



13th Cedre Information Day

INHES

Tuesday 18 March 2008



Fire and Rescue Service for the Department of Moselle

The PROBO KOALA

Colonel Bernard FRANOZ

Lt Colonel Samuel GESRET

The incident

The PROBO KOALA



The Probo-Koala is a Panama-registered oil tanker, owned by a Greek shipping company and chartered to the Dutch and Swiss company Trafigura

2006

United States

Gibraltar

16-26 June

Amsterdam

2 – 5 July

Estonia

9-10 July

Canaries

23 July

Togo

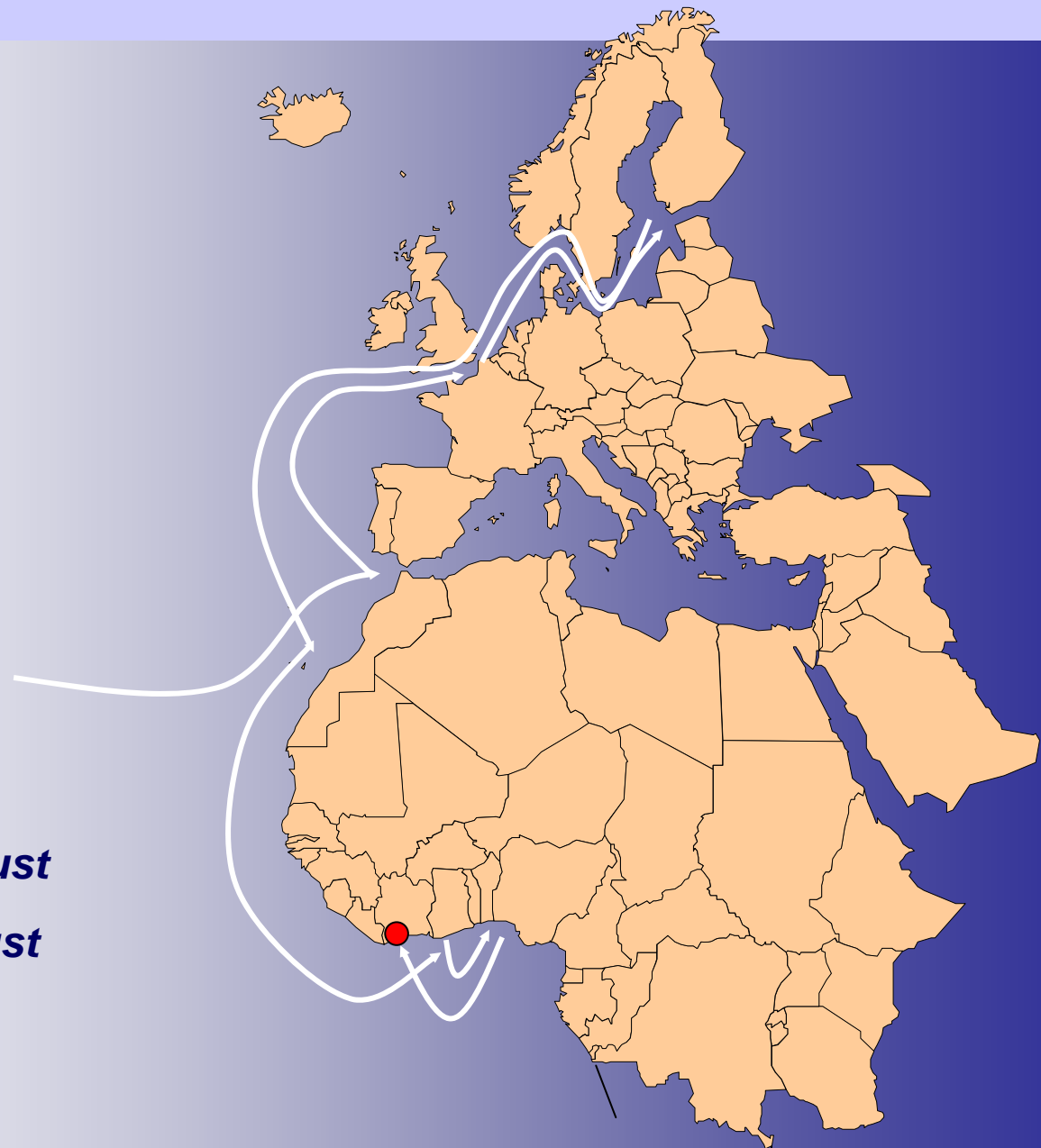
30 July

Nigeria

1 – 16 August

Côte d'Ivoire

19-22 August



Nord-Sud

Scandale du "Probo Koala"

La Menace Toxique

gagne tout Abidjan

- Le danger de la radioactivité plane
- La révolte monte à Abidjan
- Les victimes témoignent



- La société responsable condamnée à 50 millions de Fcfa

Après les élections

Ben Badi parle d'avec Orlando Pirotte

Réunion des "cinq grands"

Yakro III confirme l'échec de Banny

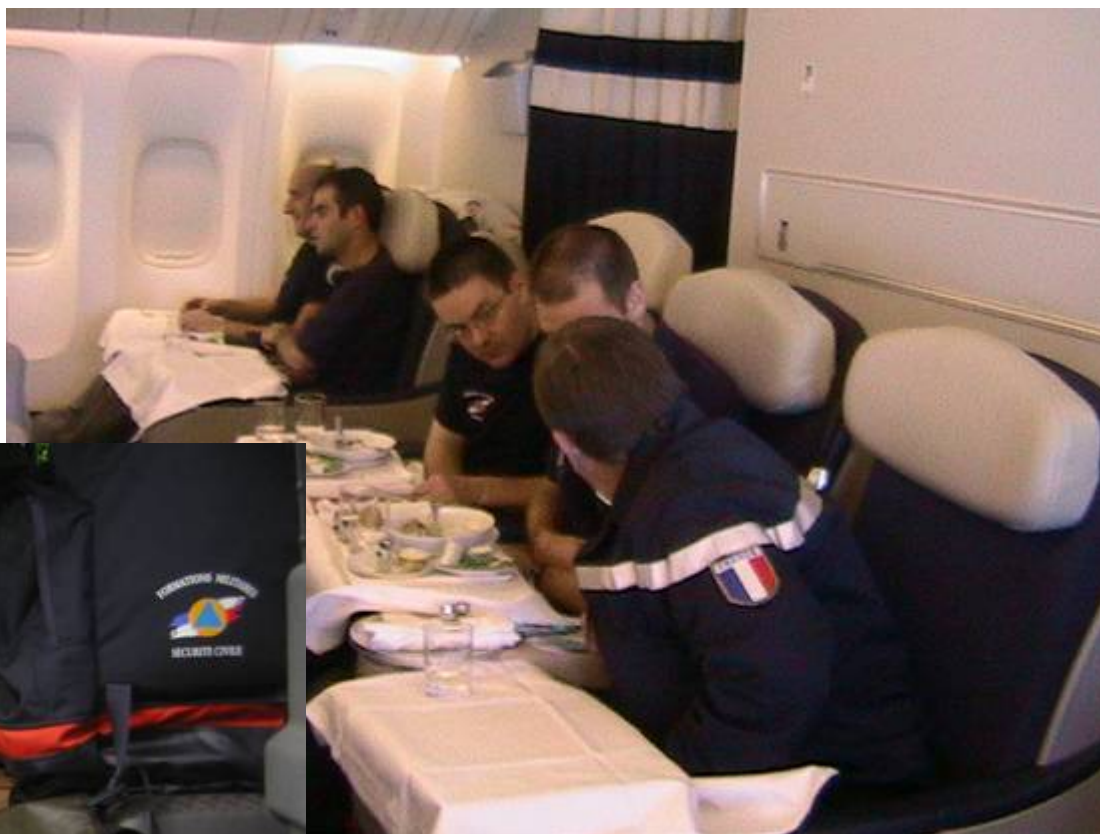
- Désaccord total sur tout




The role of civil security

Mission

from 8 to 15 September 2006



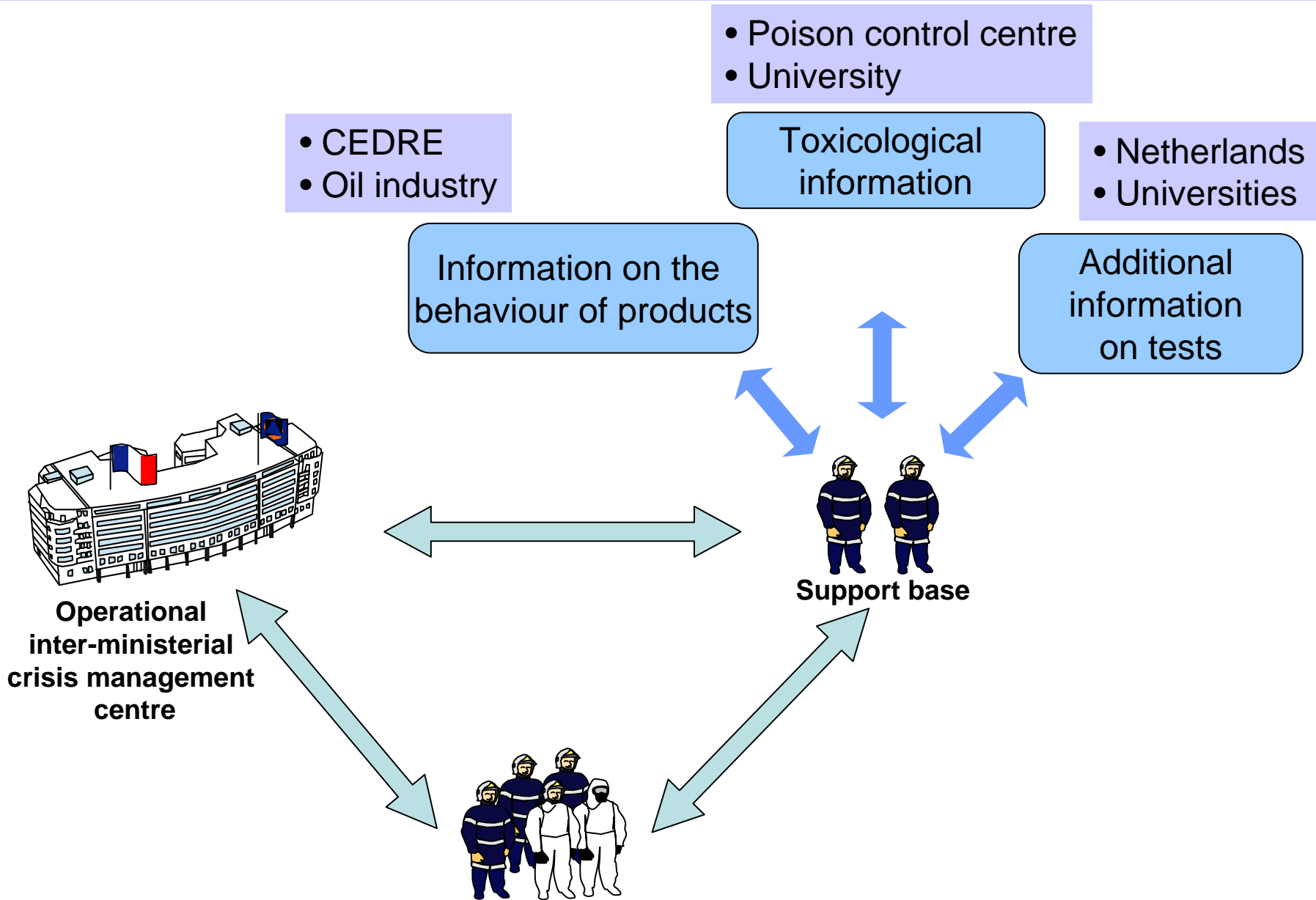
Col. FRANOZ, DDSIS57, crew boss
Pharmacist BIOT, BMPM
CNE GIRARDOT, UIISC1
LTN DUMONDIN, UIISC7
SGT GAYOUT, UIISC7

Detection equipment and personal protective equipment

- ⇒ 1 CMS kit + colour comparison tubes (H₂S, mercaptans,...)
- ⇒ 1 AP2C
- ⇒ 1 Tim's
- ⇒ 2 PID
- ⇒ 1 multigas detector (explo, O₂, H₂S)
- ⇒ 1 GC/MS HAPSITE

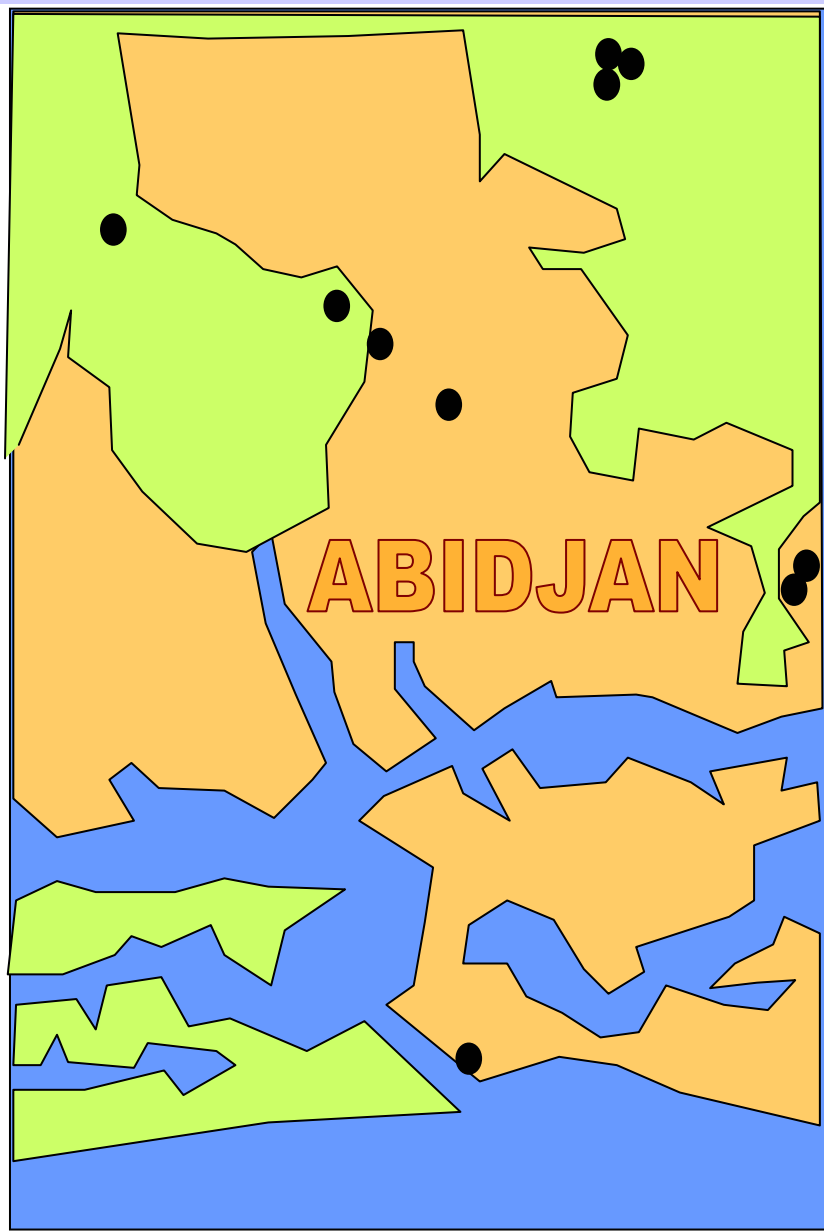


Source COMFORMISC / L G



Site surveys

The sites









Sampling, analysis and conservation measures

Symptoms observed:

Headaches

Stomach aches

Irritation of skin and mucous membranes

Nosebleeds

Breathing difficulties

No information on:

Location of victims

Exposure time

Nature of exposure

Date of observation of effects





Physical appearance:

- ⇒ Blackish viscous liquid in pools
- ⇒ Fluid, clearer liquid in truck (similar appearance to petrol)

Odour:

- ⇒ Repulsive garlic-like odour

Colorimetric detection:

- ⇒ $H_2S < 1$ ppm
- ⇒ mercaptan: positive (saturation of tube at 5 ppm in pool)
- ⇒ hydrocarbons: positive (qualitative tube)
- ⇒ benzene < 5 ppm
- ⇒ methyl bromide < 5 ppm
- ⇒ thioether: positive (qualitative tube)

AP2C:

- ⇒ Positive detection of sulphur

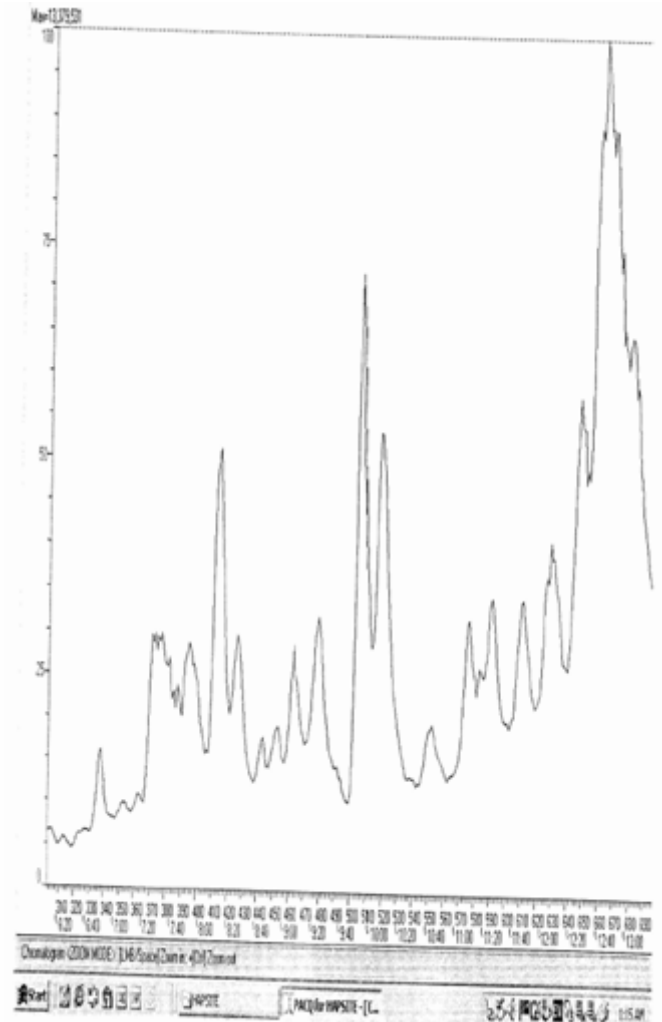
Electrochemical H_2S cell:

- ⇒ 0 ppm in pool (4 ppm in truck)

pH:

- ⇒ 9 in pool with water

- ⇒ A majority of hydrocarbons characteristic of oil products (alkanes, aromatic hydrocarbons).
 - ⇒ Mercaptans present in the form of traces (ethanethiol, propanethiol).
 - ⇒ Sulphur present mainly in the form of disulphurs and thiophene
 - ⇒ Presence of phenol, in acute quantities in aqueous sample (soluble compound at 80 g/l).
 - ⇒ Presence of traces of dichlorobenzene.
-
- ⇒ **Measurements consistent with initial Dutch analyses (the product appears to have evolved in 1 month)**



Source COMFORMISC / L G

Information from authorities



Response

The following precautionary measures were given:

- ⇒ set up an exclusion zone 200 m around the pools of chemicals
- ⇒ destroy cultures within a radius of 500 m

Advice was given on:

- ⇒ conducting an epidemiological study with analysis of biological parameters through blood or urine tests, coupled with an environmental study (land, water, vegetation)
- ⇒ having an independent laboratory carry out further tests.

Source COMFORMISC / L G

Waste recovery



CONSEQUENCES

16 people died

69 people taken to hospital

108,427 check-ups, of which 41% of cases confirmed as affected by the spreading of the toxic chemical on 16 sites identified by the city of Abidjan