Sub-Total				48,716.1	85,765.1	134,481.2
	A-2	Domestic Cargo Terminal	L.S	1				
		Sub-Total				2,616.5	12,640.9	15,257.4
	A-3	By-Pass Road (L=1,380m)	L.S	1				
		Sub-Total				1,297.0	6,935.7	8,232.7
	A-4	Landscape/Tree-planting Works						
		Sub-Total				90.0	395.8	485.9
	A-5	Dry Bulk Terminal						
		Dolphin(-10m)	m	73	250.29	7,167.7	11,103.4	18,271.1
		Revetment	m	250	35.57	773.6	8,118.9	8,892.5
		Reclamation	m3	38,000	0.0063	43.1	196.3	239.4
		Pavement(Apron)	m2	72,000	0.1073	168.1	604.4	772.5.
		Sub-Total				8,152.5	20,023.0	28,175.5
		Total of Civil Works				60,872.1	125,760.5	186,632.7
B		Building						
		C.F.S.	m2	5,000	2.0000	2,400.0	7,600.0	10,000.0
		Office/Maintenance Shop	m2	3,000	1.8000	1,296.0	4,104.0	5,400.0
		Sub-Total				3,696.0	11,704.0	15,400.0
C								
		Utilities				2,680.2	5,512.6	8,192.8
D		Cargo Handling Equip.						
	26	Gantry Crane	nos.	1	45,000.0	45,000.0	0.0	45,000.0
	27	Remove of Gantry Crane	nos	1	4,500.0	4,500.0	0.0	4,500.0
	28	Staddle Carrier	nos.	5	4,700.0	23,500.0	0.0	23,500.0
	29	Tractor Head	nos.	10	714.0	7,140.0	0.0	7,140.0
	30	Chassis	nos.	20	103.0	2,060.0	0.0	2,060.0
	31	Folklift(7.5T)	nos.	2	459.0	918.0	0.0	918.0
	32	Folklift(4.0t)	nos.	4	272.0	1,088.0	0.0	1,088.0
	33	Bridge-type Crane	nos.	1	51,378.0	51,378.0	0.0	51,378.0
		Sub-Total				135,584.0	0.0	135,584.0
E		Total Costs (A--D)				202,832.3	142,977.1	345,809.5
F		Engineering Service	L.S			13,399.2	0.0	13,399.2
G		Physical Contingency	L.S			4,493.1	8,172.7	12,665.8
H		Grand Total				220,724.5	151,149.8	371,874.4
I		(Rounded)				221,000.0	152,000.0	372,000.0

Appendix - C

Details of Local Portion in 2000

(Unit:Thousand Lempiras)

		Facilities	Local Portion	Skilled Labor	Unskilled Labor	Material	Others
A	A-1	Unit Cargo Terminal					
	1	Wharf (-12)	63,588.1	2,529.0	5,058.3	34,702.2	21,298.6
	2	Dredging (-12)	2,297.9	306.5	384.1	809.2	798.1
	3	Revetment (-5.0)	5,585.8	295.6	768.8	2,713.0	1,808.4
	4	Reclamation	1,320.6	178.9	230.1	451.5	460.1
	5	Container/Reefer Yard	5,147.6	107.6	215.2	3,200.1	1,624.7
	6	Road/Open Space	7,825.5	568.7	758.3	1,399.0	5,099.5
		Sub-Total	85,765.5	3,986.3	7,414.8	43,275.0	31,089.4
	A-2	Domestic Cargo Terminal					
	7	Wharf (-4.5)	8,132.0	514.2	1,028.4	3,551.2	3,038.2
	8	Dredging (-4.5)	79.0	10.7	13.8	27.0	27.5
	9	Training Wall	1,867.4	103.6	269.8	898.4	595.6
	10	Revetment (-2.0)	298.6	15.1	39.3	146.5	97.7
	11	Reclamation	409.9	55.5	71.4	140.1	142.9
	12	Yard	1,104.8	46.0	124.9	509.5	424.4
	13	Road/Open Space	749.3	31.3	53.6	345.3	319.1
		Sub-Total	12,641.0	776.4	1,601.2	5,618.0	4,645.4
	A-3	By-Pass Road (L=1,380m)					
	14	Revetment (-2.0)	5,293.1	293.9	764.5	2,541.4	1,693.3
	15	Reclamation	368.3	49.9	64.2	125.9	128.3
	16	Road/Open Space	1,274.3	53.2	91.1	589.4	540.6
		Sub-Total	6,935.7	397.0	919.8	3,256.7	2,362.2
		Total of Civil Works	105,342.2	5,159.7	9,935.8	52,149.7	38,097.0
B		Building					
	17	C.F.S.	7,600.0	1,015.0	1,265.0	4,000.0	1,320.0
	18	Office/Maintenance Shop	4,104.0	545.8	684.0	2,163.0	711.2
		Sub-Total	11,704.0	1,560.8	1,949.0	6,163.0	2,031.2
C		Utilities	4,708.6	214.4	468.6	2,048.7	1,977.0
D		Cargo Handling Equip.					
	19	Gantry Crane	0.0	0.0	0.0	0.0	0.0
	20	Remove of Gantry Crane	0.0	0.0	0.0	0.0	0.0
	21	Staddle Carrier	0.0	0.0	0.0	0.0	0.0
	22	Tractor Head	0.0	0.0	0.0	0.0	0.0
	23	Chassis	0.0	0.0	0.0	0.0	0.0
	24	Folklift(7.5T)	0.0	0.0	0.0	0.0	0.0
	25	Folklift(4.0t)	0.0	0.0	0.0	0.0	0.0
		Sub-Total	0.0	0.0	0.0	0.0	0.0
E		Total Costs (A--D)	121,754.8	6,934.9	12,353.4	60,361.4	42,105.2
F		Engineering Service	0.0	0.0	0.0	0.0	0.0
G		Physical Contingency	8,093.5	457.1	807.6	4,145.1	2,683.7
H		Grand Total	129,848.4	7,392.0	13,161.0	64,506.5	44,788.8

Appendix - D

Tegucigalpa
San Pedro Sula
Puerto Cortes
La Ceiba
Tela
San Lorenzo
Amapala
La Mosquitia
Lempira
Trujillo
Pico Bonito
Pico Calentura
Cabo Camaron
Cabo Falso
Cabo de Gracias a Dios
Punta Sal
Puerto Barrios
Banco Chinchorro
Barra Patuca
Chinandega

Appendix - E (Refer to para 256, section 2.7, Part-1, Volume-2)

BENCH MARKS in the Port of Cortes

(Source:U.S.Department of Commerce,Coast and Geodestic Survey,1957)

BENCH MARK 1(1948)is a standard disk,stamped "BM 1 48",set on top and in center of concrete curb at east end of old Muelle Nacional.Bench mark is 13 feet south of center of railroad gate leading to wharf,1.5 feet north of southern gate post and 1 foot west of east edge of wharf. Elevation :2.69 feet above mean sea level.

BENCH MARK 2(1948)is a stadard disk,stamped "BM 2 48",set in top center of concrete block (former steel tower base),20 inches high by Bench Mark 1. It is 8 feet south of south rail of track to Tela Railroad Company yards,13 feet north of north rail of track to the wharf and 70 feet west of axis of Calle Real. Elevation: 4.92 feet above M.S.L.

BENCH MARK 3(1948)is a standard disk,stamped "BM 3 48",set in top of southwest concrete base of 4-leg steel tower for power lines,approximately 800 feet northeast of Bench Mark 2 along railroad line from pier toward town. Base of tower is flush with ground surface.Tower is 60 feet south of center of Tela Railroad machine shop building,400 feet west of Sucursal Banco Atlantida Building and 130 feet east of northeast corner of Ferrocarriles Nacionales Railway Station. Elevation: 3.03 feet above M.S.L.

BENCH MARK 5(1948)is a standard disk,stamped "BM 5 48",set in center of concrete base of former steel doubled-leg light and power pole flush with ground,about 460 feet west of east end of old Muelle Nacional and 90 feet west of west end of first railroad trestle over tidal estuary. Bench mark is 6 feet north of nearest rail and 13 feet south of south side of Building No. 4138. Elevation: 1.56 feet above M.S.L.

BENCH MARK 6(1948)is a standard disk,stamped "6 48",set in top center of 12-inch by 26-inch concrete base of 2-legged steel electric line tower,approximately 295 feet west of Tela Railroad Company medical dispensary. Bench mark is 39 feet west of center of gate to house No.4060,20.5 feet southwest of southwest corner of gate to house and 1.5 feet north of wire fence. Elevation: 2.19 feet above M.S.L.

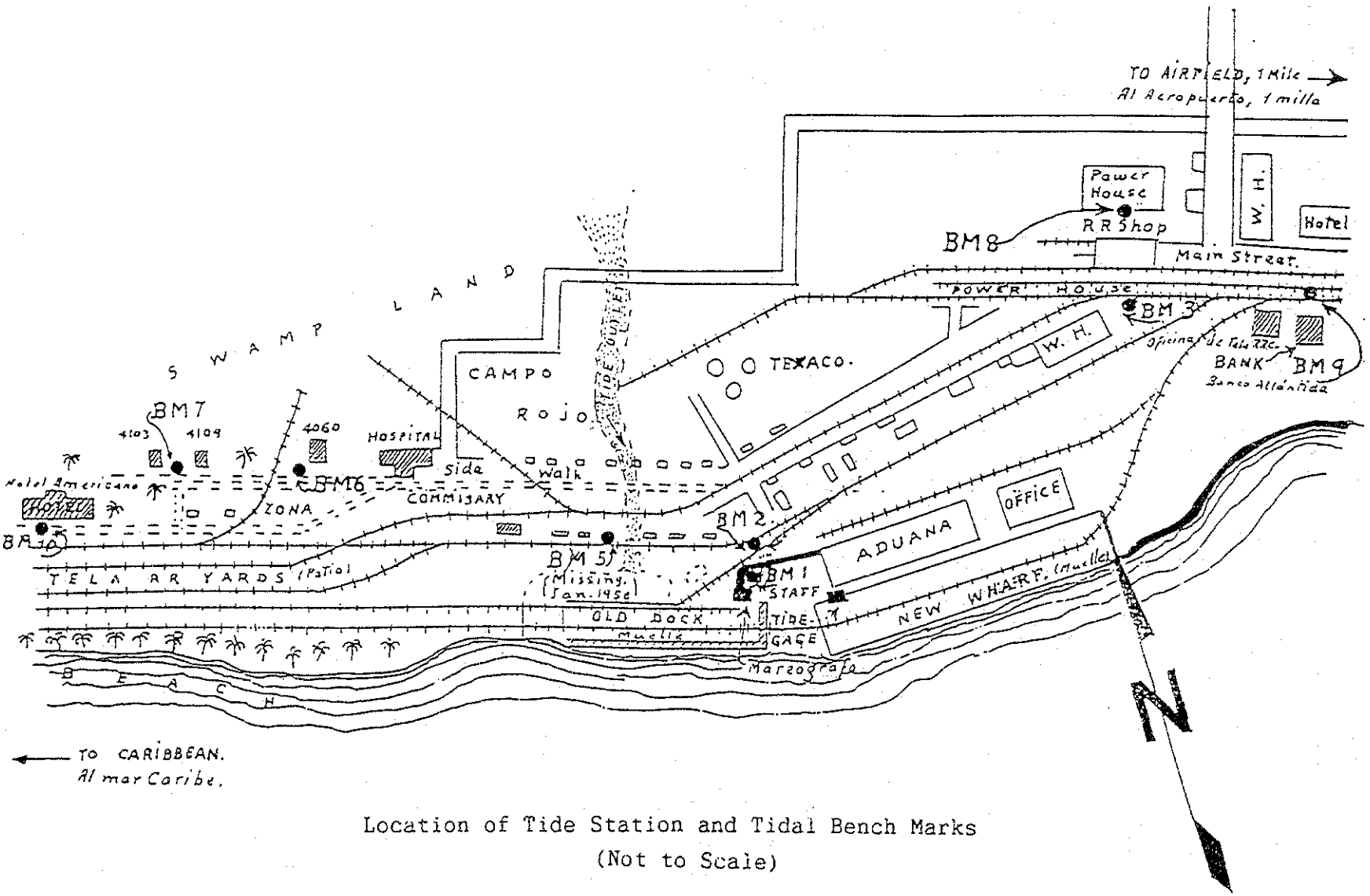
BENCH MARK 7(1948)is a standard disk,stamped "BM 7 48",set in 12-inch by 26-inch concrete base of 2-legged power transmission tower,250 yards west of entrance to Tela Railroad Company Dispensary. Bench mark is 32 feet west of gate to house No.4106,17.5 feet northeast of a fire plug and 2.5 feet south of a wire fence. Elevation: 2.59 feet above M.S.L.

BENCH MARK 8(1951)is a standard disk,stamped "BM 8M 1951",set in concrete sidewalk at main entrance of main Sucursal Banco Atlantida. It is 3.5 feet west of center of main entrance to the bank,26 feet south of railroad tracks,30 feet west of a wooden fence with a concrete base and 26 feet south west of a light pole. Elevation: 2.89 feet above M.S.L.

BENCH MARK 9(1951)is a standard disk,stamped "BM 9M 1951",set in concrete sidewalk at main entrance of Sucursal Banco Atlantida. It is 3.5 feet west of center of center of main entrance to the bank,26 feet south of railroad tracks,30 feet west of wooden fence with a concrete base and 26 feet southeast of a light pole. Elevation: 2.89 feet above M.S.L.

MEAN SEA LEVEL at the Port of Cortes is based on 9 years of records,1948 -1956. Elevations of other tide planes are as follows: (Unit:feet)

Highest tide observed	1.10 (0.33m)
Mean high water springs	0.31 (0.09m)
Mean high water	0.26 (0.08m)
Half tide level	0.01 (0.03m)
Mean sea level	0.00
Mean low water	-0.24 (-0.07m)
Mean low water springs	-0.29 (-0.09m)
Lowest tide observed	-1.40 (-0.42m)



Location of Tide Station and Tidal Bench Marks
(Not to Scale)

Appendix - E(a) Standard Penetration Result

Site: Puerto Cortes

Test Data: 140LB. Hammer, 30" Fall and 2" Spilit Spoon Sampler

B-1		B-2		B-3	
Depth (m)	Total Blow Count	Depth (m)	Total Blow Count	Depth (m)	Total Blow Count
2.00 - 2.45	6	3.00 - 3.56	5	2.00 - 2.45	5
4.00 - 4.45	13	5.00 - 5.45	10	4.00 - 4.45	11
6.00 - 6.45	5	7.00 - 7.45	49	6.00 - 6.45	15
8.00 - 8.45	17	10.00 - 10.45	31	8.00 - 8.45	9
10.00 - 10.45	12	12.00 - 12.45	57	12.00 - 12.45	1
12.00 - 12.45	29	14.00 - 14.45	46	14.00 - 14.45	27
14.00 - 14.45	53	16.00 - 16.45	29	16.00 - 16.45	52
16.00 - 16.45	44	18.00 - 18.45	45	18.00 - 18.45	74
18.00 - 18.45	40	20.00 - 20.45	32	20.00 - 20.45	40
20.00 - 20.45	47			22.00 - 22.45	37
22.00 - 22.45	41			24.00 - 24.45	21
24.00 - 24.45	45			26.00 - 26.45	6
26.00 - 26.45	51			28.00 - 28.45	25
28.00 - 28.45	43			32.00 - 32.45	9
3000 - 30.45	69			36.00 - 36.45	12
32.00 - 32.45	19			40.00 - 40.45	21
36.00 - 36.45	8			44.00 - 44.45	21
40.00 - 40.45	9			48.50 - 48.95	23
44.00 - 44.45	10			50.00 - 50.45	16
46.60 - 47.05	14			52.50 - 52.95	32
48.50 - 48.95	13			53.95 - 54.40	85
52.50 - 52.95	20				
55.00 - 55.45	38				

Appendix - E(b)

Laboratory Test Result (1)

B - 1 - (1)								
Depth (cms)	200 - 245	400 - 445	600 - 645	800 - 845	1000 - 1045	1200 - 2145	1400 - 1445	1600 - 1645
Unified Soil Classification	SM	SM	SM	SM	SM	SM	SM	SM
AASHTO Soil Classification	A-3 (0)	A-2-4 (0)	A-3 (0)	A-2-4 (0)	A-2-4 (0)	A-2-4 (0)	A-2-4 (0)	A-2-4 (0)
% passing sieve No. 10/40/200	98/85/7	99/93/13	99/90/3	100/95/21	98/94/17	99/86/28	100/90/12	99/93/17
Liquid Limit	N.L	N.L	N.L	N.L	N.L	N.L	N.L	N.L
Plasticity Index	N.P	N.P	N.P	N.P	N.P	N.P	N.P	N.P
Specific Gravity	2.53	2.54	2.52	2.55	2.56	2.62	2.64	2.53
Wet Density (g/cm^3)					1.8	1.76		
Dry Density (g/cm^3)					1.29	1.35		
Moisture Content (%)	27.00	25.10	30.90	53.80	39.00	30.50	24.00	25.90
Unconfined compression (kg/cm^2)								
Consolidation Yield Stress (kg/cm^2)								

B - 1 - (2)								
Depth (cms)	1800 - 1845	2000 - 2045	2200 - 2245	2400 - 2445	2600 - 2645	2800 - 2845	3000 - 3045	3200 - 3245
Unified Soil Classification	SM	SM	SM	SM	SM	SM	SM	SM
AASHTO Soil Classification	A-2-4 (0)	A-2-4 (0)	A-2-4 (0)	A-2-4 (0)	A-2-4 (0)	A-2-4 (0)	A-2-4 (0)	A-4 (7)
% passing sieve No. 10/40/200	99/90/27	98/96/23	100/97/37	100/98/25	99/97/21	100/98/33	99/98/27	100/99/70
Liquid Limit	N.L	N.L	N.L	N.L	N.L	N.L	N.L	N.L
Plasticity Index	N.P	N.P	N.P	N.P	N.P	N.P	N.P	N.P
Specific Gravity	2.52	2.54	2.56	2.55	2.56	2.58	2.55	2.56
Wet Density (g/cm^3)	1.83		1.93		1.92	1.63	1.68	1.76
Dry Density (g/cm^3)	1.40		1.49		1.51	1.18	1.29	1.28
Moisture Content (%)	30.40	37.90	29.90	31.10	27.30	38.30	30.40	37.40
Unconfined compression (kg/cm^2)								
Consolidation Yield Stress (kg/cm^2)								

B - 1 - (3)								
Depth (cms)	3460 - 3520	3600 - 3645	3800 - 3860	4000 - 4045	4260 - 4320	4400 - 4445	4660 - 4705	4850 - 4895
Unified Soil Classification	CH	CH	CH	CH	CH	CH	CH	OL
AASHTO Soil Classification	A-7-6 (12)	A-7-6 (16)	A-7-6 (19)	A-7-6 (19)	A-7-6 (14)	A-7-6 (20)	A-7-6 (19)	A-4 (8)
% passing sieve No. 10/40/200	97/96/95	100/99/97	100/100/98	100/99/92	100/94/87	99/98/97	99/98/94	99/98/95
Liquid Limit	49		52		52			36
Plasticity Index	18		26		27			8
Specific Gravity	2.50	2.58	2.62	2.67	2.62	2.54	2.62	2.62
Wet Density (g/cm^3)	1.70	1.65	1.68	1.68	1.60	1.61	1.69	1.77
Dry Density (g/cm^3)	1.10	1.07	1.10	1.12	1.00	1.04	1.16	1.24
Moisture Content (%)	56.50	53.90	52.80	50.10	57.10	54.10	45.70	42.10
Unconfined compression (kg/cm^2)	0.35		0.52		0.16			
Consolidation Yield Stress (kg/cm^2)	0.26		0.45		0.35			

Laboratory Test Result (2)

B - 1 - (4)								
Depth (cms)	5055 - 5115	5250 - 5295	5500 - 5545					
Unified Soil Classification	CL	ML	ML					
AASHTO Soil Classification	A-7-6 (12)	A-4 (8)	A-7-6 (9)					
% passing sieve No. 10/40/200	99/94/68	100/99/89	100/99/78					
Liquid Limit	47	34	41					
Plasticity Index	19	8	14					
Specific Gravity	2.63	2.54	2.55					
Wet Density (g/cm^3)	1.9	1.72	1.67					
Dry Density (g/cm^3)	1.4	1.25	1.17					
Moisture Content (%)	35.9	38.40	42.40					
Unconfined compression (kg/cm^2)	0.7							
Consolidation Yield Stress (kg/cm^2)	1.0							

B - 2 - (1)								
Depth (cms)	300 - 356	500 - 545	900 - 945	1000 - 1045	1200 - 1245	1400 - 1445	1600 - 1645	1800 - 1845
Unified Soil Classification	SM	SM	SM	SM	SM	SM	SM	SM
AASHTO Soil Classification	A-2-4 (0)	A-2-4 (0)	A-3 (0)	A-2-4 (0)	A-2-4 (0)	A-2-4 (0)	A-2-4 (0)	A-2-4 (0)
% passing sieve No. 10/40/200	100/93/25	99/93/14	97/88/6	100/95/22	100/90/16	100/98/15	100/98/25	100/99/28
Liquid Limit	N.L	N.L	N.L	N.L	N.L	N.L	N.L	N.L
Plasticity Index	N.P	N.P	N.P	N.P	N.P	N.P	N.P	N.P
Specific Gravity					2.55	2.56	2.51	2.58
Wet Density (g/cm^3)	2.56	2.52	2.62	2.50				
Dry Density (g/cm^3)								
Moisture Content (%)	27.40	35.10	34.70	26.90	22.90	29.60	41.20	32.20
Unconfined compression (kg/cm^2)								
Consolidation Yield Stress (kg/cm^2)								

B - 2 - (2)								
Depth (cms)	2000 - 2045							
Unified Soil Classification	SM							
AASHTO Soil Classification	A-2-4 (0)							
% passing sieve No. 10/40/200	100/99/27							
Liquid Limit	N.L							
Plasticity Index	N.P							
Specific Gravity	2.62							
Wet Density (g/cm^3)	1.91							
Dry Density (g/cm^3)	1.40							
Moisture Content (%)	36.00							
Unconfined compression (kg/cm^2)								
Consolidation Yield Stress (kg/cm^2)								

Laboratory Test Result (3)

B - 3 - (1)								
Depth (cms)	200 - 245	400 - 445	600 - 645	800 - 845	1200 - 1245	1400 - 1445	1600 - 1645	1800 - 1845
Unified Soil Classification	SM	SP-SM	SP-SM	CL	SP-SM	SM	SM	SM
AASHTO Soil Classification	A-1-b (0)	A-3 (0)	A-3 (0)	A-6 (12)	A-3 (0)	A-2-4 (0)	A-2-4 (0)	A-2-4 (0)
% passing sieve No. 10/40/200	76/50/11	98/71/1	100/93/9	100/99/86	100/91/1	100/94/24	99/97/26	100/96/24
Liquid Limit	N.L	N.L	N.L	40	N.L	N.L	N.L	N.L
Plasticity Index	N.P	N.P	N.P	19	N.P	N.P	N.P	N.P
Specific Gravity	2.47	2.65	2.50	2.55	2.56	2.56	2.50	2.59
Wet Density (g/cm^3)				1.62				
Dry Density (g/cm^3)				1.02				
Moisture Content (%)	20.30	18.50	27.60	59.00	33.20	21.20	30.80	19.90
Unconfined compression (kg/cm^2)								
Consolidation Yield Stress (kg/cm^2)								

B - 3 - (2)								
Depth (cms)	2000 - 2045	2200 - 2245	2400 - 2445	2600 - 2645	2800 - 2845	3200 - 3245	3400 - 3460	3600 - 3645
Unified Soil Classification	SM	SM	SC	SC	GP-GM	SC	CL	CL
AASHTO Soil Classification	A-2-4 (0)	A-2-4 (0)	A-2-6 (0)	A-6 (0)	A-1-a	A-2-4	A-6 (8)	A-6
% passing sieve No. 10/40/200	99/92/13	100/99/26	94/74/48	93/69/42	33/17/5	67/54/20	100/98/74	97/92/60
Liquid Limit	N.L	N.L	35	38	N.L	26	35	32
Plasticity Index	N.P	N.P	12	14	N.P	6	11	18
Specific Gravity	2.53	2.50	2.63	2.67	2.69	2.58	2.63	2.60
Wet Density (g/cm^3)			1.82	1.80		1.87	1.90	1.96
Dry Density (g/cm^3)			1.27	1.22		1.43	1.40	1.53
Moisture Content (%)	8.20	34.30	43.00	47.40	23.90	30.80	35.70	28.00
Unconfined compression (kg/cm^2)							1.17	
Consolidation Yield Stress (kg/cm^2)							0.30	

B - 3- (3)								
Depth (cms)	3800 - 3860	4000 - 4045	4200 - 4260	4400 - 4445	4600 - 4660	4800 - 4845	5000 - 5045	5200 - 5245
Unified Soil Classification	CL	CL	CL	CL	CL	CL	CL	SM
AASHTO Soil Classification	A-6 (5)	A-6	A-7-6 (7)	A-6 (9)	A-7-6 (20)	A-3-6 (18)	A-7-6 (17)	A-2-4 (0)
% passing sieve No. 10/40/200	100/95/57	100/99/64	100/100/81	98/97/58	100/96/93	89/85/82	100/89/89	98/97/19
Liquid Limit	28	34	50	35	70	48	48	N.L
Plasticity Index	11	17	27	18	35	28	27	N.P
Specific Gravity	2.63	2.54	2.54	2.58	2.49	2.58	2.59	2.63
Wet Density (g/cm^3)	1.80	1.92	1.80	1.91	1.60	1.73	1.74	
Dry Density (g/cm^3)	1.30	1.51	1.30	1.45	1.00	1.26	1.21	
Moisture Content (%)	33.00	26.90	40.10	31.5	53.80	36.4	44.4	21.3
Unconfined compression (kg/cm^2)	1.22		0.43		0.70			
Consolidation Yield Stress (kg/cm^2)	0.28							

Laboratory Test Result (4)

B - 3 - (4)								
Depth (cms)	5395 - 5440							
Unified Soil Classification	SM							
AASHTO Soil Classification	A-2-4 (0)							
% passing sieve No. 10/40/200	100/96/35							
Liquid Limit	N.L							
Plasticity Index	N.P							
Specific Gravity	2.72							
Wet Density (g/cm^3)								
Dry Density (g/cm^3)								
Moisture Content (%)	21.90							
Unconfined compression (kg/cm^2)								
Consolidation Yield Stress (kg/cm^2)								

Appendix - F

a) Basic Labor Cost per Day

(Unit: Lps.)

Type of Occupation	Cost per Day		Total
	Direct Cost	Indirect Cost	
Skilled laborer	50.00	20%	60.00
Unskilled laborer	20.00		24.00
Steep le jack	50.00		60.00
Stone mason	45.00		54.00
Electric worker	50.00		60.00
Worker for placing of reinforcement	40.00		48.00
Painter	40.00		48.00
Welder	50.00		60.00
Operator of special vehicle	50.00		60.00
Driver	45.00		54.00
Seaman: Officer	100.00		120.00
Seaman: Crew	50.00		60.00
Diver	250.00*		300.00
Assistant to Diver	35.00		42.00
Scaffolder	40.00		48.00
Carpenter	45.00		54.00
Plasterer	45.00		54.00
Plumber	45.00		54.00
Steel metal worker	45.00		54.00
Tiller	45.00		54.00

* per hour

Sources: (1) Statistical Bulletin of the National Information Center of Construction Industry, (Centro Nacional de Información, de la Industria de la Construcción).

(2) Empresa Nacional Portuaria (ENP).

b) Unit Cost of Materials

(Unit: Lps.)

Material		Unit	Cost	
			Foreign	Local
Fuel:				
	Regular gasoline	liter	2.20	
	Diesel oil	liter	1.89	
	Bunker oil	liter	1.70	
Bitumen:	AC 20 (pen.50-100)	liter	1.25	
	MC 70 (cutback)	liter	1.49	
	RC 250	liter	1.91	
Aggregate:	Sand	m^3		70.00
	Gravel (3/4")	m^3		65.00
	Gravel (1.5")	m^3		65.00
	Gravel (2.0")	m^3		62.00
	Cobble stone (small)	m^3		50.00
	Cobble stone (large)	m^3		52.00
	Rock (100 kg)	m^3		52.00
	Rock (200 kg)	m^3		55.00
Cement & Products:				
	Ready-mixed concrete	m^3		670.00
	Max. aggregate 3/4"			
	(105 kg/cm²)	m^3		355.92
	(140 kg/cm²)	m^3		371.46
	(210 kg/cm²)	m^3		403.95
	(280 kg/cm²)	m^3		440.67
	(350 kg/cm²)	m^3		475.98
	(445 kg/cm²)	m^3		543.77
	Max. aggregate 1/2"			
	(105 kg/cm²)	m^3		347.45
	(140 kg/cm²)	m^3		364.40
	(210 kg/cm²)	m^3		389.82
	(280 kg/cm²)	m^3		426.54
	(350 kg/cm²)	m^3		466.09
	(445 kg/cm²)	m^3		529.65
	Concrete block (4"x8"x16")	piece		1.45
	(6"x8"x16")	piece		1.61
	(8"x8"x16)	piece		2.64
	Brick (0.6x13x6 cm)	piece		0.40
	(26x13x8 cm)	piece		0.50
	Rough-face brick	piece		0.50
		piece		0.24
	Reinforced concrete pile (0.35mx0.35mm, l=80')	m		199.66
	Reinforced concrete pile (0.46mx0.46mm, l=90')	m		538.00
	Prestressed concrete pile (0.45mx0.456m)	m		531.61
	Prestressed concrete pile	m^3		2,625.33
	Prestressed concrete beam	m^3		3,334.44
	Prestressed concrete slab	m^3		2,822.47
Iron & Steel:				
	Plain iron road (5.5mmx30')	each	5.49	
	(8.0mmx30')	each	12.07	
	(3/8mmx30')	each	14.59	
	(1/2mmx30')	each	25.86	
	(5/8"x30')	each	38.9	
	(3/4"x30')	each	59.27	
	(7/9x30')	each	79.03	
	(1"x30')	each	105.37	
	Steel bar	ton	5,000.000	

Material		Unit	Cost	
			Foreign	Local
Wood products:				
Wooden pile, pine ø1.0', l=75.0'				1,400.00
Plywood, first-class mahogany	(3'x7'x3/16')	each		]56,65
	(4'x8'x1/2')	each		131.18
Plywood, first-class pine	(3'x7'x3/16')	each		40.29
	(4'x8'x1/2')	each		103.04

Source: (1) Statistical Bulletin of the National Information Center of Construction Industry (Centro Nacional de Información de la Industria de la Construcción).
(2) Empresa Nacional Portuaria (ENP).
(3) Hearing from the local materials suppliers.

c) Rental Charge of Main Construction Machinery

(Unit: Lps.)

Machines		Unit	Rental Charge			Owner
EARTH/ROCK MOVING						
Bulldozer:	9 ton	hour	250.00	~	270.00	Private company
	15 ton	hour	360.00			
	21 ton	hour	500.00	~	620.00	
Tractorshovel:	1.0m³	hour	190.00	~	200.00	
Wheel type:	1.4m³	hour	220.00			
	2.1m³	hour	230.00			
Power Shovel:	0.2m³	hour	170.00			
	0.4m³	hour	200.00	~	225.00	
	0.6m¾					
Scrapedozer:	15t+6m³	hour	150.00	~	210.00	
	26t+8m³	hour	300.00	~	350.00	
GRADING/ROLLING						
Motorgrader:	2.2m	hour	200.00	~	215.00	
	2.8m	hour	210.00	~	250.00	
Tireroller:	3-4 ton	hour	140.00	~	180.00	
	6-8 ton	hour	190.00			
Roadroller:	10-12 ton	hour	160.00	~	185.00	
TRANSPORTATION						
Dump truck:	2 ton	hour	55.00	~	80.00	
	8 ton	hour	60.00	~	95.00	
Platform truck:	6 ton	hour	55.00	~	80.00	
Tractor-trailer:	20 ton	hour	270.00			
FURNISHING & PLACING						
Crawlercrane:	16 ton	hour	750.00			
	25 ton	hour	900.00			
Truckcrane:	25 ton	hour	930.00			
	100 ton	hour	3,840.00			
Mobilcrane:	25 ton	hour	140.00			ENP
	40 ton	hour	170.00			
	60 ton	hour	205.00			
	60 ton ~	hour	275.00			
WORKING VESSELS						
Suction dredger:	750 ps	hour	2,080.00	*		ENP
Tugboat:	210 ps 15 GT	hour	230.00	*		
Pusher:	1,700 ps 15 GT	hour	1,560.00	*		
Surveyor boat:	170 ps 15 GT	hour	180.00	*		
Pilot boat:	170 ps 15 GT	hour	180.00	*		

Note: The availability depends on the companies and the ENP which own machines.
* Estimated

An ENP Paper on the Reformation of Port Management

A. Esquema del Plan de Acción

	Area de Actividad	Tiempo	Responsabilidad
1.	Conformación del grupo técnico de trabajo o comité de implementación.	Julio 1992	Institucional
2.	Definir y decidir la participación del sector privado en la inversión para rehabilitar el muelle de Tela y determinar mecanismos y contratos para la explotación del puerto por los usuarios.	Septiembre 1992	por Administración
3.	Efectuar un avalúo técnico de las propiedades e instalaciones de la ENP (excepto las Zonas Libres).	Diciembre 1992	por contrato
4.	Efectuar un avalúo técnico del equipo portuario.	Diciembre 1992	por contrato
5.	Analizar la situación operativa del puerto de La Ceiba, a fin de: a) Transferir las instalaciones y facilidades para el manejo de carga a la Dirección Gral. de Aduanas; b) Transferir las facilidades de atraque a la Cámara de Comercio o Municipalidad de La Ceiba.	Diciembre 1992	por Administración
6.	Realizar un estudio de costos y tarifas portuarias con énfasis en Puerto Cortés.	Diciembre 1992	por contrato
7.	En concordancia con la política de desarrollo portuario, preparar los planes maestros para cada puerto con el objeto de definir inversiones nuevas, complementarias y conexas a las existentes; así como definir el carácter de la inversión (pública, privada o mixta).	Enero 1993	B.I.T.
8.	Análisis operativo de los puertos de Cortés, Castilla y San Lorenzo, con el objeto de determinar los servicios susceptibles de transferir concesionalmente al sector privado, incluyendo terrenos, instalaciones y equipo.	Marzo 1993	B.I.T.

	Area de Actividad	Tiempo	Responsabilidad
9.	Seleccionar los consultores y tenerlos disponibles en el país.	Abril 1993	G.T.T.
10.	Acciones para concientizar e instruir al sector laboral sobre los beneficios de la privatización.	Junio 1993	G.T.T.
11.	Formular los términos de referencia para las inversiones determinadas en los planes maestros.	Junio 1993	G.T.T.
12.	Desarrollo de los estudios de factibilidad de los proyectos a ejecutar de acuerdo a los dos numerales anteriores.	Junio 1993	G.T.T.
13.	Establecer sondeos y promocionar las actividades portuarias objeto de privatización.	Octubre 1993	G.T.T.
14.	Redefinir con el Gobierno y asesores técnicos, el nuevo papel que desempeñará la ENP en la actividad portuaria; luego que inicie el proceso de privatización, aspectos legales (Ley Constitutiva), organización, influencia participación en el desarrollo comercial de los puertos y otros aspectos relacionados con el transporte marítimo.	Enero 1994	G.T.T.
15.	Preparar planes administrativos, legales, tarifarios, reglamentarios y de personal de la ENP.	Marzo 1994	G.T.T.
16.	Preparar la documentación para la subasta o licitación de los servicios a privatizar y conducir el proceso hasta la adjudicación final.	Octubre 1994	G.T.T.

B. Marco Jurídico de la Privatización

Desde el marco jurídico que sustenta la Constitución de la República existen artículos constitucionales como el 103, el cual determina que el Estado de Honduras reconoce, fomenta y garantiza la existencia de la propiedad privada, asimismo hay normas jurídicas especiales como la Ley Orgánica de la Empresa Nacional Portuaria, la cual en su artículo 9, establece en forma clara y contundente que la ENP puede celebrar en cualquiera de los puertos bajo su jurisdicción, contratos con terceras personas bajo los términos y condiciones que se consideran más adecuadas para que se realicen total o parcialmente todos o cualquiera de los servicios de:

a) Recepción, anclaje, atraque y desatraque, salida y remolque de las naves;

c) Acarreo, estiba y almacenaje de la carga;

d) Desplazamiento mecánico y movimiento de la carga;

e) Ayudas a la navegación y balizamiento;

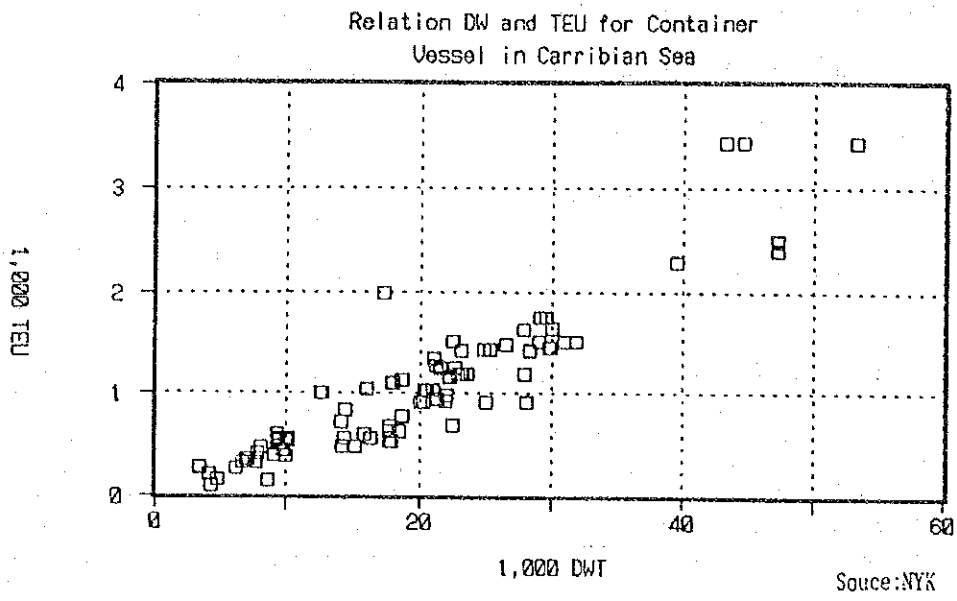
f) Control, custodia y vigilancia; y,

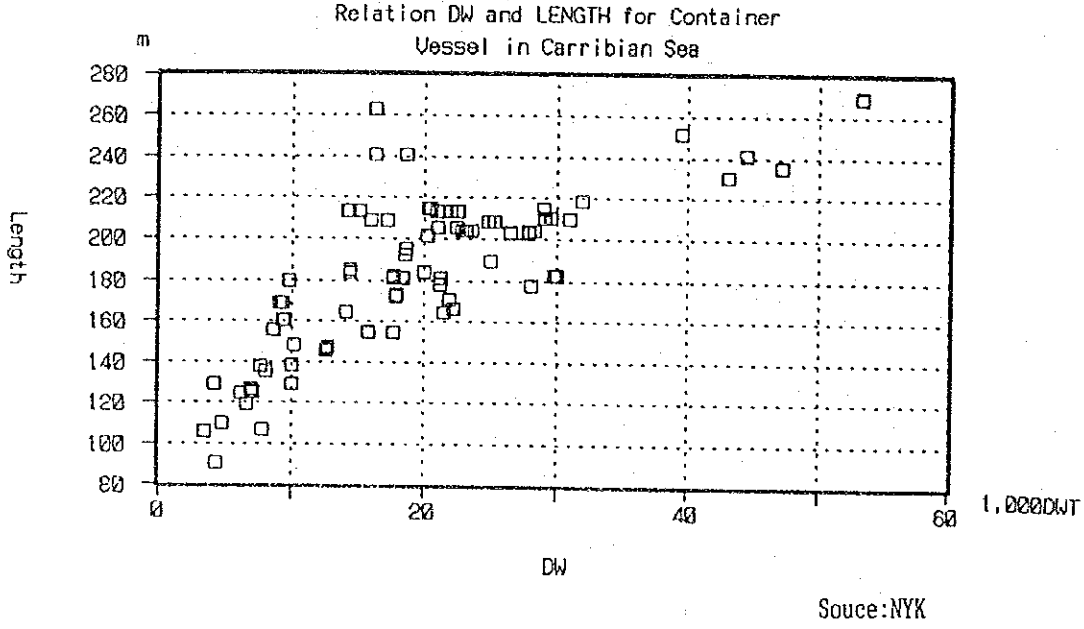
g) Cualesquiera otros servicios que sean necesarios para cumplir los objetivos de esta Ley.

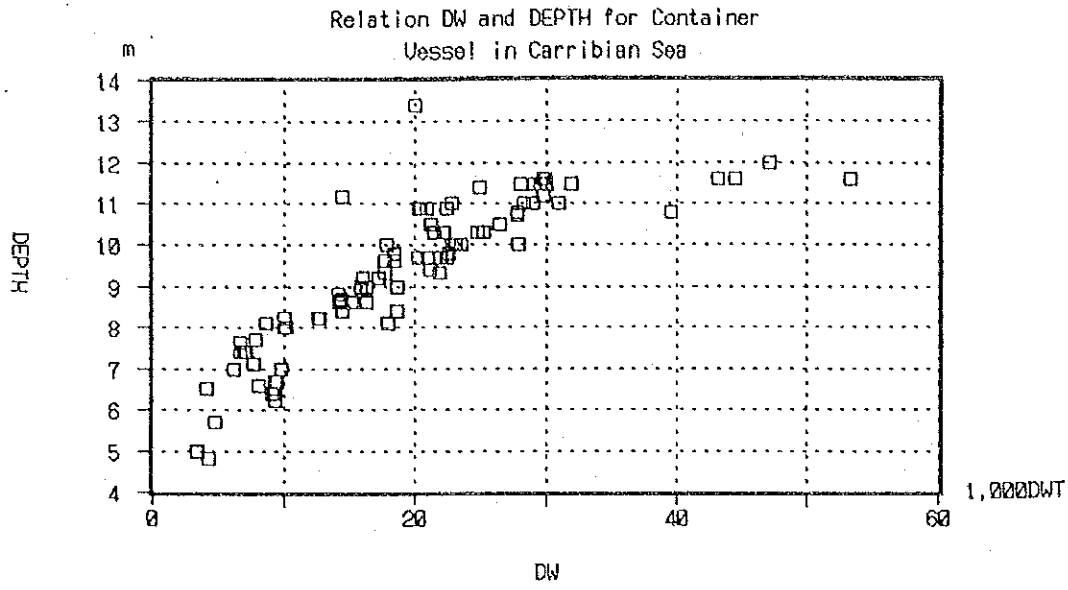
C. Concertación Obrero Patronal para lograr la Privatización

La Empresa Nacional Portuaria suscribió el séptimo Contrato Colectivo con su Sindicato de Trabajadores, dicho Contrato Colectivo en su cláusula número diez (10) establece la reestructuración de personal por tecnificación u otro motivo, la que está supeditada *al acuerdo bilateral entre Empresa y Sindicato;* por lo tanto existe la norma jurídica que respalda la privatización, siempre y cuando sea producto del acuerdo obrero patronal.

En tal sentido se están desarrollando análisis a efecto de poder lograr un acuerdo que permita la privatización de algunas operaciones portuarias; dentro del análisis preliminar realizado existen labores que tienen características propias que pueden ser objeto de privatización en la Empresa Nacional Portuaria, cabe destacar que actualmente la dirigencia sindical mantiene una conducta negativa, lo que nos hace pensar en la necesidad de obtener a través del diálogo un cambio de actitud, lo cual no será una tarea fácil.


Relation DW and TEU for Container
Vessel in Carribian Sea
1,000 TEU
4
3
2
1
0
0
20
40
60
1,000 DWT
Souce:NYK


Relation DW and LENGTH for Container
Vessel in Carribian Sea
m
Length
280
260
240
220
200
180
160
140
120
100
80
0
20
40
60
1,000DWT
DW
Souce:NYK


Relation DW and DEPTH for Container
Vessel in Carribian Sea
m
14
13
12
11
10
9
8
7
6
5
4
DEPTH
0
20
40
60
1,000DWT
DW

Souce:NYK

Figuras y Tablas en Volumeu II

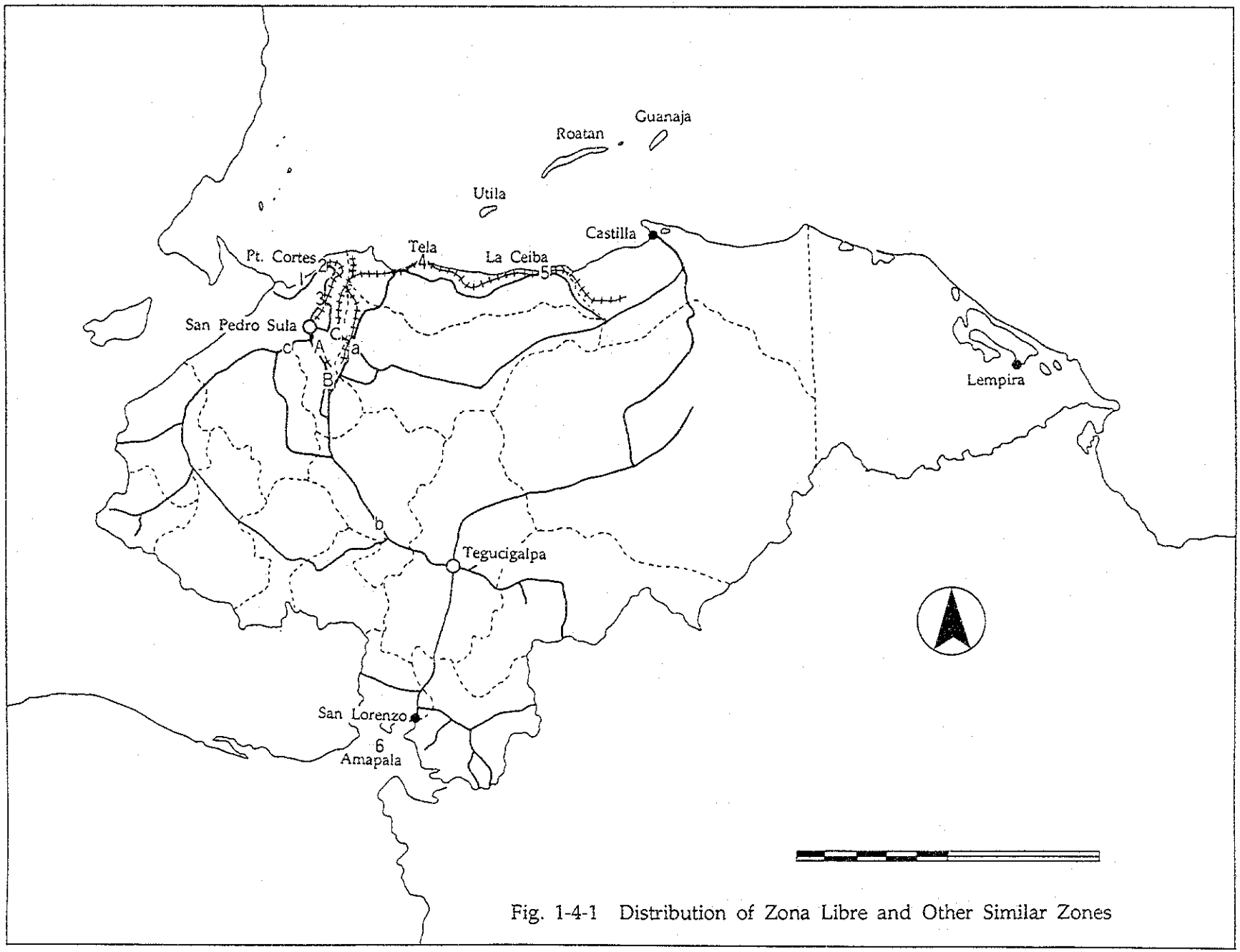


Fig. 1-4-1 Distribution of Zona Libre and Other Similar Zones

Table 2-1-1 Yearly Change of Cargo Volume at Honduran Ports

UNIT:THOUSAND METRIC TON

Year	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Import											
Cortes	986.8	1,188.5	1,323.8	1,177.1	1,219.7	1,396.8	1,499.3	1,573.7	1,543.6	1,630.8	1,530.1
Tela	58.6	55.8	57.7	77.9	68.6	79.7	103.7	83.8	65.4	209.0	206.2
La Ceiba	61.7	52.4	50.9	45.6	43.9	25.5	16.5	10.3	7.8	4.4	2.7
Castilla				2.5	1.0	40.4	70.6	114.2	117.5	148.5	153.8
San Lorenzo	11.5	19.4	28.6	28.6	33.5	46.5	61.2	47.7	58.6	38.8	60.4
Total	1,118.6	1,316.1	1,461.0	1,331.7	1,366.7	1,588.9	1,751.3	1,829.7	1,792.9	2,031.5	1,953.2
Rate of increase	100.00%	117.66%	130.61%	119.05%	122.18%	142.04%	156.56%	163.57%	160.28%	181.61%	174.61%
		17.66%	12.95%	-11.56%	3.13%	19.86%	14.52%	7.01%	-3.29%	21.33%	-7.00%
Increase for previous year		17.66%	11.01%	-8.85%	2.63%	16.26%	10.22%	4.48%	-2.01%	13.31%	-3.85%
Export											
Cortes	1,026.0	1,056.7	1,200.9	1,371.2	1,278.0	1,316.9	1,269.6	1,334.2	1,272.4	1,134.4	1,279.2
Tela	193.0	103.8	141.0	168.5	139.5	159.0	129.1	126.4	53.4	29.9	15.6
La Ceiba	332.6	233.9	206.0	156.9	141.9	90.8	79.7	66.9	8.2	1.7	2.9
Castilla				38.6	67.4	234.9	264.6	278.1	301.7	347.7	386.3
San Lorenzo	136.6	108.5	96	98.5	79.8	69.8	50.5	48.8	43.7	43.5	69.6
Total	1,688.2	1,502.9	1,643.9	1,833.7	1,706.6	1,871.4	1,793.5	1,854.4	1,679.4	1,557.2	1,753.6
Rate of increase	100.00%	89.02%	97.38%	108.62%	101.09%	110.85%	106.24%	109.84%	99.48%	92.24%	103.87%
		-10.98%	8.35%	11.24%	-7.53%	9.76%	-4.61%	3.61%	-10.37%	-7.24%	11.63%
Increase for previous year		-10.98%	9.38%	11.55%	-6.93%	9.66%	-4.16%	3.40%	-9.44%	-7.28%	12.61%
Cortes	2,012.8	2,245.2	2,524.7	2,548.3	2,497.7	2,713.7	2,768.9	2,907.9	2,816.0	2,765.2	2,809.3
Tela	251.6	159.6	198.7	246.4	208.1	238.7	232.8	210.2	118.8	238.9	221.8
La Ceiba	394.3	286.3	256.9	202.5	185.8	116.3	96.2	77.2	16.0	6.1	5.6
Castilla	0.0	0.0	0.0	41.1	68.4	275.3	335.2	392.3	419.2	496.2	540.1
San Lorenzo	148.1	127.9	124.6	127.1	113.3	116.3	111.7	96.5	102.3	82.3	130.0
Total	2,806.8	2,819.0	3,104.9	3,165.4	3,073.3	3,460.3	3,544.8	3,684.1	3,472.3	3,588.7	3,706.8
Rate of increase	100.00%	100.43%	110.62%	112.78%	109.49%	123.28%	126.29%	131.26%	123.71%	127.86%	132.06%
		0.43%	10.19%	2.16%	-3.28%	13.79%	3.01%	4.96%	-7.55%	4.15%	4.21%
Increase for previous year		0.43%	10.14%	1.95%	-2.91%	12.59%	2.44%	3.93%	-5.75%	3.35%	3.29%

SOURCE: ENP

Table 2-1-2 Volume of each Cargo by Ports (1992)

Unit: Thousand metric ton

IMPORTS	Total	Cortes	Tela	La-Ceiba	Castilla	San Lorenzo
Wheat	106,542	106,542				
Other foodstuffs	108,041	103,028	3,431		405	1,177
Drinks & Tobacco	1,882	1,862				20
Chemicals	55,430	49,379		2,695	1,650	1,706
Fats of animal & vegetal extraction	9,238	9,238				
Fertilizers	109,071	88,833			18,172	2,066
Petroleum and derivates	807,410	596,147	202,722		8,532	9
Iron & Steel	94,472	53,248			17	41,207
Machinery & Transportation equipment	30,505	21,776			233	8,496
Paper and carton in rolls	18,669	17,042			1,577	50
Others	291,710	223,613	15	4	62,667	5,411
Transit traffic						
Domestic transit	262,365	204,181			58,184	
Foreign transit	57,873	55,231			2,362	280
TOTAL IMPORTS	1,953,208	1,530,120	206,168	2,699	153,799	60,422

EXPORTS	Total	Cortes	Tela	La-Ceiba	Castilla	San Lorenzo
Meat	17,238	17,147				91
Plantains	13,370	13,370				
Bananas	792,502	529,378	14,890	4	248,230	
Pure of bananas	12,682	12,262	420			
Coffee	118,756	106,822				11,934
Sugar	12,820	12,820				
Tobacco	4,009	4,009				
Timber	112,558	81,472			177	30,909
Cement	29,167	29,167				
Bagged cement	0					
Corn or maize	0					
Bulk minerals	87,325	72,325				15,000
Fuel and derivates	0					
Molasses	31,257	23,546				7,711
African Palm-oil	10,515	2,038			8,477	
Nuts & African palms	0					
Pineapples	48,547	7,863			40,684	
Coconuts	1,921	492			1,429	
Grapefruit	16,986	1,121			15,865	
Melons	58,028	57,691	267		70	
Cotton	0					
Cotton seeds	0					
Ornamental plants	260				260	
Other products	358,629	282,983		2,976	69,044	3,626
Another countries' materials	27,208	24,687			2,153	368
TOTAL EXPORTS	1,753,778	1,279,193	15,577	2,980	386,389	69,639
TOTAL IMPORTS + EXPORTS	3,706,986	2,809,313	221,745	5,679	540,188	130,061

Source: ENP

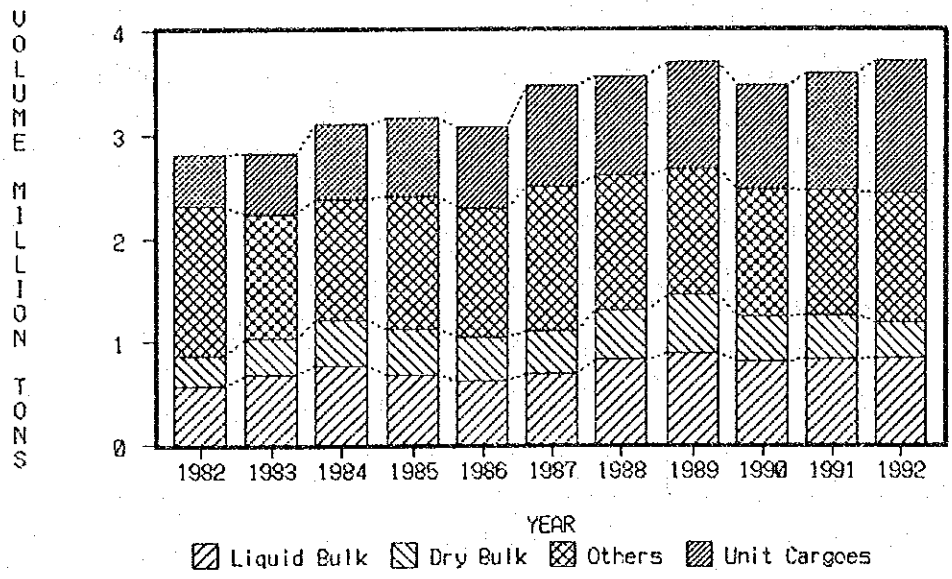


Fig. 2-1-1 Yearly Change of Port Cargoes (All Ports)

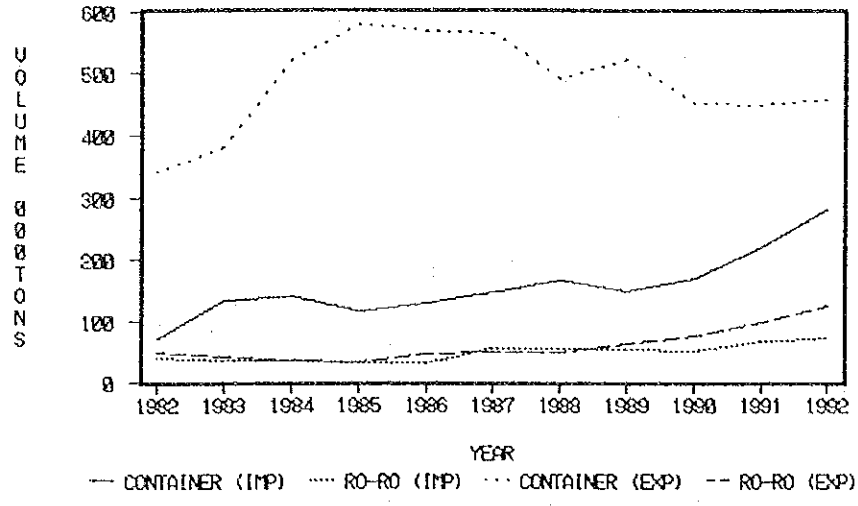


Fig. 2-1-2 Container/RO-RO Cargoes (Port of Cortes)

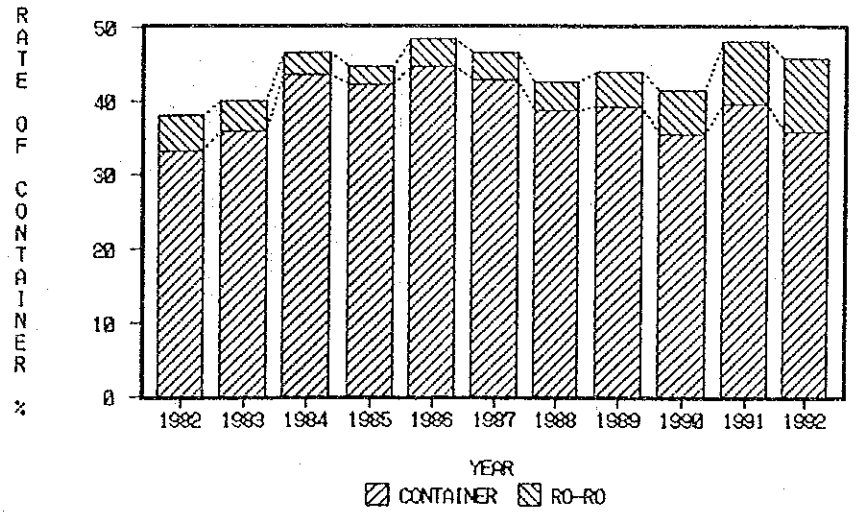


Fig. 2-1-3 Rate of Container Cargo, Port of Cortes (Export)

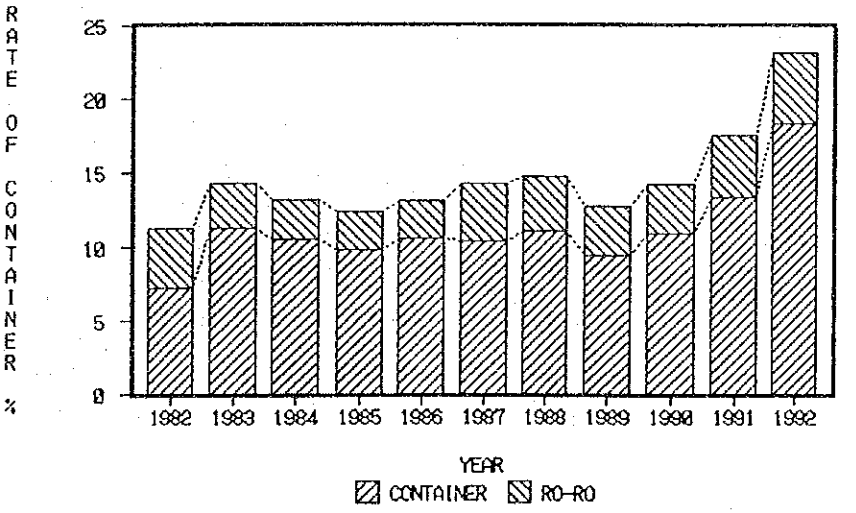


Fig. 2-1-4 Rate of Container, Port of Cortes (Import)

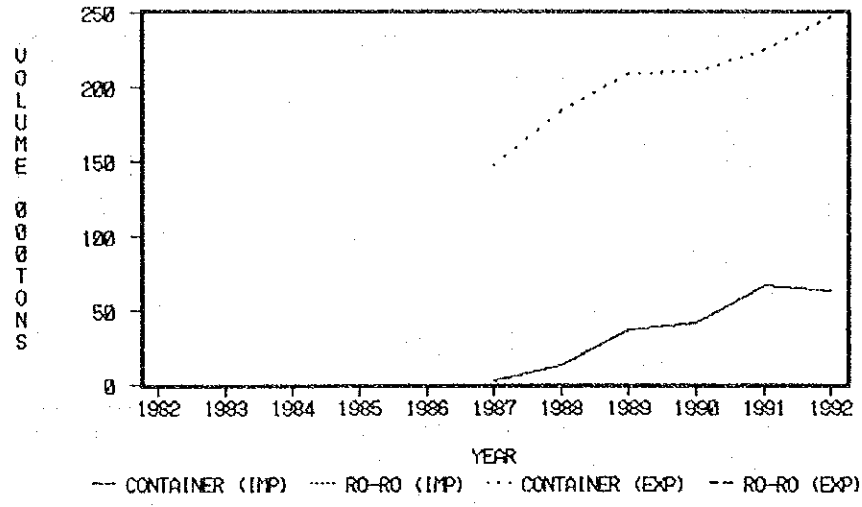


Fig. 2-1-5 Container/RO-RO Cargoes, Port of Castilla

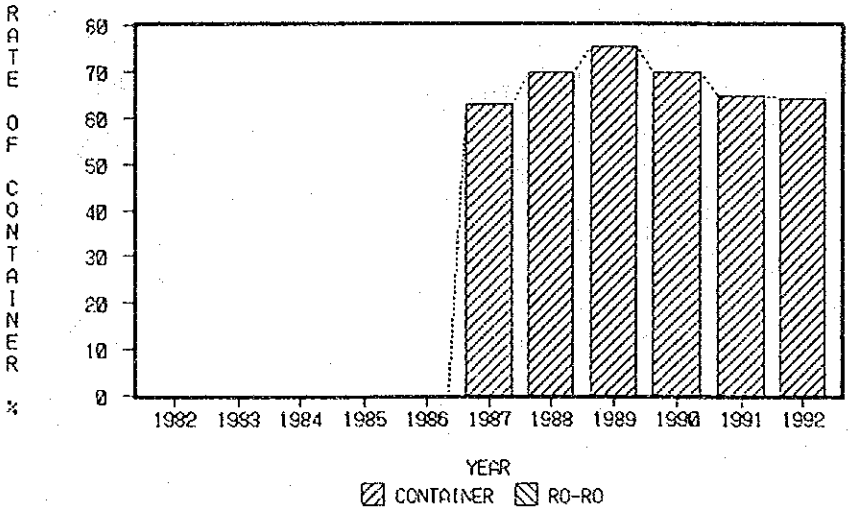


Fig. 2-1-6 Rate of Container Cargo, Port of Castilla (Export)

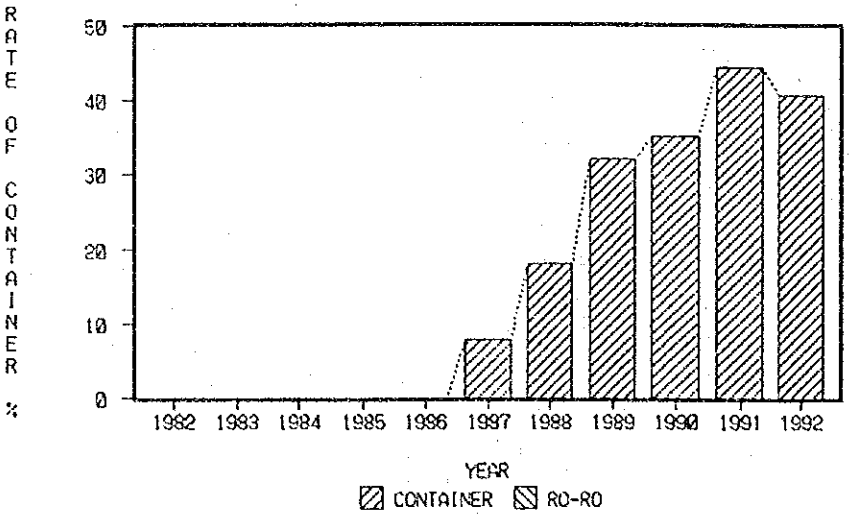


Fig. 2-1-7 Rate of Container Cargo Port of Castilla (Import)

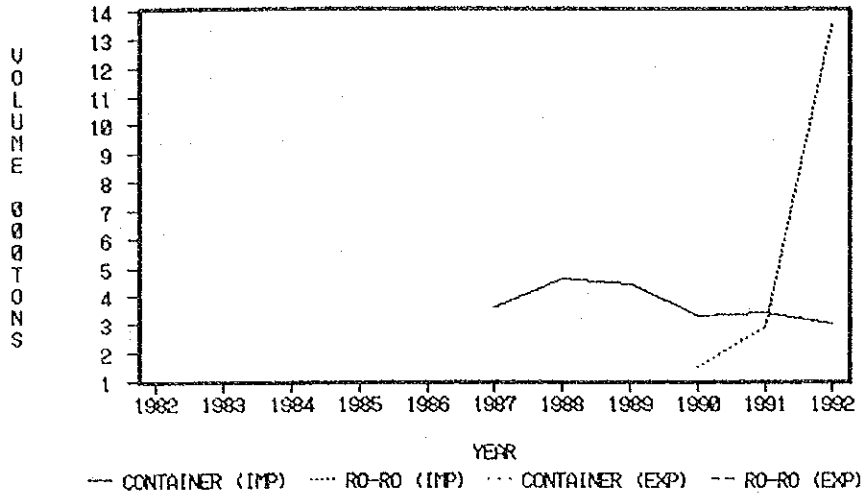


Fig. 2-1-8 Container/RO-RO Cargoes Port of San Lorenzo

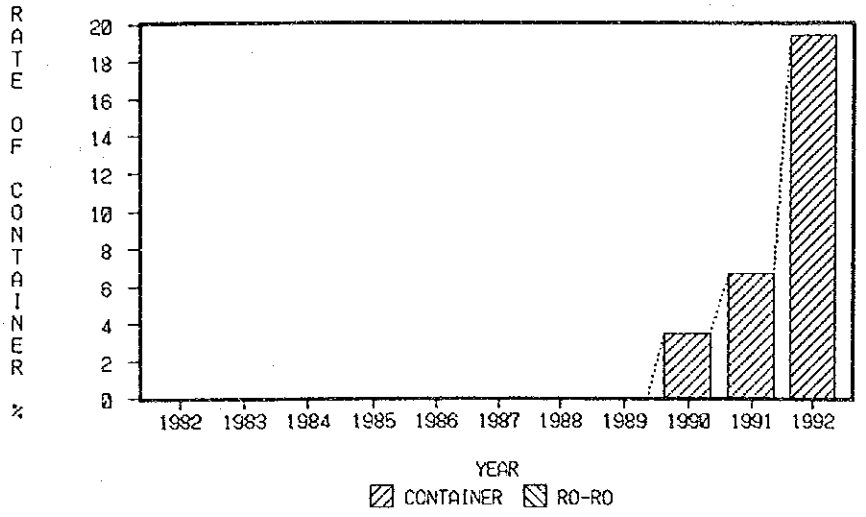


Fig. 2-1-9 Rate of Container Cargo Port of San Lorenzo (Export)

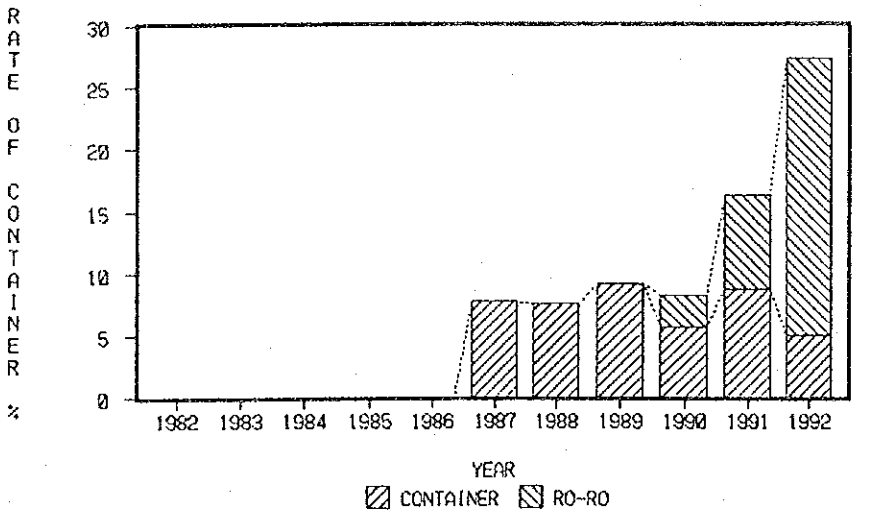


Fig. 2-1-10 Rate of Container Cargo Port of San Lorenzo (Import)

Table 2-1-3 Rate of Empty Container (%)

	Cortes		Castilla		San Lorenzo	
	Import	Export	Import	Export	Import	Export
1982	69.3	15.8				
1983	60.8	17.6				
1984	66.9	15.5				
1985	70.4	13.0				
1986	70.1	12.3				
1987	60.6	17.8	97.8	0.5	1.0	99.8
1988	54.2	18.9	92.0	0.3	0.2	100.0
1989	55.4	17.1	73.6	0.7	0.4	95.3
1990	54.9	17.8	70.3	0.8	3.8	79.6
1991	44.3	17.6	64.0	2.5	7.3	57.8
1992	41.2	23.7	70.0	4.8	61.4	12.4

Table 2-1-4 Unit Weight Per TEU Port of Cortes

unit:MT

	Import			Export			Unit
	Loaded Contner	Total Volume	Unit Weight	Loaded Contner	Total Volume	Unit Weight	Weight Total
1982	13,800	110,900	8.04	38,500	390,100	10.13	9.58
1983	21,500	169,000	7.86	42,500	422,600	9.94	9.24
1984	21,400	173,600	8.11	54,900	556,400	10.13	9.57
1985	19,600	145,400	7.42	58,100	611,800	10.53	9.75
1986	20,300	159,000	7.83	59,200	616,900	10.42	9.76
1987	28,400	200,500	7.06	60,000	614,300	10.24	9.22
1988	30,200	221,300	7.33	52,700	540,000	10.25	9.18
1989	35,200	201,100	5.71	57,500	585,000	10.17	8.48
1990	29,000	219,200	7.56	60,400	527,700	8.74	8.35
1991	38,800	286,200	7.38	56,600	547,200	9.67	8.74
1992	49,800	355,400	7.14	62,100	584,400	9.41	8.40

Table 2-1-5 Unit Weight Per TEU Port of Castilla

unit:MT

	Import			Export			Unit
	Loaded Contner	Total Volume	Unit Weight	Loaded Contner	Total Volume	Unit Weight	Weight Total
1982							
1983							
1984							
1985							
1986							
1987	398	3,200	8.04	16,488	147,800	8.96	8.84
1988	1,758	12,800	7.28	21,692	184,400	8.50	8.41
1989	6,328	36,700	5.80	23,242	209,400	9.01	8.32
1990	7,182	41,300	5.75	23,130	210,200	9.09	8.30
1991	9,558	66,000	6.91	24,824	224,700	9.05	8.46
1992	9,168	62,600	6.83	27,168	247,000	9.09	8.52

Table 2-1-6 Unit Weight Per TEU Port of San Lorenzo

unit:MT

	Import			Export			Unit
	Loaded Contner	Total Volume	Unit Weight	Loaded Contner	Total Volume	Unit Weight	Weight Total
1982							
1983							
1984							
1985							
1986							
1987	513	3,600	7.02	1			7.00
1988	505	4,600	9.11	0			9.11
1989	513	4,400	8.58	22			8.22
1990	433	3,300	7.62	94	1,500	15.96	9.11
1991	328	3,400	10.37	189	2,900	15.34	12.19
1992	390	3,000	7.69	829	13,500	16.28	13.54

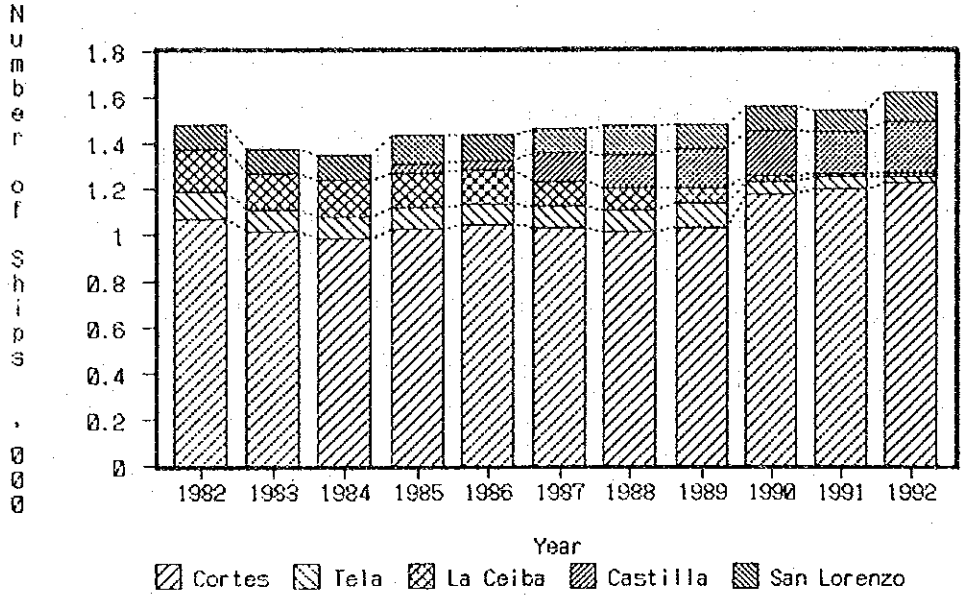


Fig. 2-1-11 Yearly Change, Number of Calling Ships

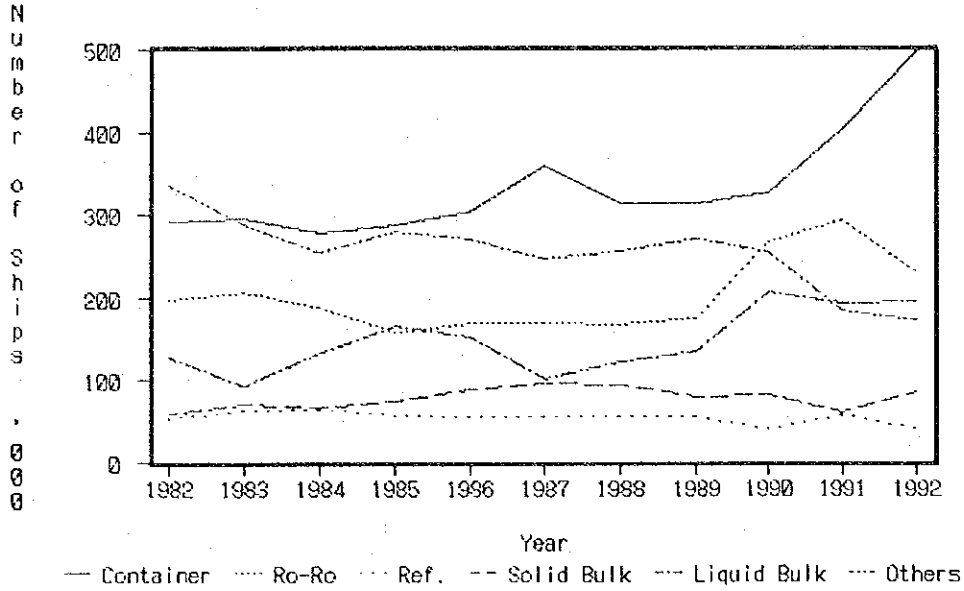


Fig. 2-1-12 Yearly Change, Calling Ship by Type (Cortes)

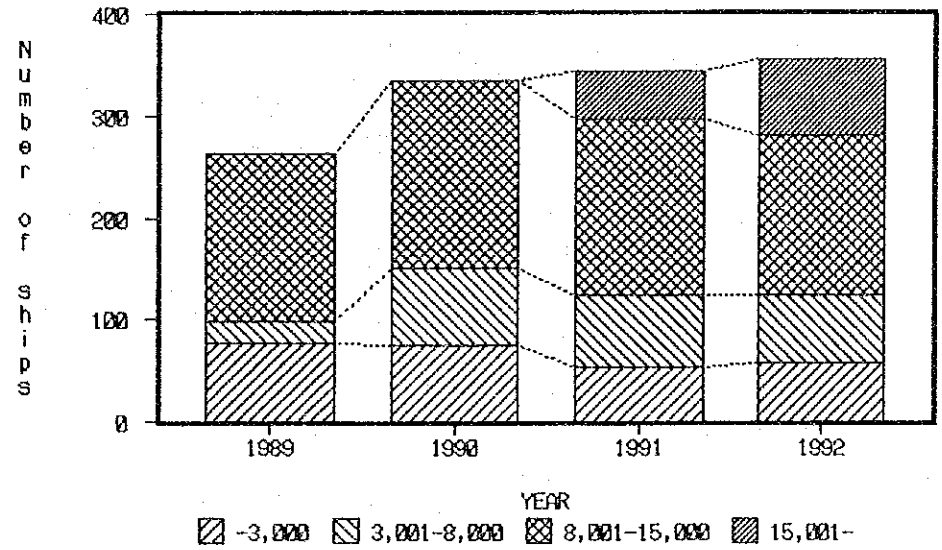


Fig. 2-1-13 Calling Vessel Size, Reefer (all)(Cortes)

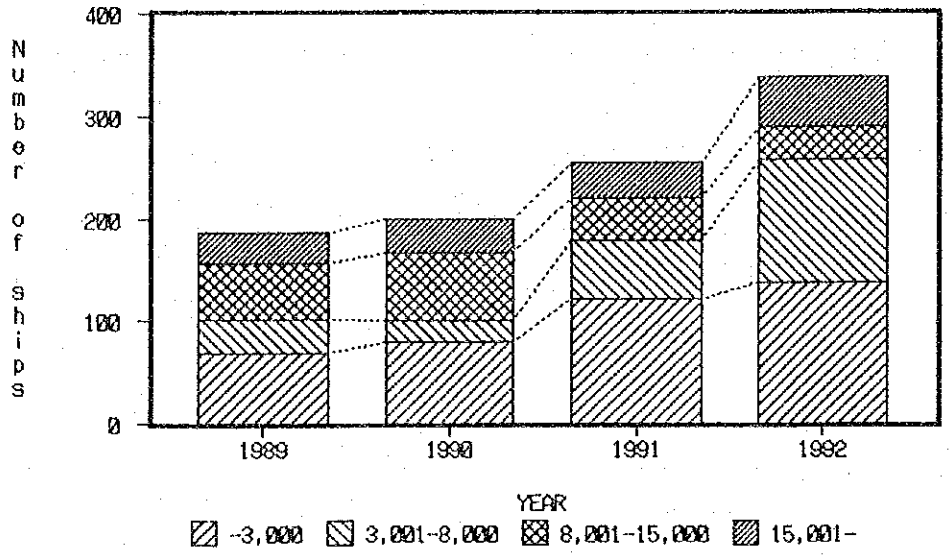


Fig. 2-1-14 Calling Vessel Size, Container (Cortes)

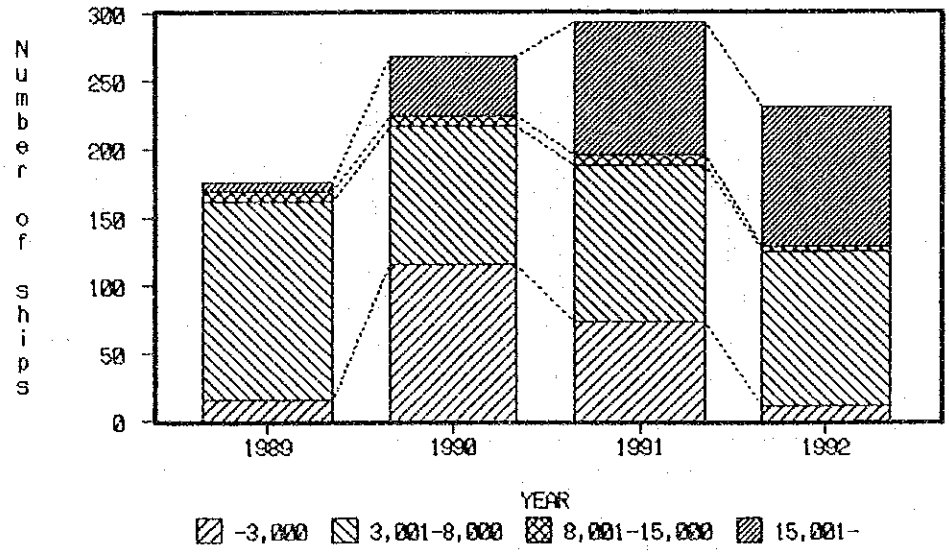


Fig. 2-1-15 Calling Ship Size, RO-RO Vessel (Cortes)

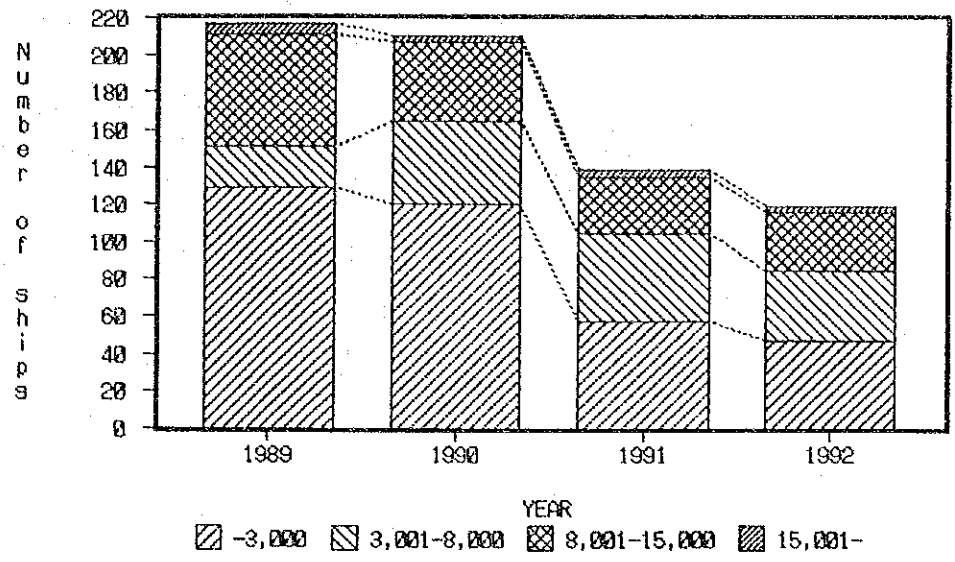


Fig. 2-1-16 Calling Vessel Size, Conventional Vessel (Cortes)

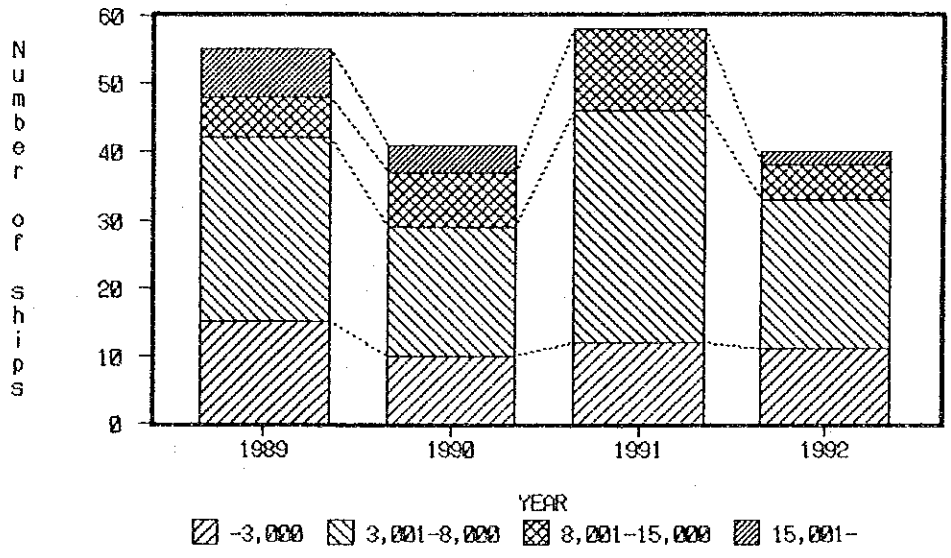


Fig. 2-1-17 Calling Vessel Size, Solid Bulk (Cortes)

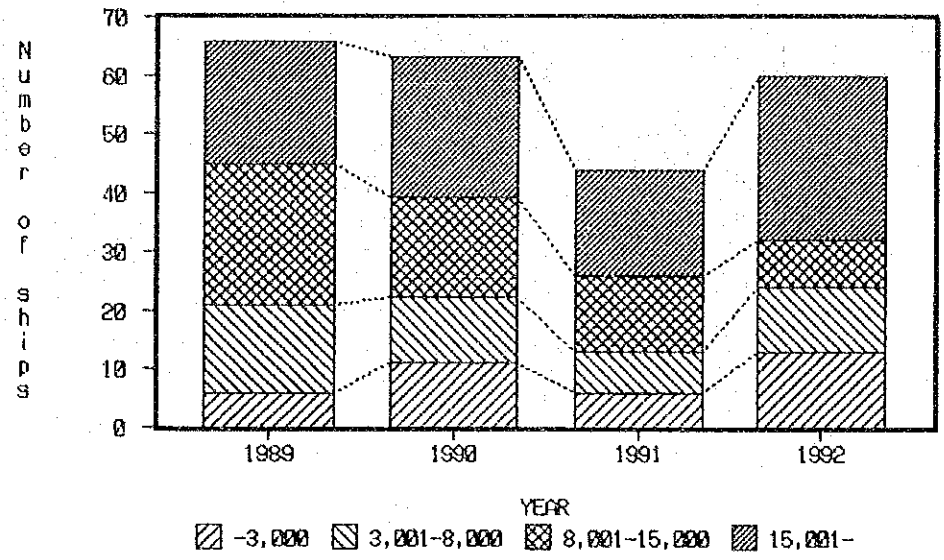


Fig. 2-1-18 Calling Vessel Size, Oil Tanker (Cortes)

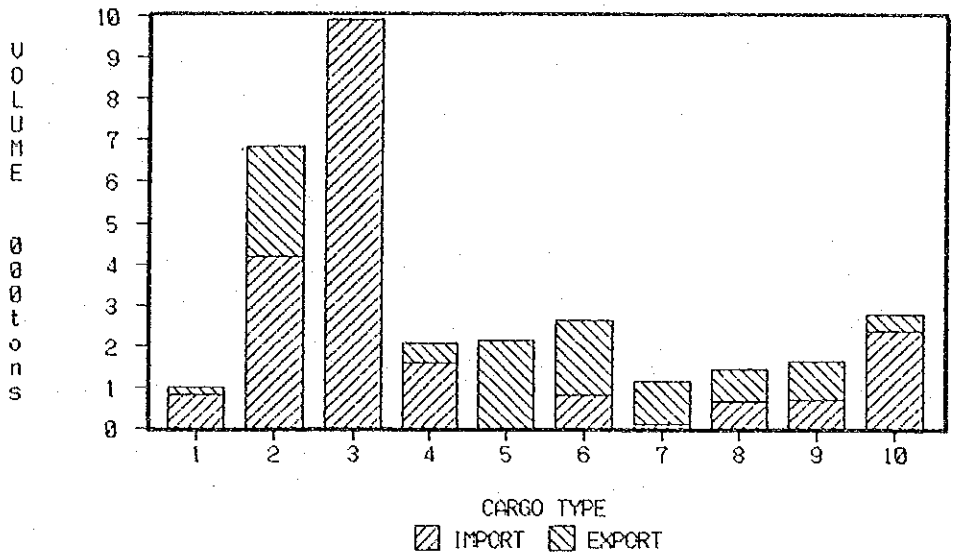


Fig. 2-1-19 Average Cargo Volume per Ship (Cortes)

Table 2-1-7 Average Cargo Volume Handled per Ship

		IMPORT	EXPORT	TOTAL
1	CONVENTIONAL	801.7	170.3	971.9
2	SOLID BULK	4,186.9	2,673.6	6,860.5
3	OIL TANKER	9,906.1	0.0	9,906.1
4	CHEMICAL TANKER	1,590.1	476.1	2,066.2
5	REEFER BANANA	7.3	2,145.7	2,153.0
6	BANANA LO-LO	824.0	1,823.8	2,647.7
7	TIMBER	105.8	1,048.0	1,153.8
8	CONTAINER	654.9	790.0	1,445.0
9	RO-RO	693.2	925.4	1,618.6
10	TUG BOAT	2,372.1	403.4	2,775.4

Table 2-1-8 Number of Ocean Going Vessels Calling at Major Honduran Ports

(unit:Vessels)

Kind of Vessels	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Conventional G,C.	314	281	255	288	310	281	330	321	297	223	176
Refrigerater Vessls	352	253	295	311	294	218	240	267	278	248	254
Lumber	113	102	90	102	104	102	59	51	38	33	34
Solid Bulk	59	67	69	60	60	58	61	61	50	66	47
Liquid Bulk	76	87	80	98	104	109	109	90	94	78	117
Container	292	296	279	288	304	432	409	415	431	520	667
Ro-Ro	198	206	191	170	178	189	196	197	294	322	259
Oters	73	77	87	124	81	73	70	80	74	48	67
Total	1477	1369	1346	1441	1435	1462	1474	1482	1556	1538	1621

Souce: ENP

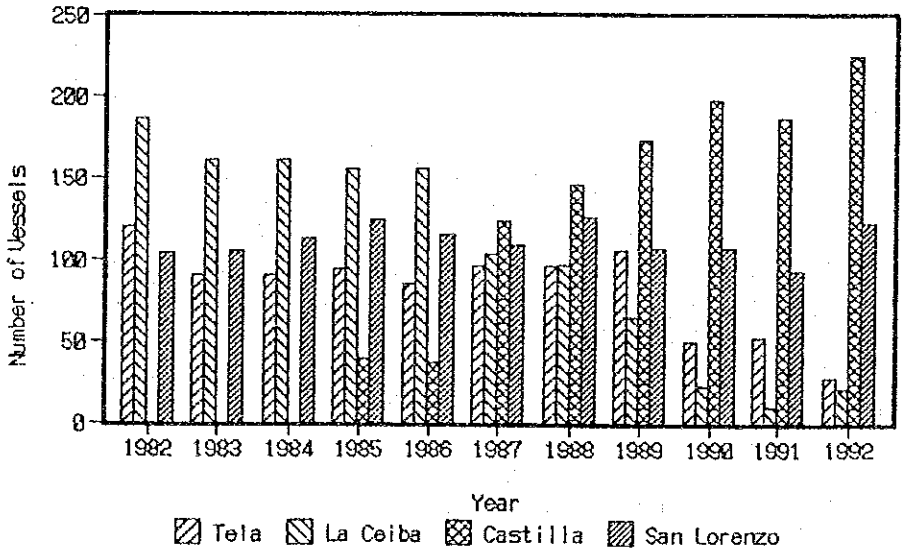


Fig. 2-1-20 Number of Ocean Going Vessels at Major Honduras Ports (except Cortes)

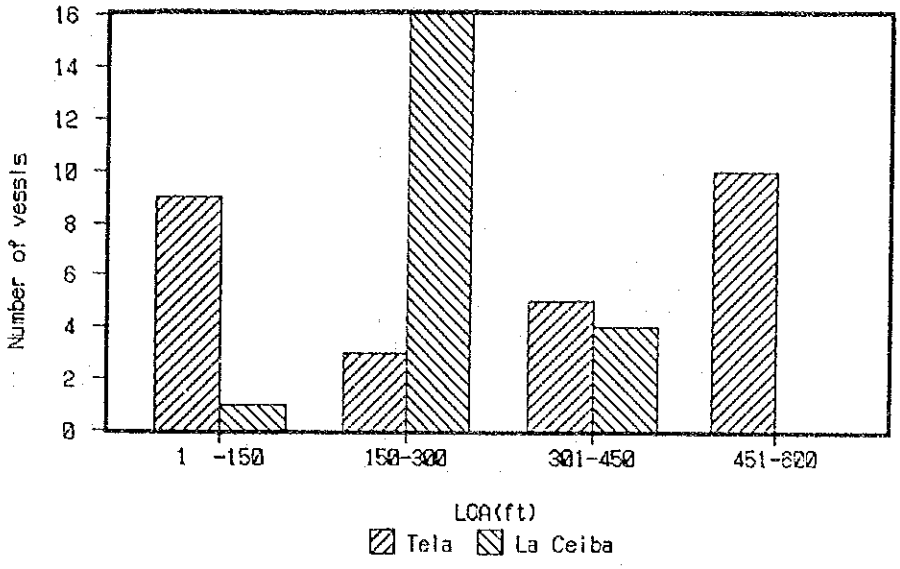


Fig. 2-1-21 Number of Ocean Going Vessels by Length at Tela & La Ceiba in 1992

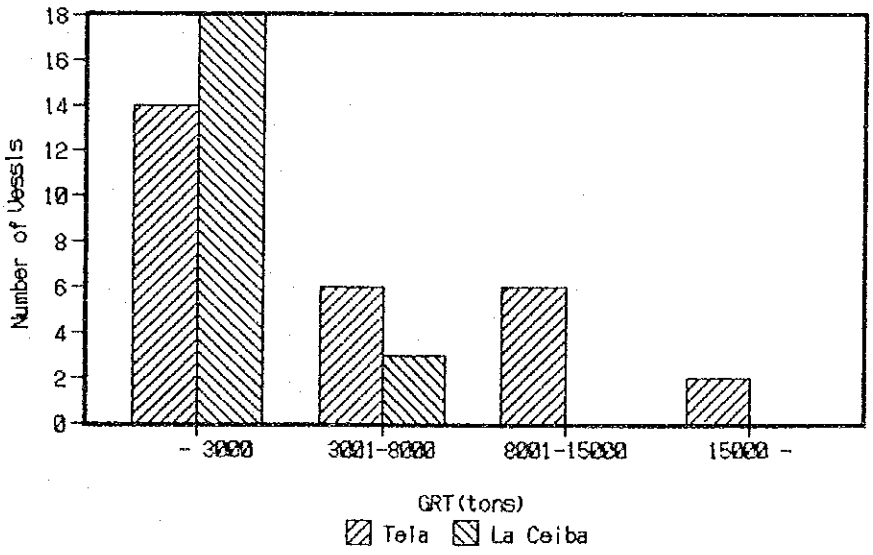


Fig. 2-1-22 Number of Ocean Going Vessels by Size at Tela and La Ceiba in 1992

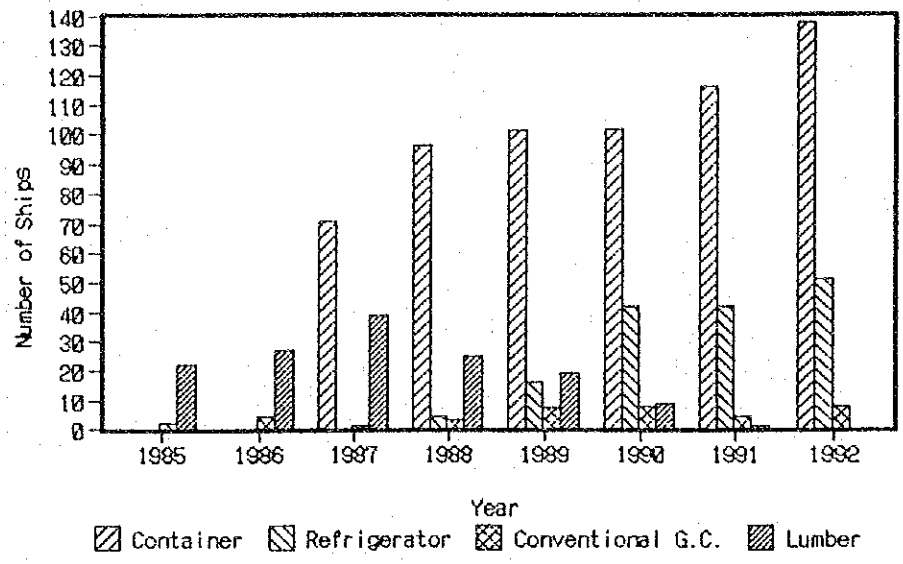


Fig. 2-1-23 Number of Calling Vessels by Type at the Port of Castilla

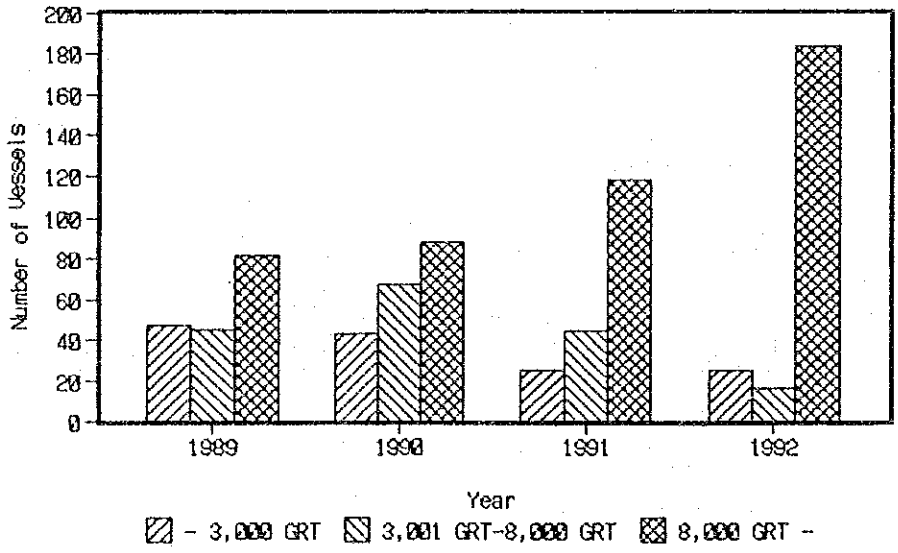


Fig. 2-1-24 Number of Ocean Going Vessels by Size at the Port of Castilla

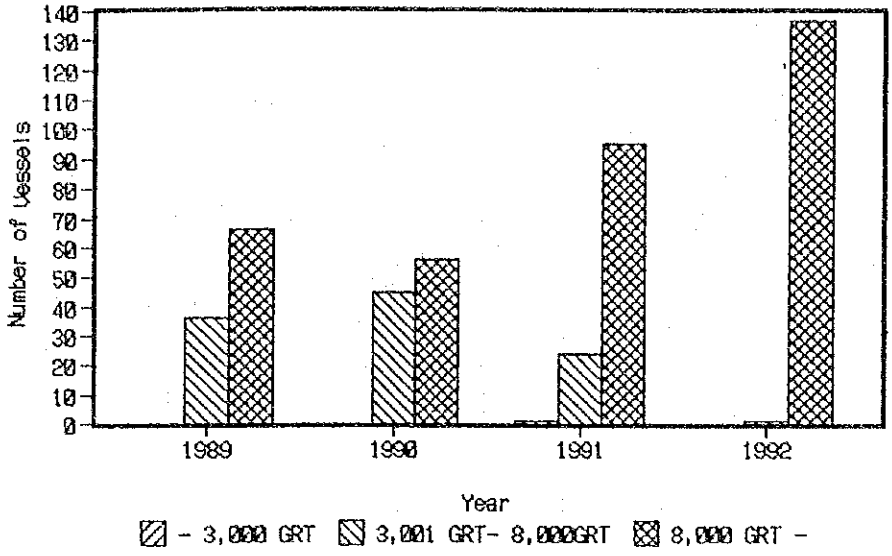


Fig. 2-1-25 Number of Calling Container Vessels by Size at the Port of Castilla

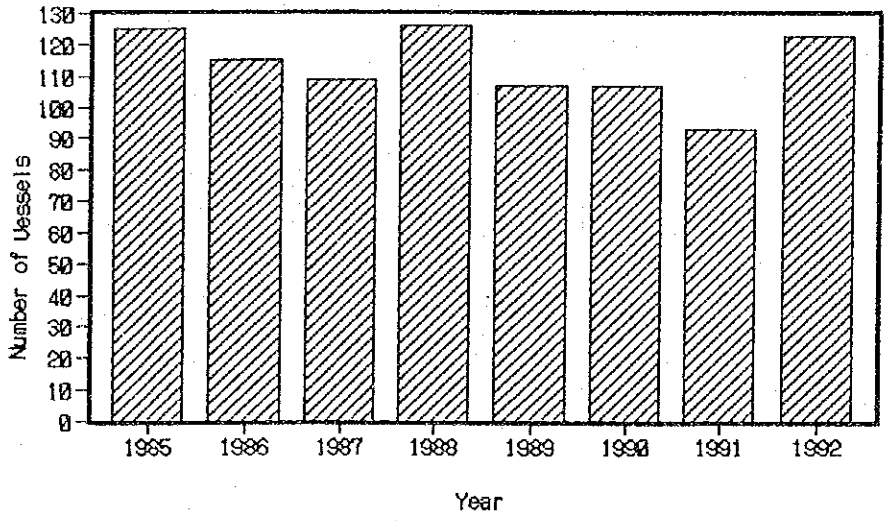


Fig. 2-1-26 Number of Ocean Going Vessels at the Port of San Lorenzo

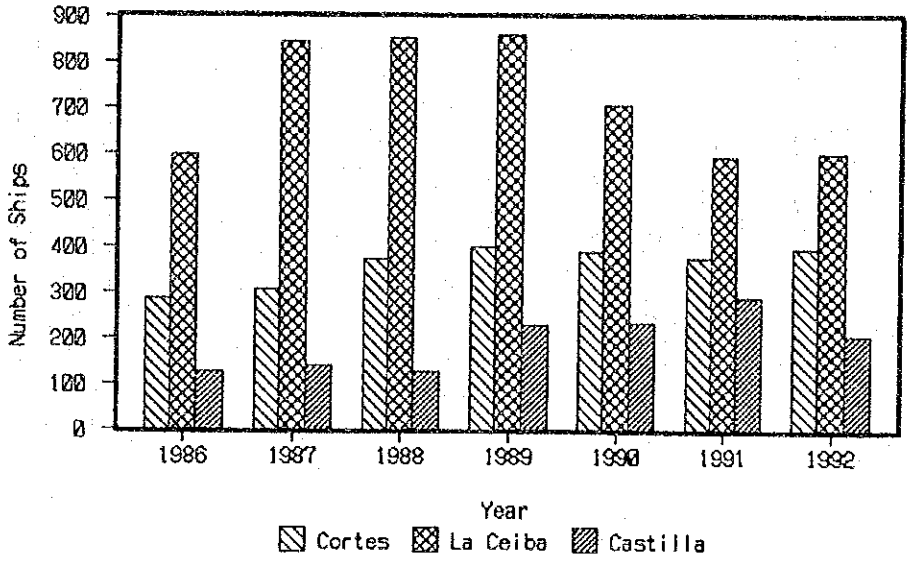


Fig. 2-1-27 Number of Domestic Trade Ships

Table 2-1-9 Estimated Domestic Cargo Volume

(UNIT:MT)

	PORT OF CORTES		LA·CEIBA		PORT OF CASTILLA		TOTAL
	NUMBER OF SHIPS	CARGO VOLUME	NUMBER OF SHIPS	CARGO VOLU	NUMBER OF SHIPS	CARGO VOLUME	CARGO VOLUME
1986	287	34,440	598	29,900	125	10,000	74,340
1987	305	36,600	845	42,250	140	11,200	90,050
1988	372	44,640	855	42,750	127	10,160	97,550
1989	397	47,640	860	43,000	230	18,400	109,040
1990	387	46,440	708	35,400	231	18,480	100,320
1991	374	44,880	593	29,650	288	23,040	97,570
1992	396	47,520	602	30,100	205	16,400	94,020

FOR PORT OF CORTES	FOR LA·CEIBA	FOR PORT OF CASTILLA
Net ton/vessel	Net ton/vessel	Net ton/vessel
120.00	50.00	80.00

SOURCE: ENP. MARINA MERCANTE NACIONAL. AND ESTIMATED BY STUDY TEARM

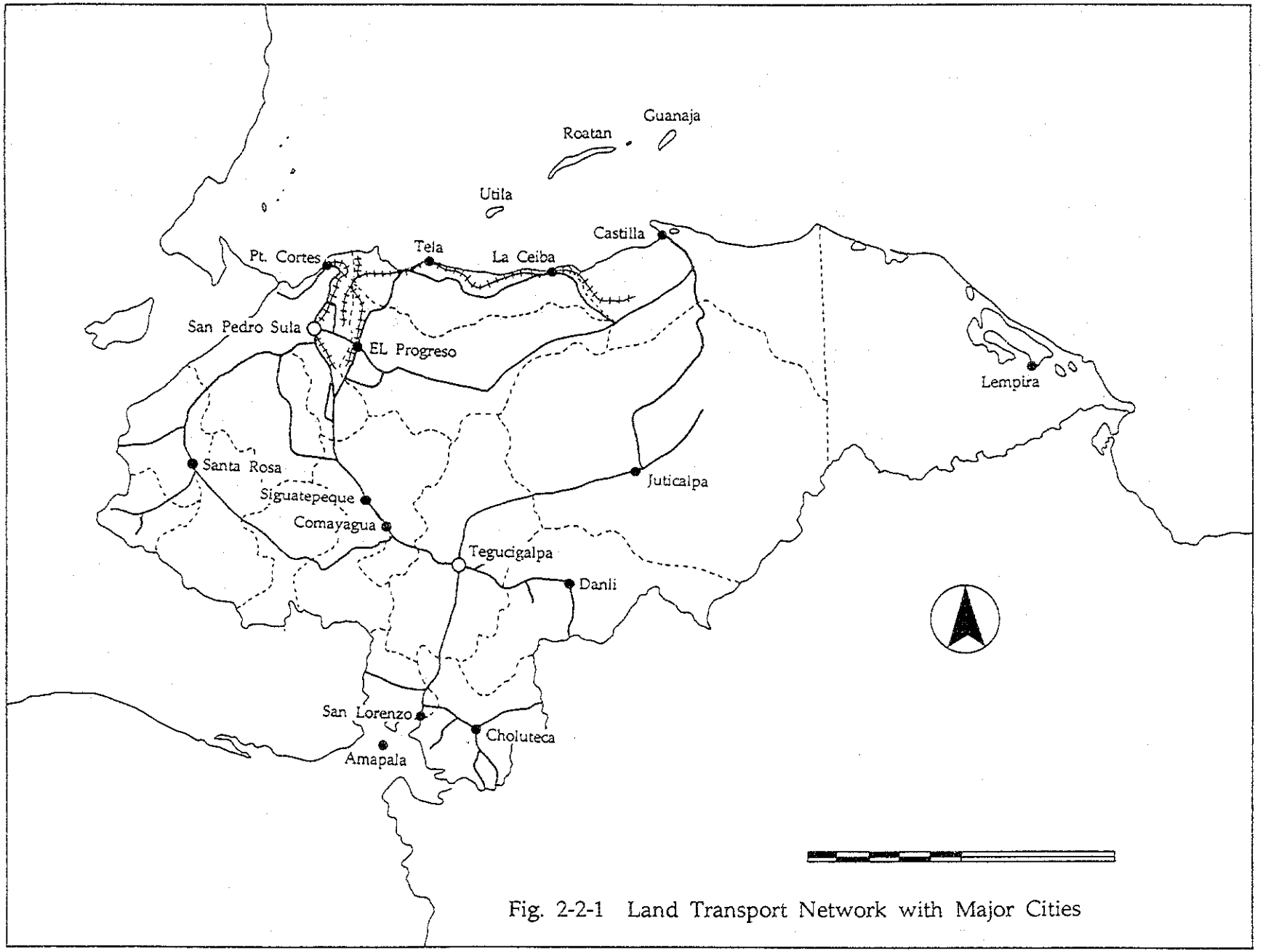


Fig. 2-2-1 Land Transport Network with Major Cities

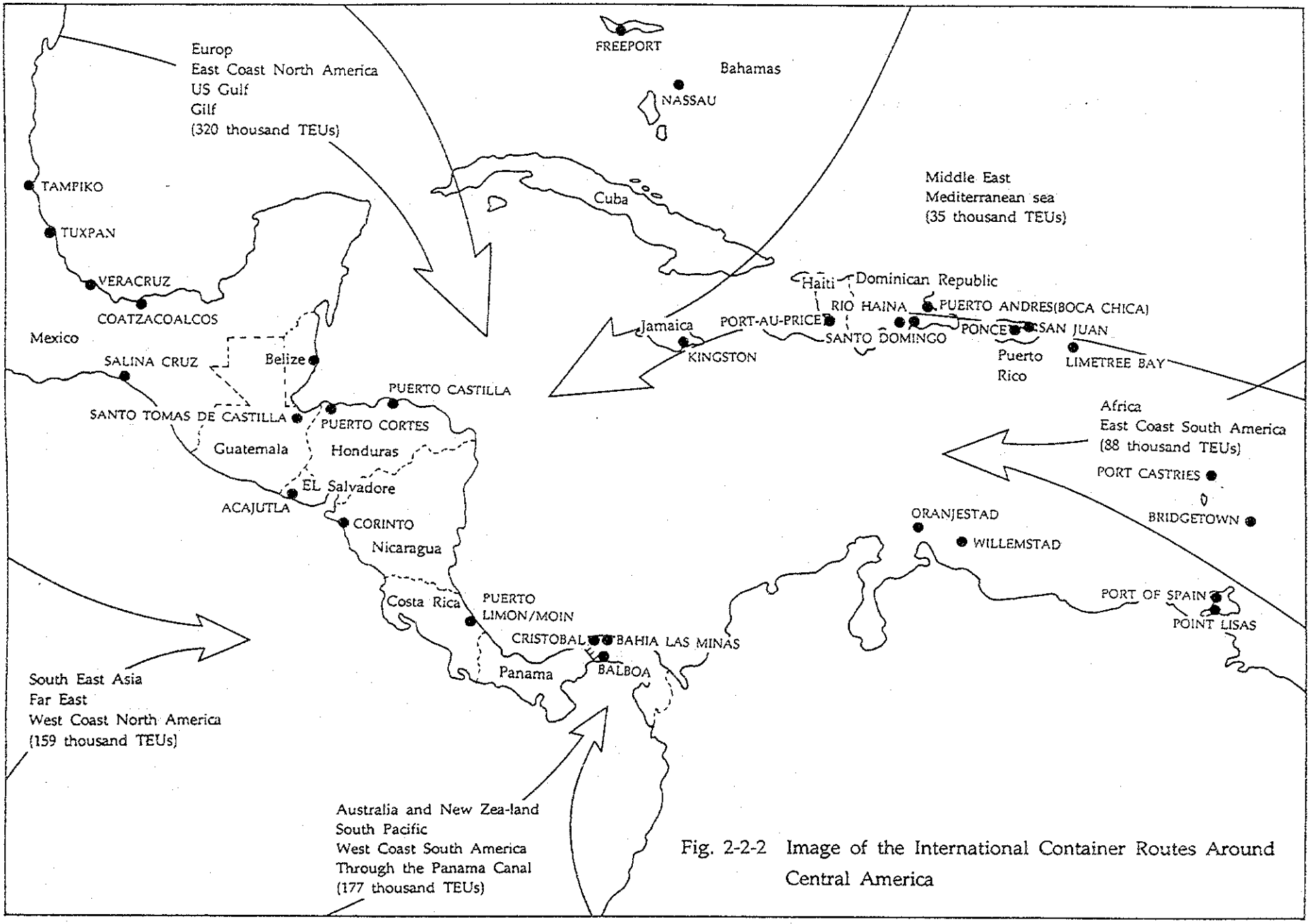


Fig. 2-2-2 Image of the International Container Routes Around Central America

Table 2-2-1 Outline of Railroads in Honduras

Owner	Operator	Length	Gauge	Region
FHN	FHN	114km	1.07m	San Pedro Sula Port of Cortes
FHN	Tela Railroad	179km	1.07m	Plantations in Ulua Valley Port of Tela Port of Cortes
Standard Fruit	(out of service)	157km	0.91m	North Coast between Tela and Balfate Branch lines to Upper Aguan Valley

Table 2-2-2 Distances between Major Ports and Major Cities

	Choluteca	Comayagua	Danli	El Progreso	Juticalpa	San Pdro Sla	Santa Rosa	Siguatepeque	Tegucigalpa
Pt. Cortes	445	221	441	85	498	57	221	189	303
Tela	474	236	447	63	560	90	245	203	338
La Ceiba	486	362	552	170	639	198	350	330	444
Castilla	811	604	794	395	881	440	724	572	686
San Lorenzo	34	190	216	382	273	354	469	222	108

Table 2-2-3 International Container Shipping Routes around Honduras in 1990

Route	TEU	Route	TEU
EC Am feeder	402	Carib ECSA WCNA	2832
EC Am Carib	43	Carib Eur	13658
EC Am Carib ECSA Af FE	2272	Carib FE	804
EC Am Carib Eur	2692	Carib GC ECNA	1599
EC Am Carib USGC ECNA	6242	Carib Med	1641
EC Am ECNA	11162	Carib Fur	678
EC Am ECNA FE	9172	Carib USGC	107
EC Am GC ECNA	1696	Carib USGC ECSA	4520
EC Am Med	914	Carib USGC Med	1316
EC Am USGC	3871	Carib WCSA	827
EC Am USGC Eur	11357	Carib WCSA FE	534
EC Am USGC Med	2448	GC ECNA ANZ	4950
EC Am WC Am Carib ECSA Af FE	336	GC ECNA Af	2890
EC Am WC Am ECSA WCNA	2954	GC ECNA ECSA	12853
EC Am WCNA Med	1628	GC ECNA Eur	16602
EC Am WCSA Med	130	GC ECNA Eur Af	204
WC Am ECSA WCNA	1256	GC ECNA FE	17261
WC Am Eur	1596	GC ECNA FE SEA ME	8468
WC Am FE	1112	GC ECNA ME	9588
WC Am WCNA FE	12236	GC ECNA Med	8872
WC Am WCSA	1091	GC ECNA S Pac	1342
ECNA Eur FE	12062	GC ECNA W Af	2648
ECNA FE	13215	GC ECNA WCSA	1287
ECNA WCNA Eur FE	22370	GC Eur Med SEA	1066
ECNA WCSA	8972	GC USGC ECNA Af	1954
ECNA WCSA Med FE	36191	Gulf islands	125
ECSA FE	1913	USGC ECNA	1284
ECSA WCNA Af FE	4218	USGC ECNA ECSA WCSA	146
ECSA WCNA WCSA	3275	USGC ECNA ANZ Eur FE	19650
ECSA WCSA	1728	USGC WCSA	2264
Carib(inter)	1564	WCNA Eur	7578
Carib ECNA	4869	WCNA Eur FE	15872
Carib ECNA ECSA	360	WCSA Eur	10393
Carib ECNA Med	3238	WCSA Af FE	928
Carib ECNA WCSA	291	WCSA Med	664
Carib ECSA Eur	844	WCSA Af	705
Carib ECSA USGC	1150		368,980

Note EC Am:East coast Central America
WC Am:West coast Central America
ECNA:East coast North America
ECSA:East coast South America
GC:Gulf
Eur:Europe
Med:Mediterranean sea
WCNA:West coast North America
WCSA:West coast South America
FE:Far east
Af:Africa
ME:Middle east
S Pac:South Pacific
SEA:South east Asia
ANZ:Australia and New Zea-land

Souce:Containerization International Year Book, 1992

Table 2-2-4 Major Next Port and Previous Port of Calling Vessels at the Honduran Ports in the Caribbean Sea

Kind of Vessels	Major Previous Port	(%)	Major Next Port	(%)
CONVENTIONAL BREAK BULK	CARTAGENA	6	HOUSTON, TX	12
	HAMBURGO	6	MIAMI, FL	10
	HOUSTON, TX	6	TAMPICO	8
	PORT EVERGLADES, FL	6	NUEVA ORLEANS, LA	6
			PORT EVERGLADES	6
REFRIGERATED BANANA	ZEEBRUGGE	26	PORTSMOUTH	32
	GOTEMBURGO	15	BREMERHAVEN	22
	BREHERHAVEN	8	GOTEMBURGO	14
	ANTWERP	8	SALERNO	9
	PORTSMOUTH	8	ANTWERP	4
			TAMPA, FL	4
BANANA LO-LO	GULFPORT,MISS	67	GULFPORT, MISS	61
	WILMINGTON, DE	21	SAVANNAH, GA	16
			WILMINGTON, DE	10
CONTAINER VESSELS	NUEVA ORLEANS, LA	20	NUEVA ORLEANS, LA	31
	WEST PALM BEACH	14	WEST PALM BEACH	13
	PORT EVERGLADES, FL	12	MIAMI, FL	13
	GENOVA	4	TAMPA, FL.	8
	HAMBURGO	4		
	HOUSTON, TX	4		
	KINGSTON	4		
ROLL-ON/ROLL-OFF	MIAMI, FL	71	MIAMI, FL	68
	NUEVA ORLEANS, LA	17	NUEVA ORLEANS, LA	15
			PORT EVERGLADES, FL	9

Souce:ENP

Table 2-2-5 Major Next Port and Previous Port of Calling Vessels at the Honduras Ports in the Pacific Ocean

Kind of Vessels	Major Previous Port	(%)	Major Next Port	(%)
CONVENTIONAL BREAK BULK	HONG KONG	16	KOBE	44
	HIROSHIMA	16	PUERTO QUETZAL	17
	BENAVENTURA	16	ACAPULCO	11
	YOKOHAMA	12	PUERT CALDERA	11
	RIO DE JENEIRO	12		
CONTAINER and RO/RO	SAN FRANCISCO	15	KOBE	41
	ACAPULCO	15	ACAPULCO	23
	NAGOYA	15	LOS ANGELS	14
	KOBE	15	SAN FRANCISCO	9
	YOKOHAMA	6		
	HIROSHIMA	6		
	PUERTO QUETZAL	6		
	LOS ANGELS	6		

Souce:ENP

Table 2-3-1 Physical Characteristics of Port Cortes

	Unit	No. 1	No. 1-A	No. 2	No. 3	No. 4	No. 5
Date of Completion		Lates 50'S 1992	1991	1919	1955	1969	1975
Background		Dredging of Maintenance. Dredging volume: Approx. over 200,000 m3 per year.		Damaged by Guatemala Earthquake in 1976, After that, subsidence.	Expansion of width by 10.0m in 1984.	Strengthen slab in 1985.	Strengthen slab in 1989.
Wharf							
Length	m.	24.4	120	293	150	347	352
Width	m.	11.0	6.0	18.3	46	53	53
Crown Height	m.	- - -	- - -	- - -	+1.93	+1.93	+1.93
Water Depth	m.	-9.3	-10	- - -	-10.6	-8.8	-11.0
Type of Wharf		Dolphin of Steel Piles	Pier and Dolphin of Concrete Piles	Open-Deck Pier, on Concrete Piles	Open-Deck Pier, on Concrete Piles	Same as No. 3	Same as No. 3
Approach Trestle	m.	100 x 3 Open Deck Pier, on Steel Piles	100 x 5 Open Deck Pier, on Concrete Piles	Open-Deck Pier, on Concrete	Open-Deck Pier, on Concrete	Same as No. 3	Same as No. 3
Number of Tracks on Apron		None	None	3	2	2	4
Main Cargoes		Oil (TEXACO)	Sugar Molasses	Out of service	Gen. cargo. Banana.	Gen. cargo. Banana.	Containers Ro/Ro

Note: Crown Height is meters above M.S.L. Water Depth is meters below M.L.W.

Table 2-3-2 Physical Characteristics Building in Port Cortes

		Location	Floor Area (sq. m)	Height (m)	Capacity (cu. m)
Warehouse or Shed	Warehouse No. 1	Behind Wharf No. 3	4,810	7.3	35,000
	No. 2	Behind Wharf No. 2	2,220	6.7	14,900
	No. 3	Behind Wharf No. 3	3,200	3.6	11,500
	No. 4	Behind Wharf No. 4	4,990	6.8	33,900
	Dangerous Cargo W. H.	Behind Wharf No. 4	437	4.4	1,920
	Remate Warehouse	Behind Wharf No. 3	485	3.5	1,698
	T. R. R. Co. Office	Same Building as Warehouse No. 3	423	5.5	2,115
	Cofee Warehouse	Same Building as Warehouse No. 3	423	5.0	2,115
	Fyffes Office	Same Building of Remate Warehouse	377	3.5	1,320
	Total		17,365	–	104,468
Factory	Maintenance Shop	Near the Gate No. 3	440		
	Mechanical Factory	Near the Gate No. 3	410		
	Service Building	Near the Gate No. 3	960		
	Refuel Station	Near the Gate No. 6	1,000		
Office	ENP Office	Near the Gate No. 6	640		
	Superintendent Office	Next to Warehouse No. 1	1,800		

Table 2-3-3 Physical Characteristics of Port Facilities

	Unit	Tela	La Ceiba	Castilla	San Lorenzo	Amapala	Roatan
Date of Completion		1914	1970	1983	1973-1977		
Background		Destroyed by a fire in 1992					
Wharf							
Length	m.	547.70	237.74	150.0	295.0	9.6	32.5
Width	m.	22.0/9.0	16.5/11.0	38.0	37.8/25.2	1.6	4.8
Crown Height	m.	3.60	3.20	2.5	1.4	2.0	1.3
Water Depth	m.	-10.5/-8.3	-11.0	-11.0	D.L -9.0/-5.0	1.5	-3.0
Type of Wharf		Wood Pier	Wood Pier	Concrete Pier on Concrete Piles	T-type Pier on Concrete Piles	Rubble Jetty	Wood Pier
Number of Tracks on Apron		Two Approach Trucks Four Loading Trucks	Two Approach Trucks Four Loading Trucks	Rail for Container Crane			
Approach Trestle	m.				160 x 15	20 x 5.60	
Building							
Warehouse*	sq.m		270	5,960	5,420		
Work Shop	sq.m			17 x 48			
ENP Office	m.	10.98 x 13.61	32.22 x 39.70	30 x 32	14 x 26		
Government Office	m.			30 x 32			
Public Office	m.	4.27 x 11.89	11.50 x 16.50				1,200 sq.m
	m.	3.50 x 17.35					

Note: Crown Height/Water Depth is above/below M.S. L.

* Details of Warehouse are as follows:

	Floor Area (sq.m)	Height (m)	Capacity (cu.m)
La Ceiba			
Warehouse	270	8.70	1,800
Castilla			
5A Lumber Storage	2,980	8.40	19,000
5B Lumber Storage	2,980	8.40	19,000
Total	5,960	- - - -	38,000
San Lorenzo			
Lumber Shed	1,200	- - - -	- - - -
General Cargo Shed	2,410	- - - -	- - - -
Cotton Shed	1,810	- - - -	- - - -
Total	5,420	- - - -	- - - -

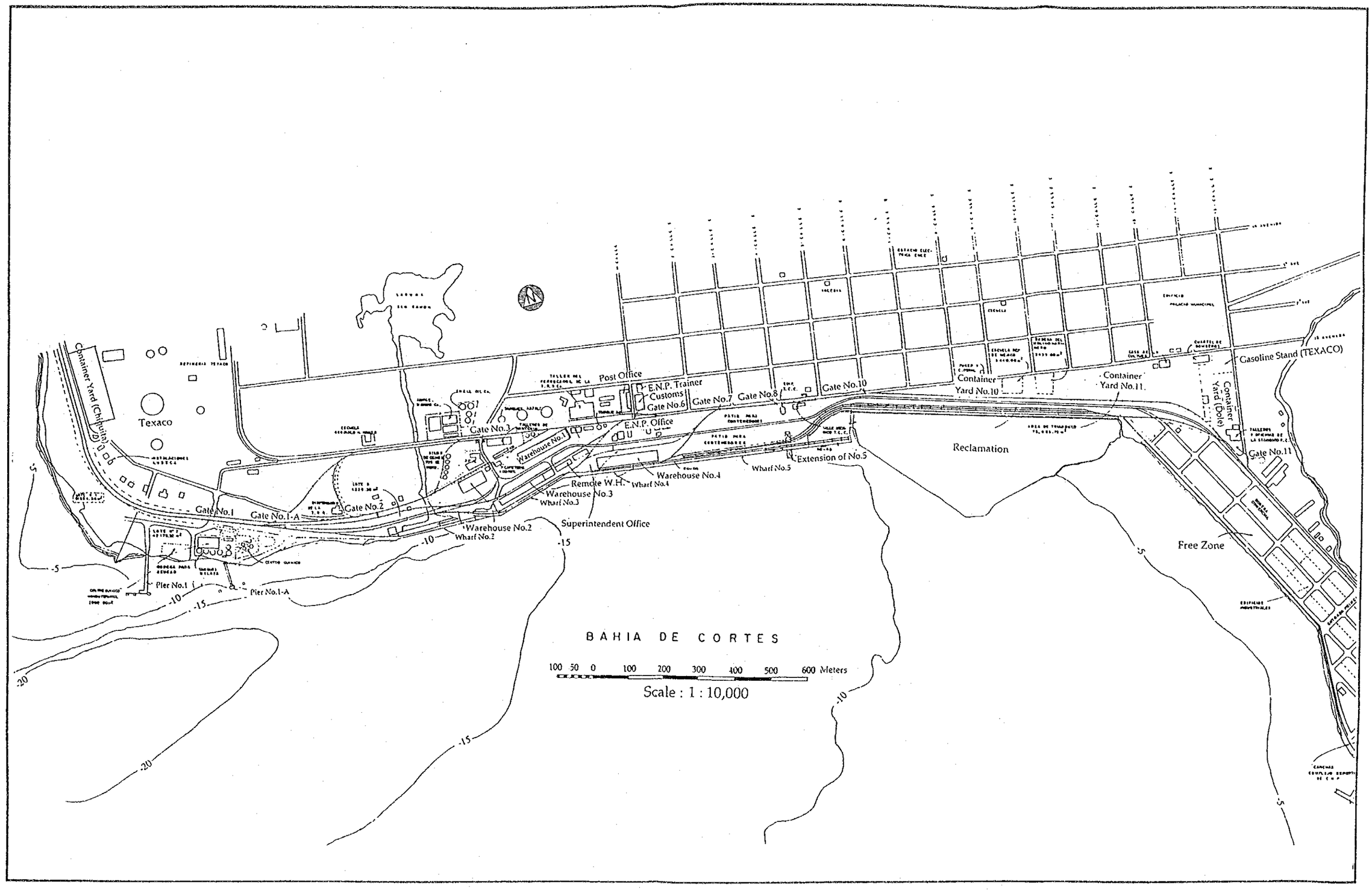
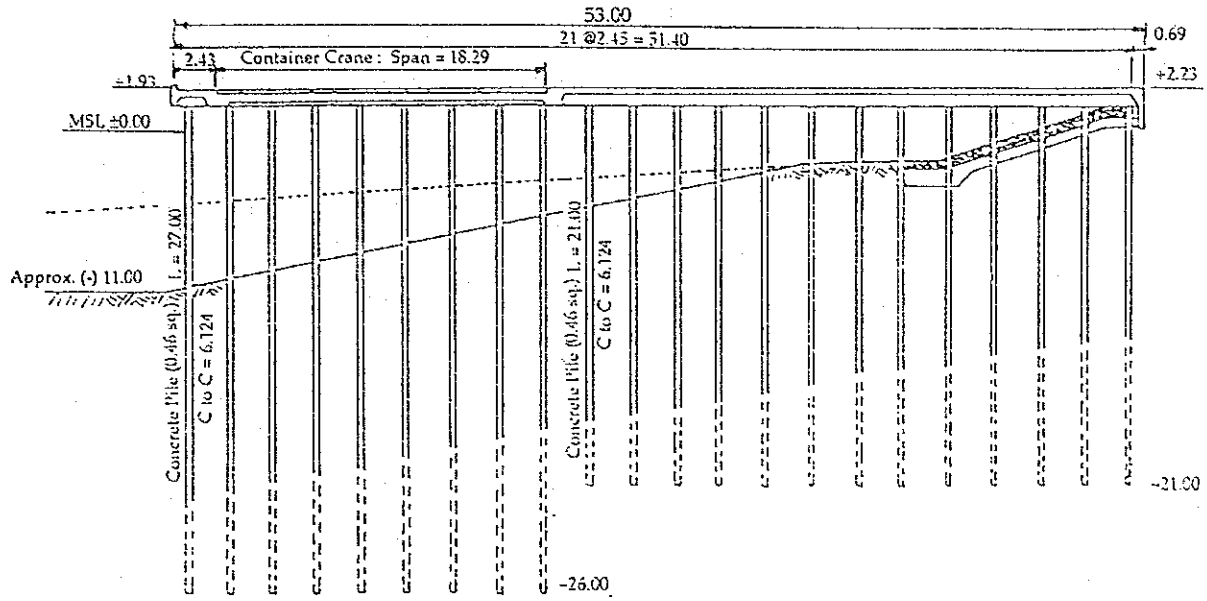


Fig. 2-3-1 Plan of Port Cortes



Note: Estimated Pile Length : 21 m and 27 m

Unit: Meter

Scale : 1 : 400

Fig. 2-3-2 Typical Cross Section of Wharf No.5

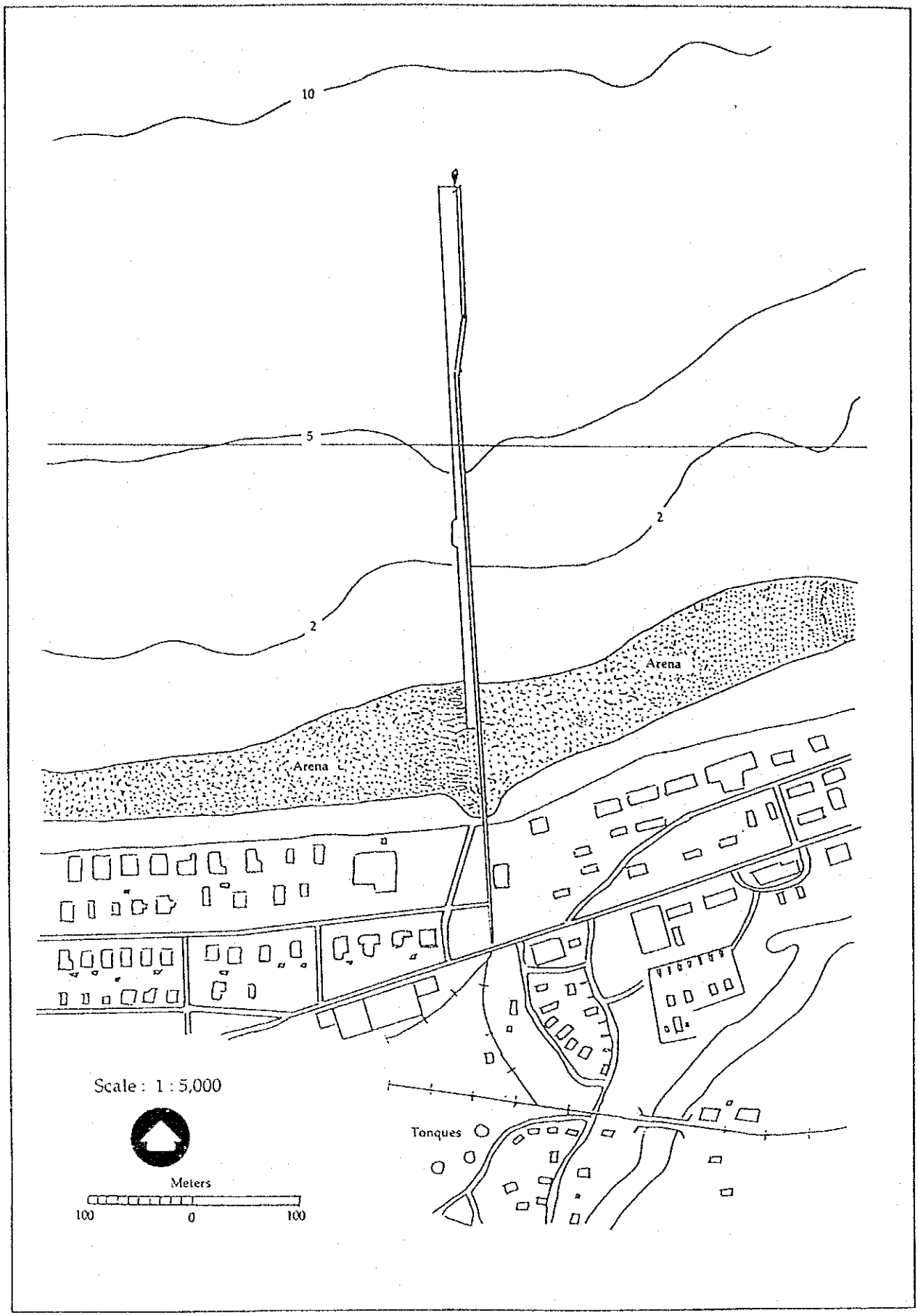


Fig. 2-3-3 Plan of Port Tela

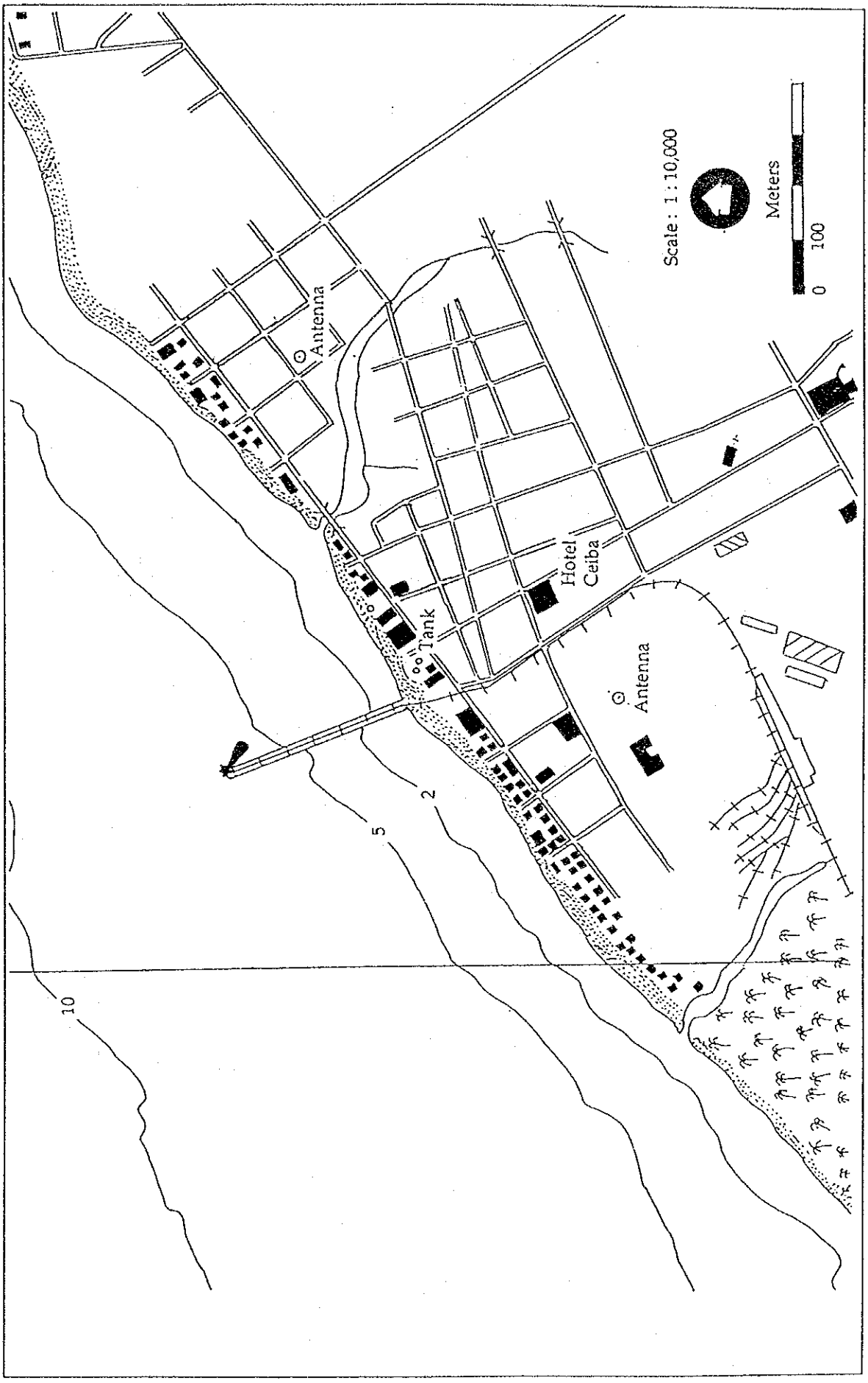


Fig. 2-3-4 Plan of Port La Ceiba

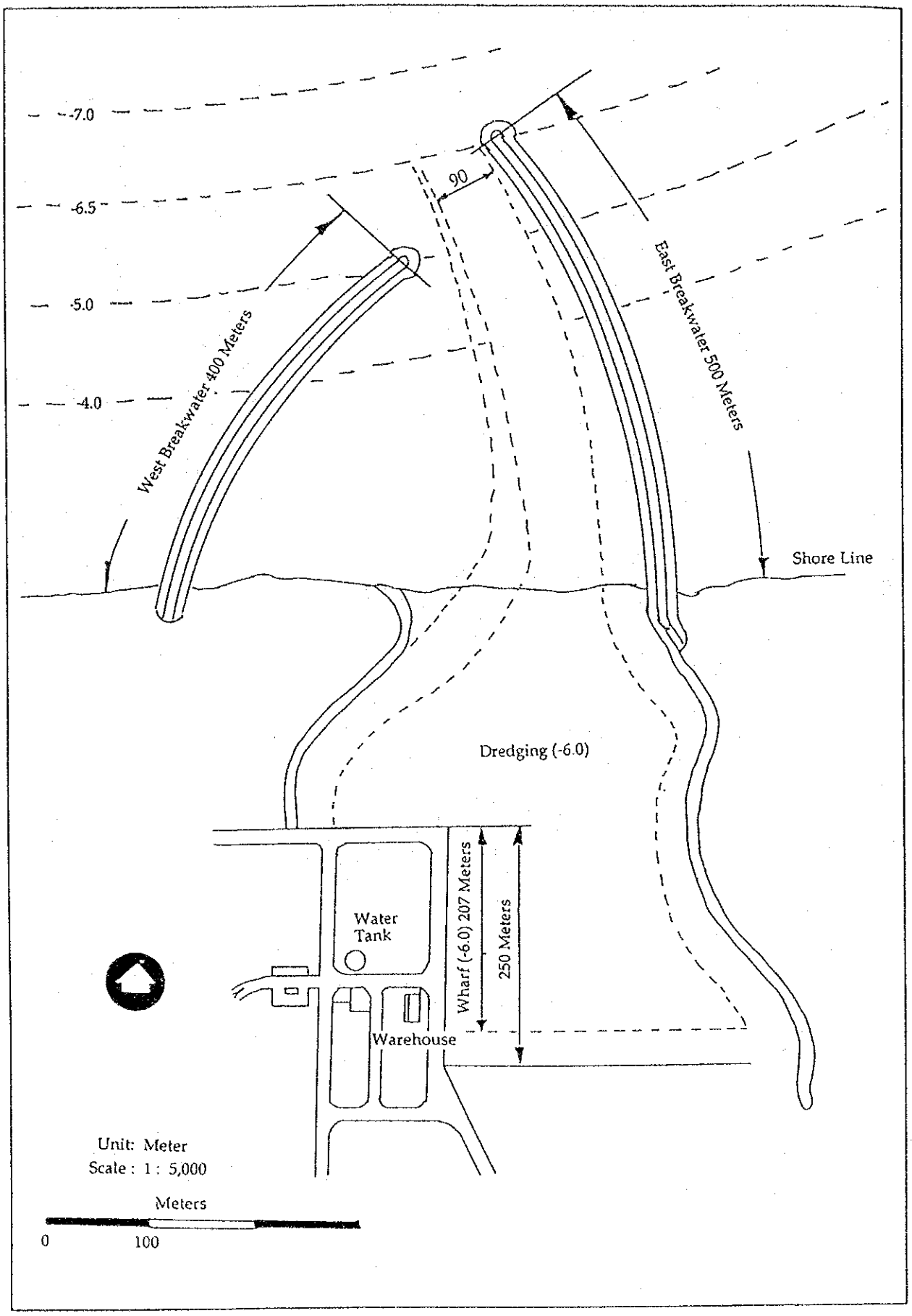


Fig. 2-3-5 Plan of New Port La Ceiba

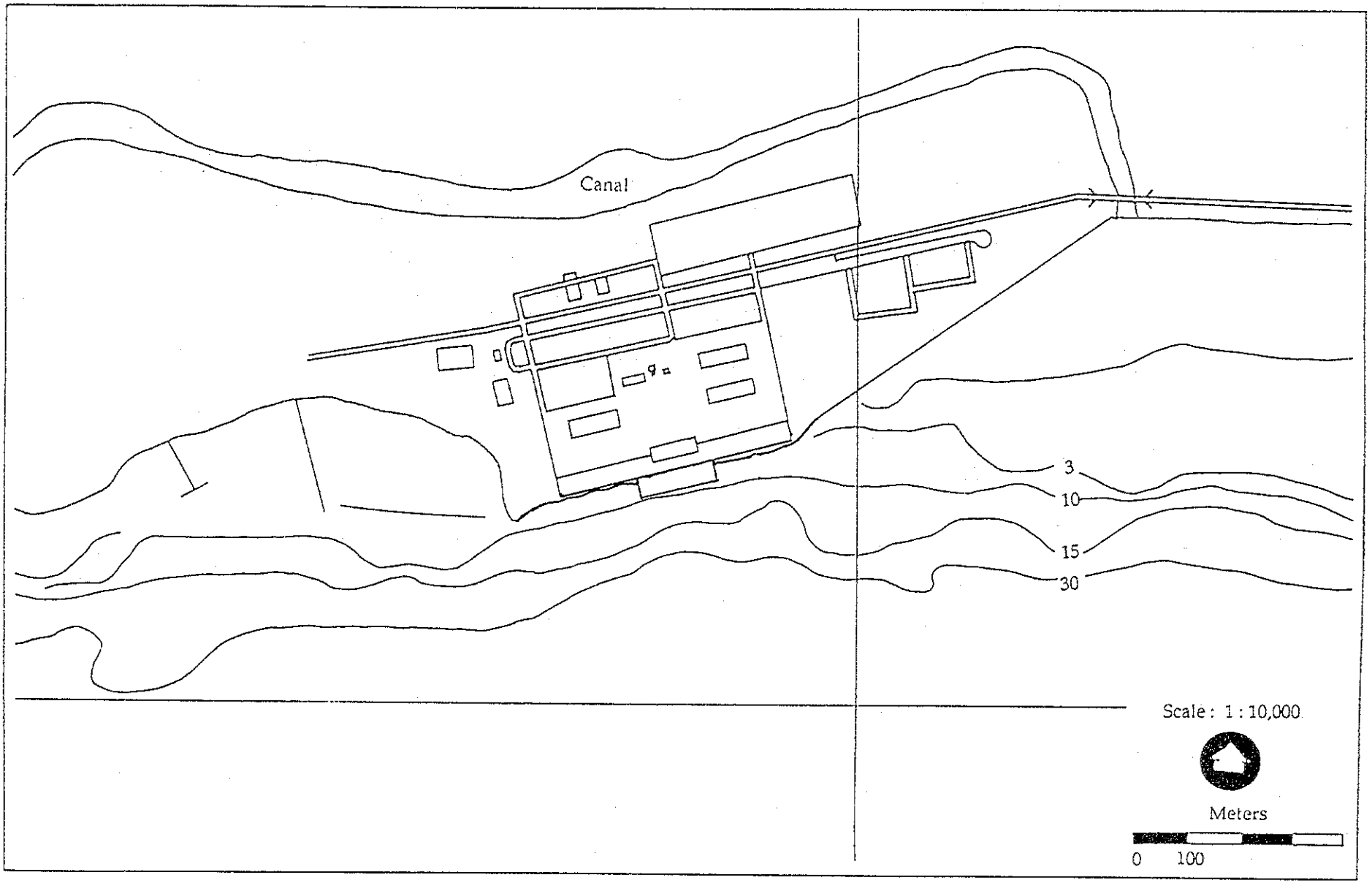


Fig. 2-3-6 Plan of Port Castilla

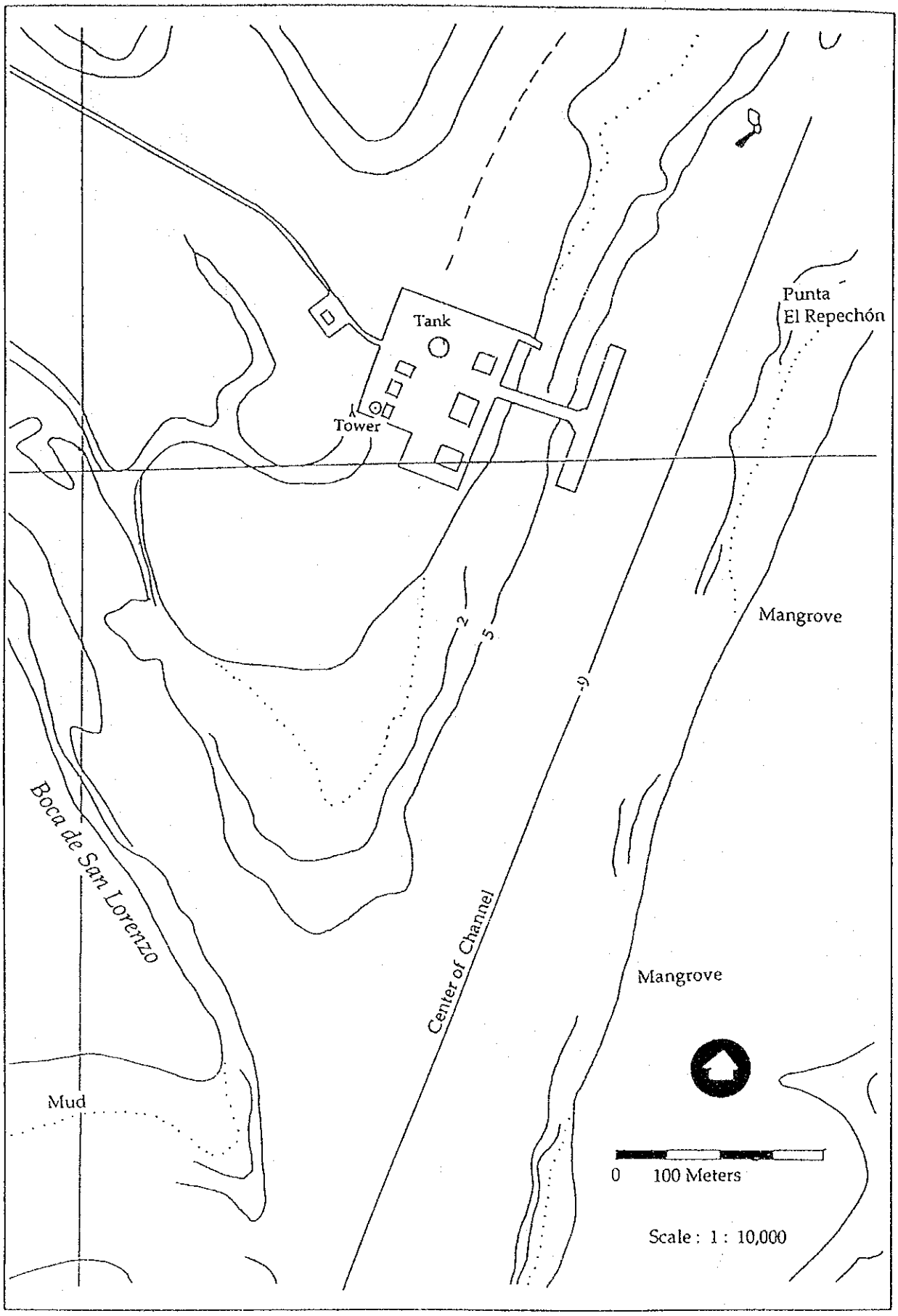


Fig. 2-3-7 Plan of Port San Lorenzo

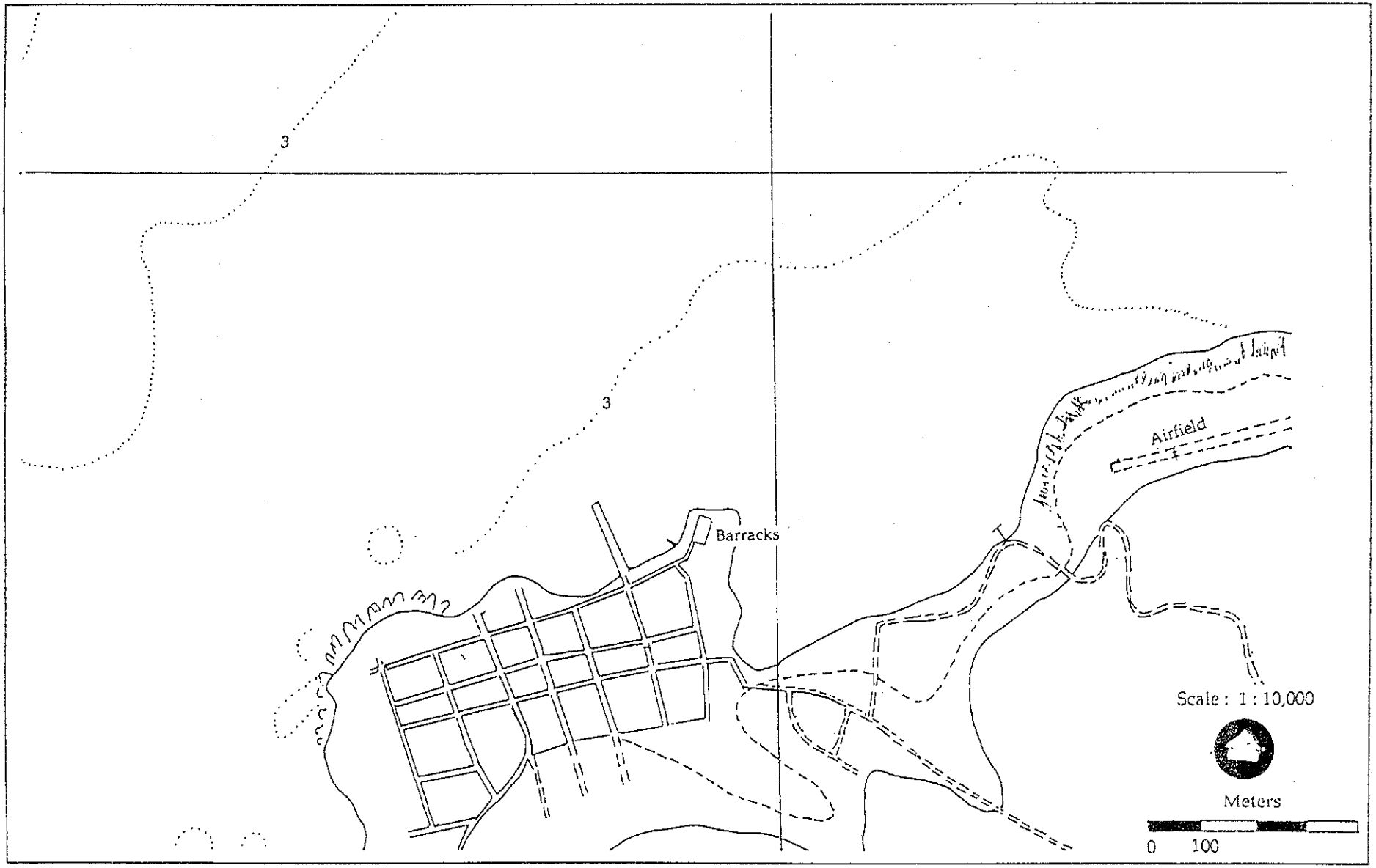


Fig. 2-3-8 Plan of Port Amapala

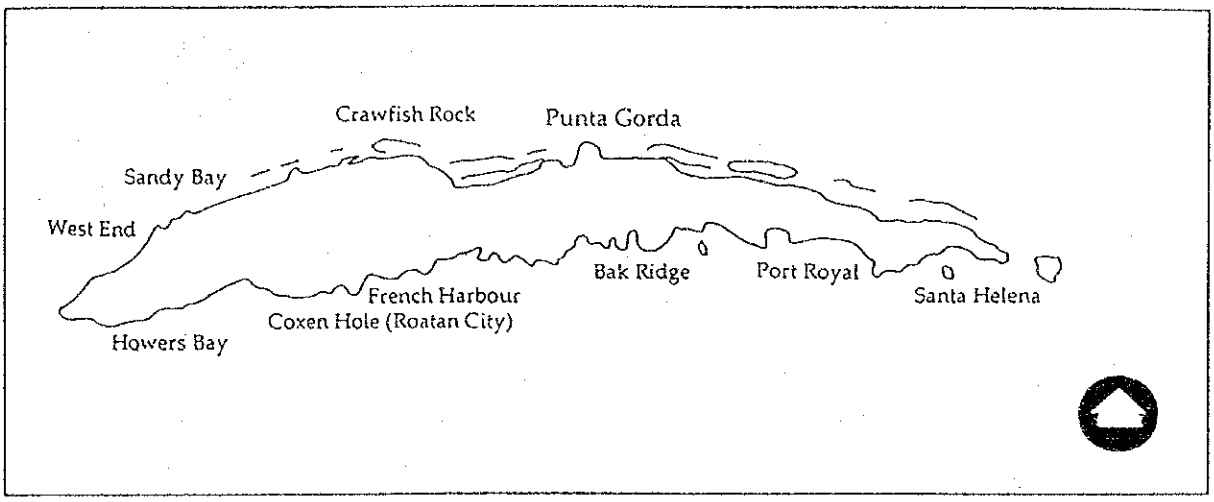


Fig. 2-3-9 Roatan Island

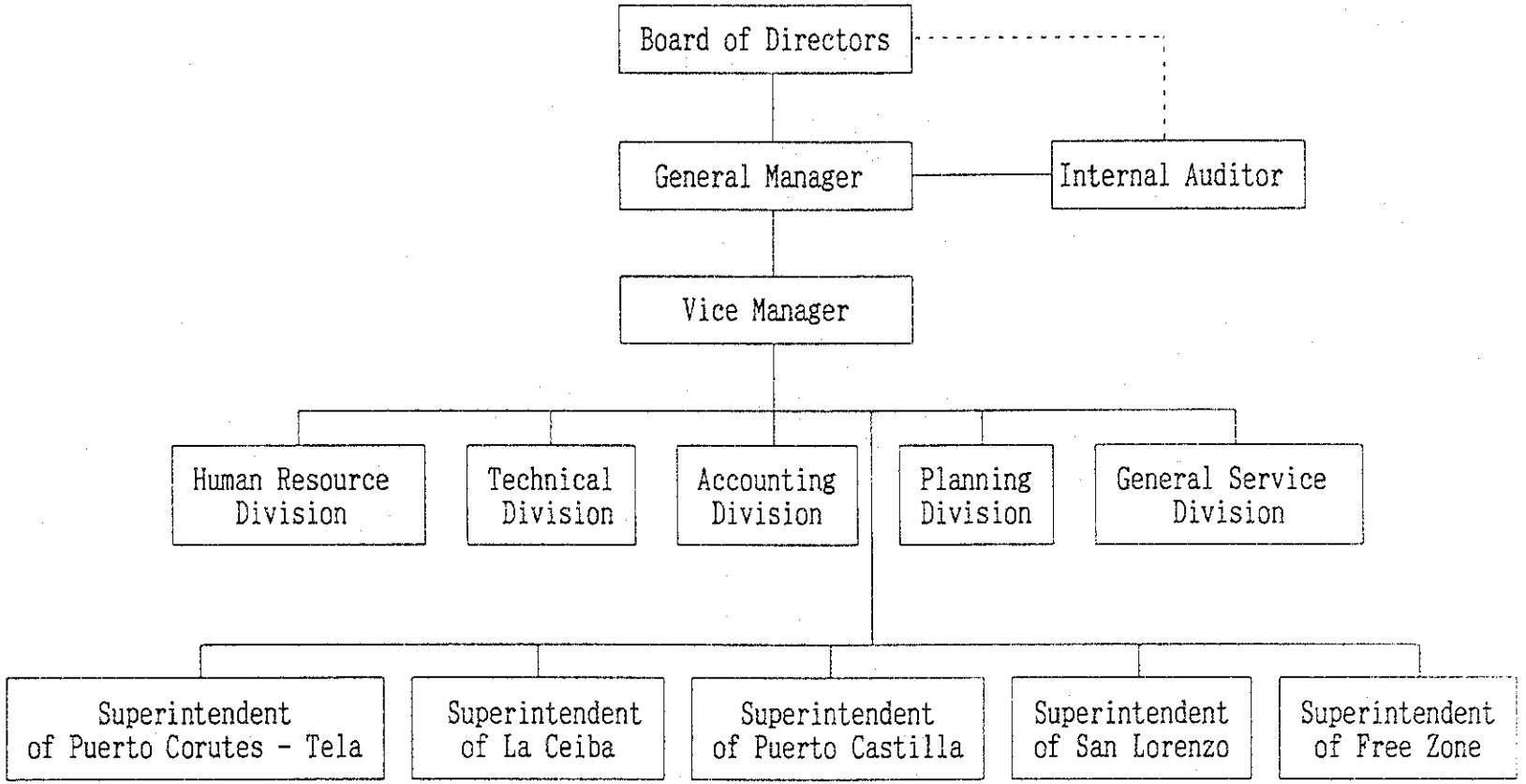


Fig. 2-4-1 Organization of ENP

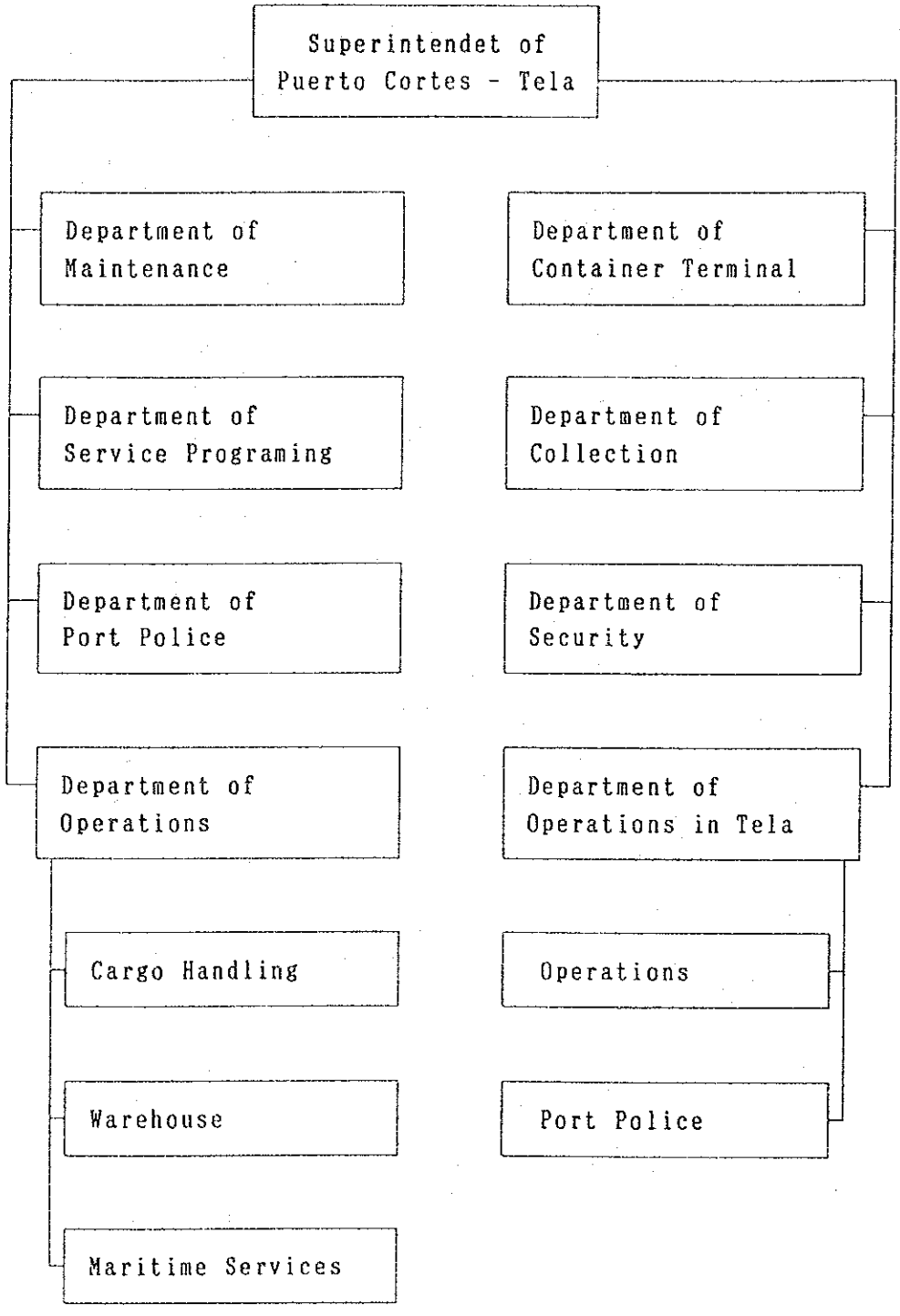


Fig. 2-4-2 Organization of Superintendent of Puerto Cortes - Tela

Table 2-4-1 Personnel of ENP

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
1. Central Office										
Management	59	62	84	72	47	46	55	48	49	49
Internal Auditor	17	16	19	20	19	19	19	22	22	22
Planning Division	22	20	24	27	25	22	20	33	33	33
General Services Division	84	84	86	48	77	79	39	36	38	38
Human Resources Division	32	33	35	36	38	43	70	91	91	90
Accounting Division	23	23	23	40	47	36	50	38	38	38
Technical Division	131	148	136	100	115	123	119	118	120	122
Sub-total	368	386	407	343	368	368	372	386	391	392
2. Superintendent										
Puerto Cortes	302	329	303	414	493	461	460	458	461	462
Tela	9	9	8	7	12	12	11	12	12	12
La Ceiba	36	36	34	36	39	37	40	37	37	25
Puerto Castilla	69	61	60	69	73	77	76	77	77	77
San Lorenzo	103	104	100	104	122	119	101	98	98	85
Free Zone	24	23	25	37	36	39	44	44	44	44
Sub-total	543	562	530	667	775	745	732	726	729	705
Total	911	948	937	1,010	1,143	1,113	1,104	1,112	1,120	1,097

Source : PRESUPUESTO DE SUELDOS

Table 2-4-2 Accidents in ENP

	1988	1989	1990	1991	1992	Total
Puerto Cortes	27	42	55	52	45	221
	47,600	47,864	105,101	60,878	39,654	301,097
La Ceiba		2				2
		2,460				2,460
Puerto Castilla	3	10	7	4	5	29
	654	6,126	3,278	2,906	12,419	25,383
San Lorenzo	6	11	4	4	4	29
	18,213	8,348	870	1,782	2,476	31,689
Free Zone		1	1	1		3
		213	1,408	258		1,879
Total	36	66	67	61	54	284
	66,467	65,011	110,657	65,824	54,549	362,508

Source : ENP

Upper:Number of Accidents, Lower:Expenditure of Insurance

Table 2-4-3 Income Statement of ENP

(Unit : Thousand Lempiras)

	1986	1987	1988	1989	1990	1991	1992
Operating Income							
Ship Service	19,467	21,110	22,021	22,493	24,973	27,500	29,303
Cargo Handling Service	30,957	33,540	33,604	35,125	35,012	37,350	43,550
Equipment Lease	1,525	1,792	2,019	1,731	1,879	1,963	1,462
Free Zone Service	1,676	1,813	1,932	2,058	2,963	4,386	7,134
Sub-Total	53,625	58,255	59,576	61,407	64,827	71,199	81,449
Operation Expense							
Personnel	22,760	25,191	25,755	26,820	29,722	36,416	41,293
Maintenance	6,111	5,253	4,646	5,733	6,966	8,885	12,660
Administration	1,317	1,257	1,159	1,223	1,897	2,685	2,911
Depreciation	9,455	9,900	9,959	9,177	9,030	9,551	10,405
Sub-Total	39,643	41,602	41,518	42,953	47,614	57,537	67,269
Net Operating Income	13,982	16,653	18,058	18,454	17,212	13,662	14,180
Non-Operation Income	1,395	2,957	12,543	13,275	10,432	46,537	53,369
Non-Operating Expense	29,909	28,262	17,090	20,802	15,781	31,647	41,557
Net Income Before Tax	-14,532	-8,652	13,511	10,926	11,863	28,553	25,991
Working Ratio (%)	56.29	54.42	52.97	55.00	59.52	67.40	69.82
Operating Ratio (%)	73.93	71.41	69.69	69.95	73.45	80.81	82.59

Source : ESTADOS FINANCIEROS E INFORMACION ADICIONAL

Table 2-4-4 Operating Expense and Administrative Expense

(Unit : Thousand Lempieras)

	1986	1987	1988	1989	1990	1991	1992
Operating Costs	9,835	9,833	9,195	9,769	11,186	13,473	17,878
Personnel Expense	5,630	6,176	6,287	6,153	6,893	8,136	9,441
Other Expense	4,205	3,657	2,909	3,617	4,293	5,337	8,437
Percentage of P/Ope.	57.24%	62.81%	68.37%	62.98%	61.62%	60.39%	52.81%
Administrative Costs	20,353	21,869	22,364	24,007	27,398	34,513	38,985
Personnel Expense	17,131	19,015	19,468	20,667	22,829	28,280	31,851
Other Expense	3,222	2,854	2,896	3,339	4,569	6,233	7,134
Percentage of P/Admi.	84.17%	86.95%	87.05%	86.09%	83.32%	81.94%	81.70%
Total Expense	30,188	31,702	31,560	33,776	38,585	47,986	56,864
Personnel Expense	22,760	25,191	25,755	26,820	29,722	36,416	41,293
Other Expense	7,427	6,510	5,805	6,956	8,863	11,570	15,571
Percentage of P/T	75.40%	79.46%	81.61%	79.41%	77.03%	75.89%	72.62%

Source : ESTADOS FINANCIEROS E INFORMACION ADICIONAL (ENP)

Note : Expenses Exclude Depreciation

P/Ope. = Personnel Expense/Operating Expense

P/Admi. = Personnel Expense/Administrative Expense

P/T = Personnel Expense/Total Expense

Table 2-4-5 Budget and Accounts of ENP

	1988		1989		1990	
	Budget	Accounts	Budget	Accounts	Budget	Accounts
Income	61,500	72,119	65,606	74,682	67,200	75,259
Expense	59,641	58,608	57,517	63,755	59,906	63,395
Profits	1,859	13,511	8,090	10,927	7,295	11,864
	1991		1992		1993	
	Budget	Accounts	Budget	Accounts	Budget	Accounts
Income	95,536	117,736	113,718	134,818	140,699	
Expense	73,857	89,184	92,973	108,826	107,208	
Profits	21,679	28,552	20,745	25,992	33,491	0

Source : ENP

Table 2-4-6 Port Tariff

Items	Unit Charge	Remarks
1.Ship Service		
(1)Harbour Dues		
1)Conventional Ships	0.75 US$/GRT	Up to 3,000 GRT
	0.65 US$/GRT	From 3,001 to 8,000 GRT
	0.55 US$/GRT	From 8,001 to 15,000 GRT
	0.45 US$/GRT	More than 15,001 GRT
2)Ro/Ro Ships	0.50 US$/GRT	Up to 3,000 GRT
	0.30 US$/GRT	From 3,001 to 8,000 GRT
	0.20 US$/GRT	From 8,001 to 15,000 GRT
	0.10 US$/GRT	More than 15,001 GRT
3)Solid Bulk Ships	1.875 US$/GRT	Up to 3,000 GRT
	1.75 US$/GRT	From 3,001 to 8,000 GRT
	1.50 US$/GRT	From 8,001 to 15,000 GRT
	1.25 US$/GRT	More than 15,001 GRT
4)Tanker	2.00 US$/GRT	Up to 3,000 GRT
	1.75 US$/GRT	From 3,001 to 8,000 GRT
	1.50 US$/GRT	From 8,001 to 15,000 GRT
	1.25 US$/GRT	More than 15,001 GRT
5)Timber Ships	1.25 US$/GRT	Up to 3,000 GRT
	1.125 US$/GRT	From 3,001 to 8,000 GRT
	0.875 US$/GRT	From 8,001 to 15,000 GRT
	0.75 US$/GRT	More than 15,001 GRT
6)Bananas and Other Fruits Ships	0.75 US$/GRT	Up to 3,000 GRT
	0.625 US$/GRT	From 3,001 to 8,000 GRT
	0.40 US$/GRT	From 8,001 to 15,000 GRT
	0.30 US$/GRT	More than 15,001 GRT
7)Lo/Lo Ships	0.75 US$/GRT	Up to 3,000 GRT
	0.625 US$/GRT	From 3,001 to 8,000 GRT
	0.45 US$/GRT	From 8,001 to 15,000 GRT
	0.15 US$/GRT	More than 15,001 GRT
(2)Pilotage		
	112.50 US$	From 301 to 1,500 GRT
	150.00 US$	From 1,501 to 3,000 GRT
	187.50 US$	From 3,001 to 4,500 GRT
	225.00 US$	From 4,501 to 6,000 GRT
	262.50 US$	From 6,001 to 8,000 GRT
	300.00 US$	From 8,001 to 10,000 GRT
	350.00 US$	From 10,001 to 15,000 GRT
	425.00 US$	From 15,001 to 20,000 GRT
	500.00 US$	More than 20,001 GRT
(3)Towage		
	112.50 US$	From 301 to 1,500 GRT
	162.50 US$	From 1,501 to 3,000 GRT
	237.50 US$	From 3,001 to 4,500 GRT
	287.50 US$	From 4,501 to 6,000 GRT
	337.50 US$	From 6,001 to 8,000 GRT
	375.00 US$	From 8,001 to 10,000 GRT
	412.50 US$	From 10,001 to 15,000 GRT
	475.00 US$	From 15,001 to 20,000 GRT
	537.50 US$	More than 20,001 GRT

(4)Anchorage		
	7.50 US$	Up to 200 GRT
	15.00 US$	From 201 to 1,500 GRT
	30.00 US$	From 1,501 to 3,000 GRT
	45.00 US$	From 3,001 to 4,500 GRT
	60.00 US$	From 4,501 to 6,000 GRT
	75.00 US$	From 6,001 to 8,000 GRT
	90.00 US$	From 8,001 to 10,000 GRT
	110.00 US$	From 10,001 to 15,000 GRT
	125.00 US$	From 15,001 to 20,000 GRT
	150.00 US$	More than 20,001 GRT
(5)Tying and Untying Rope		
	50.00 US$	Normal labour hours
	100.00 US$	No normal labour hours or overtime
(6)Berthage		
	1.50 US$/ft/hour	First 10 hours (Minimum)
	0.25 US$/ft/hour	After minimum time
2.Cargo Handling		
(1)General Cargo		
Loading, Unloading	0.75 US$/ton	
(2)Container		
1)Lo/Lo Ships		
Unloading, Loading	100.0 US$	Full System (*1)
	90.0 US$	To Railway (*2)
	71.5 US$	To Chassis (*3)
	62.5 US$	Empty Container
2)Ro/Ro Ships		
Unloading	56.5 US$	Full Container
	32.5 US$	Empty Container
Loading	56.5 US$	
(3)Banana	22.5 US$	By user's equipment
(4)Transit		
1)Lo/Lo Ships	55.0 US$	Full Container
	50.0 US$	Empty Container
2)Ro/Ro Ships	50.0 US$	Full Container
	45.0 US$	Empty Container
3.Others		
(1)Water Supply	5.0 US$	250 gallons
(2)Wharf Cleaning	50.0 US$	Timber Ships
	100.0 US$	Solid Bulk Ships
(3)Electrical Energy(light)	12.5 US$/hour	From 6:00 PM to 6:00 AM

Source : ENP

(*1) With Gantry Crane, Straddle Carrier and Tractor Head

(*2) With Gantry Crane and Straddle Carrier

(*3) With Gantry Crane

Table 2-4-7 Port Operating Hours by Each Function

Functions/Services	Operating Hours	Closing Days
Pilotage	24 hours	May 1
Tugs	24 hours	May 1
Entry into port	24 hours	May 1
Berthing	24 hours	May 1
Cargo handling	24 hours	365 days available
Port captain	24 hours	May 1
Customs	8 hours	May 1
Quarantine	8 hours	May 1

Source : ENP

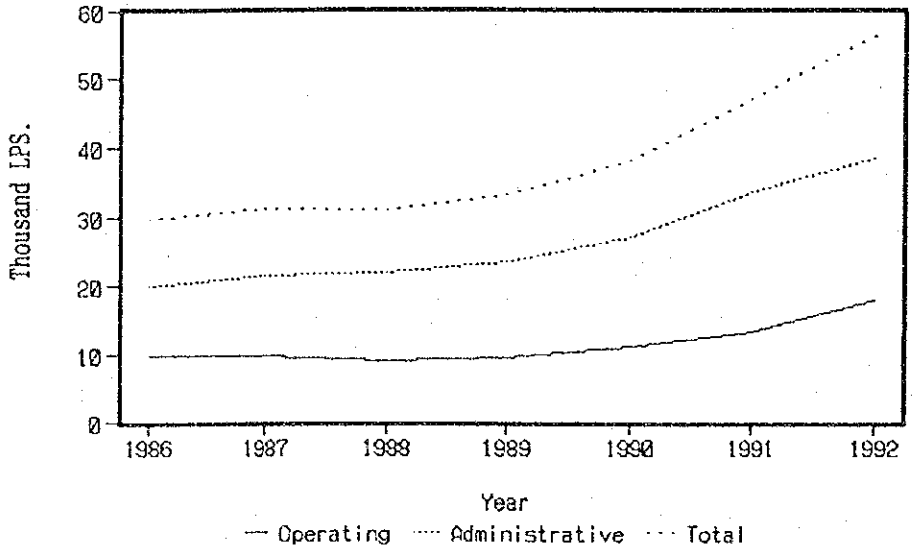


Fig. 2-4-3 Operating and Administrative Expense

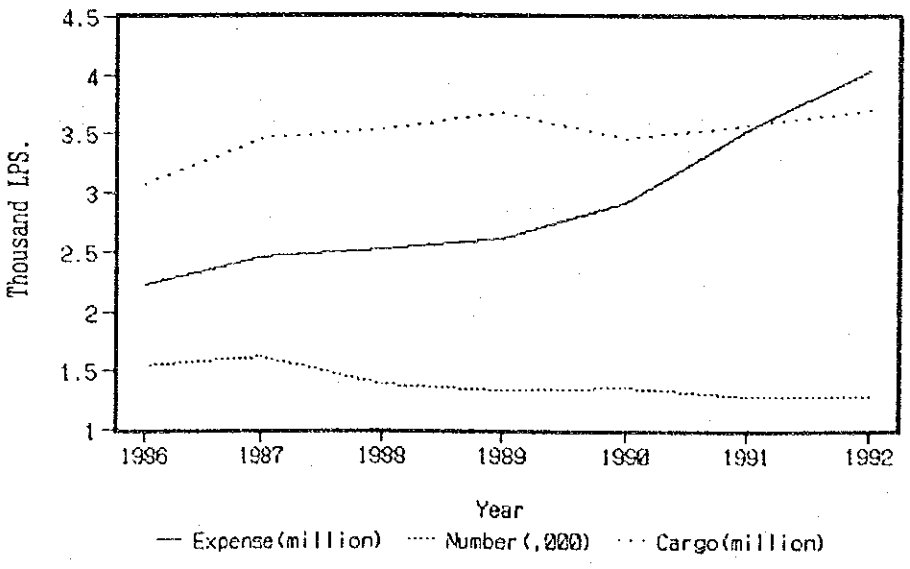


Fig. 2-4-4 Expense and Number of Personnel and Cargo Volume

Table 2-5-1 Cargo Handling Equipment by Port (1993)

Handling Equipment	Cortes	Castilla	La Ceiba	San Lorenzo	Total
Mobil Crane	8	2	0	3	13
125ton	1				1
80ton					0
50ton	1				1
40ton	1				1
35ton		1			1
30ton				2	2
25ton	1				1
22ton	1				1
20ton		1			1
15ton	2				2
5ton				1	1
					0
Gantry Crane 45ton	1				1
Forklift	53	4	1	7	65
1.5ton	17	1	1		19
2.0ton	1				1
3.0ton	8	1		4	13
4.0ton	19	2		2	23
7.5ton	8			1	9
Straddle Carrier	3				3
45ton	2				2
30ton	1				1
Top-lifter	1		0	1	2
45ton	1				1
40ton					0
30ton				1	1
Prime Mover	27	1		2	30
30ton	27	1		2	30
Chassis	35	6		5	46
40ton	35	6		5	46
Scale	3				3
60ton	3				3
Wheel Loader		1		2	3
4ton				2	2
		1			1
Total	130	14	1	20	165

Source:ENP

Table 2-5-2 Condition of Container Handling Equipment
at the Port of Cortes

type	Capacity Ton	Quantity	Year Built	Condition			Remak
				Good	Satis.	Poor	
Toplifter	45	1	1992	1			St. Carr.:
St.Carr.	45	2	1984	1		1	Straddle
St.Carr.	30	1	1978		1		Carrier
Sub Total		4		2	1	1	
Prime Mover	30	7	1992	7			
Prime Mover	30	2	1990	2			
Prime Mover	30	4	1984	4			
Prime Mover	30	5	1980	2	1	2	
Prime Mover	30	6	1978	3	3		
Prime Mover	30	3	1978	2	1		
Sub Total		27		20	5	2	
Chassis	40	35			35		76,78 & 83
							install
Total		66		22	41	3	the port

Type	Location	Cpacity Ton	Year Built	Range (m)	Condition		
					Good	Satis.	Poor
Paceco Gantry Crane (for container)	#5 Berth	45	1978	35	x		
Total							

Standard of Classification

Good :Working
Satis. :Cost is Low
Poor :Almost beyond repair

Source:ENP

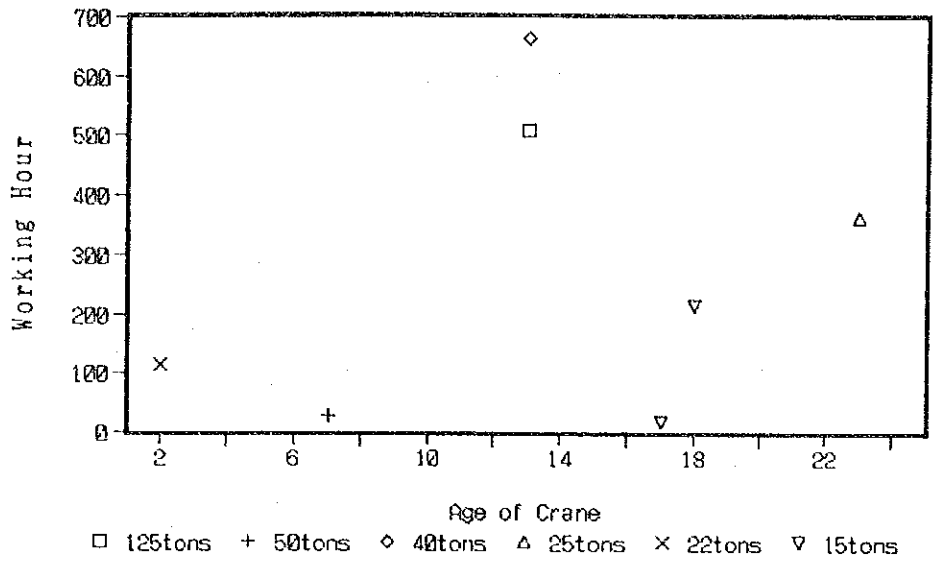


Fig. 2-5-1 Relation between Age of Crane and Working Hour

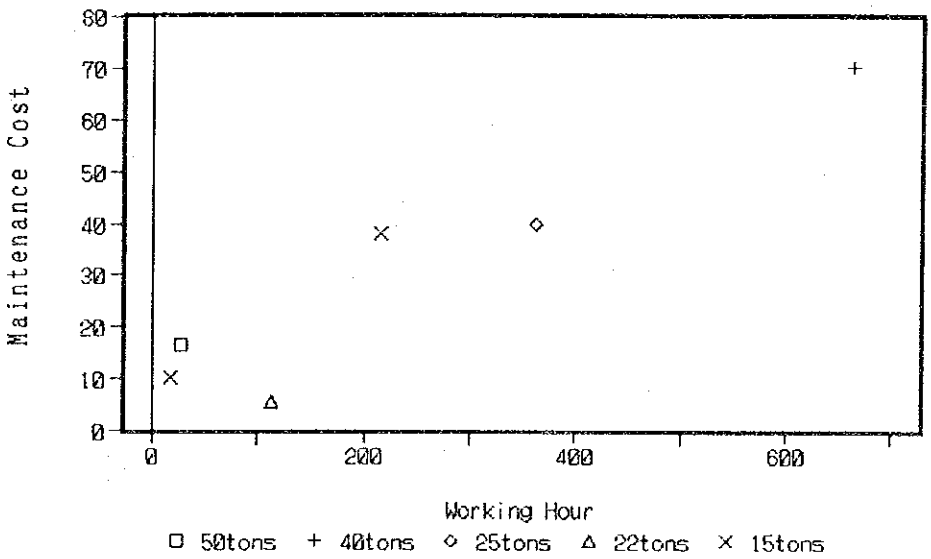


Fig. 2-5-2 Relation of Crane Working Hour and Direct Maintenance Cost

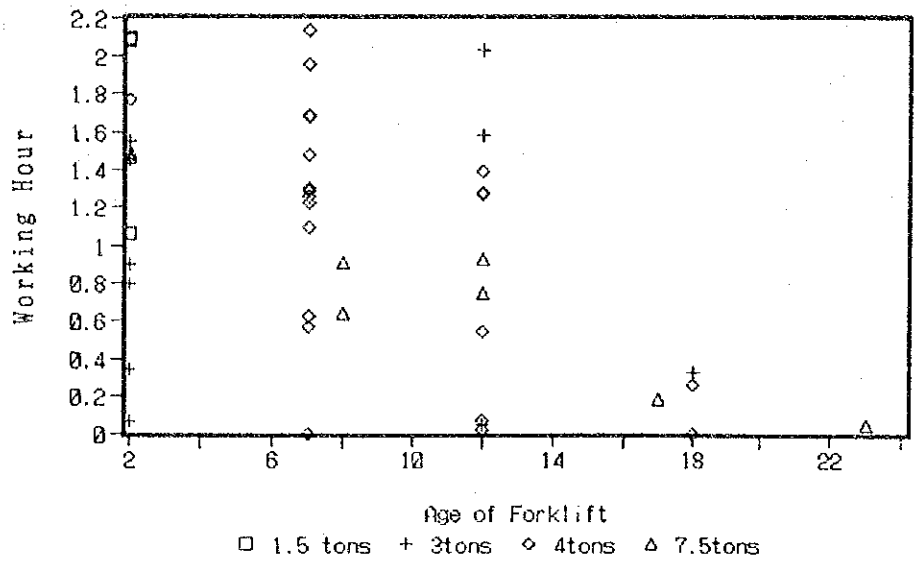


Fig. 2-5-3 Relation between Age of Folklifts and Working Hour

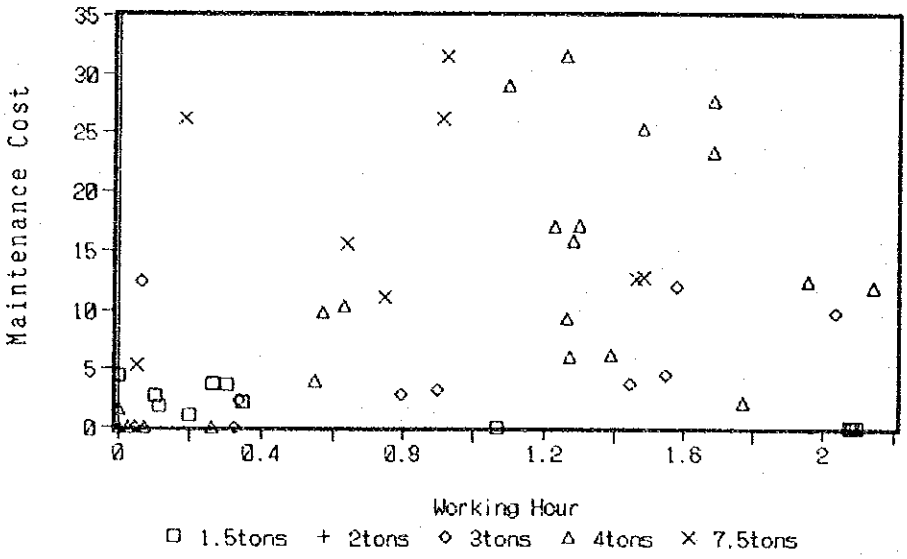


Fig. 2-5-4 Relation of Folklifts Working Hour and Direct Maintenance Cost

Table 2-5-3 Condition of Cargo Handling Equipment
at the Port of Castilla

Land Equipment for Container Transportation

type	Capacity Ton	Quantity	Year Built	Condition			Remak
				Good	Satis.	Poor	
Prime Mover		1	1980		1		
Chasis		4	1985	4			Otawa
Chasis		1	1983	1			
Chasis		1	1975			1	
Total		7		5	1	1	

Mobil Crane

trade-Mark	Capacity Ton	Quantity	Year Built	Condition			Remak
				Good	Satis.	Poor	
Bucyrus	20	1	1985		1		
Bucyrus	35	1	1985		1		
Total		2			2		

Fork Lift Trucks

trade-Mark	Capacity Ton	Quantity	Year Built	Condition			Remak
				Good	Satis.	Poor	
Pettibone	1.5	1	1969			1	
Clark	3.5	1	1980	1			
Yale	4.0	2	1985	2			
Total		4		3		1	

Wheel Loader

trade-Mark	Capacity Ton	Quantity	Year Built	Condition			Remak
				Good	Satis.	Poor	
Caterpillar		1	1985	1			
Total		1		1			

Standard of Classification

Good :Working
Satis.:Cost is Low
Poor :Almost beyond repair

Source:ENP

Table 2-5-4 Condition of Cargo Handling Equipment
at the Port of San Lorenzo

Land Equipment for Container Transportation

type	Capacity Ton	Quantity	Year Built	Condition Good	Satis.	Poor	Remak
Prime Mover	30	1	1978		1		OTTAWA
Prime Mover	30	1	1978		1		OTTAWA
Sub Total		2			2		
Chassis	30	1	1978	1			
Chassis	30	1	1978	1			
Chassis	30	1	1978	1			
Chassis	30	1	1978	1			
Chassis	30	1	1978	1			
Sub Total		5		5			
Top-lifter	40	1	1984	1			HYSTER
Total		8		6			

Mobil Crane

trade-Mark	Capacity Ton	Quantity	Year Built	Condition Good	Satis.	Poor	Remak
Pettibone	5	1	1975			1	
Pettibone	30	1	1978			1	
Bucyrus	30	1	1973	1			
Total		3		1		2	

Fork Lift Trucks

trade-Mark	Capacity Ton	Quantity	Year Built	Condition Good	Satis.	Poor	Remak
Komatu	3	4	1978		3	1	
Hyster	4	2	1985	2			
Komatu	7.5	1	1978	1			
Total		7		3	3	1	

Wheel Loader

trade-Mark	Capacity Ton	Quantity	Year Built	Condition Good	Satis.	Poor	Remak
Caterpillar	4	1	1982	1			
Caterpillar	4	1	1990	1			
Total		2	3972	2			

Standard of Classification

Good :Working
Satis.:Cost is Low
Poor :Almost beyond repair

Source:ENP

Table 2-5-5 Maintenance Workers for cargo Handling Equipment

Ocupation	San Lorezo	Cortes		Castilla	Total
		TCC	DME		
Electrician II	1				1
Electrician I	1			1	2
Ditto Helper					0
Me.Electrican		1		1	2
Ditto Helper				1	1
Mechanic III			2		2
Mechanic II	1	2	4		7
Mechanic I	1	3	3	1	8
In.Mechanic III			1		1
In.Mechanic II					0
In.Mechanic I			1		1
Mechanic Helper	1	6	17	2	26
Welder	1		3		4
Welder Helper			2		2
Lubricator		1			1
Lubricator Helper		1			1
Daily Worker			3		3
Total	6	14	36	6	62

Source:ENP

Me.:Mechanic
In.:Industrial
TCC:Terminal de Contenedores
DME:Departamento de Mantenimiento de Equipo

Table 2-5-6 Warehouse by Port at ENP

Warehouse by port	Floor Area (sq.m)	Capacity (cu.m)	Average Hight(m)	Stacking Hight(m)
San Lorenzo	5,418.36	0		
Lumber Shed	1,204.08	-	-	
General Cargo Shed	2,408.16	-	-	
Cotton Shed	1,806.12	-	-	
Cortes	17,369.81	104,639		
#1 Warehouse	4,811.57	35,124	7.30	
#2 Warehouse	2,224.47	14,904	6.70	
#3 Warehouse	3,201.27	11,525	3.60	
T.R.R. Co. Office	422.79	2,114	5.00	
Coffee Warehouse	422.79	2,114	5.00	
Auction Warehouse	485.16	1,698	3.50	
Fyffes Office	376.93	1,319	3.50	
Dangerous Cargo WH.	436.60	1,921	4.40	
#4 Ware House	4,988.23	33,920	6.80	
La Seiba	270.26	1,811		
Ware House	270.26	1,811	6.70	
Castilla	5,955.84	38,117		
5A Lumber Storage	2,977.92	19,059	6.40	
5B Lumber Storage	2,977.92	19,059	6.40	

WH:Warehouse
Source:ENP

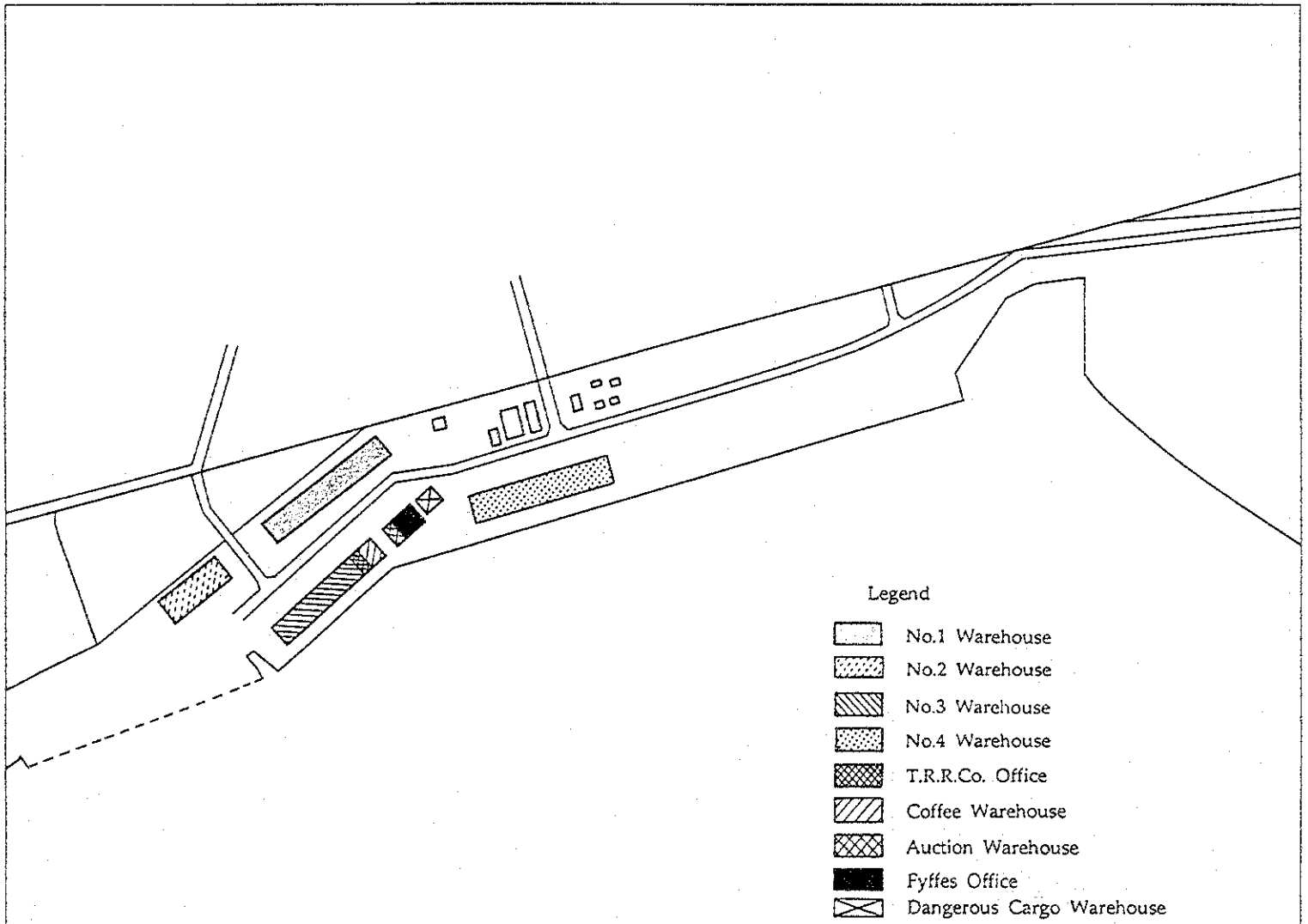


Fig. 2-5-5 Warehouses at the Port of Cortes

Table 2-5-7 Open Storage Area and Tanks

Open Storage Area and Tank	Area (m)	Capacity (cu.m)
San Lorenzo		
Lumber Yard	27,246.00	
General Cargo Yard	7,378.00	
Tank for Molasses		3,785.30
Cortes		
#1 Yard	10,511.29	
#2 Yard	6,020.37	
#3 Yard	3,524.10	
#4 Yard	5,240.66	
#5 Yard	5,299.30	
#6 Yard	3,400.74	
#7 Yard	5,193.85	
#8 Yard	4,586.40	
#9 Yard	4,157.77	
Container Yard	24,471.29	
#10 Yard	14,000.00	
#10 1/2 Yard	2,500.00	
#11 Yard	44,000.00	
Castilla		
Open Storage	3,000.00	
Parm Oil Tank 1		3,178.68
Parm Oil Tank 2		3,178.68
Asphalt Tank 1		3,178.68
Asphalt Tank 2		3,178.68
Deisel Tank 1		794.67
Deisel Tank 2		794.67
Gasoline 1		1,907.21
Gasoline 2		1,907.21

Source:ENP

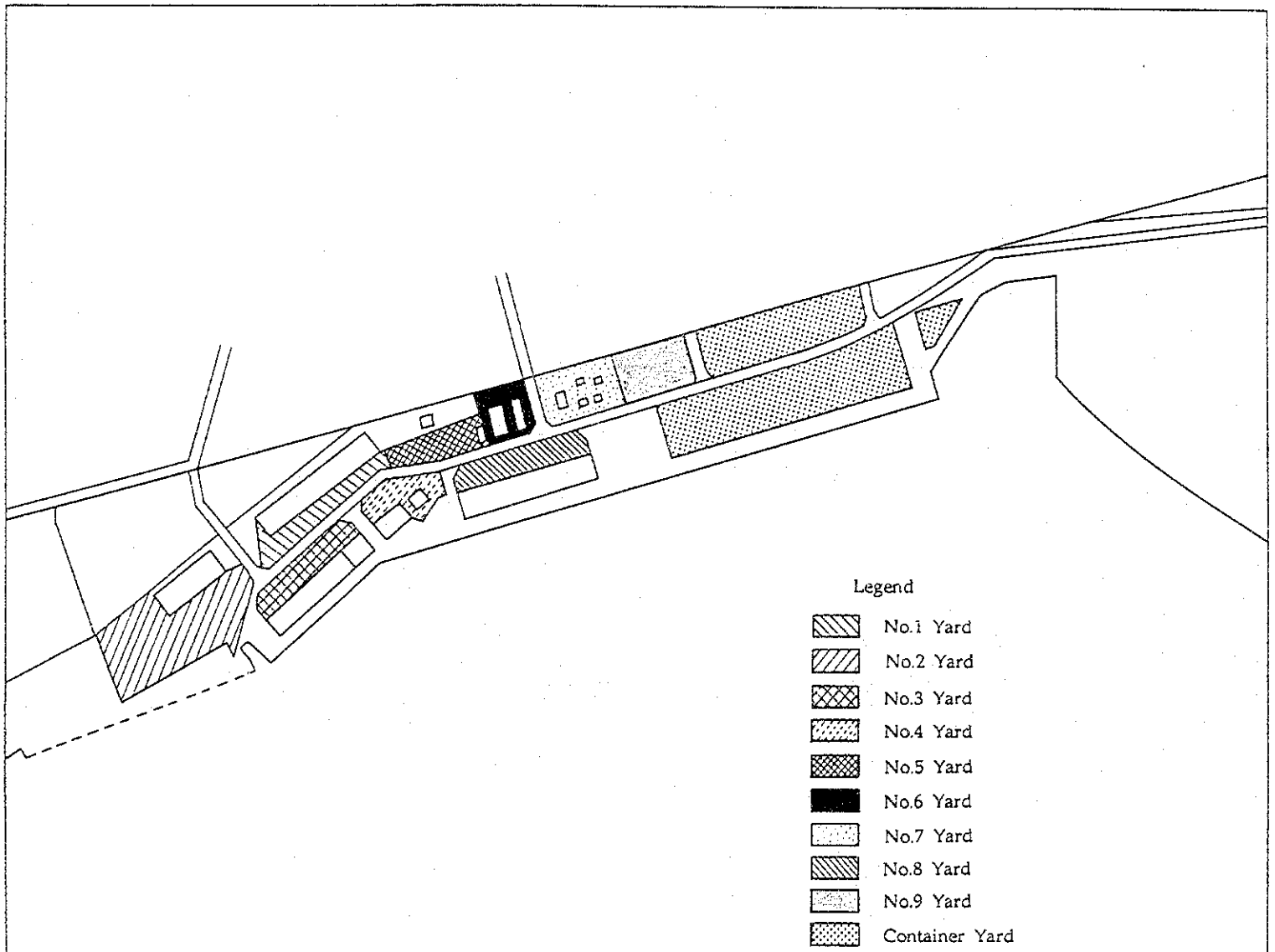


Fig. 2-5-6 Yards at the Port of Cortes

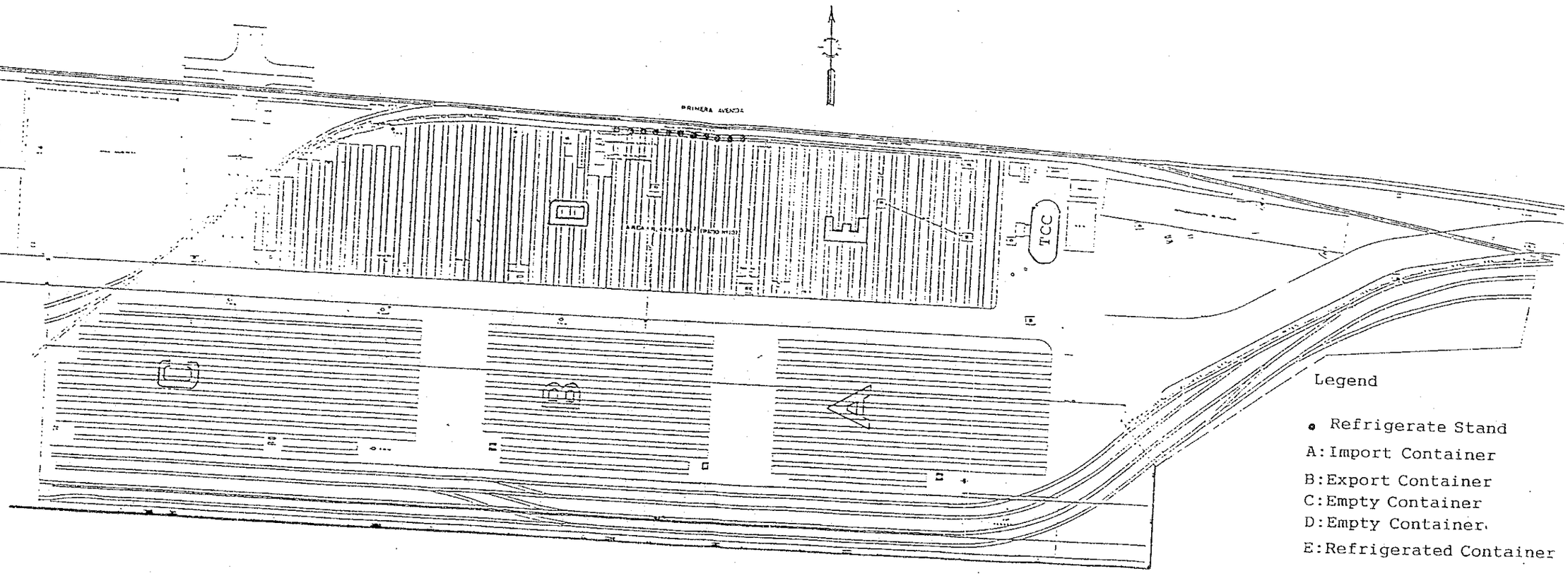


Fig. 2-5-7 Plan of Container Yard

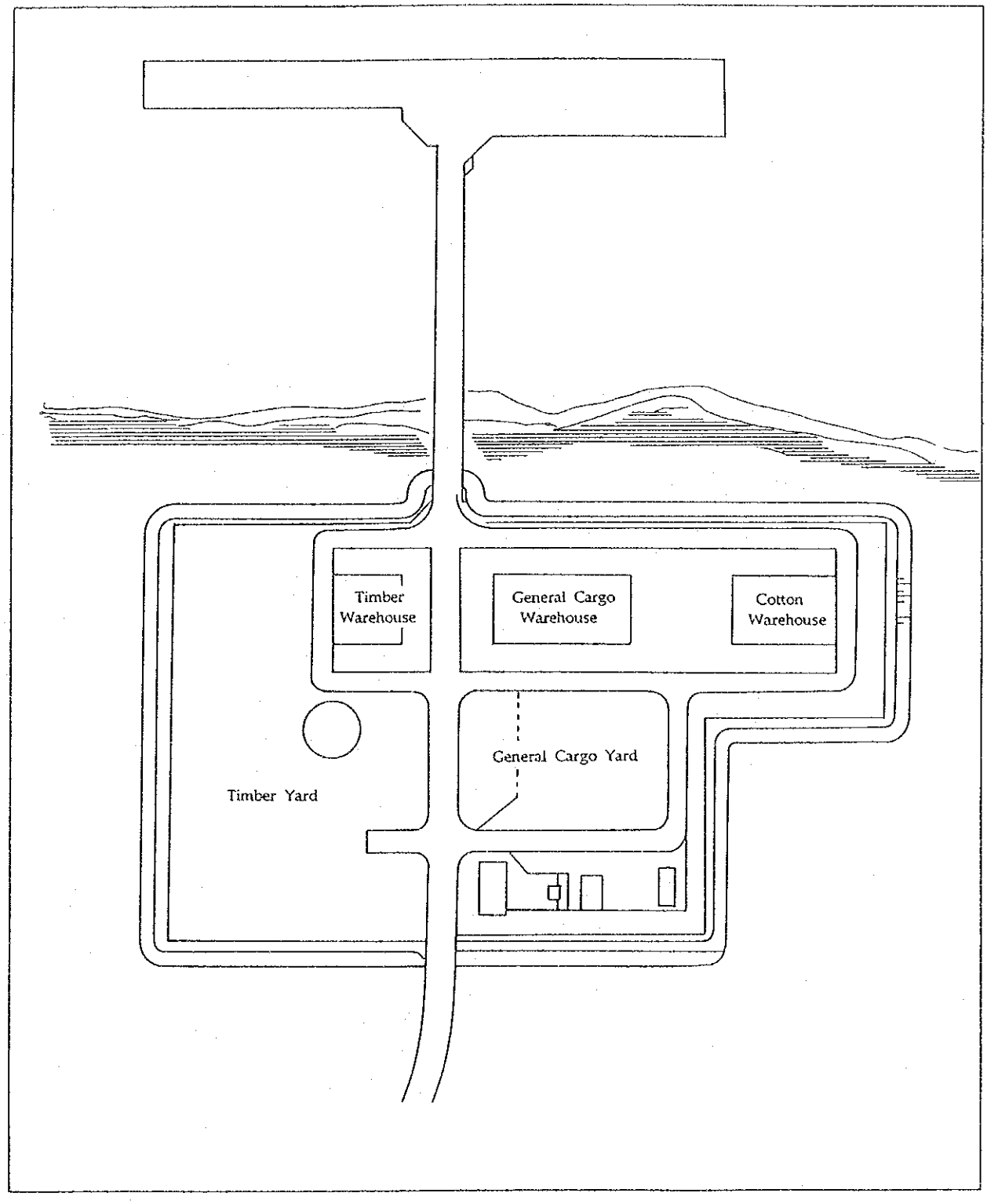


Fig. 2-5-8 Warehouses and Yards at the Port of San Lorenzo

Table 2-5-8 Number of Operator in ENP (1993)

Operator	San Lorenzo	Cortes	La Ceiba	Castilla	Total
Crane	2	8		1	11
Folklift	3	9	1	2	15
Gantry Crane		2			2
Straddle carrier		4			4
Trukter		11		1	12
Total	5	34	1	4	44

Source:ENP

Table 2-5-9 Average Turn Around Time for Each Vessel Type in the Port of Crtes

Type of Vessel	Number	In Port	At Berth	Ratio(%)	Waiting(h)
Banana LO-LO	161	16.7	12.3	73.7	4.4
Container	338	17.5	13	74.3	4.5
RO-RO	231	14.3	10.9	76.2	3.4
Sub Total	730	16.3	12.2	74.8	4.1
Banana Reefer	145	80.5	58.4	72.5	22.1
Conventional	119	57.8	25.9	44.8	31.9
Sub Total	264	70.3	43.8	62.3	26.5
Dry Bulk	40	166.3	132.3	79.6	34.0
Petroleum	60	33	30.5	92.4	2.5
Otjer Liquid	24	29.2	22.3	76.4	6.9

Source ENP

note:Ratio means the rate of 'At Berth' time to 'In Port' time
Waiting means the difference of 'In Port' time and 'At Berth' time

Table 2-5-10 Average Cargo Handling Volume for Each Vessel Type

Type of Vessel	Number	Import	Export	Total	Efficiency
Banana LO-LO	161	824	1824	2648	215
Container	338	654	779	1433	110
RO-RO	231	693	925	1618	148
Total/Average	730	704	1056	1760	144
Banana Reefer	145	7	2143	2150	37
Conventional	119	740	157	897	35
Total/Average	264	337	1248	1585	36
Dry Bulk	40	4187	2674	6861.0	52
Petroleum	60	9906	0	9906.0	325
Other Liquid	24	553	781	1334.0	60

Table 2-5-11 Productivity of Container Handling at the Port of Cortes

DATE	NAME OF VESSEL	C or F	B. No	TIME FOR OBSEVATION	GANRTY CRANE				SHIP GEAR				TOTAL UNIT (BOX)	GROSS WORK HOUR (HOUR)	GROSS PRODUCTION B/Hrs	DETENTION TIME (Min.)	NET PRODUCTION B/Hrs	CAUSE OF DETENTION
					DISCHARG		LOADED		DISCHARG		LOADED							
					20′	40′	20′	40′	20′	40′	20′	40′						
MAR 3	ALEXEA	C	5	9:26-11:25		39							39	1:59	19.7	16′00	22.7	Open Harch Cover
MAR 9	LA MINERA	F	5	9:15-10:15				14					14	1:00	14.0	0′	14.0	
MAR10	COURTNEY-L	F	4	6:30-7:30								20	20	1:00	20.0	0′	20.0	
MAR10	COURTNEY-L	F	4	11:11-11:45								9	9	0:30	18.0	13′05	31.9	Wait Trailer
MAR11	TROPICAL DAWN	F	3	15:34-16:36						11		13	24	1:01	23.6	20′	35.1	Wait Trailer

Note: F:Full Container Vessel
M:Multi Purpose Vessel
C:Conventional Vessel

Source : Study Team Observation

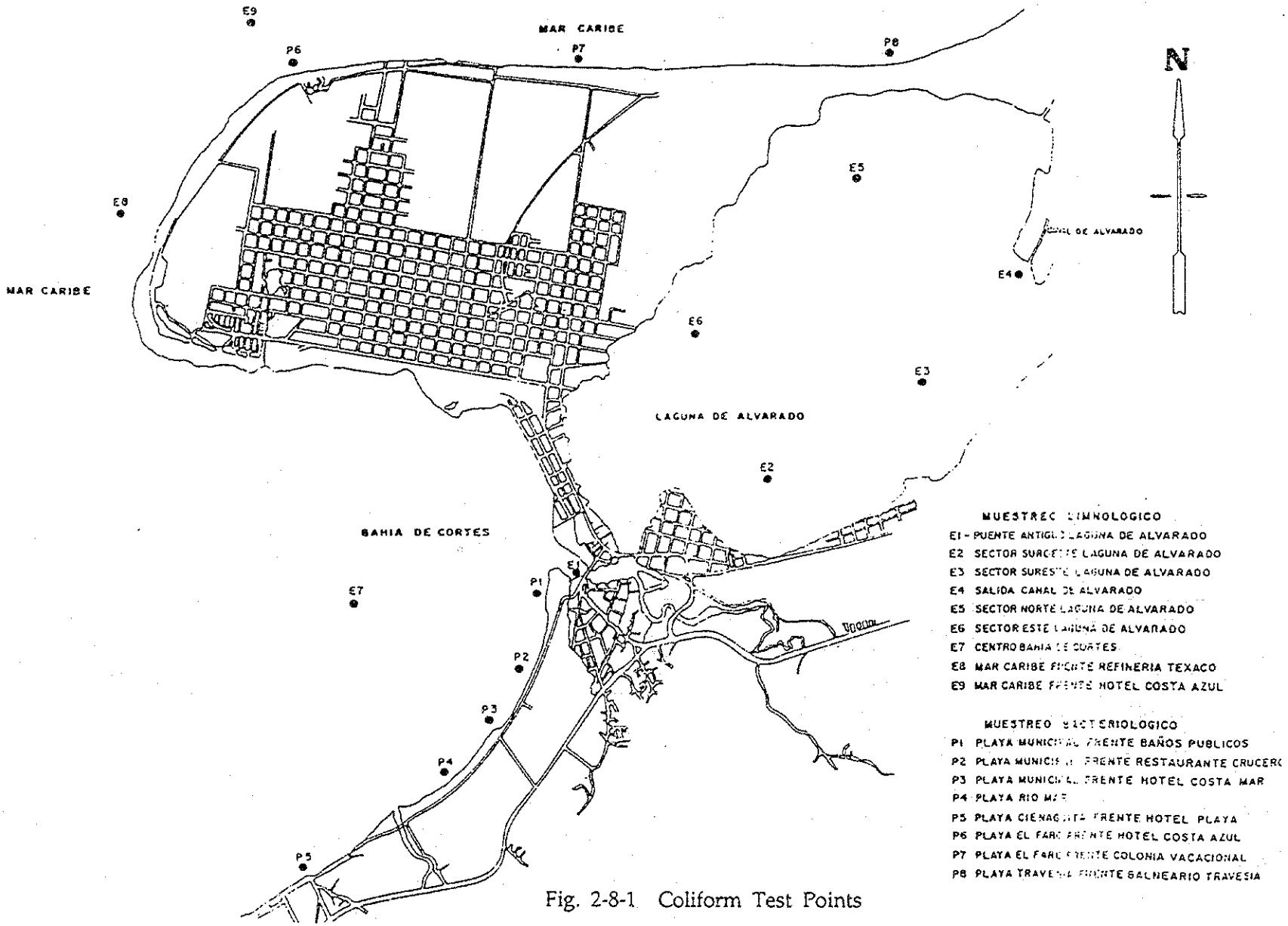


Fig. 2-8-1 Coliform Test Points

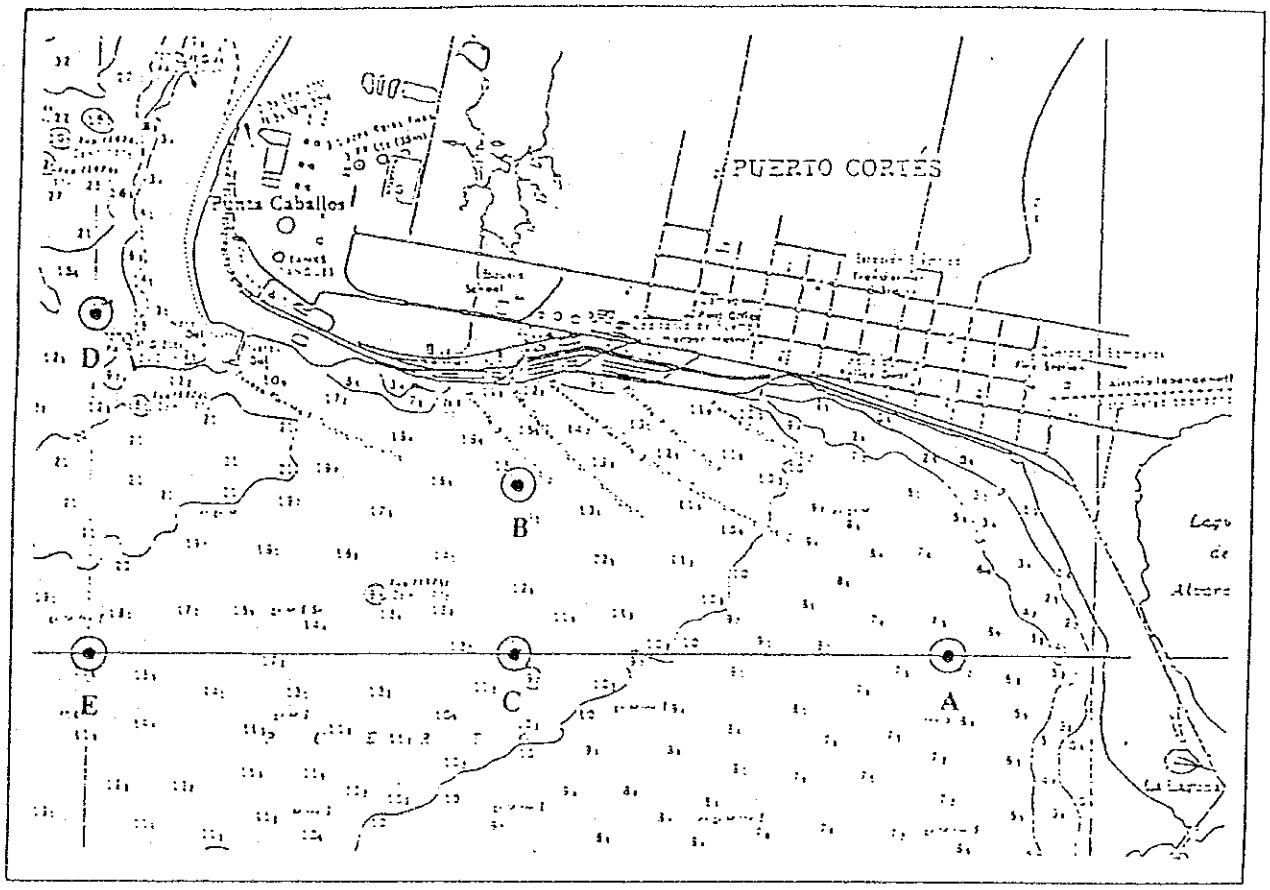
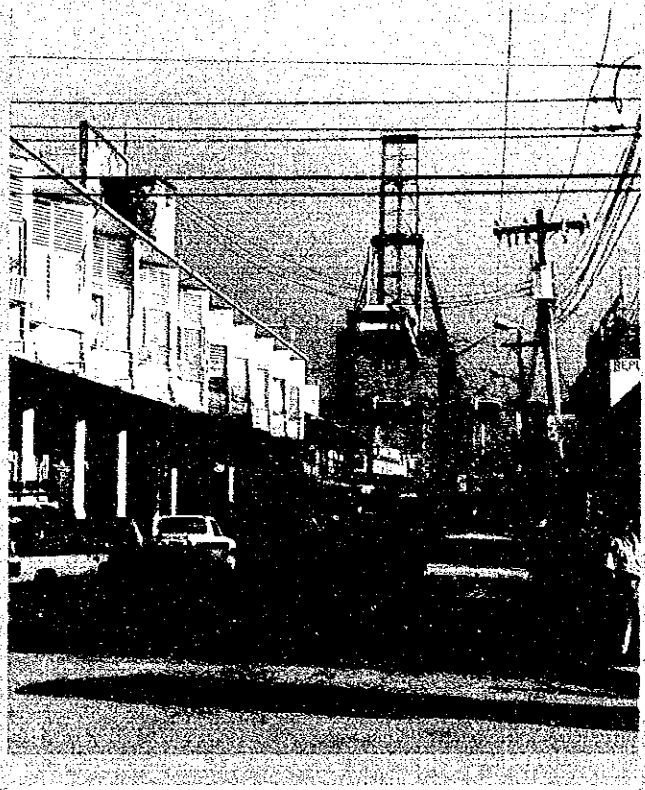


Fig. 2-8-2 Water Sampling Points



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