

منشآت النفط في
الزهراني

**Zahrani Oil
Installation
(Hand Book)**

- **Location:** Sidon Terminal is open. Unsheltered roadstead, situated immediately north of Zahrarni river, about 5 miles south of city of Sidon (Saida), Lebanon. It is approximately 35 miles south of Beirut and 17 miles north of Tyre (Sour).

- **General Description:** Terminal tank consists of 23 storage tanks situated east of terminal about 360 feet, 120 meters (average) above sea level. Shore control and offices all located at sea level. An "L" shaped pier for harbouring company's marine equipments approximately 330 meters from shore near southern end of berthing area.

- **Operators:** Zahrani oil installation. It was before dedicated to transport crude oil from Saudi Arabia via pipelines (tap line), but actually the terminal imports gas oil & fuel oil for the Lebanese local market.

- **Navigational aids and landmarks:**

- Radio beacon in position 33 30, 08 N & 35 20, 65 E F.R – 25c. But it's out of service. And a buoy in position 33 32, 01 N – 35 20, 05 E shows a 5 flashing white light every 15 seconds.

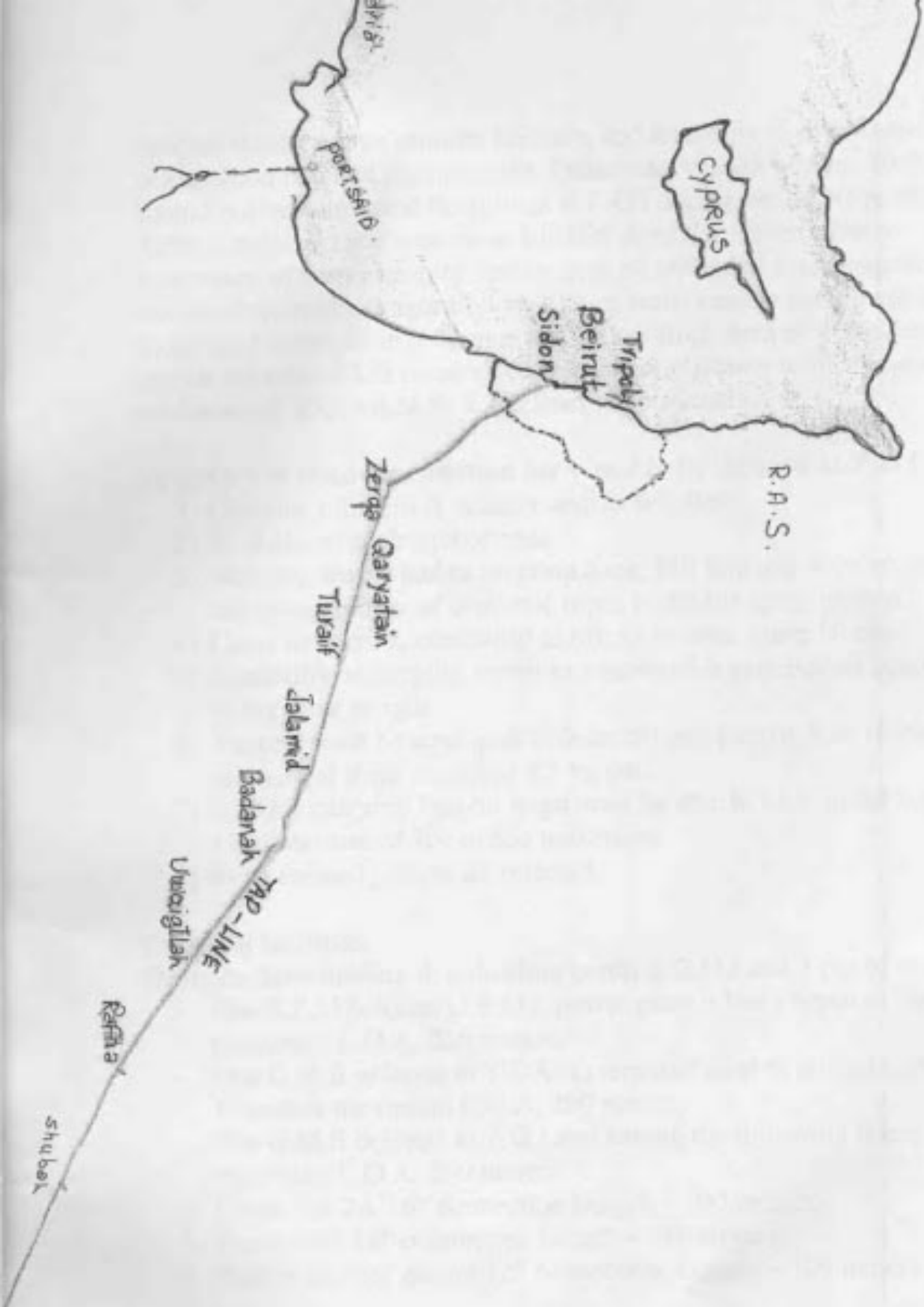
Pilotage: vessels to be moored at Z.O.I will be boarded by mooring master of company within 2 miles to seaward of terminal sea buoy. Mooring master will advise ships master on approaches to berth, mooring connecting and disconnecting submarine hoses and in all other operations within berthing area. All maneuvering of ships within berthing area shall be done, only in accordance with advice of a mooring master, subject to the understanding that in all cases and circumstances master of the vessel being maneuvered shall remain solely responsible, on behalf of vessels owner, for safety and proper maneuvering of vessel.

Anchorage: for vessels awaiting, berth, good anchorages 305 degree – 2miles from boat Jetty break water 16 to 20 fathoms sandy bottom.

Restrictions: berthing and mooring operating only on daylight hours only.

Advice of arrival: In addition to the ETA messages to the ship agency. Or by VHF on frequency 156,800 – 156,100 MHZ.

Max-size: Berth number 2, depth approx. 20, 2 meters. Tankers up to 80,000 d.w.t. or approx. 16 meters are considered maximum size which should be



handled during winter months at Sidon, and then only if vessel meets all of below recommended requirements. Otherwise, vessels of over 80,000 d.w.t. should not be nominated for fittings at Z.O.I during period November – April in summer time maximum 100,000 d.w.t. However, prior to acceptance of nomination of vessels over 80,000 d.w.t Z.O.I requires advance information regarding maximum draft, vessels equipment and location of manifold in reference to distance from stem of vessel which should not exceed 135 meters. Acceptance or rejection will be made after evaluation of above data by Z.O.I marine personnel.

Summary of Recommendation for vessel to be moored at Z.O.I:

- 1) Capable, efficient & reliable anchor windless.
- 2) 12 shots on each anchor chair.
- 3) Mooring wire winches on poop deck, 120 fathoms wire on each with adequate number of synthetic ropes to double up as needed.
- 4) Crane or derrick, capability to lift 12 in hose string 10 tons.
- 5) Capability of keeping vessel in a reasonable safe ballast condition 1/3 of her dead weight.
- 6) Tankers must be equipped with centrifugal pumps & to reach a pressure at ships manifold 7.5 kg/cm².
- 7) Tankers carrying fuel oil largo must be able to heat up the cargo up to a temperature of 50c to 65c maximum.
- 8) Reciprocated pumps are rejected.

Terminal facilities:

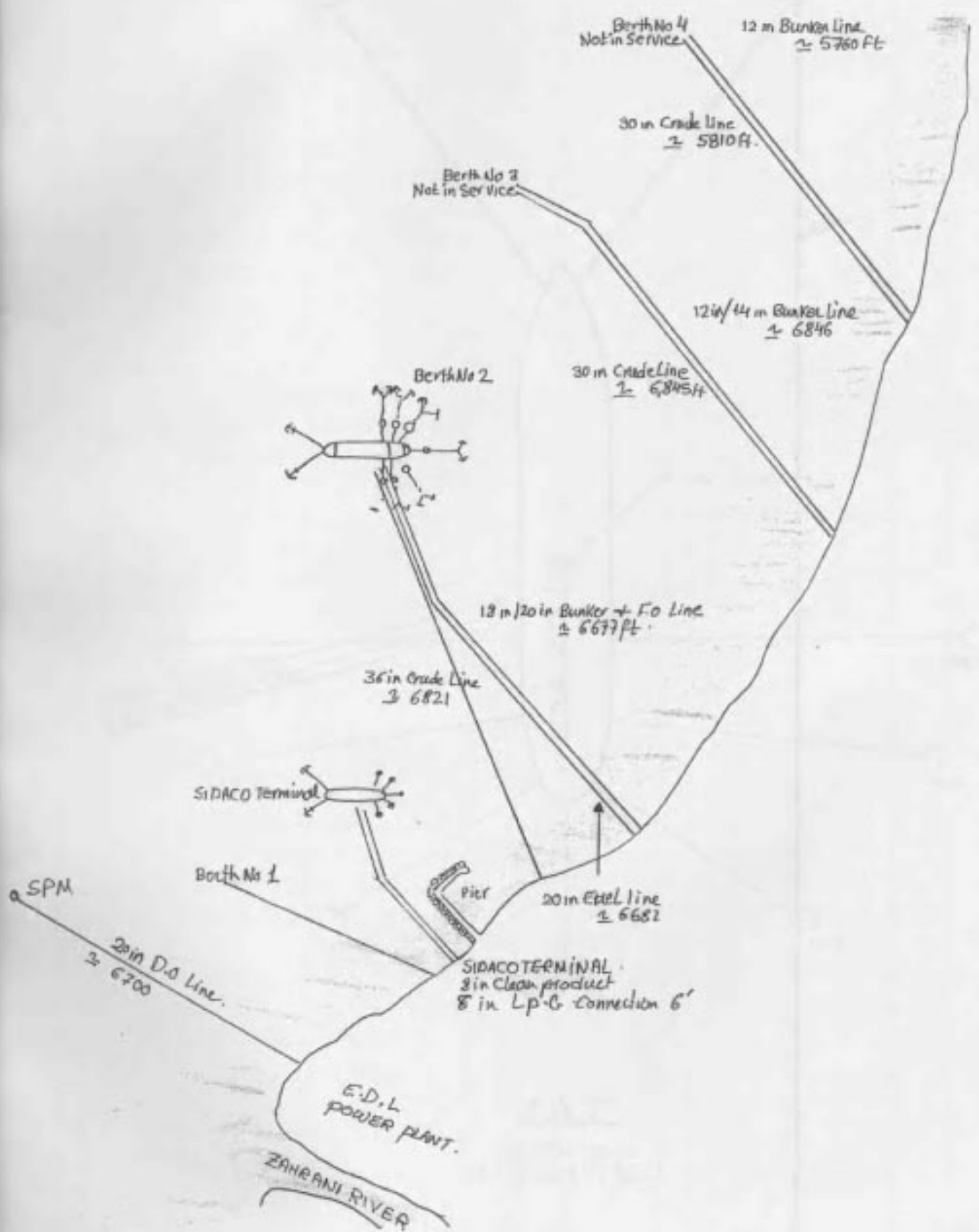
There are three loading & unloading berths at Z.O.I and 3 out of service.

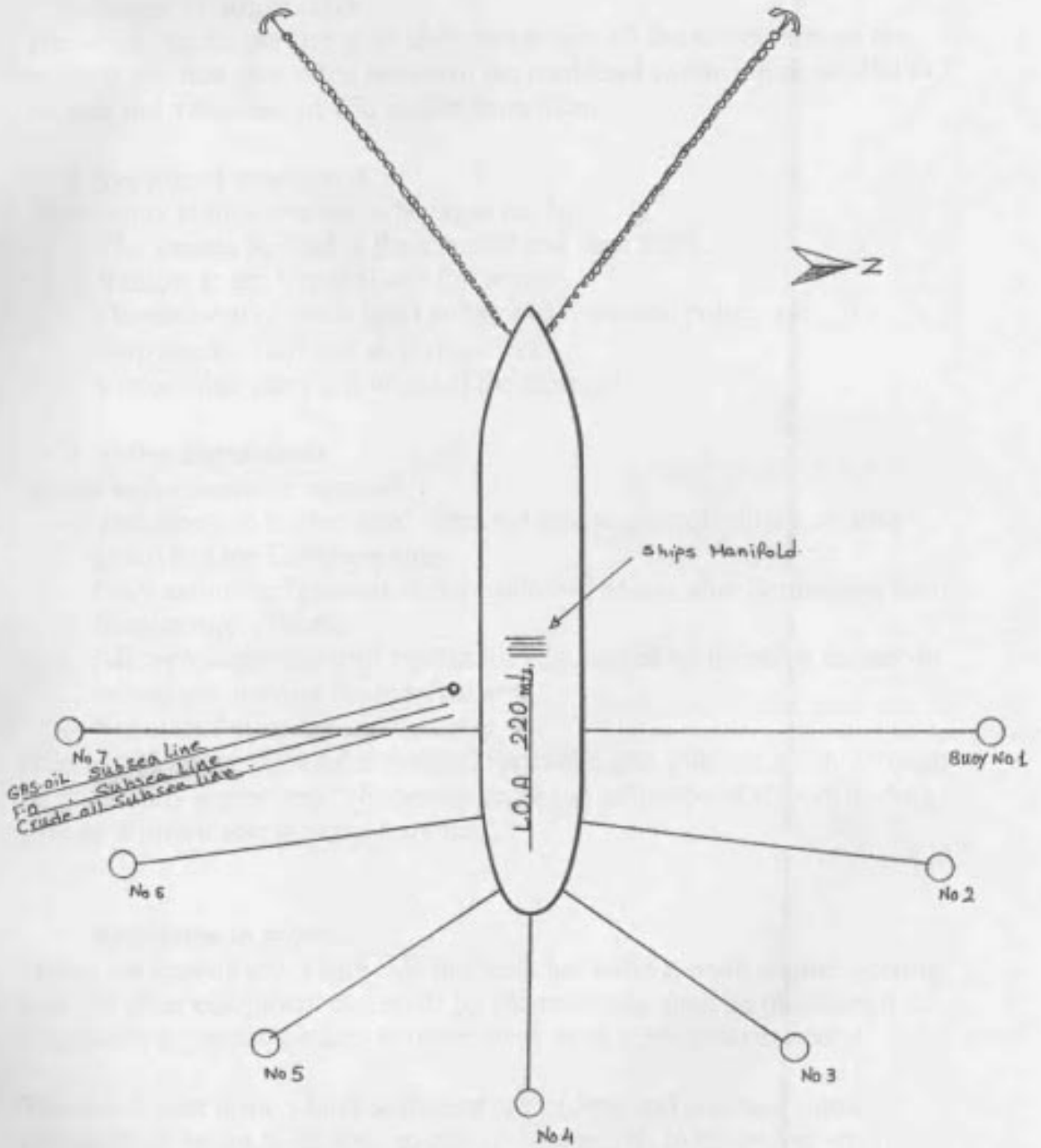
- One S.P.M belongs to E.D.L power plant it has a depth of 20 meters maximum L.O.A. 260 meters.
- One C.M.B belongs to SIDACO terminal used to unload L.P.G depth 15 meters maximum L.O.A. 200 meters.
- One C.M.B belongs to Z.O.I and having the following lines, maximum L.O.A. 260 meters.
 - 1- Crude line 2A 16" connection Length ~ 100 meters.
 - 2- Fuel oil 2B 12" connection Length ~ 100 meters.
 - 3- Bunker line for gas oil 12" connection. Length ~ 100 meters.

Berth number I.	L = 35 19,9 E	l = 33 30,5 N
Berth E.D.L	L = 35 19,5 E	l = 33 31 N
Berth number II	L = 35 20,2 E	l = 33 31,4 N
Berth of L.P.G	L = 35 20,2 E	l = 33 30,6 N
Berth number III	L = 35 20,6 E	l = 33 31,9 N
Berth number IV	L = 35 20,9 E	l = 33 32,4 N



ZAHRANI OIL TERMINAL. N





Z.O.T

BERTH No. 2
30,000 dwt VESSEL

Safety Regulations

1- Scope of application

The safety regulations are to be observed within all the fenced area of the terminal and that part of the waters of the roadstead within a line parallel to the pier and a distance of 150 meters from them.

2- Personnel concerned

These safety regulations are to be observed by:

- The vessels berthed at the terminal and their crew.
- Visitors to the terminal and for vessels.
- Government officials (port authorities, customs, police, etc....)
- Ship agency staff and ship chandlers.
- Persons that carry out works at the terminal

3- Safety regulations.

Access to the maritime terminal

- The access to the terminal restricted area is controlled by a security guard and the Lebanese army.
- Only authorized persons shall be allowed access after permission from Immigration officers.
- All crew members shall exhibit his pass signed by the ships master on entering or leaving the terminal area.

4- Transit of persons and vehicles

Persons allowed to transit the terminal restricted area shall do it only through the roads duly signposted "No person under the influence of alcohol or drug shall be allowed access to the terminal".

- Readiness to move:

During the vessels stay along side the berth her boilers, main engine steering gear and other equipment essentials for maneuvering shall be maintained in a condition to permit the ship to move away from berth at short notice.

The vessel must always have sufficient crew (deck and engineer room personnel) on board to be able, in case of emergency, to maneuver and to attend to the operations safety.

- **Emergency Escape:**

The vessel should have an appropriate gangway ladder/available for ship to mooring boats.

A lifebuoy with self igniting light and safety line ready for use in case of need shall be provided in the vicinity of the gangway. Gangways should be rigged with safety nets. Life boats ready for immediate use in case of emergency.

- **Fire fighting equipment:**

Fire fighting equipment shall be kept in readiness for immediate use at all times. The fire pumps shall be ready for immediate use. Two fire hoses, filled with combination Jet/spray nozzles and connected to the fire main wire shall be stationed on deck forward and aft of the loading manifold with at least two portable fire extinguishers preferably of the dry powder.

- **Mooring supervision:**

The master of the vessel is responsible for ensuring that his vessels moorings are frequently controlled and carefully tended.

- Ensure that once the vessel is securely moored, all mooring winches are with their brokers hardened up and are not left on automatic tensioning.
- Ensure that the vessel is moored to the buoys with the adequate ropes and wires.
- Mooring lines shall be supervised by a ships officer and an efficient and continuous watch should be kept on deck throughout the vessels stay at the berth.
- The terminal representative will require Cargo operations to be suspended when the hoses in danger do the stormy swell.

- **Maintenance and repair works:**

All maintenance and repair works are prohibited on any vessel while at berth.

- **Emergency towing wires:**

During her stay at the berth, the vessel should provide and rig two emergency towing wires, 1 or 2 meters above water level.

- **Smoking open fires, lamps, radio-telephone sets:**

Must follow master and mooring master instructions and recommendations.

- **Radio station equipment & Radar:**

Shall not be used during the vessel stay at the berth.

- **Electrical storms:**

All loading discharging ballasting, deballasting, bunkering etc. Shall be suspended and all tank ledges, tightening & ullage port shall be closed.

Prevention of pollution

Z.O.T making every effort to prevent the pollution of the sea and in this policy requires your co-operation and the compliance with the International Convention for the prevention of pollution from ships and its protocol (MARPOL).

1- Control of oil spillages:

Contents of engine room and pump room bilges must not be discharged overboard. All ballast must be discharged to shore tank. Only segregated ballast may be pumped into the waters and at full responsibility of the ships master.

Water on main deck must be released and scuppers shall be tightly plugged directly after the water has been drained off.

2- Checks:

Discharge of ballast.

- Before commencing discharge of ballast, check that:
 - All shipping lines which discharged into main wires are closed in pump room and on deck.
 - Loading drop valves are closed.
 - All sea and overboard discharge valves are closed and sealed.
 - The cargo pumps are started segregated whenever possible to their respective discharge lines and working satisfactory before opening the discharge manifold valve.
 - Manifold valves not in are closed.
 - Connections not used for cargo are blank flanged and oil tight.
 - Scuppers are plugged tightly.
 - Trays of ample capacity are in position below manifold connections.
 - A plentiful supply of sawdust or absorbent materials is readily available.
 - Sea valves and overboard discharge valves are sealed in the closed position by ship/terminal representative.

3- Completion of Ballasting:

Proper precautions are taken to prevent oil escaping into the sea through sea valves at commencement of ballasting. Cargo pumps to be started by opening the sea valve. Flame screen are placed on tanks being ballasted. Before completing ballast, check the engine room staff is warned and pumps slowed down in ample time to avoid overflow.

4- Emergency shutdown to prevent pollution:

Should you require to immediately stopping you shall notify:

- 1- The head of the terminal operation area (shore control) on (VHF – CH 14). Stating emergency shutdown and boosters pump will be stopped in few seconds.
- 2- The sub sea line is equipped with a very important double closure breakaway coupling to prevent any pollution.

Crude oil washing (COW): or tank cleaning is completely prohibited at berth.

In case of pollution

To: The Master, ship owner and agent of.

M/T:

Berth number:

Z.O.I:

Dear Sirs,

We hereby inform you that as a result of

.....
The port waters have been polluted, we for our part, have taken the appropriate measures, and action to retain. Remove and disperse the hydrocarbons discharged into the port waters and in accordance with both the port and the terminal regulations you will be held solely responsible for the expenses arising from the above mentioned pollution.

Likewise, you will be held liable for the actions in this respect which may be brought by shore official organization or for third party claims regarding damages which may arise from the incident.

Further more, we want to protest for the fire hazard resulting from the spillage, stating that any loss of time caused by such incident will not be considered as lay-time.

Finally, we request you to supply us, as soon as possible, a written report about the causes and development of that incident.

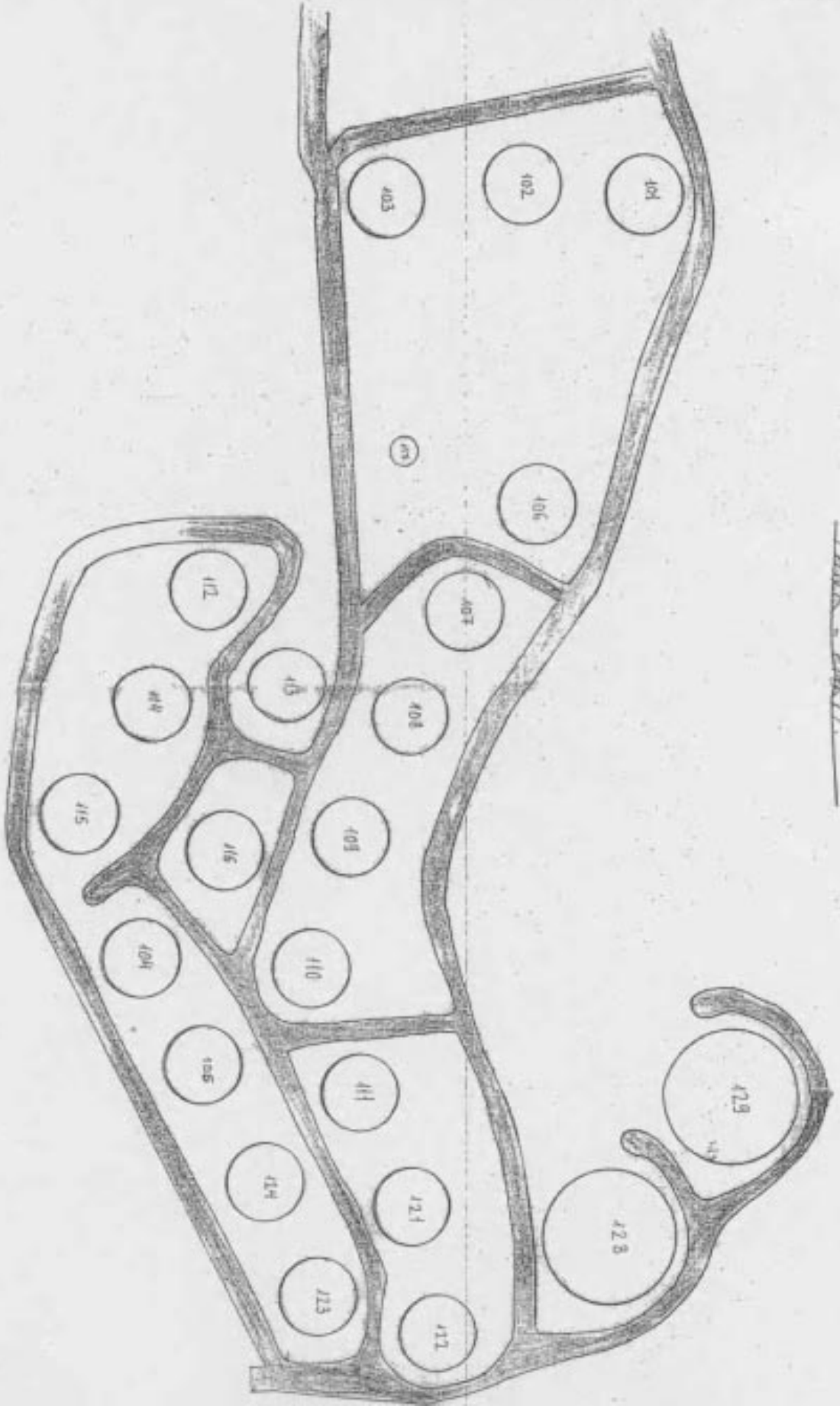
Your faithfully,
T. Manager

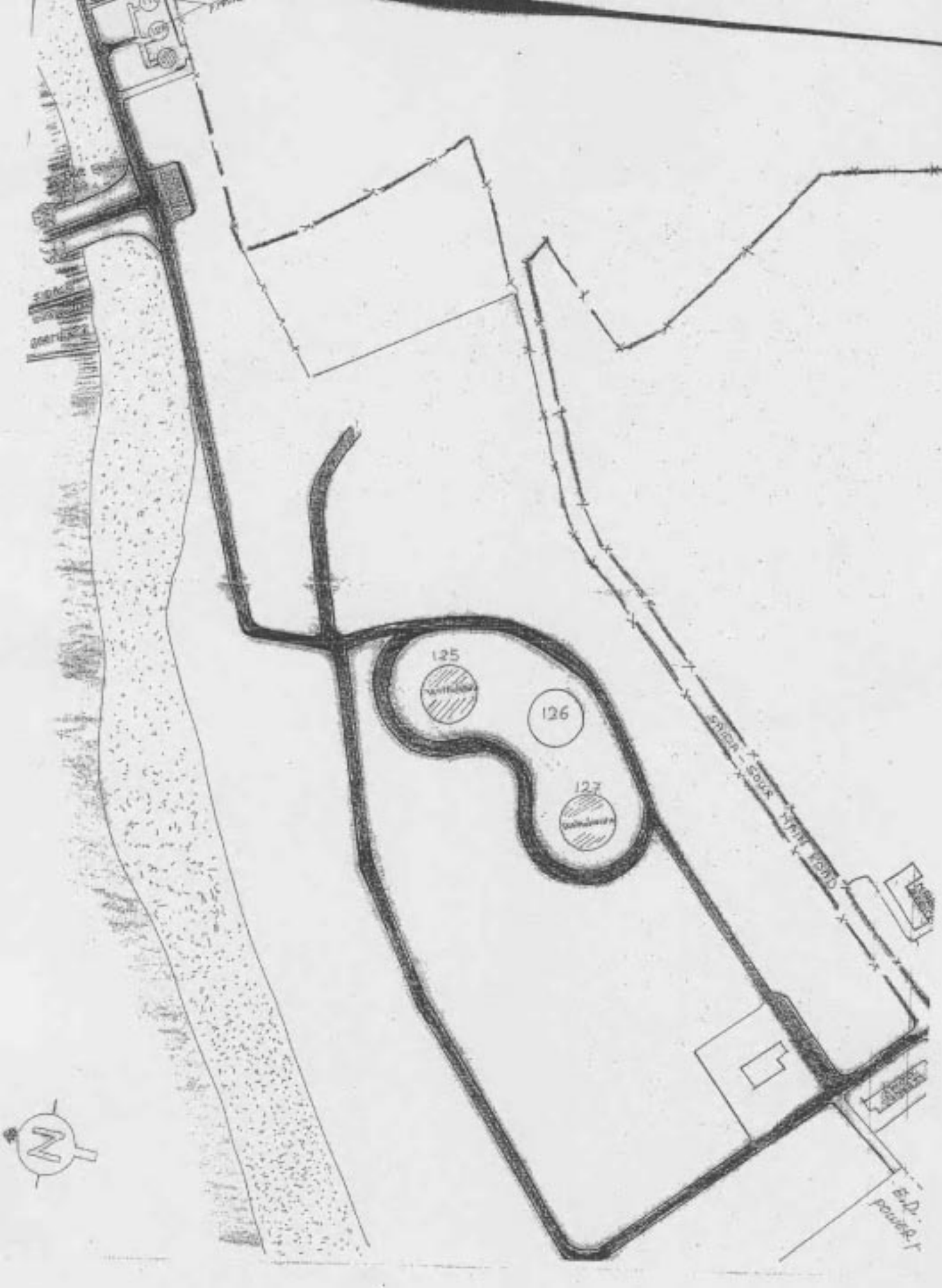
Accepted – Master of M/T

Tank Farm Capacity

Tank Size	No. of tanks	Tank numbers	Max. capacity for each tank	Tank Max. capacity Farm
$\varnothing = 164$ H = 50	20	101-102- 103-104- 105-106- 107-108- 109-110- 111-112- 113-114- 115-116- 121-122- 123-124	175000 bls	3,500,000 bls
$\varnothing = 253$ H = 56	2	129-128	500,000 bls	1,000,000 bls
$\varnothing = 134$ H = 40	1	126	100,000 bls	100,000 bls
$\varnothing = 70$ H = 36,6	1	117	25,000	25,000 bls
$\varnothing = 50$ H = 40	2	119-120	12,000	24,000 bls
				Total Capacity 4,649,000 bls ~ 739133 m ³

TANK FERT.





125

126

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SPRING X ROAD
HILL ROAD



B.D.
POWER-1

Weather Affecting Zahrani Oil Installation

Month	Date	Duration	Wind direction	Force In BEAUFORT
January	6	2 days	Sw to w	6 – 8
January	9	4 days	Sw	6 – 8
January	18	4 days	Sw	6 – 8
January	27	4 days	Sw to w	6 – 8
February	3	4 days	Sw to w	6 – 8
February	26	3 days	Sw to w	6
February	14	2 days	Sw to w	6 – 8
March	4	3 days	Sw to Nw	6 – 8
March	8	2 days	SE to w	6 – 7
March	14	2days	W to Nw	6 – 8
March	22	3 days	W to Nw	6 – 8
March	29	3 days	Sw to Nw	6 – 8
April	02	2 days	W to Nw	6 – 8
April	14	3 days	Sw to w	5 – 6
May	14	3 days	Sw to w	5 – 6
June	14	3 days	Sw to w	5 – 6
July	14	3 days	Sw to w	5 – 6
August	14	3 days	Sw to w	5 – 6
September	14	3 days	Sw to w	5 – 6
October	14	3 days	Sw to w	5 – 6
November	20	3 days	NE to Nw	5 – 6
November	26	2 days	NE to Nw	5 – 6
December	4	3 days	NE to Nw	5 – 6
December	9	2 days	NE to Nw	5 – 6
December	13	2 days	NE to Nw	6 – 7
December	21	2 days	Sw to Nw	6 – 7
December	29	2 days	Sw to Nw	6 – 7

These dates are approximate, the storms may it reach the Lebanese coast 2 days after or 2 days before. The last few years we registered a wind speed over 50 Kts and sea over 5 meters high especially on January and February.

Our terminal has a plan for the security of ships and port facilities.
ISPS (code)

Number: 20050431

Issued: 14 April 2005, under the provision of part B of the International
Ships and port facilities security code.

Port Facility Zahrani.

Address: Zahrani Oil Installation

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