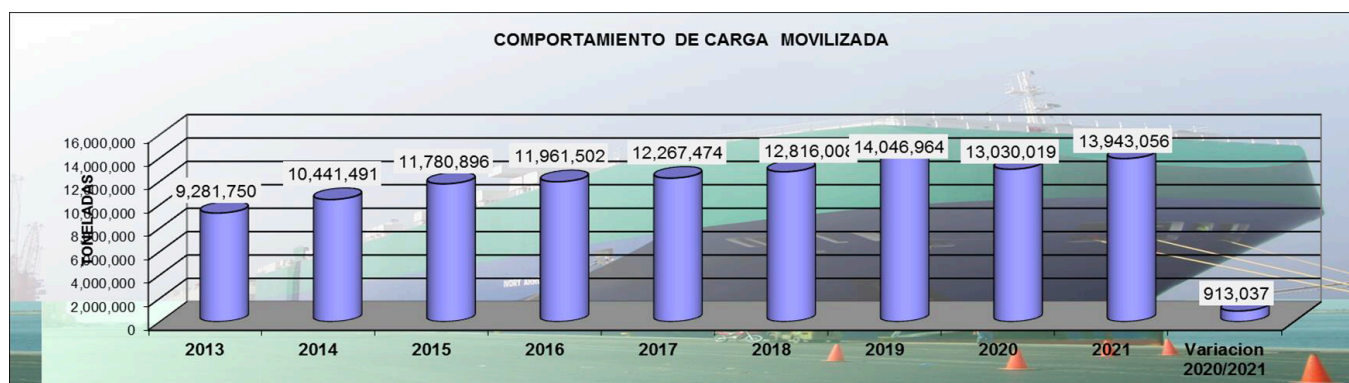

PORT QUETZAL COMPANY

ALTERNATIVE MOORING BUOYS FOR LIQUID BULK DISCHARGE

Behavior of Moved Cargo



LIQUID BULKS

SEBO: 54,520

FAT: 53,911

ALKANE, BENZENE: 610

RECEPTION TERMINALS

- PQP
- TAYASAL
- TAMPASA
- ALIANSA
- INDUSTRIA LA POPULAR
- DARSA

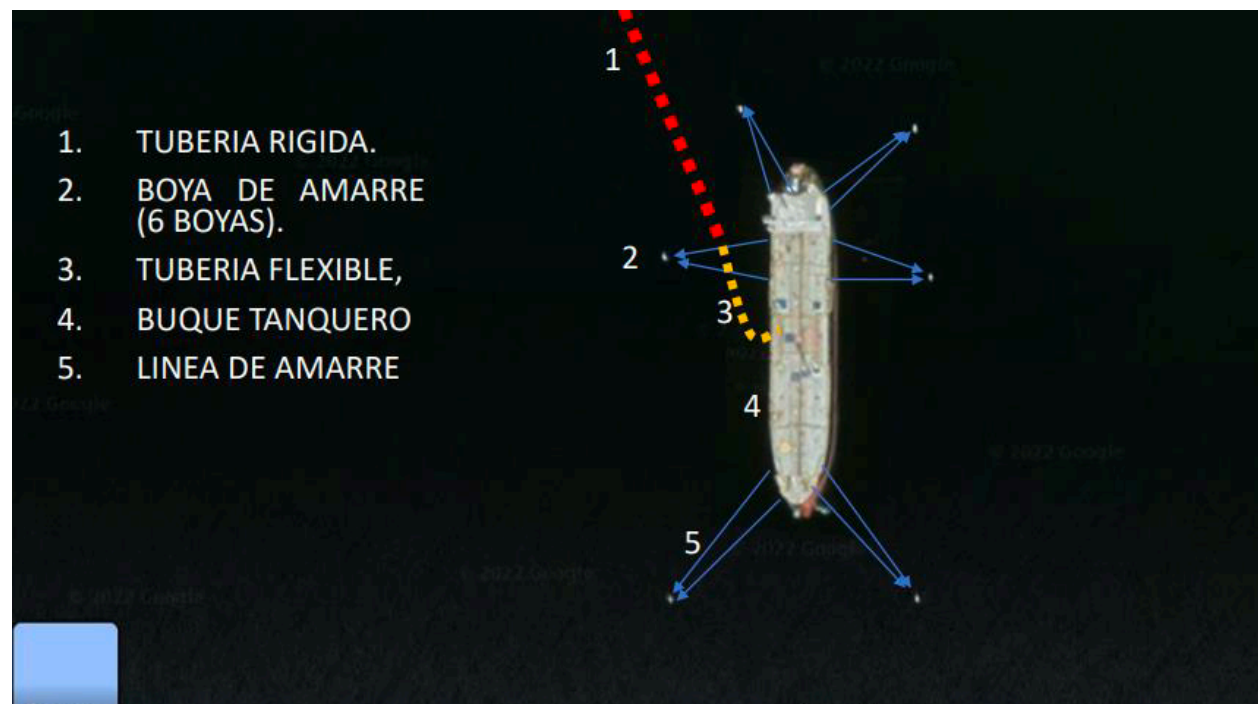
TANKER SHIPS REGULARLY BERTHED AT THE COMMERCIAL DOCK (TANKERS)

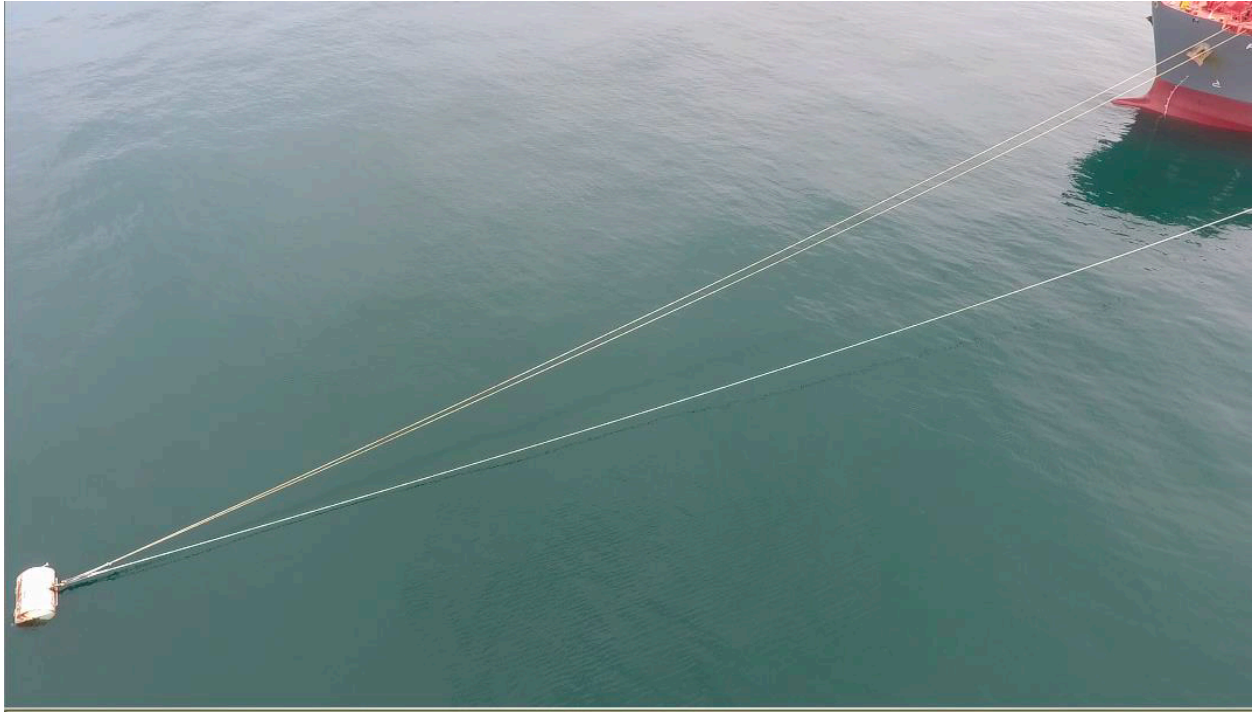
No.	Ship Name	Length (m)	DWT
1	FPMC 27	183.00	29,744.000
2	CHEMBULK SHANGHAI	144.00	11,515.000
3	NAVIG8 AMETRINE	84.06	23,676.000
4	NORDIC MARI	146.60	11,792.000
5	FPMC 28	183.00	29,744.000
6	FG ROTTERDAM	145.53	11,640.000
7	SEAWAYS ARIADMAR	183.00	30,018.000
8	FAIRCHEM STEED	145.53	11,642.000
9	INTREPID SEAHAWK	177.60	19,793.000
10	CELSIUS MEXICO	147.83	12,105.000
11	TRF KASHIMA	145.00	12,138.000
12	FPMC 24	183.00	29,734.000
13	STOLT SPAN	162.60	14,900.000
14	FAIRCHEM CONQUEST	149.03	12,247.000
15	GULF MIRDIF	182.88	26,329.000
16	NORDIC MARITA	146.19	12,042.000
17	SM OSPREY	183.00	29,762.000
18	FPMC 30	183.00	29,744.000
19	FPMC 28	183.00	29,744.000
20	CHEMSTAR JEWEL	149.00	12,226.000
21	FPMC 27	183.00	29,744.000

MOORING BUOY ALTERNATIVES IN AREAS NEAR THE MANEUVERING BASIN



BASIC EQUIPMENT EXISTING AND TO BE ACQUIRED "MOORING BUOYS"





EXISTING AND TO BE ACQUIRED BASIC EQUIPMENT "MOORING LINES"



Port Quetzal Company, Operations Management.

FLEXIBLE PIPELINES FROM SHIP TO SHORE



"ANCHORS" IN EXISTING INVENTORY



MARINE BOTTOM ANCHOR CHAINS



"MOORING CONFIGURATIONS"

- 6 BUOYS

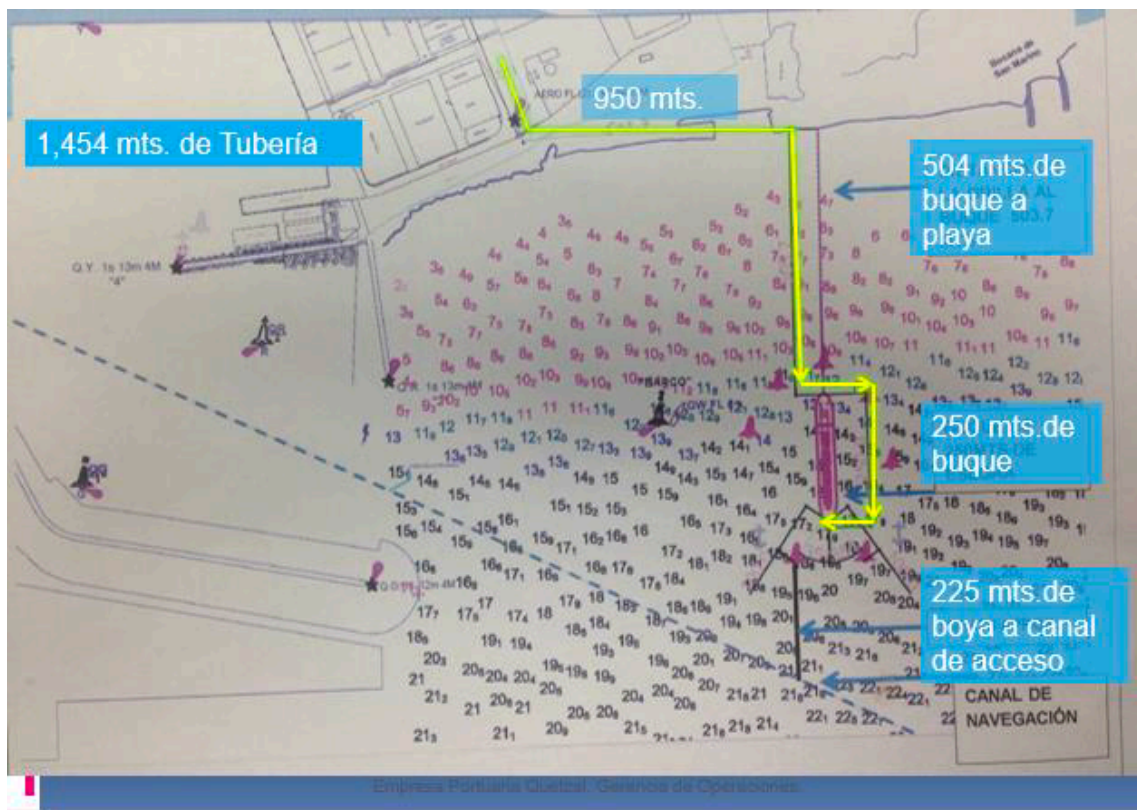


"MOORING CONFIGURATIONS"

- 4 BUOYS



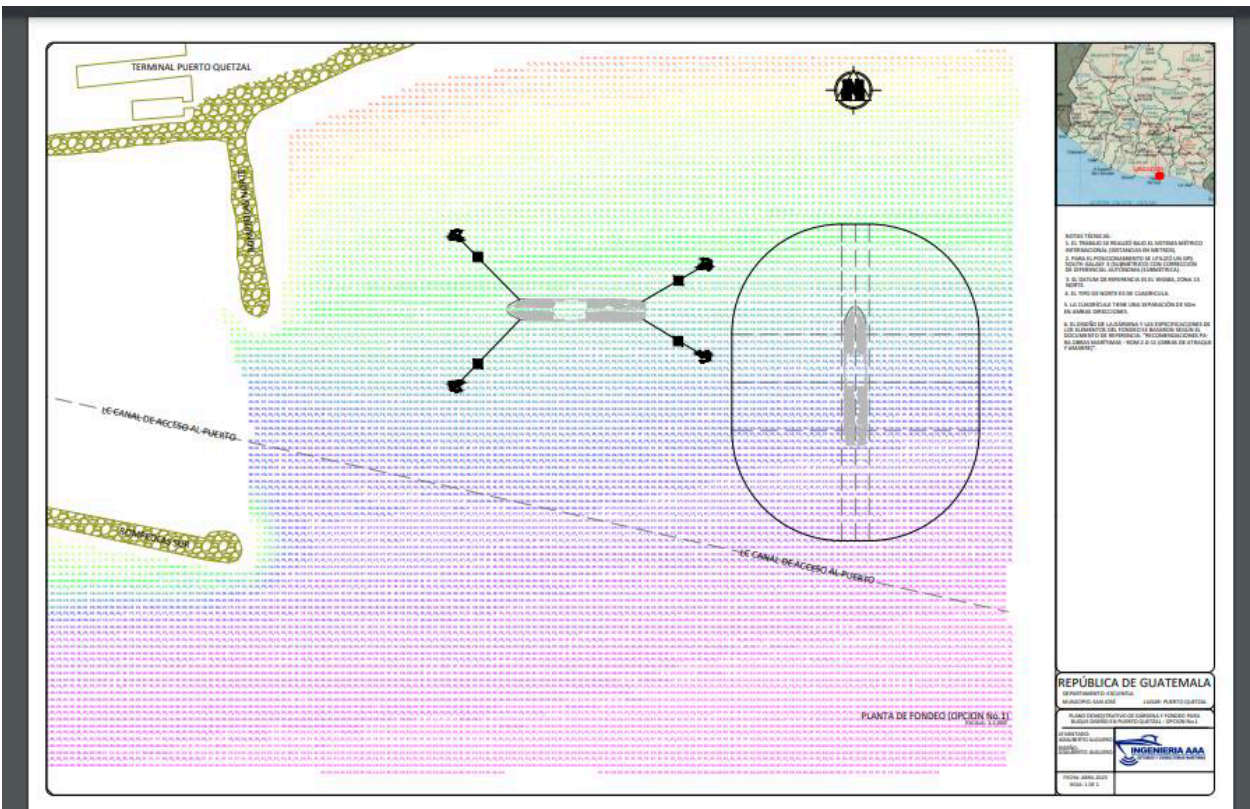
LOCATION AND DIMENSIONS OF POSSIBLE DISCHARGES



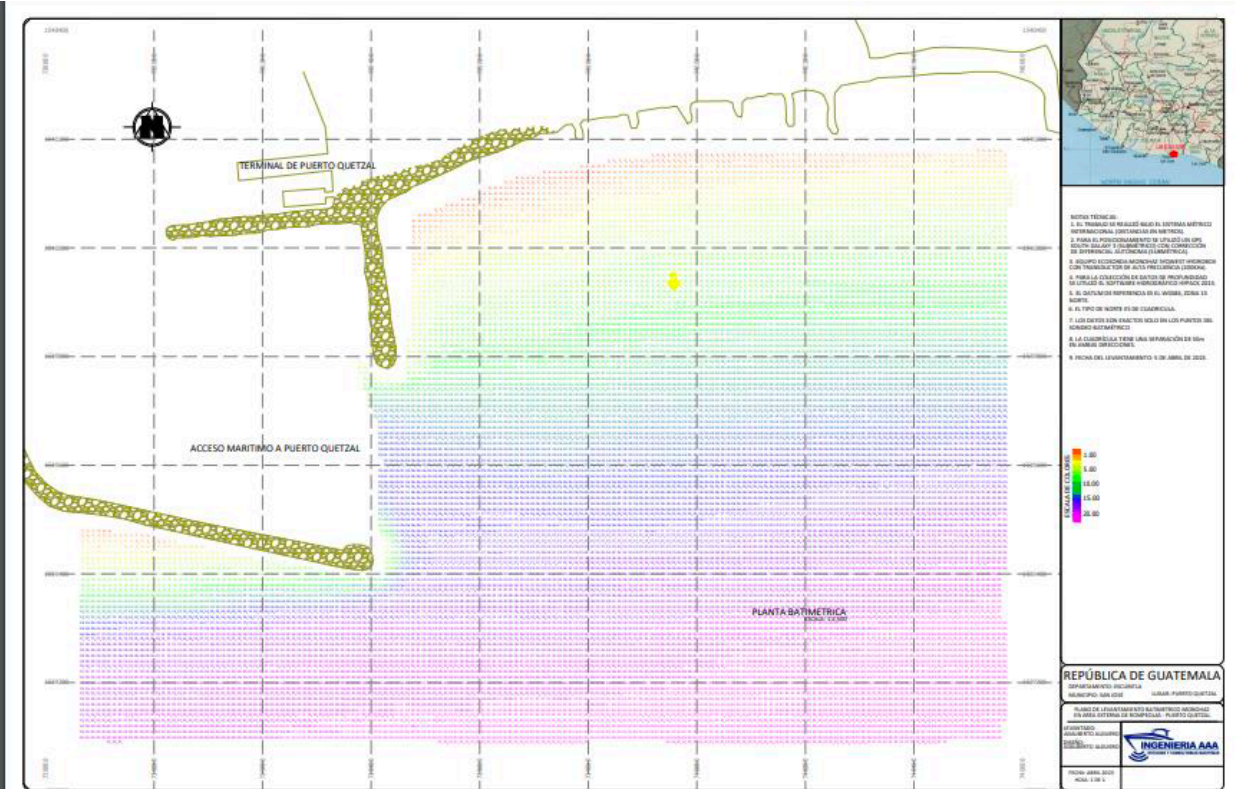
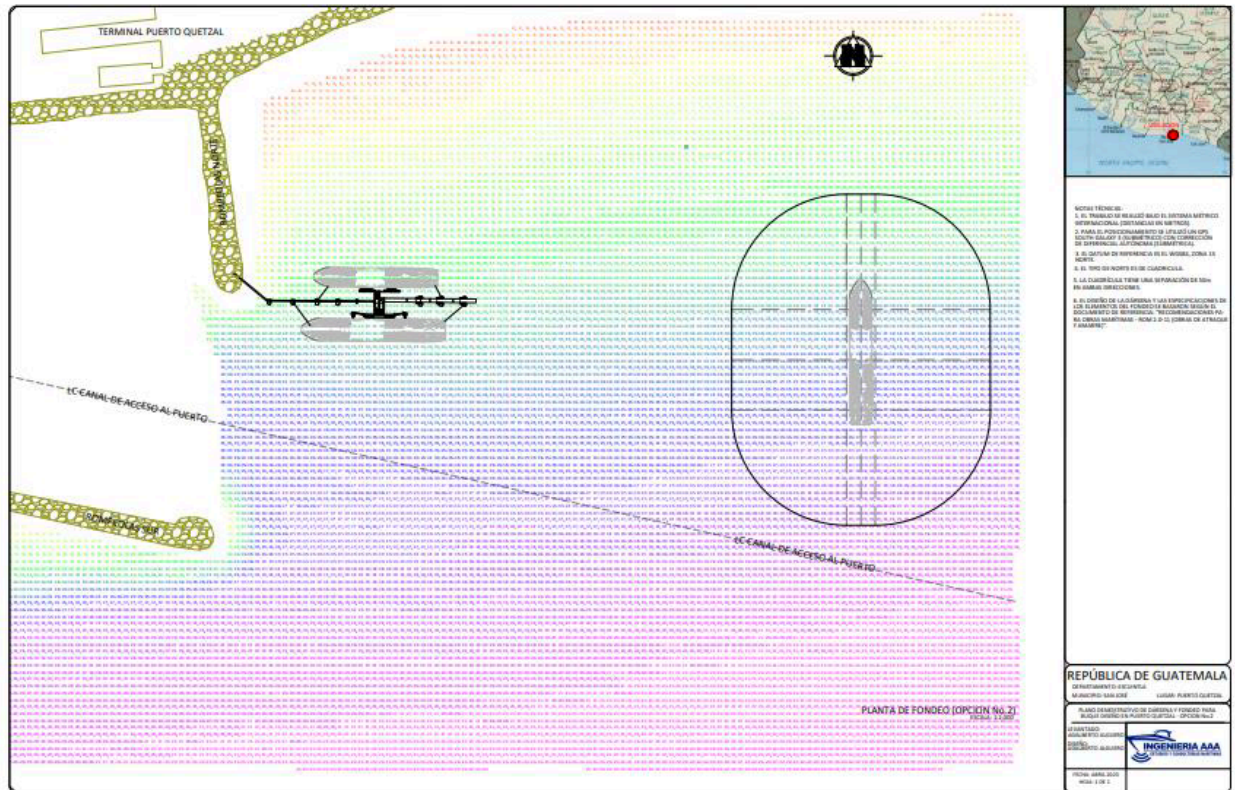
SUGGESTED SHIP POSITIONING AREA



SUGGESTED AREA ACCORDING TO STUDY



SUGGESTED AREA ACCORDING TO STUDY



STRATEGIC MARITIME AND LAND POSITION



TECHNICAL RECOMMENDATIONS

- THE LOCATION OF THE DISCHARGE TERMINAL SHOULD BE AT A SAFE DISTANCE FROM THE COASTLINE, NO LESS THAN 500 METERS OR WHERE ADEQUATE DEPTHS GREATER THAN THE DRAFT OF THE BERTHING SHIPS ARE FOUND.
- HAVE SUFFICIENT MANEUVERING AREA TO MAKE SAFE APPROACHES AND NOT INTERFERE WITH MANEUVERS OF OTHER SHIPS AT CURRENT FACILITIES.
- IT IS RECOMMENDED TO CONSTRUCT A MIXED MOORING SYSTEM AT THE BOW WITH MOORING BUOYS AND SHIP ANCHORS, AS WELL AS MOORING BUOYS AT THE STERN DEPENDING ON THE CHARACTERISTICS OF THE SHIP TO BE MOORED.
- PUERTO QUETZAL CAN PROVIDE BUOYS, LINES, ANCHORS, AND CHAINS, AQUATIC SPACE, AND TOWAGE SERVICE.
- INTERESTED COMPANIES CAN INSTALL RIGID PIPELINES TO THE DISCHARGE AREA IN THE AREAS LEASED FROM EPQ.

HIRING PROCEDURE

- HIRE A CERTIFIED CONSULTING COMPANY TO DESIGN THE TERMINAL.
- WITH THE DESIGN, THE EXECUTING COMPANY MUST CONFIRM THAT THE DESIGN WAS CARRIED OUT UNDER INTERNATIONAL STANDARDS AND PROCEED WITH THE CONSTRUCTION OR ADVISE PORT QUETZAL COMPANY IN THE EXECUTION WITH THE AVAILABLE RESOURCES.
- AFTER EXECUTION, HIRE A CLASSIFICATION SOCIETY (Lloyd's Register, Bureau Veritas, Korean Registers, Germanischer Lloyd, etc.) TO APPOINT A SURVEYOR TO VERIFY THE CONSTRUCTION AND ISSUE THE CORRESPONDING INTERNATIONAL CERTIFICATES TO OPERATE AT THIS TERMINAL.

PORT QUETZAL COMPANY

THANK YOU