

Project of chemical decontamination in Flix reservoir (Tarragona)

¿What is ACUAMED?

Introduction

1. ACUAMED is an instrument of the estate general administration set up to provide solutions to the growing complexity of water management along the Mediterranean area with efficiency and business management standards.
2. ACUAMED finances, builds, and operates the infrastructure entrusted by developing a network distribution system to guarantee water resources

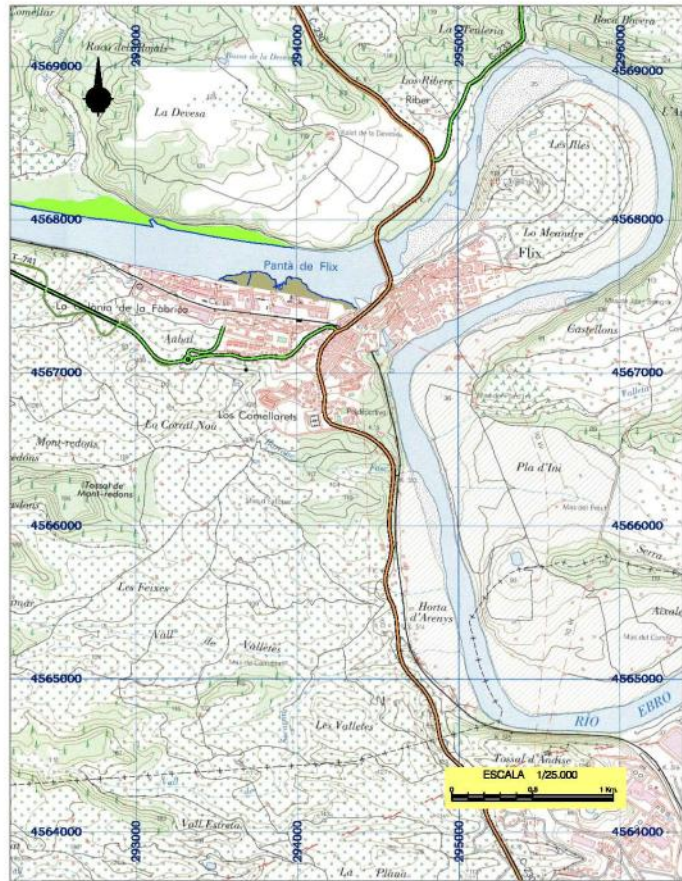
Índex

History

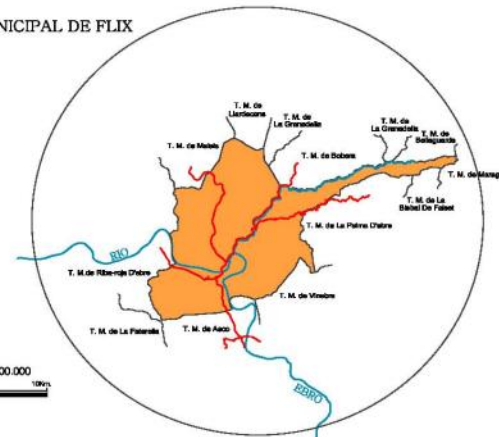
Adopted resolution

Safety measures

Location



TÉRMINO MUNICIPAL DE FLIX



History

- 1.The activity of the factory began in 1897
- 2.The factory has changed its facilities through the time
- 3.Flix Dam was built in 1949
- 4.In the mid 60-s, the neighboring Ribaroja and Mequinenza dams were built

Aerial photographs (II)

Aerial view in 1949

Construction site of Flix Dam



Aerial photographs (III)

Aerial view in 1956

Discharge shown



Aerial photographs (IV)

Aerial view in 1970

The discharge extremely visible



Aerial photographs (V)

Aerial view in 1985

Discharge can be seen



Aerial photographs (and VI)

Aerial view in 2005

Lobes of mud clearly visible



Groups of main contaminants

Heavy Metals

- Mercury

Organochlorines

- PCB
- DDT
- Hexachlorobenzene

Radionuclides

- Natural origin

Amount of waste

Volume of waste

• 600.000 m³

Volume of waste beneath Quaternary

• 200.000 m³

% of material to be treated

• 10%-20%



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History

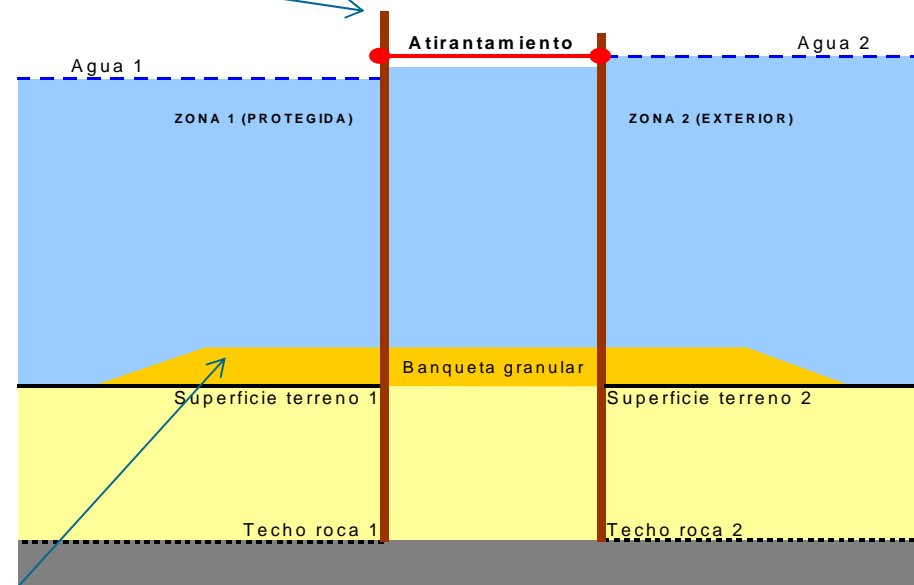
Adopted resolution

Safety measures

Sheet pile wall



Sheet pile wall



Sheet pile wall



Nº de imagen: 042676
Fecha y Hora de Toma: 24/02/2011 - 10:04

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Sheet pile wall



Nº de Imagen: 047115
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Sheet pile wall



Pile wall

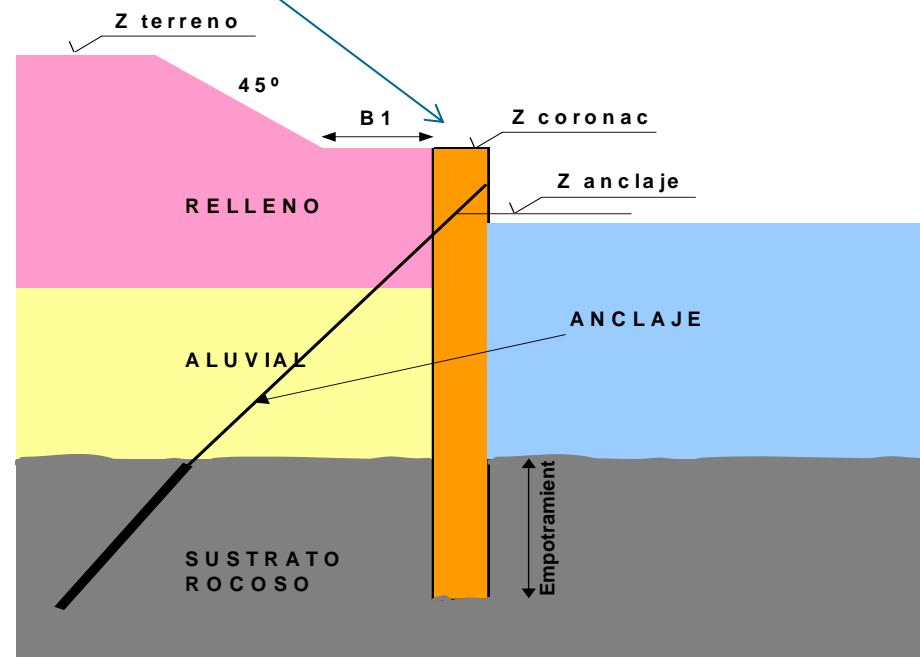




Nº de Imagen: 040081
 Fecha y Hora de Toma: 20/10/2010 - 12:13
 Proyecto: FUR SUSTRACORA
 Ubicación: SUSTRACORA
 Descripción: FUR SUSTRACORA



Pile wall



Pile wall

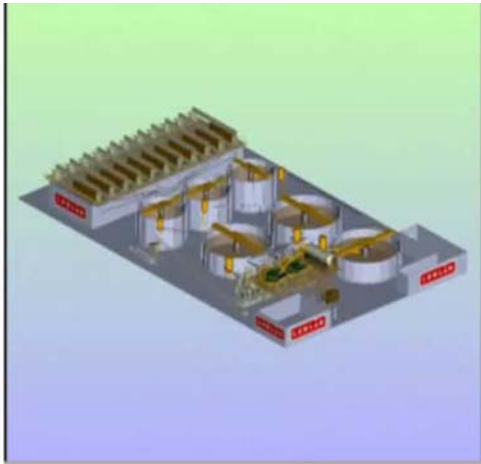
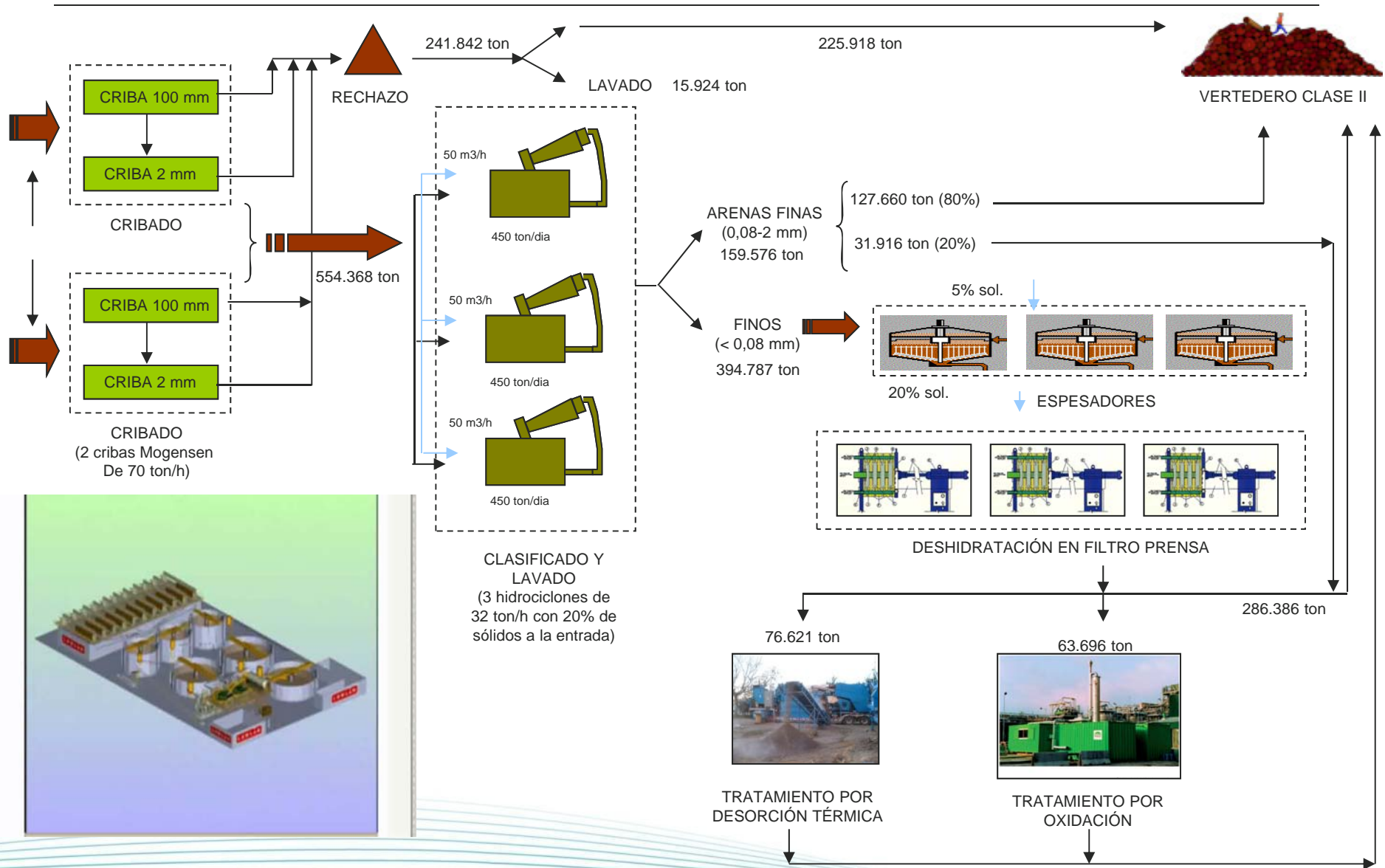




Pile wall

Treatment plant





Treatment plant



Nº de Imagen: 053924
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Treatment plant



Treatment plant



Treatment plant



Treatment plant



Dredging



Dredging



Dredging



Trucking

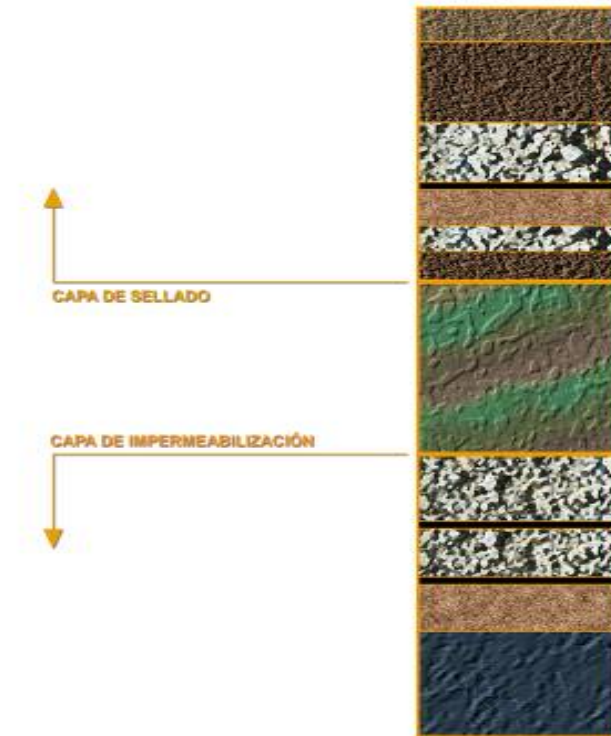


Dumping area cross section

Sealing layer

Treated mud

Waterproofing layer



Dumping area



Nº de Imagen: 053921
Fecha y Hora de Toma: 21/09/2211 - 17:48

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Dumping area



Dumping area



Dumping area



Dumping area



Dumping area



Final situation



Cost of the project

The total cost is around 192 M€

Breakdown of major items

Sheet pile wall	21M€
Pile wall	15 M€
Treatment plant	50 M€
Dredging	12 M€
Dumping area	38 M€

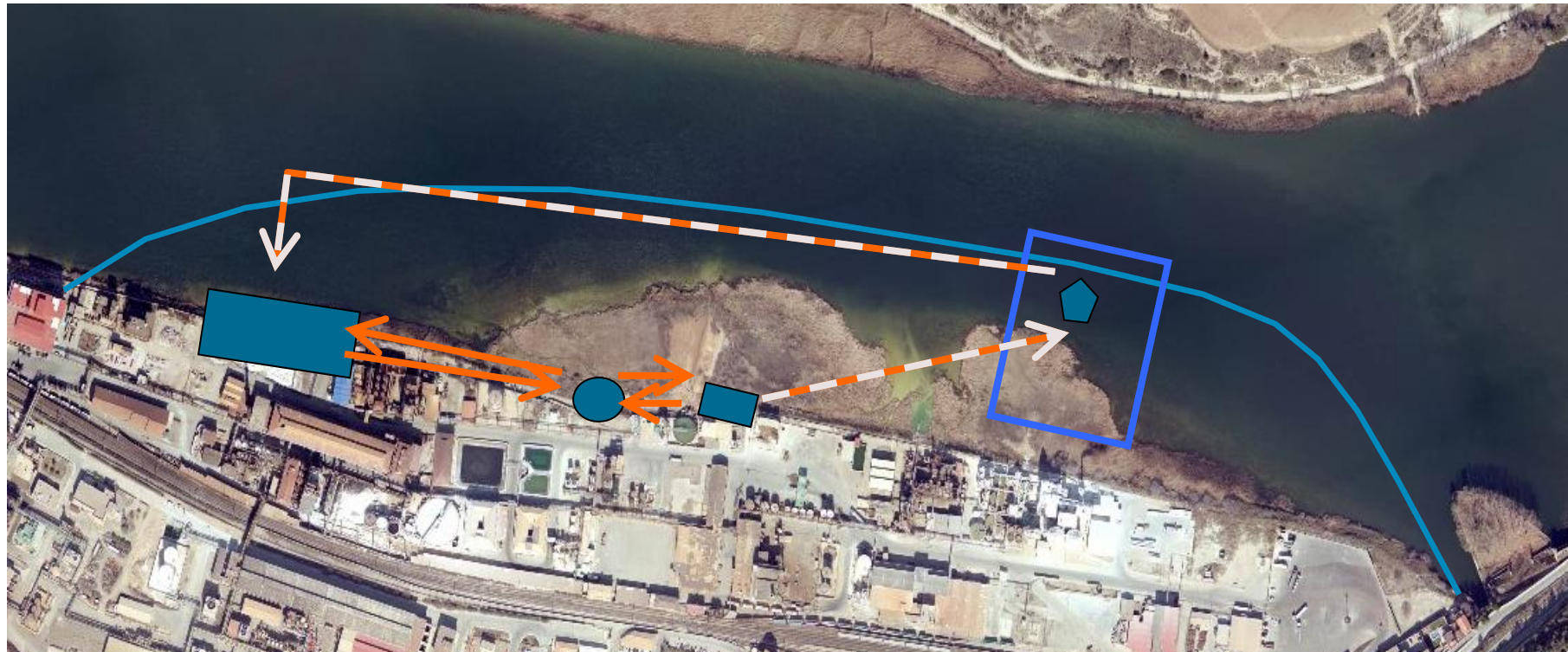
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History

Adopted resolution

Security measures

Water management



Water quality control



Wastewater treatment plant



Wastewater treatment plant





Laboratory



Emergency water well



Emergency water well



Emergency water well



Thank you



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DE ESPAÑA

MINISTERIO
DE MEDIO AMBIENTE
Y MEDIO RURAL Y MARINO

acuaMed
Agua de las Cuencas Mediterráneas