



Traceca Corridor

Traffic and Feasibility Studies - TNREG 9803

Module E :

Transport of crude oil and oil products on the Caspian Sea

Feasibility study for
the rehabilitation of Dubendi Oil Terminal (task E3)

Final Report, August 2001

Report Cover Page

Project Title : TRACECA Corridor - Traffic and Feasibility Studies
Module E Title : Transport of crude oil and oil products on the Caspian Sea
Project Number : TNREG 9803
Module E Countries : Azerbaijan, Kazakhstan and Turkmenistan

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1. Project synopsis for module E

(Revised version, updated in April 2001)

Project Title	: Traceca Corridor - Traffic and Feasibility Studies
Module E Title	: Transport of crude oil and oil products on the Caspian Sea
Project Number	: TNREG 9803
Module E Countries	: Azerbaijan, Kazakhstan and Turkmenistan

Wider objective:	To promote adequate and safe transport of crude oil and oil products on the Caspian Sea
Specific Objectives:	A traffic forecast for oil and oil products The condition of existing infrastructure for oil transport The feasibility of investments in Dubendi oil terminal A brief pre-feasibility study for Aktau Oil Berths n°4 & n°5
Planned outputs:	A detailed traffic forecast A detailed evaluation of the transport infrastructure (terminals and vessels) An overall feasibility study for rehabilitation of Dubendi oil terminal A specific pre-feasibility study for Aktau Oil Berths n°4 & n°5
Project activities:	Preparation of supply demand analysis for crude oil and oil products Preparation of traffic forecasts for crude oil and oil products Evaluation of terminals in Aktau, Dubendi and Turkmenbashi Evaluation of tanker fleet Feasibility study for rehabilitation of Dubendi oil terminal Brief pre-feasibility study for Aktau Oil Berths n°4 & n°5
Target group(s):	Ministries of Transport, Oil terminal operators, Tanker operators
Project start date:	15 March 2000 (Module E)
Expected completion date:	August 2001

2. Summary and conclusions

Dubendi Oil Terminal is currently the weakest node along the Traceca oil transportation route from the eastern shore of the Caspian to the Black Sea, its throughput capacity being limited to approximately 4 million tonnes per year. Since this route is strategically crucial for exports of Central Asian oil, as an alternative to Russian itineraries, increase in oil flows through Dubendi may reasonably be expected. A wide range of projections have been elaborated, the lowest ones being quite cautious:

<i>Figures in million tonnes of oil through Dubendi Oil Terminal</i>	in 2005	in 2010	in 2020
If Kazakh & Turkmen oils to be moved via the Main Export Pipeline are unloaded at Dubendi port ("high hypothesis")	7	12	17
If not (cross-Caspian pipeline, or any other option) ("low hypothesis")	4	6	8

Obviously the above figures can only be reached if improvement works are carried out at Dubendi Oil Terminal, as well as on the other chain elements (the Aktau port, the tanker vessels, the railway lines from Azerbaijan to Georgia and the Georgian ports). As far as Dubendi is concerned, this report proposes three rehabilitation plans:

- A short-term plan, allowing to increase the oil throughput up to 8 Mt per year, sufficient till 2020 in the low traffic hypothesis, only till 2006 in the high traffic scenario.
- A medium-term rehabilitation plan, enabling to cope with 12 Mt per year, to be implemented by year 2010 in the optimistic traffic hypothesis.
- A long-term plan consistent with 18 Mt per year, needed by 2020 if traffic grows as fast as in the high traffic hypothesis.

It should be pointed out that the short-term plan covers vital items aiming at improving environmental protection (upgrading the waste water treatment plant, supplying oil spill prevention equipment) and safety (renewal of electricity networks, installation a modern fire-fighting system).

Related investment costs can be split up as follows (plans are cumulative):

Cost estimates in million USD

	Short-term plan	Medium-term plan	Long-term plan	Total 3 plans
Infrastructures	7.270	7.790	2.890	17.950
Superstructures	3.730	11.080	11.620	26.430
Other equipment	1.710	1.050	0.105	2.865
Total	12.710	19.920	14.615	47.245

In order to evaluate the sustainability of the above proposals a financial assessment has been performed, considering the Dubendi Oil Terminal as a global "Cost and Profit Centre" ¹. Results of the analysis are summarised below:

- In case no investment is undertaken and traffic is limited to 4 Mt per year, the terminal would yet be profitable: annual cash-flows will always be positive and discounted global cash-flow should exceed USD 24 million. However, refraining from investing would entail unacceptable risks with regard to safety and to environmental protection.
- If traffic grows as fast as in the optimistic hypothesis, and provided that required investments are implemented, the Internal Rate of Return would be 15%. Nevertheless, although the global cash-flow would be high (USD 36 million), annual cash-flows would be negative till year 2007; if sufficient liquid assets are not initially available to cancel cash needs, a loan should be contracted ². The amount of this loan should be around USD 10 million.
- In case traffic growth is as weak as in the "low-case", and the short-term plan is implemented, the Internal Rate of Return will be limited to 11%. Discounted global cash-flow would reach USD 25 million, whereas annual cash-flows would always be on the positive side.

Besides, sensitivity tests reveal that the project is quite robust with regard to risks related to investment costs, to traffic growth figures and to estimates for operating expenses.

The most obvious conclusion of this study is that it would be unreasonable to leave the terminal in its current condition; threats to workers' safety as well as against the environment are far above acceptable standards.

On the other hand, if Caspian TransCo receives reliable guarantees that oil shipments from the eastern Caspian will carry on increasing, then the short-term improvement plan should be launched within short. Even if traffic doesn't exceed the 8 Mt threshold, the investment will be profitable.

¹ Sharing out of costs and revenues will have to be fairly agreed between BISP, SOCAR and Caspian TransCo, under the control of the Government of Azerbaijan. During the study time-scale it has not been possible to reach any final agreement in that respect, although valuable efforts have been made by Caspian TransCo and BISP towards a common operation framework.

² Significant liquid assets should normally be available from past port incomes, considering the fact that revenues have apparently exceeded expenditures by large amounts.

3. Oil flow projections

Following oil flow projections regarding Traceca countries were elaborated in August 2000 for the needs of the "Forecasts of Oil Flows" report:

Current and projected oil flows (in million tonnes per annum)				
	1999	2005	2010	2020
Exports from Kazakhstan				
To Russia and to Europe via the Druzhba pipeline system	7,5	7,5	7,5	7,5
To the Russian Orsk refinery	6,5	6,5	6,5	6,5
To Europe				
via the CPC pipeline	0,0	15,0	25,0	45,0
via Aktau, Makhachkala and the Caucasian northern route	0,5	0,5	0,5	1,0
via Aktau, the Caspian Sea and the MEP		2,0	4,0	6,0
via Aktau, Dubendi and the Caucasian western route	2,0	3,0	4,0	5,0
To Asia via Iran	0,5	0,5	1,5	6,0
Total Kazakhstan	17,0	35,0	49,0	77,0
Exports from Turkmenistan				
To Europe				
via the Caspian Sea and the MEP		1,0	2,0	3,0
via the Caspian Sea, Dubendi and the Caucasian western route	0,5	1,0	2,0	3,0
To Asia via Iran	2,5	4,0	16,0	24,0
Total Turkmenistan	3,0	6,0	20,0	30,0
Exports from Azerbaijan				
To Europe				
via the Caucasian northern route	1,9	5,0	7,0	8,5
via the Caucasian western route	3,9	5,0	7,0	8,5
via the MEP		5,0	20,0	36,0
To Asia via the Caspian Sea and Iran		2,0	4,0	9,0
Total Azerbaijan	5,8	17,0	38,0	62,0

From the preceding it may be concluded that transit of crude oil through Dubendi port should grow, and that growth will be sharper if Kazakh and Turkmen oil feeding the MEP are to be shipped onboard vessels to cross the Caspian Sea:

<i>Figures in million tonnes of oil through Dubendi Oil Terminal</i>	in 2005	in 2010	in 2020
If Kazakh & Turkmen oils to be moved via the MEP are unloaded in Dubendi port	7	12	17
If not (cross-Caspian pipeline, or any other option)	4	6	8

4. Current condition of Dubendi Oil Terminal

4.1 General

In the Soviet times the Baku area was a major centre for oil processing. Baku refineries had a capacity of up to 25 million tonnes of crude oil per year. They were processing not only oil extracted in the area but also significant volumes brought from other parts of the Soviet Union, particularly Kazakhstan and Turkmenistan. On the other hand large volumes of petroleum products were exported in direction of those two countries with destinations as far as Siberia or even Kamchatka.

The terminal facilities of the Baku port were at one time handling inflows and outflows, particularly at pier n°20. However, to cope with increasing flows, at the beginning of the sixties it was decided to build a dedicated oil terminal on the Absheron Peninsula in a site called Dubendi that is naturally well protected by the Pirallachy island from the east and from the south (the island is connected to the mainland by an artificial dike). Dubendi is at a distance of 47 km from Baku by land and 92 nautical miles by sea. Construction of the port started in 1965.

Two kinds of flows are presently transiting by Dubendi:

- Crude oil extracted in the region of the Absheron Peninsula, which reaches Dubendi by underwater pipelines. It is shipped by rail to the SOCAR storage facilities in Sangachal, 60 km south of Baku, before being forwarded by the AIOC pipeline to the Supsa port, on the Black Sea.
- Crude oil imported by tanker either (the bulk of it) from Aktau, Kazakhstan, from where it is mainly shipped by Tengizchevroil, or from Okarem or Cheleken, Turkmenistan, where it is produced by Mobil and Total. This oil is sent to Batumi port on the Black Sea by the Caspian TransCo Company.

Dubendi Oil Terminal mainly consists of a navigation channel, four piers sheltered by a breakwater as well as onshore facilities: tank-farms, a rail-tank-car loading station, a waste water treatment plant, oil pipe networks, pump stations, power stations, electricity and water networks, administrative buildings.

All infrastructures are owned by BISP whereas most unloading facilities, pipe systems and tank-farms belong to SOCAR.

There is no bunkering station left in Dubendi. Tankers refuel in other ports of call.

4.2 Navigation channel

The navigation channel starts from the 10 m hydrographic contour line, and was initially dredged down to 10 m below the Caspian Sea chart datum. It is 100 m wide on the sea bed and stretches along 2.5 nautical miles. Due to northern wave action the channel is subject to continuous siltation. Frequent dredging works have been required to maintain water depths, however insufficient since a shoal currently reduces the depth

to 6.5 m in the vicinity of the breakwater head. The port basin was also initially dredged to 10 m, but siltation has resulted in restricted depths: 9 m in the turning area, 8.5 m to 7.5 m along the berths³. The channel is marked with four port and four starboard buoys, which are highly corroded and partly not working. In addition, two leading lines are marked by onshore beacons. The beacons in the first section are in poor condition but still working, whilst beacons in the second section are out of operation⁴.

4.3 Breakwater

The breakwater is of rubble mound type. Its total length is 1,035 m, consisting of a 250 m long root, a 540 m long trunk section and a 245 m long head. The elevation of the top is 3 m above the Caspian chart datum.

The root section is protected with quarry stones, the trunk stretch is covered with 4.6 tonne concrete cubes whilst the head part is protected with 10 to 15 tonne concrete cubes. The end of the breakwater head is bordered by a sheet pile wall that reduces the structure width.

Due to the increase in the Caspian Sea level incoming waves are currently stronger than those which were taken into account at the design phase; this is the reason why several parts of the armour layer and of the cap failed, including at the head section, as shown on the attached photos. There is almost a breach between connection with pier n°2 and connection with pier n°5.

The inner part of the breakwater is bordered with reinforced concrete piles supporting pipelines which are generally severely damaged, except between the root and pier n°1. Diver inspections revealed that piles are damaged underwater too.

Floodlighting system along the breakwater is destroyed, as well as all water and electricity networks.

4.4 Piers

Four piers were constructed from 1972 to 1975, to allow berthing of tankers: pier n°1, pier n°2, pier n°3 and pier n°5. Pier n°4 was initially foreseen, close to pier n°3, but finally not built. Piers n°2 and n°5 were never used for oil traffic, they only accommodated tug boats, dredgers and other port vessels.

Each pier has two symmetrical berths, design capacity of each berth being 2.5 Mt per annum.

Pier n°1 and pier n°3 are operated by Caspian TransCo for unloading crude oil shipped from Aktau, Okarem and Cheleken⁵.

³ The CSC tanker fleet operating in the Caspian Sea consists of 33 tankers:

- | | | |
|---|------------|---------------------------|
| ▪ 3 type "Kafur Mamedov" tankers: | 12,300 dwt | Mean load draught: 8.00 m |
| ▪ 9 type "Absheron" tankers: | 7,400 dwt | Mean load draught: 5.3 m |
| ▪ 21 type "G ^{al} Shikhlinskiy" tankers: | 5,500 dwt | Mean load draught: 4.15 m |

The three largest tankers were recently purchased with the objective of reducing transportation costs. However this acquisition didn't provide the expected benefit so far, since water depths in Aktau and Dubendi are not sufficient to accommodate fully loaded 12,300 dwt tankers.

⁴ A specific project has been undertaken to upgrade navigation aids in Baku and Dubendi ports, to be implemented in 2001 under the Traceca programme. This project includes supply of radar equipment, Global Maritime Distress Safety System, radio communication equipment, renewal of buoys, beacons, leading lights and lighthouses.

⁵ Pier n°3 is also equipped for unloading refined oil products. However throughput of refined oil has fallen below a very limited level in Dubendi (Baku city port has dedicated berths for unloading refined oil, originating from Turkmenbashi refinery and mainly destined to Azerbaijan and to western Europe).

These piers are made of reinforced concrete piled structures consisting of berthing sections connected with trestle bridges. They are equipped with fenders, bollards, oil unloading arms, oil pipelines, water pipes, valves and lightening masts.

All concrete structures are highly deteriorated, cracked and show corroded steel bars, above sea water and below water level as well.

Almost all fenders are simple rubber tyres which are not adequate.

Oil arms and pipes are in need of maintenance, although in working conditions.

Fire-fighting system is not suitable since it is only based on water, except a small foam equipment recently installed on pier n°3 - water is not adequate to fight hydrocarbon fires -. Moreover, there is no automated system to give the alarm.

Other steel equipment (stairs, handrails, etc.) are very corroded and generally out of shape.

Electricity networks are such in poor condition that they are indeed dangerous.

Condition of pedestrian traffic on piers is very bad and somehow risky.

Lastly, access to pier n°3, via a 220 m long rubble mound structure protected with 300 kg quarry stones, has been damaged by wave action.

4.5 Tank farms

Two main tank farms are available. The first one borders the port basin and is used to store crude oil (16 tanks, total capacity 170,000 m³ - available current capacity is only 130,000 m³ because some tank bottoms are obstructed with viscous products -), whereas the second one is on top of the hill (52 tanks, total capacity 260,000 m³); the latter was dedicated to refined products but is no longer used.

Current storage capacity for crude oil (130,000 m³) is a bit low: on the year 2000 traffic basis (3.5 Mt) it only allowed an average "oil idle time" of 13 days. For the needs of the following project a more comfortable ratio has been considered (20 days), entailing use of the upper tank farm for crude oil storage and extension of the lower tank-farm.

4.6 Rail-tank-car loading station

Two pipelines allow transfer of crude oil from the lower tank farm to the RTC station, located a few kilometres away, on top of the plateau. The station includes two blocks, each one being designed for 21 RTC at a time. It is equipped with a complete and modern foam fire-fighting station.

The RTC loading station is recent and runs under satisfactory safety conditions.

4.7 Waste Water Treatment Plant

The port has a Waste Water Treatment Plant (WWTP) built in 1970 for treating sanitary water, bilge water from the tankers, and waste water from the land-based crude oil storage tanks ⁶. The original design capacity of the WWTP was 1,500 to 2,000 tonnes of waste water per day. Since 1991 the WWTP has been operated by the "28 of May" Company, the same Company that operates the port reception and oil transport facilities.

The WWTP staff and quality control laboratory are at the site. The laboratory is not capable of testing for regulated parameters in the WWTP discharge. For complete analyses samples must be sent offsite. Analysis of the sea water for phenols and other contaminants is according to Gost standards.

The WWTP features the following processes:

- 3 to 4 hours of settling in crude oil tanks (containing crude oil delivered from Aktau and Turkmenbashi, as well as from Pirallachy Island, which now totals about 78.000 tonnes daily).
- Draw off of water/oil emulsion (about 80 to 100 tonnes daily, depending on tanker traffic).
- Two 5,000 tonne tanks for oil/water separation (about 17 to 20 tonnes of oil is returned to the crude oil tanks).
- Discharge of treated waste water to sea.

The WWTP is poorly maintained and operated. Significant bypassing is reported to occur.

4.8 Oil pipe networks

Except the rare lines which are still being used, all other pipelines are worn-out. Moreover, pipeline supports which are standing along the breakwater are severely damaged.

4.9 Pump stations

There are three pump stations on the terminal: pump stations n°27 and n°62, serving the upper tank farm ⁷, and Caspian TransCo's pump station, serving the RTC loading facility. The latter is the only new and sound one. The two others are operating but they are in need of overhaul.

⁶ The plant doesn't receive any ballast water since vessels arriving at the port are loaded with oil.

⁷ Crude oil is delivered to the lower tank farm by the use of vessel pumps. It may be underlined that unloading operations are frequently delayed because of failures on vessel pumps.

4.10 Power stations and electricity networks

The terminal is fed by two main transformers delivering 6 kV power to seven sub-transformers producing 0.4 kV power. All transformers and sub-transformers are in need of overhaul. Besides, the whole electricity supply network is in advanced stage of deterioration and therefore dangerous with regard to risk of fire:

- cable ways are not covered;
- many connection boxes are no longer protected from dust and rain, and several cable connections are not insulated;
- earthing devices don't look efficient;
- most supporting poles are corroded and about to collapse.

4.11 Administrative buildings

Though main building structures look sound, administrative buildings do not offer decent working conditions. They need to be refurbished, they also need some modern office equipment and adequate improvements allowing to centralise port operation control.

4.12 Miscellaneous deficiencies

Traffic of vehicles and pedestrians is not controlled according to international safety standards applicable to oil terminals. All dangerous areas ought to be clearly marked and prohibited to non-authorized vehicles and persons.

The general fire-fighting system is not adequate, especially because it does not include enough foam systems (only pier n°3 has a small foam tank). Furthermore, the water network is not well maintained and outlets are difficult to locate.

There was no confirmation of the presence of appropriate oil spill prevention equipment, although a short old boom guard for localising emergency oil spills in the process of unloading tankers could be seen. The "oil refuse collector" ship carries out mechanical collection of oil and waste floating on the surface. The fire boat is also supposed to be equipped with operational boom guards for localising oil spills in the berth areas. The port evidently expects help to come from the port of Baku in the case of critical oil spills. There was no indication that an Emergency Response Plan has been developed. The port has requested booms of the "Anakonda" type as part of the rehabilitation project.

It may be added that Azerbaijan, as a member of the IMO (as well as all other riparian states of the Caspian), has accepted the various requirements of the IMO concerning oil pollution preparedness, response and co-operation. These include reporting procedures for vessels, emergency response plans, and international co-operation.

Port crude oil and petroleum product offloading and onloading facilities, which fall under the IMO directives on preparedness, are in the process of improving facilities, developing Emergency Oil Spill Response Plans, and upgrading equipment required to meet the terms of the plans. In general these ports should be prepared to handle US EPA Tier 1 and Tier 2 spills.

The minimum requirements for Tier 1 (up to 10 tonnes) and Tier 2 (from 10 to 100 tonnes) spills are as follows:

1. Oil spill response vessel
2. Rapid deployment boom system
3. Permanently-moored boom
4. Rope skimmer oil mop
5. Portable power supply
6. Sorbents
7. Harbour compensators
8. Harbour skimming system
9. Individual response pits
10. Capacity for installation & commissioning of equipment
11. Spare parts and maintenance

5. Rehabilitation plans

Rehabilitation plans have been developed to cope with the projected increase of oil flows, to improve the environmental protection at the port and to comply with safety requirements. Two hypotheses of oil flows have been considered, based on the former traffic projections⁸:

Figures in Mt	in 2005	in 2010	in 2020
High hypothesis	7	12	17
Low hypothesis	4	6	8

Cumulative rehabilitation plans have been adjusted accordingly:

- A short-term rehabilitation plan allowing an annual flow of 4 to 8 Mt, sufficient till 2020 in the "low-traffic" hypothesis, till 2006 only in the "high-traffic" case.
- A medium-term rehabilitation plan allowing an annual flow of 8 to 12 Mt, to be launched in 2005 in the "high-traffic" case.
- A long-term rehabilitation plan allowing an annual flow of 12 to 18 Mt, to be launched in 2010 in the "high-traffic" case.

⁸ Without any investment DOT capacity would be limited to approximately 4 Mt per annum - or reduced in case the breakwater carries on failing -.

5.1 Short-term rehabilitation plan

a. Infrastructures

As far as infrastructures are concerned, the short-term plan includes:

- Rehabilitation of the root section and of the trunk section of the breakwater (total length 790 m) by placement of heavier blocks on the armour layer and by widening the capping berm. This will require preliminary wave studies and hydraulic tests.
- Rehabilitation of pier n°1 and pier n°3 by repair of reinforced-concrete piles, slabs and beams (removal of damaged concrete, sealing of new steel bars, injection of resin and projection of cement mortar), replacement of fenders, bollards, stairs and handrails.

b. Superstructures

Regarding superstructures the short-term plan covers:

- Road repair works on top of the breakwater, up to pier n°1, on the access causeway to pier n°3 as well as in both tank-farm areas (including drainage systems and cable ditches).
- Improvement works in the lower tank-farm (cleaning-out of tank bottoms and repair of floating roofs in blocks 13a and 14).
- Conversion of tanks in the upper tank-farm to provide an additional storage capacity of 120,000 t of crude oil (blocks n°4, n°7 and n°11).
- Improvement of oil pipes and oil arms serving pier n°1 and pier n°3, as well as oil pipes in both tank-farms.
- Overhaul of internal pump stations n°27 and n°62.
- Rehabilitation of the Waste Water Treatment Plant.
- Complete renovation of the electricity system, from the main transformers (including cables, cable ways, connection boxes, earthing devices and floodlighting poles).

c. Other equipment

In the short-term plan rehabilitation of other equipment covers:

- A preliminary in-door refurbishment of buildings in the lower and the upper port areas.
- Renewal of the boiler unit and its connected utilities (electricity supply and steam pipes)⁹.
- Supply of a first set of environmental protection equipment (an oil boom, a rapid deployment boom system, an oil skimmer and an oil-refuse collector).
- Installation of a new fire-fighting system, including a sea-water pump, an upgraded water network, a foam production station and an automated alarm system.

⁹ The boiler produces steam which is used to heat up crude oil pipes.

- Installation of notice boards and signs informing port workers and visitors about the safety rules they have to follow and prohibiting access to designated areas.

5.2 Medium-term rehabilitation plan

a. Infrastructures

As far as infrastructures are concerned, the medium-term plan includes:

- Dredging of the navigation channel and of the port basin down to 10 m below CD, to allow 12,000 dwt oil carriers to enter the port with full tanks ¹⁰.
- Rehabilitation of the head section of the breakwater (245 m long) by placement of heavier blocks on the armour layer and by strengthening the sheet pile wall, on the basis of the results of wave studies and hydraulic tests to be performed during the course of the first phase.
- Rehabilitation of pier n°2 by repair of reinforced-concrete piles, slabs and beams (removal of damaged concrete, sealing of new steel bars, injection of resin and projection of cement mortar), placement of fenders, bollards, stairs and handrails.
- Rehabilitation of the berths dedicated to port vessels (tug boats, pilot vessels, fire fighting vessel, pollution fighting units).
- Reconstruction of slope protections along the western shore of the port basin (quarry stone revetment).

b. Superstructures

Regarding superstructures, the medium-term plan covers:

- Road repair works on top of the breakwater, from pier n°1 up to pier n°2, as well as in both tank-farm areas (including drainage systems and cable ditches).
- Renovation of oil tanks 13b, in the lower tank-farm.
- Extension of block 14, in the lower tank-farm, to increase oil storage capacity by 120,000 m³.
- Complete overhaul of tanks in the upper tank-farm (tanks n°4, n°7 and n°11).
- Improvement of oil pipes and oil arms serving pier n°2, as well as pipes in both tank-farms.
- Electricity networks on the breakwater, on pier n°2, on the port-vessel berth and in the extended tank-block 14 (including cables, cable ways, connection boxes, earthing devices and floodlighting poles).

c. Other equipment

In the medium-term plan rehabilitation of other equipment includes:

- Completion of building refurbishment in the lower and the upper port areas, including installation of computerised systems to centralise port operations.
- Supply of a second set of environmental protection equipment (an oil boom, a second vessel for boom deployment, a second oil skimmer and another oil-refuse collector).

¹⁰ This only make sense if consistent deepening works are undertaken in Aktau port.

- Completion of the fire-fighting system with additional foam equipment for pier n°2 and in the tank-farms.

5.3 Long-term rehabilitation plan

a. Infrastructures

As far as infrastructures are concerned, the long-term plan includes:

- Dredging works in the vicinity of pier n°5, down to 10 m below CD, to allow 12,000 dwt oil carriers to berth along this pier with full loads.
- Rehabilitation of pier n°5 by repair of reinforced-concrete piles, slabs and beams (removal of damaged concrete, sealing of new steel bars, injection of resin and projection of cement mortar), reconstruction of collapsed concrete slabs, placement of fenders, bollards, stairs and handrails.

b. Superstructures

Regarding superstructures, the long-term plan covers:

- Road repair works on top of the breakwater, from pier n°2 up to pier n°5, as well as in both tank-farm areas (including drainage systems and cable ditches).
- Renovation of oil tanks of blocks 13a and 14, in the lower tank-farm.
- Complete overhaul of oil tanks of blocks 6, 8, 9 and 12, in the upper tank-farm.
- Placement of oil pipes and oil arms serving pier n°5.
- Final upgrading of oil pipes in both tank-farms.
- Extension of electricity networks on the breakwater and on pier n°5 (including cables, cable ways, connection boxes, earthing devices and floodlighting poles).

c. Other equipment

In the long-term plan this item simply deals with the supply of a third set of oil-spill prevention equipment: an oil boom, a skimmer, an oil-mop rope and a oil-refuse collector.

5.4 Investment costs

Investment costs have been estimated according to current regional prices supplied by the Contractor's local partners and also with reference to recent civil works performed in Azerbaijan. The details provided at the first page of Annex 3 can be summarised as follows:

(cost estimates in thousands USD)

	Short-term plan	Medium-term plan	Long-term plan	Total 3 plans
A. Infrastructures	7,270	7,790	2,890	17,950
B. Superstructures	3,730	11,080	11,620	26,430
C. Other equipment	1,710	1,050	105	2,865
Total A + B + C	12,710	19,920	14,615	47,245

6. Ownership and operation schemes

All infrastructures of DOT are owned by BISP (the channel, the breakwater and the piers), whereas superstructures belong to SOCAR (the pipes, the oil arms, the pumps and the tanks). BISP also owns the pilot boats, the tug boats and the navigation aids.

Caspian TransCo is the terminal operator ¹¹. For the operation of DOT Caspian TransCo has signed agreements with CSC, with BISP as well as with SOCAR. The Consultant understood that tariffs are often adjusted according traffic levels and to other miscellaneous parameters.

Each entity has its own staff working at the terminal: approximately 40 employees from BISP, 180 to 200 from SOCAR (including 20% assigned to the underwater supply pipeline, which is out of the scope of this report), and around 20 from Caspian TransCo.

¹¹ Caspian TransCo is in charge of arranging multi-modal transportation of oil from the eastern side of the Caspian Sea to the Black Sea port of Batumi, via Dubendi, in line with the terms of the Protocol signed in July 1999 by Officials of Kazakhstan, Azerbaijan and Georgia, within the framework of the Inogate programme.

7. Financial assessment

7.1 General

The objectives of the financial assessment are to evaluate the capacity of DOT to be self-supporting and to bear the load of the improvement works which are required to comply with safety requirements, to protect the environment and to cope with the projected increase of oil throughput. In this chapter DOT is considered as a global "cost and profit centre", the sharing out of investment costs being to be agreed upon by negotiations between BISP, SOCAR and Caspian TransCo.

Financial projections have been made according to three families of hypotheses:

1. No investment is undertaken and traffic is therefore limited to 4 Mt per year throughout the whole study period (20 years).
2. Investments are carried out to cope with the low traffic hypothesis (4 Mt in year 2005, 6 Mt in year 2010 and 8 Mt in year 2020). The content of the investment programme is that of the "short term plan", amounting to USD 12.7 million.
3. Investments are carried out to cope with the high traffic hypothesis (7 Mt in year 2005, 12 Mt in year 2010 and 17 Mt in year 2020). In this case the content of the investment programme covers the short-term plan (USD 12.7 million), the medium-term plan (USD 19.9 million) and the long-term plan (USD 14.6 million), resulting in a total investment of USD 47.2 million.

7.2 Computation of revenues

DOT revenues have firstly been computed on the basis of current tariff rates and without considering any loan or any grant. As a second stage, increased tariffs and loans have been taken into account in order to reach more satisfactory financial results.

Sources of revenues are split into vessel dues, cargo dues and oil storage dues.

a. Vessel dues

Standard tanker tariffs at Dubendi Port are displayed in the following table.

	Unit Rates (Manats)	Unit	"Kafur Mamedov" tankers	"Absheron" tankers	"Gal Shikhlinskiy" tankers
			Vessel size (m3) Standard oil load (t)	28,780 9,000	19,228 7,000
			Sub-total (1000 Manats)	Sub-total (1000 Manats)	Sub-total (1000 Manats)
Registration	-	lump sum	10	10	10
Sailing	-	lump sum	40	40	40
Channel	130	m3	3,741	2,500	1,865
Vessel	80	m3	2,302	1,538	1,148
Berth	120	m3	3,454	2,307	1,722
Mooring	-	Lump sum	880	440	440
Environment	120	m3	3,454	2,307	1,722
Tug-boat	340	m3	9,785	6,537	4,879
Total in thousands Manats			23666	15679	11826
Total in USD per call *			5,260	3,485	2,630
Total in USD per tonne of oil *			0.58	0.50	0.53

* Using an exchange rate of 1 USD for 4,500 Manats

In the following an average standard rate of USD 0.55 per tonne of oil has been accounted for. Yet, it has also been considered that CSC tankers simply pay a lump sum of USD 1000 per call, whichever type of tanker calls at the port. As the number of calls is the key factor for DOT revenues an average call load has been considered (7,000 tonnes)

b. Cargo dues

Cargo dues cover transfer of oil from ships to storage tanks. They are based on a rate of USD 0.60 per tonne of oil.

c. Oil storage dues

They have been rounded at USD 0.90 per tonne of oil.

7.3 Computation of operating expenses

Operating expenses include labour cost, maintenance costs, energy consumption costs, overhead expenses, financial charges - in case of loans -, as well as depreciation of facilities.

a. Labour cost

At the end of year 2000 total staff involved in operation of DOT was 210 (including BISP, SOCAR and Caspian TransCo personnel). The average overall cost of a terminal employee was about USD 130 per month including salary, pension fund, social charges and vacation, whilst that of an engineer was USD 220 per month. As a whole it can be considered that the average unit cost is close to USD 160 per month, i.e. USD 1920 per year. On this basis the total annual labour cost amounts to USD 400,000.

In the future this cost should vary, under the impact of several factors: traffic increase, improvement in productivity and rise of salaries.

Impact of traffic increase

Part of the employees are involved in administrative tasks or in activities which will not be altered by variations of traffic. It has been assumed that only one third of the number of employees should increase with the traffic. In 2000 it is considered that 140 people are a fixed number, not depending on the traffic level, and 70 are a variable number - with a productivity of 50,000 t/year per employee -. The latter workforce is likely to vary together with the traffic level.

Impact of improvement in productivity

Rehabilitation of the terminal should entail improved productivity, thanks to renewed equipment and to computerised management of operations. It is assumed that productivity will increase at an average rate of 3% per year in the coming 20 years (in the "no investment" case productivity is supposed to remain stable), which leads to the following results:

<i>Productivity (tonnes/year):</i>	Year 2000 50,000	Year 2005 58,000	Year 2010 67,200	Year 2015 77,900	Year 2020 90,300
------------------------------------	---------------------	---------------------	---------------------	---------------------	---------------------

<i>Staff</i>	Year 2000	Year 2005	Year 2010	Year 2020
Traffic for the "no investment" case (Mt/year)	3.5	4	4	4
Staff in the "no investment" case	210	220	220	220
High traffic hypothesis (Mt/year)	3.5	7	12	17
Variable staff	70	120	180	190
Fixed staff	140	140	140	140
Staff in the high traffic hypothesis	210	260	320	330
Low traffic hypothesis (Mt/year)	3.5	4	6	8
Variable staff	70	70	90	90
Fixed staff	140	140	140	140
Staff in the low traffic hypothesis	210	210	230	230

Impact of rise of salaries

On the basis of a yearly increase of 2% the annual cost of an employee will vary as follows:

- Year 2000: USD 1920
- Year 2005: USD 2120
- Year 2010: USD 2340
- Year 2015: USD 2580
- Year 2020: USD 2850

b. Maintenance costs

Annual maintenance costs can be estimated as ratios of investment costs, and following ratios have been applied to planned investments:

- 0.5% for the breakwater;
- 0.2% for the other infrastructure items;
- 5% for the superstructures and the other equipment.

As far as existing facilities are concerned, a yearly lump sum of 1 million USD has been taken into account.

c. Energy consumption costs

From the Inogate Ref. 1 report the cost of energy spent to unload a tanker and to pump its oil into storage tanks is around USD 0.06 per tonne of oil. Energy is not given by the port but is produced by the ships themselves, so this cost is not an expense for the port.

Cost of pumping oil from the storage area for delivery to the client is USD 0.06 per tonne.

d. Overhead expenses

Part of administrative and management costs of BISP, SOCAR and Caspian TransCo is to be incorporated into the terminal operating expenses. For this purpose DOT turnover has been considered as the key parameter, it has been multiplied by 0.15 to compute global overhead expenses.

e. Financial charges

Each time it is assumed that a loan will be needed, following standard conditions are applied: 4-year grace delay, 10-year repayment period and 8% financial charges (interest rate plus commitment fees plus fixed fees).

f. Depreciation of facilities

It has been considered that rehabilitation works will be amortised within 20 years. No depreciation is accounted for existing facilities.

7.4 Financial results

Details of financial computations are in the attached Annex 3, from page 2 through page 8. They are summarised in the table below.

Hypothesis	Table in Annex 3	Loan (million USD)	Tariff Rise (USD/t)	Discounted cash-flow at 10% (million USD)	Internal Rate of Return (%)	Maximum need in cash-flow (million USD)
No investment	REF	0	0	24.5	-	0
High traffic	HH1	0	0	36.5	15.1	7.2 (in 2006)
High traffic	HH2	0	0.38	55.7	24.1	5.0 (in 2002)
High traffic	HH3	9.4	0	38.8	18.6	0
Low traffic	LH1	0	0	25.8	11.5	0

Note: gross operating profits are clearly positive in all cases, even in the "no investment" hypothesis.

Comments:

- In the "no investment" case cash-flows are always positive (average USD 2.5 million per year), discounted cash-flow being USD million 24.5. DOT is globally quite profitable.
- In the "high traffic" case cash-flows are sometimes negative at the beginning of the time period; this is the reason why additional tests have been carried out, firstly with increased tariffs, then with loans.
- In the "high traffic" hypothesis a significant rise of tariff (USD 0.38 per tonne of oil, around + 23 %) is not sufficient to cancel the need in cash-flow. A USD 9.4 million loan can solve the problem.
- In the "low traffic" hypothesis cash flow is always positive.
- Internal Rates of Return are satisfactory in all cases, although a bit on the edge in the "low traffic" hypothesis. Investments are profitable.

7.5 Sensitivity analysis

a. General

Various tests have been made to assess the impact of following parameters:

- cost of works;
- traffic forecast;
- cost of operations;
- combined impact of all previous factors.

Details of calculations are featured in Annex 3.

b. Increase of investment costs

An increase of 20% in investment costs in the high hypothesis traffic (table HH4) gives a discounted cash flow equal to USD 30.5 million, with no loan and no rise of tariffs, instead of USD 36.5 million with a discount rate of 10% (table HH1). Internal rate of return of the investments is now 12.3% instead of 15.1%. Investment remains profitable.

The same increase of 20% in the cost of investment gives an IRR of 9.5% with the low traffic hypothesis (table LH4) instead of 11.5 % (table LH1), what can be considered as not sufficient, without an increase in tariffs. This increase in tariffs should be equal to USD 0.07/tonne (around 4%) to obtain an IRR of 11.5% again (table LH 4.1).

c. Impact of traffic

If the same schedule of investments is kept, with a traffic equal to 90% of the basic traffic forecast, IRR becomes 12.2% with the high traffic hypothesis (table HH5) and 8.4 % with the low hypothesis traffic (table LH5). A raise of tariff of USD 0.09/tonne (around 5%) gives an IRR of 11.6% again in the low hypothesis (table LH 5.1).

d. Impact of operating costs

Operating costs have been estimated at a rather high level for salaries and for maintenance, and it is quite predictable that actual costs should be lower. Costs for staff could be lower, as numbers of operating people is more linked to numbers of berths and to numbers of calls than to traffic levels.

Today there are 70 workers for 2 berths, which is quite sufficient to operate the terminal 24 hours a day, 365 days per year, working in 3 shifts a day. In each shift there are 11 workers to operate and to maintain security. These people are divided into several categories of workers :

- 1 foreman;
- 2 operators in the control room;
- 2 operators for storage and pumping station;
- 3 operators to connect ships to unloading arms and to control ship unloading;

- 3 firemen, who can be helped by other operators to fight against pollution and fire.

To face traffic increase we have to add people as follows :

- in high traffic hypotheses : 4 additional operators for each shift and for 2 berths, say a total of 30 workers;
- in low traffic hypotheses : 3 additional operators for each shift and for 2 berths, say a total of 20 workers.

Results are as follows:

	2000	2005	2010	2020
High hypothesis (Mt/year)	4	7	12	17
Number of berths	2	4	6	8
Number of calls per year	570	1000	1715	2430
Number of calls/year/berth	285	250	286	303
Operating staff (rounded figures)	70	100	130	160
Fixed staff	140	140	140	140
Total high hypothesis	210	240	270	300

	4	4	6	8
Low hypothesis (Mt/year)	4	4	6	8
Number of berths	2	4	6	8
Number of calls per year	570	570	858	1142
Number of calls/year/berth	285	143	143	143
Variable staff (rounded figures)	70	90	110	130
Fixed staff	140	140	140	140
Total low hypothesis	210	230	250	270

Compared with previous figures, this approach leads to a smaller staff in the "high hypothesis" traffic and to a bigger one in the "low hypothesis" traffic. In Western Europe a terminal of this type with 8 berths, operated by a private company should have an overall staff between 120 to 140. Thus, actual staff could indeed be much lower than estimated here.

As far as maintenance is concerned, the 5% ratio computed on superstructure cost stands on the high side, and actual figures should rather be close to 3%.

As a conclusion, it may reasonably be considered that operating costs are likely to remain below the assumed levels, and therefore that profitability should accordingly increase.

e. Combined impact of all previous factors

The results are as follows:

- "high traffic" hypothesis : IRR is slightly under 10% (9.6%) and maximum need in cash low is USD 15 million in 2006 (table HH 6). A USD 18 million loan can solve the problem (table HH 6.1).
- "low traffic" hypothesis : IRR is 6.6% with a maximum negative cash flow of USD 2.3 million in 2005 (table LH 6). A raise of USD 0.12 per tonne of oil (roughly 7%) increases the IRR up to 10%, with a need of cash flow of USD 1 million in 2005 (table LH 6.1).

* * *

Enclosures: Annex 1 to Annex 4

Annex 1

Abbreviations & Acronyms, References and Staff List

Abbreviations and Acronyms

- AIOC Azerbaijan International Oil Corporation
- BISP Baku International Sea Port
- BSL Baltic Sea Level
- CD Chart Datum
- CPC Caspian Pipeline Consortium (from western Kazakhstan to Novorossiysk)
- CSC Caspian Shipping Company
- DOT Dubendi Oil Terminal
- dwt dead weight tonnage
- EBRD European Bank for Reconstruction and Development
- IMDG International Maritime Dangerous Goods Code
- IMO International Maritime Organisation
- Inogate Interstate Oil and Gas Transmission to Europe (a European Commission programme)
- km kilometre
- kV kilo Volts
- m metre
- MARPOL International Convention for Prevention of Marine Pollution
- MEP Main Export Pipeline (from Baku to Ceyhan)
- Mt Million tonnes
- RTC Rail Tank Car
- SOCAR State Oil Company of Azerbaijan Republic
- t metric tonne
- Traceca Transport Corridor Europe-Caucasus-Asia
- USD United States dollar
- V Volt
- WWTP Waste Water Treatment Plant

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Annex 2

Photographs of Dubendi Oil Terminal (23)



1. General view of Dubendi Oil Terminal, seen from the upper tank-farm area



2. The breakwater, from its root, and pier n°1



3. On the breakwater. Connection with pier n°5



4. Along the inner part of the breakwater (oil pipe supports)



5. The most damaged part of the breakwater, between pier n°2 and pier n°5



6. Same area as photo n°5, towards the shore



7. Head section of the breakwater (notice sheet piles)



8. On pier n°1



9. Pipe nets on pier n°1



10. Underneath pier n°1 (damaged reinforced concrete)



11. A pedestrian bridge on pier n°1



12. Pier n°2



13. Pier n°5



14. Access causeway to pier n°3



15. Same as photo n°14, towards the shore



16. Head section of pier n°3



17. Pier n°3. Unused arms for refined oil



18. Pier n°3. Brand new arms for unloading crude oil



19. Pier n°3. New foam tank



20. Port-vessel berth



21. Caspian TransCo RTC loading station



22. Caspian TransCo pump station



23. Lower tank-farm (northern part)

Annex 3

Financial Tables (16 sheets)

TABLE : REF (reference situation; no investment, traffic limited to 4 Mt per annum)

DUBENDI OIL TERMINAL PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRAFFIC FORECAST : SITUATION OF REFERENCE																							
TOTAL TONNAGE	1000 t	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
NUMBER OF CALLS	unit	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571
STAFF		220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220
PROJECTED PROFIT AND LOSS STATEMENT																							
		in 1000 \$																					
OPERATING REVENUES	unit	Tariff																					
Port dues on vessels	\$/call	1000	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571	571
Handling of oil (ship->tank)	\$/Ton	0.60	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400
Storage of oil (tank->outside)	\$/Ton	0.90	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600
Additional revenue	\$/Ton		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES			6571	6571	6571	6571	6571	6571	6571	6571	6571	6571	6571	6571	6571	6571	6571	6571	6571	6571	6571	6571	6571
OPERATING EXPENSES	Base	Rate																					
Salaries			422	433	444	455	466	476	486	495	505	515	526	537	548	560	571	582	593	605	616	627	627
Maintenance:																							
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures		0.50%																					
New facilities superstructures		5%																					
Energy consumption	\$/Ton	0.06	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240	240
Overheads	Op. Rev	15%	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986	986
Financial charges			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete																						
New Amortization		0																					
TOTAL EXPENSES			2648	2659	2670	2681	2692	2702	2711	2721	2731	2741	2752	2763	2774	2785	2797	2808	2819	2830	2841	2853	2853
GROSS OPERATING PROFIT			3923	3912	3901	3890	3879	3870	3860	3850	3841	3831	3820	3808	3797	3786	3775	3764	3752	3741	3730	3719	3719
PROJECTED CASH-FLOW																							
		in 1000 \$																					
INCOMES																							
Gross operating profit			3923	3912	3901	3890	3879	3870	3860	3850	3841	3831	3820	3808	3797	3786	3775	3764	3752	3741	3730	3719	3719
Amortization			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grants																							
Loan																							
TOTAL INCOMES			3923	3912	3901	3890	3879	3870	3860	3850	3841	3831	3820	3808	3797	3786	3775	3764	3752	3741	3730	3719	3719
OUTCOMES																							
Taxes on profit	Gross prof.	34%	1334	1330	1326	1323	1319	1316	1312	1309	1306	1303	1299	1295	1291	1287	1283	1280	1276	1272	1268	1264	1264
Foreign loan refunding																							
Investments																							
TOTAL OUTCOMES			1334	1330	1326	1323	1319	1316	1312	1309	1306	1303	1299	1295	1291	1287	1283	1280	1276	1272	1268	1264	1264
CASH FLOW			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454	2454
Cumulative cash-flow			2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457	52911
Annual cash flow discounted	10%	1.10	2589	2347	2128	1929	1749	1586	1438	1304	1182	1072	972	881	799	724	656	595	539	489	443	401	365
Total cash flow discounted :			24519																				
FOREIGN LOAN CHARGES																							
		IN 1000 \$																					
Loan			0																				
Reimbursement																							
Remaining			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE HH 1 (high traffic hypothesis, no increase in tariffs, no loan)

DUBENDI OIL TERMINAL PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRAFFIC FORECAST : HIGH HYPOTHESIS																						
TOTAL TONNAGE	1000 t	4000	4750	5500	6250	7000	8000	9000	10000	11000	12000	12500	13000	13500	14000	14500	15000	15500	16000	16500	17000	17000
NUMBER OF CALLS	unit	571	679	786	893	1000	1143	1286	1429	1571	1714	1786	1857	1929	2000	2071	2143	2214	2286	2357	2429	2429
STAFF		220	230	240	251	261	272	284	295	307	319	320	321	321	322	323	324	325	326	327	328	328
PROJECTED PROFIT AND LOSS STATEMENT																						
in 1000 \$																						
OPERATING REVENUES	Unit tariff																					
Port dues on vessels	\$/call	1000.00	571	679	786	893	1000	1143	1286	1429	1571	1714	1786	1857	1929	2000	2071	2143	2214	2286	2357	2429
Handling of oil (ship->tank)	\$/Ton	0.60	2400	2850	3300	3750	4200	4800	5400	6000	6600	7200	7500	7800	8100	8400	8700	9000	9300	9600	10200	10200
Storage of oil (tank->outside)	\$/Ton	0.90	3600	4275	4950	5625	6300	7200	8100	9000	9900	10800	11250	11700	12150	12600	13050	13500	13950	14400	14850	15300
Additional revenue	\$/Ton	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES			6571	7804	9036	10268	11500	13143	14786	16429	18071	19714	20536	21357	22179	23000	23821	24643	25464	26286	27107	27929
OPERATING EXPENSES	Base Rate																					
Salaries			422	455	488	520	553	591	630	668	707	745	764	783	802	821	841	860	879	898	917	936
Maintenance:																						
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures	0.50%																					
New facilities superstructures	5.0%																					
Energy consumption	0.060		240	285	330	375	420	480	540	600	660	720	750	780	810	840	870	900	930	960	1020	1020
Overheads	Op. Rev 15%		986	1171	1355	1540	1725	1971	2218	2464	2711	2957	3080	3204	3327	3450	3573	3696	3820	3943	4066	4189
Financial charges			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete																					
New Amortization	5%			635	635	635	1133	1630	1630	1630	1995	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360
TOTAL EXPENSES			2648	2911	4114	4377	4639	5804	6968	7313	7658	8668	9505	9677	9849	10021	10194	10366	10538	10710	10883	11055
GROSS OPERATING PROFIT			3923	4893	4921	5891	6861	7339	7818	9115	10413	11046	11031	11680	12329	12979	13628	14277	14926	15575	16225	16874
PROJECTED CASH-FLOW																						
in 1000 \$																						
INCOMES																						
Gross operating profit			3923	4893	4921	5891	6861	7339	7818	9115	10413	11046	11031	11680	12329	12979	13628	14277	14926	15575	16225	16874
Amortization	5%		0	0	635	635	635	1133	1630	1630	1630	1995	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360
Grants																						
Loan																						
TOTAL INCOMES			3923	4893	5556	6526	7496	8472	9448	10745	12043	13041	13391	14040	14689	15339	15988	16637	17286	17935	18585	19234
OUTCOMES																						
Taxes on profit	Gross prof. 34%		1334	1664	1673	2003	2333	2495	2658	3099	3541	3756	3751	3971	4192	4413	4633	4854	5075	5296	5516	5737
Foreign loan refunding					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investments-infra			3650	3650		3900	3900			1450	1450											
Investments-super+equipment			2700	2700		6050	6050			5850	5850											
TOTAL OUTCOMES			7684	8014	1673	2003	12283	12445	2658	3099	10841	11056	3751	3971	4192	4413	4633	4854	5075	5296	5516	5737
ANNUAL CASH FLOW			-3761	-3121	3883	4523	-4787	-3974	6790	7646	1203	1986	9640	10069	10497	10926	11354	11783	12211	12640	13068	13497
Cumulative cash-flow			-3761	-6881	-2998	1525	-3262	-7235	-446	7200	8403	10389	20029	30098	40595	51521	62875	74658	86869	99509	112577	126074
Annual cash flow discounted	10%	36544	-3761	-2837	3209	3398	-3269	-2467	3833	3924	561	842	3717	3529	3345	3165	2990	2821	2658	2501	2350	2207
Situation of reference																						
ANNUAL CASH FLOW REF			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454
Cumulative cash-flow ref			2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457
DIFFERENTIAL :																						
ANNUAL CASH FLOW DIF			-6350	-5703	1308	1956	-7347	-6528	4242	5105	-1332	-543	7119	7555	7991	8427	8863	9299	9735	10171	10606	11042
Annual cash flow discounted	10%	1.10	-6350	-5184	1081	1469	-5018	-4053	2395	2620	-621	-230	2745	2648	2546	2441	2334	2226	2119	2012	1908	1806
Total cash flow discounted	10%		12025																			
Rate of return :																						
IRR																						15.1%
FOREIGN LOAN CHARGES																						
IN 1000 \$																						
Loan																						
Reimbursement																						
Remaining			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	8.0%		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE HH 2 : high traffic hypothesis, increased tariff (+ USD 0.38 per tonne), no loan

DUBENDI OIL TERMINAL PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
TRAFFIC FORECAST : HIGH HYPOTHESIS + RISE OF TARIFFS																							
TOTAL TONNAGE	1000 t	4000	4750	5500	6250	7000	8000	9000	10000	11000	12000	12500	13000	13500	14000	14500	15000	15500	16000	16500	17000	17000	17000
NUMBER OF CALLS	unit	571	679	786	893	1000	1143	1286	1429	1571	1714	1786	1857	1929	2000	2071	2143	2214	2286	2357	2429	2429	2429
STAFF		220	230	240	251	261	272	284	295	307	319	320	321	321	322	323	324	325	326	327	328	328	328
PROJECTED PROFIT AND LOSS STATEMENT																							
in 1000 \$																							
OPERATING REVENUES	Unit	tariff																					
Port dues on vessels	\$/call	1000.00	571	679	786	893	1000	1143	1286	1429	1571	1714	1786	1857	1929	2000	2071	2143	2214	2286	2357	2429	2429
Handling of oil (ship->tank)	\$/Ton	0.60	2400	2850	3300	3750	4200	4800	5400	6000	6600	7200	7500	7800	8100	8400	8700	9000	9300	9600	9900	10200	10200
Storage of oil (tank->outside)	\$/Ton	0.90	3600	4275	4950	5625	6300	7200	8100	9000	9900	10800	11250	11700	12150	12600	13050	13500	13950	14400	14850	15300	15300
Additional revenue	\$/Ton	0.38	1520	1805	2090	2375	2660	3040	3420	3800	4180	4560	4750	4940	5130	5320	5510	5700	5890	6080	6270	6460	6460
TOTAL REVENUES			8091	9609	11126	12643	14160	16183	18206	20229	22251	24274	25286	26297	27309	28320	29331	30343	31354	32366	33377	34389	34389
OPERATING EXPENSES	Base	Rate																					
Salaries			422	455	488	520	553	591	630	668	707	745	764	783	802	821	841	860	879	898	917	936	936
Maintenance																							
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures	0.50%			37	37	37	56	76	76	76	83	90	90	90	90	90	90	90	90	90	90	90	90
New facilities superstructures	5.0%			270	270	270	573	875	875	875	1168	1460	1460	1460	1460	1460	1460	1460	1460	1460	1460	1460	1460
Energy consumption	0.060		240	285	330	375	420	480	540	600	660	720	750	780	810	840	870	900	930	960	990	1020	1020
Overheads	Op. Rev	15%	1214	1441	1669	1896	2124	2427	2731	3034	3338	3641	3793	3945	4096	4248	4400	4551	4703	4855	5007	5158	5158
Financial charges			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete																						
New Amortization	5%			635	635	635	1133	1630	1630	1630	1995	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360
TOTAL EXPENSES			2876	3181	4428	4733	5038	6260	7481	7883	8285	9352	10217	10418	10619	10819	11020	11221	11422	11622	11823	12024	12024
GROSS OPERATING PROFIT			5215	6427	6698	7910	9122	9923	10725	12345	13966	14922	15068	15879	16690	17501	18311	19122	19933	20743	21554	22365	22365
PROJECTED CASH-FLOW																							
in 1000 \$																							
INCOMES																							
Gross operating profit			5215	6427	6698	7910	9122	9923	10725	12345	13966	14922	15068	15879	16690	17501	18311	19122	19933	20743	21554	22365	22365
Amortization	5%		0	0	635	635	635	1133	1630	1630	1630	1995	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360
Grants																							
Loan																							
TOTAL INCOMES			5215	6427	7333	8545	9757	11056	12355	13975	15596	16917	17428	18239	19050	19861	20671	21482	22293	23103	23914	24725	24725
OUTCOMES																							
Taxes on profit	Gross prof.	34%	1773	2185	2277	2689	3101	3374	3646	4197	4749	5074	5123	5399	5675	5950	6226	6501	6777	7053	7328	7604	7604
Foreign loan refunding					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investments-infra			3650	3650		3900	3900			1450	1450												
Investments-super+equipment			2700	2700		6050	6050			5850	5850												
TOTAL OUTCOMES			8123	8535	2277	2689	13051	13324	3646	4197	12049	12374	5123	5399	5675	5950	6226	6501	6777	7053	7328	7604	7604
ANNUAL CASH FLOW			-2908	-2108	5056	5855	-3295	-2268	8708	9778	3548	4544	12305	12840	13375	13910	14445	14980	15516	16051	16586	17121	17121
Cumulative cash-flow			-2908	-5016	40	5895	2601	332	9041	18819	22366	26910	39215	52056	65431	79341	93787	108767	124283	140333	156919	174040	191160
Annual cash flow discounted	10%	55729	-2908	-1916	4178	4399	-2250	-1408	4916	5018	1655	1927	4744	4500	4262	4029	3804	3586	3377	3176	2983	2799	2545
Situation of reference																							
ANNUAL CASH FLOW REF			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454	2454
Cumulative cash-flow ref			2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457	52911
DIFFERENTIAL :																							
ANNUAL CASH FLOW DIF			-5497	-4690	2481	3288	-5855	-4822	6161	7237	1013	2015	9784	10327	10869	11412	11954	12496	13039	13581	14124	14666	14666
Annual cash flow discounted	10%		-5497	-4264	2050	2470	-3999	-2994	3478	3714	473	855	3772	3619	3463	3306	3148	2992	2838	2687	2540	2398	2180
Total cash flow discounted	10%	31209																					
Rate of return :																							
IRR																							24.1%
FOREIGN LOAN CHARGES	IN 1000 \$																						
Loan																							
Reimbursement																							
Remaining			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	8.0%		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE HH 3 : high traffic hypothesis, no tariff increase, USD 9.4 million loan

DUBENDI OIL TERMINAL PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRAFFIC FORECAST : HIGH HYPOTHESIS + LOAN																						
TOTAL TONNAGE	1000 t	4000	4750	5500	6250	7000	8000	9000	10000	11000	12000	12500	13000	13500	14000	14500	15000	15500	16000	16500	17000	17000
NUMBER OF CALLS	unit	571	679	786	893	1000	1143	1286	1429	1571	1714	1786	1857	1929	2000	2071	2143	2214	2286	2357	2429	2429
STAFF		220	230	240	251	261	272	284	295	307	319	320	321	321	322	323	324	325	326	327	328	328
PROJECTED PROFIT AND LOSS STATEMENT																						
in 1000 \$																						
OPERATING REVENUES	Unit	tariff																				
Port dues on vessels	\$/call	1000.00	571	679	786	893	1000	1143	1286	1429	1571	1714	1786	1857	1929	2000	2071	2143	2214	2286	2357	2429
Handling of oil (ship->tank)	\$/Ton	0.60	2400	2850	3300	3750	4200	4800	5400	6000	6600	7200	7500	7800	8100	8400	8700	9000	9300	9600	9900	10200
Storage of oil (tank->outside)	\$/Ton	0.90	3600	4275	4950	5625	6300	7200	8100	9000	9900	10800	11250	11700	12150	12600	13050	13500	13950	14400	14850	15300
Additional revenue	\$/Ton		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES			6571	7804	9036	10268	11500	13143	14786	16429	18071	19714	20536	21357	22179	23000	23821	24643	25464	26286	27107	27929
OPERATING EXPENSES	Base	Rate																				
Salaries			422	455	488	520	553	591	630	668	707	745	764	783	802	821	841	860	879	898	917	936
Maintenance:																						
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures		0.50%																				
New facilities superstructures		5.0%																				
Energy consumption		0.060	240	285	330	375	420	480	540	600	660	720	750	780	810	840	870	900	930	960	990	1020
Overheads	Op. Rev	15%	986	1171	1355	1540	1725	1911	2218	2464	2711	2957	3080	3204	3327	3450	3573	3696	3820	3943	4066	4189
Financial charges			0	320	572	572	572	572	720	863	606	548	491	416	341	266	190	115	72	54	36	18
Former Amortization	obsolete																					
New Amortization		5%			635	635	635	1133	1630	1630	1630	1995	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360
TOTAL EXPENSES			2648	3231	4686	4949	5211	6376	7688	7976	8264	9216	9996	10093	10190	10287	10384	10481	10610	10764	10919	11055
GROSS OPERATING PROFIT			3923	4573	4349	5319	6289	6767	7098	8453	9808	10498	10540	11264	11989	12713	13437	14162	14854	15521	16189	16856
PROJECTED CASH-FLOW																						
in 1000 \$																						
INCOMES																						
Gross operating profit			3923	4573	4349	5319	6289	6767	7098	8453	9808	10498	10540	11264	11989	12713	13437	14162	14854	15521	16189	16856
Amortization		5%	0	0	635	635	635	1133	1630	1630	1630	1995	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360
Grants																						
Loan			4000	3150	0	0	0	2250	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INCOMES			7923	7723	4984	5954	6924	8728	10083	11438	12493	12900	13624	14349	15073	15797	16522	17214	17881	18549	19216	19234
OUTCOMES																						
Taxes on profit	Gross prof.	34%	1334	1555	1479	1808	2138	2301	2874	3335	3569	3583	3830	4076	4322	4569	4815	5050	5277	5504	5731	5737
Foreign loan refunding					0	0	0	400	715	715	715	715	940	940	940	940	540	225	225	225	225	0
Investments-infra			3650	3650		3900	3900			1450	1450											
Investments-super+equipment			2700	2700		6050	6050			5850	5850											
TOTAL OUTCOMES			7684	7905	1479	1808	12088	12651	3128	3589	11350	11584	4523	4770	5016	5262	5509	5355	5275	5502	5729	5737
ANNUAL CASH FLOW			239	-182	3506	4146	-5164	-2501	5599	6494	88	909	8376	8854	9332	9811	10289	11167	11939	12379	12819	13260
Cumulative cash-flow			239	58	3563	7709	2544	43	5643	12136	12224	13133	21509	30364	39696	49507	59795	70962	82901	95280	108099	121359
Annual cash flow discounted	10%	38807	239	-165	2897	3115	-3527	-1553	3161	3332	41	385	3229	3103	2974	2842	2709	2673	2598	2449	2306	2168
Situation of reference																						
ANNUAL CASH FLOW REF			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454
Cumulative cash-flow ref			2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457
DIFFERENTIAL :																						
ANNUAL CASH FLOW DIF			-2350	-2764	931	1578	-7725	-5055	3052	3953	-2447	-1620	5855	6341	6826	7312	7797	8683	9462	9910	10358	10805
Annual cash flow discounted	10%		-2350	-2513	769	1186	-5276	-3139	1723	2028	-1141	-687	2257	2222	2175	2118	2053	2079	2059	1961	1863	1767
Total cash flow discounted	10%	14288																				
Rate of return :																						IRR 18.6%
FOREIGN LOAN CHARGES																						
IN 1000 \$																						
Loan			4000	3150			2250															
Reimbursement			9400				400	715	715	715	715	940	940	940	940	940	540	225	225	225	225	0
Remaining			4000	7150	7150	7150	7150	9000	8285	7570	6855	6140	5200	4260	3320	2380	1440	900	675	450	225	0
Interest		8.0%		320	572	572	572	572	720	663	606	548	491	416	341	266	190	115	72	54	36	18

TABLE HH 4 : high traffic hypothesis, 20% increase in investment costs

DUBENDI OIL TERMINAL PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRAFFIC FORECAST : HIGH HYPOTHESIS + 20% ON INVESTMENT COSTS																						
TOTAL TONNAGE	1000 t	4000	4750	5500	6250	7000	8000	9000	10000	11000	12000	12500	13000	13500	14000	14500	15000	15500	16000	16500	17000	17000
NUMBER OF CALLS	unit	571	679	786	893	1000	1143	1286	1429	1571	1714	1786	1857	1929	2000	2071	2143	2214	2286	2357	2429	2429
STAFF		220	230	240	251	261	272	284	295	307	319	320	321	321	322	323	324	325	326	327	328	328
PROJECTED PROFIT AND LOSS STATEMENT																						
in 1000 \$																						
OPERATING REVENUES	Unit	tariff																				
Port dues on vessels	\$/call	1000.00	571	679	786	893	1000	1143	1286	1429	1571	1714	1786	1857	1929	2000	2071	2143	2214	2286	2357	2429
Handling of oil (ship->tank)	\$/Ton	0.60	2400	2850	3300	3750	4200	4800	5400	6000	6600	7200	7500	7800	8100	8400	8700	9000	9300	9600	9900	10200
Storage of oil (tank->outside)	\$/Ton	0.90	3600	4275	4950	5625	6300	7200	8100	9000	9900	10800	11250	11700	12150	12600	13050	13500	13950	14400	14850	15300
Additional revenue	\$/Ton	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES			6571	7804	9036	10268	11500	13143	14786	16429	18071	19714	20536	21357	22179	23000	23821	24643	25464	26286	27107	27929
OPERATING EXPENSES	Base	Rate																				
Salaries			422	455	488	520	553	591	630	668	707	745	764	783	802	821	841	860	879	898	917	936
Maintenance:																						
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures		0.50%																				
New facilities superstructures		5.0%																				
Energy consumption		0.060	240	285	330	375	420	480	540	600	660	720	750	780	810	840	870	900	930	960	990	1020
Overheads	Op. Rev	15%	986	1171	1355	1540	1725	1971	2218	2464	2711	2957	3080	3204	3327	3450	3573	3696	3820	3943	4066	4189
Financial charges			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete																					
New Amortization		5%			762	762	762	1340	1917	1917	1917	2355	2793	2793	2793	2793	2793	2793	2793	2793	2793	2793
TOTAL EXPENSES			2648	2911	4303	4565	4827	6134	7441	7786	8131	9274	10244	10416	10588	10761	10933	11105	11277	11449	11622	11794
GROSS OPERATING PROFIT			3923	4893	4733	5703	6673	7008	7344	8642	9940	10440	10292	10941	11590	12239	12889	13538	14187	14836	15485	16135
PROJECTED CASH-FLOW																						
in 1000 \$																						
INCOMES																						
Gross operating profit			3923	4893	4733	5703	6673	7008	7344	8642	9940	10440	10292	10941	11590	12239	12889	13538	14187	14836	15485	16135
Amortization		5%	0	0	762	762	762	1340	1917	1917	1917	2355	2793	2793	2793	2793	2793	2793	2793	2793	2793	2793
Grants																						
Loan																						
TOTAL INCOMES			3923	4893	5495	6465	7435	8348	9261	10559	11857	12795	13085	13734	14383	15032	15682	16331	16980	17629	18278	18928
OUTCOMES																						
Taxes on profit	Gross prof	34%	1334	1664	1609	1939	2269	2383	2497	2938	3380	3550	3499	3720	3941	4161	4382	4603	4824	5044	5265	5486
Foreign loan refunding					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investments-infra			4380	4380		4290	4290			1740	1740											
Investments-super+equipment			3240	3240		7260	7260			7020	7020											
TOTAL OUTCOMES			8954	9284	1609	1939	13819	13933	2497	2938	12140	12310	3499	3720	3941	4161	4382	4603	4824	5044	5265	5486
ANNUAL CASH FLOW			-5031	-4391	3886	4526	-6384	-5585	6764	7621	-283	486	9586	10014	10443	10871	11299	11728	12156	12585	13013	13442
Cumulative cash-flow			-5031	-9421	-5535	-1010	-7394	-12979	-6214	1407	1124	1610	11195	21209	31652	42523	53822	65550	77707	90292	103305	116747
Annual cash flow discounted	10%	30518	-5031	-3991	3211	3400	-4360	-3468	3818	3911	-132	206	3696	3510	3327	3149	2976	2808	2646	2490	2341	2198
Situation of reference																						
ANNUAL CASH FLOW REF			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454
Cumulative cash-flow ref			2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457
DIFFERENTIAL :																						
ANNUAL CASH FLOW DIF			-7620	-6973	1311	1958	-8944	-8139	4217	5080	-2817	-2043	7065	7500	7936	8372	8808	9244	9680	10116	10552	10988
Annual cash flow discounted	10%	1.10	-7620	-6339	1083	1471	-6109	-5054	2380	2607	-1314	-866	2724	2629	2529	2425	2319	2213	2107	2001	1896	1797
Total cash flow discounted	10%	5998																				
Rate of return :																						IRR 12.3%
FOREIGN LOAN CHARGES																						
IN 1000 \$																						
Loan																						
Reimbursement																						
Remaining			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	8.0%		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE HH 5

DUBENDI OIL TERMINAL PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
TRAFFIC FORECAST : HIGH HYPOTHESIS LESS 10%																							
TOTAL TONNAGE	1000 t	4000	4575	5150	5725	6300	7200	8100	9000	9900	10800	11250	11700	12150	12600	13050	13500	13950	14400	14850	15300	15300	
NUMBER OF CALLS	unit	571	654	736	818	900	1029	1157	1286	1414	1543	1607	1671	1736	1800	1864	1929	1993	2057	2121	2186	2186	
STAFF		220	227	234	241	249	259	269	280	290	301	302	302	303	304	305	306	307	308	309	309	309	
PROJECTED PROFIT AND LOSS STATEMENT																							
in 1000 \$																							
OPERATING REVENUES	Unit	tariff																					
Port dues on vessels	\$/call	1000.00	571	654	736	818	900	1029	1157	1286	1414	1543	1607	1671	1736	1800	1864	1929	1993	2057	2121	2186	2186
Handling of oil (ship->tank)	\$/Ton	0.60	2400	2745	3090	3435	3780	4320	4860	5400	5940	6480	6750	7020	7290	7560	7830	8100	8370	8640	8910	9180	9180
Storage of oil (tank->outside)	\$/Ton	0.90	3600	4118	4635	5153	5670	6480	7290	8100	8910	9720	10125	10530	10935	11340	11745	12150	12555	12960	13365	13770	13770
Additional revenue	\$/Ton	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES			6571	7516	8461	9405	10350	11829	13307	14786	16264	17743	18482	19221	19961	20700	21439	22179	22918	23657	24396	25136	25136
OPERATING EXPENSES	Base	Rate																					
Salaries			422	449	475	501	527	562	598	633	668	704	721	739	757	775	793	811	828	846	864	882	882
Maintenance																							
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures	0.50%		37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
New facilities superstructures	5.0%		270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270
Energy consumption	0.060		240	275	309	344	378	432	486	540	594	648	675	702	729	756	783	810	837	864	891	918	918
Overheads	Op Rev	15%	986	1127	1269	1411	1553	1774	1996	2218	2440	2661	2772	2883	2994	3105	3216	3327	3438	3549	3659	3770	3770
Financial charges			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete																						
New Amortization	5%				635	635	635	1133	1630	1630	1630	1995	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360
TOTAL EXPENSES			2648	2850	3994	4197	4399	5530	6660	6971	7282	8258	9079	9235	9390	9546	9702	9857	10013	10169	10325	10480	10480
GROSS OPERATING PROFIT			3923	4666	4466	5209	5951	6299	6647	7814	8982	9485	9403	9987	10570	11154	11738	12321	12905	13488	14072	14655	14655
PROJECTED CASH-FLOW																							
in 1000 \$																							
INCOMES																							
Gross operating profit			3923	4666	4466	5209	5951	6299	6647	7814	8982	9485	9403	9987	10570	11154	11738	12321	12905	13488	14072	14655	14655
Amortization	5%		0	0	635	635	635	1133	1630	1630	1630	1995	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360	2360
Grants																							
Loan																							
TOTAL INCOMES			3923	4666	5101	5844	6586	7431	8277	9444	10612	11480	11763	12347	12930	13514	14098	14681	15265	15848	16432	17015	17015
OUTCOMES																							
Taxes on profit	Gross prof.	34%	1334	1586	1519	1771	2023	2142	2260	2657	3054	3225	3197	3396	3594	3792	3991	4189	4388	4586	4784	4983	4983
Foreign loan refunding					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investments-infra			3650	3650			3900	3900			1450	1450											
Investments-super+equipment			2700	2700			6050	6050			5850	5850											
TOTAL OUTCOMES			7684	7936	1519	1771	11973	12092	2260	2657	10354	10525	3197	3396	3594	3792	3991	4189	4388	4586	4784	4983	4983
ANNUAL CASH FLOW			-3761	-3271	3583	4073	-5387	-4660	6017	6787	258	955	8566	8951	9337	9722	10107	10492	10877	11262	11647	12033	12033
Cumulative cash-flow			-3761	-7031	-3449	624	-4783	-9423	-3407	3381	3639	4594	13160	22111	31448	41189	51276	61768	72645	83908	95555	107588	119620
Annual cash flow discounted	10%	29595	-3761	-2973	2961	3060	-3680	-2894	3396	3483	120	405	3303	3137	2975	2816	2661	2512	2367	2228	2095	1967	1626
Situation of reference																							
ANNUAL CASH FLOW REF			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454	2454
Cumulative cash-flow ref			2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457	52911
DIFFERENTIAL :																							
ANNUAL CASH FLOW DIF			-6350	-5853	1008	1505	-7948	-7214	3469	4246	-2277	-1574	6045	6438	6830	7223	7615	8008	8401	8793	9186	9578	9578
Annual cash flow discounted	10%	1.10	-6350	-5321	833	1131	-5428	-4479	1958	2179	-1062	-667	2331	2256	2176	2092	2005	1917	1828	1740	1652	1566	1424
Total cash flow discounted	10%		5075																				
Rate of return :																							
IRR																							
FOREIGN LOAN CHARGES																							
IN 1000 \$																							
Loan																							
Reimbursement																							
Remaining			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	8.0%		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE HH 6

DUBENDI OIL TERMINAL

PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRAFFIC FORECAST : HIGH HYPOTHESIS LESS 10% + 20% ON INVESTMENT COSTS																						
TOTAL TONNAGE	1000 t	4000	4575	5150	5725	6300	7200	8100	9000	9900	10800	11250	11700	12150	12600	13050	13500	13950	14400	14850	15300	15300
NUMBER OF CALLS	unit	571	654	736	818	900	1029	1157	1286	1414	1543	1607	1671	1736	1800	1864	1929	1993	2057	2121	2186	2186
STAFF		220	227	234	241	249	259	269	280	290	301	302	302	303	304	305	306	307	308	309	309	309
PROJECTED PROFIT AND LOSS STATEMENT																						
in 1000 \$																						
OPERATING REVENUES	Unit	tariff																				
Port dues on vessels	\$/call	1000.00	571	654	736	818	900	1029	1157	1286	1414	1543	1607	1671	1736	1800	1864	1929	1993	2057	2121	2186
Handling of oil (ship->tank)	\$/Ton	0.60	2400	2745	3090	3435	3780	4320	4860	5400	5940	6480	6750	7020	7290	7560	7830	8100	8370	8640	8910	9180
Storage of oil (tank->outside)	\$/Ton	0.90	3600	4118	4635	5153	5670	6480	7290	8100	8910	9720	10125	10530	10935	11340	11745	12150	12555	12960	13365	13770
Additional revenue	\$/Ton	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES			6571	7516	8461	9405	10350	11829	13307	14786	16264	17743	18482	19221	19961	20700	21439	22179	22918	23657	24396	25136
OPERATING EXPENSES	Base	Rate																				
Salaries			422	449	475	501	527	562	598	633	668	704	721	739	757	775	793	811	828	846	864	882
Maintenance:																						
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures	0.50%		44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
New facilities superstructures	5.0%		324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324
Energy consumption	0.060		240	275	309	344	378	432	486	540	594	648	675	702	729	756	783	810	837	864	891	918
Overheads	Op. Rev	15%	986	1127	1269	1411	1553	1774	1996	2218	2440	2661	2772	2883	2994	3105	3216	3327	3438	3549	3659	3770
Financial charges			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete																					
New Amortization	5%				762	762	762	1340	1917	1917	1917	2355	2793	2793	2793	2793	2793	2793	2793	2793	2793	2793
TOTAL EXPENSES			2648	2850	4183	4385	4587	5860	7133	7445	7756	8865	9818	9974	10129	10285	10441	10596	10752	10908	11064	11219
GROSS OPERATING PROFIT			3923	4666	4278	5020	5763	5968	6174	7341	8509	8878	8664	9248	9831	10415	10999	11582	12166	12749	13333	13916
PROJECTED CASH-FLOW																						
in 1000 \$																						
INCOMES																						
Gross operating profit			3923	4666	4278	5020	5763	5968	6174	7341	8509	8878	8664	9248	9831	10415	10999	11582	12166	12749	13333	13916
Amortization	5%		0	0	762	762	762	1340	1917	1917	1917	2355	2793	2793	2793	2793	2793	2793	2793	2793	2793	2793
Grants																						
Loan																						
TOTAL INCOMES			3923	4666	5040	5782	6525	7308	8091	9258	10426	11233	11457	12041	12624	13208	13792	14375	14959	15542	16126	16709
OUTCOMES																						
Taxes on profit	Gross prof.	34%	1334	1586	1455	1707	1959	2029	2099	2496	2893	3019	2946	3144	3343	3541	3739	3938	4136	4335	4533	4732
Foreign loan refunding					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investments-infra			4380	4380		4290	4290			1740	1740											
Investments-super+equipment			3240	3240		7260	7260			7020	7020											
TOTAL OUTCOMES			8954	9206	1455	1707	13509	13579	2099	2496	11653	11779	2946	3144	3343	3541	3739	3938	4136	4335	4533	4732
ANNUAL CASH FLOW			-5031	-4541	3586	4075	-6985	-6272	5992	6762	-1227	-545	8511	8897	9282	9667	10052	10437	10822	11207	11593	11978
Cumulative cash-flow			-5031	-9571	-5986	-1910	-8895	-15167	-9175	-2413	-3640	-4185	4326	13223	22504	32171	42223	52660	63483	74690	86283	98261
Annual cash flow discounted	10%	23568	-5031	-4128	2963	3062	-4771	-3894	3382	3470	-573	-231	3282	3118	2957	2800	2647	2499	2355	2217	2085	1958
Situation of reference																						
ANNUAL CASH FLOW REF			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454
Cumulative cash-flow ref			2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457
DIFFERENTIAL :																						
ANNUAL CASH FLOW DIF			-7620	-7123	1011	1508	-9545	-8825	3444	4221	-3762	-3074	5990	6383	6776	7168	7561	7953	8346	8738	9131	9523
Annual cash flow discounted	10%	1.10	-7620	-6475	835	1133	-6519	-5480	1944	2166	-1755	-1304	2310	2237	2159	2076	1991	1904	1816	1729	1642	1557
Total cash flow discounted	10%		-951																			
Rate of return : IRR 9.6%																						
FOREIGN LOAN CHARGES IN 1000 \$																						
Loan																						
Reimbursement																						
Remaining			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	8.0%		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE HH 6.1

DUBENDI OIL TERMINAL

PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRAFFIC FORECAST : HIGH HYPOTHESIS LESS 10% + 20% ON INVESTMENT COSTS + LOAN																						
TOTAL TONNAGE	1000 t	4000	4575	5150	5725	6300	7200	8100	9000	10800	11250	11700	12150	12600	13050	13500	13950	14400	14850	15300	15300	15300
NUMBER OF CALLS	unit	571	654	736	818	900	1029	1157	1286	1414	1543	1607	1671	1736	1800	1864	1929	1993	2057	2121	2186	2186
STAFF		220	227	234	241	249	259	269	280	290	301	302	303	304	305	306	307	308	309	309	309	309
PROJECTED PROFIT AND LOSS STATEMENT																						
in 1000 \$																						
OPERATING REVENUES	Unit tariff																					
Port dues on vessels	\$/call 1000.00	571	654	736	818	900	1029	1157	1286	1414	1543	1607	1671	1736	1800	1864	1929	1993	2057	2121	2186	2186
Handling of oil (ship->tank)	\$/Ton 0.60	2400	2745	3090	3435	3780	4320	4860	5400	5940	6480	6750	7020	7290	7560	7830	8100	8370	8640	8910	9180	9180
Storage of oil (tank->outside)	\$/Ton 0.90	3600	4118	4635	5153	5670	6480	7290	8100	8910	9720	10125	10530	10935	11340	11745	12150	12555	12960	13365	13770	13770
Additional revenue	\$/Ton 0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES		6571	7516	8461	9405	10350	11829	13307	14786	16264	17743	18482	19221	19961	20700	21439	22179	22918	23657	24396	25136	25136
OPERATING EXPENSES	Base Rate																					
Salaries		422	449	475	501	527	562	598	633	668	704	721	739	757	775	793	811	828	846	864	882	882
Maintenance:																						
Old facilities	lump sum	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures	0.50%			44	44	44	65	87	87	87	95	104	104	104	104	104	104	104	104	104	104	104
New facilities superstructures	5.0%			324	324	324	687	1050	1050	1050	1401	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Energy consumption	0.060	240	275	309	344	378	432	486	540	594	648	675	702	729	756	783	810	837	864	891	918	918
Overheads	Op Rev 15%	986	1127	1269	1411	1553	1774	1996	2218	2440	2661	2772	2883	2994	3105	3216	3327	3438	3549	3659	3770	3770
Financial charges		0	404	788	788	788	860	1404	1325	1246	1167	1081	937	792	648	504	359	255	190	124	58	0
Former Amortization	obsolete																					
New Amortization	5%			762	762	762	1340	1917	1917	1917	2355	2793	2793	2793	2793	2793	2793	2793	2793	2793	2793	2793
TOTAL EXPENSES		2648	3254	4971	5173	5375	6720	8537	8769	9002	10032	10899	10910	10922	10933	10944	10956	11007	11098	11188	11278	11219
GROSS OPERATING PROFIT		3923	4262	3490	4232	4975	5108	4770	6016	7263	7711	7583	8311	9039	9767	10495	11223	11910	12560	13209	13858	13916
PROJECTED CASH-FLOW																						
in 1000 \$																						
INCOMES																						
Gross operating profit		3923	4262	3490	4232	4975	5108	4770	6016	7263	7711	7583	8311	9039	9767	10495	11223	11910	12560	13209	13858	13916
Amortization	5%	0	0	762	762	762	1340	1917	1917	1917	2355	2793	2793	2793	2793	2793	2793	2793	2793	2793	2793	2793
Grants																						
Loan		5050	4800	0	0	900	7300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INCOMES		8973	9062	4252	4994	6637	13748	6687	7933	9180	10066	10376	11104	11832	12560	13288	14016	14703	15353	16002	16651	16709
OUTCOMES																						
Taxes on profit	Gross prof 34%	1334	1449	1187	1439	1691	1737	1622	2046	2469	2622	2578	2826	3073	3321	3568	3816	4050	4270	4491	4712	4732
Foreign loan refunding				0	0	0	505	985	985	985	1075	1805	1805	1805	1805	1805	1300	820	820	820	730	0
Investments-infra		4380	4380			4290	4290			1740	1740											
Investments-super+equipment		3240	3240			7260	7260			7020	7020											
TOTAL OUTCOMES		8954	9069	1187	1439	13241	13792	2607	3031	12214	12457	4383	4631	4878	5126	5373	5116	4870	5090	5311	5442	4732
ANNUAL CASH FLOW		19	-7	3065	3555	-6605	-44	4080	4903	-3035	-2391	5993	6473	6954	7434	7915	8900	9834	10262	10691	11209	11978
Cumulative cash-flow		19	12	3077	6633	28	-16	4064	8967	5932	3542	9534	16008	22961	30396	38310	47210	57044	67307	77997	89207	101184
Annual cash flow discounted	10%	27557	19	-7	2533	2671	-4511	-27	2303	2516	-1416	-1014	2310	2269	2216	2153	2084	2131	2140	2030	1923	1833
Situation of reference																						
ANNUAL CASH FLOW REF		2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454	2454
Cumulative cash-flow ref		2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457	52911
DIFFERENTIAL :																						
ANNUAL CASH FLOW DIF		-2570	-2589	491	988	-9165	-2598	1533	2362	-5569	-4919	3472	3960	4448	4935	5423	6416	7357	7793	8229	8755	9523
Annual cash flow discounted	10%	1.10	-2570	-2354	405	742	-6280	-1613	865	1212	-2598	-2086	1339	1388	1417	1430	1428	1536	1601	1542	1480	1431
Total cash flow discounted	10%	3037																				
Rate of return :																						
FOREIGN LOAN CHARGES	IN 1000 \$																					
Loan	18,050	5050	4800		900	7300																
Reimbursement	18,050				505	985	985	985	985	1075	1805	1805	1805	1805	1805	1300	820	820	820	730	0	0
Remaining		5050	9850	9850	9850	10750	17545	16560	15575	14590	13515	11710	9905	8100	6295	4490	3190	2370	1550	730	0	0
Interest	8.0%		404	788	788	788	860	1404	1325	1246	1167	1081	937	792	648	504	359	255	190	124	58	0

TABLE LH 1 : low traffic hypothesis, no increase in tariff, no loan

DUBENDI OIL TERMINAL PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRAFFIC FORECAST : LOW HYPOTHESIS																						
TOTAL TONNAGE	1000 t	4000	4000	4000	4000	4000	4400	4800	5200	5600	6000	6200	6400	6600	6800	7000	7200	7400	7600	7800	8000	8000
NUMBER OF CALLS	unit	571	571	571	571	571	629	686	743	800	857	886	914	943	971	1000	1029	1057	1086	1114	1143	1143
STAFF		220	217	214	212	209	213	217	221	225	229	229	229	229	229	229	229	229	229	229	229	229
PROJECTED PROFIT AND LOSS STATEMENT																						
in 1000 \$																						
OPERATING REVENUES	Unit	tariff																				
Port dues on vessels	\$/call	1000.00	571	571	571	571	629	686	743	800	857	886	914	943	971	1000	1029	1057	1086	1114	1143	1143
Handling of oil (ship->tank)	\$/Ton	0.60	2400	2400	2400	2400	2640	2880	3120	3360	3600	3720	3840	3960	4080	4200	4320	4440	4560	4680	4800	4800
Storage of oil (tank->outside)	\$/Ton	0.90	3600	3600	3600	3600	3960	4320	4680	5040	5400	5580	5760	5940	6120	6300	6480	6660	6840	7020	7200	7200
Additional revenue	\$/Ton		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES			6571	6571	6571	6571	7229	7886	8543	9200	9857	10186	10514	10843	11171	11500	11829	12157	12486	12814	13143	13143
OPERATING EXPENSES	Base	Rate																				
Salaries			422	428	433	438	443	462	480	499	518	537	548	560	571	583	594	606	617	628	640	651
Maintenance:																						
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures	0.50%		0	0	0	18	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
New facilities superstructures	5.0%		0	0	0	135	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270
Energy consumption	0.060		240	240	240	240	264	288	312	336	360	372	384	396	408	420	432	444	456	468	480	480
Overheads	Op. Rev	15%	986	986	986	986	1084	1183	1281	1380	1479	1528	1577	1626	1676	1725	1774	1824	1873	1922	1971	1971
Financial charges			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Amortization	5%		0	0	318	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635
TOTAL EXPENSES			2648	2653	2658	2664	3139	3751	3893	4034	4175	4317	4389	4462	4535	4608	4681	4753	4826	4899	4972	5044
GROSS OPERATING PROFIT			3923	3918	3913	3908	3432	3477	3993	4509	5025	5541	5796	6052	6308	6564	6819	7075	7331	7587	7843	8098
PROJECTED CASH-FLOW																						
in 1000 \$																						
INCOMES																						
Gross operating profit			3923	3918	3913	3908	3432	3477	3993	4509	5025	5541	5796	6052	6308	6564	6819	7075	7331	7587	7843	8098
Amortization	5%		0	0	0	318	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635	
Grants			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Loan			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL INCOMES			3923	3918	3913	3908	3749	4112	4628	5144	5660	6176	6431	6687	6943	7199	7454	7710	7966	8222	8478	8733
OUTCOMES																						
Taxes on profit	Gross prof.	34%	1334	1332	1330	1329	1167	1182	1358	1533	1708	1884	1971	2058	2145	2232	2319	2406	2493	2580	2667	2753
Foreign loan refunding			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Investments-infra						3650	3650															
Investments-super+equipment						2700	2700															
TOTAL OUTCOMES			1334	1332	1330	7679	7517	1182	1358	1533	1708	1884	1971	2058	2145	2232	2319	2406	2493	2580	2667	2753
ANNUAL CASH FLOW			2589	2586	2583	-3771	-3767	2930	3270	3611	3951	4292	4461	4629	4798	4967	5136	5305	5474	5642	5811	5980
Cumulative cash-flow			2589	5175	7758	3987	220	3150	6420	10031	13982	18274	22734	27364	32162	37129	42265	47570	53043	58685	64497	70477
Annual cash flow discounted	10%	25810	2589	2351	2134	-2833	-2573	1819	1846	1853	1843	1820	1720	1623	1529	1439	1352	1270	1191	1116	1045	978
Situation of reference																						
ANNUAL CASH FLOW REF			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454
Cumulative cash-flow ref			2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457
DIFFERENTIAL :																						
ANNUAL CASH FLOW DIF			0	4	8	-6338	-6328	376	723	1070	1416	1763	1940	2116	2292	2468	2644	2821	2997	3173	3349	3526
Annual cash flow discounted	10%		0	4	6	-4762	-4322	233	408	549	661	748	748	742	730	715	696	675	652	628	602	576
Total cash flow discounted	10%	1290																				
Rate of return : IRR 11.5%																						
FOREIGN LOAN CHARGES																						
IN 1000 \$																						
Loan																						
Reimbursement								0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Remaining			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Interest	8.0%		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

TABLE LH 2

DUBENDI OIL TERMINAL

PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRAFFIC FORECAST : LOW HYPOTHESIS																						
TOTAL TONNAGE	1000 t	4000	4000	4000	4000	4400	4800	5200	5600	6000	6200	6400	6600	6800	7000	7200	7400	7600	7800	8000	8000	8000
NUMBER OF CALLS	unit	571	571	571	571	629	686	743	800	857	886	914	943	971	1000	1029	1057	1086	1114	1143	1143	1143
STAFF		220	217	214	212	209	213	217	221	225	229	229	229	229	229	229	229	229	229	229	229	229
PROJECTED PROFIT AND LOSS STATEMENT																						
in 1000 \$																						
OPERATING REVENUES	Unit	tariff																				
Port dues on vessels	\$/call	1000.00	571	571	571	571	571	629	686	743	800	857	886	914	943	971	1000	1029	1057	1086	1114	1143
Handling of oil (ship->tank)	\$/Ton	0.60	2400	2400	2400	2400	2400	2640	2880	3120	3360	3600	3720	3840	3960	4080	4200	4320	4440	4560	4680	4800
Storage of oil (tank->outside)	\$/Ton	0.90	3600	3600	3600	3600	3600	3960	4320	4680	5040	5400	5580	5760	5940	6120	6300	6480	6660	6840	7020	7200
Additional revenue	\$/Ton		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES			6571	6571	6571	6571	6571	7229	7886	8543	9200	9857	10186	10514	10843	11171	11500	11829	12157	12486	12814	13143
OPERATING EXPENSES	Base	Rate																				
Salaries			422	428	433	438	443	462	480	499	518	537	548	560	571	583	594	606	617	628	640	651
Maintenance																						
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures		0.50%			0	0	18	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
New facilities superstructures		5.0%			0	0	135	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270
Energy consumption		0.060	240	240	240	240	240	264	288	312	336	360	372	384	396	408	420	432	444	456	468	480
Overheads	Op. Rev	15%	986	986	986	986	986	1084	1183	1281	1380	1479	1528	1577	1626	1676	1725	1774	1824	1873	1922	1971
Financial charges			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete																					
New Amortization		5%			0	0	318	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635
TOTAL EXPENSES			2648	2653	2658	2664	3139	3751	3893	4034	4175	4317	4389	4462	4535	4608	4681	4753	4826	4899	4972	5044
GROSS OPERATING PROFIT			3923	3918	3913	3908	3432	3477	3993	4509	5025	5541	5796	6052	6308	6564	6819	7075	7331	7587	7843	8098
PROJECTED CASH-FLOW																						
in 1000 \$																						
INCOMES																						
Gross operating profit			3923	3918	3913	3908	3432	3477	3993	4509	5025	5541	5796	6052	6308	6564	6819	7075	7331	7587	7843	8098
Amortization		5%	0	0	0	0	318	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635
Grants																						
Loan			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INCOMES			3923	3918	3913	3908	3749	4112	4628	5144	5660	6176	6431	6687	6943	7199	7454	7710	7966	8222	8478	8733
OUTCOMES																						
Taxes on profit	Gross prof	34%	1334	1332	1330	1329	1167	1182	1358	1533	1708	1884	1971	2058	2145	2232	2319	2406	2493	2580	2667	2753
Foreign loan refunding					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investments-infra					3650	3650																
Investments-super+equipment					2700	2700																
TOTAL OUTCOMES			1334	1332	1330	7679	7517	1182	1358	1533	1708	1884	1971	2058	2145	2232	2319	2406	2493	2580	2667	2753
ANNUAL CASH FLOW			2589	2586	2583	-3771	-3767	2930	3270	3611	3951	4292	4461	4629	4798	4967	5136	5305	5474	5642	5811	5980
Cumulative cash-flow			2589	5175	7758	3987	220	3150	6420	10031	13982	18274	22734	27384	32162	37129	42265	47570	53043	58685	64497	70477
Annual cash flow discounted	10%	25610	2589	2351	2134	-2833	-2573	1819	1846	1853	1843	1820	1720	1623	1529	1439	1352	1270	1191	1116	1045	978
Situation of reference																						
ANNUAL CASH FLOW REF			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454
Cumulative cash-flow ref			2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457
DIFFERENTIAL :																						
ANNUAL CASH FLOW DIF			0	4	8	-6338	-6328	376	723	1070	1416	1763	1940	2116	2292	2468	2644	2821	2997	3173	3349	3526
Annual cash flow discounted	10%		0	4	8	-4762	-4322	233	408	549	661	748	748	742	730	715	696	675	652	628	602	576
Total cash flow discounted	10%	1290																				
Rate of return :																						
FOREIGN LOAN CHARGES	IN 1000 \$																					
Loan																						
Reimbursement																						
Remaining			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	8.0%		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE LH 3

DUBENDI OIL TERMINAL

PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRAFFIC FORECAST : LOW HYPOTHESIS																						
TOTAL TONNAGE	1000 t	4000	4000	4000	4000	4400	4800	5200	5600	6000	6200	6400	6600	6800	7000	7200	7400	7600	7800	8000	8000	8000
NUMBER OF CALLS	unit	571	571	571	571	629	686	743	800	857	886	914	943	971	1000	1029	1057	1086	1114	1143	1143	1143
STAFF		220	217	214	212	209	213	217	221	225	229	229	229	229	229	229	229	229	229	229	229	229
PROJECTED PROFIT AND LOSS STATEMENT																						
in 1000 \$																						
OPERATING REVENUES	Unit	tariff																				
Port dues on vessels	\$/call	1000.00	571	571	571	571	629	686	743	800	857	886	914	943	971	1000	1029	1057	1086	1114	1143	1143
Handling of oil (ship->tank)	\$/Ton	0.60	2400	2400	2400	2400	2640	2880	3120	3360	3600	3720	3840	3960	4080	4200	4320	4440	4560	4680	4800	4800
Storage of oil (tank->outside)	\$/Ton	0.90	3600	3600	3600	3600	3960	4320	4680	5040	5400	5580	5760	5940	6120	6300	6480	6660	6840	7020	7200	7200
Additional revenue	\$/Ton	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES			6571	6571	6571	6571	7229	7886	8543	9200	9857	10186	10514	10843	11171	11500	11829	12157	12486	12814	13143	13143
OPERATING EXPENSES	Base	Rate																				
Salaries			422	428	433	438	443	462	480	499	518	537	548	560	571	583	594	606	617	628	640	651
Maintenance:																						
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures	0.50%				0	18	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
New facilities superstructures	5.0%				0	135	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270
Energy consumption	0.060		240	240	240	240	264	288	312	336	360	372	384	396	408	420	432	444	456	468	480	480
Overheads	Op. Rev	15%	986	986	986	986	1084	1183	1281	1380	1479	1528	1577	1626	1676	1725	1774	1824	1873	1922	1971	1971
Financial charges			0	0	0	0	32	32	32	32	32	29	26	22	19	16	13	10	6	3	0	0
Former Amortization	obsolete																					
New Amortization	5%			0	0	318	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635
TOTAL EXPENSES			2648	2653	2658	2664	3139	3783	3925	4066	4207	4349	4418	4488	4557	4627	4697	4766	4836	4905	4975	5044
GROSS OPERATING PROFIT			3923	3918	3913	3908	3432	3445	3961	4477	4993	5509	5768	6027	6286	6545	6803	7062	7321	7580	7839	8098
PROJECTED CASH-FLOW																						
in 1000 \$																						
INCOMES																						
Gross operating profit			3923	3918	3913	3908	3432	3445	3961	4477	4993	5509	5768	6027	6286	6545	6803	7062	7321	7580	7839	8098
Amortization	5%		0	0	0	0	318	635	635	635	635	635	635	635	635	635	635	635	635	635	635	
Grants																						
Loan			0	0	0	400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INCOMES			3923	3918	3913	3908	4149	4080	4596	5112	5628	6144	6403	6662	6921	7180	7438	7697	7956	8215	8474	8733
OUTCOMES																						
Taxes on profit	Gross prof.	34%	1334	1332	1330	1329	1167	1171	1347	1522	1698	1873	1961	2049	2137	2225	2313	2401	2489	2577	2665	2753
Foreign loan refunding					0	0	0	0	0	0	0	40	40	40	40	40	40	40	40	40	40	40
Investments-intra					3650	3650																
Investments-super+equipment					2700	2700																
TOTAL OUTCOMES			1334	1332	1330	7679	7517	1171	1347	1522	1698	1913	2001	2089	2177	2265	2353	2441	2529	2617	2705	2753
ANNUAL CASH FLOW			2589	2586	2583	-3771	-3367	2909	3249	3590	3930	4231	4402	4573	4743	4914	5085	5256	5427	5598	5769	5980
Cumulative cash-flow			2589	5175	7758	3987	620	3528	6778	10367	14298	18528	22930	27502	32246	37160	42245	47502	52929	58527	64296	70276
Annual cash flow discounted	10%	2588.5	2589	2351	2134	-2833	-2300	1806	1834	1842	1833	1794	1697	1603	1511	1424	1339	1258	1181	1108	1038	978
Situation of reference																						
ANNUAL CASH FLOW REF			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454
Cumulative cash-flow ref			2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457
DIFFERENTIAL :																						
ANNUAL CASH FLOW DIF			0	4	8	-6338	-5928	355	702	1049	1395	1702	1881	2059	2237	2416	2594	2772	2951	3129	3307	3526
Annual cash flow discounted	10%		0	4	6	-4762	-4049	220	396	538	651	722	725	722	713	700	683	664	642	619	595	576
Total cash flow discounted	10%	1365																				
Rate of return : IRR 11.7%																						
FOREIGN LOAN CHARGES																						
IN 1000 \$																						
Loan			400				400															
Reimbursement			400									40	40	40	40	40	40	40	40	40	40	40
Remaining			0	0	0	0	400	400	400	400	400	360	320	280	240	200	160	120	80	40	0	0
Interest	8.0%			0	0	0	0	32	32	32	32	32	29	26	22	19	16	13	10	6	3	0

TABLE LH 4 : low traffic hypothesis, 20% increase in investment costs

DUBENDI OIL TERMINAL PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRAFFIC FORECAST : LOW HYPOTHESIS + 20% ON INVESTMENT COSTS																						
TOTAL TONNAGE	1000 t	4000	4000	4000	4000	4000	4400	4800	5200	5600	6000	6200	6400	6600	6800	7000	7200	7400	7600	7800	8000	8000
NUMBER OF CALLS	unit	571	571	571	571	571	629	686	743	800	857	886	914	943	971	1000	1029	1057	1086	1114	1143	1143
STAFF		220	217	214	212	209	213	217	221	225	229	229	229	229	229	229	229	229	229	229	229	229
PROJECTED PROFIT AND LOSS STATEMENT																						
		in 1000 \$																				
OPERATING REVENUES	Unit tariff																					
Port dues on vessels	\$/call 1000.00	571	571	571	571	571	629	686	743	800	857	886	914	943	971	1000	1029	1057	1086	1114	1143	1143
Handling of oil (ship->tank)	\$/Ton 0.60	2400	2400	2400	2400	2400	2640	2880	3120	3360	3600	3720	3840	3960	4080	4200	4320	4440	4560	4680	4800	4800
Storage of oil (tank->outside)	\$/Ton 0.90	3600	3600	3600	3600	3600	3960	4320	4680	5040	5400	5580	5760	5940	6120	6300	6480	6660	6840	7020	7200	7200
Additional revenue	\$/Ton	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES		6571	6571	6571	6571	6571	7229	7886	8543	9200	9857	10186	10514	10843	11171	11500	11829	12157	12486	12814	13143	13143
PROJECTED CASH-FLOW																						
		in 1000 \$																				
OPERATING EXPENSES	Base Rate																					
Salaries		422	428	433	438	443	462	480	499	518	537	548	560	571	583	594	606	617	628	640	651	651
Maintenance																						
Old facilities	lump sum	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures	0.50%			0	0	22	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
New facilities superstructures	5.0%			0	0	162	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324
Energy consumption	0.060	240	240	240	240	240	264	288	312	336	360	372	384	396	408	420	432	444	456	468	480	480
Overheads	Op. Rev 15%	986	986	986	986	986	1084	1183	1281	1380	1479	1528	1577	1626	1676	1725	1774	1824	1873	1922	1971	1971
Financial charges		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete																					
New Amortization	5%			0	0	381	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762
TOTAL EXPENSES		2648	2653	2658	2664	3234	3940	4081	4222	4364	4505	4578	4650	4723	4796	4869	4942	5014	5087	5160	5233	5233
GROSS OPERATING PROFIT		3923	3918	3913	3908	3338	3289	3805	4321	4836	5352	5608	5864	6120	6375	6631	6887	7143	7399	7654	7910	7910
INCOMES																						
Gross operating profit		3923	3918	3913	3908	3338	3289	3805	4321	4836	5352	5608	5864	6120	6375	6631	6887	7143	7399	7654	7910	7910
Amortization	5%	0	0	0	0	381	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762
Grants																						
Loan		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INCOMES		3923	3918	3913	3908	3719	4051	4567	5083	5598	6114	6370	6626	6882	7137	7393	7649	7905	8161	8416	8672	8672
OUTCOMES																						
Taxes on profit	Gross prof 34%	1334	1332	1330	1329	1135	1118	1294	1469	1644	1820	1907	1994	2081	2168	2255	2342	2429	2516	2602	2689	2689
Foreign loan refunding				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investments-infra					4380	4380																
Investments-super+equipment					3240	3240																
TOTAL OUTCOMES		1334	1332	1330	8949	8755	1118	1294	1469	1644	1820	1907	1994	2081	2168	2255	2342	2429	2516	2602	2689	2689
ANNUAL CASH FLOW		2589	2586	2583	-5041	-5036	2933	3273	3614	3954	4294	4463	4632	4801	4970	5139	5307	5476	5645	5814	5983	5983
Cumulative cash-flow		2589	5175	7758	2717	-2319	614	3887	7500	11454	15749	20212	24844	29645	34615	39753	45061	50537	56182	61996	67979	73961
Annual cash flow discounted	10%	24004	2589	2351	2134	-3787	-3440	1821	1848	1854	1845	1821	1721	1624	1530	1440	1353	1271	1192	1117	1046	978
Situation of reference																						
ANNUAL CASH FLOW REF		2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454	2454
Cumulative cash-flow ref		2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457	52911
DIFFERENTIAL :																						
ANNUAL CASH FLOW DIF		0	4	8	-7608	-7596	379	725	1072	1419	1766	1942	2119	2295	2471	2647	2823	3000	3176	3352	3528	3528
Annual cash flow discounted	10%	0	4	6	-5716	-5188	235	410	550	662	749	749	743	731	716	697	676	653	628	603	577	524
Total cash flow discounted	10%	-515																				
		Rate of return : IRR 9.5%																				
FOREIGN LOAN CHARGES																						
		IN 1000 \$																				
Loan																						
Reimbursement																						
Remaining		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	8.0%		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE LH 4.1

DUBENDI OIL TERMINAL

PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRAFFIC FORECAST : LOW HYPOTHESIS + 20% ON INVESTMENT COSTS + RISE OF TARIFFS																						
TOTAL TONNAGE	1000 t	4000	4000	4000	4000	4400	4800	5200	5600	6000	6200	6400	6600	6800	7000	7200	7400	7600	7800	8000	8000	8000
NUMBER OF CALLS	unit	571	571	571	571	629	686	743	800	857	886	914	943	971	1000	1029	1057	1086	1114	1143	1143	1143
STAFF		220	217	214	212	209	213	217	221	225	229	229	229	229	229	229	229	229	229	229	229	229
PROJECTED PROFIT AND LOSS STATEMENT																						
in 1000 \$																						
OPERATING REVENUES	Unit tariff																					
Port dues on vessels	\$/call 1000.00	571	571	571	571	571	629	686	743	800	857	886	914	943	971	1000	1029	1057	1086	1114	1143	1143
Handling of oil (ship->tank)	\$/Ton 0.60	2400	2400	2400	2400	2400	2640	2880	3120	3360	3600	3720	3840	3960	4080	4200	4320	4440	4560	4680	4800	4800
Storage of oil (tank->outside)	\$/Ton 0.90	3600	3600	3600	3600	3600	3960	4320	4680	5040	5400	5580	5760	5940	6120	6300	6480	6660	6840	7020	7200	7200
Additional revenue	\$/Ton 0.07	280	280	280	280	280	308	336	364	392	420	434	448	462	476	490	504	518	532	546	560	560
TOTAL REVENUES		6851	6851	6851	6851	6851	7537	8222	8907	9592	10277	10620	10962	11305	11647	11990	12333	12675	13018	13360	13703	13703
OPERATING EXPENSES	Base Rate																					
Salaries		422	428	433	438	443	462	480	499	518	537	548	560	571	583	594	606	617	628	640	651	651
Maintenance:																						
Old facilities	lump sum	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures	0.50%				0	22	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
New facilities superstructures	5.0%				0	162	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324
Energy consumption	0.060	240	240	240	240	240	264	288	312	336	360	372	384	396	408	420	432	444	456	468	480	480
Overheads	Op. Rev 15%	1028	1028	1028	1028	1028	1130	1233	1336	1439	1542	1593	1644	1696	1747	1799	1850	1901	1953	2004	2055	2055
Financial charges		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete																					
New Amortization	5%				0	381	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762
TOTAL EXPENSES		2690	2695	2700	2706	3276	3986	4131	4277	4422	4568	4643	4718	4793	4867	4942	5017	5092	5167	5242	5317	5317
GROSS OPERATING PROFIT		4161	4156	4151	4146	3576	3551	4090	4630	5170	5709	5977	6245	6512	6780	7048	7315	7583	7851	8118	8386	8386
PROJECTED CASH-FLOW																						
in 1000 \$																						
INCOMES																						
Gross operating profit		4161	4156	4151	4146	3576	3551	4090	4630	5170	5709	5977	6245	6512	6780	7048	7315	7583	7851	8118	8386	8386
Amortization	5%	0	0	0	0	381	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762
Grants																						
Loan		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INCOMES		4161	4156	4151	4146	3957	4313	4852	5392	5932	6471	6739	7007	7274	7542	7810	8077	8345	8613	8880	9148	9148
OUTCOMES																						
Taxes on profit	Gross prof 34%	1415	1413	1411	1410	1216	1207	1391	1574	1758	1941	2032	2123	2214	2305	2396	2487	2578	2669	2760	2851	2851
Foreign loan refunding					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investments-infra					4380	4380																
Investments-super+equipment					3240	3240																
TOTAL OUTCOMES		1415	1413	1411	9030	8836	1207	1391	1574	1758	1941	2032	2123	2214	2305	2396	2487	2578	2669	2760	2851	2851
ANNUAL CASH FLOW		2746	2743	2740	-4884	-4879	3105	3462	3818	4174	4530	4707	4883	5060	5237	5413	5590	5767	5944	6120	6297	6297
Cumulative cash-flow		2746	5490	8229	3345	-1533	1572	5033	8851	13025	17555	22262	27145	32206	37442	42856	48446	54213	60156	66276	72573	78870
Annual cash flow discounted	10%	25980	2746	2494	2264	-3669	-3332	1928	1954	1959	1947	1921	1815	1712	1612	1517	1426	1338	1255	1176	1101	1030
Situation of reference																						
ANNUAL CASH FLOW REF		2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454	2454
Cumulative cash-flow ref		2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457	52911
DIFFERENTIAL :																						
ANNUAL CASH FLOW DIF		157	161	165	-7451	-7439	551	914	1277	1639	2002	2186	2370	2554	2738	2922	3106	3290	3474	3658	3842	3842
Annual cash flow discounted	10%	157	146	136	-5598	-5081	342	516	655	765	849	843	831	814	793	769	744	716	687	658	628	571
Total cash flow discounted	10%	1460																				
Rate of return :																						
FOREIGN LOAN CHARGES	IN 1000 \$																					
Loan																						
Reimbursement							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Remaining		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	8.0%		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE LH 5

DUBENDI OIL TERMINAL

PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
TRAFFIC FORECAST : LOW HYPOTHESIS LESS 10% FROM 2010																							
TOTAL TONNAGE	1000 t	4000	4000	4000	4000	4000	4280	4560	4840	5120	5400	5580	5760	5940	6120	6300	6480	6660	6840	7020	7200	7200	7200
NUMBER OF CALLS	unit	571	571	571	571	571	611	651	691	731	771	797	823	849	874	900	926	951	977	1003	1029	1029	1029
STAFF		220	217	214	212	209	211	214	216	218	220	220	220	220	220	220	220	220	220	220	220	220	220
PROJECTED PROFIT AND LOSS STATEMENT																							
in 1000 \$																							
OPERATING REVENUES	Unit tariff																						
Port dues on vessels	\$/call	1000.00	571	571	571	571	611	651	691	731	771	797	823	849	874	900	926	951	977	1003	1029	1029	1029
Handling of oil (ship->tank)	\$/Ton	0.60	2400	2400	2400	2400	2568	2736	2904	3072	3240	3348	3456	3564	3672	3780	3888	3996	4104	4212	4320	4320	4320
Storage of oil (tank->outside)	\$/Ton	0.90	3600	3600	3600	3600	3852	4104	4356	4608	4860	5022	5184	5346	5508	5670	5832	5994	6156	6318	6480	6480	6480
Additional revenue	\$/Ton	0.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES			6571	6571	6571	6571	7031	7491	7951	8411	8871	9167	9463	9759	10054	10350	10646	10941	11237	11533	11829	11829	11829
OPERATING EXPENSES	Base Rate																						
Salaries			422	428	433	438	443	458	472	487	501	516	527	538	549	560	571	582	593	604	615	626	626
Maintenance:																							
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures	0.50%		0	0	0	18	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
New facilities superstructures	5.0%		0	0	0	135	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270
Energy consumption	0.060		240	240	240	240	257	274	290	307	324	335	346	356	367	378	389	400	410	421	432	432	432
Overheads	Op. Rev	15%	986	986	986	986	1055	1124	1193	1262	1331	1375	1419	1464	1508	1553	1597	1641	1686	1730	1774	1774	1774
Financial charges			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete																						
New Amortization	5%			0	0	318	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635
TOTAL EXPENSES			2648	2653	2658	2664	3139	3711	3811	3911	4012	4112	4178	4244	4311	4377	4443	4509	4575	4642	4708	4774	4774
GROSS OPERATING PROFIT			3923	3918	3913	3908	3432	3321	3681	4040	4400	4760	4989	5219	5448	5678	5907	6137	6366	6596	6825	7055	7055
PROJECTED CASH-FLOW																							
in 1000 \$																							
INCOMES																							
Gross operating profit			3923	3918	3913	3908	3432	3321	3681	4040	4400	4760	4989	5219	5448	5678	5907	6137	6366	6596	6825	7055	7055
Amortization	5%		0	0	0	318	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635	
Grants																							
Loan			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INCOMES			3923	3918	3913	3908	3749	3956	4316	4675	5035	5395	5624	5854	6083	6313	6542	6772	7001	7231	7460	7690	7690
OUTCOMES																							
Taxes on profit	Gross prof	34%	1334	1332	1330	1329	1167	1129	1251	1374	1496	1618	1696	1774	1852	1930	2008	2086	2164	2242	2321	2399	2399
Foreign loan refunding					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investments-infra					3650	3650																	
Investments-super+equipment					2700	2700																	
TOTAL OUTCOMES			1334	1332	1330	7679	7517	1129	1251	1374	1496	1618	1696	1774	1852	1930	2008	2086	2164	2242	2321	2399	2399
ANNUAL CASH FLOW			2589	2586	2583	-3771	-3767	2827	3064	3302	3539	3776	3928	4079	4231	4382	4534	4685	4837	4988	5140	5291	5291
Cumulative cash-flow			2589	5175	7758	3987	220	3047	6111	9412	12951	16728	20655	24735	28965	33347	37881	42566	47403	52391	57530	62821	68112
Annual cash flow discounted	10%	23307	2589	2351	2134	-2833	-2573	1755	1730	1694	1651	1602	1514	1430	1348	1269	1194	1122	1053	987	924	865	786
Situation of reference																							
ANNUAL CASH FLOW REF			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454	2454
Cumulative cash-flow ref			2589	5172	7746	10314	12674	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457	52911
DIFFERENTIAL :																							
ANNUAL CASH FLOW DIF			0	4	8	-6336	-6328	273	517	760	1004	1248	1407	1566	1725	1883	2042	2201	2360	2519	2678	2837	2837
Annual cash flow discounted	10%		0	4	6	-4762	-4322	169	292	390	468	529	542	549	549	546	538	527	514	498	482	464	422
Total cash flow discounted	10%		-1212																				
Rate of return : IRR 8.4%																							
FOREIGN LOAN CHARGES																							
IN 1000 \$																							
Loan																							
Reimbursement																							
Remaining			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	8.0%		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE LH 5.1

DUBENDI OIL TERMINAL

PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022		
TRAFFIC FORECAST : LOW HYPOTHESIS LESS 10% FROM 2010 + TISE OF TARIFFS																								
TOTAL TONNAGE	1000 t	4000	4000	4000	4000	4000	4280	4560	4840	5120	5400	5580	5760	5940	6120	6300	6480	6660	6840	7020	7200	7200	7200	
NUMBER OF CALLS	unit	571	571	571	571	571	611	651	691	731	771	797	823	849	874	900	926	951	977	1003	1029	1029	1029	
STAFF		220	217	214	212	209	211	214	216	218	220	220	220	220	220	220	220	220	220	220	220	220	220	
PROJECTED PROFIT AND LOSS STATEMENT																								
in 1000 \$																								
OPERATING REVENUES																								
Port dues on vessels	Unit	tariff	571	571	571	571	571	611	651	691	731	771	797	823	849	874	900	926	951	977	1003	1029	1029	1029
Handling of oil (ship->tank)	\$/Ton	0.60	2400	2400	2400	2400	2568	2736	2904	3072	3240	3348	3456	3564	3672	3780	3888	3996	4104	4212	4320	4320	4320	4320
Storage of oil (tank->outside)	\$/Ton	0.90	3600	3600	3600	3600	3852	4104	4356	4608	4860	5022	5184	5346	5508	5670	5832	5994	6156	6318	6480	6480	6480	6480
Additional revenue	\$/Ton	0.09	360	360	360	360	385	410	436	461	486	502	518	535	551	567	583	599	616	632	648	648	648	648
TOTAL REVENUES			6931	6931	6931	6931	7417	7902	8387	8872	9357	9669	9981	10293	10605	10917	11229	11541	11853	12165	12477	12477	12477	
OPERATING EXPENSES																								
Salaries	Base	Rate	422	428	433	438	443	458	472	487	501	516	527	538	549	560	571	582	593	604	615	626	626	626
Maintenance:																								
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures		0.50%	0	0	0	18	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
New facilities superstructures		5.0%	0	0	0	135	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270
Energy consumption		0.060	240	240	240	240	257	274	290	307	324	335	346	356	367	378	389	400	410	421	432	432	432	432
Overheads	Op. Rev	15%	1040	1040	1040	1040	1112	1185	1258	1331	1404	1450	1497	1544	1591	1638	1684	1731	1778	1825	1871	1871	1871	1871
Financial charges			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete																							
New Amortization		5%		0	0	318	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635
TOTAL EXPENSES			2702	2707	2712	2718	3193	3768	3872	3977	4081	4185	4253	4322	4391	4459	4528	4597	4665	4734	4803	4871	4871	4871
GROSS OPERATING PROFIT			4229	4224	4219	4214	3738	3648	4029	4410	4792	5173	5416	5659	5902	6146	6389	6632	6876	7119	7362	7605	7605	7605
PROJECTED CASH-FLOW																								
in 1000 \$																								
INCOMES																								
Gross operating profit			4229	4224	4219	4214	3738	3648	4029	4410	4792	5173	5416	5659	5902	6146	6389	6632	6876	7119	7362	7605	7605	7605
Amortization		5%	0	0	0	0	318	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635	635
Grants																								
Loan			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INCOMES			4229	4224	4219	4214	4055	4283	4664	5045	5427	5808	6051	6294	6537	6781	7024	7267	7511	7754	7997	8240	8240	8240
OUTCOMES																								
Taxes on profit	Gross prof.	34%	1438	1436	1434	1433	1271	1240	1370	1500	1629	1759	1841	1924	2007	2090	2172	2255	2338	2420	2503	2586	2586	2586
Foreign loan refunding					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investments-infra					3650	3650																		
Investments-super+equipment					2700	2700																		
TOTAL OUTCOMES			1438	1436	1434	7783	7621	1240	1370	1500	1629	1759	1841	1924	2007	2090	2172	2255	2338	2420	2503	2586	2586	2586
ANNUAL CASH FLOW			2791	2788	2785	-3569	-3565	3043	3294	3546	3797	4049	4210	4370	4531	4691	4852	5012	5173	5333	5494	5655	5655	5655
Cumulative cash-flow			2791	5579	8364	4795	1230	4272	7567	11113	14910	18959	23169	27539	32069	36761	41612	46625	51797	57131	62625	68279	73934	79588
Annual cash flow discounted	10%	25701	2791	2534	2301	-2681	-2435	1889	1860	1820	1772	1717	1623	1532	1444	1359	1278	1200	1126	1055	988	925	841	764
Situation of reference																								
ANNUAL CASH FLOW REF			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454	2454	2454
Cumulative cash-flow ref			2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457	52911	55366
DIFFERENTIAL :																								
ANNUAL CASH FLOW DIF			202	206	210	-6136	-6126	489	747	1005	1263	1521	1689	1856	2024	2192	2360	2528	2696	2864	3032	3200	3200	3200
Annual cash flow discounted	10%		202	187	173	-4610	-4184	304	422	516	589	645	651	651	645	635	622	605	587	567	545	523	476	432
Total cash flow discounted	10%	1181																						
Rate of return : IRR 11.6%																								
FOREIGN LOAN CHARGES																								
IN 1000 \$																								
Loan																								
Reimbursement																								
Remaining			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	8.0%		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE LH 6

DUBENDI OIL TERMINAL

PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRAFFIC FORECAST : LOW HYPOTHESIS - 10% + 20% ON INVESTMENT COSTS																						
TOTAL TONNAGE	1000 t	4000	4000	4000	4000	4280	4560	4840	5120	5400	5580	5760	5940	6120	6300	6480	6660	6840	7020	7200	7200	7200
NUMBER OF CALLS	unit	571	571	571	571	611	651	691	731	771	797	823	849	874	900	926	951	977	1003	1029	1029	1029
STAFF		220	217	214	212	209	211	214	216	218	220	220	220	220	220	220	220	220	220	220	220	220
PROJECTED PROFIT AND LOSS STATEMENT																						
in 1000 \$																						
OPERATING REVENUES	Unit	tariff																				
Port dues on vessels	\$/call	1000 00	571	571	571	571	611	651	691	731	797	823	849	874	900	926	951	977	1003	1029	1029	1029
Handling of oil (ship->tank)	\$/Ton	0 60	2400	2400	2400	2400	2568	2736	2904	3072	3240	3348	3456	3564	3672	3780	3888	3996	4104	4212	4320	4320
Storage of oil (tank->outside)	\$/Ton	0 90	3600	3600	3600	3600	3852	4104	4356	4608	4860	5022	5184	5346	5508	5670	5832	5994	6156	6318	6480	6480
Additional revenue	\$/Ton		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL REVENUES			6571	6571	6571	6571	7031	7491	7951	8411	8871	9167	9463	9759	10054	10350	10646	10941	11237	11533	11829	11829
OPERATING EXPENSES	Base	Rate																				
Salaries			422	428	433	438	443	458	472	487	501	516	527	538	549	560	571	582	593	604	615	626
Maintenance:																						
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures	0 50%		0	0	22	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
New facilities superstructures	5 0%		0	0	162	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324
Energy consumption	0 060		240	240	240	240	257	274	290	307	324	335	346	356	367	378	389	400	410	421	432	432
Overheads	Op. Rev	15%	986	986	986	986	1055	1124	1193	1262	1331	1375	1419	1464	1508	1553	1597	1641	1686	1730	1774	1774
Financial charges			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete																					
New Amortization	5%		0	0	381	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762
TOTAL EXPENSES			2648	2653	2658	2664	3234	3899	3999	4099	4200	4300	4366	4433	4499	4565	4631	4697	4764	4830	4896	4962
GROSS OPERATING PROFIT			3923	3918	3913	3908	3338	3133	3492	3852	4212	4571	4801	5030	5260	5489	5719	5948	6178	6407	6637	6866
PROJECTED CASH-FLOW																						
in 1000 \$																						
INCOMES																						
Gross operating profit			3923	3918	3913	3908	3338	3133	3492	3852	4212	4571	4801	5030	5260	5489	5719	5948	6178	6407	6637	6866
Amortization	5%		0	0	0	381	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762
Grants																						
Loan			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INCOMES			3923	3918	3913	3908	3719	3895	4254	4614	4974	5333	5563	5792	6022	6251	6481	6710	6940	7169	7399	7628
OUTCOMES																						
Taxes on profit	Gross prof	34%	1334	1332	1330	1329	1135	1065	1187	1310	1432	1554	1632	1710	1788	1866	1944	2022	2100	2178	2256	2335
Foreign loan refunding			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2100	2178	2256	2335
Investments-infra					4380	4380													0	0	0	0
Investments-super+equipment					3240	3240													0	0	0	0
TOTAL OUTCOMES			1334	1332	1330	8949	8755	1065	1187	1310	1432	1554	1632	1710	1788	1866	1944	2022	2100	2178	2256	
ANNUAL CASH FLOW			2589	2586	2583	-5041	-5036	2830	3067	3304	3542	3779	3931	4082	4233	4385	4536	4688	4839	4991	5142	
Cumulative cash-flow			2589	5175	7758	2717	-2319	511	3577	6882	10423	14202	18133	22215	26448	30833	35370	40058	44897	49888	55030	
Annual cash flow discounted	10%	21502	2589	2351	2134	-3787	-3440	1757	1731	1696	1652	1603	1515	1431	1349	1270	1195	1122	1053	987	925	
Situation of reference																						
ANNUAL CASH FLOW REF			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	
Cumulative cash-flow ref			2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	
DIFFERENTIAL :																						
ANNUAL CASH FLOW DIF			0	4	8	-7608	-7596	276	519	763	1007	1251	1410	1568	1727	1886	2045	2204	2363	2522		
Annual cash flow discounted	10%		0	4	6	-5716	-5188	171	293	392	470	530	543	550	546	539	528	514	499	482		
Total cash flow discounted	10%	-3018																				
Rate of return :																						
IRR																						
6.6%																						
FOREIGN LOAN CHARGES	IN 1000 \$																					
Loan																						
Reimbursement																						
Remaining			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	8.0%		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE LH 6.1

DUBENDI OIL TERMINAL

PROJECTED PROFIT & LOSS STATEMENT AND CASH-FLOW

UNIT	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
TRAFFIC FORECAST : LOW HYPOTHESIS - 10% + 20% ON INVESTMENT COSTS + RISE OF TARIFFS																						
TOTAL TONNAGE	1000 t	4000	4000	4000	4000	4000	4280	4560	4840	5120	5400	5580	5760	5940	6120	6300	6480	6660	6840	7020	7200	7200
NUMBER OF CALLS	unit	571	571	571	571	571	611	651	691	731	771	797	823	849	874	900	926	951	977	1003	1029	1029
STAFF		220	217	214	212	209	211	214	216	218	220	220	220	220	220	220	220	220	220	220	220	220
PROJECTED PROFIT AND LOSS STATEMENT																						
in 1000 \$																						
OPERATING REVENUES	Unit	tariff																				
Port dues on vessels	\$/call	1000.00	571	571	571	571	611	651	691	731	771	797	823	849	874	900	926	951	977	1003	1029	1029
Handling of oil (ship->tank)	\$/Ton	0.60	2400	2400	2400	2400	2568	2736	2904	3072	3240	3348	3456	3564	3672	3780	3888	3996	4104	4212	4320	4320
Storage of oil (tank->outside)	\$/Ton	0.90	3600	3600	3600	3600	3852	4104	4356	4608	4860	5022	5184	5346	5508	5670	5832	5994	6156	6318	6480	6480
Additional revenue	\$/Ton	0.12	480	480	480	480	514	547	581	614	648	670	691	713	734	756	778	799	821	842	864	864
TOTAL REVENUES			7051	7051	7051	7051	7545	8039	8532	9026	9519	9837	10154	10471	10789	11106	11423	11741	12058	12375	12693	12693
OPERATING EXPENSES	Base	Rate																				
Salaries			422	428	433	438	443	458	472	487	501	516	527	538	549	560	571	582	593	604	615	626
Maintenance:																						
Old facilities	lump sum		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New facilities infrastructures	0.50%				0	22	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
New facilities superstructures	5.0%				0	162	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324	324
Energy consumption	0.060		240	240	240	240	257	274	290	307	324	335	346	356	367	378	389	400	410	421	432	432
Overheads	Op. Rev	15%	1058	1058	1058	1058	1132	1206	1280	1354	1428	1476	1523	1571	1618	1666	1713	1761	1809	1856	1904	1904
Financial charges			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Former Amortization	obsolete																					
New Amortization	5%				0	381	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762
TOTAL EXPENSES			2720	2725	2730	2736	3306	3976	4081	4187	4292	4397	4467	4536	4606	4675	4745	4814	4884	4953	5022	5092
GROSS OPERATING PROFIT			4331	4326	4321	4316	3746	3569	3957	4346	4734	5122	5370	5618	5866	6114	6361	6609	6857	7105	7353	7601
PROJECTED CASH-FLOW																						
in 1000 \$																						
INCOMES																						
Gross operating profit			4331	4326	4321	4316	3746	3569	3957	4346	4734	5122	5370	5618	5866	6114	6361	6609	6857	7105	7353	7601
Amortization	5%		0	0	0	381	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762	762
Grants																						
Loan			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL INCOMES			4331	4326	4321	4316	4127	4331	4719	5108	5496	5884	6132	6380	6628	6876	7123	7371	7619	7867	8115	8363
OUTCOMES																						
Taxes on profit	Gross prof.	34%	1473	1471	1469	1467	1274	1214	1346	1478	1610	1742	1826	1910	1994	2079	2163	2247	2331	2416	2500	2584
Foreign loan refunding					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Investments-infra					4380	4380																
Investments-super+equipment					3240	3240																
TOTAL OUTCOMES			1473	1471	1469	9087	8894	1214	1346	1478	1610	1742	1826	1910	1994	2079	2163	2247	2331	2416	2500	2584
ANNUAL CASH FLOW			2859	2855	2852	-4772	-4767	3118	3374	3630	3886	4143	4306	4470	4633	4797	4960	5124	5288	5451	5615	5778
Cumulative cash-flow			2859	5714	8566	3794	-972	2145	5519	9149	13035	17178	21484	25954	30587	35384	40345	45469	50756	56208	61822	67601
Annual cash flow discounted	10%	24693	2859	2596	2357	-3585	-3256	1936	1904	1863	1813	1757	1660	1567	1476	1389	1306	1227	1151	1079	1010	945
Situation of reference																						
ANNUAL CASH FLOW REF			2589	2582	2575	2568	2560	2554	2548	2541	2535	2528	2521	2514	2506	2499	2491	2484	2477	2469	2462	2454
Cumulative cash-flow ref			2589	5172	7746	10314	12874	15428	17976	20517	23052	25580	28101	30615	33121	35620	38111	40595	43072	45541	48003	50457
DIFFERENTIAL :																						
ANNUAL CASH FLOW DIF			269	273	277	-7339	-7327	564	826	1089	1352	1614	1785	1956	2127	2298	2469	2640	2811	2982	3153	3324
Annual cash flow discounted	10%		269	248	229	-5514	-5005	350	466	559	631	685	688	686	678	666	650	632	612	590	567	544
Total cash flow discounted	10%	174																				
Rate of return :																						
FOREIGN LOAN CHARGES	IN 1000 \$																					
Loan																						
Reimbursement							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Remaining			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest	8.0%		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Annex 4

Maps and Drawings

- Traceca map
- Global "oil map"
- Dubendi – Channel and port layout
- Dubendi – Marine and land facilities
- Piers n°1 & n°2 – Oil transfer scheme
- Pier n°3 – Oil transfer scheme
- Existing power supply scheme
- Directory scheme for power supply
- Piping and power supply diagrams
- Short-term flow diagram
- Medium-term flow diagram
- Long-term flow diagram
- Breakwater head
- Breakwater root and trunk
- Pier cross-section
- Pier longitudinal section
- Port-vessel berth

European Union

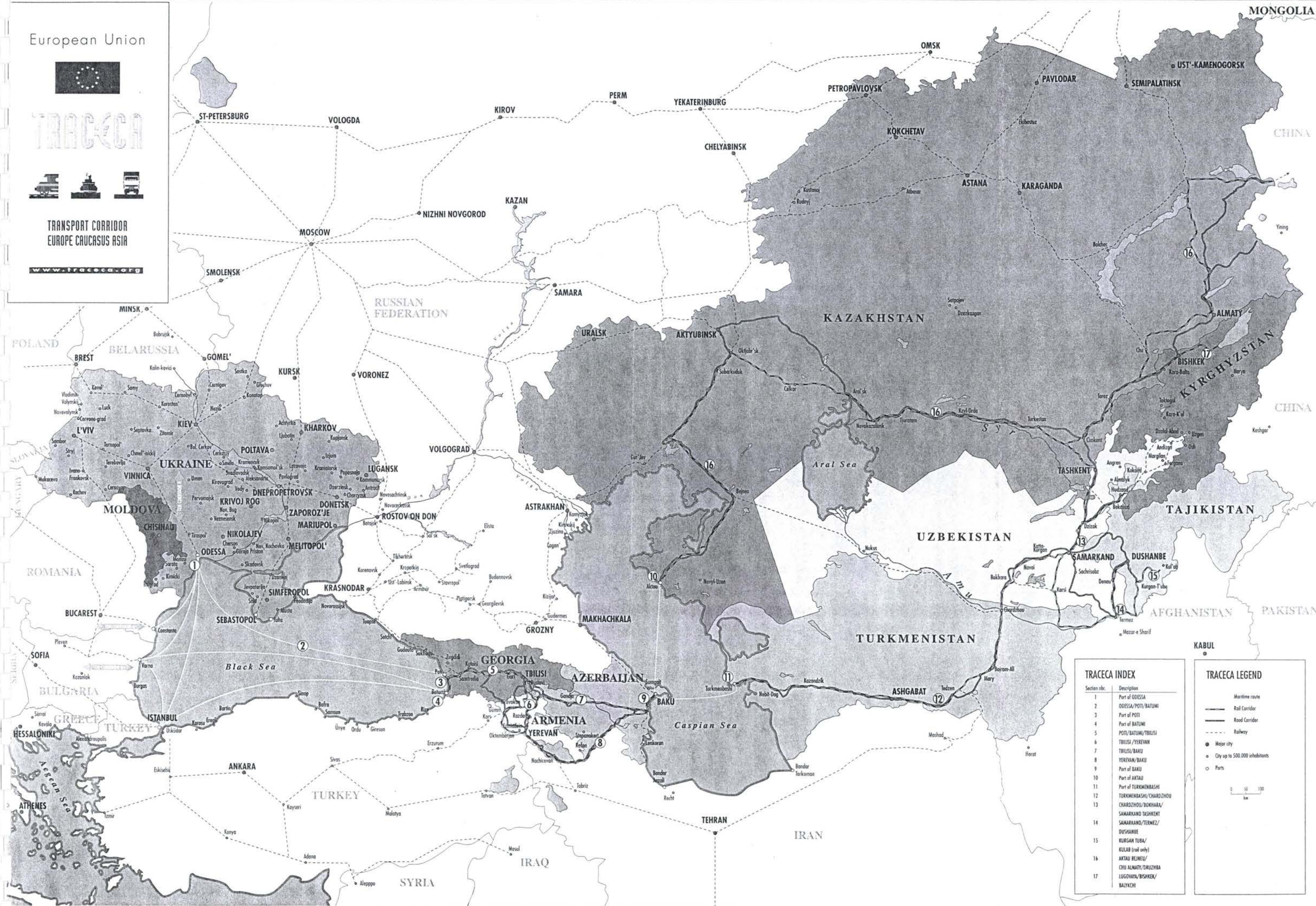


TRACECA



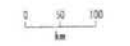
TRANSPORT CORRIDOR
EUROPE CAUCASUS ASIA

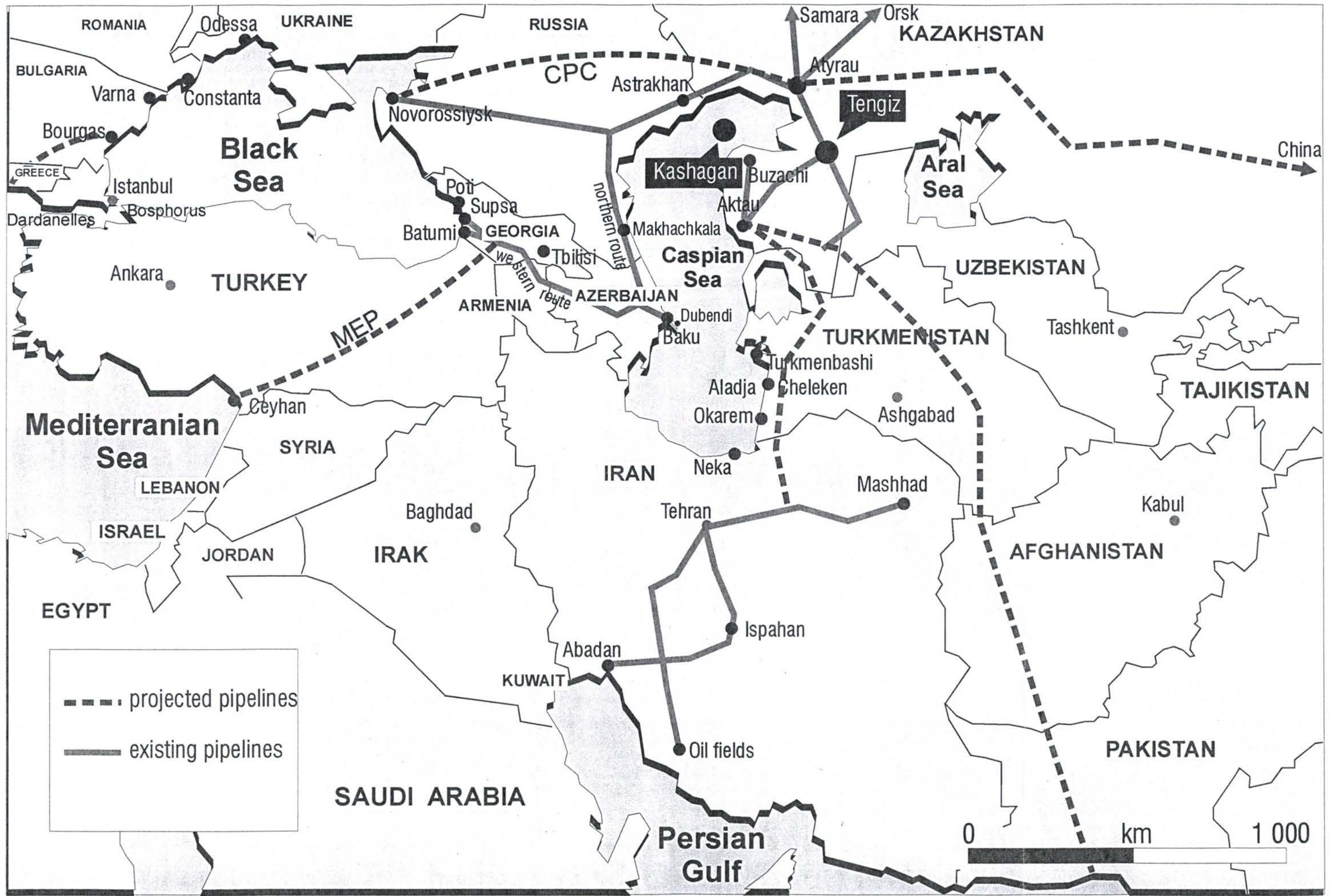
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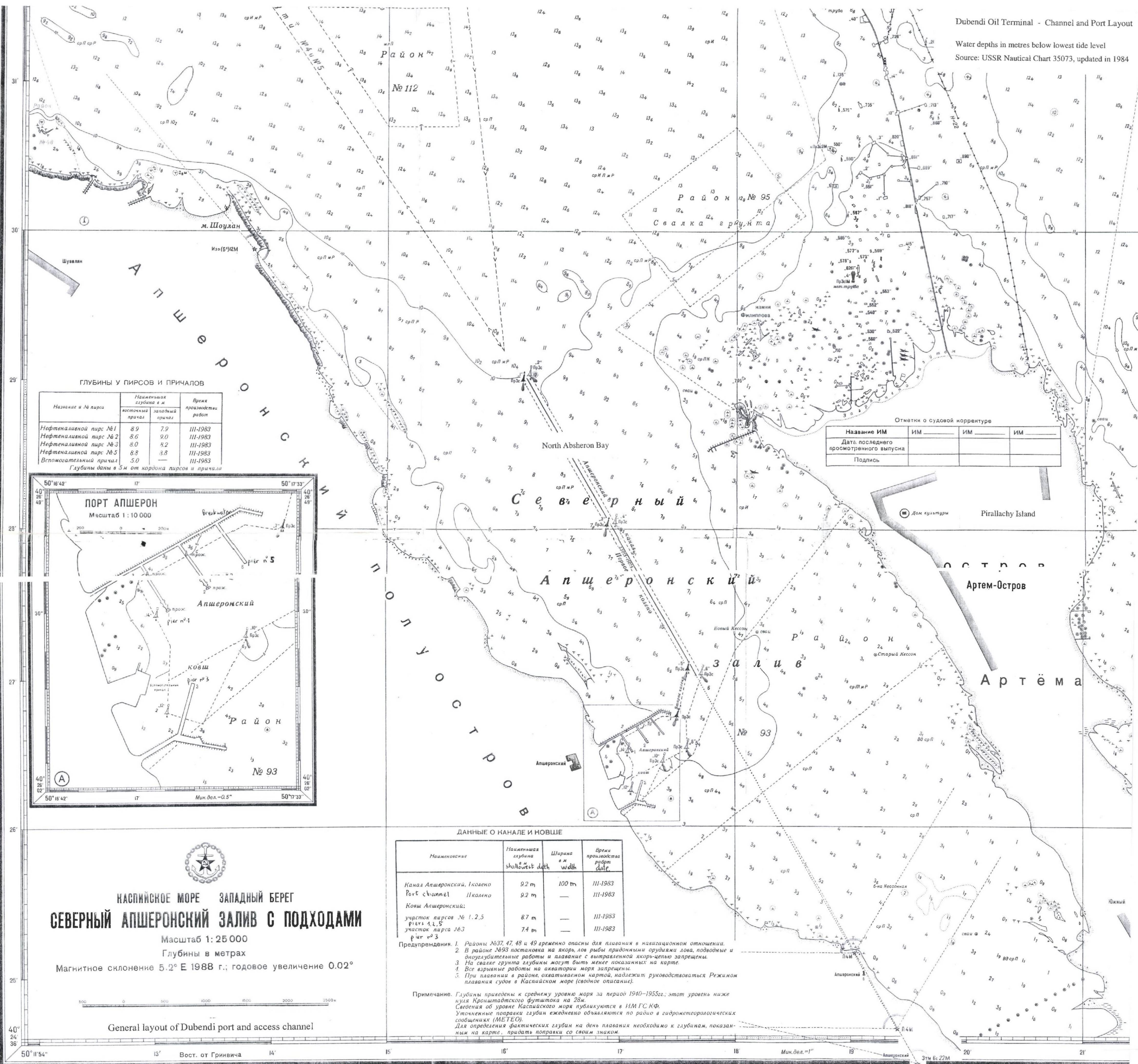
TRACECA INDEX	
Section nbr.	Description
1	Part of ODESSA
2	ODESSA/POTI/BATUMI
3	Part of POTI
4	Part of BATUMI
5	POTI/BATUMI/TBILISI
6	TBILISI/YEREVAN
7	TBILISI/BAKU
8	YEREVAN/BAKU
9	Part of BAKU
10	Part of AKTAU
11	Part of TURKMENBASHI
12	TURKMENBASHI/CHARDZHOU
13	CHARDZHOU/BOKHARA/SAMARKAND TASHKENT
14	SAMARKAND/TERMEZ/DUSHANBE
15	KURGAN TUBA/KULAB (rail only)
16	AKTAU BEINEU/CHU ALMATY/DRUZHBA
17	LUGOVAYA/BISHKEK/BALYKCHI

TRACECA LEGEND	
	Maritime route
	Rail Corridor
	Road Corridor
	Railway
	Major city
	City up to 500,000 inhabitants
	Ports





Global oil map



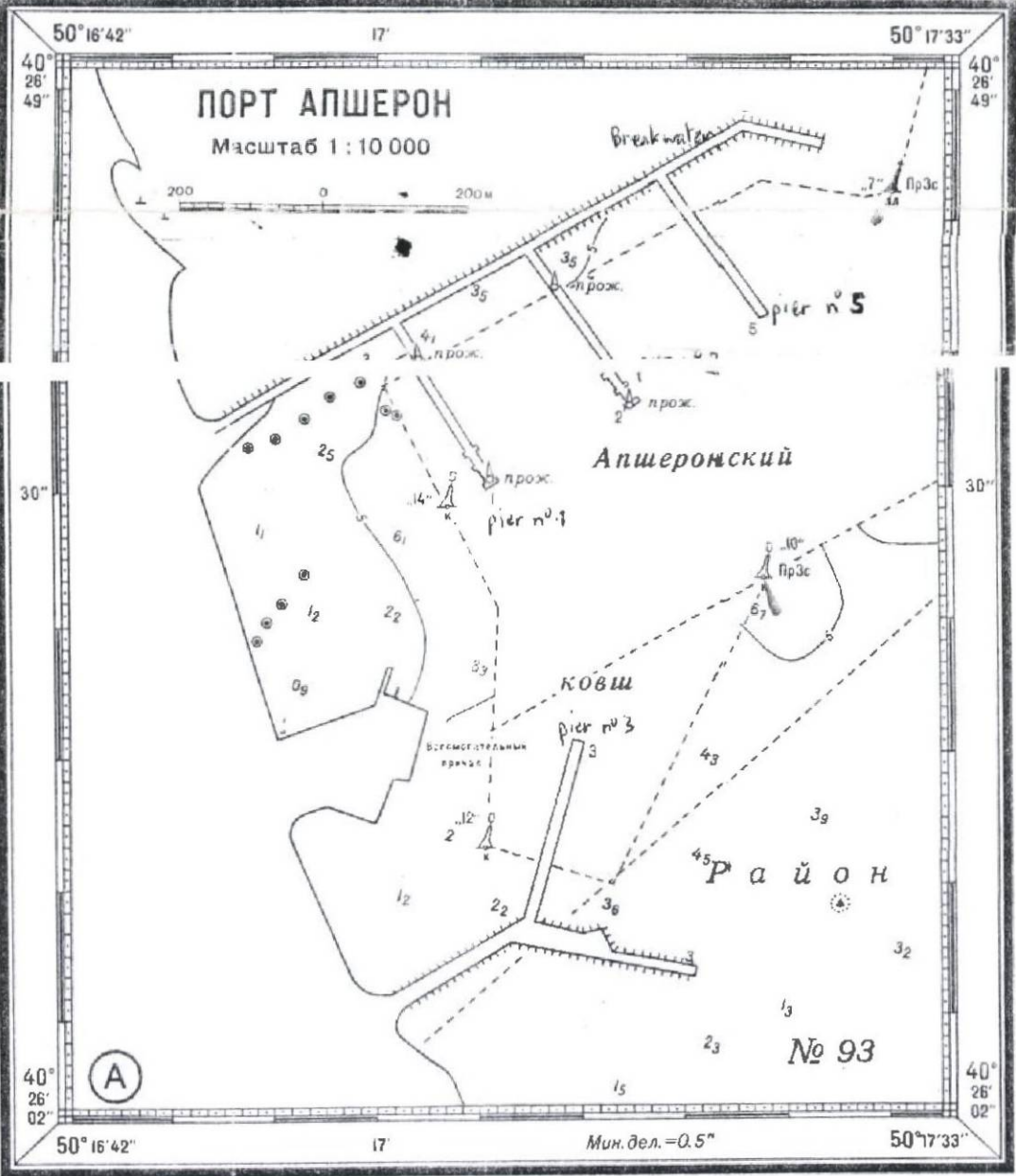
ГЛУБИНЫ У ПИРСОВ И ПРИЧАЛОВ

Название и № пирса	Наименьшая глубина в м		Время производства работ
	восточный причал	западный причал	
Нефтеналивной пирс №1	8.9	7.9	III-1983
Нефтеналивной пирс №2	8.6	9.0	III-1983
Нефтеналивной пирс №3	8.0	8.2	III-1983
Нефтеналивной пирс №5	8.8	8.8	III-1983
Вспомогательный причал	5.0	—	III-1983

Глубины даны в 5 м от кордона пирсов и причалов

Отметки о судовой коррентуре

Название ИМ	ИМ	ИМ	ИМ
Дата последнего просмотренного выпуска			
Подпись			



ДАННЫЕ О КАНАЛЕ И НОВШЕ

Наименование	Наименьшая глубина shallowest depth	Ширина в м width	Время производства работ date
Канал Апшеронский, Иколено Port channel Иколено	9.2 m	100 m	III-1983
Ковш Апшеронский: участок пирсов № 1, 2, 5 piers 1, 2, 5	8.7 m	—	III-1983
участок пирса №3 pier №3	7.4 m	—	III-1983

Предупреждения. 1. Районы №37, 47, 48 и 49 временно опасны для плавания в навигационном отношении.
2. В районе №93 постановка на якорь, лов рыбы придонными орудиями лова, подводные и дноуглубительные работы и плавания с вытравленной якорь-цепью запрещены.
3. На скалах грунта глубины могут быть менее показанных на карте.
4. Все взрывные работы на акватории моря запрещены.
5. При плавании в районе, охватываемом картой, надлежит руководствоваться Режимом плавания судов в Каспийском море (сводное описание).

Примечание. Глубины приведены к среднему уровню моря за период 1940-1955гг., этот уровень ниже нуля Кронштадтского футштока на 28м. Сведения об уровне Каспийского моря публикуются в ИМ ГС КФ. Уточненные поправки глубин ежедневно объявляются по радио в гидрометеорологических сообщениях (МЕТЕО). Для определения фактических глубин на день плавания необходимо к глубинам, показанным на карте, прибавить поправки со своим знаком.

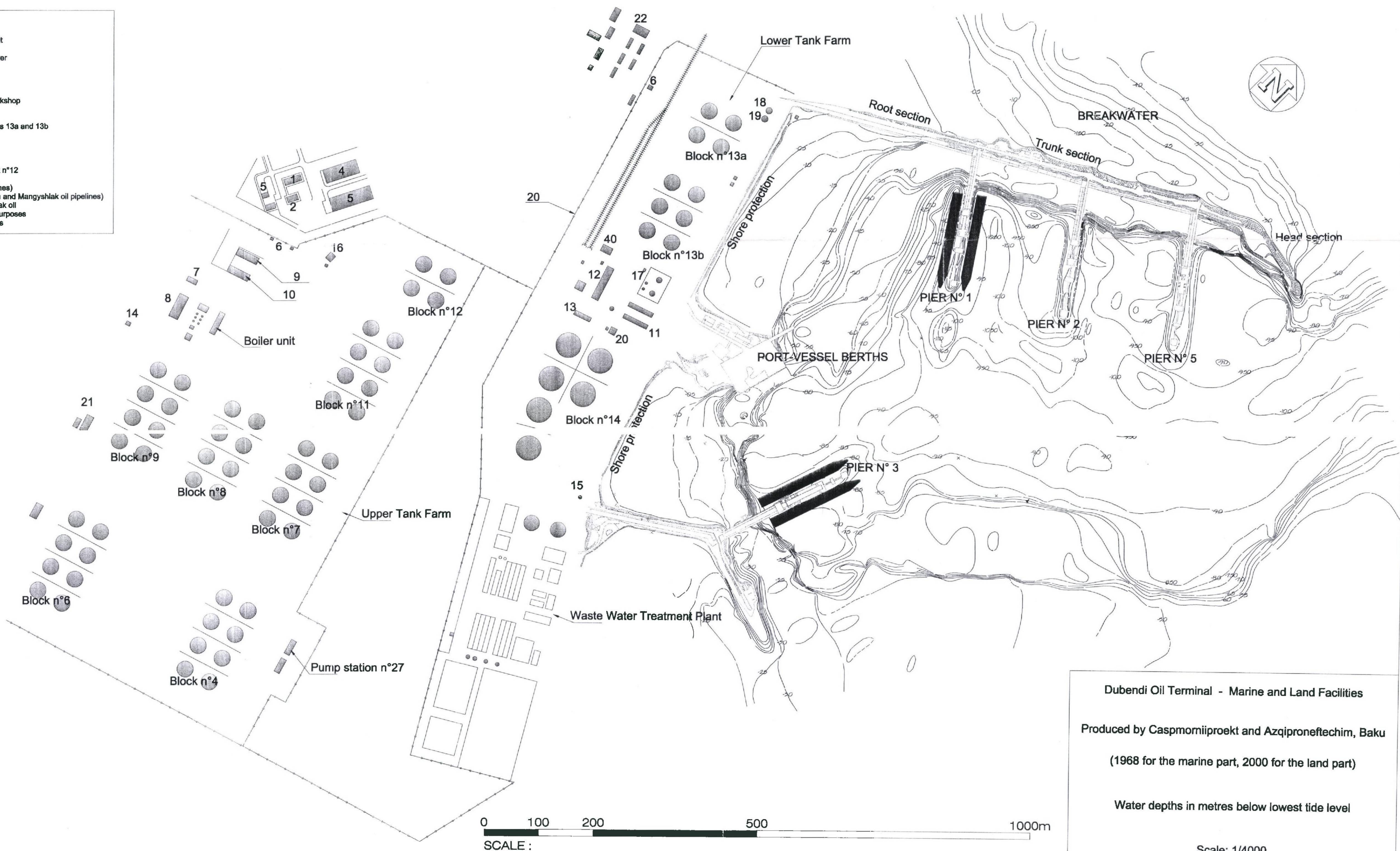
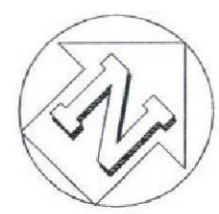
КАСПИЙСКОЕ МОРЕ ЗАПАДНЫЙ БЕРЕГ
СЕВЕРНЫЙ АПШЕРОНСКИЙ ЗАЛИВ С ПОДХОДАМИ

Масштаб 1: 25 000
Глубины в метрах

Магнитное склонение 5.2° E 1988 г.; годовое увеличение 0.02°

General layout of Dubendi port and access channel

- Key**
1. Tank-farm administrative unit
 2. BOXP barracks
 3. Fire-fighting observation tower
 4. Fire-fighting offices
 5. Garage for 5 cars
 6. Gatekeeper's booths
 7. Warehouse
 8. Mechanical and welding workshop
 9. Chemical laboratory
 10. Service department
 11. Service department of parks 13a and 13b
 12. External pump station
 13. External pump station
 14. Fire-fighting tank
 15. Pump station
 16. Pump station for tank block n°12
 17. Former bunkering base
 18. Pump n°52 (Azeri oil pipelines)
 19. Pumping n°53 (Turkmenian and Mangyshlak oil pipelines)
 20. Pump station for Mangyshlak oil
 21. Foam tank for fire-fighting purposes
 22. Port administrative buildings



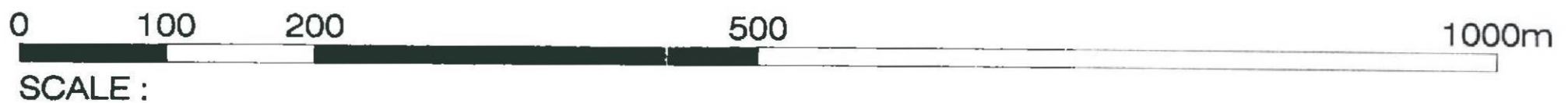
Dubendi Oil Terminal - Marine and Land Facilities

Produced by Caspmomiiproekt and Azqiproneftechim, Baku

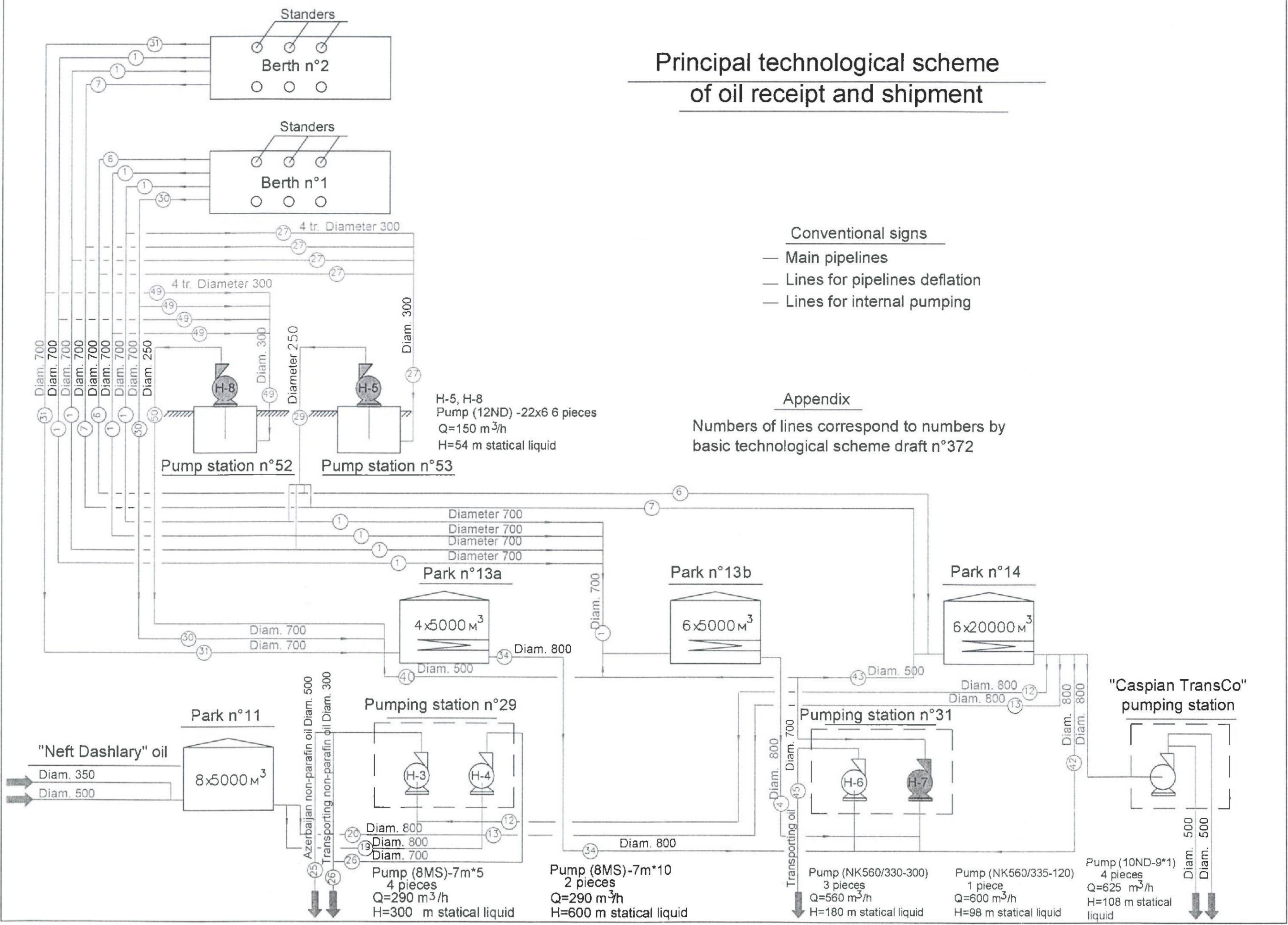
(1968 for the marine part, 2000 for the land part)

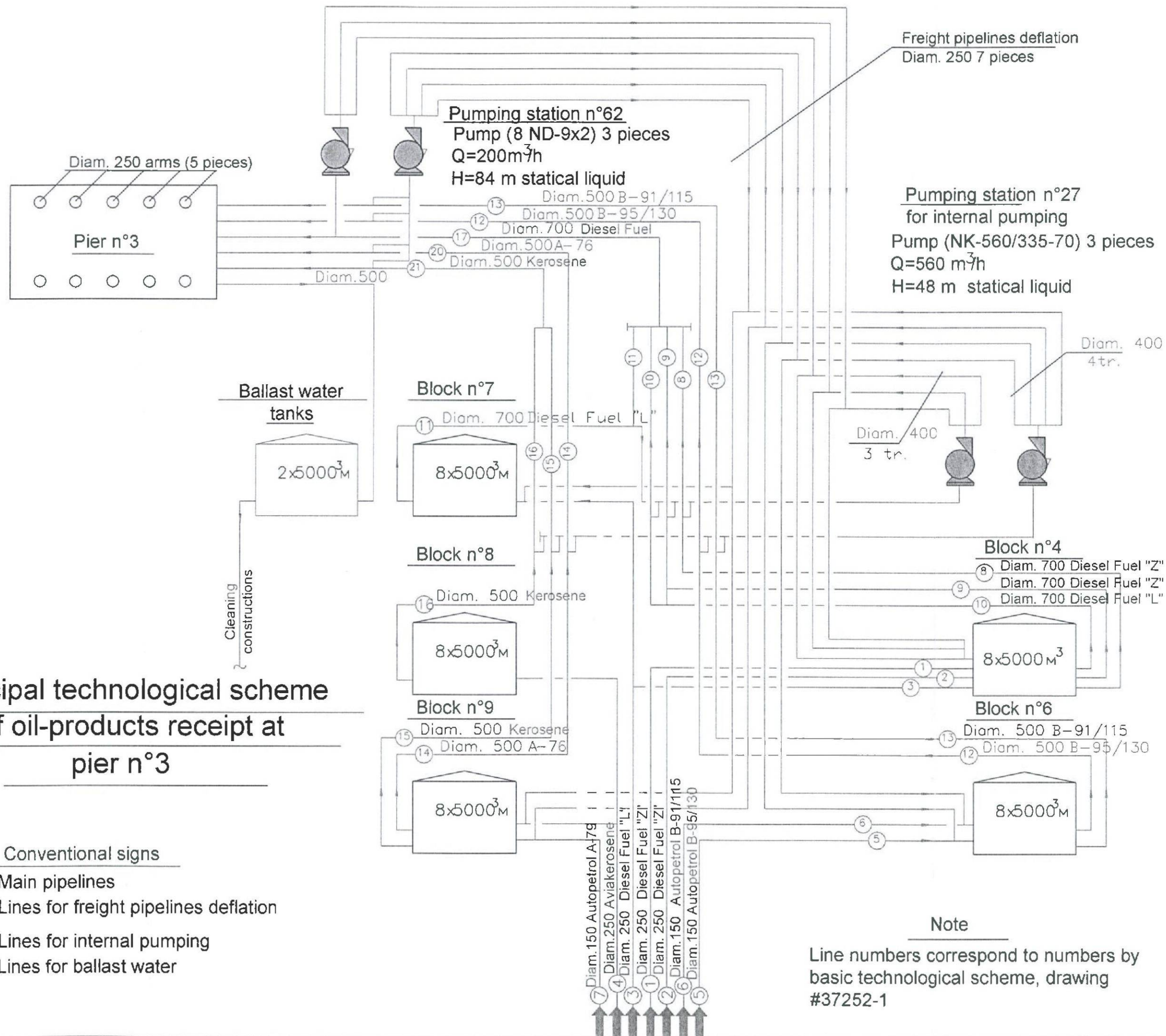
Water depths in metres below lowest tide level

Scale: 1/4000



Principal technological scheme of oil receipt and shipment





**Principal technological scheme
of oil-products receipt at
pier n°3**

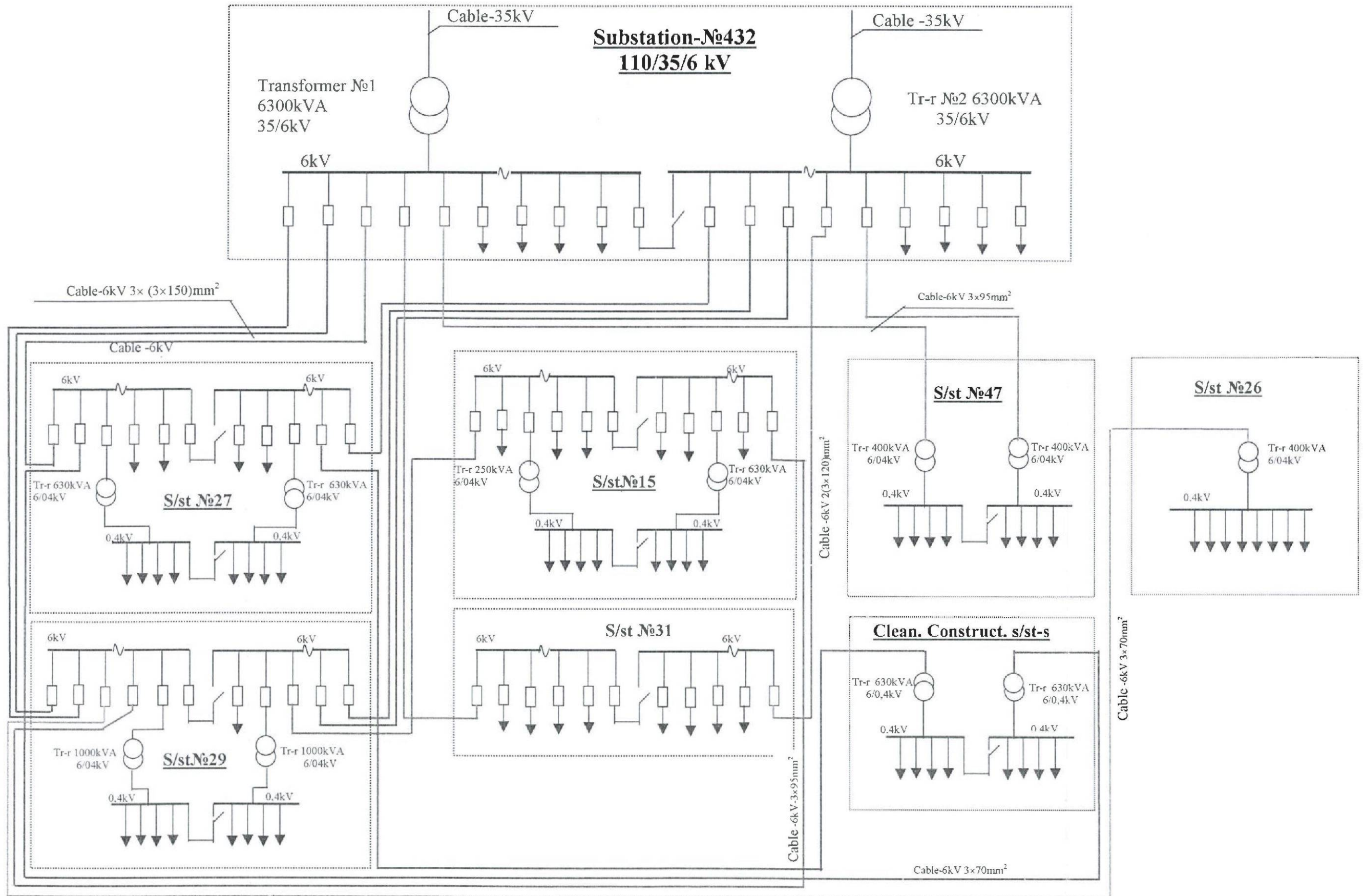
Conventional signs

- Main pipelines
- Lines for freight pipelines deflation
- Lines for internal pumping
- Lines for ballast water

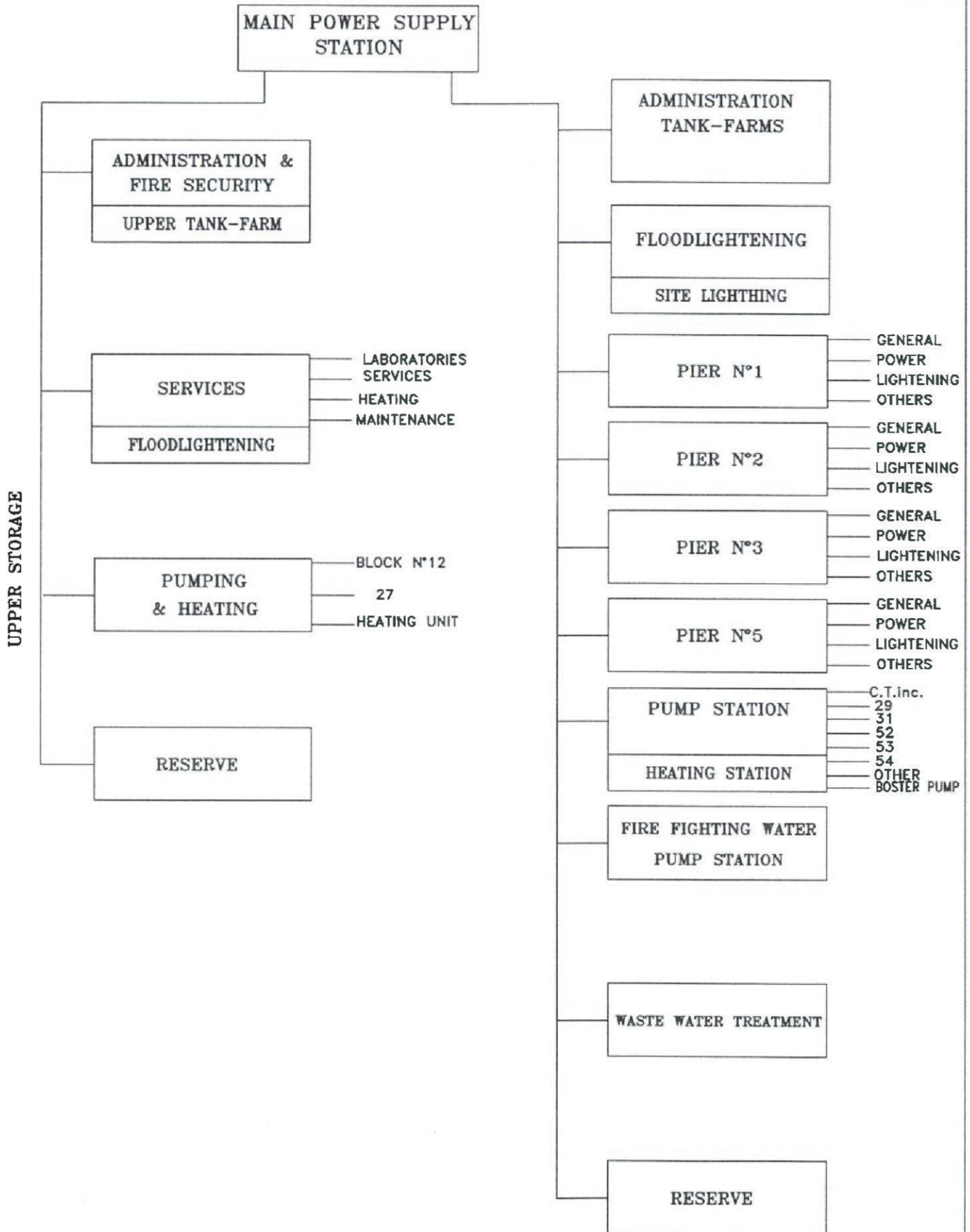
Note

Line numbers correspond to numbers by basic technological scheme, drawing #37252-1

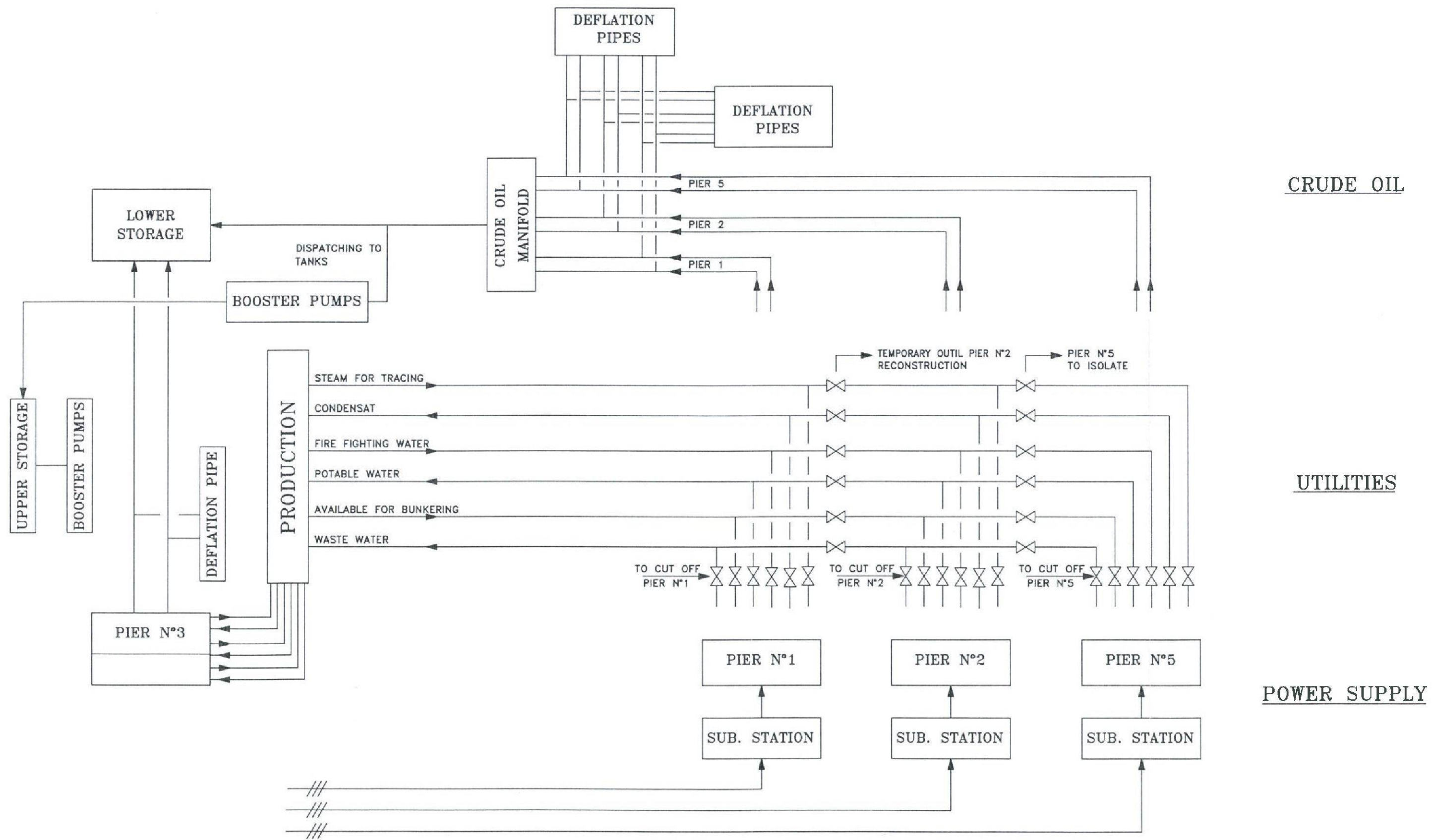
Existing Power Supply Scheme



DIRECTORY SCHEME FOR ELECTRICAL SUPPLY

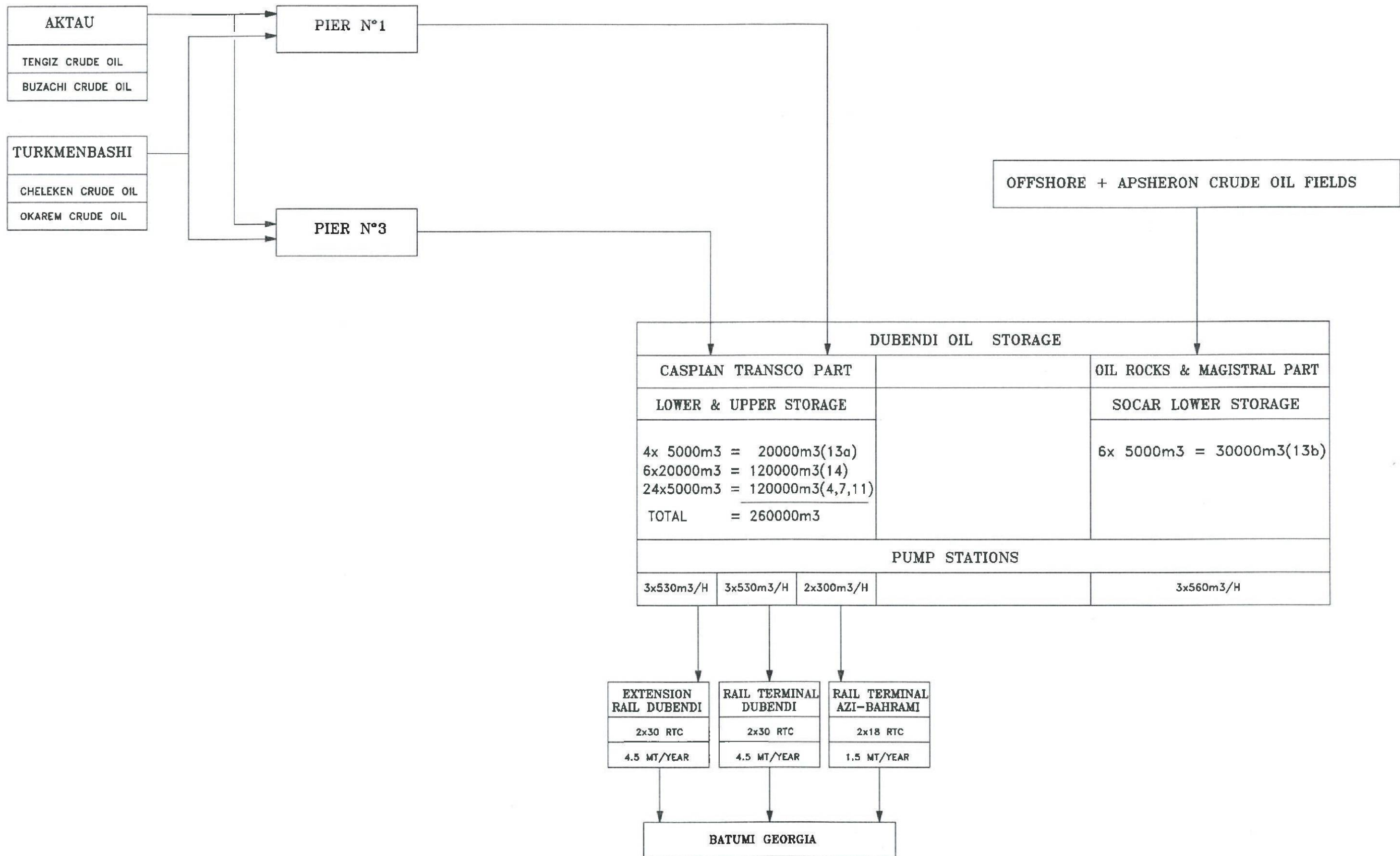


PIPING AND POWER DIAGRAMS

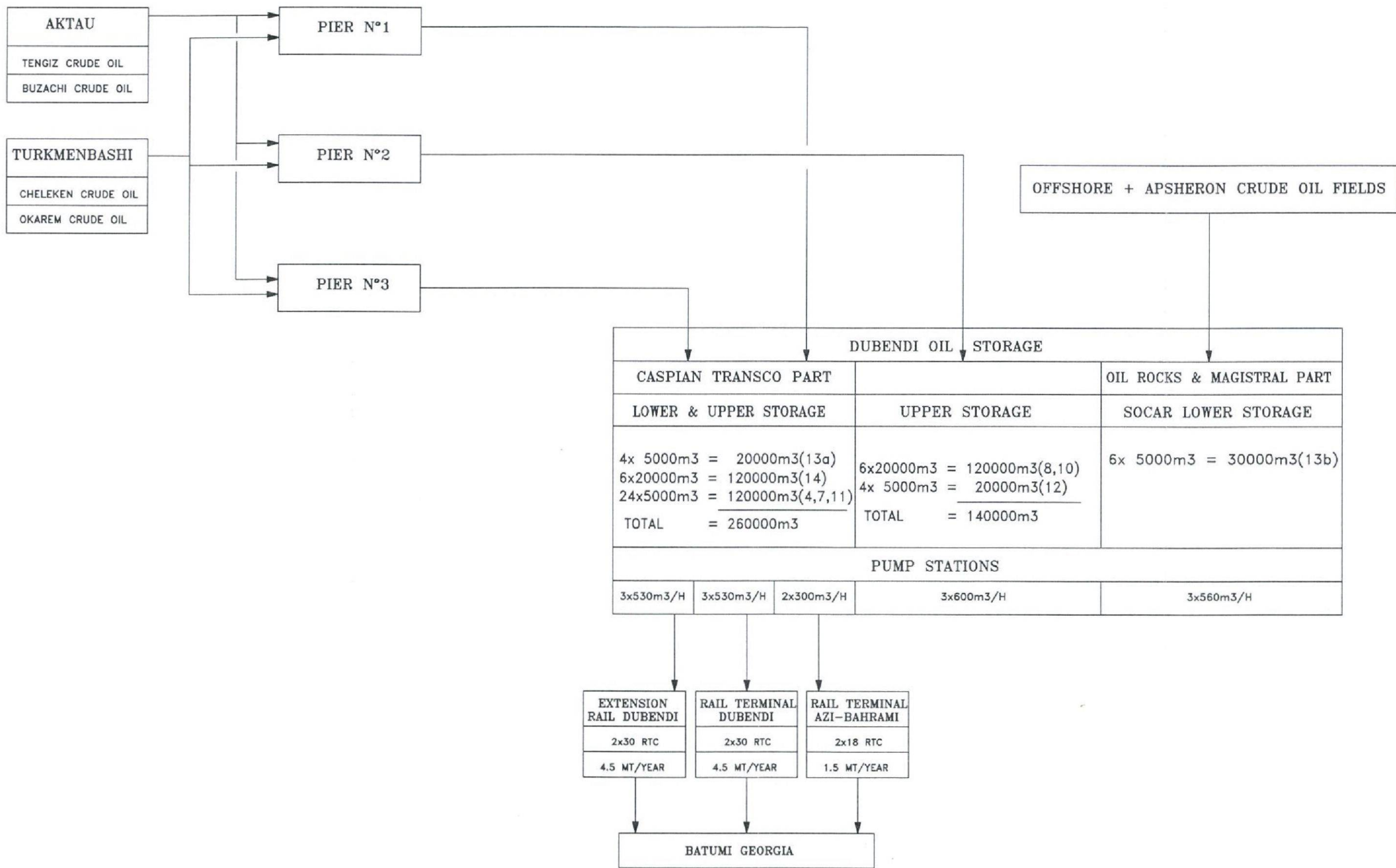


7

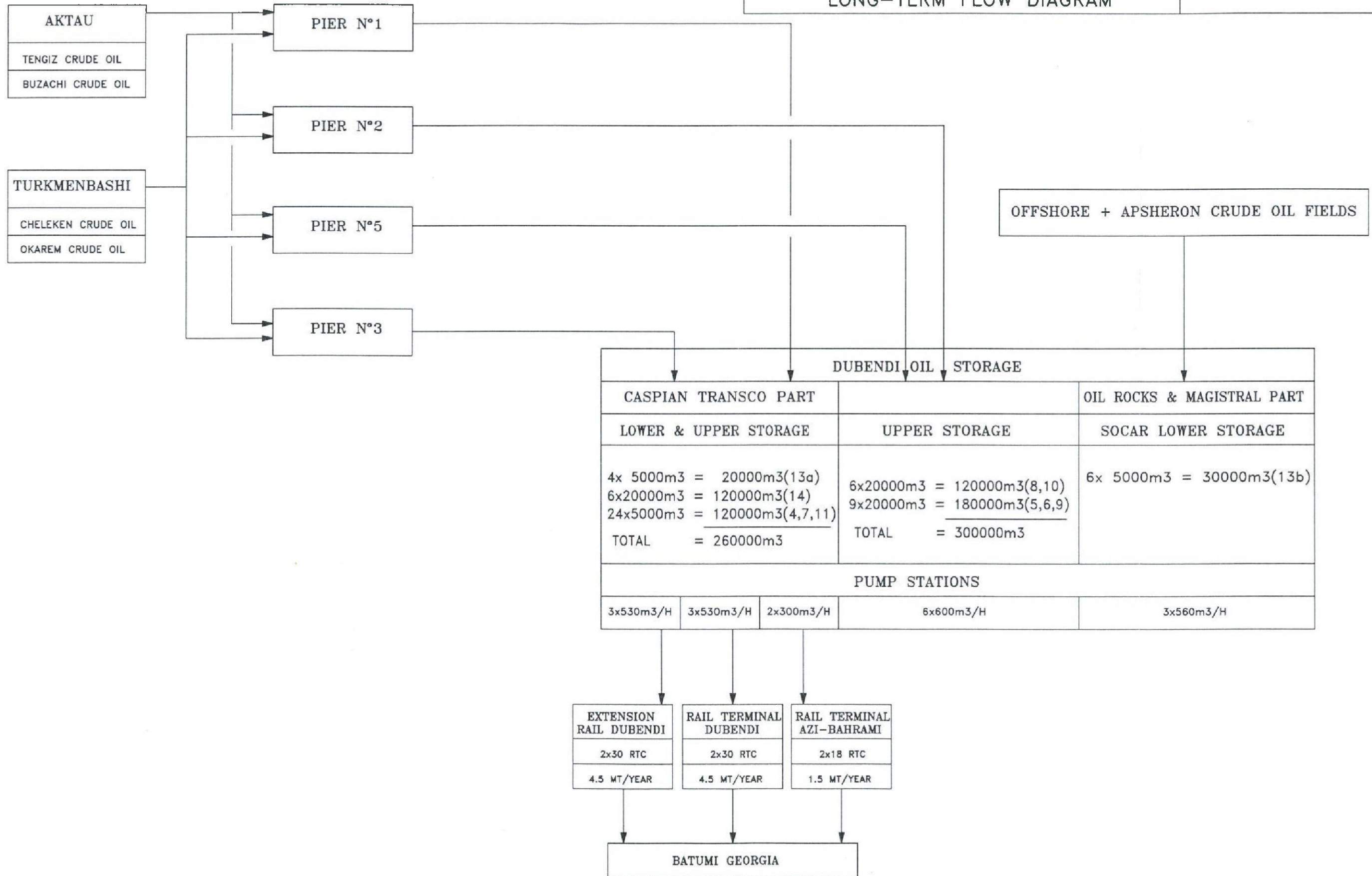
SHORT-TERM FLOW DIAGRAM



MEDIUM-TERM FLOW DIAGRAM

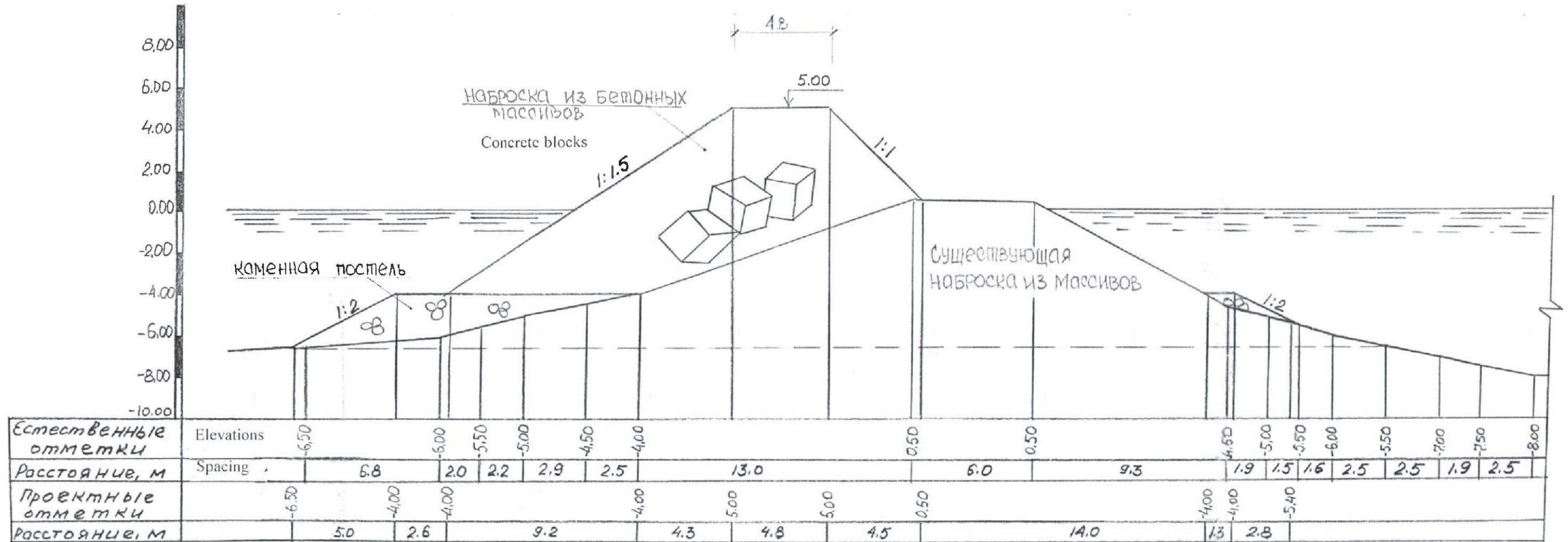


LONG-TERM FLOW DIAGRAM



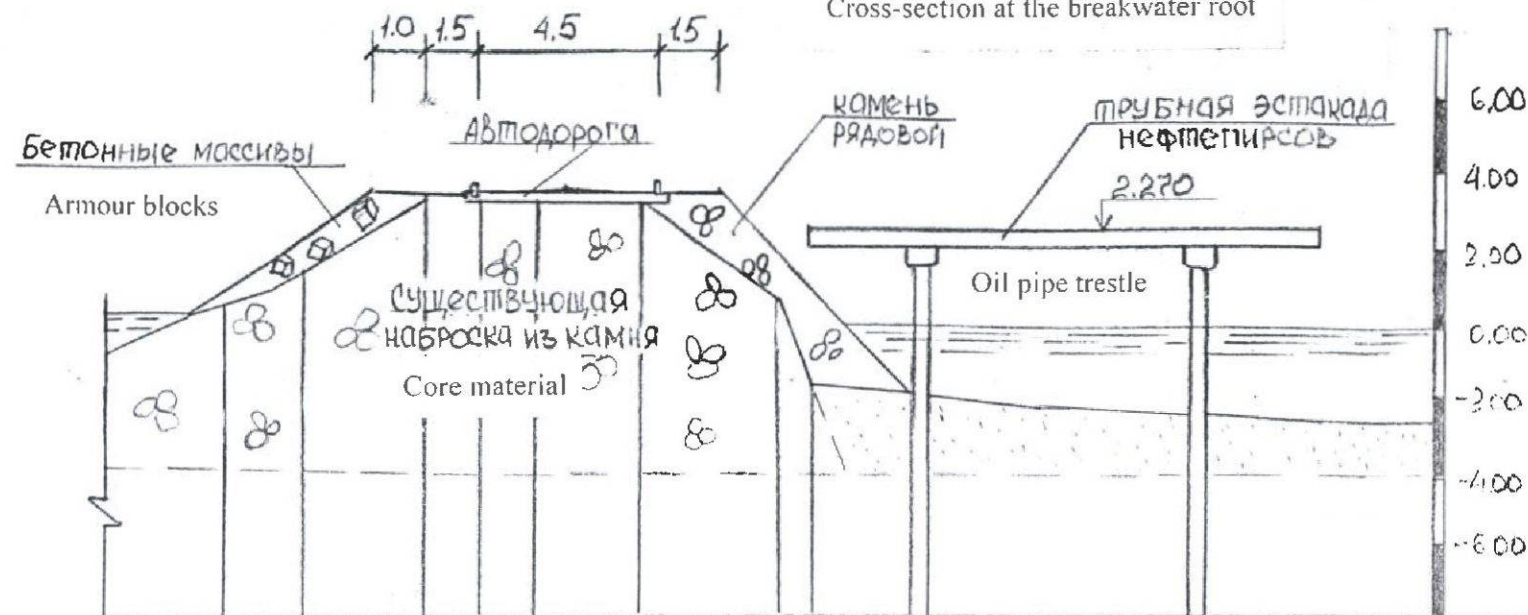
РАЗРЕЗ ПО ГОЛОВНОМУ УЧАСТКУ МОЛА (L=283м)

Cross-section at the breakwater head



РАЗРЕЗ ПО КОРНЕВОМУ УЧАСТКУ МОЛА (L=250м)

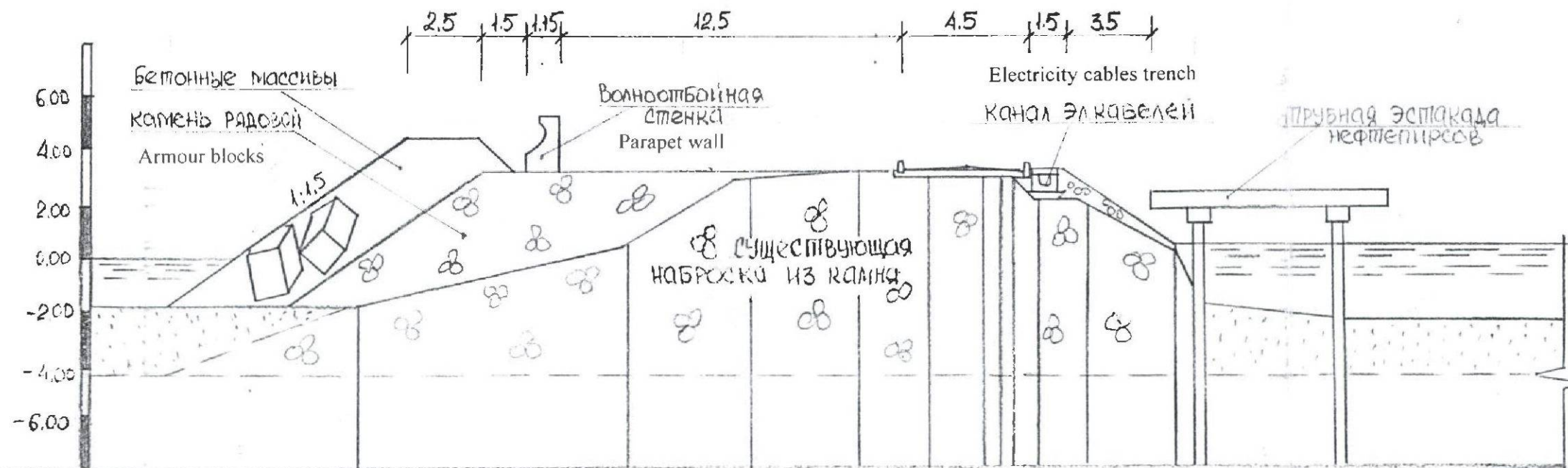
Cross-section at the breakwater root



0.35	3.00										Отметки	Проектн.
	4.0	8.5	5.2								Расстояния	Данные
-1.00	0.20	1.11	3.1	3.15	3.05	3.07	0.20	-1.8		-2.3	Отметки	Натурные
3.0	2.3	3.15	1.4	1.45	2.75	3.75	1.0		10.2		Расстояния	Данные

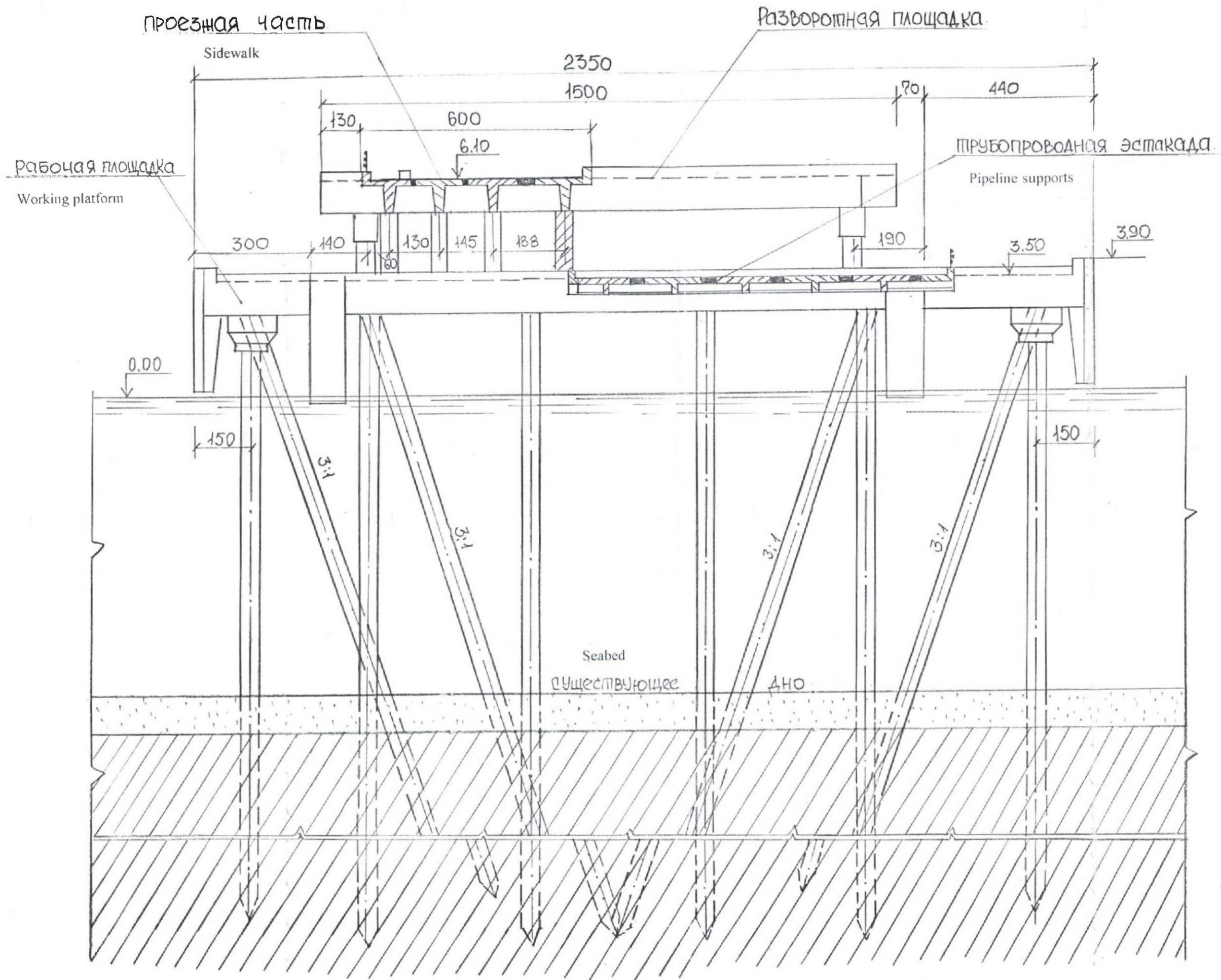
РАЗРЕЗ ПО СРЕДНЕМУ УЧАСТКУ МОЛА (L=541 м)

Cross-section on the breakwater trunk

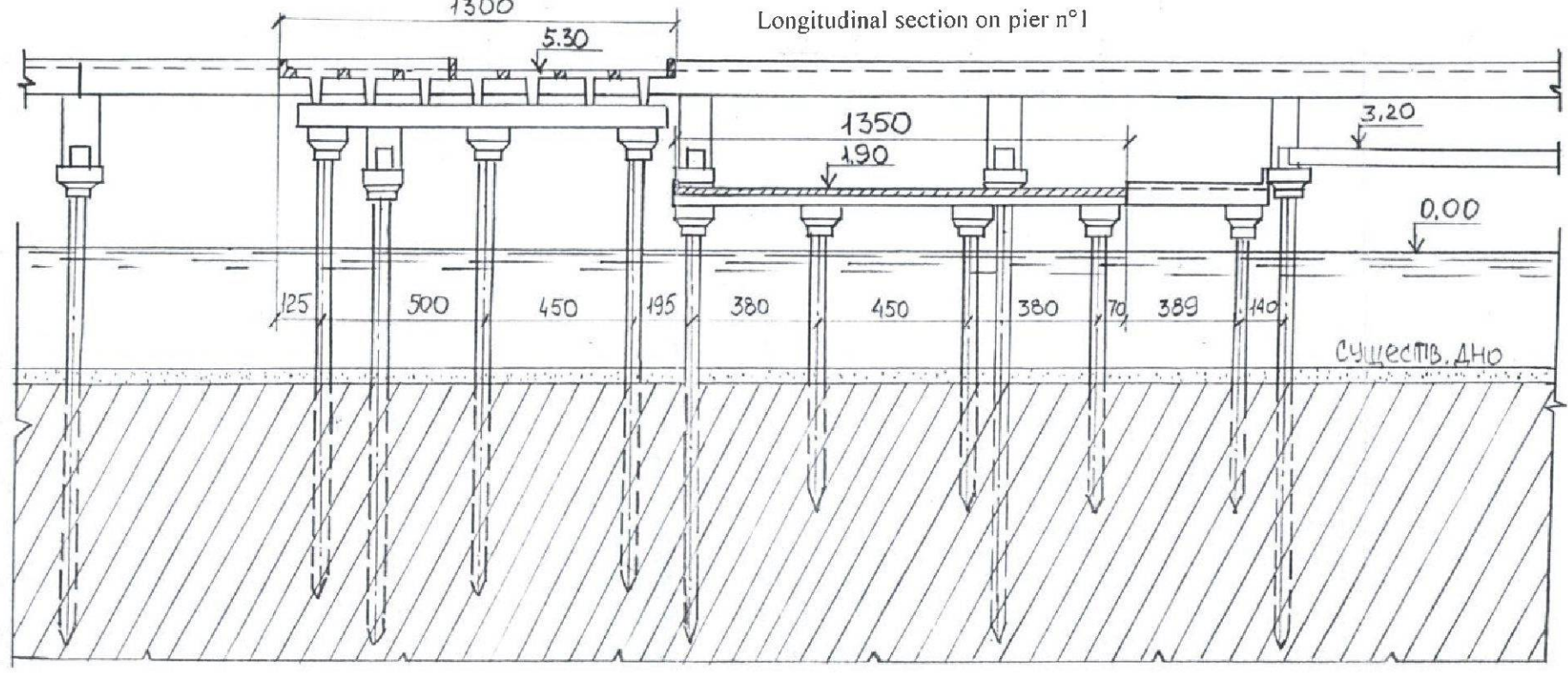


Проектн	Отметки	-2.00	4.20	4.20	3.00	3.00	0.23								
Данные	Расстояния		9.3	2.5	1.2	19.95	4.2								
Натурные	Отметки		-2.00	0.23	2.95	3.02	3.03	3.01	3.00	2.92	2.86	1.62	0.23	-1.80	-2.40
Данные	Расстояния		10.0	4.5	3.9	2.6	2.0	0.5	0.4	1.0	2.0	3.5	0.9	5.4	

Разрез по нефтелирсам №1, 2, 3 и 5 Typical cross-section on piers n°1, n°2, n°3 and n°5

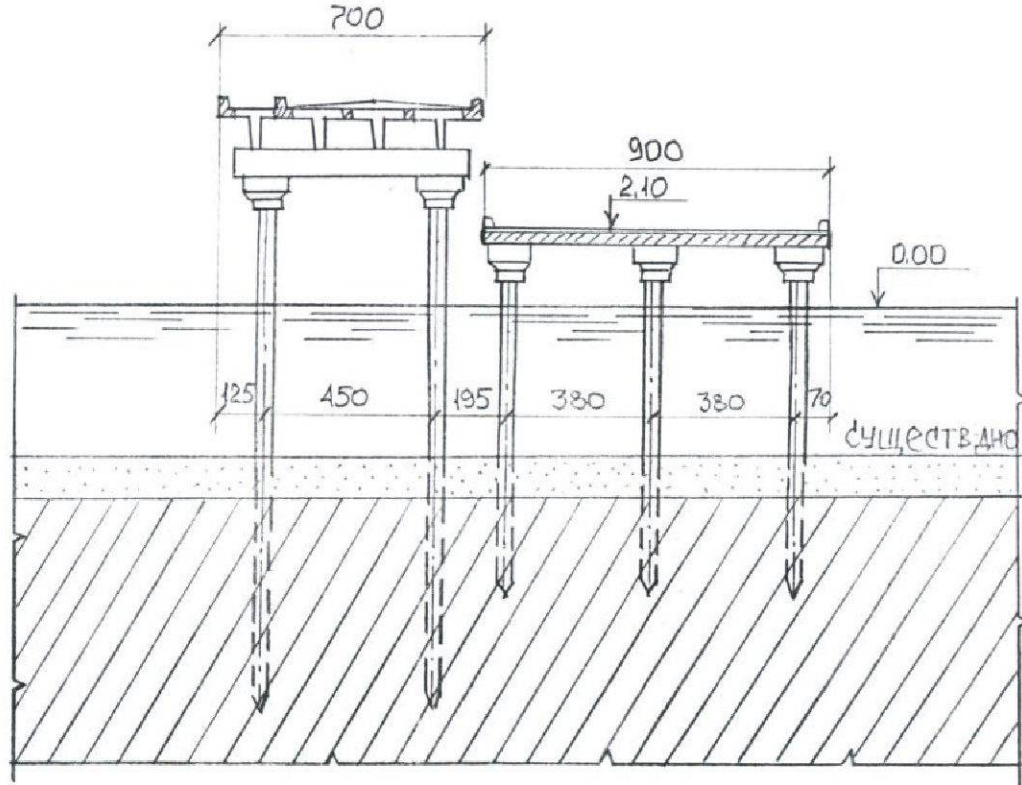


РАЗРЕЗ ПРУБОПРОВОДНОЙ ЭСТАКАДЫ НА УЧАСТКЕ ДО НЕФТЕПИРСА №1 (L=124М)



Cross-section of projected pipeline trestle along the breakwater

РАЗРЕЗ ПРУБОПРОВОДНОЙ ЭСТАКАДЫ НА УЧАСТКЕ МЕЖДУ НЕФТЕПИРСАМИ №1 и №5 (L=409М)



Разрез по служебному причалу (L=165 м)

Cross-section on port-vessel berth

