



Cedre Information Day

1st April 2014

Operational Response at Cedre

By

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Emergency Response Coordinator

Cedre

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Overview of Cedre's missions

- A PRIORITY PUBLIC SERVICE MISSION (expertise and support to authorities) "to provide operational advice to the relevant authorities in an emergency situation" for surface, marine or inland waters.
- All pollutants: oil, HNS, other.

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Chemical risks at the Emergency Response Centre

- 110 -140 requests each year
- 50% real incidents, among which 50% concern chemicals
- 6 duty engineers for the Emergency Response activity, two GIS specialists.
- Laboratory and meso scale experiments
- Agents able to be mobilised in the field.
- Network activation: CASU, Ifremer, Universities...

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Chemical risks in our public service agreements

- Environment ministry (MEDDE) approval
- Civil protection (DGSCGC) approval
- Transaid support centre for north-west France
- ICE focal point for France
- MAR-ICE focal point for Europe

In the event of such activations, the aim is to provide all useful elements to the inquirer (fire brigade, local or national authorities), by working together as a network.

Several response levels

- Emergency response
- More in-depth research
 - Pollutant identification
 - Bibliography
- Incident management: expert committees, command posts
- In the field: impact mitigation and assessment
- Modelling
- Analyses
- Experimentation

Past incidents

- A40 road accident 2013
- Container ship MSC Flaminia 2012



Photo: Smit Salvage



Photo: SDIS 40

- Liquid bulk carrier YM Uranus (2010)



Photo: Marine nationale

Three examples of incidents



Source: Marine nationale

YM Uranus
Date: 05/10/10
France

MSC Flaminia
Date: 14/07/2012
Atlantic, Channel
Photo: Smit Salvage



May 2013 Accident on A63. photo SDIS 40



Source: Smit Salvage

2012. 7.17 9:59



Fire on board the MSC FLAMINIA

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MSC Flaminia

14 July: Fire then explosion on board container ship MSC Flaminia travelling from Charleston (US) to Antwerp.

On board: 2876 containers, 150 hazardous

Position 1000 NM from Land's End.

Two crew members were killed, one other died two months later.

Mayday sent out, ship abandoned.

17 July: 2 tugs on site

21 August: decision to send experts (GB & FR) on board

21 August: Germany accepted ship

28 August: experts on board

1st September: started towing to Germany

3 September, entered Channel

9 September: Arrived in Wilhelmshaven.

Photo dated 14.07.12



2012. 7. 17 3:58

GENERAL ARRANGEMENT



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"FLAMINIA" - Container Spreadsheet

lot	Container No.	Size	Declared Weight	Type	Haz Class	UN No.	Loaded	B/L No.	Cargo Manifest	Foodstuff	Unit																														
0202	AMFU3056497	20	23000	GP			Full	MSCUOE643272	(1) OTHER ORGANO-INORGANIC COMPOUNDS- OTHER																																
MULTIMODAL DANGEROUS GOODS FORM export <small>This form may be used as a dangerous goods declaration as it meets the requirements of SOLAS 74, chapter VII, regulation 4; MARPOL 73/78, Annex III, regulation 4</small>																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">Sender : IE CV HIDRO LOTE 2</td> <td colspan="2">Transport document number : 151LUD1224101291 / 2</td> <td colspan="2">Page 1 / 2</td> </tr> <tr> <td colspan="2">CA, GTO.</td> <td colspan="2">Shipper's reference : MSC-MEDITERRANEAN SHIPPING CY</td> <td colspan="2">Freight forwarder's reference :</td> </tr> <tr> <td colspan="2">DECLARATION :</td> <td colspan="2">Consignee : TREDI S.A. CENTRE DE ST VULBAS, Phone : PI DE LA PLANE DEL AN-SPSS 0180 SAINT VULBAS FRANCE</td> <td colspan="2">Additional handling information :</td> </tr> <tr> <td colspan="2">Declarant : Z ELIZARRARAS</td> <td colspan="2">Vessel & voyage : MSC FLAMINIA 1225R</td> <td colspan="2">Port of loading : VERACRUZ</td> </tr> <tr> <td colspan="2"></td> <td colspan="2">Port of discharge : ANTWERP</td> <td colspan="2">Destination : ANTWERP</td> </tr> </table>												Sender : IE CV HIDRO LOTE 2		Transport document number : 151LUD1224101291 / 2		Page 1 / 2		CA, GTO.		Shipper's reference : MSC-MEDITERRANEAN SHIPPING CY		Freight forwarder's reference :		DECLARATION :		Consignee : TREDI S.A. CENTRE DE ST VULBAS, Phone : PI DE LA PLANE DEL AN-SPSS 0180 SAINT VULBAS FRANCE		Additional handling information :		Declarant : Z ELIZARRARAS		Vessel & voyage : MSC FLAMINIA 1225R		Port of loading : VERACRUZ				Port of discharge : ANTWERP		Destination : ANTWERP	
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<p>YCHLORINATED BIPHENYLS, LIQUID (-), CLASS 9 (-) , PG : II UG : 1500 HAZARD : F+ , S+ ENVIRONMENTAL HAZARD : P+ , S+ EMERG : 1500 NET WT : 19097.0000 Kg.</p>																																									
For a chemical emergency (spill, leak, fire or accident) contact the Shipper - day or night - by calling: Emerg.contact: (55) 13242212 OR Emerg.contact: (52) 13242212																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Stow position Stow . pos.: 380416</td> <td>Seal number(s)</td> <td>Container Type/Size DV / 40</td> <td>Tare mass (Kg.)</td> <td>Total gross mass (including tare) 25915 Kg.</td> </tr> <tr> <td colspan="2"> PACKING CERTIFICATE That the goods described above have been packed in accordance with the applicable provisions. CHECKED AND SIGNED FOR ALL CONTAINER/ BY PERSON RESPONSIBLE FOR PACKING </td> <td colspan="3"> RECEIVING ORGANIZATION RECEIPT Received the above number of packages/containers/trailers in apparent good order and condition, unless stated hereon : RECEIVING ORGANIZATION REMARKS : </td> </tr> <tr> <td colspan="2"> Declarant : IE CV HIDRO LOTE 2 CA, GUANAJUATO </td> <td colspan="3"> Hauler's name : Vehicle reg. no : Signature and date : </td> </tr> </table>												Stow position Stow . pos.: 380416	Seal number(s)	Container Type/Size DV / 40	Tare mass (Kg.)	Total gross mass (including tare) 25915 Kg.	PACKING CERTIFICATE That the goods described above have been packed in accordance with the applicable provisions. CHECKED AND SIGNED FOR ALL CONTAINER/ BY PERSON RESPONSIBLE FOR PACKING		RECEIVING ORGANIZATION RECEIPT Received the above number of packages/containers/trailers in apparent good order and condition, unless stated hereon : RECEIVING ORGANIZATION REMARKS :			Declarant : IE CV HIDRO LOTE 2 CA, GUANAJUATO		Hauler's name : Vehicle reg. no : Signature and date :																	
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Carrier: 14/06/2012 (DD/MM/YYYY) Original received electronically Declaration date : 8/08/2012 (DD/MM/YYYY)																																									
0402	AMFU8729374	40	25000	GP			Full	MSCUOE640591	(1) RESIN		FIR ANC																														
0986	AMFU8755497	40	28200	GP			Full	MSCUOE641821	(1) SYNTHETIC RUBBER AND FACTICE DERIVED FROM OILS, IN																																
0508	AMFU8755497	40	28200	GP			Full	MSCUOE641821	(1) KAOLIN AND OTHER KAOLINIC CLAYS, WHETHER OR NOT CA																																



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Feedback

Fluctuating DGD. Need to have ALL documents, in order to contact sender or consignee.

IMDG code should be completed by MSDS

MSDS sometimes obscure, or even non-existent
Insufficient or even erroneous DGD in form of Excel spreadsheet

Incident scenarios not suited to the situation

Very good contacts with Belgian and English experts

Many expert committees working independently

CONCLUSIONS

- Problem specific to container ships
 - Chemical risk together with oil pollution
 - Long-lasting
 - On land logistics
 - Importance of working together

YM URANUS:

chemical tanker built in 2008.

Owner: Yilmar Maritime Shipping

Manager: Ibex Maritime Ltd

Operator: V.Ships

Offices based in Istanbul

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The facts

05:30 UTC+2 (French time)

Collision between chemical tanker YM Uranus (120 m) and bulk carrier Hanjin Rizhao (292 m) 30 NM (55 km) west of Ushant (Brittany, France).

Collision on stern starboard side of Uranus: manoeuvre to overtake bulk carrier.

The Uranus was travelling from Porto Marghera (Italy) to Amsterdam

Immediately, the crew of the Uranus sent out a Mayday call. The ship, with a 20° list, was evacuated.

The facts (2)

- 05:45. The *Cedre* duty engineer was notified by the French Navy Operational Centre (COM). The request concerned the risks presented by a cargo with UN n° 1993.
- 6,400 T on board
- Answer: Generic number. This number covers several hundred products.
 - Flammable, non-water-miscible product.

The facts (3)

- 08:52 Cedre called COM to provide them with the name of the product PyGas (pyrolysis gasoline)
- Name obtained by contacting ship owner in Istanbul. The owner provided us with a MSDS from the producer Polimeri Europa, a subsidiary of ENI.
- This was once again a generic sheet.

- Flash Point less than 0°C
- Flammability: 1.4%-7.6% vol
- Composition
 - Benzene: 0-50%
 - Toluene 0-30%
 - Xylene 0-20%
 - Styrene 0-30%
 - Dicyclopentadiene 0-30%

- DATA GIVEN TO THE ASSESSMENT & RESPONSE TEAM before the helicopter took off

The facts (4)

- Around 09:00 Crew airlifted off by helicopter (13 men on board life raft).
- Around 09:30 Assessment team (Navy, naval fire brigade) hoisted on board by helicopter.
- Survey conducted on board by naval fire-fighters). No traces of gas. Name of product known but not yet its composition.

Investigation into type of cargo

Loading plan obtained at 10:25 (Ibex Maritime Ltd)



V.SHIPS MANAGEMENT SYSTEM (VMS)

TNK 06 - ULLAGE REPORT

VESSEL: **YM URANUS** VOY No: **41** PRODUCT/CARGO: **WATER** PORT: **VALETTA** DATE: **2007/09/20**

TANK	ULLAGE METERS	TRIM/LIST CORRECTION	TRIM/LIST CORRECTED ULLAGE	TOTAL OBSERVED VOLUME M3	FREE WATER		GROSS OBSERVED VOLUME M3	TEMP C	DENSITY (15°C) In Vac	VCF TABLE 54B	GROSS STANDARD VOLUME M3 @15C
					ULL	M3					
1P	1.200	+0.026	1.226	405.016			405.016	21.2	0.9037	0.9952	403.072
1S	1.180	+0.026	1.206	406.200			406.200	21.3	0.9037	0.9952	404.250
2P	1.850	+0.030	1.880	662.125			662.125	22.1	0.9037	0.9946	658.550
2S	1.960	+0.030	1.990	648.820			648.820	22.1	0.9037	0.9946	645.316
3P	1.450	+0.024	1.474	607.924			607.924	22.2	0.9037	0.9944	604.520
3S	1.470	+0.024	1.494	611.212			611.212	22.1	0.9037	0.9946	607.911
4P	1.450	+0.030	1.480	751.990			751.990	22.2	0.9037	0.9944	747.779
4S	1.470	+0.030	1.500	751.085			751.085	22.0	0.9037	0.9946	747.029
5P	2.360	+0.024	2.384	530.770			530.770	21.9	0.9037	0.9946	527.904
5S	2.450	+0.024	2.474	521.537			521.537	21.7	0.9037	0.9948	518.825
6P	2.240	+0.031	2.271	613.155			613.155	22.2	0.9037	0.9944	609.721
6S	1.380	+0.031	1.411	701.706			701.706	21.3	0.9037	0.9952	698.338
Slop Tk P											
Slop Tk S											

TOTAL OBSERVED VOL (TOV)	7211.540 cub. m.	GROSS STANDARD VOL @ 15C (GSV)	7173.215 cub. m.	REMARKS: For cargo temperatures and ullaging used MMC No. 18141, During ullaging vessel was moderately rolling & pitching.
LESS FREE WATER		METRIC TONNES	6474.544 mt In Air	
GROSS OBSERVED VOL (GOV)	7211.540 cub. m.	METRIC TONNES	6482.435 mt In Vac	
DENSITY @15°C Vac		GROSS STANDARD VOL @ 15C (GSV)	1894963.30 Gallons	
VCF (TABLE)	54B	GROSS STANDARD VOL @ 15C (GSV)	45141.043 Bbls	
		LONG TONNES	6019.045 L.Tons	

Average T°C 21.9

DRAFT FWD	6.60 m
DRAFT AFT	7.10 m
TRIM	0.50 m

SIGNATURES:

CHIEF OFFICER



S. Sestakov

LOAD MASTER

SURVEYOR

WATSON GRAY ITALIA SRL
Cargo Surveyor

Document obtained at 15:37: details on the nature of the cargo obtained by inquiring directly to the manufacturer

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+39 0412912133

Polimeri Europa
Stabilimento di Porto Marghera
 Polimeri Europa S.p.A.
 Sede legale: Piazza Boldrini, 1 - 20097 San Donato Milanese (MI)
 Capitale Sociale € 1.553.400.000,00 i.v.
 C.F. e Reg. Imprese Milano 03823300821
 Part. IVA IT 01768800748 - R.E.A. Milano n. 1351279
 Società soggetta all'attività di direzione e coordinamento dall'Eni S.p.A.
 Società con unico socio.

Rapporto di prova n°: 200219970

Punto di Prelievo	MSL#PSS#DA1304	Data/ora di campionamento	07/09/2010 16:25
Prodotto	BK RESIDUA	Data/ora inizio analisi	07/09/2010 18:42
Tipo	MSL#PSS		

Specifica di riferimento: **PF2560/02#BK RESIDUA**

Caratteristiche	U.d.m.	Valori	Limiti	Metodi d'analisi	
				Interno PE	Altri
1 Provenienza	-	DA 1304	-	-	-
2 Destinazione	-	OLANDA	-	-	-
3 Nome nave	-	YM URANUS	-	-	-
4 Tipo Prelievo	-	P_IMBARCO	-	-	-
5 Densità (a 15 °C)	kg/L	0.9037	0.820-0.930	ME64005	ASTM D 4052
6 T iniziale di distillazione	°C	48	30 min	ME14009	ASTM D 86
7 T finale di distillazione	°C	190	210 max	ME14009	ASTM D 86
8 Totale raccolto	% v	99		ME14009	ASTM D 86
9 Residuo	% v	1		ME14009	ASTM D 86
10 Idrocarburi C4 e inferiori	% p	0.24		ME31007	ASTM D 5134
11 Idrocarburi C5	% p	5.89		ME31007	ASTM D 5134
12 Idrocarburi non aromatici C6-C8	% p	1.16		ME31007	ASTM D 5134
13 Benzene	% p	0.61		ME31007	ASTM D 5134
14 Toluene	% p	5.31		ME31007	ASTM D 5134
15 Etilbenzene	% p	4.09		ME31007	ASTM D 5134
16 Xileni	% p	12.99		ME31007	ASTM D 5134
17 Stirene	% p	18.11		ME31007	ASTM D 5134
18 Idrocarburi aromatici C9	% p	22.16		ME31007	ASTM D 5134
19 Idrocarburi non aromatici C9	% p	1.25		ME31007	ASTM D 5134
20 DCPD(Endo+Eso)	% p	15.89		ME31007	ASTM D 5134
21 Idrocarburi C10 e superiori	% p	28.2		ME31007	ASTM D 5134
22 Gomme non lavate	mg/100 mL	260	700 max	ME13001	ASTM D 381
23 Gomme lavate	mg/100 mL	223		ME13001	ASTM D 381
24 Numero di Bromo	gBr/100g	90	120 max	ME51001	ASTM D 1159
25 Valore Dienico	gI/100g	10.7	35 max	ME25001	UOP 326
26 Cloro	ppm p	< 1	10 max	ME64007	ASTM D 5808
27 Zolfo	ppm p	90.4	250 max	ME64006	ASTM D 5453
28 Prelievo eseguito da:	-	WATSON GRAY	-	-	-

Ciudad: A norma

Responsabile laboratorio

CONCLUSIONS:

Information gathering can take time...

- Indispensable for
 - understanding the situation
 - taking emergency measures
 - ensuring operator safety (airlifting without protective clothing, open cockpit ...)
 - ...and protecting the environment
- anticipating how events are liable to evolve and for describing scenarios (what to do if the ship sinks, breaks when being towed near to the coast...)

The experts need to know ...

- The ship's characteristics and its condition
- The exact nature and quantity of the product(s)
 - The characteristics of the product(s)
 - The hazards related to the product(s)
 - Information on behaviour (physico-chemical evolution, drift)
- Sensitive and vulnerable resources

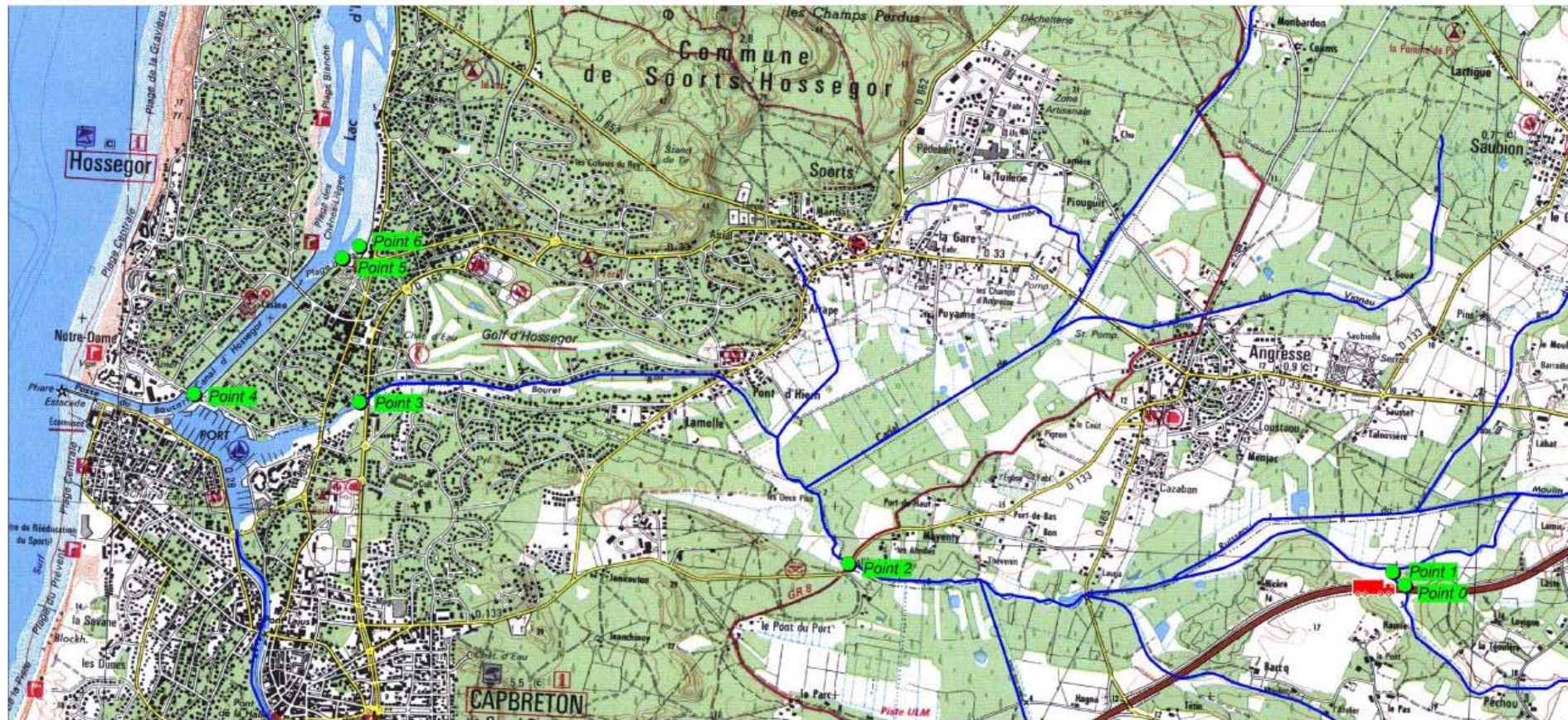
Timeline

- Road accident on 18 May. 6.8 m³ of gear oil on the motorway then in the surrounding environment. No containment.
- Flooding periods.
- Call to Cedre on 23 May from Polmar correspondent who knows us. Proposal to send agent on site.
- Meeting scheduled for 12 June. Aerial strikes.
- Finally meeting and visit on site on 19 June 2013
- Still high rainfall



Map

Localisation points de prélèvements, pollution ANGLAMOL 99 du 18 mai 2013



Légende :



Lieu de l'accident



Points de prélèvements

Prélèvements


Point	Localisation	Distance du point 0	Eau	Sédiments	Huîtres	Date
0	Sortie caniveau ASF	0 m				22/05/13
1	Barthes Benesse-Maremne	150 m				22/05/13
2	Amont RD133 Lamothe	3260 m				22/05/13
3	Aval RD152 Bourret	6520 m				23/05/13
4	Pont Notre-Dame	7800 m				23/05/13
5	Epis plage du Parc	8900 m				23/05/13
6	Parc VERGEZ	9000 m				23/05/13



ANGLAMOL 99

- Manufacturer Lubrizol
- Mixture of products including one complex substance answering to the name of: reactions product of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14 alkyl(branched). 20-29.9%
- Oleic amine 5-9.9%
- Reaction products of 1,3,4 thiadiazoline-2,5 dithione, formaldehyde and phenol, heptyl derivs. 1 to 4.9%
- Phenol heptyl derivs 0.1-0.9%
- QSP mineral oil
- D=1.07

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Main characteristics of the principal product (ECHA site)

- Solubility (39.5 to 138 mg/L) i.e. 0.014%
- PNEC 0.0012 mg/L
- NOEL 0.12 mg/L
- BCF 430
- $\log KOC = 1.35-5.9$
- Low biodegradability
- Overall a stable, bioaccumulable pollutant, liable to constitute a source of chronic pollution.

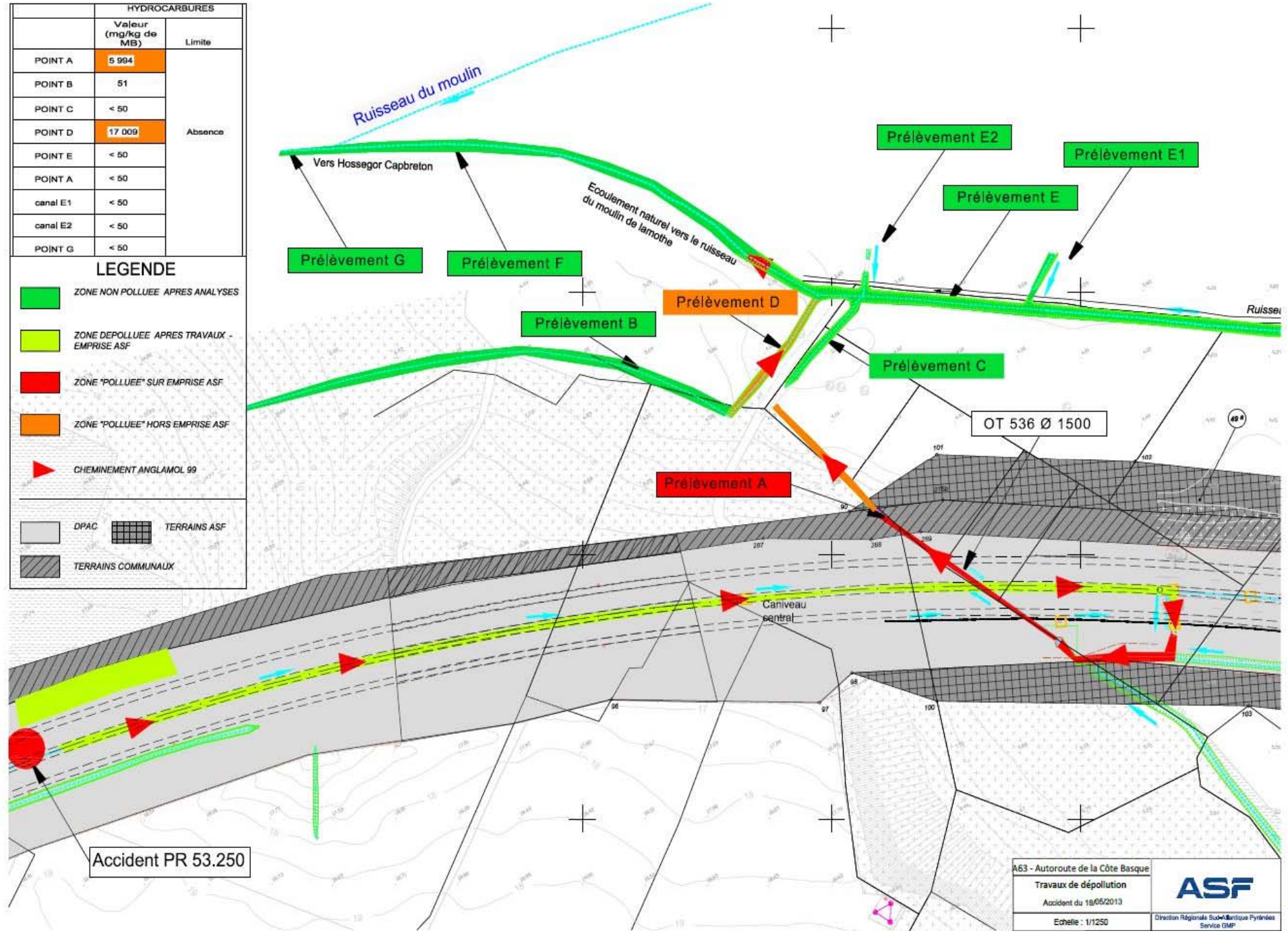
Cedre's actions

- 1. Between 23 May and 12 June, contacts with Ifremer Arcachon, manufacturer, river associations, Departmental Directorate of Territories and the Sea (DDTM),
- 2. On-site mission on 19 June
- ASF cleaned up pipelines under its responsibility. DDTM had no contact with polluter or his representative.
- Analyses performed by ASF.
- Site visit

HYDROCARBURES		
	Valeur (mg/kg de MB)	Limite
POINT A	5 994	Absence
POINT B	51	
POINT C	< 50	
POINT D	17 009	
POINT E	< 50	
POINT A	< 50	
canal E1	< 50	
canal E2	< 50	
POINT G	< 50	

LEGENDE

- ZONE NON POLLUEE APRES ANALYSES
 - ZONE DEPOLLUEE APRES TRAVAUX - EMPRISE ASF
 - ZONE "POLLUEE" SUR EMPRISE ASF
 - ZONE "POLLUEE" HORS EMPRISE ASF
 - CHEMINEMENT ANGLAMOL 99
-
- DPAC
 - TERRAINS ASF
 - TERRAINS COMMUNAUX



Accident PR 53.250

A63 - Autoroute de la Côte Basque	ASF
Travaux de dépollution	
Accident du 18/05/2013	
Echelle : 1/1250	Direction Régionale Sud-Ouest Pyrénées Service GMP



Recommendations

5 weeks after the incident, strong smell from sediment, sheen when sediment mixed.

Once weather drier, remove sediment and vegetation between ASF pipe and main stream, store and treat. Area around 150 m long and 10 m wide

Contact ASF, who have begun clean-up, in order to coordinate work and form a united front before the polluter.

Response still ongoing. Contacts in October with the river associations to redetermine the relevance of total hydrocarbon analyses.

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Conclusions

- Always try to understand the situation in the field, the issues at stake, the gaps, especially in an emergency
- Provide the most relevant information
- Go further, call upon all our networks, including in the private sector...
- If the situation requires it, pilot scale experimentation
- Advice goes beyond simply providing a technical service