7.3 Environmental Conditions in and Around the Existing Study Ports

7.3.1 Latakia Port

1) Natural Environment

The port was established in 1925 but there was no dock or breakwater, and ships anchored out at sea.

The northern quay (length 276m, depth 4.5m) and southern quay (length 160m, depth 3m) were built in 1931. The Kahaleh quay (length 600m, depth 9.5m) and the eastern quay (length 270m, depth 7m) were built in 1954. The grain silos of 40,000 tonnes capacity were constructed in 1958 as well as the silo quay (length 185m, depth 9m).

The grain silos are used for both import and export of grain although the handling system is not reversible and is used only for export. In years when there is a surfeit of grain in the local market then grain is exported. If the harvest is below expectations then grain is imported. Hard grain, such as is used for macaroni is exported. Soft grain as used for bread is imported. It is intended to extend the silos by another 40,000 tonnes, thus doubling their capacity. This will require dredging the port seabed next to the grain wharf by an extra 1m for a width of 300m. There are no obvious dust problems associated with the grain handling operation. Some dust was evident but in small quantities and near to the silos. There have been occasional reports of noise complaints from neighbours in connection with grain transfers.

The port has three main piers which handle grain, general cargo, and containers. A smaller pier handles passengers. An oil terminal is located on the northern side of the port. There are fixed mooring buoys for oil tankers and a manifold connection for attaching to the ships hoses. The terminal is for receiving refined products and there are two seabed pipelines, one for kerosene and one for diesel. The fuels are pumped using the ships pumps to the tank farm on shore. From there the products are pumped to another storage area for distribution by road tanker. This facility is run by SADCOP the Ministry of Petroleum and Mineral Resources.

Two small breakwaters have been constructed at the northern extremity of the port and house a fishing port.

The beaches and coast immediately to the north of the port are used for recreational and sporting activities. They have high amenity value to the local population of Latakia and concern has been expressed over the possibility of an oil spill at the terminal affecting these beaches. There is no contingency plan in the event of a spill. The idea has been suggested of moving the oil tanks to another location, removing the subsea pipelines and developing another area as the oil terminal. A final decision on this has not yet been made.

The port has a Dangerous Goods Warehouse for storage of hazardous cargoes. There is one fire station in the port near Gate No 1. Another is being built at the other end of the port near the container base. The current station has two appliances equipped for water and foam.

There are no seabed electricity cables or seabed telephone cables in the port area. There were five pipelines previously but now there are only two within the harbour area.

There is a special vehicle in the port which collects all solid waste twice a day. It is then taken from the port to a site which is determined by the local authorities. Here it is surface tipped and covered by a bulldozer.

There are no identified sites of special ecological interest, rare habitats, or protected areas in the immediate vicinity of the port area. No nesting birds have been identified in the immediate area. Most birds appear to be migratory.

There have been no reports of accidents in the port, and no spills of material at the oil terminal.

2) Social Environment

The population of Latakia town and suburbs is approximately 350,000 people with 1 million people living in the Latakia administrative region which includes the suburbs and surrounding countryside.

There is a cement factory 25km north of Latakia but as the prevailing winds are from the south west the air quality in Latakia is high. There are no major heavy industries in Latakia although it designated to be developed as a centre for light industries. The designated area for industrial development is to the east of the town centre and forms a ribbon of development along the two main roads to Aleppo and Tartous. Industries include tobacco, wood processing, general machinery, textiles, refrigerators, and soft drinks.

The area north from Latakia up to the Turkish border is designated for tourism development and industry will be discouraged. In these non industrial areas there is intensive agricultural activity.

3) Baseline Conditions

In order to establish the existing environmental conditions in Latakia port, a field survey was carried out over April 8-9 1995. These readings gave three sets of data. These were :

o	Water Quality	-	Direct Readings
o	Water Quality	-	Laboratory Analysis
o	Seabed sediments	-	Laboratory Analysis

These are now discussed below.

4) Water Quality - Direct Readings

These results were obtained from direct reading instruments measuring seawater samples *in-situ* or on the survey vessel. In many cases this is essential as the sample would change its physical and chemical characteristics whilst being transported to a laboratory. Five sites were sampled as shown in Figure 7.3.1-1. The results are shown in Table 7.3.1-1. All figures are depth averaged.

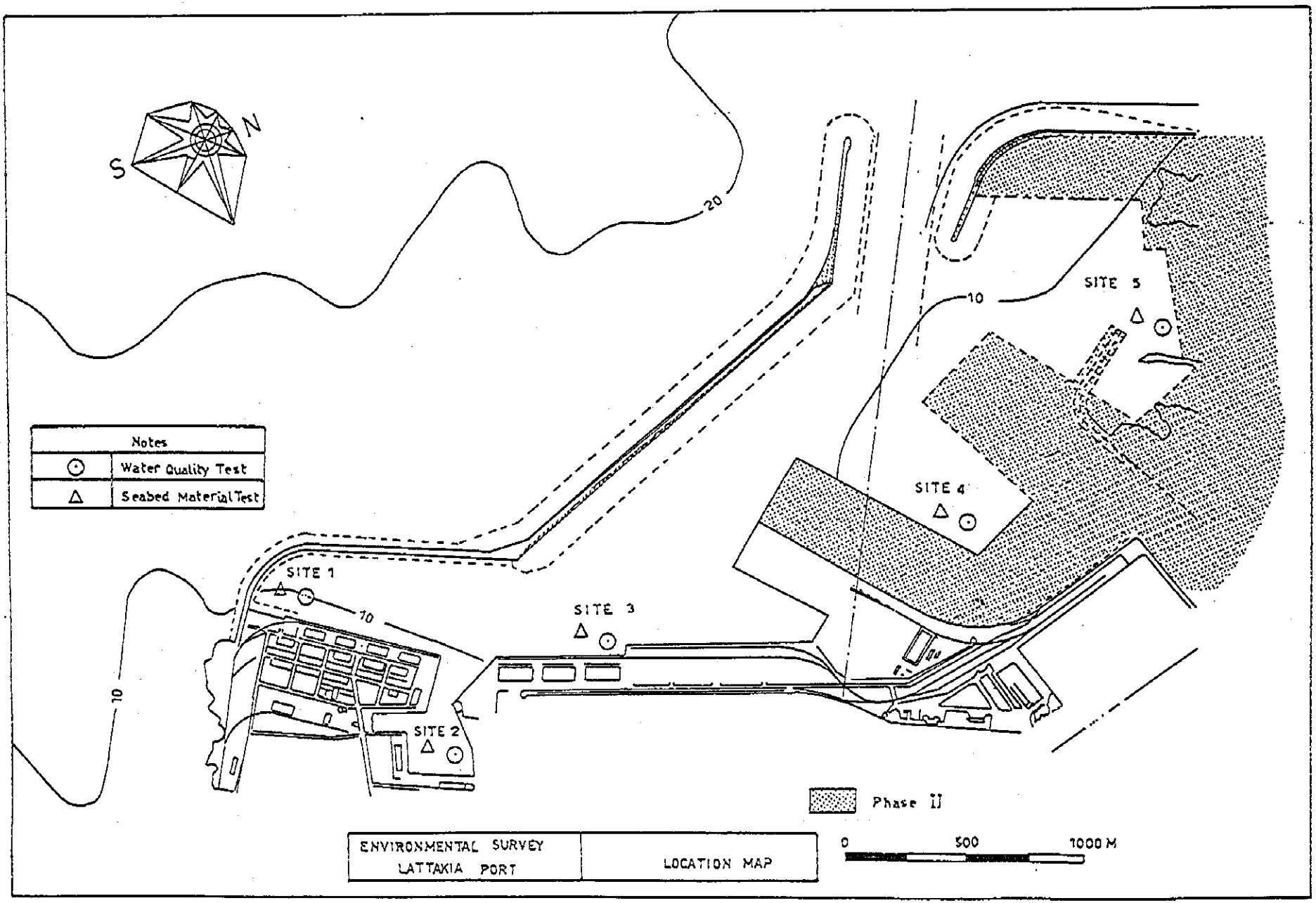

N
S
20
10
SITE 5
SITE 4
SITE 1
SITE 3
SITE 2
Notes
Water Quality Test
Seabed Material Test
Phase II
ENVIRONMENTAL SURVEY
LATTAKIA PORT
LOCATION MAP
0
500
1000 M

Figure 7.3.1-1

ANALYTICAL RESULTS-DIRECT READING INSTRUMENTS						TABLE 7.3.1-1
PORT : LATAKIA						
SITE		SITE 1	SITE 2	SITE 3	SITE 4	SITE 5
PARAMETER						
WATER QUALITY	**UNITS**					
TEMPERATURE	oC	18	18.4	18.4	18.2	18.2
pH	pH	7.57	7.54	7.68	7.76	7.82
SALINITY	0/00	37.7	37.7	38.7	38.7	39.2
DISSOLVED OXYGEN	mg/l	12.5	5.8	9.8	9.5	9.2
TRANSPARENCY	cm.	118	96	120	260	261
COLOR		CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
ODOR		NONE	NONE	NONE	NONE	NONE
TIME		9.56	10.27	10.59	11.32	11.57
DATE		8.4.95	8.4.95	8.4.95	8.4.95	8.4.95
DEPTH TO SEABED	m.	8.5	6	10.5	7	3.5
SEDIMENT						
COLOR		GREY	BLACK	GREY	BLACK	BROWN
ODOR		NONE	SULPHUROUS	SLIGHTLY SULPHUROUS	SULPHUROUS	NONE
TEXTURE		SILT	SILT	SILTY	GRITTY	GRAVEL/SHELLS
DATE		8.4.95	8.4.95	9.4.95	9.4.95	9.4.95

ANALYTICAL RESULTS-LABORATORY ANALYSIS						TABLE 7.3.1-2
PORT : LATAKIA						
SITE		SITE 1	SITE 2	SITE 3	SITE 4	SITE 5
PARAMETER						
WATER QUALITY	UNITS					
COD	mg/l	7.3	4.3	8.5	7.9	6.5
SULPHIDE	ppm	3.2	2.35	0	0	0
TOTAL NITROGEN	ug/l	0.103	0.08	0.07	0.074	0.061
SULPHATE	mg/l	2.9	3	3.4	3	3
FREE CHLORINE	mg/l	TRACE	TRACE	TRACE	TRACE	TRACE
TOTAL PHOSPHORUS	mg/l	0.071	0.132	0.083	0.026	0.052
PHOSPHATE	mg/l	0.231	0.41	0.257	0.081	0.16
SUSPENDED SOLIDS	mg/l	65	133	20	166	39
OIL GREASE	mg/l	19.7	11.9	9.2	12.3	4
COLIFORMS	N/100ml	35	13	28	9	33
SEABED SEDIMENT	UNITS	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5
(DRY WEIGHT)						
COD	mg/g	0.49	0.89	0.115	1.25	0
OIL GREASE	mg/g	3.6	8.1	0.65	10.6	4.8
IGNITION LOSS	%	2.46	3.23	3.61	1.64	0.455
SULPHIDE	ug/g	79.7	53.9	36.4	18.2	0
TOTAL PHOSPHORUS **	%P2O5	2.25	2.25	2.2	1.63	0.2
PHOSPHATES	ug/g	6	14	42	12	12
COPPER	mg/g	0.019	0.177	0.053	0.036	0.01
ZINC	mg/g	0.124	0.431	0.186	0.195	0.0015
TOTAL MERCURY	mg/g	0.007	0.036	0.052	0.002	0.002
ARSENIC	mg/g	0.005	0.02	0.045	0.004	0.0004
PARTICLE SIZES %	um					
>425		0	3.89	21.8	70.4	99.2
300-425		9.7	15.58	9.7	8.3	0.5
220-300		8.9	12.3	15	6	0.16
106-220		13.25	34.4	24	8.9	0
<106		65.29	32.46	28.8	6.6	0
** TOTAL PHOSPHORUS EXCLUDING INSOLUBLE PHOSPHATE						

Temperature was consistent across the sites with little variation between 18.0 to 18.4 ^{o}C.

Values for **pH** showed little variation between 7.54 and 7.82 which is normal given the large buffering capacity of the sea.

Salinity was consistently high ranging from 37.7 to 39.2 parts per thousand which indicates a large degree of evaporation and high total dissolved salts load which is a characteristic of the landlocked waters of the Mediterranean waters.

Dissolved Oxygen varied from a low figure of 5.8 mg/l at Site 2 to a high figure of 12.5 mg/l, but otherwise averaging around 9mg/l. The level of 5.8 mg/l was measured at the most restricted part of the port in an area where the natural flushing action of the harbour will be lowest. This is also an area that receives the flows from three sewage outfalls which represents a heavy organic load. Therefore the D.O. figures are expected to be low. This figure is too low for good water quality and is approaching the limit of 4mg/l at which anaerobic conditions may start to occur leading to odor problems if biological loads increase further.

Transparency was measured by means of a Secchi Disc to give an indication of the degree of light penetration or euphotic zone.
Secchi depth varied from 96cm, which is low and indicates turbid water, to 261cm, which for a port indicates clean water.

Color was determined by observation. The samples collected were obtained from below the surface. In all cases the samples were colorless and clear. Surface floating oil was observed. It was reported that this came from the town, arising from oil waste from garages and workshops and not from ships. Apart from these occasional visible occurrences in general the aesthetic characteristics of the water in the port was considered to be high.

Odor was checked for each sample. In all cases the samples were odor free.

5) Water Quality - Laboratory Analysis

The water samples obtained were preserved, transported to the laboratory, and analysed in accordance with APHA Standard Methods 17th Edition. The results are given in Table 9.3.1-2 and are discussed below.

Chemical Oxygen Demand (COD) varied between 4.3mg/l and 8.5mg/l. This figure is low and indicates little organic or inorganic pollution load in the harbour.

Sulphide content was recorded at a maximum of 3.2mg/l. In three cases none was detected. The recorded level is considered high for marine waters and could indicate anaerobic conditions. However the corresponding dissolved oxygen figures were acceptable.

Total Nitrogen varied between 0.061mg/l to 0.103mg/l.

Sulphate was fairly consistent and varied from 2.9mg/l to 3.4mg/l.

Free Chlorine was only detected in trace concentrations.

Total Phosphorus varied from 0.026mg/l to 0.132mg/l. These are below the levels at which eutrophication would occur.

Phosphates varied between 0.081mg/l and 0.41mg/l.

Suspended Solids varied between 20mg/l and 166mg/l. This corresponds to a range of clear to moderately turbid water quality.

Oil and Grease varied from 4mg/l to 19.7mg/l. No specific standard exists for oil and grease but these levels are quite high for receiving water standards although not excessively so.

Coliform counts varied from 9 to 35 organisms per 100ml of sample water.

6) Seabed sediments - Laboratory Analysis

The seabed sediment samples were obtained by means of a towed dredge, or where this proved difficult, by hand using a diver. The samples were stored in double plastic bags to avoid cross contamination and deep frozen immediately after sampling to prevent fermentation reactions commencing. All results are given as dry weight. The results are given in Table 7.3.1-2.

There are no international standards for acceptable levels of pollution of sediments as their ability to effect the water column depends on many local factors which influence the rate at which chemicals in the sediment can pass into solution, or can exert an oxygen demand on the surrounding waters. A general overview is given below.

Chemical Oxygen Demand (COD) was low at a maximum value of 1.2mg/l. In one case the value was zero. Reference to the particle size distribution for this sample confirms that this was sand and taken from outside the port area in free water conditions. Therefore a low organic content would be expected.

Oil and Grease varied from 0.65mg/l to 10.6mg/l. The higher figure was taken in the entrance to the port and shows significant oil contamination although not excessively so.

Ignition Loss was between 0.455 and 3.61% showing that there was little organic matter present.

Sulphide content was recorded at a maximum of 79.7mg/l, although in one case, outside the port, none was detected.

Total Phosphorus varied from 0.2mg/l to 2.25mg/l.

Phosphates varied from 6mg/l to 42mg/l.

Copper varied from 0.01mg/g to 0.117mg/g.

Zinc varied from 0.0015mg/g to 0.431mg/g.

Total Mercury varied 0.0002mg/g to 0.036mg/g.

Arsenic varied 0.0004mg/g to 0.045mg/g.

Particle Size showed that Sites 1,2, and 3 had a preponderance of fine sediments. Site 4 at the entrance to the harbour had a lower fines content. Site 5, which was outside the harbour, was almost totally coarse material with little fines content.

7.3.2 Tartous Port

1) Natural Environment

The port was established in 1961 within the initial phase of construction which ended in 1965. This was the completion of Pier A, with Piers B and C being completed successively.

The port has three main piers and the smaller phosphate pier. The phosphate pier can handle two vessels berthed alongside, the berths being designated north and south. The depth is 11.0 metres.

Pier A is used for general cargo on the southern side including iron ore. The depth varies from -4.0 to -10.5 metres. On the northern side grain is handled in silos. This is both imported and exported. At the extreme end of the pier is a passenger handling facility for the small groups who may arrive during the summer months.

Northern side of Pier B is mainly used for container handling. On the southern side the depth varies from -4m. to -12 m. RoRo berths are provided on both sides.

Pier C is used as a general cargo handling on the southern side where the depth varies from -12 m to -13 m. The northern side is a military facility and repair yard for small vessels.

At the entrance to the harbour the turning circle has a depth of -13.5 m. The entrance fairway has a clearance of -14.5 m.

The seabed is reported to be rock and sand with mud deposits near the phosphate pier.

There is a small pier to the south east of the phosphate pier which handles coal and fertiliser.

Cement is not exported but may be imported. In previous years cement clinker was exported. Residual products is produced from the refinery at Homs and exported. Fertiliser is imported but may be exported in the future. Phosphate ore is the main exported bulk material at the moment.

The seabed does not provide good anchoring facilities. To the north of Tartous smaller vessels may anchor. To the southwest larger vessels may anchor although the holding capacity of the seabottom is such that at wind speeds in excess of Force 5 vessels head to open sea.

Oil is not exported from Tartous port, but from the oil terminal north of the port. There is another oil terminal at Banias.

The tidal range is 30 cm. Generally wind speeds do not exceed 40 knots. Storms may occur from November to April. They are usually southwesterly winds and speeds of 110 km/hour have been recorded but are of very short duration (less than ten minutes).

Phosphate ore is transported from the mine near Palmyra to the port by rail. A separate company is responsible for handling of the phosphate ore, its transport, loading on the vessels and for operation of the dust control filter system. The port authority and the harbour master have no responsibility in this respect.

The harbour Master is responsible for pollution control within the port. In the event of an oil spill within the port the Harbour Master will fine the vessel's owners depending on the size of the spill.

Fishing is carried out on a private basis. Generally it is inshore from small vessels, often during the night, to provide the early morning markets. Licenses are required and are issued by the Harbour Master.

The port has a Dangerous Goods Warehouse for storage of hazardous cargoes.

There are no pipelines within the harbour area. All oil pipelines connect to the oil terminal handling facility north of the harbour. There are no seabed electricity cables or seabed telephone cables in the port area.

All solid waste from the port is collected by the local authorities and removed to the local garbage dump.

Meteorological data is recorded for weather reports. The weather station is not located within the port but some kilometres to the south. Regular records are kept.

There are no identified sites of special ecological interest, rare habitats, or protected areas in the immediate vicinity of the port area.

No nesting birds have been identified in the immediate area. Most birds appear to be migratory. Most fauna in the area are domesticated farm animals such as cows, goats, sheep, and chicken.

Accidents in the port are infrequent. There have been instances of ships on fire but not inside the port. A phosphate ship awaiting loading was waiting in ballast and was caught in a storm some 10 years ago. The ship was driven ashore 4 km north of Tartous and the wreck can still be seen. Such incidents do not appear to be common.

2) Social Environment

Approximately 3,000 persons work in the port. The population of Tartous is some 200,000. Working hours are 08.00 to 14.00. Many persons have second occupations in the afternoon.

Animal husbandry on smallholdings provides a secondary income to many households. Domesticated farm animals are raised such as cows, goats, sheep, and chicken. Fish is expensive (1,000 S.L per kilo) and so lamb and chicken are preferred foodstuffs. (200 S.L. per kilo) Cows milk is used for drinking and producing cheese, as well as a local variety of yogurt. Many citrus fruits are grown in the coastal area, as well as vegetables. some of which are grown under greenhouses. Most of the farming

is carried out as smallholdings of several hectares by local resident farmers. Some residents occupy tents in the vicinity of Hamidiah; these are Syrians and are nomadic.

3) Baseline Conditions

In order to establish the existing environmental conditions in the port, a field survey was carried out over April 1-21 1995. These readings gave four sets of data. These were :

- o Water Quality - Direct Readings
- o Water Quality - Laboratory Analysis
- o Seabed sediments - Laboratory Analysis
- o Air Quality

These are now discussed below.

(4) Water Quality - Direct Readings

These results were obtained from direct reading instruments measuring seawater samples *in-situ* or on the survey vessel. In many cases this is essential as the sample would change its physical and chemical characteristics whilst being transported to a laboratory. Five sites were sampled as shown in Figure 7.3.2-1. The results are shown in Table 7.3.2-1. All figures are depth averaged.

Temperature was consistent across the sites with little variation between 18.2 to 18.9 ^{o}C.

Values for **pH** showed little variation between 7.62 and 7.96 which is normal given the large buffering capacity of the sea.

Salinity was consistently high ranging from 36.6 to 39.7 parts per thousand which indicates a large degree of evaporation and high total dissolved salts load which is a characteristic of the landlocked waters of the Mediterranean waters.

Dissolved Oxygen varied between 8.0 and 10.5 mg/l. For this temperature of water, which is quite cold, these figures are approaching saturation (around 9mg/l) and indicates a healthy oxygen regime for aquatic life particularly fish.

Transparency was measured by means of a Secchi Disc to give an indication of the degree of light penetration or euphotic zone. Secchi depth varied from 107cm to 200cm. The figure outside the port was surprisingly low at 107cm whereas 2m was recorded inside the port. However this was recorded near the beach and suspended solids were observed in the water column, from reentrainment of sand in the breaking waves.

Color was determined by observation. In all cases the samples were colorless and clear. The samples collected were obtained with a Niskin bottle and so were taken from below the surface. However little evidence of surface floating detritus was observed. Occasional oil sheens were seen on the surface but these were limited in extent and it is well established that a small quantity of oil can spread over a very large surface area. In general the aesthetic characteristics of the water in the port was considered to be high.

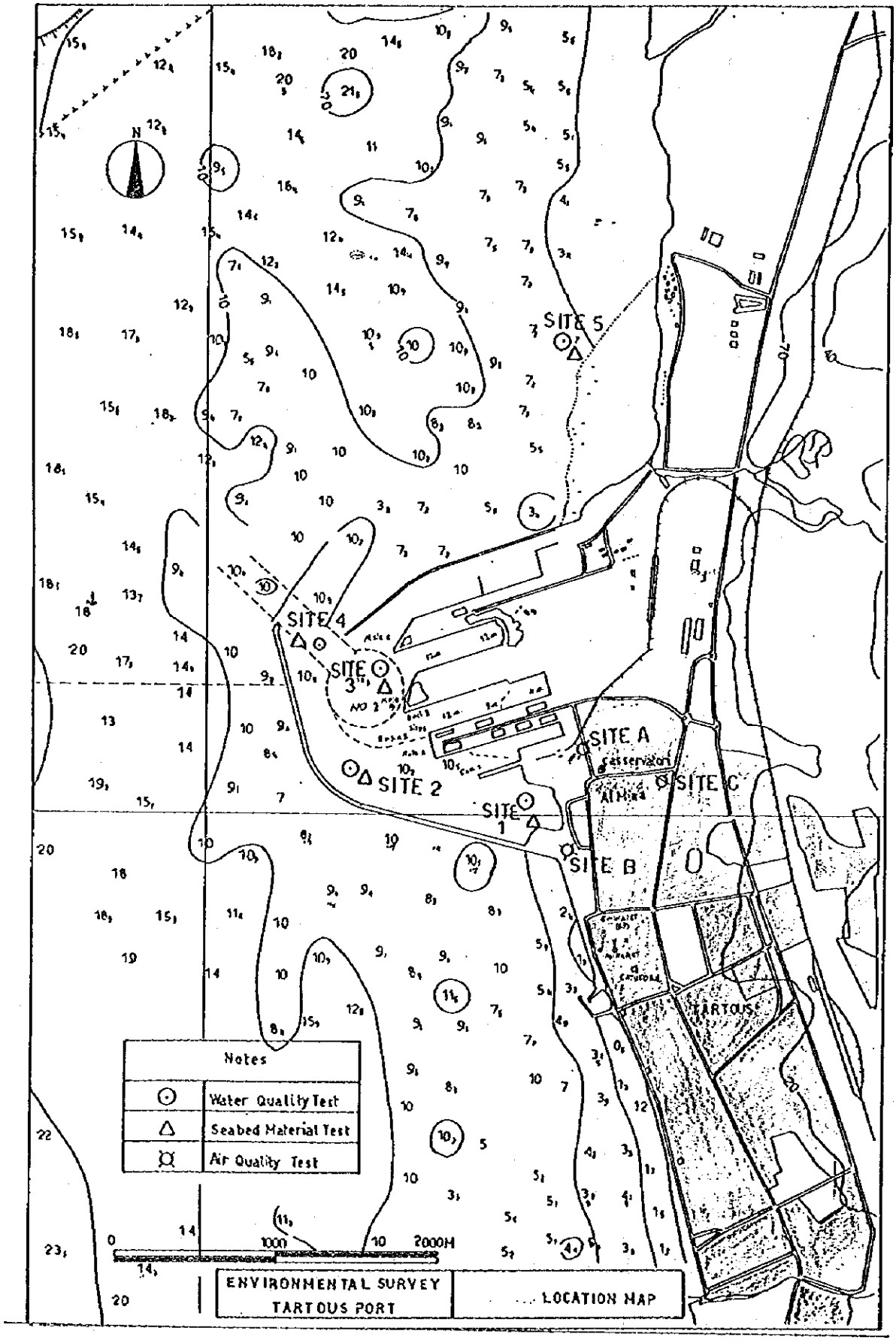

SITE 5
SITE 4
SITE 3
SITE 2
SITE 1
SITE A
SITE B
SITE C
TARTOUS
Notes
Water Quality Test
Seabed Material Test
Air Quality Test
0
1000
2000M
ENVIRONMENTAL SURVEY
TARTOUS PORT
LOCATION MAP

Figure 7.3.2-1

ANALYTICAL RESULTS-DIRECT READING INSTRUMENTS						TABLE 7.3.2-1
PORT : TARTOUS						
SITE		SITE 1	SITE 2	SITE 3	SITE 4	SITE 5
PARAMETER						
WATER QUALITY	**UNITS**					
TEMPERATURE	oC	18.9	18.2	18.7	18.8	18.8
pH	pH	7.72	7.62	7.96	7.8	7.72
SALINITY	0/00	36.6	38.5	38.7	38.7	39.7
DISSOLVED OXYGEN	mg/l	10.5	10.4	8.1	8	8
TRANSPARENCY	cm.	125	116	200	133	107
COLOR		CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
ODOR		NONE	NONE	NONE	NONE	NONE
TIME		10.02	10.49	11.37	12.08	11.54
DATE		10.4.95	10.4.95	12.4.95	12.4.95	12.4.95
DEPTH TO SEABED	m.	9	14	12	11	8
SEDIMENT						
COLOR		GREY/BROWN	GREY BROWN	BROWN	BROWN	BROWN
ODOR		SLIGHTLY	NONE	NONE	NONE	NONE
		SULPHUROUS				
TEXTURE		COARSE SILT/MUD	COARSE SILT	SILTY	SMOOTH SILT	COARSE SAND
DATE		10.4.95	13.4.95	13.4.95	13.4.95	13.4.95

Odor was checked for each sample. In all cases the samples were odor free.

5) Water Quality - Laboratory Analysis

The water samples obtained were preserved, transported to the laboratory, and analysed in accordance with APHA Standard Methods 17th Edition. The results are given in Table 9.3.2-2 and are discussed below.

Chemical Oxygen Demand (COD) varied between 6.3mg/l and 9.3mg/l. This figure is low and indicates little organic or inorganic pollution load in the harbour.

Sulphide content was recorded at a maximum of 1.6mg/l. In two cases none was detected.

Total Nitrogen was consistent ranging between 0.061mg/l to 0.07mg/l.

Sulphate was fairly consistent and varied from 2.85mg/l to 3.0mg/l.

Free Chlorine was only detected in trace concentrations.

Total Phosphorus varied from 0.048mg/l to 0.132mg/l.

Phosphates varied between 0.148mg/l and 0.406mg/l.

Suspended Solids varied between 24mg/l and 168mg/l. This corresponds to a range of clear to moderately turbid water quality.

Oil and Grease varied from 1.28mg/l to 7.6mg/l.

Coliform counts varied from 1 to 19 organisms per 100ml of sample water. This is a low figure.

6) Seabed sediments - Laboratory Analysis

The seabed sediment samples were obtained by means of a towed dredge, or where this proved difficult, by hand using a diver. The samples were stored in double plastic bags to avoid cross contamination and deep frozen immediately after sampling to prevent fermentation reactions commencing. All results are given as dry weight. The results are given in Table 7.3.2-2.

As stated earlier, there are no international standards for acceptable levels of pollution of sediments as their ability to effect the water column depends on many local factors which influence the rate at which chemicals in the sediment can pass into solution, or can exert an oxygen demand on the surrounding waters. A general overview is given below.

ANALYTICAL RESULTS-LABORATORY ANALYSIS						TABLE 7.3.2-2
PORT : TARTOUS						
SITE		SITE 1	SITE 2	SITE 3	SITE 4	SITE 5
PARAMETER						
WATER QUALITY	UNITS					
COD	mg/l	6.3	9.3	8.9	8.9	9.3
SULPHIDE	ppm	1.6	1.6	0	0.8	0
TOTAL NITROGEN	ug/l	0.061	0.068	0.067	0.061	0.07
SULPHATE	mg/l	2.95	3	3	2.9	2.85
FREE CHLORINE	mg/l	TRACE	TRACE	TRACE	TRACE	TRACE
TOTAL PHOSPHORUS	mg/l	0.048	0.132	0.054	0.048	0.064
PHOSPHATE	mg/l	0.148	0.406	0.166	0.148	0.196
SUSPENDED SOLIDS	mg/l	24	88	168	311	35
OIL GREASE	mg/l	4.6	7.6	3.33	1.28	1.28
COLIFORMS	N/100ml	6	19	7	13	1
SEABED SEDIMENT	UNITS	SITE 1	SITE 2	SITE 3	SITE 4	SITE 5
(Dry Weight)						
COD	mg/g	0.029	0.133	0.135	0.158	0
OIL GREASE	mg/g	2.4	0.6	0.6	0.6	0.6
IGNITION LOSS	%	2.93	3.19	4.77	4.15	6.34
SULPHIDE	ug/g	19.8	0	0	0	0
TOTAL PHOSPHORUS **	%P2O5	4.48	1.31	2.9	3.3	0.6
PHOSPHATES	ug/g	18	15	22	5.4	4.8
COPPER	mg/g	0.023	0.029	0.027	0.024	0.024
ZINC	mg/g	0.094	0.123	0.092	0.126	0.041
TOTAL MERCURY	mg/g	0.0093	0.009	0.02	0.037	0.082
ARSENIC	mg/g	0.015	0.036	0.027	0.051	0.138
PARTICLE SIZES %						
>425	um	20	13.9	5.5	16.8	100
300-425		12.6	9.1	14.3	18.3	0
220-300		7	11.5	9.4	11.06	0
106-220		22.14	19.7	18.5	12.34	0
<106		35.89	44.6	51.2	39.57	0
** TOTAL PHOSPHORUS EXCLUDING INSOLUBLE PHOSPHATE						

Chemical Oxygen Demand (COD) was low at a maximum value of 0.158mg/l. In one case the value was zero.

Oil and Grease was consistent at 0.6mg/l apart from one result of 2.4mg/l.

Ignition Loss was between 2.93% and 6.34%

Sulphide content was recorded at one location as 19.8mg/l. In all other cases none was detected.

Total Phosphorus varied from 0.6mg/l to 4.48mg/l.

Phosphates varied from 4.8mg/l to 22mg/l.

Copper varied from 0.023mg/g to 0.029mg/g.

Zinc varied from 0.041mg/g to 0.126mg/g.

Total Mercury varied from 0.008mg/g to 0.037mg/g.

Arsenic varied from 0.015mg/g to 0.138mg/g.

Particle Size showed that Sites 1 and 4 were fairly evenly distributed between coarse and fine sediments. Site 2 and 3 had a preponderance of fine sediments. Site 5 was all coarse material.

7) Air Quality

In order to assess air quality, monitoring was carried out at three locations around the port, designated Sites A, B, and C. One of these was in close proximity to the phosphate loading pier, the other two were on the perimeter of the port. These are shown in Figure 7.3.2-1.

The measurements were taken on Wednesday April 12 1995 between 1300 hours and 1900 hours during which time the Motor Vessel Mohammad S. was loading. The vessel has a capacity of 3,300 tonnes. The rate of loading of phosphate is 500-6000 tonnes per hour and so the loading period was 6 hours.

A second set of measurements was taken on Thursday April 20 1995 between 11.00 hours and 19.00 hours during which time the Motor Vessel Kopalnia Jeziorko was loading. The vessel has a deadweight tonnage of 13,000 tonnes. The rate of loading of phosphate is 600 tonnes per hour and so the loading period was 22 hours.

Air quality was measured in accordance with standard practices to assess total suspended particulate matter. This was measured using three High Volume Samplers, mounted at ground level and operating for a period of eight hours. This 8 hour period was taken to coincide with the loading of a phosphate ship. The air pollution standard relates to 24 hours and on occasion phosphate loading of a ship can extend over several days, depending on the size of the vessel. However at the time of the

monitoring the sampling period was taken to coincide with the time when dust may be generated from the loading operation to give a result typical of conditions during loading.

In order to allow direct comparison of results three instruments were used and run at the same time. Wind speed and direction were observed on site and were later confirmed by reference to the nearby meteorological station near Tartous.

The sites were as follows :

- Site A — Due east of loading pier at a distance of 500m. from ship
- Site B — South east of loading pier at a distance of 1000m from loading operation
- Site C — East southeast of loading pier at a distance of 1100m from loading operation

The results were as follows :

Day 1 : 12 April 1995
In general winds were calm to light during the day from the northwest, veering to northerly at approximately 2m/s after evening time, when sea breezes can be expected to occur.

- Site A 373 ug/m^3
- Site B 246 ug/m^3
- Site C 81 ug/m^3

Day 2 : 20 April 1995
Wind speeds varied between 1-4m/s and were predominantly southwesterly.

- Site A 788 ug/m^3
- Site B 108 ug/m^3
- Site C 128 ug/m^3

The standard for air quality based on USEPA requirements is 260ug/m^3 for a 24 hour period. The standard based on WHO requirements is 150ug/m^3. This indicates that the levels in the port are in excess of the standard but the port is classed as an industrial area and so an occupational exposure level would be more appropriate. The levels measured at the boundary of the site can be taken as similar to the levels outside the port and so environmental standards would apply.

Other sources report that levels of 1,000 ug/m^3 of dust have been measured in the centre of Tartous during periods of dry weather.

In addition the phosphate component of the dust samples was determined for the second set of samples using chemical extraction techniques. The results were as follows :

Day 2 : 20 April 1995

	Site	Phosphate Concentration	% of Total Sample
o	Site A	55.3ug/m^3	6.97 %
o	Site B	0.09ug/m^3	0.08 %
o	Site C	0.25ug/m^3	0.19 %

The results indicate that the major proportion of the dust within the port is probably not arising from the phosphate loading operation, but is probably due to reentrained dust from traffic movements.

8) Phosphate Loading At Tartous Port

In order to investigate the phosphate loading operation, several site inspections were made of the loading operation, the equipment on the loading pier was examined in detail, discussions were held with the ships crews, the loading operatives, and the officials of the phosphate handling company.

The mining, extraction and export of phosphate is a government run operation which in the port is handled by GECOPHAM the General Company for Phosphate and Mines. The handling conveyor system was built in 1972 with Rumanian assistance in two stages. Pier 19 is the oldest pier and was constructed in 1972. Pier 18 is the newest and was built in 1985-86. In 1988 a report was prepared and further improvements by a Russian organisation, but this has not being implemented.

In previous years the throughput of the phosphate handling operation was 1.6 million tonnes per year, but now is 1.0 million tonnes per year. The supplies go to most of Europe including Italy, Spain, France, Bulgaria, and Rumania. Fertiliser production is the main use. Approximately 140 vessels per year are handled. It is possible to load 2 ships at once although this was not observed. The loading rate is 600 tonnes/hour. Therefore the loading operation can take from 3 hours to several days.

The conveyor system was originally open, but following pressure from the Ministry of Environment it was enclosed. The conveyor system is shown in Figure 7.3.2-2.

Phosphate powder arrives from the mine near Palmyra by train. It is carried in bottom discharge hopper wagons and unloads in the unloading shed which is enclosed. From here an inclined conveyor carries the mineral powder to a series of silos. From the base of the silos the powder discharges under gravity to two parallel inclined conveyors. These transfer the material to two horizontal v-belt conveyors which run along the wharf at a high level. At two positions these conveyors feed to a swinging loading arm which feeds the material to the ship through a flexible hose. There are two such hoses, one to feed a vessel on each berth on each side of the wharf.

There is extensive dust control on the system. Previously the moisture content of the dust was about 9% and so the dust generation was not so much of a problem. However more recently customers have started specifying moisture content to be

TARTOUS PORT.

PHOSPHATE HANDLING DUST COLLECTION SYSTEM

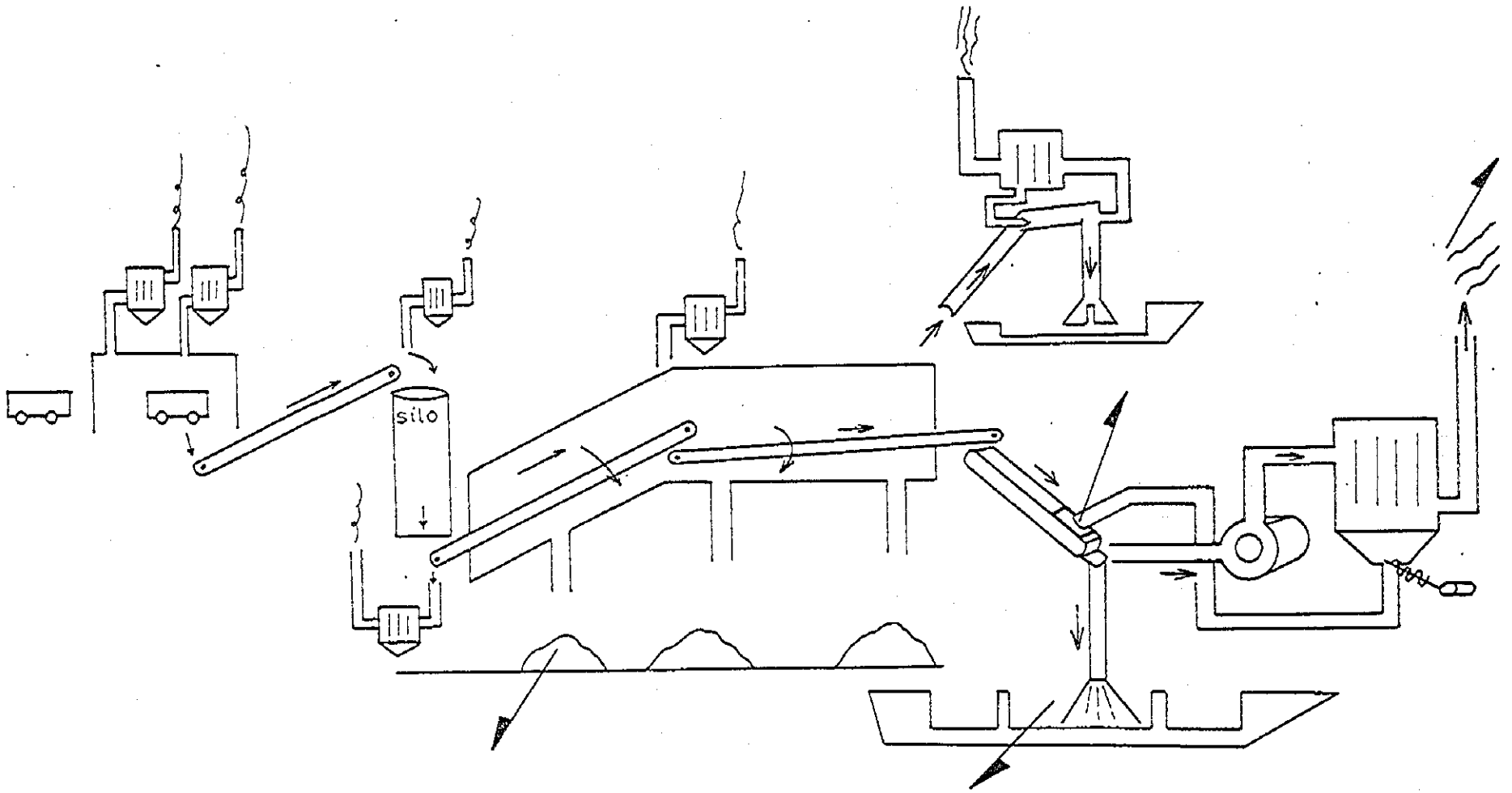


Figure 7.3.2-2

around 1% and not to exceed 3% This has made the dust more friable (likely to be entrained by the wind) and so dust collection and capture methods have been installed.

The dust collection system is based on fabric filter bags which are generally accepted to be of very high efficiency in this kind of operation. There are several filter of different sizes and capacities depending on the location in the operation. However they all work on the same principle. The filters are supplied by Schenk Company of Austria. The location of the air filters is :

o	In the Unloading shed	2 Nos
o	On top of the Silos	1 Nos
o	On the conveyor to the wharf	1 Nos on the top
		1 Nos on the bottom
o	At the shiploader;	2 Nos, 1 on each loading arm

There are 7 filters in total. The largest is on top of the silos.

Constant breakages are reported. During one loading operation the flexible hose to the ship fractured and large dust emissions resulted. Also it is acknowledged by the technical staff that some of the filters are broken and need replacing, but no spare parts or maintenance money is available.

The loading operation was examined in detail on 20.4.95. Several sources of dust emission were noted. (See Plates 1-8)

The parallel v-belt feed to the shiploaders results in considerable spillage within the conveyor housing.(Plate 1) This accumulates, is discharged through chutes onto the wharf and forms large piles on the wharf which become contaminated with rainwater and rubbish.(Plate 2) These piles are removed by Front End loaders into trucks which return the material to the silos.(Plate 3) However as the material is wet it must first be dried and so is spread on the ground to dry. This allows for further dust loss.

At certain positions inside the conveyor housing the material spills over and falls through the base of the conveyor housing.(Plate 4) This discharge is at high level and is immediately blown by the wind. This is a major source of dust generation.

The swinging arm to the conveyor lowers into the hold of the vessel (Plate 5) Due to the light nature of the dust, a considerable amount is carried away. (Plate 6)

At the end of the swinging arm a pipe extracts air under vacuum to an induced draught fan to the fabric filter plant. Here the air flow passes through the filter, the cleaned air passes to atmosphere through a stack and the collected dust falls to the bottom of the filter where it is fed by a worm drive back into the swinging arm flexible hose and so to the ship.

The atmospheric emission should be free of dust and contain "no visible emissions". As can be seen (Plate 7) this is not the case and indicates that the filters are not working effectively.

The worm feed back to the supply arm allows the dust to fall under gravity into the supply feed. This occurs at an open connection to the supply arm and makes it very easy for dust to be entrained by the wind. (Plate 8) This is a major source of wind blown dust.

The culmination of these effects is almost total obscuration of the wharf when viewed from the vessel.

Based on visual observation only, the relative contributions from the various parts of the dust loading operation are :

o	Discharge from underside of conveyor enclosure	30%
o	Discharge from return of dust filter to feed arm	30%
o	Discharge from dropping of material into ship	30%
o	Discharge from stack of filter plant	10%

(The piles of material on the wharf did not make a contribution as they were wet, but this would change when they dried out.)

Therefore it can be seen that repairing the filter bags alone inside the filter housing would not effect a big improvement in the dust emissions.

If the conveyor operation could be upgraded to reduce spillage, and the housing repaired to prevent spills onto the ground a major source of dust emission would be terminated. The practice of spilling onto the wharf and then collecting should be discontinued as this is wasteful of product as well as a source of dust generation. If discharge is necessary it should be straight into the trucks and then returned to the silos.

The return line from the dust filter to the supply line to the ship should be enclosed. This is a major source of dust emission.

At the point of discharge into the hold of the ship, the hatches to the hold are completely open and this allows a large amount of dust to escape. Closing the hatches is not feasible as the arm must be free to move. However the hold could be partially enclosed with flexible covers supported on a light weight frame and held in place with rope or lines. Such covers could be kept on the wharf and used for each ship as it arrived and loaded. Such an arrangement could effectively seal the hold and would cut down a major source of dust emissions. This arrangement was discussed with the ships officers who raised no practical objections. In fact one of them commented that this arrangement was used in New York during similar loading operations and proved very effective.

The above suggestions should be examined in more detail as they may prove cost effective in dust control before other more expensive measures are considered.

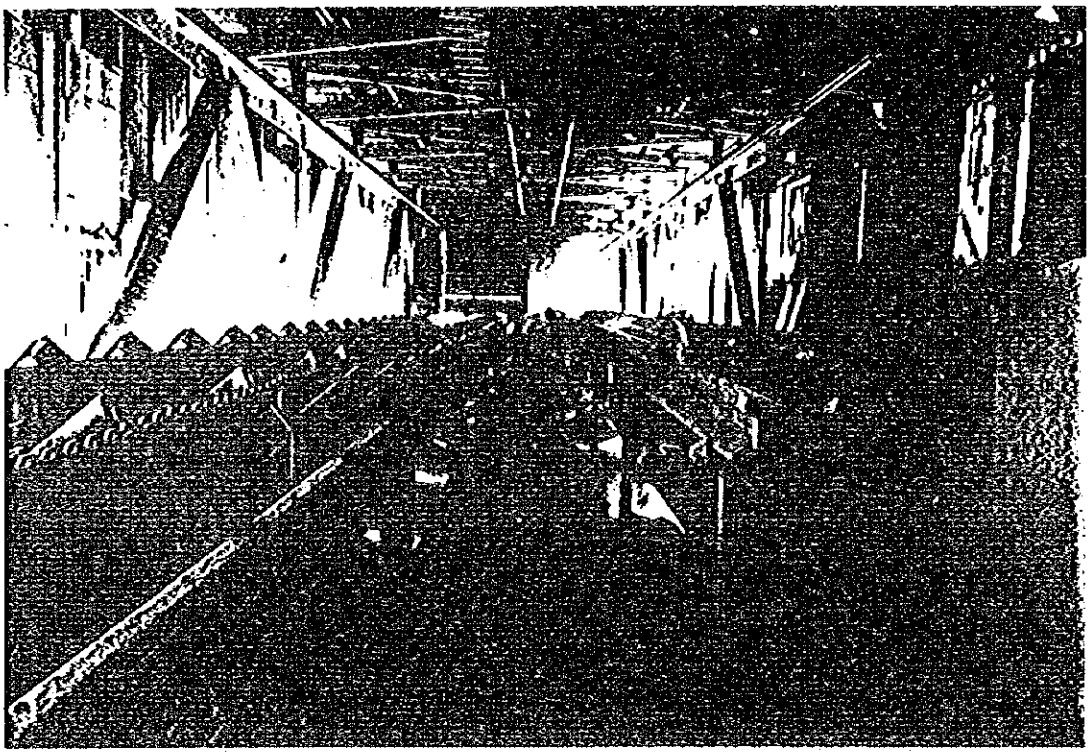


PLATE 1 The feed to the shiploaders results in considerable spillage within the conveyor housing.

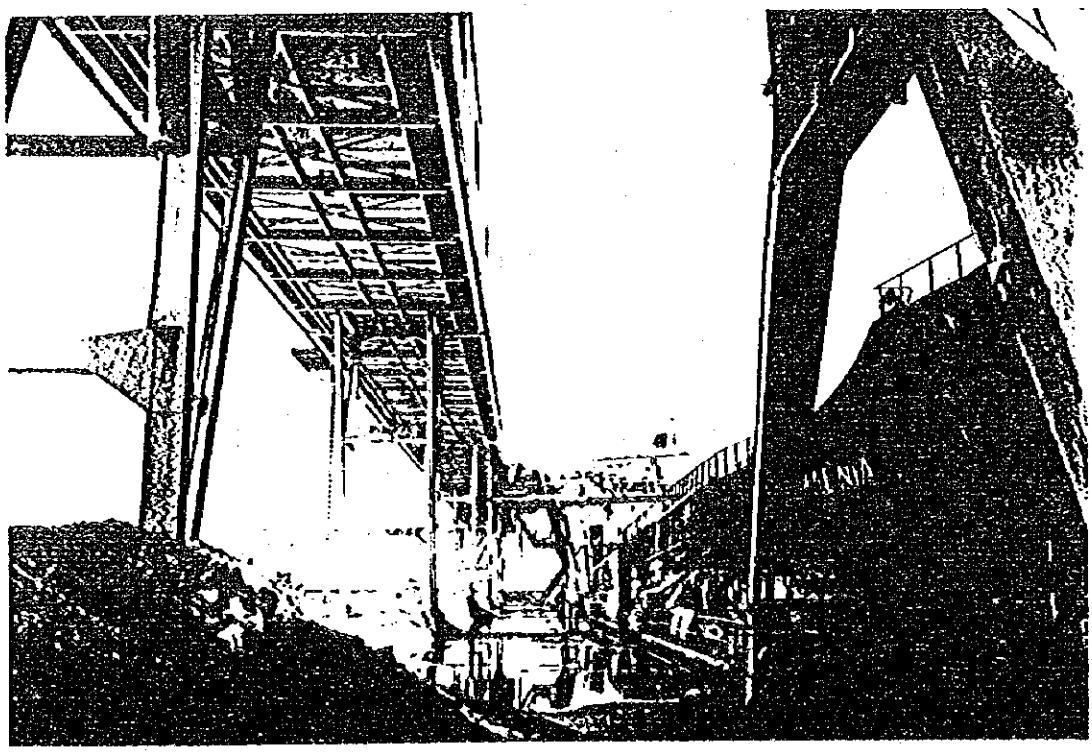


PLATE 2 These spillages accumulate and discharge through chutes onto the wharf. (See upper left corner of plate) This forms large piles on the wharf and is contaminated with rainwater and rubbish.

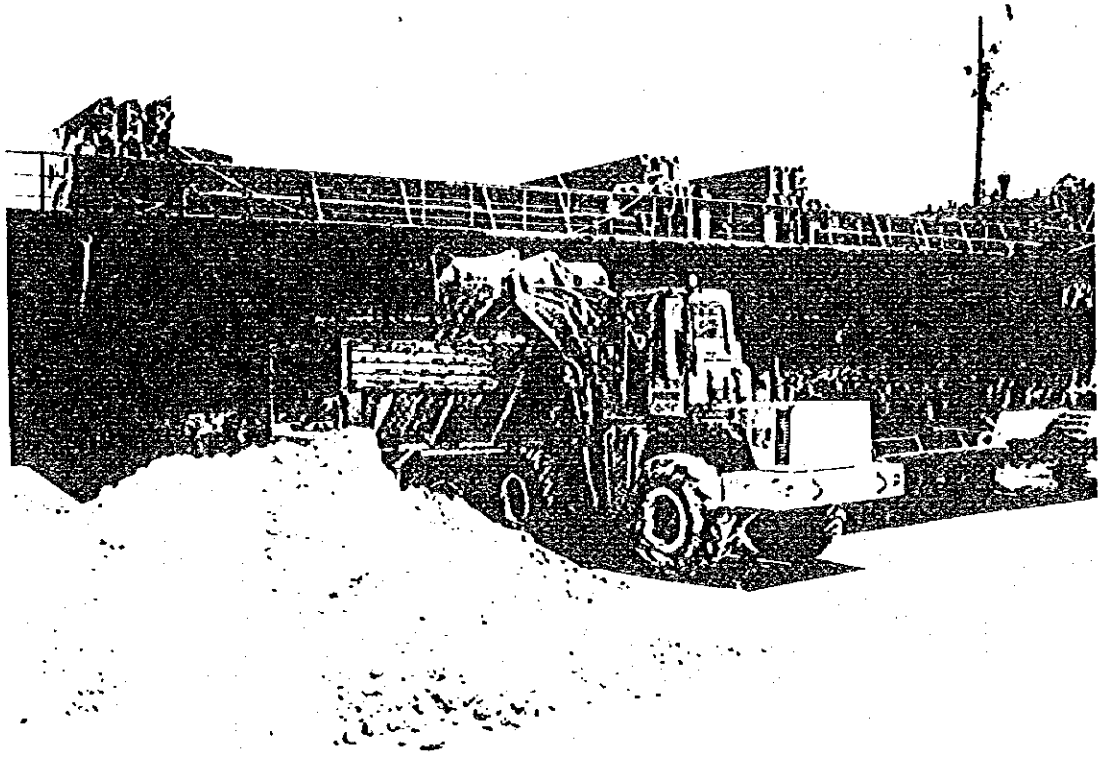


PLATE 3 Spilt material is removed by Front End Loaders into trucks which return the material to the silos.

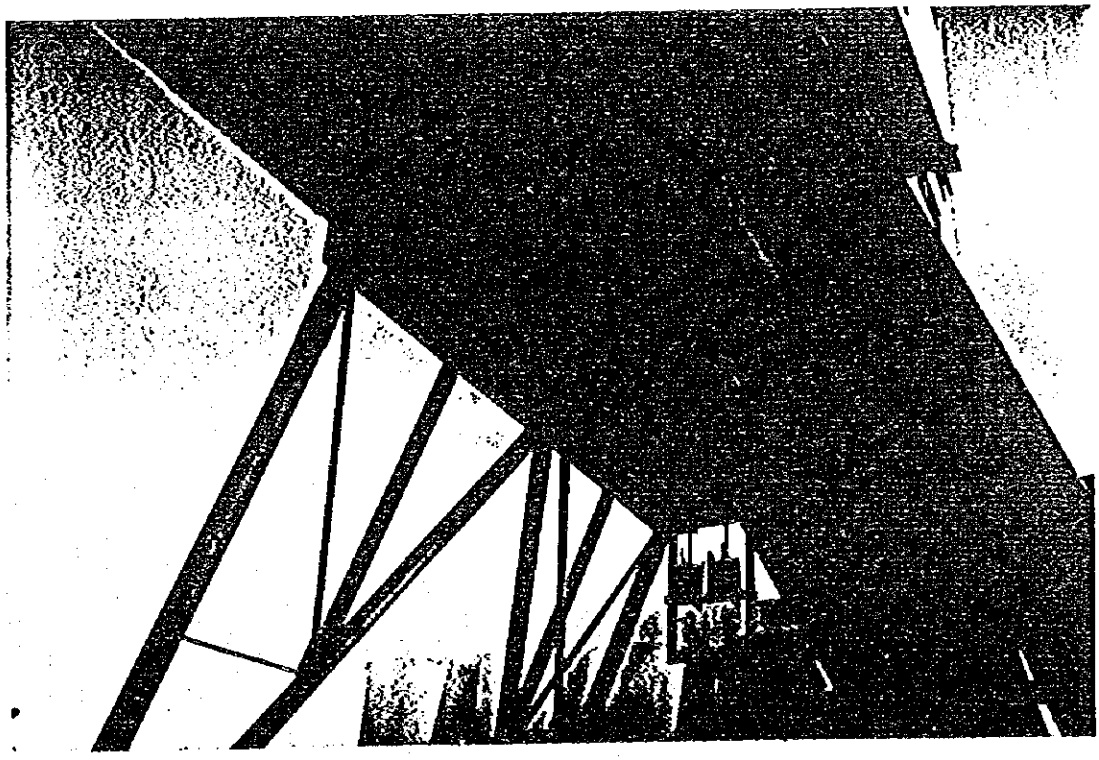


PLATE 4 Inside the conveyor housing the material spills over and falls through the base of the conveyor housing.

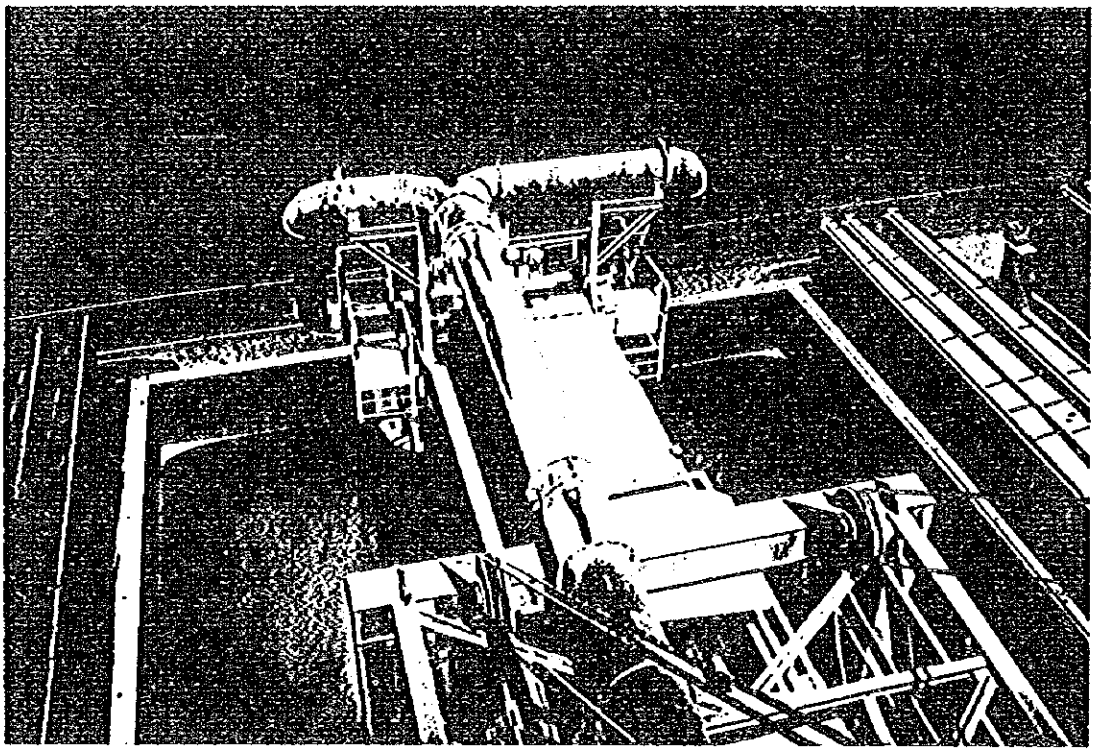


PLATE 5 The swinging arm to the conveyor lowers into the hold of the vessel.

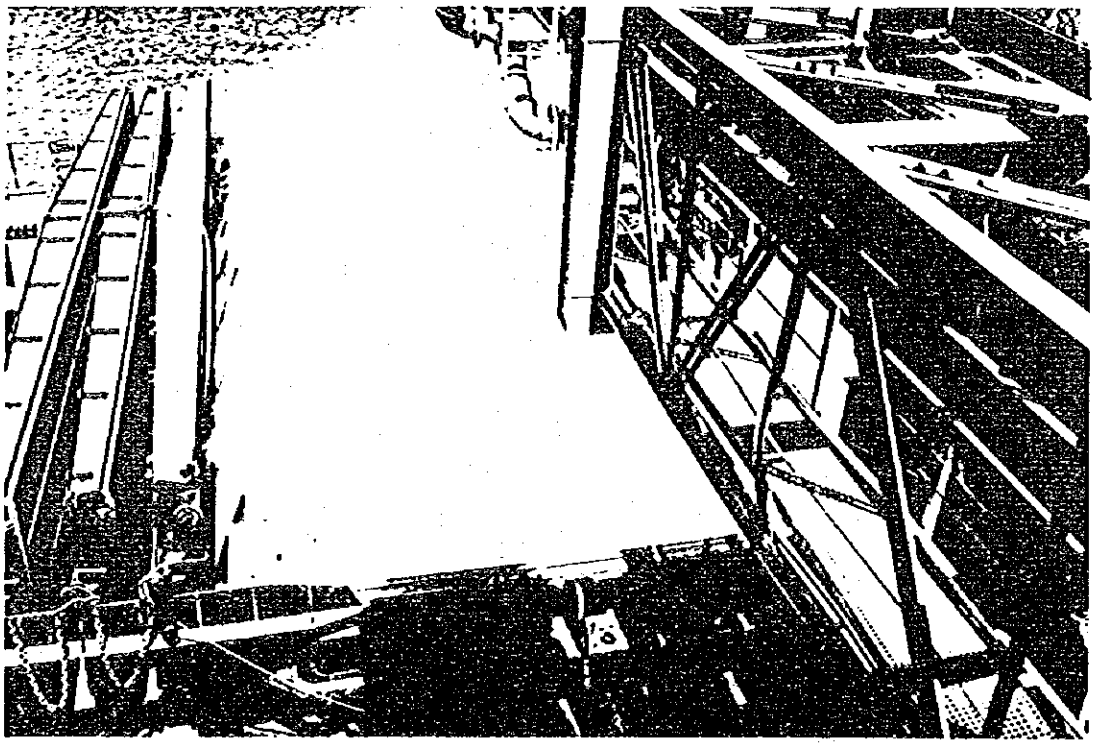


PLATE 6 Due to nature of the dust, a considerable amount is carried away.

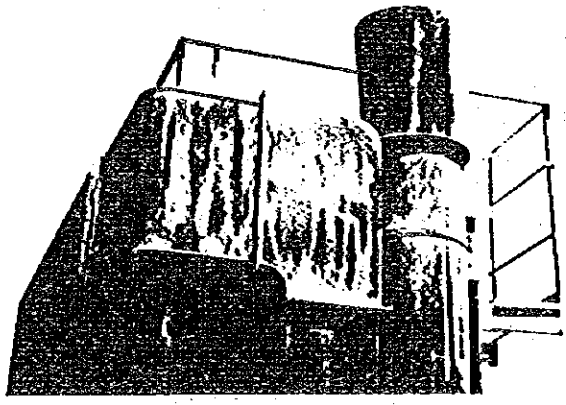


PLATE 7 The atmospheric emission should be free of dust. This is not the case and indicates that the filters are not working effectively.

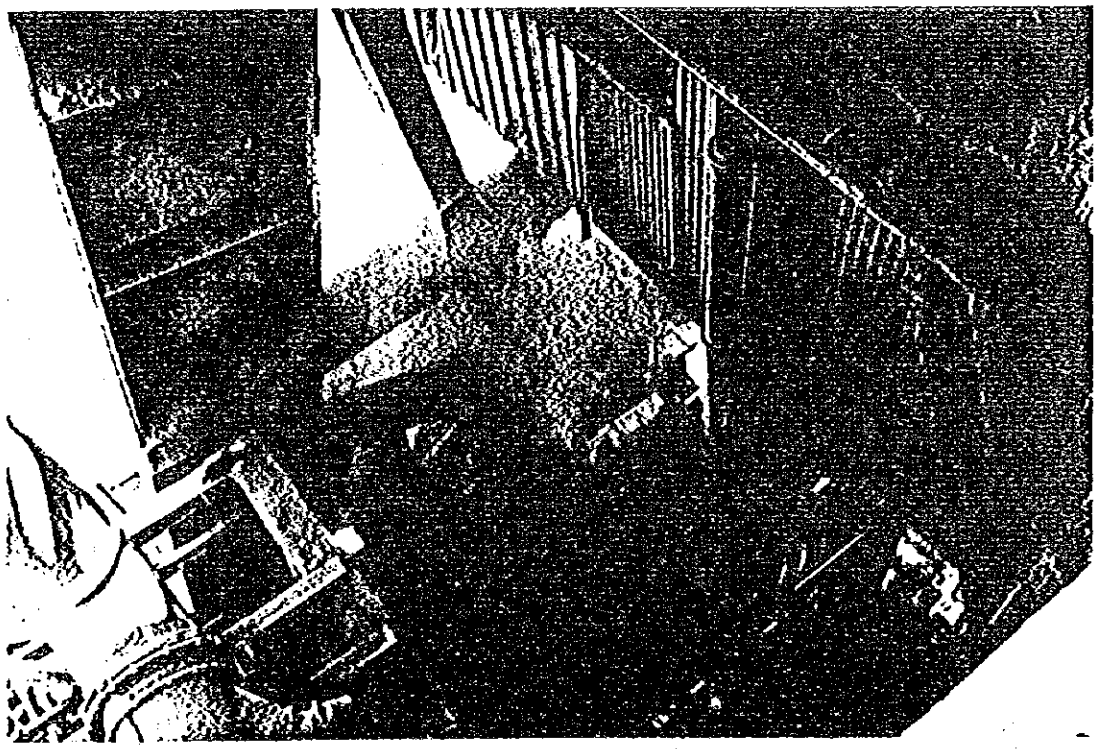


PLATE 8 The dust return from the filter plant allows the dust to fall under gravity into the supply arm at an open connection and makes it very easy for dust to be entrained by the wind.

7.4 Environmental Conditions In and Around the Proposed Alternative Sites for the New Port

General Description of Coast

As indicated previously, the coastal area is intensively developed. This includes residential development, tourist hotels and holiday homes, oil loading facilities, and intensive cultivation both in fields and under greenhouses. Also there are many areas which have been designated as restricted areas under the Blue Plan for historical, cultural and ecological reasons and so the sites remaining for location of a new port are restricted. A series of site were examined from Hamidiah in the south to Latakia in the north and these are reviewed below.

7.4.1 Site 1 Between Arida (the border) and Hamidiah

The site is located very close to the border with Lebanon, to the south of Hamidiyah. The site is flat, open and enclosed with a fence although it appears to be common ground as animals were freely grazing. The site surface is mainly undulating gravel and sand.

To the north the site is bounded by the southern edge of Hamidiyah village. To the east lies the main road, telephone and electricity cables and beyond this farmland. The main road is moderately busy with some traffic. The agricultural area is intensively cultivated with some fruit and vegetables under greenhouses. To the south lie the mountains which form the boundary between Lebanon and Syria. The sea is to the west.

The beach is fine brown sand, and extends for 300m back to the road. It is heavily polluted with garbage. The beach appears to have little amenity value to the residents of the area and to be used as a garbage dump. Scavenger dogs were seen in the rubbish. Towards the north the beach has several rocky outcrops which are covered with weed and some seagrasses. These appeared to be filamentous algae and some members of phylum Phaeophyta. The water quality is generally good with high clarity, but polluted with plastic bags.

To the north of the site is a pipelaying area and concrete batching plant. Adjoining this is and bounding the site is a small river. This had virtually no flow and was almost stagnant. The water was very turbid, possibly due to algal growths. Some seabirds and lizards were observed, possibly attracted by the garbage.

Some industry was observed in Hamidiyah emitting black smoke.

In general the site is considered of low amenity value and low ecological value. There are no overriding environmental objections to developing this site.

7.4.2 Site 2 Al Munter

The site is located between Hamidiyah and Tartous. To the north there is residential low cost development. To the east there are holiday chalets which approach quite closely to the beach and south of these a high standard residential development of detached dwellings. Most of these were unfinished. To the south are sand dunes and a

rocky headland which affords some shelter for the bay in which there are several fishing boats moored. The sea is to the west.

The sandy beach was dirty with much garbage. Seawater quality was moderate with poor clarity and high turbidity. There are eight fishing boats working out of the bay and some fishermen using nets from the shore. The population of the village was reported at 4,000.

The area supports a small fishing industry and is of high amenity value despite the dirty beach as shown by the large number of holiday homes. Any major construction works would have a significant effect on these activities and would be considered very disruptive. Due to the residential and commercial activities this site is considered environmentally sensitive.

7.4.3 Site 3 Amrit

The site is located due south of Tartous port, and is designated as a tourist development area. To the north of the site is the southern extremity of Tartous port. To the east holiday chalets approach to within 30m. of the beach. Behind the chalets the land is intensively cultivated for agricultural purposes. To the south are extensive sand dunes. The sea is to the west. The beach is dirty and covered with garbage. Water quality is moderate and slightly turbid.

Amrit is a noted historical site with extensive archaeological remains. These are being developed as a planned tourist attraction, together with a tourist hotel complex, based on the historical ruins.

In view of the historical aspects and the planned tourist development this site is considered to be environmentally sensitive.

7.4.4 Site 4 North of Tartous near Oil Depot, Hsein al Bahr

The site is located approximately 4km north of Tartous port and can only be approached through a security areas controlled by the military. To the north of the site are a large number of small holiday chalets or weekend homes. To the east are a large number of further holiday chalets with agricultural land behind them. To the south are the two breakwaters of the small harbour that provides facilities for the craft that service the oil loading operation and the tankers loading at the offshore oil facility. To the southeast is the tankfarm which feeds oil to the terminal. The sea is to the west. The seashore in front of the residential properties is protected by a boulder sea wall. Beyond this the seabed is a mixture of sand and rock. The water quality was high but turbid with sand in the wave zone.

The cement plant is immediately behind the site and represents a major visual intrusion. The beach is of moderate amenity value. Although the holiday chalets enjoy the beach aspect the area may be considered mixed industrial/residential. It is considered to be moderately environmentally sensitive.

7.4.5 Site 5 Golden Sands Holiday Resort

The site is located north of Tartous midway between it and Banias. The area is probably the major tourist development on the coast. It connects with the major

highway and is basically a small township with security controlled access. There a large number of holiday homes, chalets, and support facilities. To the north the site is bounded by further residential development. To the east the site is heavily developed almost as far back as the highway. Areas not used for residential development are under agriculture. To the south is the oil terminal of Tartous and the cement plant. The sea is to the west and is separated from the residential development by a concrete promenade and the wide sandy beach.

The beach is a mixture of sand and gravel. The water quality is moderate with quite high turbidity. Despite this many people were swimming at the time of the site visit.

The area is of high amenity value and should be regarded as environmentally sensitive.

7.4.6 Site 6 Banias Port

The site is located immediately below Banias town which is considerably lower than the main highway due to the steep nature of the coastline at this point. To the north of the site is the refinery which give off considerable air pollution from 3 stacks, 3 flares and 3 cooling towers. Further to the north are the LPG storage spheres. To the east is a very heavily developed residential area. Beyond this is an historical area with some important ruins dating back to the time of the crusades. To the south is the oil fired power station with a further 4 stacks. The beach is a mixture of rocks and mud. There is no sand but an artificial breakwater protects the foreshore. There are several prominent rock outcrops which are used for mooring of fishing boats. In addition to pleasure fishing, there was considerable artisanal fishing activity from small boats.

In the anchorage off the refinery there were several ships anchored including an LNG tanker. This is presumably the dangerous goods anchorage and would be an exclusion zone for other normal cargo carrying vessels.

The water quality was high but with considerable floating detritus on the surface of the water. Significant numbers of small fish were in evidence. The rocks are heavily populated with sea grasses. The sea is to the west and the seafront provides an area of high amenity to the residents.

The site supports a mixture of residential / heavy industry / recreational uses and is probably the result of unplanned development. Despite these basically incompatible uses the site is of quite high ecological value and amenity value. Having said that, the industrial nature of the site means that further industrial development would not be out of character with the area. However, such development would undoubtedly place an additional environmental stress on the ecology of the area which is already overloaded. If this area was to be further developed for industrial uses it should only occur in parallel with a thorough environmental management plan, with serious commitment to its implementation.

7.4.7 Site 7 Jableh

The site is located between Banias and Latakia. Jableh is in the centre of the agricultural area and all the land around is of high agricultural value. To the north the site is bounded by the sand dune of Latakia. To the east are high value houses forming a prestigious residential development. There is also some form of military

communications installation. To the south is the main town of Jableh. The sea is to the southwest.

The beach appears to be eroded sandstone with some visually striking outcrops with together with the wave action makes it an attractive area. The water quality was moderate with slight turbidity possibly generated by the sewage outfall at this point. This is an elevated concrete box culvert discharging above the high water mark.

There is little industrial development in the area although there is a new silo complex being constructed north of Jableh outside Latakia for grain storage.

Due to the high amenity value of the visual appearance associated with this coastline, and the residential development, this site is considered to be environmentally sensitive.

7.4.8 Site 8 South of Latakia

The site is located immediately south of Latakia. To the north of the site is the southern extent of Latakia town which is an important recreational area with seaview restaurants, swimming beaches, scuba diving and general high amenity value for the residents of Latakia. To the east there is residential development and agricultural land. To the south are rolling sanddunes which are categorised as a preservation area at a national level. The sea is to the southwest.

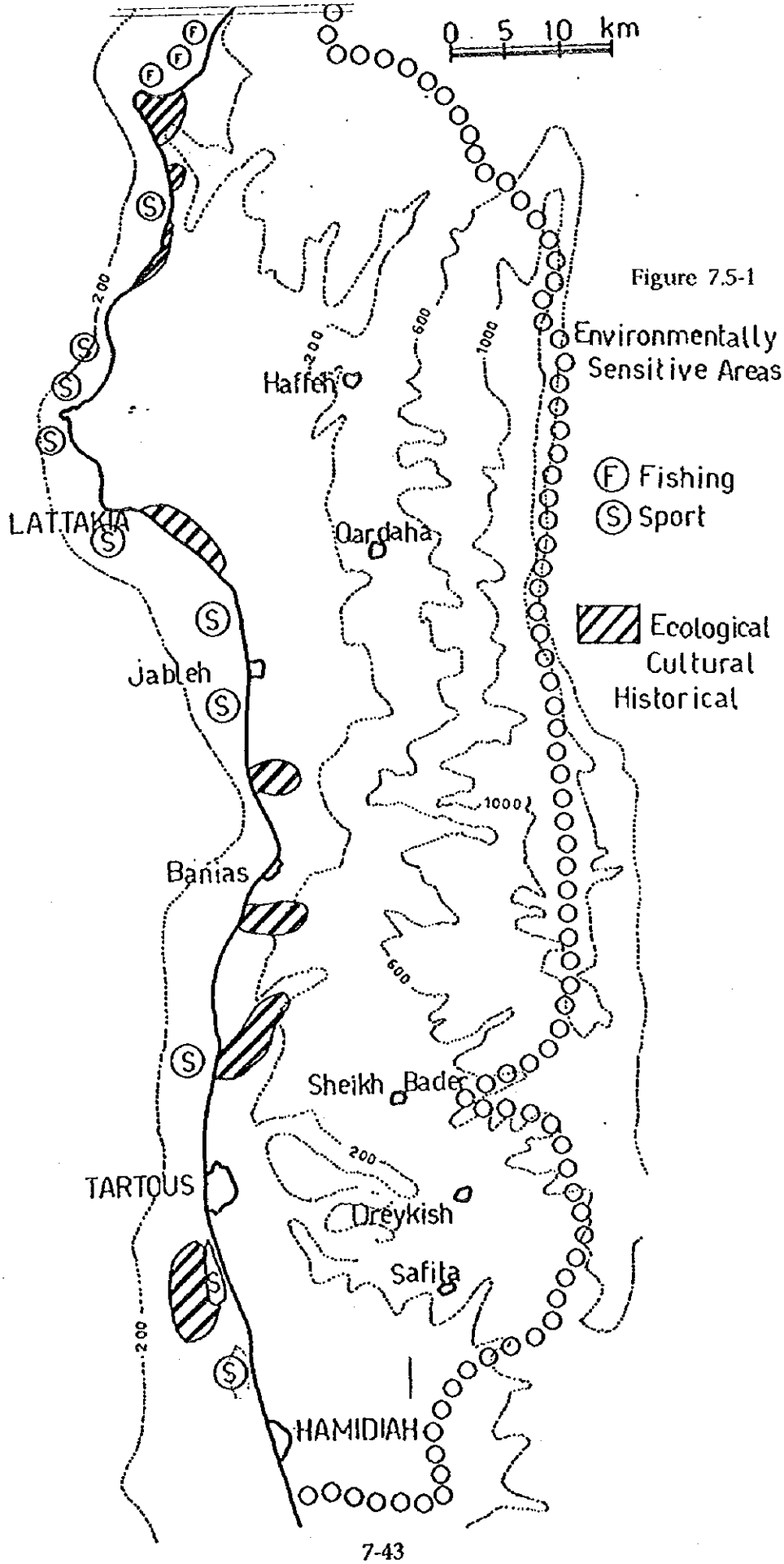
The shoreline is very open and water quality is high, despite the sewage outfalls from the town into this area. This area is an overflow area for the population of Latakia as the city grows. Expansion to the east of the town is designated for industrial development, and the northern boundary is preserved for tourism. Therefore this is the only expansion outlet. However this will have to observe beach setbacks as the whole of the sand dunes area, which meets the rocky coastline north of Jableh, is considered to be a site of very high ecological interest. This area is considered to be very environmentally sensitive.

7.5 Conclusions

As discussed above, the coastline between Latakia and the southern border with Lebanon contains many sites of outstanding natural value, historical value, ecological value, and high amenity value to the local residents as well as domestic tourists. Foreign tourism is not so well developed but may become so with time. The areas which are basically excluded by virtue of being in the above categories are shown in Figure 9.5-1. As shown in this figure there are basically three areas which remain where further development could take place without undue effect on the environment. These are:

- South of Hamidiayah
- North of Tartous
- Around Banias

The latter would only be acceptable if a strong environmental management plan was implemented. Also many stretches of this coastline are already under environmental stress. This seems to be associated with inadequate implementation of remedial measures, rather than technical solutions, as the problems are already identified. Many of the problems seem to require committed intervention and it is recommended that environmental audits be carried out of the existing heavy industry, that is the cement plant at Tartous, the refinery and power plant at Banias, in addition to the overhaul of the phosphate plant at Tartous, to identify situations where remedial measures are inadequate or nonoperational.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Environmentally Sensitive Areas
F Fishing
S Sport
Ecological
Cultural
Historical
Haffeh
Qardaha
LATTAKIA
Jableh
Banias
Sheikh Bader
TARTOUS
Dreykish
Safita
HAMIDIAH
200
600
1000

Figure 7.5-1

Chapter 8 Present Management and Operations

8.1 Outline of Syrian Ports' Management and Operations

There now exist two Port General Companies of which manage and operate major two commercial ports in Syria. One is the General Company of Latakia Port and the other is the General Company of Tartous Port. They are statutory organizations, each functioning independently of the other and operated semiautonomously.

Agent services rendered to vessels after arranging pratique formalities are carried out by Shipping Agencies Company (SHIPCO) - the exclusive agent in the Syrian Ports. SHIPCO arrange discharging or loading facilities for vessel including gangs, trucks, cranes, slings, and so on as well as other vessel requirements such as : water supply, repairs, repatriation, doctor, provisions, fuel supply etc.. (Not arranging but actual fuel supplying is done by the Syrian Company for the Storage Distribution of Oil Products (SADCOP).) In addition, SHIPCO notify consignees of cargoes, issue delivery orders according to B/L and send daily reports regarding vessel's operations to companies concerned, which include, for example, containers movement, statement of accounts and estimated expenses.

Both of the entities belong to the Ministry of Transport (MOT). Figure 8.1 shows the Organization Chart of MOT.

Entering permission into the Syrian ports is one of the duties of the General Directorate of Seaports. Duties of the Directorate, not conflicting each jurisdictions of the two entities, extend over not only maritime industries but also navigational safety, based on the Legislative Decree No.1 dated September 30, 1961 and the decision of the council of Ministers No.372 dated December 3, 1961. The duties are connected with the Ministry of Defence. However the Credits of this Directorate forms an independent part of the General budget of the Ministry of Defense.

The Directorate has to perform the duties concerned with maritime navigation, maritime commerce, lighthouses, preparing new projects and making suggestions related with planning & technical affairs of this Directorate. Concretely speaking, the main duties are as follows:

(1) Study, design and performance of new seaports projects after legal authorization issued by the Council of Ministers to the Directorate and providing these projects with the necessary equipments and machineries.

(2) Supervision and inspection of general maritime properties including environmental pollution

(3) Registering of vessels, evaluation of their loads, securing the maritime safety and controlling the affairs of navigators and commercial navigation.

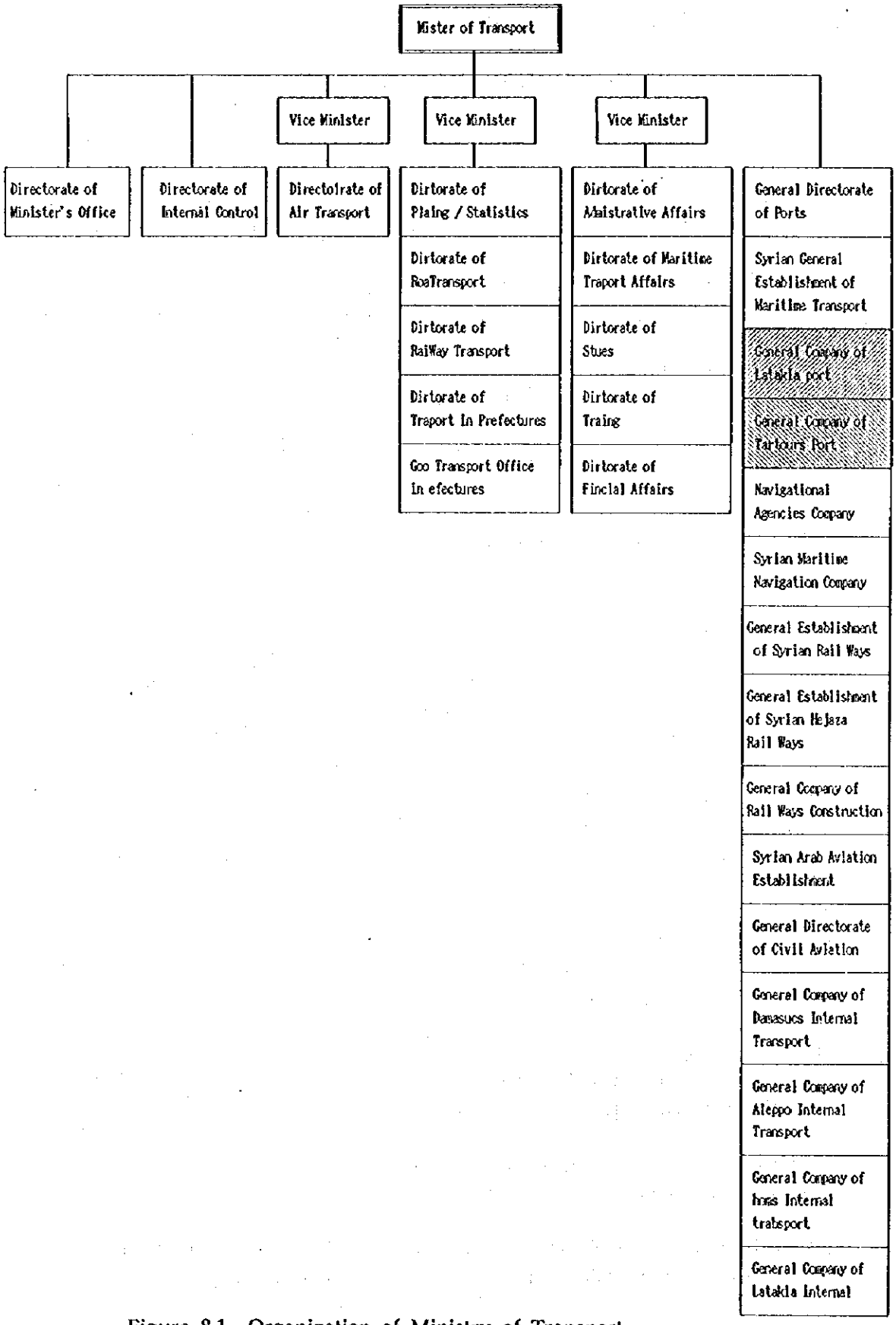

Figure 8.1 Organization of Ministry of Transport

(4) Supervision of the security and safety of seaports, lighthouses and provincial waters.

(5) Concerning fishing matters

8.2 Port General Company

As already mentioned, Latakia Port is managed by the General Company of Latakia Port and the Tartous Port by the General Company of Tartous Port.
The General Company of Latakia Port was appointed to exploit Latakia Port by the legislative Act No.97 dated October 4, 1953. The General Company of Tartous Port was established by the legislative Act No.314 dated December 16, 1969. General objectives of the two Companies are to make a plan to develop each Port and implement operations ('exploit'), financing, and maintenance of port facilities.

The above mentioned exploiting area includes the waters for dockage, storing area, warehouses, free zone, sales halls, utilities, repairing workshops and all other constructions as well as the actual services presented to vessels, passengers and cargoes.

An integrated program for the planning, development, and policy formulation of the two Ports is made by each of the Port Management Committees. Both of the Committees consist of Director General of the Port as the Chairman, Director of Planning, Director of Exploitation, Director of Finance, Chairman of the Prefectural Trade Unions Association and Chairman of the Port's Trade Union. The Committees are convened as the need arises and decision-making shall be made after consultation with the members.

(1) The General Company of Latakia Port

1) Organization
Policies are implemented by the Director General as the Chief Executive Officer and 9 line Directorates and 2 line Divisions, namely: Internal Control Directorate, Administrative & Legal Affairs Directorate, Construction Directorate, Planning Statistics Directorate, Accounting Directorate, General Director's Office, Machinery Directorate, Investment Directorate, Financial Affairs Directorate, and Port Control Division and Civil Defense & Firefighting Division. Each of the line offices is headed by 9 Directors and 2 managers. (General Director's Office is headed by the Deputy Director General.) Figure 8.2.1 shows the Organization Chart of Latakia General Port Company.

2) Personnel
There are 2,631 employees at the Port Company as of April, 1994. The following table shows the number of employees per unit in the past 4 years.

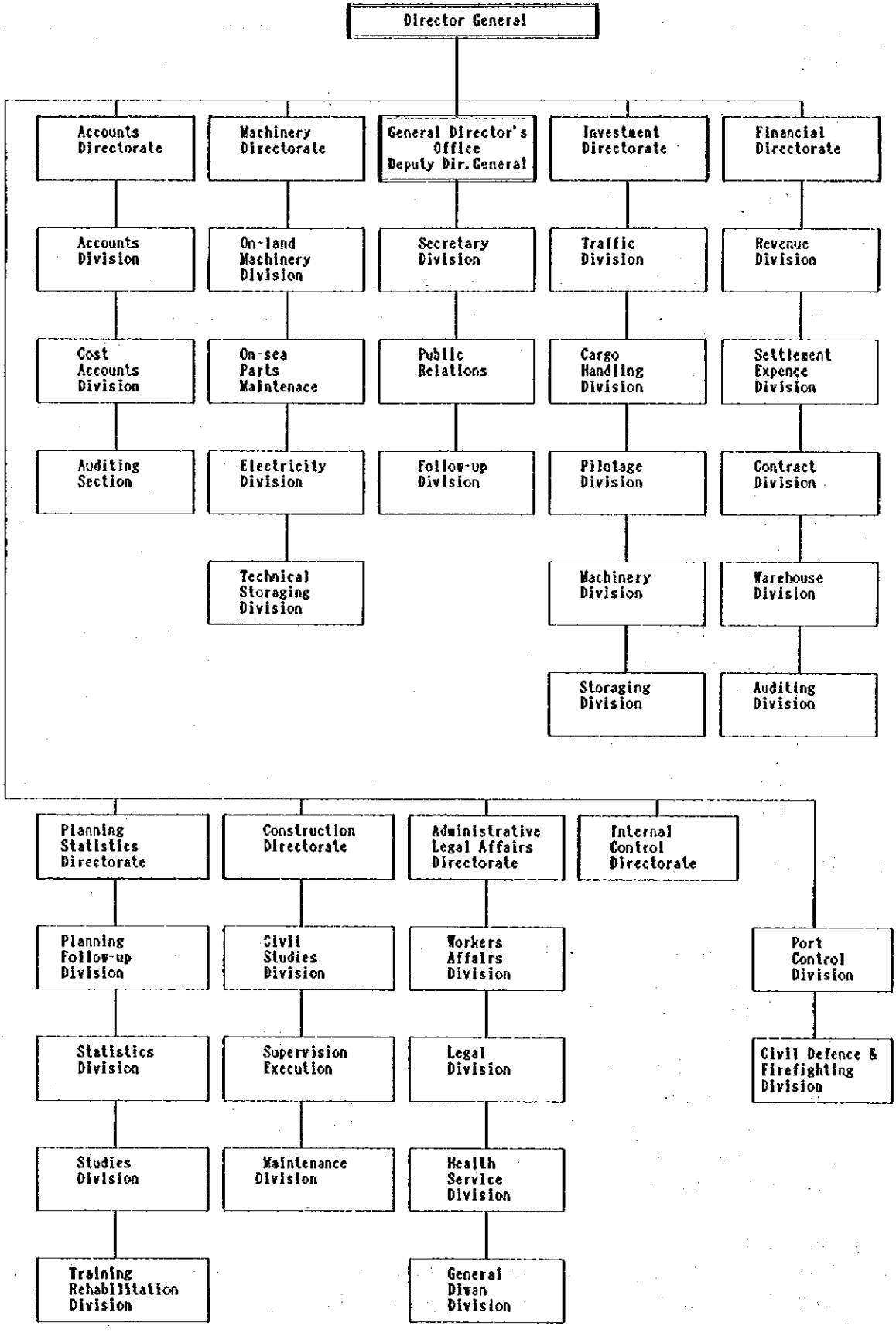

Figure 8.2.1 Organization of the General Company of Latakia Port

Table 8.2.1-1

	ADMINIST-RATIVE	CARGO HANDLING	PRODUCTION SERVICE	CLERICAL & OTHERS	TOTAL
1991	259	1,191	689	436	2,575
1992	252	1,166	689	428	2,535
1993	255	1,159	717	417	2,548
1994	255	1,212	747	417	2,631

The current number of employees are divided by age group as follow:

Table 8.2.1-2

Years of birth	Number of employees
1936 - 1945 (59-50)	731
1946 - 1955 (49-40)	650
1956 - 1965 (39-30)	840
1966 - 1976 (29-19)	410
Total	2,631

Mandatory retirement age is sixty. However, a person may be granted an extension of five years if he is highly capable.

(2) The General Company of Tartous Port

1) Organization
Policies are implemented by the Director General as the Chief Executive Officer and 10 line Directorates, namely: Internal Control Directorate, Administrative & Legal Affairs Directorate, Construction Directorate, Planning Statistics Directorate, Accounting Directorate, General Director's Office, Technical Affairs Directorate, Exploitation Directorate, Financial Affairs Directorate, and Training and Rehabilitation Directorate. Each line offices are headed by 10 Directors. (General Director's Office is headed by the Deputy Director General.) Table 8.2.2 shows the Organization Chart of Tartous General Port Company.

2) Personnel at the Tartous General Port Company
There are 2,927 employees at the Port Company in 1994.

The following table shows the 5 past years' number of employees per unit.

Table 8.2.2-1

YEAR	ADMINIST-RATIVE	CARGO HANDLING	PRODUCTION SERVICE	CLERICAL & OTHERS	TOTAL
1991	303	828	1,105	641	2,877
1992	323	838	1,115	629	2,895
1993	325	836	1,117	621	2,899
1994	329	826	1,142	630	2,927
1995	334	826	1,157	631	*2,949

*NOTE: Not fixed.

The number of employees(1994) are divided by age group as follow:

Table 8.2.2-2

Years of birth	Number of employees
1936 - 1945 (59-50)	676
1946 - 1955 (49-40)	1,049
1956 - 1965 (39-30)	583
1966 - 1976 (29-19)	619
Total	2,927

Mandatory retirement system is same as the General Company of Latakia Port

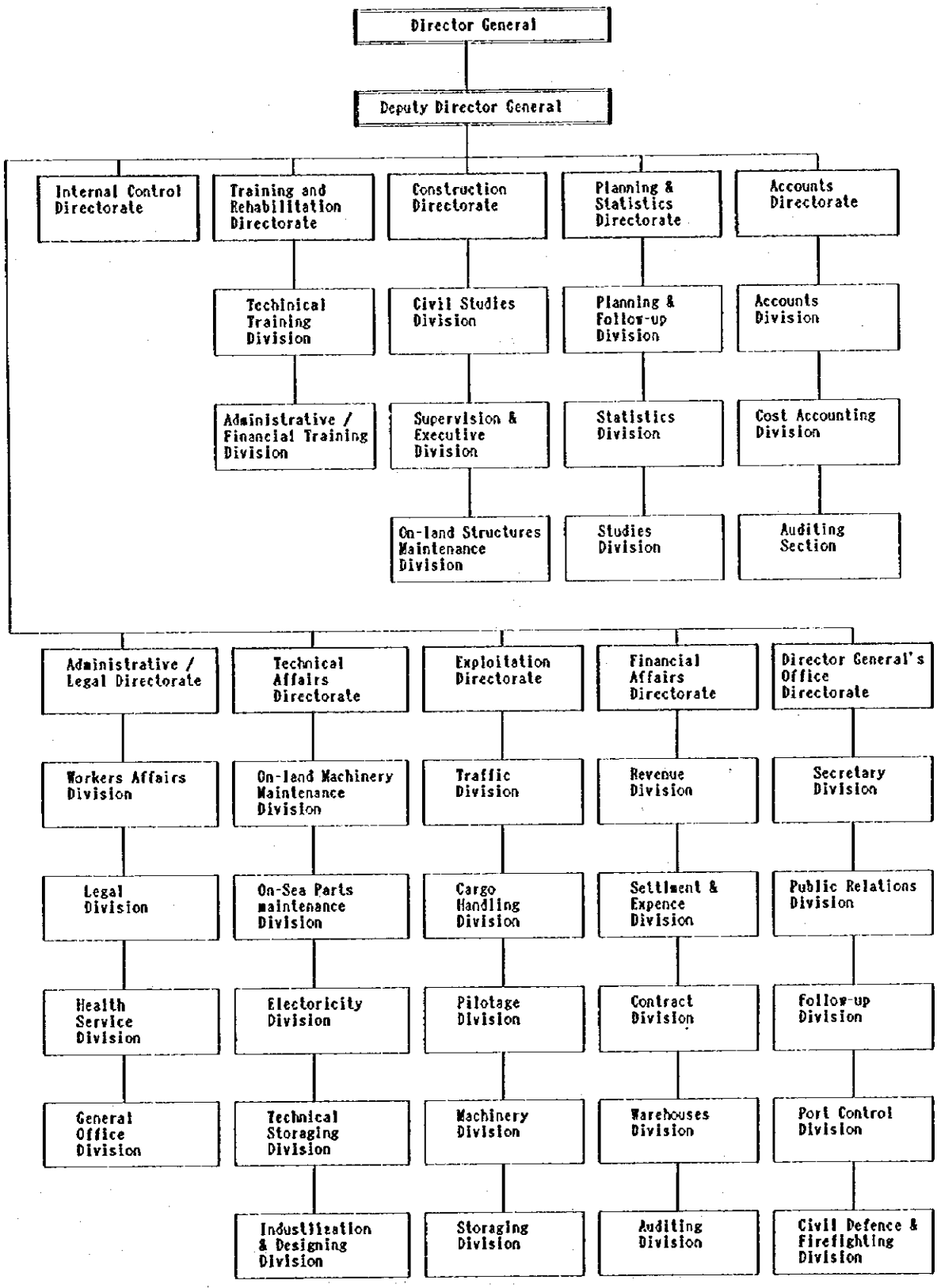

Figure 8.2.2 Organization of the General Company of Tartous Port

8.3 Trade Union

Four single Unions combine to form Port's Trade Union, which consists of management section, operational section, vehicles & facilities section and security section. Representatives of the Union take part in the Management Committee of the Port.

The Union is, in a sense, a closed shop system. Therefore every worker is a member of the Union. One percent of the basic salary is collected as the Union charge.

The Port's Trade Union belongs to Prefectural Trade Union Association, which is one of the members of Syrian Trade Union Association.

8.4 Existing Port Operations

8.4.1 Berth Assignment

Both Ports are operated under a 'common use' policy. Therefore, there are no public port facilities for the exclusive use of any port user other than the General Phosphate & Mines Company in Tartous Port. However, berthing priority is granted to vessels owned and operated by

(1) Container Ship
(2) Ro-Ro Ship
(3) Ship Carrying Animals
(4) Ship Carrying Fruits

(Berthing Procedure)

(1) Pre-arrival

1) SHIPCO files Notice of Arrival and Application for Berth, including the preparation of local Cargo Manifest, to the Exploitation Department through the Harbor Master.

2) Berth assignment meeting is held everyday twice at 11:00 and 17:30 in Latakia Port and at 12:30 in Tartous Port. Attendants of the meeting are Exploitation Manager as a chairman, the chief of Machinery Department, the chief of Cargo Handling Department, the chief of Traffic Department, the chief of Storage Department, the representative of Pilotage Section, SHIPCO Traffic Manager, the representative of Port's Trade Union and several observers. Decision of the assignment shall be made by the mutual consent of the members based on the estimated time of arrival, above mentioned priorities, type of cargo and the vessels characteristics.

(2) Arrival

1) The vessel stays at Quarantine for Quarantine clearance. After that, other parties concerned get on board the vessel to finish formalities.

2) The pilot boards the vessel to guide the vessels to its designated berth with tug assistance.

3) Vessels docking under the Harbor Master (General Directorate of Seaports).

4) Cargo handling services carried out by the Port Company

5) Ship provisions, water supply, and other marine services arranged by SHIPCO

8.4.2 Pilotage

Under Article 8 of Presidential Decree No.2743, pilotage is compulsory. The Decree provides as follows : Pilotage and towage are compulsory for all vessels anchoring within the port area as specified in the company regulations. Vessels not exceeding 10 meters length are exempt from the compulsory pilotage and towage operations.

Pilotage service in the Ports provided by the pilotage division of the Companies is operated in 3 shifts. First shift is from 6:00 to 14:00, second shift from 14:00 to 22:00 and third shift from 22:00 to 6:00.

The number of pilots to be appointed into service is currently 10 persons (all 1st grade) in Latakia Port and 6 persons (5 pilots 1st grade, one pilot 3rd grade) in Tartous Port. Pilotage License is endowed by the Harbor Master, being graded from 3rd to 1st rank. First ranked pilot can get on board any sized vessels, Second ranked pilot a vessel sized from 6,000t to 10,000t and third ranked pilot can get on board any vessel under 6000t.

It takes about half an hour per one tug service in Latakia Port and one hour in Tartous Port. However it depends on the weather conditions and vessel size. For instance in a case of a ship in the 60,000t class in Tartous Port, it takes about 2 hours at maximum.

The pilot gets on board midway between the anchorage area and the entrance of the Ports marked with red and green buoys.

The existing number of tug boats with power level is as follows:

(Latakia Port)
Table 8.4.2-1

POWER (HP)	Nos.
1,100	1
800	2
750	1
325	2
300	1
295	1
265	1
Total	9

(Tartous Port)
Table 8.4.2-2

POWER (HP)	Nos.
1,000	2
700	1
500	1
300	4
Total	8

Note: Not include 2 Personnel Boats (150 HP)

(Required Number and Power of Tug Boats)
Required number and power of tug boats depends on the weather conditions. The following table shows the standard case of the Tartous Port.

Table 8.4.2-3

Vessel Size	Required Number & Power
500t	1tug 300hp
1,000t	2tugs 300hp
2,000t	1tug 300hp, 1tug 500hp or (2 tugs 300hp)
3,000t	1tug 500hp, 1tug 700hp
10,000t	1tug 700hp, 1tug 1,000hp
15,000t	2tugs 1,000hp or (1tug 700hp, 1tug 1,000hp)
60,000t	2tugs 1,000hp, 1tug 700hp, 1tug 500hp

The Pilotage and towage charges are based on Article 6 of the Port Tariff. These charges are fixed in 65 Syrian Piastres per NRT of the vessel per every pilotage and towage operation or per each shifting from anchorage place, if this shifting is in vessel's interest.

8.4.3 Working Conditions

Conditions for workers of the Ports are based on the Fundamental Law which is called 'Unified Work Law' issued by the Law No.1 dated January 2, 1985. This Law is applied for all the Syrian workers of the Ministries and Government Offices and Government-owned Companies.

(1) Working time of the Port

1) Administrative, Clerical Sections other than Production and Production Service Sections

Working time : 6.5 hours a day
8:00 - 14:30
Closed Day : Friday
Holidays : 21 days a year

2) Production and Production Service Sections

a.) Cargo Handling Sections

Working time : 2 shifts 8 hours a day
First shift 7:00 - 15:00
Second shift 15:00 - 23:00

Third shift* 23:00 - 7:00

*In the case continuous handling is needed.

Closed day : Friday
Animals, Passenger, Container, and Ro-Ro cargoes are handled on Friday.

Holidays : 5 days a year
2 days during 3 days of the national holiday for 'End of Fasting' (from May 2nd of this year)
1 day 'Labor's Feast'(May 1st)
2 days during 4 days of the national holiday for 'Adha Feast' (from May 9th of this year)

b.) Pilotage Sections, Guards and Workers for power plant

Working time : 3 shifts 8 hours a day
First shift 7:00 - 15:00
Second shift 15:00 - 23:00
Third shift 23:00 - 7:00

*No closed day for services

8.4.4 Computerization in the Ports

The Port Companies and SHIPCO are embarking on computerization programs.(Port Companies / Total System, SHIPCO / Management System) Computer installation at the General Company of the Tartous Port and SHIPCO plans to be completed within a year, and the Study of Computer System for the General Company of the Latakia Port was just completed in May of this year.

(1) General Company of the Tartous Port

The General Company of the Tartous Port introduces IBM system (AS/400 Model 9402-200 / Main Memory Capacity 24 Mega-bytes, Extendable to 56 Mega-bytes). This system was decided through bidding. The evaluations of the tenders were based on the criteria which is 50% technical points and 50% price points.

In this plan, every department will have at least one terminal and 30 terminals will be erected totally. This system is intended to cover a wide range of jobs as follows:

Salary / Accountancy of All Ports / Employee (age, name,etc.) / Inventory Movement of Materials / Movement of Equipment / Maintenance / Income from the Vessels / Ship Management

(2) General Company of the Latakia Port

The General Company of the Latakia Port has just formed its computer system concept, which can be summed up as follows:

(Suggestions of the Study)

1) Network of computers linked together through a special server located in the building of General Administration to serve all Directorates and Departments in that building

2) Network of Computers linked together through a server located in the building of Exploitation (Investment) Directorate to serve all departments and sections located in the same building

3) Group of independent computerized stations distributed at all port yards of containers, in addition to warehouses (stores of spare parts and goods) and Department of pilotage.

This Study was evaluated by the Port Co. which pointed out several difficulties for execution. However the Port Co. agrees with these suggestions in principle.

The main obstacle pointed out by the Port Company is the lack of technically educated personnel required to control such a system.

8.5 Documentation for Import and Export

(1) Customs Clearance

Customs clearing agents in Syria all belong to the private sector. Each importer deals with a private customs clearing agent who receives the documents from the importer after being endorsed by the bank, and starts the customs clearance procedures by presenting the original bill of lading to SHIPCO which issues in its turn a delivery order based on this bill of lading.

After the required customs inspections*, Customs calculates the dues concerning the cargoes. After customs clearing agent pay the required customs due and port fees on the account of the importer, SHIPCO signs on the delivery order that cargoes are allowed to go out of the Port.

*NOTE:Private section cargoes could not be transported out of the Port within Containers. Containers should be discharged within the Port.

Government owned organizations*, however, have their own specially employed customs clearing workers to deal with the procedures of customs clearing for the imports of each organizations. And they can sign an undertaking that the original bill of lading will be presented to SHIPCO within a period not exceeding 2 months. Therefore they will be able to clear their cargo before receiving the original documents of shipment. Consequently, they can save time and money.

*e.g. HOBBOOB : Cereals
NASSIG : Textiles
MAADEN : Metal, Wood
GEZA : Food

(2) Import procedures

1) First Stage

The Directorate of Economy has the right to issue an Import License(I/L). In order to get an I/L, the importer should prepare the following papers.

a. Commercial register valid for one year/ original copy

b. Chamber of commerce and industry certificate valid for one year/ original copy

c. Document of innocence attesting that the importer had fulfilled all his financial obligations towards the financial directorate

d. Pro-forma invoice issued by the exporter including all necessary information as quantity, quality, specification of the goods and value in foreign currency

All the above mentioned papers should be presented to the Directorate of Economy attached with an application form clarifying the intention of the importer to import the concerned cargo.

However the Directorate of Economy can not issue I/L on some imported goods without agreement from the organizations concerned. For instance, if the imported good is something like steel or wood, agreement of METAL ORGANIZATION is needed, and in the case of foods, e.g sugar, tea etc., agreement of TAFCO is needed.

2) Second Stage

The importer should take a copy of the I/L attached with a copy of the pro-forma invoice to the branch of the Syrian Insurance Establishment - the exclusive Insurance Company in Syria in order to make an Insurance Contract.

3) Third Stage

At this stage, the following papers are required to open a letter of credit (L/C).

a. Two copies of the I/L
b. One copy of the Pro-forma Invoice

c. Insurance Contract

These papers should be presented to the Commercial Bank of Syria, which is the only governmental bank authorized to perform such activities as opening a letter of credit. Validity of the L/C is usually 3 months, which is extendable during the shipment and negotiation being put into effect.

4) Fourth Stage

The Commercial Bank of Syria informs the importer that his documents are ready, then the importer waits for the vessel to arrive. In general the importer can know that his cargo is arriving through a weekly list issued by SHIPCO. The importer requests for the custom clearance to an agent and the custom clearing agent presents the documents of the importer to SHIPCO in order to make comparison between the information listed in the bill of of the vessel and to make sure of its correctness.

Each shipping line has number of certain yards and/or storage area in which its cargoes are stored waiting for customs procedures. Customs inspects the cargo in the yards and/or storage area of the port and makes a detailed report about its condition and its applicability to Syrian specification standards.
After that the importer can pay the custom duties in accordance with the customs tariff.

(3) Export Procedure

First of all the exporter should have a Banking Facilities Card which enables him to perform exportation, and this card serves as a guarantee to the bank to cover the value of exports, in case the exporter is not able to pay his obligations in due time.

At the beginning of export operation, the exporter should get an Export Pledge Form from the Commercial Bank of Syria. This pledge should include all necessary information concerning exported cargo, and attached by an Invoice issued by the exporter as well as Certificate of Origin both duly authenticated by the chamber of commerce in the exporter's city.

Since most of the exported items in Syria are agricultural products, an Agricultural Certificate is also required.

Export Pledge is a document attesting that the exporter will pay the value of his exports mentioned in the pledge form to the Commercial Bank of Syria in foreign currency in a period not exceeding 3 months.

The Second Stage starts when the exporter purchase his cargo from local market, pack it, load it, and ship it to the border points like harbors where customs have

to inspect the cargo and issue an export manifest including quality, weight, quantity, specification, and value of the exported cargo.

(In general customs authorities issue a list of Export Prices to which the exporter should abide by.)

After the cargo is loaded on board the ship, Customs authorities grant the exporter an Export Certificate attesting that the cargo subject of the pledge No. so and so was really exported.

This certificate will be valuable when time comes for the importer to pay the value of the pledge to the bank.

When the importer gets the certificate and the manifest, he has to pay the value of his imports to the bank in different ways of payment (Letter of Credit, Check, Cash, or Remittance etc..)

When the money arrive to the bank, the bank will pay to the exporter 25% of the value of his pledge in Syrian Pounds at 42 S.P. per dollar and keeps the remainder 75% in its fund. The exporter can use this remainder in importing commodities permitted the Ministry of Economy.

8.6 Port Finance

8.6.1 General

Both Ports Companies are parts of Syrian governmental organizations and as mentioned before they are under the control of MOT. Therefore the budget plans of the Ports are brought up for discussion at SPC via MOT. Attendants at this assessment are General Manager, Planning Manager, Financial Manager of the Port and Maritime Transport Director of MOT. After completing this assessment, the budget plans are introduced in the Prime Minister's Office and approved finally.

On the occasion of expansion of the Port, renovating the Port's facilities or constructing new buildings, Port Companies finance the needed money out of the General Monetary Fund which belongs to the Ministry of Finance. Interests of the loan is 9%. Port Company can not get a foreign loan independently but through the General Monetary Fund.

Port Companies pay 45% of the annual net income (in the case of more than 200 thousands Syrian Pounds)as income tax. And net income after tax of the Ports is collected by the Fund. This system is prescribed by the Law of 'General Establishment & General Companies and Foundation' Legislation No.18 dated February 15, 1974.

8.6.2 Tariffs

Tariff of the Ports was set in force in 1969, which was modified according to Decree No.15 for the year 1974, and Decree No.2743 dated October 24, 1985 and the latest modification was done in 1995. Tariff modification is carried out considering the following points :

(1) The cost per ton
(2) Setting rates to cover the expenses and make profits
(3) Comparing the proposed rates with those applicable in Arab and foreign ports so that they are less than the rates in other ports

Modification proposal is presented to the MOT, and then being adopted, it will be submitted to the Economic Committee in the Cabinet. After being approved by the Committee, the new Tariff is issued.

However when it needs to be raised or decreased, the board of directors of the Latakia Port Company and the Administrative Commission of the Tartous Port Company are empowered to do so when such changes on the whole or in part do not exceed 25% after consulting the Joint Committee* as provided in Article 2 of the Decree No.2743.

*Formed by the decision of the Minister of Transport including representatives of the Latakia General Port Company and the Tartous General Port Company

The tariff schedule is comprised of the following 7 parts.

No.1 Charges Due over Vessels
No.2 Charges Perceived over Cargoes / Charges of Handling and Passage of Cargoes
No.3 Charges on Cargoes / Storage Charge
No.4 Insurance Charge
No.5 Charge of Handling Cargoes and Their Passage in the Grain Silos
No.6 Charge of Storage and Refrigeration in the refrigeration Stores
No.7 Charges on the Various Services and Equipments and Places not Mentioned

(1) Charges Due over Vessels

1) Anchorage	(national)	50 Piastres per NRT / day
	(foreign)	53.44
2) Berthing	(national)	50 Piastres per NRT / day
	(foreign)	71.25
3) Pilotage & Towage		
	(national)	165 Piastres per NRT
	(foreign)	231.60

(2) Charges Perceived over Cargoes / Charges of Handling and Passage of Cargoes

The Board of Directors and Administrative Committee have the right (after consulting the advice of the above mentioned Joint Committee) to reduce up to 30% the part of charges on cargoes concerning the transit cargoes.

Upper figures of each colum in the table are applied to domestic cargoes and middle figures to non-Syrian cargoes for which payment is made in US$(lower figures).

Unit: Syrian Pounds per ton

Handling Case	Direct delivery			Entering & Withdrawing		
Category	Charge on Vessel	Charge on Cargo	Total charge	Charge on Vessel	Charge on Cargo	Total charge
1st:Timber, Metal pipe etc.	13.70 28.88	80.65 82.30 $7.35	94.35 111.18	13.70 33.25	92.85 94.80 $8.5	106.55 128.05
2nd:Car, Mobile Machine etc.	13.70 72.63	202.70 207 $18.5	216.40 279.63	13.70 77	214.90 219.75 $19.6	228.60 296.75
3rd:Loose Cargo, Liquid etc.	13.70 28.98	80.65 82.32 $7.35	94.35 111.3	13.70 -	92.85 96.88 $8.65	106.55 -
4th:Packed in Bag	13.70 24.5	68.40 69.85 $6.25	82.10 94.35	13.70 28.88	80.60 82.32 $7.35	94.30 111.2
5th:Containers or Pallets	13.70 33.25	92.85 94.85 $8.5	106.55 128.1	13.70 42	117.70 119.70 $10.7	131.4 161.7
6th:Other Category	13.70 63.88	178.25 182.85 $16.25	191.95 246.73	13.70 81.83	227.10 231.84 $20.7	240.80 313.67

The following charges are for services and responsibilities toward the cargoes discharged from vessels under his agency except when the bill of lading is made on FIO basis:

1) 1st & 2nd Category 195.75 Piastres per ton
2) 3rd Category - Piastres per ton
3) 4th, 5th, 6th Category 333 Piastres per ton

(3) Charges on Cargoes / Storage Charge

The storage charge in all storage places is fixed in Syrian Piasters per ton as follows :

Per each day of storage period not exceeding 15days	115
Ditto exceeding 15days and up to 30days	175
Ditto exceeding 30days and up to 45days	250
Ditto exceeding 45days and up to 60days	370
Ditto exceeding 60days and up to 75days	490
Ditto exceeding 75days and up to 90days	740
Ditto exceeding 90days	1,235

In all cases the charge of storage should not exceed the maximum rate stipulated in article 170 of the customs law issued under No.9 dated July 16, 1975, provided the rate should not exceed half the value* of the cargo.

*The value depends on the commercial invoice.

(4) Insurance Charge

In case the Port Company undertakes on behalf of the cargo owner the insurance of cargoes received into the sheds and warehouses against risks of fire, the insurance premiums shall be perceived by the Port Company with a 10% increment as commission.

(5) Charge of Handling Cargoes and Their Passage in the Grain Silos

Part due on vessel : 9.77 Syrian Pounds per each ton
Part due on cargoes : 73.25 Syrian Pounds per each ton

Bagging the grain and fodder in the bags : 19.52 SP/t
Emptying the grain and the animal foods from bags: 9.77 SP/t
Cleaning Charge : 12.21 Syrian Pounds per each ton
Sterilizing Charge : 17.10 Syrian Pounds per each ton
Ventilation Charge : 2.46 Syrian Pounds per each ton

Per each day of the storage period not exceeding 30 days
: 124 Syrian Piasters
Per each day of the storage period exceeding 30 days up to 60 days
: 247 Syrian Piasters
Per each day of the storage period exceeding 60 days
: 489 Syrian piasters

If the storage period exceeds 60 days, the Port company has the right to take cargoes out of the Silo.

(6) Charge of Storage and Refrigeration in the Refrigeration Stores

For the first 30 days : Refrigeration 138.11 SP/t, Freezing 363.22 SP/t
Per day after the 30 days period : Refrigeration 6.11 SP/t, Freezing 12.23 SP/t

Occupancy per 1 m^2/ month : Refrigeration 219.73 SP, Freezing 351.18 SP

(7) Average container handling charges (including crane charges)

Based on the current tariff, average container handling charges (including crane charges) can be calculated as follows.

1) Free out	20' container	$ 20.45-
	40' container	$ 30.90-
2) Line out	20' container	$ 98.31-
	40' container	$151.97-
3) Empty Loading	20' container	$ 42.50-
	40' container	$ 44.20-

8.6.3 Financial situation

The financial performance of the General Company of Latakia Port and the General Company of Tartous Port during fiscal years 1990 to 1994 is shown from Table 8.6.3-1 to Table 8.6.3-4.

With the increase of the cargo volume, the revenues from operations of the General Company of Latakia Port in 1994 amounted to 482 million SP and that of the General Company of Tartous Port amounted to 453 million SP, both of which represent increase of more than 300% in 4 years. However, due to the total increase of the operating expenses, both of Working ratio and Operating ratio other than in the year of 1994 of Latakia Port are still not within the maximum requirement of 50-60% and 70-75%. However the net fixed assets did not increase very much.

Rate of Return on Net Fixed Assets which relates to operating profits with operating fixed assets were all below the minimum requirement of 7%.

In addition, Personnel Costs are considerably high.

Table 8.6.3-1 Port of Latakia Financial Situation

UNIT:1000SP

YEAR	1990	1991	1992	1993	1994
Operating Revenue					
Ancharage Charge	4,106.0	3,526.0	4,141.0	4,183.0	6,028.0
Berthing Charge	4,271.0	3,480.0	4,071.0	3,924.0	3,931.0
Pilotage	5,907.0	4,530.0	5,142.0	5,349.0	6,623.0
Machinery	6,197.0	6,165.0	8,850.0	8,213.0	11,631.0
Handling	110,451.0	163,985.0	185,257.0	224,011.0	324,434.0
Storage	31,287.0	69,679.0	79,160.0	104,152.0	129,672.0
Operating Revenue Total	162,219.0	251,365.0	286,621.0	349,832.0	482,319.0
Operating Expense					
Personnel Cost	129,064.0	148,795.0	172,413.0	195,415.0	230,502.0
Materials	6,784.0	7,709.0	11,259.0	8,845.0	14,777.0
Service Requisites	18,036.0	28,031.0	23,806.0	25,531.0	30,670.0
Current Transfer	17,181.0	17,883.0	22,966.0	29,553.0	33,066.0
Special Current Transfer	656.0	5,256.0	5,197.0	10,325.0	4,982.0
Sub Total	171,721.0	207,674.0	235,641.0	269,669.0	313,997.0
Non-Cash Charges					
Depreciation Expenses	10,845.0	10,458.0	17,213.0	19,923.0	21,865.0
Operating Expenses Total	182,566.0	218,132.0	252,854.0	289,592.0	335,862.0
Net Operating Income	-20,347.0	33,233.0	33,767.0	60,240.0	146,457.0
Working Ratio (%)	105.9	82.6	82.2	77.1	65.1
Operating Ratio(%)	112.5	86.8	88.2	82.8	69.6
Return on Net Fixed Assets(%)	-	3.8	-	5.8	13.5
Personal Cost to Revenue (%)	79.6	59.2	60.2	55.9	47.8
Service Req'tes to Revenue(%)	11.1	11.2	8.3	7.3	6.4

Table 8.6.3-2 Balance Sheet of Latakia Port Co.

Unit:1000SP

YEAR	1990	1991	1992	1993	1994
ASSETS					
Fixed Assets					
Non-Depreciable Assets	455.680	546.713	-	610.795	648.534
Land	7.628	9.212	9.212	9.212	9.212
Construction in Progress	448.052	537.501	-	601.583	639.322
*(Land+Depreciable Assets)	532.245	534.879	666.327	669.650	701.719
Depreciable Assets	524.617	525.667	657.115	660.438	692.507
LESS ▲Accumulated Depreciation	180.908	191.369	211.625	231.639	253.971
Net Depreciable Assets	343.709	334.298	445.490	428.799	438.536
Total Fixed Assets	799.389	881.011	-	1.039.594	1.087.070
Other Assets	324.291	386.355	1.380.193	429.272	631.633
Total Assets	1.123.680	1.267.370	1.380.193	1.468.866	1.718.703
*(Assets before Ac. Depreciation)	1.304.588	1.458.739	1.591.818	1.700.505	1.972.674
LIABILITIES & NETWORTH					
Long-term Liabilities	41.819	42.481	24.009	24.009	24.009
Foreign Loan	18.473	19.135			
Saudi Loan	23.346	23.346			
Government Fund	160.000	160.000	160.000	160.000	160.000
Reserve	7.334	7.734	6.585	6.585	6.585
Creditors	822.396	888.420	-	-	1.282.920
Others	92.131	168.735	-	-	245.189
Total Liabilities & Networth	1.123.680	1.267.370	1.380.193	1.468.866	1.718.703
*(Liabilities & Networth Added to Acc. Depreciation)	1.304.588	1.458.739	1.591.818	1.700.505	1.972.674

NOTE
*( )Port Co.'s Statistics
(-)Data Not Available

Table 8.6.3-3 Port of Tartous Financial Situation

UNIT:1000SP

YEAR	1990	1991	1992	1993	1994
Operating Revenue					
Ancharage Charge	9,424.0	14,556.0	13,360.0	11,226.0	11,393.0
Berthing Charge	9,278.0	14,273.0	13,504.0	10,640.0	12,231.0
Pilotage	9,290.0	11,881.0	13,993.0	13,565.0	14,216.0
Handling	114,809.0	148,505.0	172,487.0	200,965.0	291,237.0
Storage	13,250.0	29,716.0	53,792.0	71,508.0	122,650.0
Various Services	8,335.0	13,461.0	9,335.0	12,689.0	1,782.0
Operating Revenue Total	164,386.0	232,392.0	276,471.0	320,593.0	453,509.0
Operating Expense					
Personnel Cost	141,057.0	158,555.0	200,914.0	212,756.0	258,413.0
Material Needs	12,487.0	15,762.0	22,546.0	27,212.0	32,608.0
Service Requisites	5,695.0	8,437.0	10,617.0	10,215.0	11,740.0
Current Expense	31,707.0	32,103.0	33,056.0	36,045.0	36,214.0
Special Expenses	128.0	100.0	316.0	150.0	150.0
Sub Total	191,074.0	214,957.0	267,449.0	286,378.0	339,125.0
Non-Cash Charges					
Depreciation Expenses	30,123.0	30,652.0	31,988.0	40,306.0	49,478.0
Operating Expense Total	221,197.0	245,609.0	299,437.0	326,684.0	388,603.0
Net Operating Income	-56,811.0	-13,217.0	-22,966.0	-6,091.0	64,906.0
Working Ratio (%)	116.2	92.5	96.7	89.3	74.8
Operating Ratio(%)	134.6	105.7	108.3	101.9	85.7
Return on Net Fixed Assets(%)	-	-	-	-	
Personal Cost to Revenue (%)	85.8	68.2	72.7	66.4	57.0
Service Req'tes to Revenue(%)	3.5	3.6	3.8	3.2	2.6

Table 8.6.3-4 Balance Sheet of Tartous Port Co.

Unit: 1000SP

YEAR	1990	1991	1992	1993
ASSETS				
Fixed Assets				
Non-Depreciable Assets	302.529	300.330	349.579	431.682
Land	10.636	10.636	10.636	10.636
Construction in Progress	291.893	289.694	338.943	421.046
*(Land+Depreciable Assets)	677.826	707.615	739.874	799.952
Depreciable Assets	667.190	696.979	729.238	789.316
LESS ▲Accumulated Depreciation	343.463	374.112	406.100	446.406
Net Depreciable Assets	323.727	322.867	323.138	342.910
Total Fixed Assets	626.256	623.197	672.717	774.592
Other Assets	440.151	479.981	489.676	482.197
Total Assets	1.066.407	1.103.178	1.162.393	1.256.789
*(Assets before Ac. Depreciation)	1.409.870	1.477.290	1.568.493	1.703.195
LIABILITIES & NETWORTH				
Long-term Liabilities	331.046	370.396	427.846	489.759
Internal Loan	302.551	341.901	399.351	461.264
Foreign Loan (Saudi)	28.495	28.495	28.495	28.495
Government Fund	90.000	90.000	90.000	90.000
Reserve	89.319	89.319	89.319	89.319
Creditors	456.500	457.973	459.194	462.863
Others	99.542	95.490	96.034	124.848
Total Liabilities & Networth	1.066.407	1.103.178	1.162.393	1.256.789
*(Liabilities & Networth Added to Acc. Depreciation)				

NOTE
*( )Port Co.'s Statistics