

# AMBES OIL DEPOT



INFORMATION DAY OF CEDRE

22 MARCH 2007

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Royan

SPBA Depot



29 km  
45°18'18.49" N 0°57'39.09" O elev. 9 m

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Image © 2007 TerraMetrics

Mise au point 100%

© 2007 Google

Altitude 100.07



# THE SPBA DEPOT



**Crude oil  
storage facility**



**Friday 12 January 2007 – 8am**  
**Rupture of tank 1602**  
**Loss of 13,500 m<sup>3</sup> of crude oil**

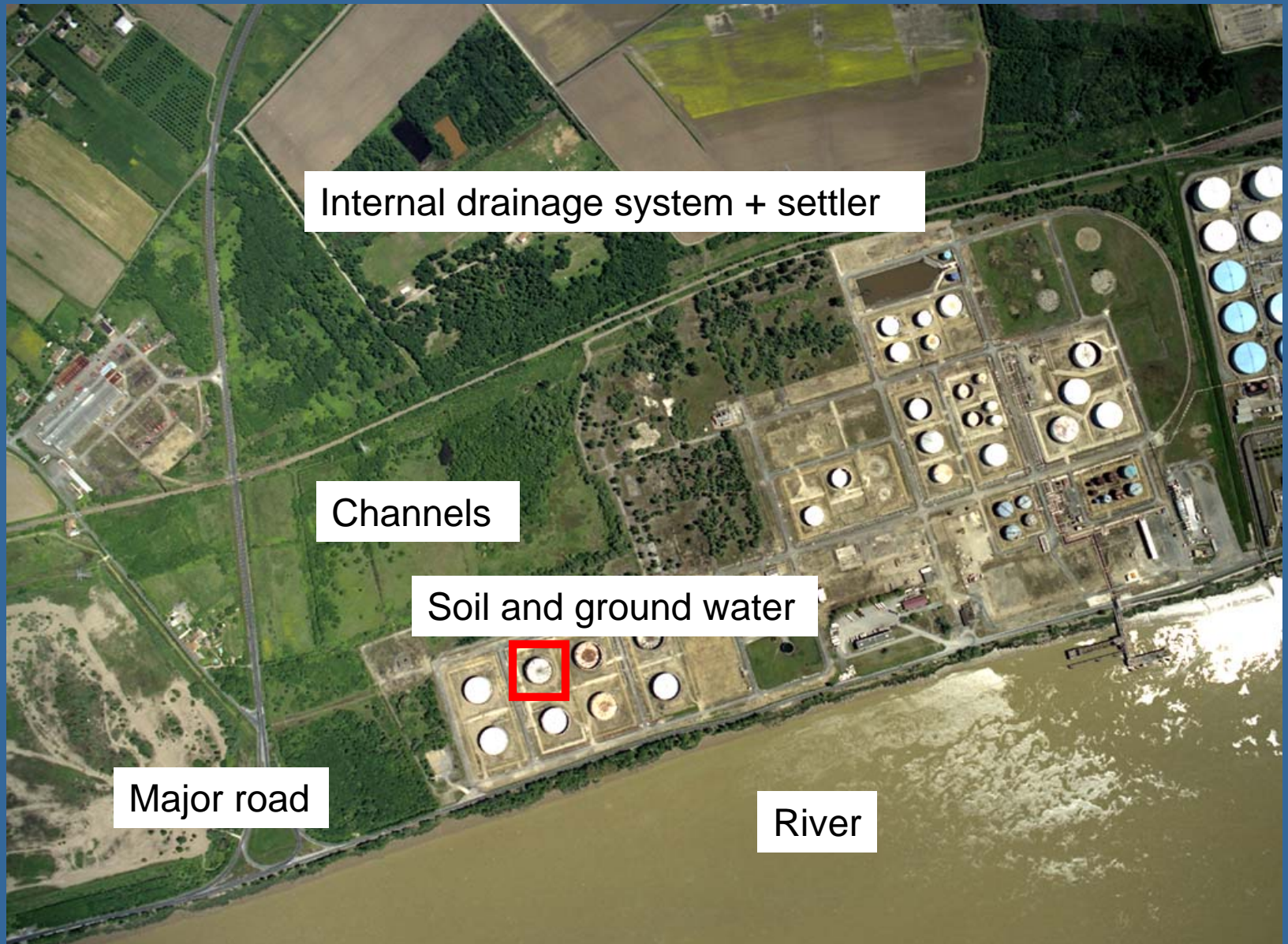


# Resistance of tank but wave effect





# Impacts of the disaster



Internal drainage system + settler

Channels

Soil and ground water

Major road

River



**Take protective measures**



**Activate internal emergency plan (IEP)**



# First measures taken by operator (IEP)

- Alert authorities and Fire service
- Application of a foaming agent
- Evacuation of personnel and subcontractors
- Request for closure of major road



# Reflex actions of the Fire service

- Contact with the site leader and request activation of an operational response centre on site, led by the Fire service (60 firemen and 15 engines)
  - In parallel, fixed response centre at the Préfecture (up until 16/01 plus briefings)
  - Internal response centre at the Blayais power station
- Stop operations and cut the power
- On site surveying: search for victims, network of atmospheric measures (H<sub>2</sub>S and explosimeter), spreading of foaming agent in the settling tank
- Evacuation of neighbouring companies (15 people accommodated at the town hall for the day)
- Aerial surveillance of the river
- Alert rail service, port of Bordeaux, neighbouring companies to stop traffic and activities

# Actions of the Fire service

## Planned stage

- Pumping of oil from the retention basin
  - Transfer of contents of the tanks of the retention basin outside the oil storage facility
  - Digging of a drainage trench around the storage facility
  - Containment, reduction of the spreading of oil
- ▶ Transfer of the organisation of operations to the operator after 8 days.

80 people day and night for the first 10 days



# Monitor the air quality (explosimeter, H<sub>2</sub>S, BTEX)

Foaming  
agent





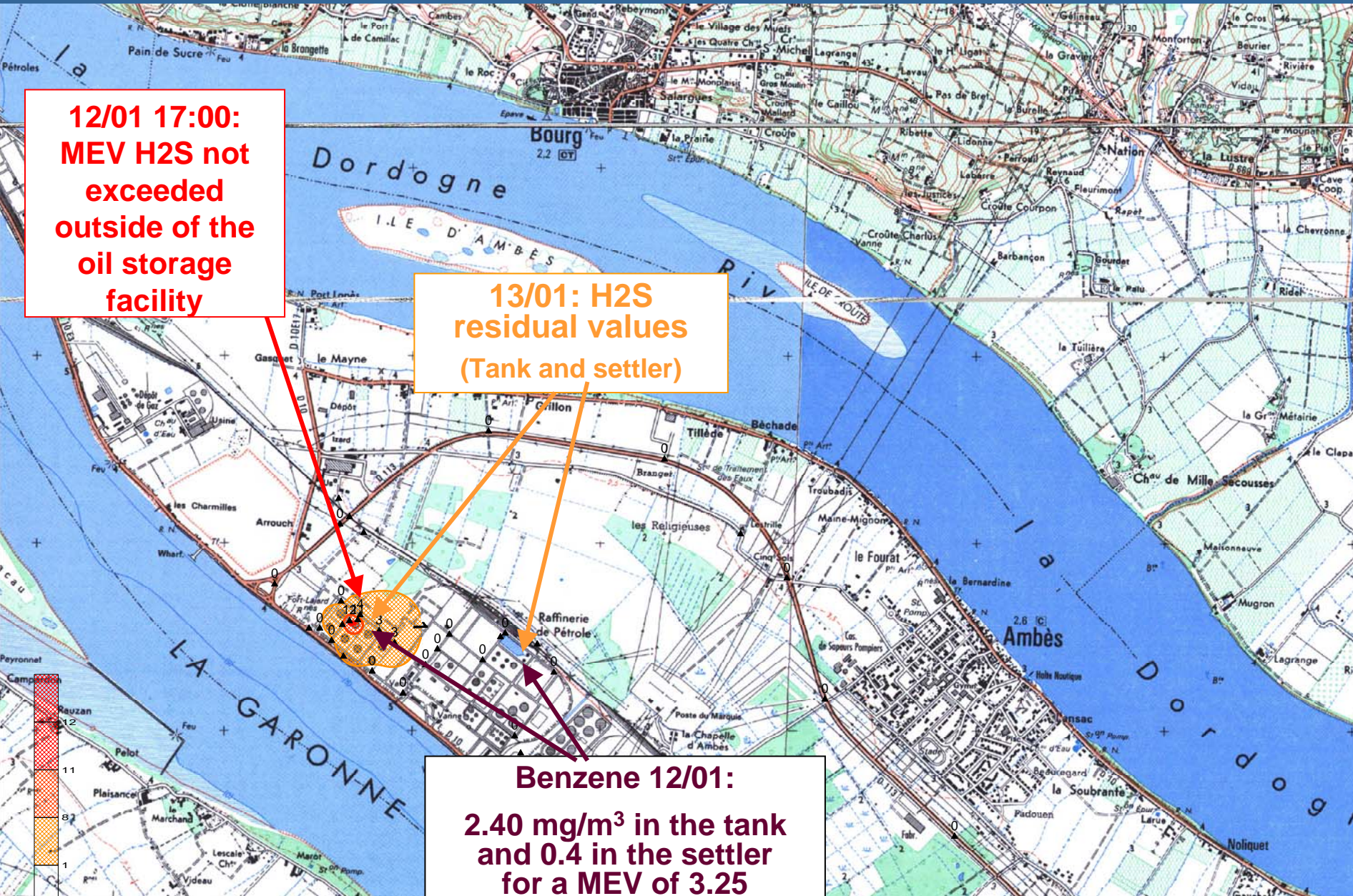
# Air quality (source: laboratoire SGS)

**12/01 17:00:  
MEV H2S not  
exceeded  
outside of the  
oil storage  
facility**

**13/01: H2S  
residual values  
(Tank and settler)**

**Benzene 12/01:**

**2.40 mg/m<sup>3</sup> in the tank  
and 0.4 in the settler  
for a MEV of 3.25**

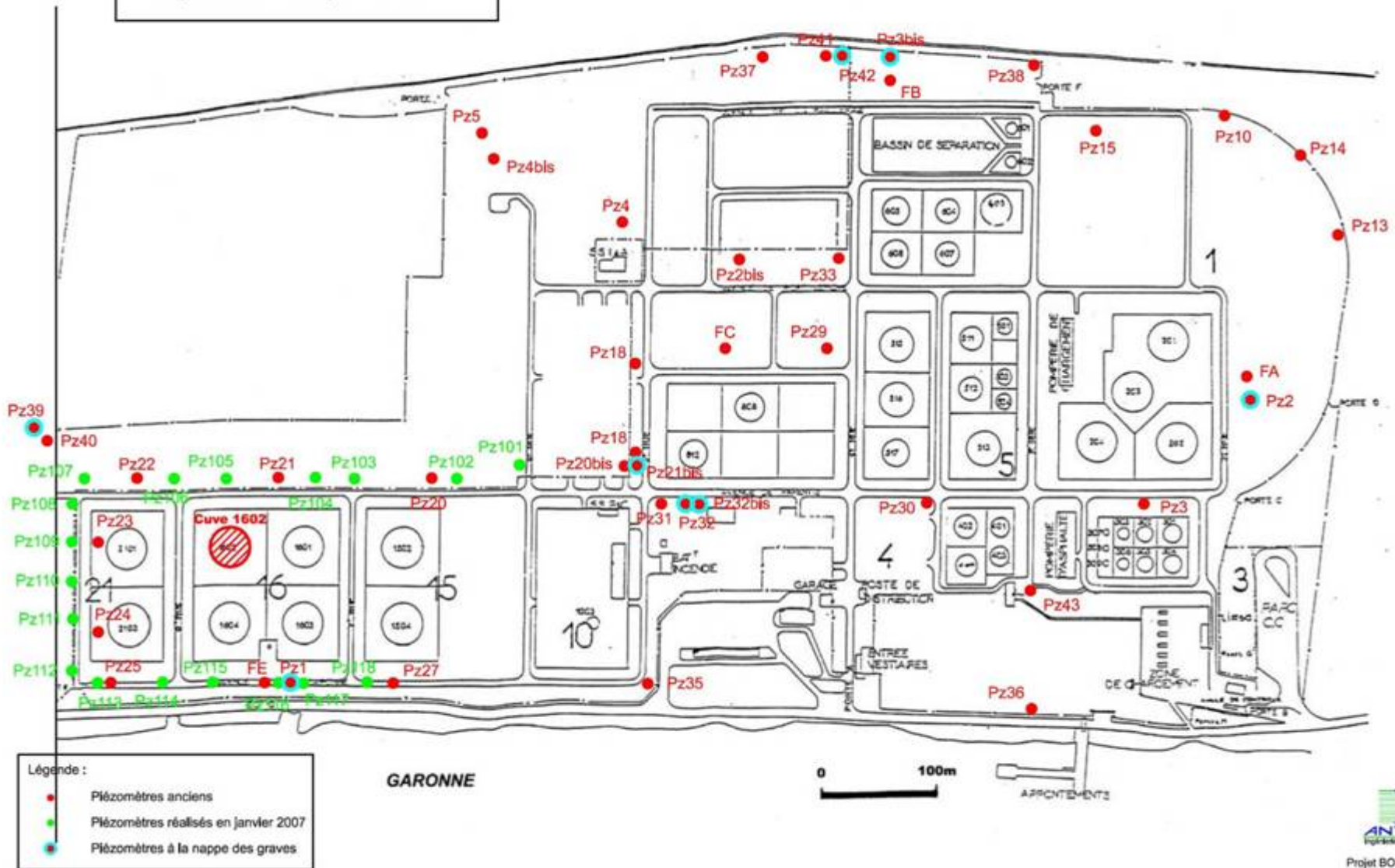




# Pollution of the soil and ground water (Antéa)

S.P.B.A. - Ambès (33)

Implantation des piézomètres



# Response offsite

- GARONNE AND DORDOGNE
  - Assess the initial situation: aerial observation
  - Response to drifting slicks
  - Pump and contain the potential sources of pollution
  - Clean embankments roughly
  - Monitor self-cleaning
- CHANNELS
  - Reduce spreading: makeshift booms
  - Prune and cut back brushwood
  - Mark out routes and protect the ground
  - Recover floating pollutant
  - Scythe and dispose of oiled vegetation
  - Scrape and rinse the embankments



# ASSESSING THE INITIAL SITUATION



POWER BY FORCE - 30.000000 147.000000  
L.0000 00.00 00.00  
ADMINISTRATIVE DEPARTMENT OF ENVIRONMENTAL LABORATORY  
30000 LORDEAUX  
TEL : 00 33 49 04 04 00 - FAX : 00 33 49 04 11 00

12 January 2007: 50 m<sup>3</sup> of crude oil on the right bank of the Garonne, as the tide began to rise.



### DRAGON 33 survey on 13.01.2007 (SDIS 33 / FOST)

"Between KmP 45 and KmP 35: sheen.

By KmP 35 (Blaye): stagnation of the pollutant on shoals.

From KmP 35 to KmP 10: free pollutant on the surface (trails of hydrocarbons varying in size and concentration.

Upstream of KmP 10: sheen.

Dordogne: banks oiled as far as île de Croute."



# Observations of 13 January 2007 to the right of the site



# Aerial observations of 14 janvier 2007



**Bec d'Ambès**



**Fort Paté**



**Blaye**

# RESPONSE TO DRIFTING SLICKS



Source: SPBA

Application of dispersant by coastal pilots (12/01/2007) +  
intervention of the buoy tender the Gascogne on 13/01/2007



Sorbent boom deployment under wharfs to catch  
floating pollutant in both directions of the tidal current  
(began 14/01/2007)



Dynamic then manual recovery  
of floating pollutant (began  
15/01/2007)



# PUMPING AND CONTAINING POTENTIAL SOURCES OF POLLUTION



Pumping off accumulations of pollutant by the banks (began 12/01/2007)



Installation of a shore-sealing boom in front of the largest source of run-off (15/01/2007)



Sorbent boom deployment in front of pollutant run-off (began 14/01/2007)



Implementation of makeshift booms (straw + wire + geotextile) to reinforce the system (began 18/01/2007)



Creation of cofferdams to contain and recover the pollutant on the bank in areas where pollutant is released into the river (began 19/01/2007)



# CLEANING EMBANKMENTS ROUGHLY



Manual collection of solid waste to prevent it from being remobilised by the tide (began 20/01/2007)







Creation of a vertical drain to conduct a spot test for pollutant soaked into the banks (began 20/01/2007)

# MONITORING SELF-CLEANING: Nautical survey 13/01, 24/01, 01/02 and 06/03





-  40 km initially affected
-  30 km affected on 24/01 (yellow sections cleaned naturally)
-  12 km affected 01/02 on the Garonne / Dordogne not surveyed (orange sections cleaned naturally since 24/01)
-  10 km affected on 06/03 (red sections cleaned naturally since 01/02)





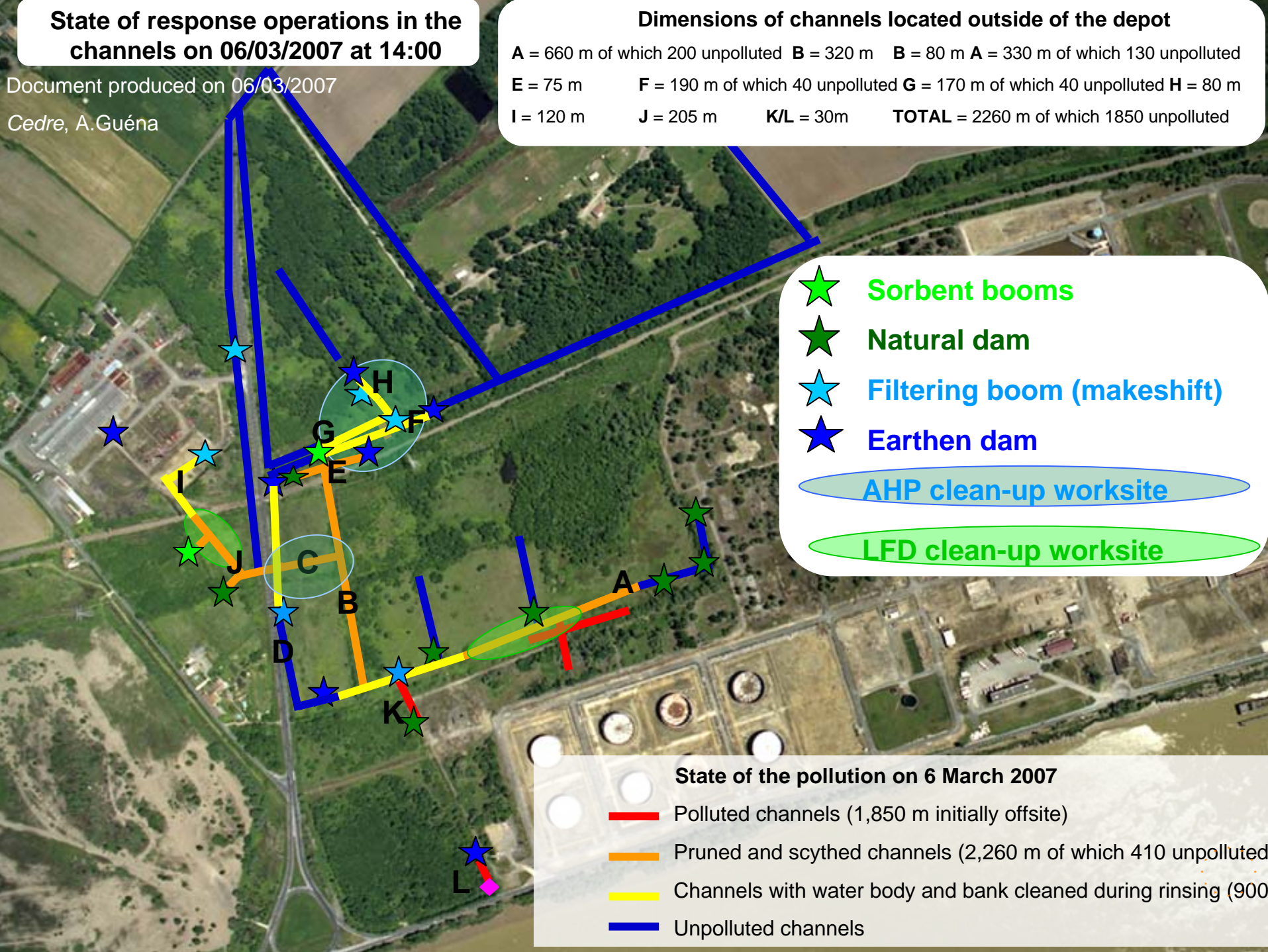
**State of response operations in the channels on 06/03/2007 at 14:00**

Document produced on 06/03/2007

Cedre, A.Guéna

**Dimensions of channels located outside of the depot**

A = 660 m of which 200 unpolluted B = 320 m B = 80 m A = 330 m of which 130 unpolluted  
 E = 75 m F = 190 m of which 40 unpolluted G = 170 m of which 40 unpolluted H = 80 m  
 I = 120 m J = 205 m K/L = 30m TOTAL = 2260 m of which 1850 unpolluted



- ★ Sorbent booms
- ★ Natural dam
- ★ Filtering boom (makeshift)
- ★ Earthen dam

AHP clean-up worksite

LFD clean-up worksite

**State of the pollution on 6 March 2007**

- Polluted channels (1,850 m initially offsite)
- Pruned and scythed channels (2,260 m of which 410 unpolluted)
- Channels with water body and bank cleaned during rinsing (900)
- Unpolluted channels



# STOPPING THE POLLUTION FROM SPREADING USING MAKESHIFT BOOMS





# PRUNING AND CUTTING BACK BRUSHWOOD





# MARKING OUT ROUTES AND PROTECTING THE GROUND





# RECOVERING FLOATING POLLUTANT





# SCYTHING, RECOVERING AND DISPOSING OF OILED VEGETATION FROM BANKS





# SCRAPING AND RINSING BANKS, WITH USE OF SORBENTS



# NEXT STEPS

- A dedicated project team
- Permanent dialogue with insurance experts
- Continuation of operations in the channels: closure of operations on 04/04/07
- Continuation of monitoring of natural cleaning of the banks of the Garonne: surveying on foot on 05/04/07
- Mapping of polluted ground and estimation of volumes (March 2007, Antéa)
- Excavation of soil and treatment (consultation)
- Resuming operations in oil storage facility (when?)
- Civil and penal investigations: procedures which are likely to be lengthy