

PIPELINE PROTECTION
MONTANAZO AND LUBINA ISLANDS — SPAIN

PIPELINE PROTECTION

Product: Articulated Concrete Block Mattresses (ACBM) and Lifting Frame

Problem - Arial 10 pt bold

The “Montanazo and Lubina Field Development Project” is a strategic project for Spanish energy. The project will increase crude production in the region to up to 6000 barrels per day, five times the current production. The life cycle of the fields is estimated to be between 5 and 10 years.

The project is located around 45 km to the SE of the coast of Tarragona, in an area on the continental shelf, and include the connection of the wells of Montanazo and Lubina (already drilled) to the Casablanca production platform in order to refine the crude at the existing installations. The distance between the wells and the Casablanca platform (165 m maximum depth) is 8 km from Montanazo (740 m maximum depth) and 12 km from Lubina (650 m maximum depth).

The wells will be connected to the platform following the shortest route considered. A carousel will be used to lay the pipelines. All the pipelines will be protected by trenching (immediately after the pipes have been laid). In the areas where a trenching solution will not be possible, pipelines and umbilicals will be protected with concrete mattresses which will be laid on the sea floor.

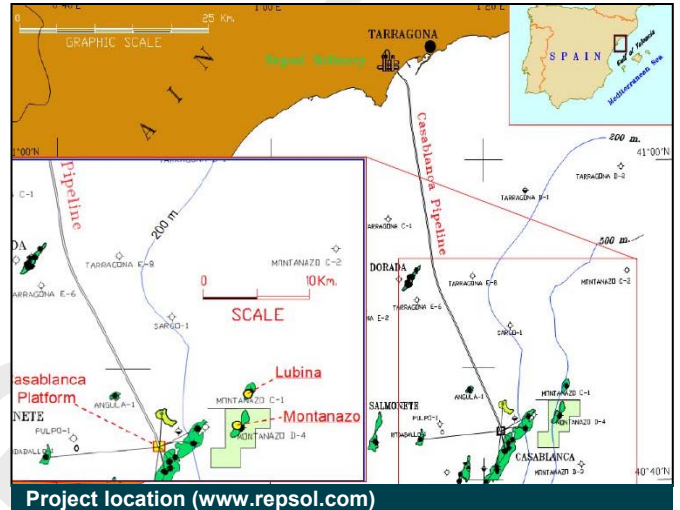
Solution

The ACBM mattress solution was chosen to provide protection to the flowlines and umbilicals from fishing activities and falling objects.

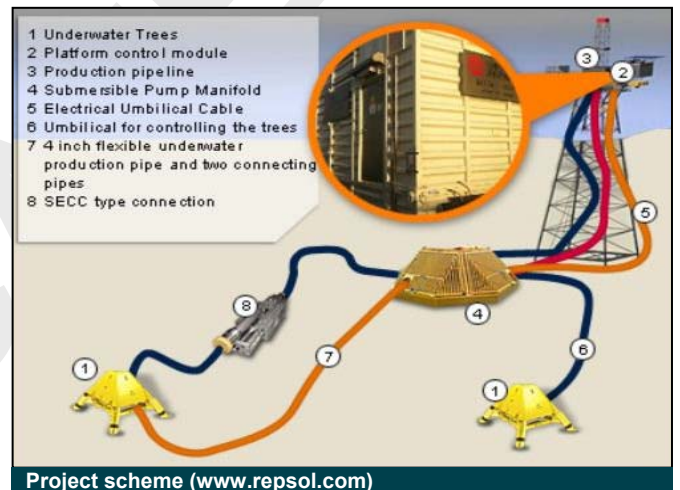
Particular attention was paid to the design/configuration of the mattress edge blocks concerning the protection against fishing activities.

The mattresses will be aligned according to the line to be covered.

ACBM mattresses have also been proposed in untrenched sections of the pipeline at crossings points.



Project location (www.repsol.com)



Project scheme (www.repsol.com)



ACBM during manufacturing operations

Client:

REPSOL

Main contractor:

TECHNIP FRANCE

Designer:

REPSOL

Products used:

ACBM MATTRESSES/LIFTING FRAMES

Date of construction

JULY 2011

Maccaferri supplied:

1. 86 ACBM 6 x 3 x 0.15m
2. 1 Double ROV-friendly automatic frame, suitable for installing 2 ACBM mattresses at the same time in deep water
3. 1 manual frame able to handle 4 ACBM mattresses at the same time.

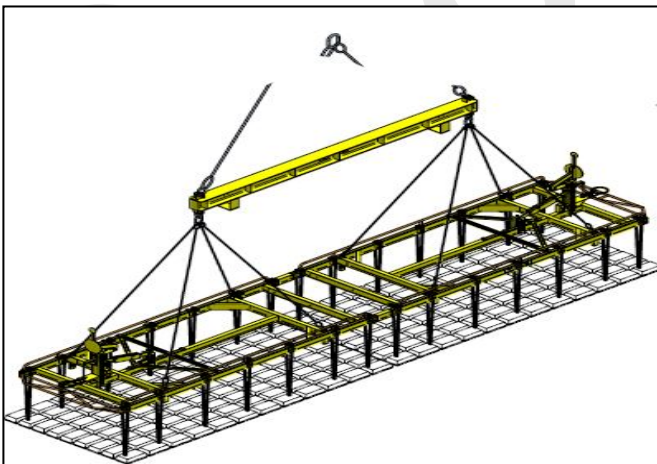
The client decided to install its working operations in Tarragona port close to Valencia, Spain. Accordingly Maccaferri placed its jobsite in Lleida, approx. 100 km from the final delivery point.



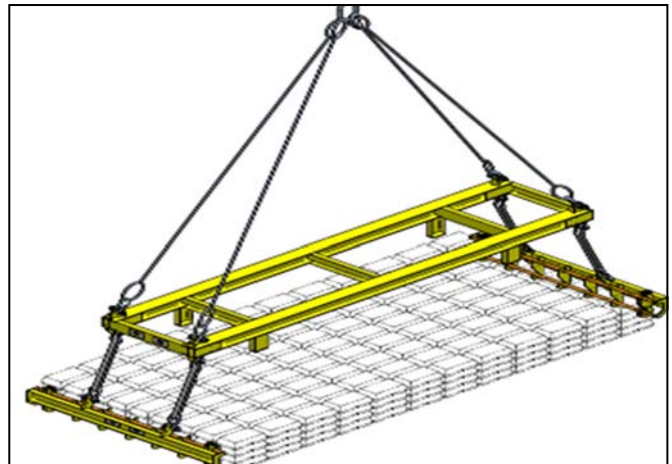
Manufacturing operations



Date: March 2013



Double automatic ROV friendly frame for deep water



Manual handling frame able to lift 4 ACBM at the same time

Officine Maccaferri S.p.A. Global Headquarters

Via JF Kennedy 10, 40069 Zola Predosa (BO) - Italy

T: (+39) 051 6436000 F: (+39) 051 643 6201

E: info@hq.maccaferri.com

www.maccaferri.com

Maccaferri operates under strict quality assurance and management procedures. Please visit the website of your local subsidiary for details of their Certifications.